

FCC Test Report

Report No.: RF170313C12

FCC ID: A8J-ENS500AC

Test Model: ENS500-AC, EnStation5-AC, ENS500EXT-AC (refer to item 3.1 for more details)

Received Date: Mar. 13, 2017

Test Date: Apr. 02 ~ Apr. 19, 2017

Issued Date: May 03, 2017

Applicant: EnGenius Technologies

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Release Control Record

Issue No.	Description	Date Issued
RF170313C12	Original release	May 03, 2017

1 Certificate of Conformity

Product: AC867 5GHz Outdoor CPE (refer to item 3.1 for more details)

Brand: EnGenius

Test Model: ENS500-AC, EnStation5-AC, ENS500EXT-AC (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: EnGenius Technologies

Test Date: Apr. 02 ~ Apr. 19, 2017

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 EMC characteristics under the conditions specified in this report.


Prepared by :


Polly Chen / Specialist

Date:

May 03, 2017

Approved by :


Ken Liu / Senior Manager

Date:

May 03, 2017

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 -11.02dB at 0.15391MHz
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 5330.00MHz & 5650.00MHz
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	Model:ENS500-AC & Enstation5-AC: Antenna connector is IPEX not a standard connector. Model: ENS500EXT-AC: Antenna connector is RSMA not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB 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) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	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	AC867 5GHz Outdoor CPE (Refer to note)
Brand	EnGenius
Model	ENS500-AC, EnStation5-AC, ENS500EXT-AC
Model Difference	Refer to note
Status of EUT	Engineering sample
Power Supply Rating	24Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	Model: ENS500-AC: CDD Mode 5180 ~ 5240MHz: 35.739mW 5745 ~ 5825MHz: 173.069mW Beamforming Mode 5180 ~ 5240MHz: 17.871mW 5745 ~ 5825MHz: 86.541mW Model: EnStation5-AC: CDD Mode 5180 ~ 5240MHz: 4.450mW 5745 ~ 5825MHz: 113.064mW Beamforming Mode 5180 ~ 5240MHz: 2.225mW 5745 ~ 5825MHz: 56.536mW Model: ENS500EXT-AC: CDD Mode 5180 ~ 5240MHz: 45.316mW 5745 ~ 5825MHz: 347.967mW Beamforming Mode 5180 ~ 5240MHz: 22.602mW 5745 ~ 5825MHz: 173.995mW

Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	POE
Data Cable Supplied	NA

Note:

1. The following models are electrically identical except the antenna designation as below.

Brand	Product Name	Model	Description
EnGenius	AC867 5GHz Outdoor CPE	ENS500-AC	Internal antenna. RJ45 are placed normally.
	AC867 5GHz Wave2 Ultra Long-Range Wireless Outdoor Customer Premises Equipment	EnStation5-AC	Internal antenna. RJ45 are placed reversely.
	AC867 5GHz Outdoor Access Point	ENS500EXT-AC	External antenna. RJ45 are placed normally.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function	Beamforming
802.11a	2TX	Not Support
802.11n (HT20)	2TX	Support
802.11n (HT40)	2TX	Support
802.11ac (VHT20)	2TX	Support
802.11ac (VHT40)	2TX	Support
802.11ac (VHT80)	2TX	Support

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

* For 5GHz band, CDD mode is the worst case for final radiated emission below 1GHz and power line conducted emission tests after pretesting CDD mode and beamforming mode.

3. The EUT consumes power from the following PoE.

Brand	EnGenius
Model	EPA2406GP
Input Power	100-240Vac, 0.4A, 50/60Hz
Output Power	24Vdc, 0.6A
Power Line	0.5m non-shielded AC power cable without core


4. The EUT uses following antennas.

Model: ENS500-AC			
Ant.	Type	Connector	Gain (dBi)
			5.150 – 5.850GHz
1	Patch	IPEX	13.35
2			13.42

Model: Enstation5-AC			
Ant.	Type	Connector	Gain (dBi)
			5.150 – 5.850GHz
1	Patch	IPEX	15.3
2			15.4

Model: ENS500EXT-AC					
Ant.	Type	Connector	Gain (dBi)		
			5.150GHz	5.550GHz	5.850GHz
-	Dipole	RSMA	5.12	5.09	5.17


5. The EUT will install at outdoor area, the highest antenna gain from the horizon above 30 degrees as below, for more detail information please refer to antenna specification and user manual

Model	Antenna gain	Antenna install degree
ENS500-AC	5.46 dBi	

Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from XZ Plane and YZ Plane antenna specification of 120-240° degrees, for XY plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.

EnStation5-AC	14.42 dBi	
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Due to device can be configuration at different angle ,thus consider to above 30 degrees from the horizon the highest antenna gain are chosen from antenna specification exhibits from 0 to 360 degrees for U-NII-1 band.

Model	Antenna gain	Antenna install degree
ENS500EXT-AC	4.31 dBi	

Due to device will restricted installation position as above photo, thus consider to above 30 degrees highest antenna gain are chosen from XZ Plane and YZ Plane antenna specification of -60-60° degrees, for XY plane antenna gain it will not effect to above 30 degrees from the horizon, therefore not required to evaluation.

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 \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Model: ENS500-AC
B	√	√	√	√	Model: EnStation5-AC
C	√	√	√	√	Model: ENS500EXT-AC

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

Note:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane (mode A & C) and Y-plane (mode B).

Radiated Emission Test (Above 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A, B, C	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
A, B, C	802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
A, B, C	802.11ac (VHT80)		42	42	OFDM	BPSK	58.5
A, B, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B, C	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
A, B, C	802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
A, B, C	802.11ac (VHT80)		155	155	OFDM	BPSK	58.5

Radiated Emission Test (Below 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

Power Line Conducted Emission Test:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
A, B, C	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
A, B, C	802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
A, B, C	802.11ac (VHT80)		42	42	OFDM	BPSK	58.5
A, B, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B, C	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
A, B, C	802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
A, B, C	802.11ac (VHT80)		155	155	OFDM	BPSK	58.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	21deg. C, 68%RH 20deg. C, 66%RH	24Vdc	Jones Chang
RE<1G	21deg. C, 68%RH	24Vdc	Jones Chang
PLC	20deg. C, 69%RH	24Vdc	Bayu Chen
APCM	25deg. C, 60%RH	24Vdc	Antony Lee

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is > 98%, duty factor is not required.

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

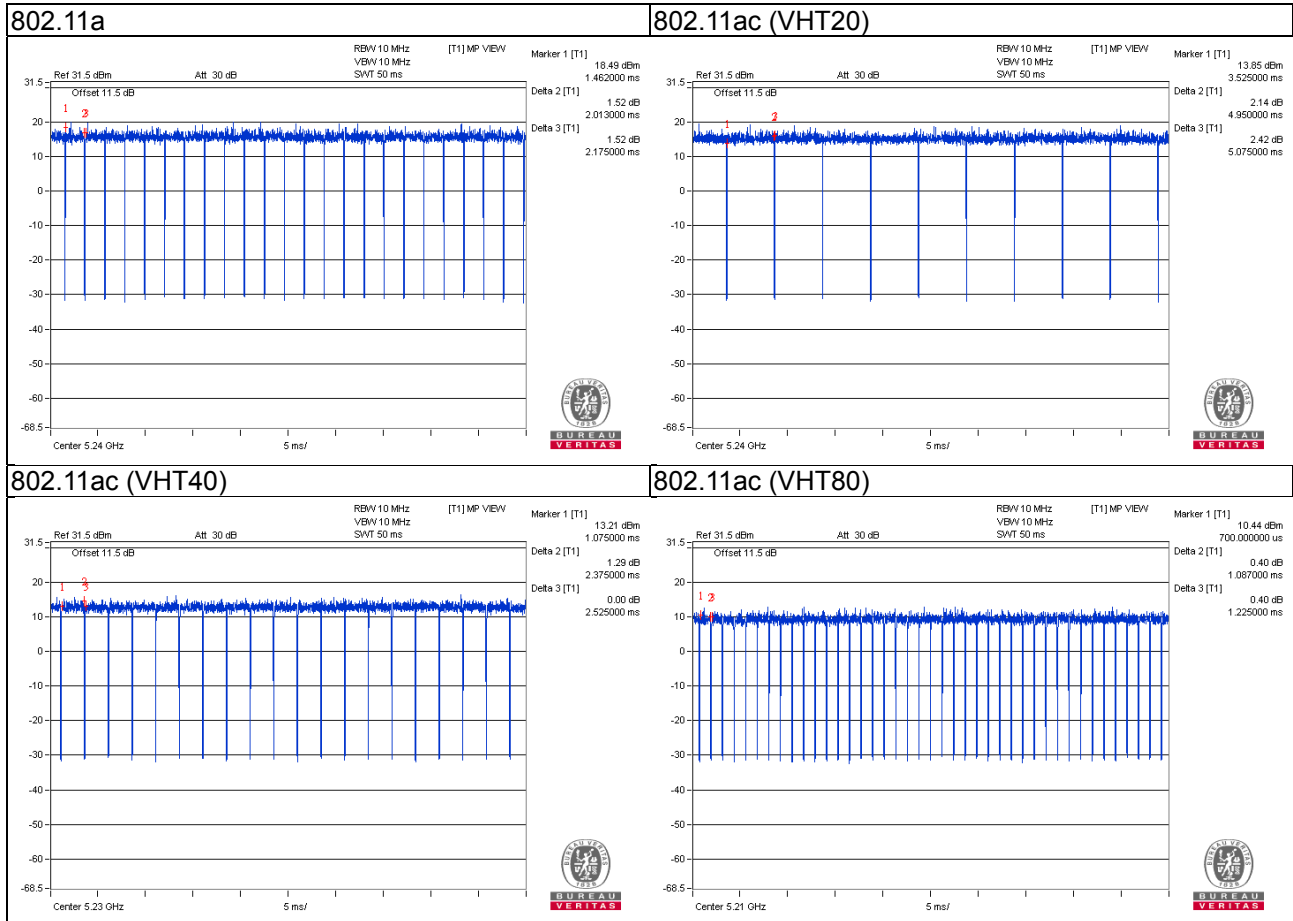
Test Mode A

802.11a: Duty cycle = $2.013/2.175 = 0.926$, Duty factor = $10 * \log(1/0.926) = 0.34$

802.11ac (VHT20): Duty cycle = $4.950/5.075 = 0.975$, Duty factor = $10 * \log(1/0.975) = 0.11$

802.11ac (VHT40): Duty cycle = $2.375/2.525 = 0.941$, Duty factor = $10 * \log(1/0.941) = 0.27$

802.11ac (VHT80): Duty cycle = $1.087/1.225 = 0.887$, Duty factor = $10 * \log(1/0.887) = 0.52$



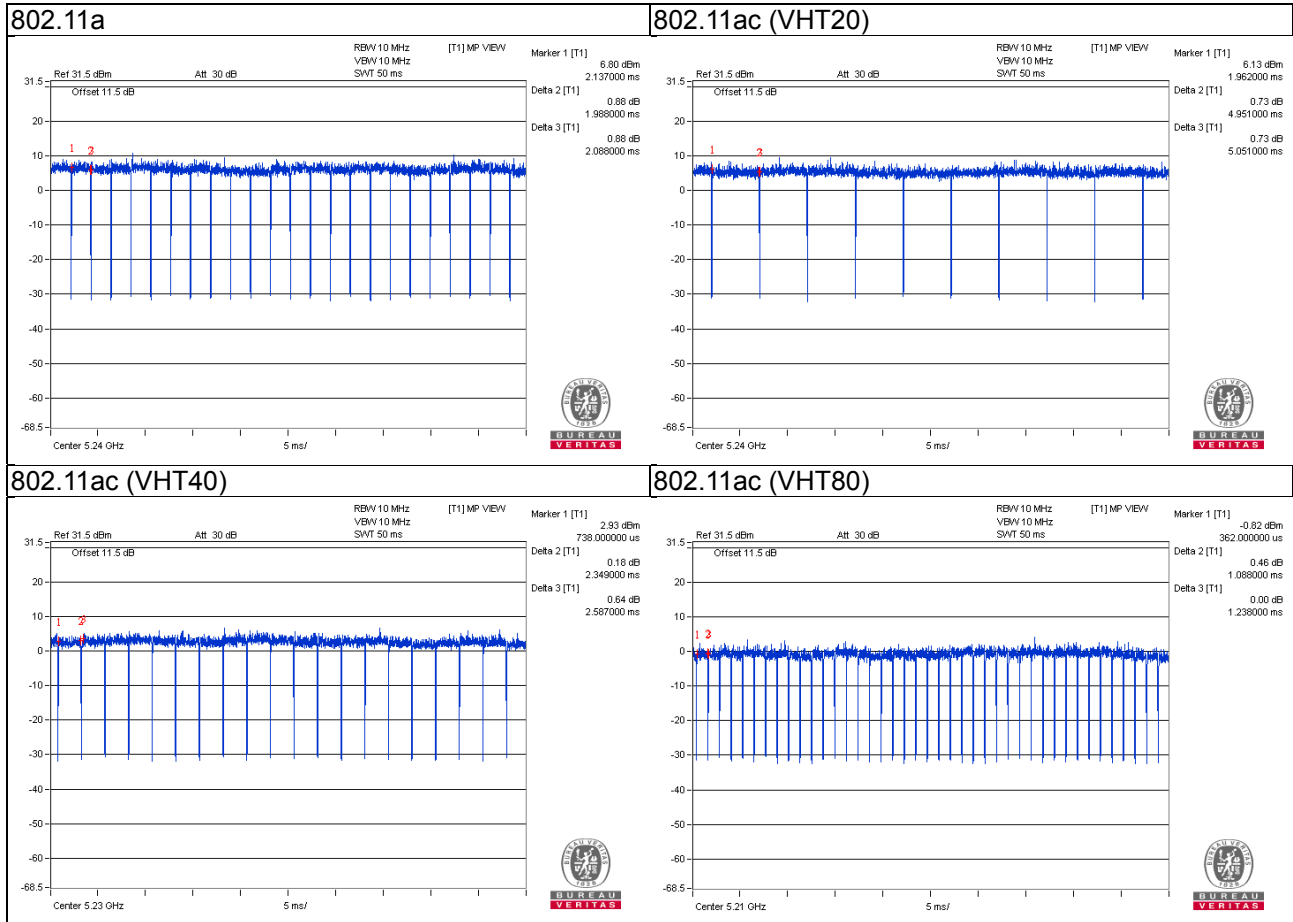
Test Mode B

802.11a: Duty cycle = $1.988/2.088 = 0.952$, Duty factor = $10 * \log(1/0.952) = 0.21$

802.11ac (VHT20): Duty cycle = $4.951/5.051 = 0.9802$

802.11ac (VHT40): Duty cycle = $2.349/2.587 = 0.908$, Duty factor = $10 * \log(1/0.908) = 0.42$

802.11ac (VHT80): Duty cycle = $1.088/1.238 = 0.879$, Duty factor = $10 * \log(1/0.879) = 0.56$



Test Mode C

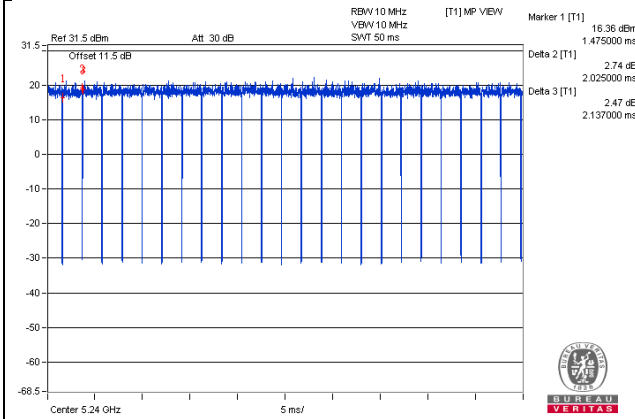
802.11a: Duty cycle = $2.025/2.137 = 0.948$, Duty factor = $10 * \log(1/0.948) = 0.23$

802.11ac (VHT20): Duty cycle = $4.950/5.038 = 0.983$

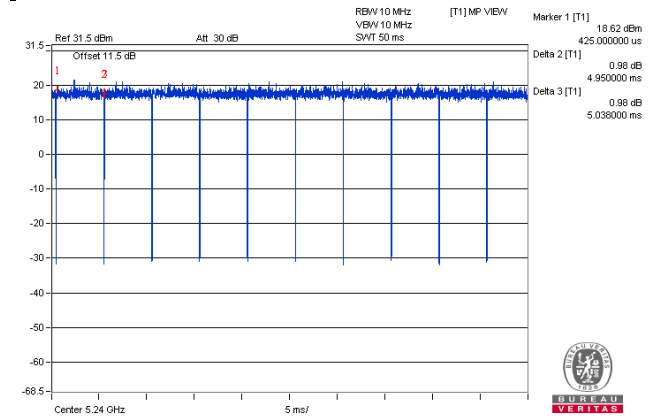
802.11ac (VHT40): Duty cycle = $2.363/2.513 = 0.940$, Duty factor = $10 * \log(1/0.940) = 0.27$

802.11ac (VHT80): Duty cycle = $1.087/1.237 = 0.879$, Duty factor = $10 * \log(1/0.879) = 0.56$

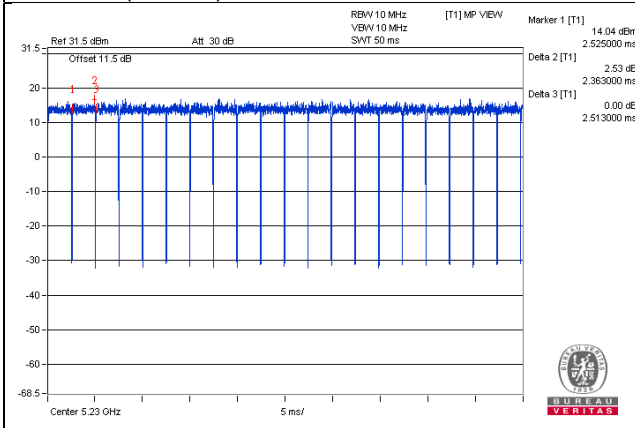
802.11a



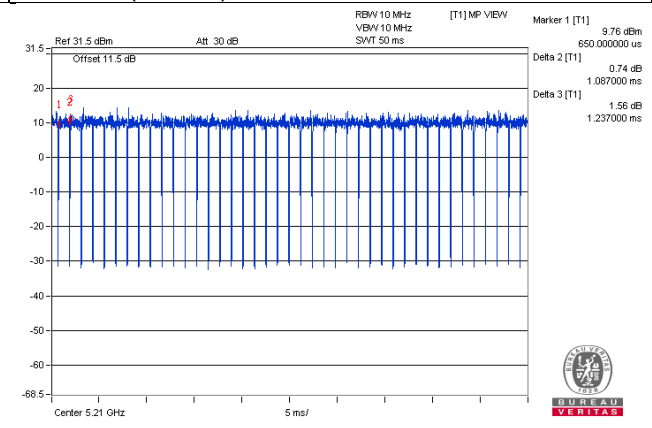
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

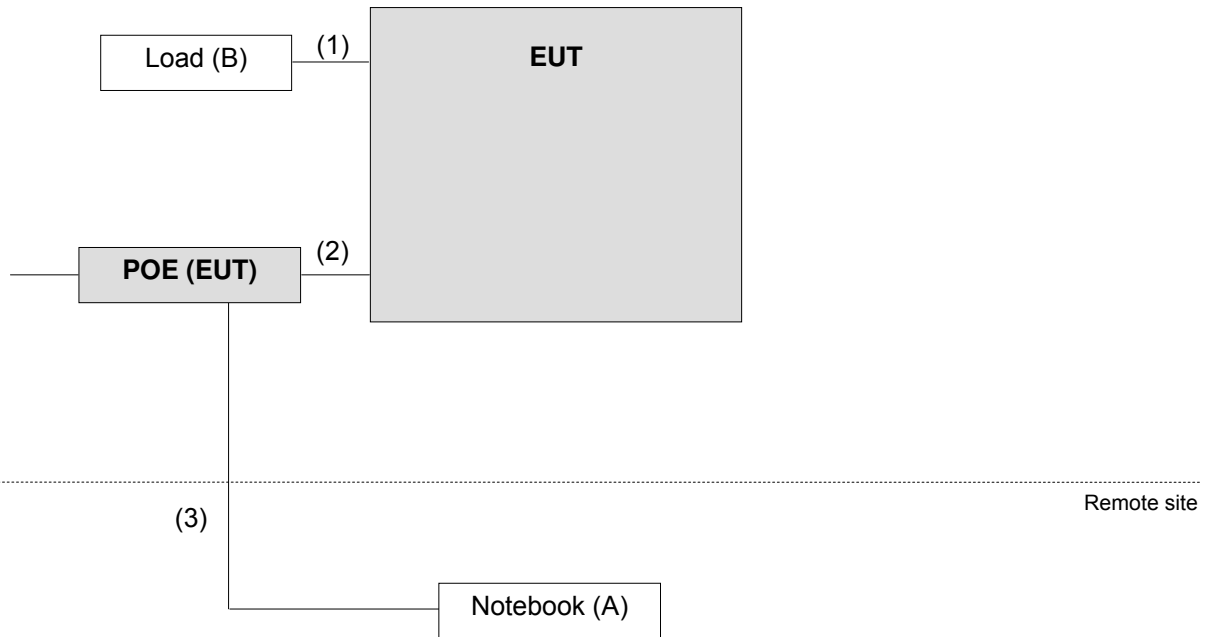
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	N/A	N/A	N/A	N/A	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	1	1.8	N	0	Cat5e
2.	RJ45 Cable	1	1.8	N	0	Cat5e
3.	RJ45 Cable	1	5	N	0	Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General UNII Test Procedure New Rules v01r04

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v01r03		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK:122.2 (dBuV/m) ^{*4}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 24, 2016	Oct. 23, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Nov. 16, 2016	Nov. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	9120D	209	Dec. 27, 2016	Dec. 26, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	8447D	2944A10738	Aug. 22, 2016	Aug. 21, 2017
Preamplifier Agilent	8449B	3008A01922	Sep. 18, 2016	Sep. 17, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2016	Aug. 21, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2016	Aug. 21, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 17, 2016	Oct. 16, 2017

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

4.1.3 Test 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. Both X and Y axes 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:

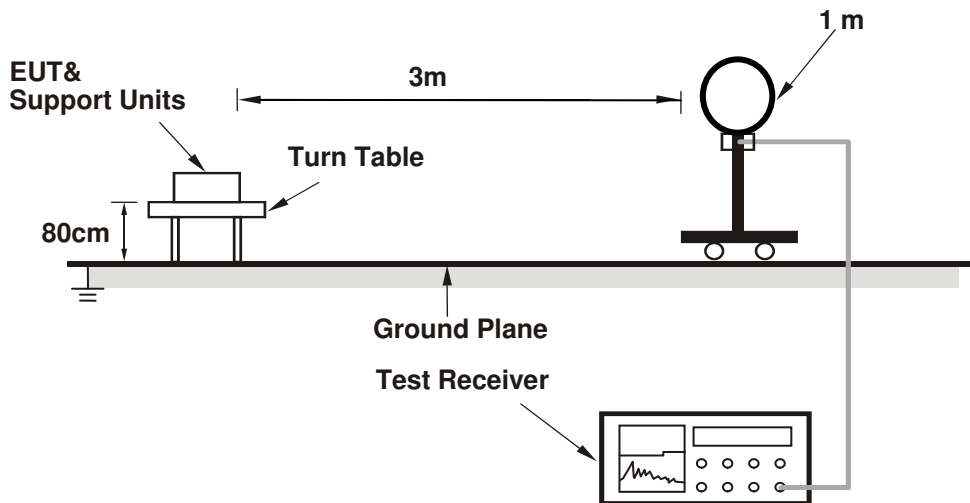
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

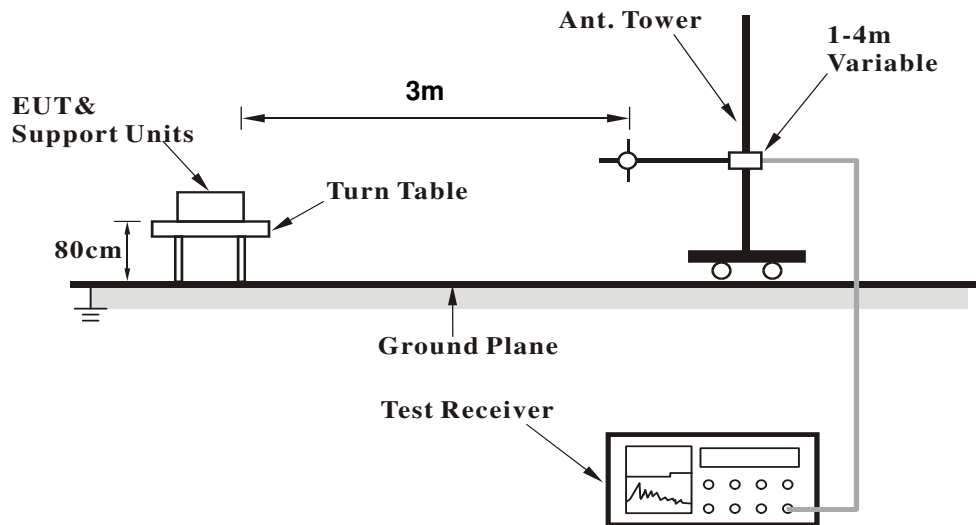
No deviation.

4.1.5 Test Set Up

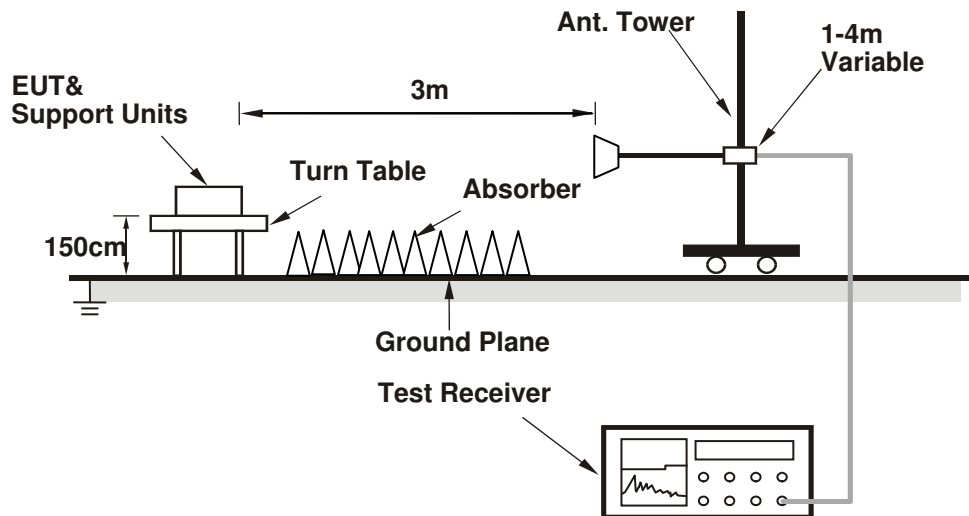
For Radiated emission below 30MHz



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 (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The communication partner sent data to EUT by command "PING".

4.1.7 Test Results

Above 1GHz Worst-Case Data:

Test Mode A

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.3 PK	74.0	-15.7	1.59 H	351	57.50	0.80
2	5150.00	49.2 AV	54.0	-4.8	1.59 H	351	48.40	0.80
3	*5180.00	112.9 PK			1.36 H	350	74.20	38.70
4	*5180.00	103.0 AV			1.36 H	350	64.30	38.70
5	#6906.00	63.9 PK	68.2	-4.3	1.52 H	352	56.90	7.00
6	#10360.00	57.5 PK	74.0	-16.5	1.78 H	280	44.80	12.70
7	#10360.00	44.4 AV	54.0	-9.6	1.78 H	280	31.70	12.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	2.89 V	312	56.50	0.80
2	5150.00	47.1 AV	54.0	-6.9	2.89 V	312	46.30	0.80
3	*5180.00	111.0 PK			3.07 V	348	72.30	38.70
4	*5180.00	101.4 AV			3.07 V	348	62.70	38.70
5	#6906.00	56.3 PK	68.2	-11.9	2.22 V	106	49.30	7.00
6	#10360.00	57.8 PK	74.0	-16.2	2.60 V	322	45.10	12.70
7	#10360.00	44.6 AV	54.0	-9.4	2.60 V	322	31.90	12.70

Remarks:

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

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

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	5120.00	56.2 PK	74.0	-17.8	1.60 H	349	55.50	0.70
2	5120.00	47.5 AV	54.0	-6.5	1.60 H	349	46.80	0.70
3	*5200.00	113.4 PK			1.31 H	346	74.70	38.70
4	*5200.00	102.6 AV			1.31 H	346	63.90	38.70
5	#6933.00	62.8 PK	68.2	-5.4	1.66 H	350	55.60	7.20
6	#10400.00	57.8 PK	74.0	-16.2	1.98 H	43	45.10	12.70
7	#10400.00	45.0 AV	54.0	-9.0	1.98 H	43	32.30	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	57.5 PK	74.0	-16.5	2.89 V	345	56.80	0.70
2	5120.00	47.0 AV	54.0	-7.0	2.89 V	345	46.30	0.70
3	*5200.00	111.2 PK			3.08 V	357	72.50	38.70
4	*5200.00	101.4 AV			3.08 V	357	62.70	38.70
5	#6933.00	56.3 PK	68.2	-11.9	2.22 V	103	49.10	7.20
6	#10400.00	57.6 PK	74.0	-16.4	2.50 V	32	44.90	12.70
7	#10400.00	44.8 AV	54.0	-9.2	2.50 V	32	32.10	12.70

Remarks:

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

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

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	5120.00	57.5 PK	74.0	-16.5	1.70 H	345	56.80	0.70
2	5120.00	47.2 AV	54.0	-6.8	1.70 H	345	46.50	0.70
3	*5240.00	113.0 PK			1.31 H	344	74.20	38.80
4	*5240.00	103.2 AV			1.31 H	344	64.40	38.80
5	5350.00	54.2 PK	74.0	-19.8	2.07 H	119	53.10	1.10
6	5350.00	40.8 AV	54.0	-13.2	2.07 H	119	39.70	1.10
7	#6986.00	58.3 PK	68.2	-9.9	1.70 H	328	50.70	7.60
8	#10480.00	58.1 PK	74.0	-15.9	1.90 H	265	44.60	13.50
9	#10480.00	45.6 AV	54.0	-8.4	1.90 H	265	32.10	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5120.00	57.8 PK	74.0	-16.2	2.30 V	324	57.10	0.70
2	5120.00	47.2 AV	54.0	-6.8	2.30 V	324	46.50	0.70
3	*5240.00	112.3 PK			3.04 V	353	73.50	38.80
4	*5240.00	102.4 AV			3.04 V	353	63.60	38.80
5	5350.00	53.4 PK	74.0	-20.6	2.87 V	266	52.30	1.10
6	5350.00	40.6 AV	54.0	-13.4	2.87 V	266	39.50	1.10
7	#6986.00	56.1 PK	68.2	-12.1	3.14 V	112	48.50	7.60
8	#10480.00	57.9 PK	74.0	-16.1	2.13 V	65	44.40	13.50
9	#10480.00	45.5 AV	54.0	-8.5	2.13 V	65	32.00	13.50

Remarks:

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

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

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	#5651.20	62.6 PK	69.1	-6.5	1.69 H	340	60.90	1.70
2	*5745.00	124.3 PK			1.69 H	340	84.40	39.90
3	*5745.00	113.6 AV			1.69 H	340	73.70	39.90
4	#5936.80	64.0 PK	68.2	-4.2	1.69 H	340	61.40	2.60
5	7660.00	56.1 PK	74.0	-17.9	1.41 H	184	47.70	8.40
6	7660.00	46.7 AV	54.0	-7.3	1.41 H	184	38.30	8.40
7	11490.00	60.6 PK	74.0	-13.4	2.72 H	254	46.10	14.50
8	11490.00	48.3 AV	54.0	-5.7	2.72 H	254	33.80	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5646.40	63.1 PK	68.2	-5.1	1.26 V	350	61.40	1.70
2	*5745.00	121.1 PK			1.26 V	350	81.20	39.90
3	*5745.00	111.3 AV			1.26 V	350	71.40	39.90
4	#5934.40	63.1 PK	68.2	-5.1	1.26 V	350	60.50	2.60
5	7660.00	56.2 PK	74.0	-17.8	2.26 V	169	47.80	8.40
6	7660.00	44.0 AV	54.0	-10.0	2.26 V	169	35.60	8.40
7	11490.00	61.3 PK	74.0	-12.7	1.82 V	152	46.80	14.50
8	11490.00	48.1 AV	54.0	-5.9	1.82 V	152	33.60	14.50

Remarks:

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

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

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	#5618.40	62.5 PK	68.2	-5.7	1.61 H	341	60.80	1.70
2	*5785.00	123.2 PK			1.61 H	341	83.10	40.10
3	*5785.00	113.5 AV			1.61 H	341	73.40	40.10
4	#5968.80	64.0 PK	68.2	-4.2	1.61 H	341	61.30	2.70
5	7713.00	55.8 PK	74.0	-18.2	1.56 H	151	47.40	8.40
6	7713.00	46.0 AV	54.0	-8.0	1.56 H	151	37.60	8.40
7	11570.00	62.7 PK	74.0	-11.3	2.79 H	251	48.40	14.30
8	11570.00	49.3 AV	54.0	-4.7	2.79 H	251	35.00	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5609.60	62.4 PK	68.2	-5.8	1.26 V	346	60.70	1.70
2	*5785.00	121.8 PK			1.22 V	346	81.70	40.10
3	*5785.00	111.6 AV			1.22 V	346	71.50	40.10
4	#5945.60	62.9 PK	68.2	-5.3	1.26 V	346	60.30	2.60
5	11570.00	61.0 PK	74.0	-13.0	1.81 V	144	46.70	14.30
6	11570.00	49.0 AV	54.0	-5.0	1.81 V	144	34.70	14.30

Remarks:

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

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

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	#5638.40	62.0 PK	68.2	-6.2	1.56 H	335	60.30	1.70
2	*5825.00	123.6 PK			1.56 H	335	83.40	40.20
3	*5825.00	113.4 AV			1.56 H	335	73.20	40.20
4	#5970.40	63.4 PK	68.2	-4.8	1.56 H	335	60.70	2.70
5	#7766.00	53.5 PK	74.0	-20.5	1.56 H	149	45.10	8.40
6	#7766.00	44.0 AV	54.0	-10.0	1.56 H	149	35.60	8.40
7	11650.00	61.2 PK	74.0	-12.8	2.72 H	253	46.80	14.40
8	11650.00	48.4 AV	54.0	-5.6	2.72 H	253	34.00	14.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	61.7 PK	68.2	-6.5	1.27 V	346	60.00	1.70
2	*5825.00	120.9 PK			1.27 V	346	80.70	40.20
3	*5825.00	110.7 AV			1.27 V	346	70.50	40.20
4	#5969.60	63.1 PK	68.2	-5.1	1.27 V	346	60.40	2.70
5	11650.00	61.4 PK	74.0	-12.6	1.79 V	141	47.00	14.40
6	11650.00	48.2 AV	54.0	-5.8	1.79 V	141	33.80	14.40

Remarks:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.9 PK	74.0	-17.1	1.50 H	333	56.10	0.80
2	5150.00	45.5 AV	54.0	-8.5	1.50 H	333	44.70	0.80
3	*5180.00	113.8 PK			1.38 H	341	75.10	38.70
4	*5180.00	103.6 AV			1.38 H	341	64.90	38.70
5	#6906.00	62.1 PK	68.2	-6.1	1.65 H	113	55.10	7.00
6	#10360.00	58.2 PK	74.0	-15.8	1.75 H	106	45.50	12.70
7	#10360.00	45.2 AV	54.0	-8.8	1.75 H	106	32.50	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	2.89 V	347	60.00	0.80
2	5150.00	49.6 AV	54.0	-4.4	2.89 V	347	48.80	0.80
3	*5180.00	114.9 PK			2.72 V	345	76.20	38.70
4	*5180.00	104.9 AV			2.72 V	345	66.20	38.70
5	#6906.00	56.5 PK	68.2	-11.7	2.24 V	100	49.50	7.00
6	#10360.00	57.5 PK	74.0	-16.5	2.45 V	310	44.80	12.70
7	#10360.00	44.2 AV	54.0	-9.8	2.45 V	310	31.50	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	113.3 PK			1.38 H	341	74.60	38.70
2	*5200.00	102.8 AV			1.38 H	341	64.10	38.70
3	#6933.00	62.1 PK	68.2	-6.1	1.56 H	345	54.90	7.20
4	#10400.00	58.0 PK	74.0	-16.0	2.01 H	50	45.30	12.70
5	#10400.00	45.3 AV	54.0	-8.7	2.01 H	50	32.60	12.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	111.3 PK			2.99 V	349	72.60	38.70
2	*5200.00	100.7 AV			2.99 V	349	62.00	38.70
3	#6933.00	56.5 PK	68.2	-11.7	2.19 V	101	49.30	7.20
4	#10400.00	57.3 PK	74.0	-16.7	2.35 V	0	44.60	12.70
5	#10400.00	44.3 AV	54.0	-9.7	2.35 V	0	31.60	12.70

Remarks:

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

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

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	113.0 PK			1.45 H	345	74.20	38.80
2	*5240.00	102.7 AV			1.45 H	345	63.90	38.80
3	5350.00	56.8 PK	74.0	-17.2	1.49 H	256	55.70	1.10
4	5350.00	45.8 AV	54.0	-8.2	1.49 H	256	44.70	1.10
5	#6986.00	62.6 PK	68.2	-5.6	1.60 H	350	55.00	7.60
6	#10480.00	58.7 PK	74.0	-15.3	1.89 H	311	45.20	13.50
7	#10480.00	45.8 AV	54.0	-8.2	1.89 H	311	32.30	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.9 PK			2.96 V	352	73.10	38.80
2	*5240.00	101.7 AV			2.96 V	352	62.90	38.80
3	5350.00	55.7 PK	74.0	-18.3	2.48 V	281	54.60	1.10
4	5350.00	44.4 AV	54.0	-9.6	2.48 V	281	43.30	1.10
5	#6986.00	56.6 PK	68.2	-11.6	3.10 V	111	49.00	7.60
6	#10480.00	57.9 PK	74.0	-16.1	1.93 V	359	44.40	13.50
7	#10480.00	45.2 AV	54.0	-8.8	1.93 V	359	31.70	13.50

Remarks:

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

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

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	#5624.80	63.6 PK	68.2	-4.6	1.57 H	345	61.90	1.70
2	*5745.00	124.5 PK			1.57 H	345	84.60	39.90
3	*5745.00	113.1 AV			1.57 H	345	73.20	39.90
4	#5929.60	65.4 PK	68.2	-2.8	1.57 H	345	62.80	2.60
5	11490.00	60.5 PK	74.0	-13.5	2.50 H	346	46.00	14.50
6	11490.00	48.7 AV	54.0	-5.3	2.50 H	346	34.20	14.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	62.8 PK	68.2	-5.4	1.24 V	344	61.10	1.70
2	*5745.00	121.7 PK			1.24 V	344	81.80	39.90
3	*5745.00	110.8 AV			1.24 V	344	70.90	39.90
4	#5961.60	62.5 PK	68.2	-5.7	1.24 V	344	59.90	2.60
5	11490.00	61.0 PK	74.0	-13.0	1.80 V	146	46.50	14.50
6	11490.00	47.8 AV	54.0	-6.2	1.80 V	146	33.30	14.50

Remarks:

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

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

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	#5636.80	62.6 PK	68.2	-5.6	1.56 H	339	60.90	1.70
2	*5785.00	124.3 PK			1.56 H	339	84.20	40.10
3	*5785.00	113.2 AV			1.56 H	339	73.10	40.10
4	#5930.40	63.9 PK	68.2	-4.3	1.56 H	339	61.30	2.60
5	11570.00	60.6 PK	74.0	-13.4	2.55 H	345	46.30	14.30
6	11570.00	48.7 AV	54.0	-5.3	2.55 H	345	34.40	14.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5634.40	64.4 PK	68.2	-3.8	1.26 V	348	62.70	1.70
2	*5785.00	121.8 PK			1.26 V	348	81.70	40.10
3	*5785.00	111.0 AV			1.26 V	348	70.90	40.10
4	#5944.80	63.0 PK	68.2	-5.2	1.26 V	348	60.40	2.60
5	11570.00	61.1 PK	74.0	-12.9	1.79 V	151	46.80	14.30
6	11570.00	47.9 AV	54.0	-6.1	1.79 V	151	33.60	14.30

Remarks:

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

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

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	#5643.20	63.1 PK	68.2	-5.1	1.58 H	334	61.40	1.70
2	*5825.00	123.4 PK			1.58 H	334	83.20	40.20
3	*5825.00	113.0 AV			1.58 H	334	72.80	40.20
4	#5972.80	64.8 PK	68.2	-3.4	1.58 H	334	62.10	2.70
5	11650.00	61.0 PK	74.0	-13.0	2.71 H	254	46.60	14.40
6	11650.00	48.4 AV	54.0	-5.6	2.71 H	254	34.00	14.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5624.80	61.9 PK	68.2	-6.3	1.19 V	346	60.20	1.70
2	*5825.00	121.6 PK			1.19 V	346	81.40	40.20
3	*5825.00	110.7 AV			1.19 V	346	70.50	40.20
4	#5934.40	64.0 PK	68.2	-4.2	1.19 V	346	61.40	2.60
5	11650.00	61.3 PK	74.0	-12.7	1.77 V	152	46.90	14.40
6	11650.00	48.3 AV	54.0	-5.7	1.77 V	152	33.90	14.40

Remarks:

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

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

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	63.9 PK	74.0	-10.1	1.38 H	338	63.10	0.80
2	5150.00	50.7 AV	54.0	-3.3	1.38 H	338	49.90	0.80
3	*5190.00	109.9 PK			1.33 H	347	71.20	38.70
4	*5190.00	100.0 AV			1.33 H	347	61.30	38.70
5	#10380.00	56.8 PK	74.0	-17.2	1.80 H	253	44.00	12.80
6	#10380.00	44.1 AV	54.0	-9.9	1.80 H	253	31.30	12.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.7 PK	74.0	-15.3	2.92 V	345	57.90	0.80
2	5150.00	47.1 AV	54.0	-6.9	2.92 V	345	46.30	0.80
3	*5190.00	108.1 PK			2.86 V	350	69.40	38.70
4	*5190.00	98.6 AV			2.86 V	350	59.90	38.70
5	#10380.00	57.6 PK	74.0	-16.4	2.66 V	35	44.80	12.80
6	#10380.00	44.4 AV	54.0	-9.6	2.66 V	35	31.60	12.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	110.0 PK			1.40 H	346	71.20	38.80
2	*5230.00	100.3 AV			1.40 H	346	61.50	38.80
3	5350.00	56.7 PK	74.0	-17.3	1.50 H	321	55.60	1.10
4	5350.00	45.8 AV	54.0	-8.2	1.50 H	321	44.70	1.10
5	#10460.00	57.5 PK	74.0	-16.5	1.90 H	23	44.20	13.30
6	#10460.00	45.3 AV	54.0	-8.7	1.90 H	23	32.00	13.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	108.8 PK			2.94 V	352	70.00	38.80
2	*5230.00	99.4 AV			2.94 V	352	60.60	38.80
3	5350.00	55.6 PK	74.0	-18.4	2.86 V	296	54.50	1.10
4	5350.00	44.6 AV	54.0	-9.4	2.86 V	296	43.50	1.10
5	#10460.00	58.7 PK	74.0	-15.3	2.73 V	284	45.40	13.30
6	#10460.00	45.7 AV	54.0	-8.3	2.73 V	284	32.40	13.30

Remarks:

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

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

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	#5330.00	57.9 PK	74.0	-16.1	1.56 H	334	56.80	1.10
2	#5330.00	46.7 AV	54.0	-7.3	1.56 H	334	45.60	1.10
3	#5649.60	62.5 PK	68.2	-5.7	1.55 H	342	60.80	1.70
4	#5650.00	61.5 PK	68.2	-6.7	1.70 H	343	59.80	1.70
5	*5755.00	119.4 PK			1.55 H	342	79.50	39.90
6	*5755.00	109.8 AV			1.55 H	342	69.90	39.90
7	#5930.40	63.0 PK	68.2	-5.2	1.55 H	342	60.40	2.60
8	11510.00	59.8 PK	74.0	-14.2	2.45 H	31	45.30	14.50
9	11510.00	46.9 AV	54.0	-7.1	2.45 H	31	32.40	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5330.00	60.4 PK	74.0	-13.6	2.03 V	344	59.30	1.10
2	#5330.00	53.0 AV	54.0	-1.0	2.03 V	344	51.90	1.10
3	#5648.00	62.7 PK	68.2	-5.5	1.29 V	348	61.00	1.70
4	#5650.00	65.8 PK	68.2	-2.4	1.17 V	345	64.10	1.70
5	*5755.00	118.4 PK			1.29 V	348	78.50	39.90
6	*5755.00	109.2 AV			1.29 V	348	69.30	39.90
7	#5988.00	60.2 PK	68.2	-8.0	1.29 V	348	57.40	2.80
8	11510.00	58.9 PK	74.0	-15.1	2.66 V	350	44.40	14.50
9	11510.00	45.8 AV	54.0	-8.2	2.66 V	350	31.30	14.50

Remarks:

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

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

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	#5330.00	57.7 PK	74.0	-16.3	1.70 H	337	56.60	1.10
2	#5330.00	46.0 AV	54.0	-8.0	1.70 H	337	44.90	1.10
3	#5632.80	61.4 PK	68.2	-6.8	1.68 H	338	59.70	1.70
4	*5795.00	120.0 PK			1.68 H	338	79.90	40.10
5	*5795.00	110.6 AV			1.68 H	338	70.50	40.10
6	#5925.00	60.7 PK	68.2	-7.5	1.80 H	340	58.10	2.60
7	#5948.00	63.6 PK	68.2	-4.6	1.68 H	338	61.00	2.60
8	11590.00	60.0 PK	74.0	-14.0	2.34 H	22	45.70	14.30
9	11590.00	46.9 AV	54.0	-7.1	2.34 H	22	32.60	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5330.00	58.8 PK	74.0	-15.2	1.98 V	347	57.70	1.10
2	#5330.00	51.0 AV	54.0	-3.0	1.98 V	347	49.90	1.10
3	#5648.00	59.4 PK	68.2	-8.8	1.24 V	344	57.70	1.70
4	*5795.00	118.4 PK			1.24 V	344	78.30	40.10
5	*5795.00	109.0 AV			1.24 V	344	68.90	40.10
6	#5925.00	62.1 PK	68.2	-6.1	1.24 V	350	59.50	2.60
7	#5939.20	60.8 PK	68.2	-7.4	1.24 V	344	58.20	2.60
8	11590.00	58.9 PK	74.0	-15.1	2.71 V	255	44.60	14.30
9	11590.00	45.8 AV	54.0	-8.2	2.71 V	255	31.50	14.30

Remarks:

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

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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	63.7 PK	74.0	-10.3	1.41 H	344	62.90	0.80
2	5150.00	51.7 AV	54.0	-2.3	1.41 H	344	50.90	0.80
3	*5210.00	106.6 PK			1.40 H	349	67.90	38.70
4	*5210.00	96.2 AV			1.40 H	349	57.50	38.70
5	5350.00	59.3 PK	74.0	-14.7	1.33 H	347	58.20	1.10
6	5350.00	46.6 AV	54.0	-7.4	1.33 H	347	45.50	1.10
7	#10420.00	56.8 PK	74.0	-17.2	1.69 H	34	43.90	12.90
8	#10420.00	43.8 AV	54.0	-10.2	1.69 H	34	30.90	12.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.3 PK	74.0	-13.7	2.97 V	351	59.50	0.80
2	5150.00	47.3 AV	54.0	-6.7	2.97 V	351	46.50	0.80
3	*5210.00	104.6 PK			3.05 V	358	65.90	38.70
4	*5210.00	94.8 AV			3.05 V	358	56.10	38.70
5	5350.00	56.9 PK	74.0	-17.1	2.90 V	355	55.80	1.10
6	5350.00	44.0 AV	54.0	-10.0	2.90 V	355	42.90	1.10
7	#10420.00	57.3 PK	74.0	-16.7	2.56 V	269	44.40	12.90
8	#10420.00	44.2 AV	54.0	-9.8	2.56 V	269	31.30	12.90

Remarks:

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

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

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	#5330.00	58.3 PK	74.0	-15.7	1.69 H	334	57.20	1.10
2	#5330.00	47.7 AV	54.0	-6.3	1.69 H	334	46.60	1.10
3	#5639.20	61.4 PK	68.2	-6.8	1.55 H	335	59.70	1.70
4	#5650.00	64.2 PK	68.2	-4.0	1.66 H	342	62.50	1.70
5	*5775.00	113.4 PK			1.55 H	335	73.40	40.00
6	*5775.00	104.0 AV			1.55 H	335	64.00	40.00
7	#5925.00	64.6 PK	68.2	-3.6	1.57 H	335	62.00	2.60
8	#5930.40	64.6 PK	68.2	-3.6	1.55 H	335	62.00	2.60
9	11550.00	59.6 PK	74.0	-14.4	1.99 H	16	45.10	14.50
10	11550.00	46.7 AV	54.0	-7.3	1.99 H	16	32.20	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5330.00	58.9 PK	74.0	-15.1	2.01 V	343	57.80	1.10
2	#5330.00	51.1 AV	54.0	-2.9	2.01 V	343	50.00	1.10
3	#5649.60	64.9 PK	68.2	-3.3	1.21 V	350	63.20	1.70
4	#5650.00	67.2 PK	68.2	-1.0	1.24 V	344	65.50	1.70
5	*5775.00	112.1 PK			1.21 V	350	72.10	40.00
6	*5775.00	101.9 AV			1.21 V	350	61.90	40.00
7	#5924.80	62.9 PK	68.3	-5.4	1.21 V	350	60.30	2.60
8	#5925.00	64.3 PK	68.2	-3.9	1.22 V	349	61.70	2.60
9	11550.00	58.7 PK	74.0	-15.3	2.22 V	353	44.20	14.50
10	11550.00	45.5 AV	54.0	-8.5	2.22 V	353	31.00	14.50

Remarks:

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

Test Mode B

802.11a

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

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	4813.00	52.7 PK	74.0	-21.3	1.45 H	7	52.90	-0.20
2	4813.00	48.3 AV	54.0	-5.7	1.45 H	7	48.50	-0.20
3	5150.00	57.1 PK	74.0	-16.9	1.45 H	2	56.30	0.80
4	5150.00	43.6 AV	54.0	-10.4	1.45 H	2	42.80	0.80
5	*5180.00	108.3 PK			1.43 H	0	69.60	38.70
6	*5180.00	97.8 AV			1.43 H	0	59.10	38.70
7	#6906.00	66.4 PK	68.2	-1.8	1.23 H	333	59.40	7.00
8	#10360.00	58.1 PK	74.0	-15.9	2.77 H	216	45.40	12.70
9	#10360.00	45.0 AV	54.0	-9.0	2.77 H	216	32.30	12.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4813.00	49.2 PK	74.0	-24.8	1.00 V	347	49.40	-0.20
2	4813.00	41.7 AV	54.0	-12.3	1.00 V	347	41.90	-0.20
3	5150.00	56.5 PK	74.0	-17.5	1.02 V	345	55.70	0.80
4	5150.00	42.8 AV	54.0	-11.2	1.02 V	345	42.00	0.80
5	*5180.00	105.0 PK			1.00 V	343	66.30	38.70
6	*5180.00	94.9 AV			1.00 V	343	56.20	38.70
7	#6906.00	61.2 PK	68.2	-7.0	1.00 V	332	54.20	7.00
8	#10360.00	59.0 PK	74.0	-15.0	1.87 V	259	46.30	12.70
9	#10360.00	45.0 AV	54.0	-9.0	1.87 V	259	32.30	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	108.0 PK			1.52 H	359	69.30	38.70
2	*5200.00	97.5 AV			1.52 H	359	58.80	38.70
3	#6933.00	64.1 PK	68.2	-4.1	1.47 H	333	56.90	7.20
4	#10400.00	58.6 PK	74.0	-15.4	1.97 H	125	45.90	12.70
5	#10400.00	44.7 AV	54.0	-9.3	1.97 H	125	32.00	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.9 PK			1.00 V	341	67.20	38.70
2	*5200.00	95.7 AV			1.00 V	341	57.00	38.70
3	#6933.00	61.2 PK	68.2	-7.0	1.00 V	332	54.00	7.20
4	#10400.00	58.5 PK	74.0	-15.5	1.98 V	157	45.80	12.70
5	#10400.00	44.9 AV	54.0	-9.1	1.98 V	157	32.20	12.70

Remarks:

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

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

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	108.3 PK			1.41 H	359	69.50	38.80
2	*5240.00	97.7 AV			1.41 H	359	58.90	38.80
3	5350.00	46.5 PK	74.0	-27.5	1.45 H	356	45.40	1.10
4	5350.00	43.1 AV	54.0	-10.9	1.45 H	356	42.00	1.10
5	#6986.00	64.3 PK	68.2	-3.9	1.38 H	327	56.70	7.60
6	#10480.00	58.9 PK	74.0	-15.1	1.77 H	159	45.40	13.50
7	#10480.00	45.4 AV	54.0	-8.6	1.77 H	159	31.90	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.6 PK			1.00 V	344	67.80	38.80
2	*5240.00	96.0 AV			1.00 V	344	57.20	38.80
3	5350.00	56.8 PK	74.0	-17.2	1.02 V	347	55.70	1.10
4	5350.00	43.4 AV	54.0	-10.6	1.02 V	347	42.30	1.10
5	#6986.00	62.2 PK	68.2	-6.0	1.00 V	330	54.60	7.60
6	#10480.00	59.0 PK	74.0	-15.0	2.84 V	219	45.50	13.50
7	#10480.00	45.4 AV	54.0	-8.6	2.84 V	219	31.90	13.50

Remarks:

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

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

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	#5608.00	62.1 PK	68.2	-6.1	1.53 H	347	60.40	1.70
2	*5745.00	123.0 PK			1.53 H	347	83.10	39.90
3	*5745.00	111.8 AV			1.53 H	347	71.90	39.90
4	#5937.60	62.8 PK	68.2	-5.4	1.53 H	347	60.20	2.60
5	11490.00	60.7 PK	74.0	-13.3	1.87 H	244	46.20	14.50
6	11490.00	48.1 AV	54.0	-5.9	1.87 H	244	33.60	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5616.00	60.0 PK	68.2	-8.2	1.30 V	341	58.30	1.70
2	*5745.00	119.1 PK			1.30 V	341	79.20	39.90
3	*5745.00	108.4 AV			1.30 V	341	68.50	39.90
4	#5977.60	59.3 PK	68.2	-8.9	1.30 V	341	56.50	2.80
5	11490.00	60.8 PK	74.0	-13.2	2.67 V	334	46.30	14.50
6	11490.00	46.9 AV	54.0	-7.1	2.67 V	334	32.40	14.50

Remarks:

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

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

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	#5626.40	62.2 PK	68.2	-6.0	1.27 H	345	60.50	1.70
2	*5785.00	122.6 PK			1.27 H	345	82.50	40.10
3	*5785.00	112.0 AV			1.27 H	345	71.90	40.10
4	#5948.00	63.1 PK	68.2	-5.1	1.27 H	345	60.50	2.60
5	11570.00	60.6 PK	74.0	-13.4	1.88 H	141	46.30	14.30
6	11570.00	47.0 AV	54.0	-7.0	1.88 H	141	32.70	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5637.60	61.3 PK	68.2	-6.9	1.43 V	342	59.60	1.70
2	*5785.00	118.5 PK			1.43 V	342	78.40	40.10
3	*5785.00	108.4 AV			1.43 V	342	68.30	40.10
4	#5976.00	62.6 PK	68.2	-5.6	1.43 V	342	59.80	2.80
5	11570.00	60.2 PK	74.0	-13.8	1.06 V	167	45.90	14.30
6	11570.00	46.5 AV	54.0	-7.5	1.06 V	167	32.20	14.30

Remarks:

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

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

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	#5608.80	61.9 PK	68.2	-6.3	1.32 H	345	60.20	1.70
2	*5825.00	122.6 PK			1.32 H	345	82.40	40.20
3	*5825.00	111.3 AV			1.32 H	345	71.10	40.20
4	#5964.00	63.2 PK	68.2	-5.0	1.32 H	345	60.50	2.70
5	11650.00	59.8 PK	74.0	-14.2	2.67 H	254	45.40	14.40
6	11650.00	46.9 AV	54.0	-7.1	2.67 H	254	32.50	14.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5631.20	61.8 PK	68.2	-6.4	1.44 V	345	60.10	1.70
2	*5825.00	119.1 PK			1.44 V	345	78.90	40.20
3	*5825.00	108.8 AV			1.44 V	345	68.60	40.20
4	#5947.20	62.6 PK	68.2	-5.6	1.44 V	345	60.00	2.60
5	11650.00	60.1 PK	74.0	-13.9	2.47 V	249	45.70	14.40
6	11650.00	46.4 AV	54.0	-7.6	2.47 V	249	32.00	14.40

Remarks:

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

802.11ac (VHT20)

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

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	56.4 PK	74.0	-17.6	1.51 H	2	55.60	0.80
2	5150.00	42.9 AV	54.0	-11.1	1.51 H	2	42.10	0.80
3	*5180.00	107.6 PK			1.48 H	357	68.90	38.70
4	*5180.00	97.1 AV			1.48 H	357	58.40	38.70
5	#6906.00	66.1 PK	68.2	-2.1	1.48 H	330	59.10	7.00
6	#10360.00	58.3 PK	74.0	-15.7	1.99 H	73	45.60	12.70
7	#10360.00	44.7 AV	54.0	-9.3	1.99 H	73	32.00	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	1.08 V	352	55.60	0.80
2	5150.00	42.7 AV	54.0	-11.3	1.08 V	352	41.90	0.80
3	*5180.00	106.4 PK			1.00 V	346	67.70	38.70
4	*5180.00	95.6 AV			1.00 V	346	56.90	38.70
5	#6906.00	62.8 PK	68.2	-5.4	1.00 V	333	55.80	7.00
6	#10360.00	57.9 PK	74.0	-16.1	1.28 V	239	45.20	12.70
7	#10360.00	44.8 AV	54.0	-9.2	1.28 V	239	32.10	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	107.6 PK			1.46 H	357	68.90	38.70
2	*5200.00	96.6 AV			1.46 H	357	57.90	38.70
3	#6933.00	63.9 PK	68.2	-4.3	1.46 H	332	56.70	7.20
4	#10400.00	58.5 PK	74.0	-15.5	3.72 H	334	45.80	12.70
5	#10400.00	44.7 AV	54.0	-9.3	3.72 H	334	32.00	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	106.7 PK			1.00 V	345	68.00	38.70
2	*5200.00	95.6 AV			1.00 V	345	56.90	38.70
3	#6933.00	63.3 PK	68.2	-4.9	1.00 V	331	56.10	7.20
4	#10400.00	58.0 PK	74.0	-16.0	2.46 V	207	45.30	12.70
5	#10400.00	45.0 AV	54.0	-9.0	2.46 V	207	32.30	12.70

Remarks:

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

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

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	108.4 PK			1.45 H	356	69.60	38.80
2	*5240.00	97.8 AV			1.45 H	356	59.00	38.80
3	5350.00	57.7 PK	74.0	-16.3	1.53 H	354	56.60	1.10
4	5350.00	43.9 AV	54.0	-10.1	1.53 H	354	42.80	1.10
5	#6986.00	64.1 PK	68.2	-4.1	1.38 H	328	56.50	7.60
6	#10480.00	59.2 PK	74.0	-14.8	1.97 H	114	45.70	13.50
7	#10480.00	45.3 AV	54.0	-8.7	1.97 H	114	31.80	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	106.0 PK			1.00 V	346	67.20	38.80
2	*5240.00	95.8 AV			1.00 V	346	57.00	38.80
3	5350.00	56.5 PK	74.0	-17.5	1.03 V	345	55.40	1.10
4	5350.00	43.7 AV	54.0	-10.3	1.03 V	345	42.60	1.10
5	#6986.00	61.8 PK	68.2	-6.4	1.00 V	331	54.20	7.60
6	#10480.00	58.7 PK	74.0	-15.3	2.28 V	149	45.20	13.50
7	#10480.00	45.4 AV	54.0	-8.6	2.28 V	149	31.90	13.50

Remarks:

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

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

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	#5617.60	63.8 PK	68.2	-4.4	1.54 H	347	62.10	1.70
2	*5745.00	123.4 PK			1.54 H	347	83.50	39.90
3	*5745.00	111.9 AV			1.54 H	347	72.00	39.90
4	#5952.80	62.4 PK	68.2	-5.8	1.54 H	347	59.80	2.60
5	11490.00	60.1 PK	74.0	-13.9	2.91 H	207	45.60	14.50
6	11490.00	46.7 AV	54.0	-7.3	2.91 H	207	32.20	14.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5629.60	62.0 PK	68.2	-6.2	1.43 V	342	60.30	1.70
2	*5745.00	118.7 PK			1.43 V	342	78.80	39.90
3	*5745.00	107.7 AV			1.43 V	342	67.80	39.90
4	#5934.40	62.4 PK	68.2	-5.8	1.43 V	342	59.80	2.60
5	11490.00	60.4 PK	74.0	-13.6	1.67 V	353	45.90	14.50
6	11490.00	46.7 AV	54.0	-7.3	1.67 V	353	32.20	14.50

Remarks:

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

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

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	#5620.80	64.0 PK	68.2	-4.2	1.53 H	346	62.30	1.70
2	*5785.00	123.1 PK			1.53 H	346	83.00	40.10
3	*5785.00	111.9 AV			1.53 H	346	71.80	40.10
4	#5984.80	63.0 PK	68.2	-5.2	1.53 H	346	60.20	2.80
5	11570.00	60.6 PK	74.0	-13.4	1.62 H	155	46.30	14.30
6	11570.00	46.7 AV	54.0	-7.3	1.62 H	155	32.40	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5631.20	60.7 PK	68.2	-7.5	1.48 V	344	59.00	1.70
2	*5785.00	119.3 PK			1.48 V	344	79.20	40.10
3	*5785.00	108.6 AV			1.48 V	344	68.50	40.10
4	#5987.20	62.3 PK	68.2	-5.9	1.48 V	344	59.50	2.80
5	11570.00	60.6 PK	74.0	-13.4	2.76 V	169	46.30	14.30
6	11570.00	46.8 AV	54.0	-7.2	2.76 V	169	32.50	14.30

Remarks:

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

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

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	#5646.40	61.3 PK	68.2	-6.9	1.54 H	346	59.60	1.70
2	*5825.00	122.9 PK			1.54 H	346	82.70	40.20
3	*5825.00	111.6 AV			1.54 H	346	71.40	40.20
4	#5942.40	62.5 PK	68.2	-5.7	1.54 H	346	59.90	2.60
5	11650.00	59.8 PK	74.0	-14.2	1.81 H	236	45.40	14.40
6	11650.00	46.4 AV	54.0	-7.6	1.81 H	236	32.00	14.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5623.20	61.1 PK	68.2	-7.1	1.44 V	346	59.40	1.70
2	*5825.00	119.5 PK			1.44 V	346	79.30	40.20
3	*5825.00	109.1 AV			1.44 V	346	68.90	40.20
4	#5976.80	62.1 PK	68.2	-6.1	1.44 V	346	59.30	2.80
5	11650.00	60.6 PK	74.0	-13.4	1.96 V	259	46.20	14.40
6	11650.00	46.7 AV	54.0	-7.3	1.96 V	259	32.30	14.40

Remarks:

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

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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	57.3 PK	74.0	-16.7	1.60 H	1	56.50	0.80
2	5150.00	43.1 AV	54.0	-10.9	1.60 H	1	42.30	0.80
3	*5190.00	104.6 PK			1.58 H	358	65.90	38.70
4	*5190.00	94.4 AV			1.58 H	358	55.70	38.70
5	#6920.00	65.8 PK	68.2	-2.4	1.48 H	331	58.70	7.10
6	#10380.00	58.0 PK	74.0	-16.0	2.73 H	261	45.20	12.80
7	#10380.00	45.0 AV	54.0	-9.0	2.73 H	261	32.20	12.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.2 PK	74.0	-17.8	1.04 V	356	55.40	0.80
2	5150.00	42.9 AV	54.0	-11.1	1.04 V	356	42.10	0.80
3	*5190.00	102.2 PK			1.00 V	346	63.50	38.70
4	*5190.00	92.7 AV			1.00 V	346	54.00	38.70
5	#6920.00	62.5 PK	68.2	-5.7	1.00 V	333	55.40	7.10
6	#10380.00	58.6 PK	74.0	-15.4	2.79 V	261	45.80	12.80
7	#10380.00	45.0 AV	54.0	-9.0	2.79 V	261	32.20	12.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	104.7 PK			1.50 H	358	65.90	38.80
2	*5230.00	95.0 AV			1.50 H	358	56.20	38.80
3	5350.00	56.9 PK	74.0	-17.1	1.62 H	344	55.80	1.10
4	5350.00	43.8 AV	54.0	-10.2	1.62 H	344	42.70	1.10
5	#6973.00	64.0 PK	68.2	-4.2	1.50 H	330	56.40	7.60
6	#10460.00	58.5 PK	74.0	-15.5	1.62 H	257	45.20	13.30
7	#10460.00	45.0 AV	54.0	-9.0	1.62 H	257	31.70	13.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	103.1 PK			1.00 V	346	64.30	38.80
2	*5230.00	93.4 AV			1.00 V	346	54.60	38.80
3	5350.00	57.1 PK	74.0	-16.9	1.07 V	340	56.00	1.10
4	5350.00	44.1 AV	54.0	-9.9	1.07 V	340	43.00	1.10
5	#6973.00	60.5 PK	68.2	-7.7	1.00 V	330	52.90	7.60
6	#10460.00	58.5 PK	74.0	-15.5	1.24 V	97	45.20	13.30
7	#10460.00	45.0 AV	54.0	-9.0	1.24 V	97	31.70	13.30

Remarks:

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

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

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	#5615.20	64.0 PK	68.2	-4.2	1.56 H	346	62.30	1.70
2	*5755.00	118.7 PK			1.56 H	346	78.80	39.90
3	*5755.00	109.4 AV			1.56 H	346	69.50	39.90
4	#5944.80	62.5 PK	68.2	-5.7	1.56 H	346	59.90	2.60
5	11510.00	60.6 PK	74.0	-13.4	1.76 H	208	46.10	14.50
6	11510.00	46.8 AV	54.0	-7.2	1.76 H	208	32.30	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5618.40	60.6 PK	68.2	-7.6	1.40 V	343	58.90	1.70
2	*5755.00	115.8 PK			1.40 V	343	75.90	39.90
3	*5755.00	106.5 AV			1.40 V	343	66.60	39.90
4	#5975.20	59.1 PK	68.2	-9.1	1.40 V	343	56.30	2.80
5	11510.00	59.9 PK	74.0	-14.1	1.72 V	165	45.40	14.50
6	11510.00	46.6 AV	54.0	-7.4	1.72 V	165	32.10	14.50

Remarks:

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

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

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	#5632.00	63.3 PK	68.2	-4.9	1.56 H	345	61.60	1.70
2	*5795.00	118.8 PK			1.56 H	345	78.70	40.10
3	*5795.00	109.4 AV			1.56 H	345	69.30	40.10
4	#5954.40	62.6 PK	68.2	-5.6	1.56 H	345	60.00	2.60
5	11590.00	60.5 PK	74.0	-13.5	1.89 H	224	46.20	14.30
6	11590.00	47.0 AV	54.0	-7.0	1.89 H	224	32.70	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5620.80	60.6 PK	68.2	-7.6	1.34 V	341	58.90	1.70
2	*5795.00	115.6 PK			1.34 V	341	75.50	40.10
3	*5795.00	108.4 AV			1.34 V	341	68.30	40.10
4	#5938.40	59.5 PK	68.2	-8.7	1.34 V	341	56.90	2.60
5	11590.00	60.5 PK	74.0	-13.5	2.34 V	292	46.20	14.30
6	11590.00	46.9 AV	54.0	-7.1	2.34 V	292	32.60	14.30

Remarks:

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

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

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	56.6 PK	74.0	-17.4	1.52 H	348	55.80	0.80
2	5150.00	43.5 AV	54.0	-10.5	1.52 H	348	42.70	0.80
3	*5210.00	100.9 PK			1.50 H	359	62.20	38.70
4	*5210.00	92.0 AV			1.50 H	359	53.30	38.70
5	5350.00	57.0 PK	74.0	-17.0	1.52 H	352	55.90	1.10
6	5350.00	43.8 AV	54.0	-10.2	1.52 H	352	42.70	1.10
7	#6946.00	63.3 PK	68.2	-4.9	1.28 H	351	56.00	7.30
8	#10420.00	58.5 PK	74.0	-15.5	1.79 H	273	45.60	12.90
9	#10420.00	45.1 AV	54.0	-8.9	1.79 H	273	32.20	12.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.2 PK	74.0	-17.8	1.02 V	350	55.40	0.80
2	5150.00	43.1 AV	54.0	-10.9	1.02 V	350	42.30	0.80
3	*5210.00	99.4 PK			1.00 V	348	60.70	38.70
4	*5210.00	89.7 AV			1.00 V	348	51.00	38.70
5	5350.00	56.7 PK	74.0	-17.3	1.05 V	357	55.60	1.10
6	5350.00	43.7 AV	54.0	-10.3	1.05 V	357	42.60	1.10
7	#6946.00	61.4 PK	68.2	-6.8	1.00 V	331	54.10	7.30
8	#10420.00	58.7 PK	74.0	-15.3	1.94 V	274	45.80	12.90
9	#10420.00	45.0 AV	54.0	-9.0	1.94 V	274	32.10	12.90

Remarks:

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

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

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	#5644.00	63.7 PK	68.2	-4.5	1.54 H	346	62.00	1.70
2	#5645.00	67.0 PK	68.2	-1.2	1.61 H	348	65.30	1.70
3	*5775.00	114.9 PK			1.54 H	346	74.90	40.00
4	*5775.00	104.8 AV			1.54 H	346	64.80	40.00
5	#5935.20	62.7 PK	68.2	-5.5	1.54 H	346	60.10	2.60
6	11550.00	60.2 PK	74.0	-13.8	1.65 H	278	45.70	14.50
7	11550.00	46.7 AV	54.0	-7.3	1.65 H	278	32.20	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	61.9 PK	68.2	-6.3	1.23 V	342	60.20	1.70
2	#5650.00	64.8 PK	68.2	-3.4	1.23 V	342	63.10	1.70
3	*5775.00	112.2 PK			1.29 V	344	72.20	40.00
4	*5775.00	105.8 AV			1.29 V	344	65.80	40.00
5	#5934.40	60.4 PK	68.2	-7.8	1.23 V	342	57.80	2.60
6	11550.00	60.2 PK	74.0	-13.8	1.97 V	243	45.70	14.50
7	11550.00	47.0 AV	54.0	-7.0	1.97 V	243	32.50	14.50

Remarks:

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

Test Mode C

802.11a

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

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	55.0 PK	74.0	-19.0	1.47 H	333	54.20	0.80
2	5150.00	41.9 AV	54.0	-12.1	1.47 H	333	41.10	0.80
3	*5180.00	102.2 PK			1.21 H	201	63.50	38.70
4	*5180.00	92.1 AV			1.21 H	201	53.40	38.70
5	#6906.00	56.2 PK	68.2	-12.0	1.25 H	200	49.20	7.00
6	#10360.00	57.4 PK	74.0	-16.6	1.60 H	135	44.70	12.70
7	#10360.00	45.0 AV	54.0	-9.0	1.60 H	135	32.30	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.4 PK	74.0	-14.6	1.14 V	279	58.60	0.80
2	5150.00	46.1 AV	54.0	-7.9	1.14 V	279	45.30	0.80
3	*5180.00	110.2 PK			1.24 V	310	71.50	38.70
4	*5180.00	100.5 AV			1.24 V	310	61.80	38.70
5	#6906.00	63.7 PK	68.2	-4.5	2.36 V	357	56.70	7.00
6	#10360.00	57.2 PK	74.0	-16.8	2.00 V	169	44.50	12.70
7	#10360.00	45.2 AV	54.0	-8.8	2.00 V	169	32.50	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	101.5 PK			1.18 H	199	62.80	38.70
2	*5200.00	91.3 AV			1.18 H	199	52.60	38.70
3	#6933.00	56.2 PK	68.2	-12.0	1.30 H	199	49.00	7.20
4	#10400.00	56.4 PK	74.0	-17.6	1.69 H	322	43.70	12.70
5	#10400.00	44.2 AV	54.0	-9.8	1.69 H	322	31.50	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.8 PK			1.13 V	314	72.10	38.70
2	*5200.00	100.4 AV			1.13 V	314	61.70	38.70
3	#6933.00	59.3 PK	68.2	-8.9	2.30 V	350	52.10	7.20
4	#10400.00	57.8 PK	74.0	-16.2	1.94 V	133	45.10	12.70
5	#10400.00	45.0 AV	54.0	-9.0	1.94 V	133	32.30	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	101.9 PK			1.19 H	198	63.10	38.80
2	*5240.00	91.6 AV			1.19 H	198	52.80	38.80
3	5350.00	56.4 PK	74.0	-17.6	1.21 H	199	55.30	1.10
4	5350.00	43.4 AV	54.0	-10.6	1.21 H	199	42.30	1.10
5	#6986.00	57.0 PK	68.2	-11.2	2.25 H	350	49.40	7.60
6	#10480.00	57.7 PK	74.0	-16.3	1.83 H	230	44.20	13.50
7	#10480.00	45.1 AV	54.0	-8.9	1.83 H	230	31.60	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.1 PK			1.21 V	360	72.30	38.80
2	*5240.00	100.9 AV			1.21 V	360	62.10	38.80
3	5350.00	56.7 PK	74.0	-17.3	1.77 V	144	55.60	1.10
4	5350.00	45.2 AV	54.0	-8.8	1.77 V	144	44.10	1.10
5	#6986.00	58.9 PK	68.2	-9.3	2.28 V	354	51.30	7.60
6	#10480.00	57.9 PK	74.0	-16.1	1.86 V	166	44.40	13.50
7	#10480.00	46.1 AV	54.0	-7.9	1.86 V	166	32.60	13.50

Remarks:

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

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

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	#5630.40	55.8 PK	68.2	-12.4	1.54 H	172	54.10	1.70
2	*5745.00	111.4 PK			1.54 H	172	71.50	39.90
3	*5745.00	100.4 AV			1.54 H	172	60.50	39.90
4	#5940.00	56.4 PK	68.2	-11.8	1.54 H	172	53.80	2.60
5	11490.00	64.5 PK	74.0	-9.5	2.23 H	226	50.00	14.50
6	11490.00	52.1 AV	54.0	-1.9	2.23 H	226	37.60	14.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.00	56.4 PK	68.2	-11.8	1.19 V	304	54.70	1.70
2	*5745.00	81.9 PK			1.19 V	304	79.90	2.00
3	*5745.00	71.9 AV			1.19 V	304	69.90	2.00
4	#5998.40	58.4 PK	68.2	-9.8	1.19 V	304	55.60	2.80
5	11490.00	62.8 PK	74.0	-11.2	2.08 V	351	48.30	14.50
6	11490.00	51.0 AV	54.0	-3.0	2.08 V	351	36.50	14.50

Remarks:

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

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

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	#5630.40	56.6 PK	68.2	-11.6	1.28 H	214	54.90	1.70
2	*5785.00	109.9 PK			1.28 H	214	69.80	40.10
3	*5785.00	99.7 AV			1.28 H	214	59.60	40.10
4	#5935.20	57.3 PK	68.2	-10.9	1.28 H	214	54.70	2.60
5	11570.00	64.7 PK	74.0	-9.3	2.27 H	223	50.40	14.30
6	11570.00	50.9 AV	54.0	-3.1	2.27 H	223	36.60	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.80	56.1 PK	68.2	-12.1	1.25 V	306	54.40	1.70
2	*5785.00	121.4 PK			1.25 V	306	81.30	40.10
3	*5785.00	111.4 AV			1.25 V	306	71.30	40.10
4	#5945.60	57.2 PK	68.2	-11.0	1.25 V	306	54.60	2.60
5	11570.00	62.1 PK	74.0	-11.9	2.20 V	359	47.80	14.30
6	11570.00	49.8 AV	54.0	-4.2	2.20 V	359	35.50	14.30

Remarks:

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

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

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	#5624.80	55.2 PK	68.2	-13.0	1.12 H	192	53.50	1.70
2	*5825.00	110.0 PK			1.12 H	192	69.80	40.20
3	*5825.00	100.7 AV			1.12 H	192	60.50	40.20
4	#5963.20	56.7 PK	68.2	-11.5	1.12 H	192	54.10	2.60
5	11650.00	63.4 PK	74.0	-10.6	2.24 H	263	49.00	14.40
6	11650.00	50.6 AV	54.0	-3.4	2.24 H	263	36.20	14.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5634.40	55.9 PK	68.2	-12.3	1.25 V	311	54.20	1.70
2	*5825.00	121.5 PK			1.25 V	311	81.30	40.20
3	*5825.00	111.4 AV			1.25 V	311	71.20	40.20
4	#5981.60	58.6 PK	68.2	-9.6	1.25 V	311	55.80	2.80
5	11650.00	62.4 PK	74.0	-11.6	2.06 V	355	48.00	14.40
6	11650.00	50.6 AV	54.0	-3.4	2.06 V	355	36.20	14.40

Remarks:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.1 PK	74.0	-18.9	1.22 H	198	54.30	0.80
2	5150.00	43.4 AV	54.0	-10.6	1.22 H	198	42.60	0.80
3	*5180.00	100.7 PK			1.23 H	200	62.00	38.70
4	*5180.00	90.6 AV			1.23 H	200	51.90	38.70
5	#6906.00	56.7 PK	68.2	-11.5	1.23 H	190	49.70	7.00
6	#10360.00	58.0 PK	74.0	-16.0	1.70 H	166	45.30	12.70
7	#10360.00	45.5 AV	54.0	-8.5	1.70 H	166	32.80	12.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.9 PK	74.0	-17.1	1.39 V	0	56.10	0.80
2	5150.00	45.0 AV	54.0	-9.0	1.39 V	0	44.20	0.80
3	*5180.00	109.3 PK			1.20 V	309	70.60	38.70
4	*5180.00	99.0 AV			1.20 V	309	60.30	38.70
5	#6906.00	63.3 PK	68.2	-4.9	2.35 V	356	56.30	7.00
6	#10360.00	57.5 PK	74.0	-16.5	2.12 V	354	44.80	12.70
7	#10360.00	44.6 AV	54.0	-9.4	2.12 V	354	31.90	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	100.8 PK			1.32 H	201	62.10	38.70
2	*5200.00	90.0 AV			1.32 H	201	51.30	38.70
3	#6933.00	56.4 PK	68.2	-11.8	1.24 H	191	49.20	7.20
4	#10400.00	57.3 PK	74.0	-16.7	1.44 H	229	44.60	12.70
5	#10400.00	44.7 AV	54.0	-9.3	1.44 H	229	32.00	12.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.6 PK			1.18 V	306	71.90	38.70
2	*5200.00	100.3 AV			1.18 V	306	61.60	38.70
3	#6933.00	58.5 PK	68.2	-9.7	2.26 V	353	51.30	7.20
4	#10400.00	57.8 PK	74.0	-16.2	2.00 V	344	45.10	12.70
5	#10400.00	45.1 AV	54.0	-8.9	2.00 V	344	32.40	12.70

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	101.5 PK			1.18 H	201	62.70	38.80
2	*5240.00	91.7 AV			1.18 H	201	52.90	38.80
3	5350.00	54.2 PK	74.0	-19.8	1.19 H	197	53.10	1.10
4	5350.00	42.4 AV	54.0	-11.6	1.19 H	197	41.30	1.10
5	#6986.00	57.1 PK	68.2	-11.1	1.25 H	199	49.50	7.60
6	#10480.00	58.3 PK	74.0	-15.7	2.03 H	233	44.80	13.50
7	#10480.00	45.7 AV	54.0	-8.3	2.03 H	233	32.20	13.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	110.9 PK			1.18 V	309	72.10	38.80
2	*5240.00	100.6 AV			1.18 V	309	61.80	38.80
3	5350.00	58.4 PK	74.0	-15.6	1.28 V	226	57.30	1.10
4	5350.00	45.2 AV	54.0	-8.8	1.28 V	226	44.10	1.10
5	#6986.00	59.6 PK	68.2	-8.6	2.30 V	355	52.00	7.60
6	#10480.00	57.6 PK	74.0	-16.4	1.90 V	212	44.10	13.50
7	#10480.00	45.4 AV	54.0	-8.6	1.90 V	212	31.90	13.50

Remarks:

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

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

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	#5640.80	54.8 PK	68.2	-13.4	1.24 H	214	53.10	1.70
2	*5745.00	111.9 PK			1.24 H	214	72.00	39.90
3	*5745.00	101.2 AV			1.24 H	214	61.30	39.90
4	#5968.00	56.8 PK	68.2	-11.4	1.24 H	214	54.10	2.70
5	11490.00	64.1 PK	74.0	-9.9	2.30 H	222	49.60	14.50
6	11490.00	51.8 AV	54.0	-2.2	2.30 H	222	37.30	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5643.20	55.7 PK	68.2	-12.5	1.20 V	310	54.00	1.70
2	*5745.00	121.6 PK			1.20 V	310	81.70	39.90
3	*5745.00	111.6 AV			1.20 V	310	71.70	39.90
4	#5957.60	57.0 PK	68.2	-11.2	1.20 V	310	54.40	2.60
5	11490.00	62.6 PK	74.0	-11.4	2.05 V	353	48.10	14.50
6	11490.00	50.7 AV	54.0	-3.3	2.05 V	353	36.20	14.50

Remarks:

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

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

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	#5625.60	55.1 PK	68.2	-13.1	1.12 H	214	53.40	1.70
2	*5785.00	111.8 PK			1.12 H	214	71.70	40.10
3	*5785.00	101.0 AV			1.12 H	214	60.90	40.10
4	#5984.80	57.3 PK	68.2	-10.9	1.12 H	214	54.50	2.80
5	11570.00	62.9 PK	74.0	-11.1	2.06 H	216	48.60	14.30
6	11570.00	51.0 AV	54.0	-3.0	2.06 H	216	36.70	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5607.41	56.2 PK	68.2	-12.0	1.22 V	312	54.50	1.70
2	*5785.00	121.7 PK			1.20 V	310	81.60	40.10
3	*5785.00	111.7 AV			1.20 V	310	71.60	40.10
4	#5980.08	57.0 PK	68.2	-11.2	1.22 V	312	54.20	2.80
5	11570.00	64.0 PK	74.0	-10.0	2.28 V	224	49.70	14.30
6	11570.00	49.9 AV	54.0	-4.1	2.28 V	224	35.60	14.30

Remarks:

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

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

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	#5645.60	56.9 PK	68.2	-11.3	1.15 H	194	55.20	1.70
2	*5825.00	110.7 PK			1.14 H	200	70.50	40.20
3	*5825.00	100.6 AV			1.14 H	200	60.40	40.20
4	#5927.20	59.0 PK	68.2	-9.2	1.15 H	194	56.40	2.60
5	11650.00	62.8 PK	74.0	-11.2	2.25 H	219	48.40	14.40
6	11650.00	50.3 AV	54.0	-3.7	2.25 H	219	35.90	14.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5647.20	54.8 PK	68.2	-13.4	1.26 V	310	53.10	1.70
2	*5825.00	121.5 PK			1.26 V	310	81.30	40.20
3	*5825.00	111.6 AV			1.26 V	310	71.40	40.20
4	#5932.00	58.0 PK	68.2	-10.2	1.26 V	310	55.40	2.60
5	11650.00	62.2 PK	74.0	-11.8	2.34 V	229	47.80	14.40
6	11650.00	49.5 AV	54.0	-4.5	2.34 V	229	35.10	14.40

Remarks:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.6 PK	74.0	-19.4	1.52 H	86	53.80	0.80
2	5150.00	42.6 AV	54.0	-11.4	1.52 H	86	41.80	0.80
3	*5190.00	96.7 PK			1.21 H	198	58.00	38.70
4	*5190.00	88.0 AV			1.21 H	198	49.30	38.70
5	#10380.00	57.4 PK	74.0	-16.6	1.71 H	151	44.60	12.80
6	#10380.00	45.3 AV	54.0	-8.7	1.71 H	151	32.50	12.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.3 PK	74.0	-9.7	1.14 V	119	63.50	0.80
2	5150.00	51.1 AV	54.0	-2.9	1.14 V	119	50.30	0.80
3	*5190.00	107.5 PK			1.23 V	305	68.80	38.70
4	*5190.00	98.2 AV			1.23 V	305	59.50	38.70
5	#10380.00	56.6 PK	74.0	-17.4	1.98 V	190	43.80	12.80
6	#10380.00	44.1 AV	54.0	-9.9	1.98 V	190	31.30	12.80

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	97.7 PK			1.22 H	198	58.90	38.80
2	*5230.00	88.5 AV			1.22 H	198	49.70	38.80
3	5350.00	56.5 PK	74.0	-17.5	1.80 H	279	55.40	1.10
4	5350.00	44.7 AV	54.0	-9.3	1.80 H	279	43.60	1.10
5	#10460.00	57.7 PK	74.0	-16.3	1.50 H	345	44.40	13.30
6	#10460.00	45.4 AV	54.0	-8.6	1.50 H	345	32.10	13.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	107.6 PK			1.25 V	306	68.80	38.80
2	*5230.00	98.2 AV			1.25 V	306	59.40	38.80
3	5350.00	56.6 PK	74.0	-17.4	1.36 V	0	55.50	1.10
4	5350.00	44.4 AV	54.0	-9.6	1.36 V	0	43.30	1.10
5	#10460.00	57.5 PK	74.0	-16.5	1.77 V	157	44.20	13.30
6	#10460.00	44.8 AV	54.0	-9.2	1.77 V	157	31.50	13.30

Remarks:

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

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

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	#5628.00	55.9 PK	68.2	-12.3	1.05 H	356	54.20	1.70
2	#5650.00	56.2 PK	68.2	-12.0	1.21 H	0	54.50	1.70
3	*5755.00	105.5 PK			1.05 H	356	65.60	39.90
4	*5755.00	95.8 AV			1.05 H	356	55.90	39.90
5	#5959.20	57.5 PK	68.2	-10.7	1.05 H	356	54.90	2.60
6	11510.00	58.7 PK	74.0	-15.3	1.68 H	150	44.20	14.50
7	11510.00	46.7 AV	54.0	-7.3	1.68 H	150	32.20	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.80	60.3 PK	68.2	-7.9	1.18 V	311	58.60	1.70
2	#5650.00	66.5 PK	68.2	-1.7	1.29 V	251	64.80	1.70
3	*5755.00	117.8 PK			1.18 V	311	77.90	39.90
4	*5755.00	107.6 AV			1.18 V	311	67.70	39.90
5	#5936.00	57.7 PK	68.2	-10.5	1.18 V	311	55.10	2.60
6	11510.00	62.7 PK	74.0	-11.3	2.07 V	346	48.20	14.50
7	11510.00	49.6 AV	54.0	-4.4	2.07 V	346	35.10	14.50

Remarks:

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

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

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	#5633.60	55.3 PK	68.2	-12.9	1.11 H	352	53.60	1.70
2	*5795.00	102.7 PK			1.11 H	352	62.60	40.10
3	*5795.00	93.1 AV			1.11 H	352	53.00	40.10
4	#5925.00	61.5 PK	68.2	-6.7	1.11 H	352	58.90	2.60
5	#5966.40	57.5 PK	68.2	-10.7	1.11 H	352	54.80	2.70
6	11590.00	60.5 PK	74.0	-13.5	1.77 H	123	46.20	14.30
7	11590.00	48.1 AV	54.0	-5.9	1.77 H	123	33.80	14.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5644.80	57.8 PK	68.2	-10.4	1.31 V	200	56.10	1.70
2	*5795.00	116.8 PK			1.31 V	200	76.70	40.10
3	*5795.00	107.0 AV			1.31 V	200	66.90	40.10
4	#5925.00	66.7 PK	68.2	-1.5	2.16 V	329	64.10	2.60
5	#5932.00	64.7 PK	68.2	-3.5	1.31 V	200	62.10	2.60
6	11590.00	60.2 PK	74.0	-13.8	2.34 V	353	45.90	14.30
7	11590.00	47.9 AV	54.0	-6.1	2.34 V	353	33.60	14.30

Remarks:

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

802.11ac (VHT80)

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

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	55.7 PK	74.0	-18.3	1.29 H	193	54.90	0.80
2	5150.00	43.3 AV	54.0	-10.7	1.29 H	193	42.50	0.80
3	*5210.00	94.4 PK			1.21 H	196	55.70	38.70
4	*5210.00	84.7 AV			1.21 H	196	46.00	38.70
5	5350.00	55.7 PK	74.0	-18.3	1.58 H	79	54.60	1.10
6	5350.00	43.1 AV	54.0	-10.9	1.58 H	79	42.00	1.10
7	#10420.00	56.8 PK	74.0	-17.2	2.22 H	179	43.90	12.90
8	#10420.00	44.0 AV	54.0	-10.0	2.22 H	179	31.10	12.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.1 PK	74.0	-9.9	1.15 V	128	63.30	0.80
2	5150.00	51.4 AV	54.0	-2.6	1.15 V	128	50.60	0.80
3	*5210.00	103.0 PK			1.07 V	307	64.30	38.70
4	*5210.00	93.8 AV			1.07 V	307	55.10	38.70
5	5350.00	54.9 PK	74.0	-19.1	1.11 V	130	53.80	1.10
6	5350.00	43.9 AV	54.0	-10.1	1.11 V	130	42.80	1.10
7	#10420.00	57.1 PK	74.0	-16.9	1.88 V	345	44.20	12.90
8	#10420.00	44.2 AV	54.0	-9.8	1.88 V	345	31.30	12.90

Remarks:

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

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

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	#5621.60	56.9 PK	68.2	-11.3	1.10 H	206	55.20	1.70
2	#5650.00	56.3 PK	68.2	-11.9	1.72 H	300	54.60	1.70
3	*5775.00	97.5 PK			1.10 H	206	57.50	40.00
4	*5775.00	87.7 AV			1.10 H	206	47.70	40.00
5	#5925.00	57.0 PK	68.2	-11.2	1.23 H	326	54.40	2.60
6	#5952.00	57.4 PK	68.2	-10.8	1.10 H	206	54.80	2.60
7	11550.00	59.0 PK	74.0	-15.0	1.88 H	265	44.50	14.50
8	11550.00	46.4 AV	54.0	-7.6	1.88 H	265	31.90	14.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5650.00	66.7 PK	68.2	-1.5	1.30 V	333	65.00	1.70
2	#5650.40	62.9 PK	68.5	-5.6	1.47 V	205	61.20	1.70
3	*5775.00	109.8 PK			1.47 V	205	69.80	40.00
4	*5775.00	100.3 AV			1.47 V	205	60.30	40.00
5	#5925.00	65.7 PK	68.2	-2.5	1.53 V	326	63.10	2.60
6	#5927.20	62.6 PK	68.2	-5.6	1.47 V	205	60.00	2.60
7	11550.00	60.1 PK	74.0	-13.9	2.07 V	351	45.60	14.50
8	11550.00	46.8 AV	54.0	-7.2	2.07 V	351	32.30	14.50

Remarks:

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

Below 1GHz Worst-Case Data: 802.11a

CHANNEL	TX Channel 36	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	57.12	27.9 QP	40.0	-12.1	1.99 H	246	42.50	-14.60
2	136.84	38.2 QP	43.5	-5.3	1.99 H	74	52.80	-14.60
3	202.94	31.1 QP	43.5	-12.4	1.49 H	248	47.50	-16.40
4	237.94	33.4 QP	46.0	-12.6	1.49 H	117	48.10	-14.70
5	337.10	26.1 QP	46.0	-19.9	1.00 H	206	37.30	-11.20
6	533.47	30.4 QP	46.0	-15.6	1.49 H	112	37.70	-7.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.69	38.8 QP	40.0	-1.2	1.00 V	54	53.50	-14.70
2	68.79	38.1 QP	40.0	-1.9	1.00 V	183	54.20	-16.10
3	105.73	31.6 QP	43.5	-11.9	1.00 V	117	49.30	-17.70
4	134.89	32.6 QP	43.5	-10.9	1.00 V	75	47.40	-14.80
5	237.94	32.3 QP	46.0	-13.7	1.00 V	178	47.00	-14.70
6	533.47	30.1 QP	46.0	-15.9	1.00 V	172	37.40	-7.30

Remarks:

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

CHANNEL	TX Channel 36	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	57.12	29.2 QP	40.0	-10.8	1.99 H	230	43.80	-14.60
2	76.56	28.5 QP	40.0	-11.5	1.00 H	249	46.20	-17.70
3	113.50	35.4 QP	43.5	-8.1	1.49 H	240	52.30	-16.90
4	136.84	36.4 QP	43.5	-7.1	1.99 H	69	51.00	-14.60
5	173.27	41.3 QP	43.5	-2.2	2.00 H	102	55.40	-14.10
6	533.47	30.6 QP	46.0	-15.4	1.49 H	111	37.90	-7.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.76	37.4 QP	40.0	-2.6	1.00 V	33	52.10	-14.70
2	74.62	37.1 QP	40.0	-2.9	1.00 V	5	54.30	-17.20
3	107.67	33.7 QP	43.5	-9.8	1.49 V	15	51.20	-17.50
4	136.84	34.5 QP	43.5	-9.0	1.00 V	55	49.10	-14.60
5	173.78	39.4 QP	43.5	-4.1	1.00 V	16	53.50	-14.10
6	533.47	30.1 QP	46.0	-15.9	1.00 V	153	37.40	-7.30

Remarks:

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

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	C

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.34	34.4 QP	40.0	-5.6	2.49 H	200	45.20	-10.80
2	127.11	41.7 QP	43.5	-1.8	2.49 H	112	52.50	-10.80
3	134.89	40.6 QP	43.5	-2.9	2.00 H	63	51.40	-10.80
4	249.60	39.3 QP	46.0	-6.7	1.00 H	142	50.10	-10.80
5	533.47	26.0 QP	46.0	-20.0	1.49 H	115	36.80	-10.80
6	716.23	36.0 QP	46.0	-10.0	2.49 H	262	46.80	-10.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.70	38.5 QP	40.0	-1.5	1.00 V	345	53.20	-14.70
2	74.62	35.8 QP	40.0	-4.2	1.00 V	15	53.00	-17.20
3	107.67	33.8 QP	43.5	-9.7	1.50 V	117	51.30	-17.50
4	148.50	31.6 QP	43.5	-11.9	1.00 V	43	45.40	-13.80
5	249.60	33.1 QP	46.0	-12.9	1.00 V	180	47.10	-14.00
6	533.47	29.3 QP	46.0	-16.7	1.50 V	165	36.60	-7.30

Remarks:

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

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

Tested date: Apr. 05, 2017

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

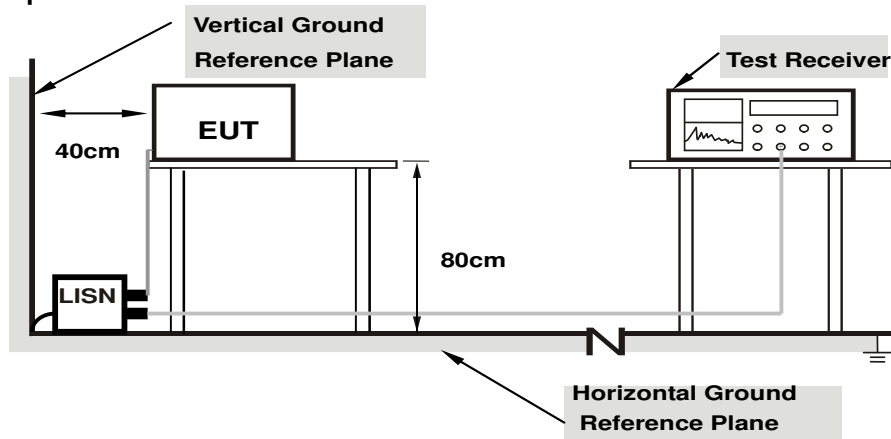
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

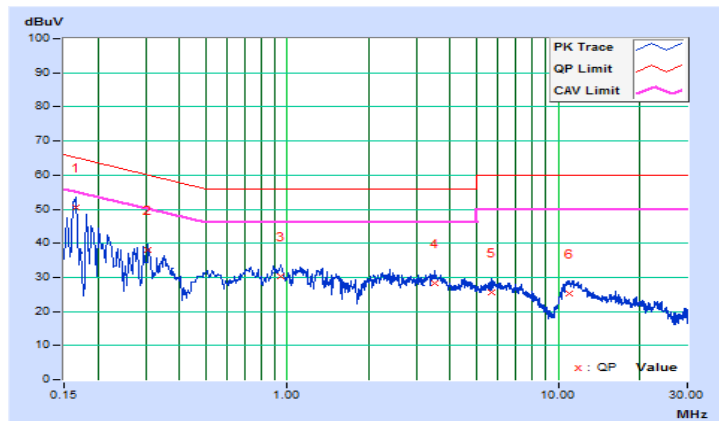
Test Mode A

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16526	10.41	40.15	24.56	50.56	34.97	65.20
2	0.30640	10.47	27.52	18.98	37.99	29.45	60.07	50.07	-22.08	-20.62
3	0.94764	10.46	19.69	16.47	30.15	26.93	56.00	46.00	-25.85	-19.07
4	3.50869	10.63	17.51	11.79	28.14	22.42	56.00	46.00	-27.86	-23.58
5	5.71393	10.73	14.99	9.07	25.72	19.80	60.00	50.00	-34.28	-30.20
6	11.02371	10.95	14.17	9.61	25.12	20.56	60.00	50.00	-34.88	-29.44

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.

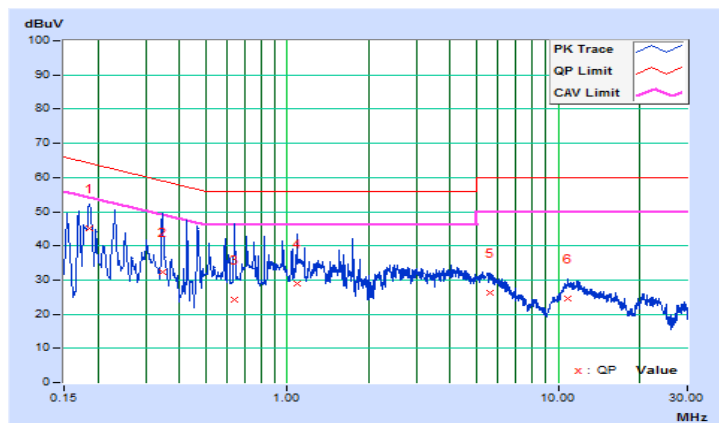


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.18508	10.19	34.98	19.58	45.17	29.77	64.25
2	0.34550	10.22	22.07	14.22	32.29	24.44	59.07	49.07	-26.78	-24.63
3	0.63856	10.23	14.16	10.26	24.39	20.49	56.00	46.00	-31.61	-25.51
4	1.08840	10.25	18.87	15.43	29.12	25.68	56.00	46.00	-26.88	-20.32
5	5.59663	10.48	15.82	10.54	26.30	21.02	60.00	50.00	-33.70	-28.98
6	10.87122	10.67	13.97	9.39	24.64	20.06	60.00	50.00	-35.36	-29.94

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.



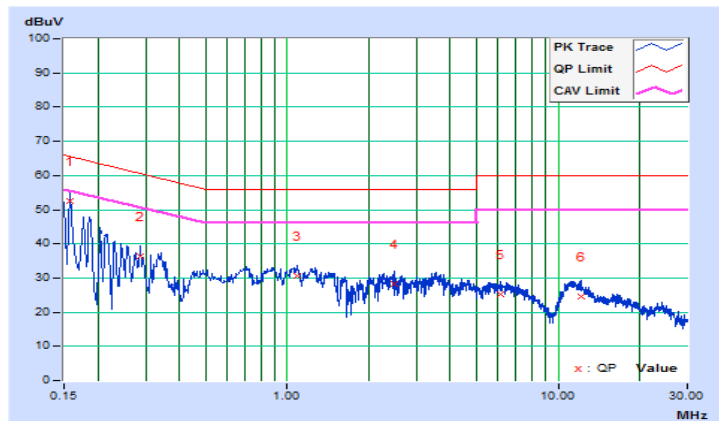
Test Mode B

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15782	10.41	42.08	27.61	52.49	38.02	65.58
2	0.28685	10.46	26.06	16.87	36.52	27.33	60.62	50.62	-24.10	-23.29
3	1.09231	10.47	20.08	16.43	30.55	26.90	56.00	46.00	-25.45	-19.10
4	2.47645	10.55	17.60	12.46	28.15	23.01	56.00	46.00	-27.85	-22.99
5	6.15185	10.75	14.53	8.83	25.28	19.58	60.00	50.00	-34.72	-30.42
6	12.13415	11.01	13.50	9.01	24.51	20.02	60.00	50.00	-35.49	-29.98

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.

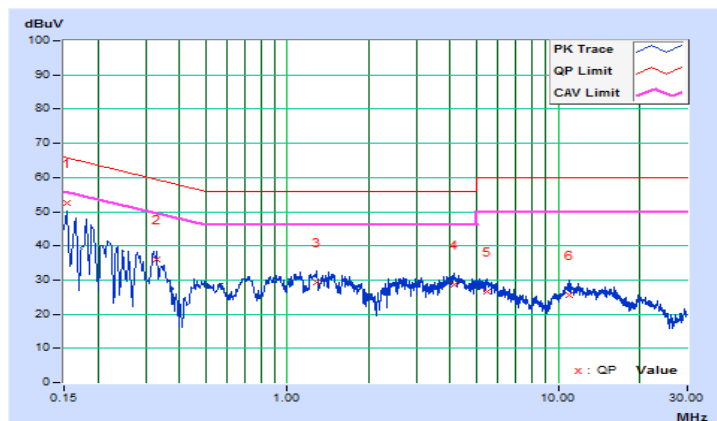


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15391	10.16	42.52	28.14	52.68	38.30	65.79
2	0.32986	10.22	25.91	17.52	36.13	27.74	59.45	49.45	-23.32	-21.71
3	1.29172	10.26	19.06	15.02	29.32	25.28	56.00	46.00	-26.68	-20.72
4	4.15384	10.43	18.29	12.70	28.72	23.13	56.00	46.00	-27.28	-22.87
5	5.46760	10.47	16.11	10.59	26.58	21.06	60.00	50.00	-33.42	-28.94
6	10.94551	10.68	14.89	10.04	25.57	20.72	60.00	50.00	-34.43	-29.28

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.



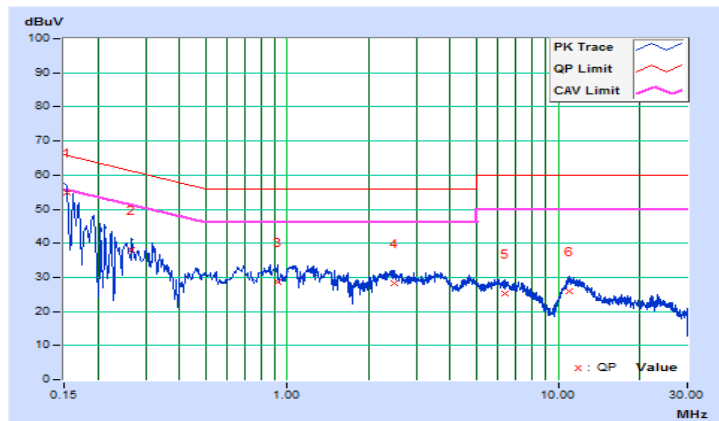
Test Mode C

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15391	10.41	44.36	29.93	54.77	40.34	65.79
2	0.26730	10.46	27.52	16.40	37.98	26.86	61.20	51.20	-23.22	-24.34
3	0.92418	10.47	18.31	14.30	28.78	24.77	56.00	46.00	-27.22	-21.23
4	2.48818	10.55	17.84	12.00	28.39	22.55	56.00	46.00	-27.61	-23.45
5	6.37081	10.75	14.39	8.82	25.14	19.57	60.00	50.00	-34.86	-30.43
6	11.05890	10.95	15.00	10.37	25.95	21.32	60.00	50.00	-34.05	-28.68

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.

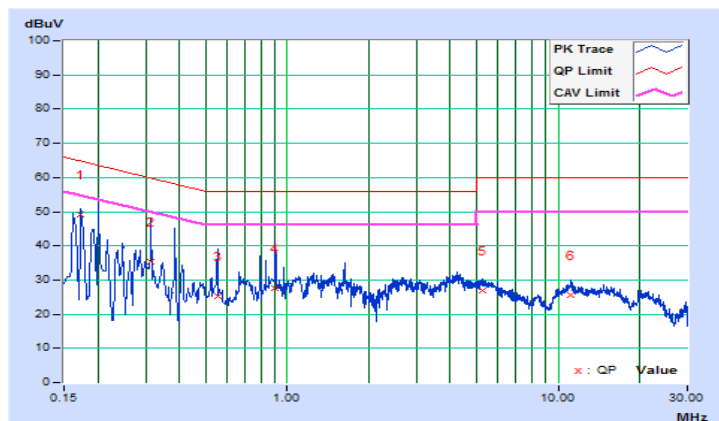


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.17346	10.18	38.90	23.66	49.08	33.84	64.79
2	0.31422	10.22	25.25	16.44	35.47	26.66	59.86	49.86	-24.39	-23.20
3	0.55273	10.23	14.94	9.80	25.17	20.03	56.00	46.00	-30.83	-25.97
4	0.90463	10.24	17.25	13.56	27.49	23.80	56.00	46.00	-28.51	-22.20
5	5.23691	10.47	16.47	11.16	26.94	21.63	60.00	50.00	-33.06	-28.37
6	11.14101	10.69	14.80	10.06	25.49	20.75	60.00	50.00	-34.51	-29.25

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} ;

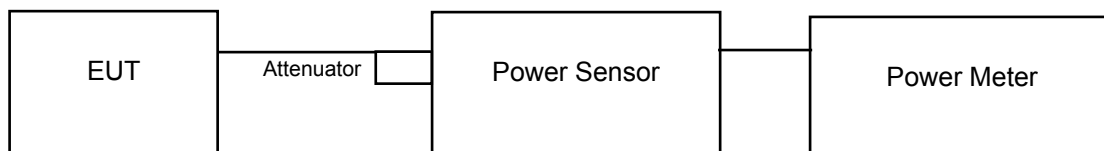
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

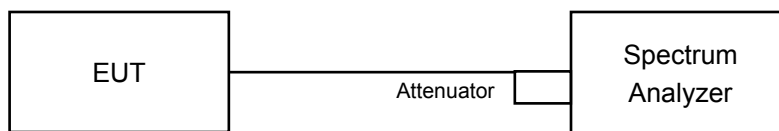
4.3.2 Test Setup

For Power Output Measurement

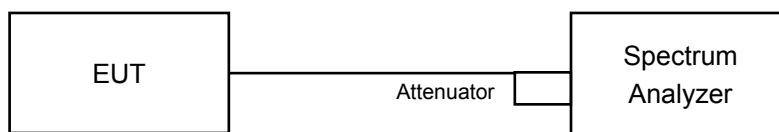
802.11a, 802.11ac (VHT20), 802.11ac (VHT40)



802.11ac (VHT80)



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

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

For 802.11ac (VHT80)

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz.
- d. Set VBW \geq 3 MHz
- e. Number of points in sweep \geq 2 Span / RBW.
- f. Sweep time \leq (number of points in sweep) * T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS.
- i. Trace mode = max hold.
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

For 26dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

Test Mode A: CDD Mode

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	12.01	12.68	34.420	15.37	22.58	5.46	20.83	21.00	Pass
40	5200	12.03	12.77	34.882	15.43	22.58	5.46	20.89	21.00	Pass
48	5240	12.66	12.17	34.932	15.43	22.58	5.46	20.89	21.00	Pass

Note:

Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

Gain = 5.46dBi (above 30 degrees from the horizon),

EIRP = conducted power +(5.46dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	11.97	12.91	35.283	15.48	22.58	5.46	20.94	21.00	Pass
40	5200	11.79	12.94	34.780	15.41	22.58	5.46	20.87	21.00	Pass
48	5240	12.22	12.34	33.812	15.29	22.58	5.46	20.75	21.00	Pass

Note:

Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

Gain = 5.46dBi (above 30 degrees from the horizon),

EIRP = conducted power +(5.46dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	11.89	12.79	34.464	15.37	22.58	5.46	20.83	21.00	Pass
46	5230	12.42	12.62	35.739	15.53	22.58	5.46	20.99	21.00	Pass

Note:

Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

Gain = 5.46dBi (above 30 degrees from the horizon),

EIRP = conducted power +(5.46dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	11.99	12.67	34.305	15.35	22.58	5.46	20.81	21.00	Pass

Note:

Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

Gain = 5.46dBi (above 30 degrees from the horizon),

EIRP = conducted power +(5.46dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.30	8.70	14.174	11.51	16.58	Pass
40	5200	8.40	8.80	14.504	11.61	16.58	Pass
48	5240	8.10	8.50	13.536	11.31	16.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 24-(13.42-6) = 16.58dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.50	9.20	15.397	11.87	16.58	Pass
40	5200	8.60	9.30	15.755	11.97	16.58	Pass
48	5240	9.10	8.80	15.714	11.96	16.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 24-(13.42-6) = 16.58dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.89	12.79	34.464	15.37	16.58	Pass
46	5230	12.42	12.62	35.739	15.53	16.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 24-(13.42-6) = 16.58dBm.

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				
42	5210	11.99	12.67	34.305	15.35	16.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 24-(13.42-6) = 16.58dBm.

For U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	18.61	19.41	159.908	22.04	22.58	Pass
157	5785	19.12	19.51	170.989	22.33	22.58	Pass
165	5825	19.41	19.22	170.857	22.33	22.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	18.45	19.53	159.727	22.03	22.58	Pass
157	5785	18.76	19.66	167.632	22.24	22.58	Pass
165	5825	19.17	19.13	164.450	22.16	22.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	18.61	19.66	165.081	22.18	22.58	Pass
159	5795	19.12	19.61	173.069	22.38	22.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

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				
155	5775	15.66	16.44	80.868	19.08	22.58	Pass

Note: Gain = 13.42dBi > 6dBi, so the limit shall be reduced to 30-(13.42-6) = 22.58dBm.

Beamforming Mode

For U-NII-1 Band (Outdoor Access Point)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	8.96	9.90	17.642	12.47	19.60	8.47	20.94	21.00	Pass
40	5200	8.78	9.93	17.391	12.40	19.60	8.47	20.87	21.00	Pass
48	5240	9.21	9.33	16.907	12.28	19.60	8.47	20.75	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 16.40dBi > 6dBi, so the power limit shall be reduced to 30-(16.40-6) = 19.60dBm.

Beamforming Gain = 5.46dBi + 10 log(2) = 8.47 (above 30 degrees from the horizon),

EIRP = conducted power +(8.47dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	8.88	9.78	17.233	12.36	19.60	8.47	20.83	21.00	Pass
46	5230	9.41	9.61	17.871	12.52	19.60	8.47	20.99	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 16.40dBi > 6dBi, so the power limit shall be reduced to 30-(16.40-6) = 19.60dBm.

Beamforming Gain = 5.46dBi + 10 log(2) = 8.47 (above 30 degrees from the horizon),

EIRP = conducted power +(8.47dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	8.98	9.66	17.154	12.34	19.60	8.47	20.81	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 16.40dBi > 6dBi, so the power limit shall be reduced to 30-(16.40-6) = 19.60dBm.

Beamforming Gain = 5.46dBi + 10 log(2) = 8.47 (above 30 degrees from the horizon),

EIRP = conducted power +(8.47dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	8.96	9.90	17.642	12.47	13.60	Pass
40	5200	8.78	9.93	17.391	12.40	13.60	Pass
48	5240	9.21	9.33	16.907	12.28	13.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (16.40 - 6) = 13.60\text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	8.88	9.78	17.233	12.36	13.60	Pass
46	5230	9.41	9.61	17.871	12.52	13.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (16.40 - 6) = 13.60\text{dBm}$.

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				
42	5210	8.98	9.66	17.154	12.34	13.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (16.40 - 6) = 13.60\text{dBm}$.

For U-NII-3 Band

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	15.44	16.52	79.870	19.02	19.60	Pass
157	5785	15.75	16.65	83.822	19.23	19.60	Pass
165	5825	16.16	16.12	82.231	19.15	19.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	15.60	16.65	82.546	19.17	19.60	Pass
159	5795	16.11	16.60	86.541	19.37	19.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.

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				
155	5775	12.65	13.43	40.437	16.07	19.60	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 16.40\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.

Test Mode B:

CDD Mode

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	3.31	3.53	4.397	6.43	20.60	14.42	20.85	21.00	Pass
40	5200	2.88	3.11	3.987	6.01	20.60	14.42	20.43	21.00	Pass
48	5240	3.05	3.63	4.325	6.36	20.60	14.42	20.78	21.00	Pass

Note:

Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

Gain = 14.42dBi (above 30 degrees from the horizon),

EIRP = conducted power +(14.42dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	3.16	3.31	4.213	6.25	20.60	14.42	20.67	21.00	Pass
40	5200	3.33	3.60	4.444	6.48	20.60	14.42	20.90	21.00	Pass
48	5240	3.06	3.85	4.450	6.48	20.60	14.42	20.90	21.00	Pass

Note:

Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

Gain = 14.42dBi (above 30 degrees from the horizon),

EIRP = conducted power +(14.42dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	3.15	3.18	4.145	6.18	20.60	14.42	20.60	21.00	Pass
46	5230	3.39	3.40	4.371	6.41	20.60	14.42	20.83	21.00	Pass

Note:

Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

Gain = 14.42dBi (above 30 degrees from the horizon),

EIRP = conducted power +(14.42dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	3.12	2.91	4.005	6.03	20.60	14.42	20.45	21.00	Pass

Note:

Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

Gain = 14.42dBi (above 30 degrees from the horizon),

EIRP = conducted power +(14.42dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	3.31	3.53	4.397	6.43	14.60	Pass
40	5200	2.88	3.11	3.987	6.01	14.60	Pass
48	5240	3.05	3.63	4.325	6.36	14.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to $24-(15.40-6) = 14.60$ dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	3.16	3.31	4.213	6.25	14.60	Pass
40	5200	3.33	3.60	4.444	6.48	14.60	Pass
48	5240	3.06	3.85	4.450	6.48	14.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to $24-(15.40-6) = 14.60$ dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	3.15	3.18	4.145	6.18	14.60	Pass
46	5230	3.39	3.40	4.371	6.41	14.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to $24-(15.40-6) = 14.60$ dBm.

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				
42	5210	3.12	2.91	4.005	6.03	14.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to $24-(15.40-6) = 14.60$ dBm.

For U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	16.75	17.39	102.143	20.09	20.60	Pass
157	5785	16.85	17.32	102.368	20.10	20.60	Pass
165	5825	17.00	17.30	103.822	20.16	20.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	16.61	17.81	106.209	20.26	20.60	Pass
157	5785	16.66	17.82	106.879	20.29	20.60	Pass
165	5825	17.11	17.90	113.064	20.53	20.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	16.86	17.39	103.357	20.14	20.60	Pass
159	5795	16.88	17.37	103.329	20.14	20.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

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				
155	5775	15.95	16.66	85.700	19.33	20.60	Pass

Note: Gain = 15.40dBi > 6dBi, so the limit shall be reduced to 30-(15.40-6) = 20.60dBm.

Beamforming Mode

For U-NII-1 Band (Outdoor Access Point)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	0.15	0.30	2.107	3.24	17.64	17.43	20.67	21.00	Pass
40	5200	0.32	0.59	2.222	3.47	17.64	17.43	20.90	21.00	Pass
48	5240	0.05	0.84	2.225	3.47	17.64	17.43	20.90	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

Beamforming Gain = 14.42dBi + 10 log(2) = 17.43 (above 30 degrees from the horizon),

EIRP = conducted power +(17.43dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	0.14	0.17	2.073	3.17	17.64	17.43	20.60	21.00	Pass
46	5230	0.38	0.39	2.185	3.39	17.64	17.43	20.82	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

Beamforming Gain = 14.42dBi + 10 log(2) = 17.43 (above 30 degrees from the horizon),

EIRP = conducted power +(17.43dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	0.11	-0.10	2.0029	3.02	17.64	17.43	20.45	21.00	Pass

Note:

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

Beamforming Gain = 14.42dBi + 10 log(2) = 17.43 (above 30 degrees from the horizon),

EIRP = conducted power +(17.43dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	0.15	0.30	2.107	3.24	11.64	Pass
40	5200	0.32	0.59	2.222	3.47	11.64	Pass
48	5240	0.05	0.84	2.225	3.47	11.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 24-(18.36-6) = 11.64dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	0.14	0.17	2.073	3.17	11.64	Pass
46	5230	0.38	0.39	2.185	3.39	11.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 24-(18.36-6) = 11.64dBm.

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				
42	5210	0.11	-0.10	2.0029	3.02	11.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 24-(18.36-6) = 11.64dBm.

For U-NII-3 Band

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	13.60	14.80	53.109	17.25	17.64	Pass
157	5785	13.65	14.81	53.443	17.28	17.64	Pass
165	5825	14.10	14.89	56.536	17.52	17.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	13.85	14.38	51.682	17.13	17.64	Pass
159	5795	13.87	14.36	51.668	17.13	17.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

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				
155	5775	12.94	13.65	42.853	16.32	17.64	Pass

Note: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 18.36dBi > 6dBi, so the power limit shall be reduced to 30-(18.36-6) = 17.64dBm.

Test Mode C

CDD Mode

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	13.62	13.31	44.443	16.48	30.00	4.31	20.79	21.00	Pass
40	5200	13.69	13.41	45.316	16.56	30.00	4.31	20.87	21.00	Pass
48	5240	13.24	13.76	44.854	16.52	30.00	4.31	20.83	21.00	Pass

Note:

Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

Gain = 4.31dBi (above 30 degrees from the horizon),

EIRP = conducted power +(4.31dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	13.79	13.24	45.019	16.53	30.00	4.31	20.84	21.00	Pass
40	5200	13.64	13.44	45.201	16.55	30.00	4.31	20.86	21.00	Pass
48	5240	13.21	13.74	44.600	16.49	30.00	4.31	20.80	21.00	Pass

Note:

Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

Gain = 4.31dBi (above 30 degrees from the horizon),

EIRP = conducted power +(4.31dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	13.42	13.00	41.932	16.23	30.00	4.31	20.54	21.00	Pass
46	5230	13.33	13.45	43.659	16.40	30.00	4.31	20.71	21.00	Pass

Note:

Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

Gain = 4.31dBi (above 30 degrees from the horizon),

EIRP = conducted power +(4.31dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	13.21	13.12	41.453	16.18	30.00	4.31	20.49	21.00	Pass

Note:

Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

Gain = 4.31dBi (above 30 degrees from the horizon),

EIRP = conducted power +(4.31dBi) + array gain = (0 dB (i.e., no array gain) for $N_{ANT} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.62	13.31	44.443	16.48	24	Pass
40	5200	13.69	13.41	45.316	16.56	24	Pass
48	5240	13.24	13.76	44.854	16.52	24	Pass

Note: Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.79	13.24	45.019	16.53	24	Pass
40	5200	13.64	13.44	45.201	16.55	24	Pass
48	5240	13.21	13.74	44.600	16.49	24	Pass

Note: Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	13.42	13.00	41.932	16.23	24	Pass
46	5230	13.33	13.45	43.659	16.40	24	Pass

Note: Gain = 5.12dBi < 6dBi, so the power limit no need to reduce.

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				
42	5210	13.21	13.12	41.453	16.18	24	Pass

Note: Gain = 5.17dBi < 6dBi, so the power limit no need to reduce.

For U-NII-3 Band

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	22.62	22.00	341.299	25.33	30	Pass
157	5785	22.78	21.64	335.552	25.26	30	Pass
165	5825	22.57	21.54	323.278	25.10	30	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	22.61	22.19	347.967	25.42	30	Pass
157	5785	22.69	21.88	339.950	25.31	30	Pass
165	5825	22.43	21.76	324.953	25.12	30	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	21.42	20.45	249.593	23.97	30	Pass
159	5795	22.29	21.35	305.892	24.86	30	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				
155	5775	17.82	17.58	117.814	20.71	30	Pass

Beamforming Mode

For U-NII-1 Band (Outdoor Access Point)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
36	5180	10.78	10.23	22.511	13.52	27.87	7.32	20.84	21.00	Pass
40	5200	10.63	10.43	22.602	13.54	27.87	7.32	20.86	21.00	Pass
48	5240	10.20	10.73	22.301	13.48	27.87	7.32	20.80	21.00	Pass

Note:

Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.13 - 6) = 27.87 \text{dBm}$.

Beamforming Gain = $4.31 \text{dBi} + 10 \log(2) = 7.32$ (above 30 degrees from the horizon),

EIRP = conducted power + (7.32dBi) + array gain = (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

802.11ac (VHT40)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
38	5190	10.41	9.99	20.967	13.22	27.87	7.32	20.54	21.00	Pass
46	5230	10.32	10.44	21.831	13.39	27.87	7.32	20.71	21.00	Pass

Note:

Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.13 - 6) = 27.87 \text{dBm}$.

Beamforming Gain = $4.31 \text{dBi} + 10 \log(2) = 7.32$ (above 30 degrees from the horizon),

EIRP = conducted power + (7.32dBi) + array gain = (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Gain (dBi)	EIRP (dBm)	EIRP limit (dBm)	Pass / Fail
		Chain 0	Chain 1							
42	5210	10.20	10.11	20.728	13.17	27.87	7.32	20.49	21.00	Pass

Note:

Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.13 - 6) = 27.87 \text{dBm}$.

Beamforming Gain = $4.31 \text{dBi} + 10 \log(2) = 7.32$ (above 30 degrees from the horizon),

EIRP = conducted power + (7.32dBi) + array gain = (0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$).

For U-NII-1 Band (Mobile and Portable client device)

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	10.78	10.23	22.511	13.52	21.87	Pass
40	5200	10.63	10.43	22.602	13.54	21.87	Pass
48	5240	10.20	10.73	22.301	13.48	21.87	Pass

Note: Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $24 - (8.13 - 6) = 21.87 \text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.41	9.99	20.967	13.22	21.87	Pass
46	5230	10.32	10.44	21.831	13.39	21.87	Pass

Note: Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $24 - (8.13 - 6) = 21.87 \text{dBm}$.

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				
42	5210	10.20	10.11	20.728	13.17	21.87	Pass

Note: Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $24 - (8.13 - 6) = 21.87 \text{dBm}$.

For U-NII-3 Band
802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
149	5745	19.60	19.18	173.995	22.41	27.82	Pass
157	5785	19.68	18.87	169.987	22.30	27.82	Pass
165	5825	19.42	18.75	162.487	22.11	27.82	Pass

Note: Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
151	5755	18.41	17.44	124.806	20.96	27.82	Pass
159	5795	19.28	18.34	152.957	21.85	27.82	Pass

Note: Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.

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				
155	5775	14.81	14.57	58.911	17.70	27.82	Pass

Note: Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.

Test Mode A

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	19.53	18.89	Pass
40	5200	19.32	19.02	Pass
48	5240	19.39	19.19	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.36	20.02	Pass
40	5200	20.52	20.00	Pass
48	5240	20.58	20.06	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	40.86	40.69	Pass
46	5230	40.50	40.36	Pass

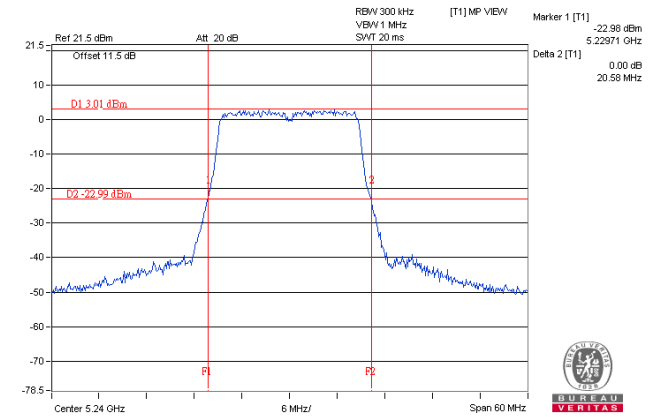
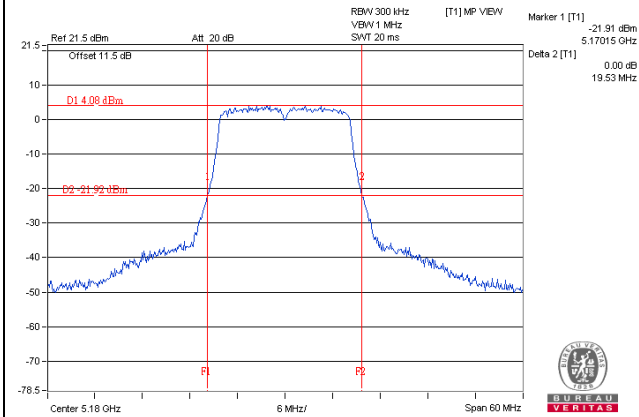
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	83.07	83.54	Pass

Spectrum Plot of Worst Value

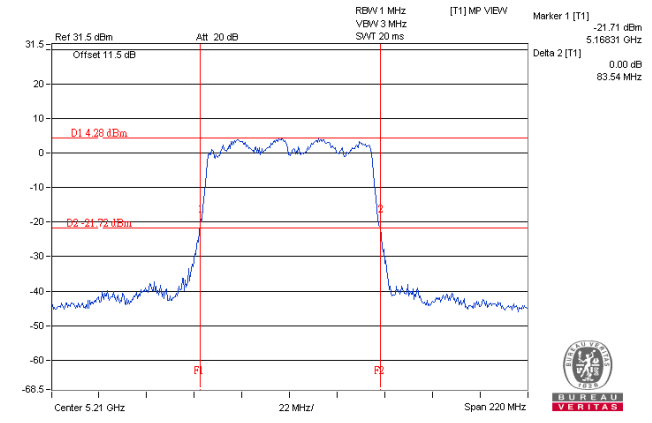
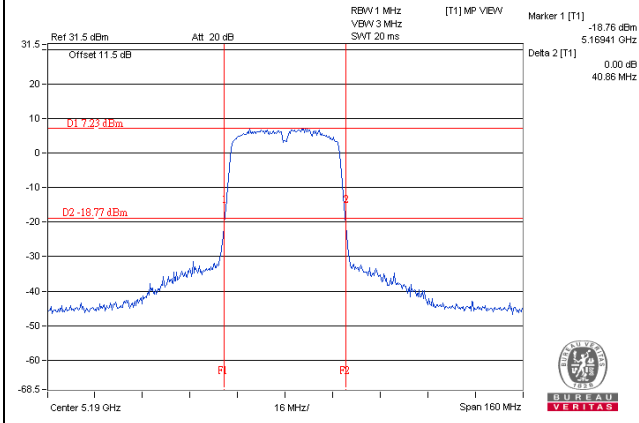
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode B

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	19.50	18.85	Pass
40	5200	19.29	19.10	Pass
48	5240	19.47	18.88	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.22	19.89	Pass
40	5200	20.62	20.02	Pass
48	5240	20.47	20.14	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	40.49	40.28	Pass
46	5230	40.84	40.68	Pass

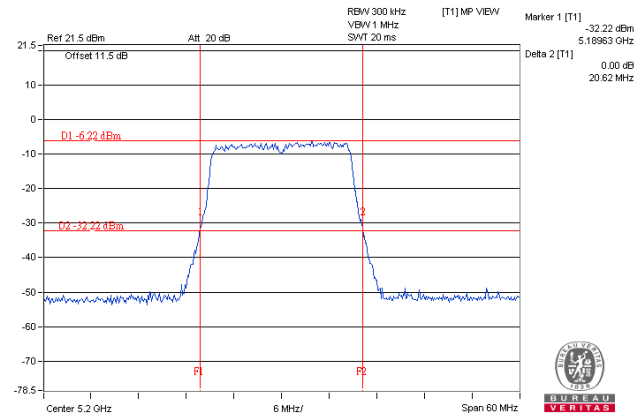
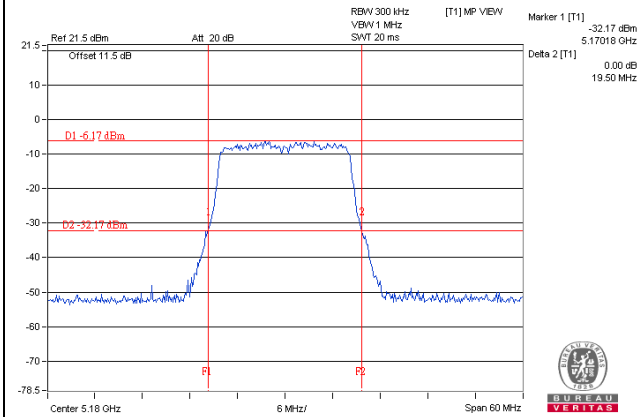
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	83.36	82.80	Pass

Spectrum Plot of Worst Value

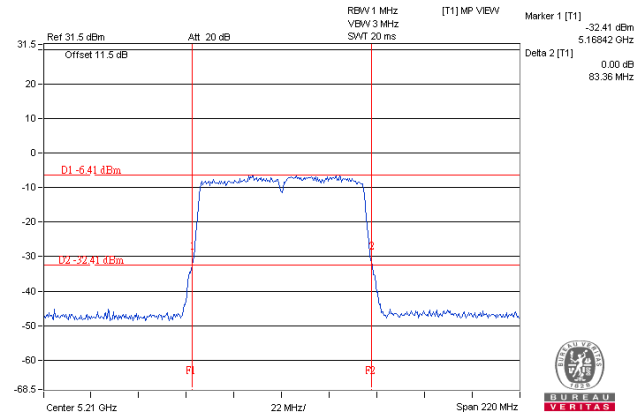
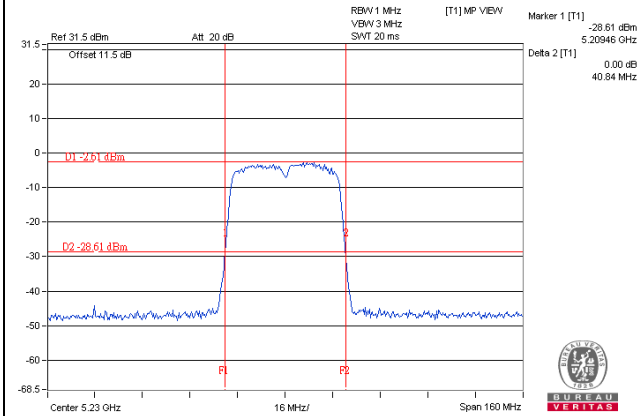
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode C

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	19.71	19.13	Pass
40	5200	19.51	19.15	Pass
48	5240	19.67	18.95	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
36	5180	20.44	20.09	Pass
40	5200	20.45	20.30	Pass
48	5240	20.63	20.06	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
38	5190	40.97	40.53	Pass
46	5230	40.86	40.47	Pass

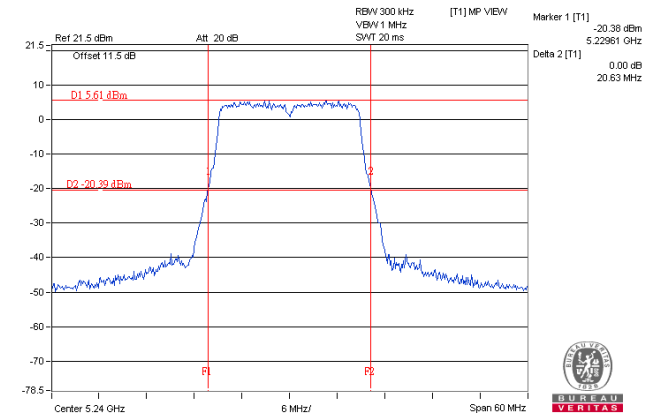
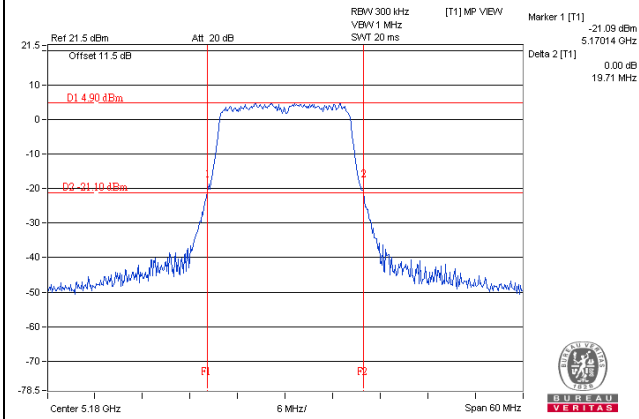
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)		Pass / Fail
		Chain 0	Chain 1	
42	5210	83.81	83.24	Pass

Spectrum Plot of Worst Value

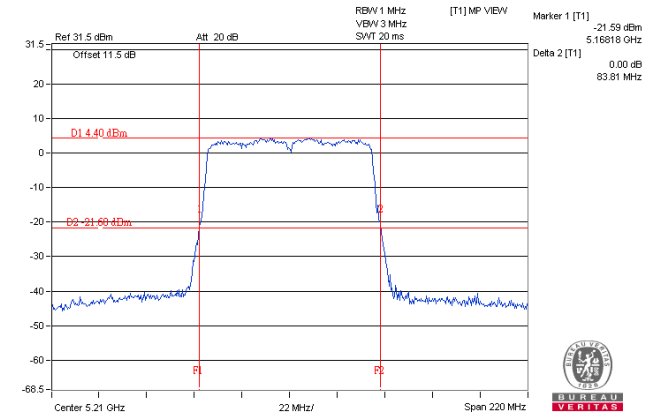
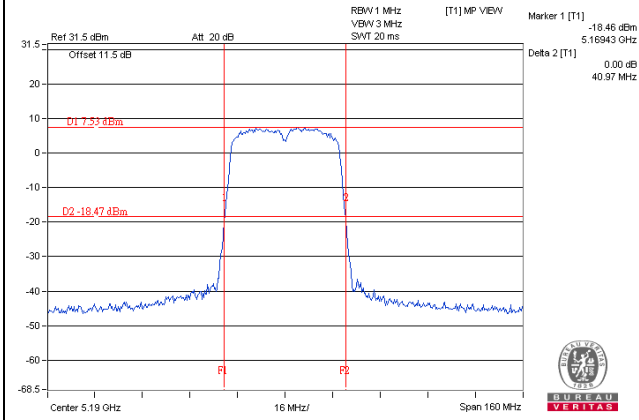
802.11a

802.11ac (VHT20)



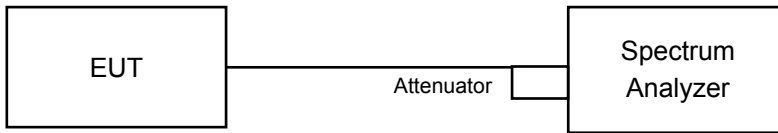
802.11ac (VHT40)

802.11ac (VHT80)



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 Sample. 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

Test Mode A

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.56
40	5200	16.56	16.44
48	5240	16.44	16.44
149	5745	16.44	16.44
157	5785	16.44	16.32
165	5825	16.44	16.44

802.11ac (VHT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.64
40	5200	17.76	17.64
48	5240	17.64	17.64
149	5745	17.64	17.28
157	5785	17.76	17.28
165	5825	17.76	17.28

802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.36
46	5230	36.24	36.24
151	5755	36.36	36.84
159	5795	36.36	36.96

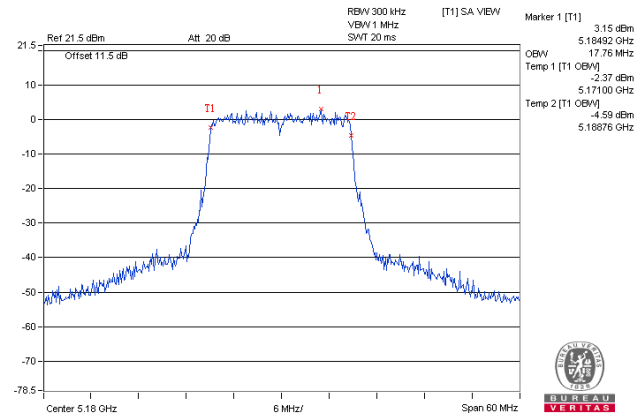
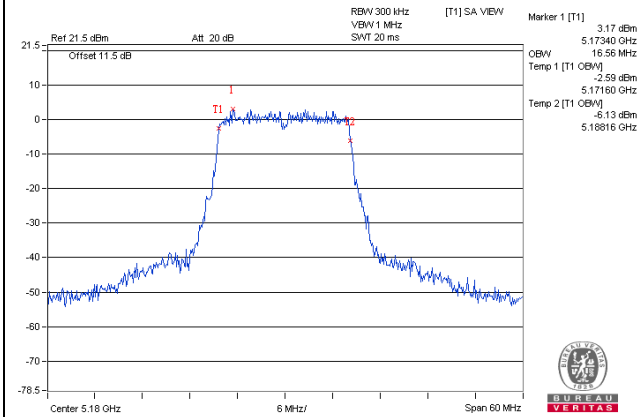
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.84	76.08
155	5775	75.60	76.32

Spectrum Plot of Worst Value

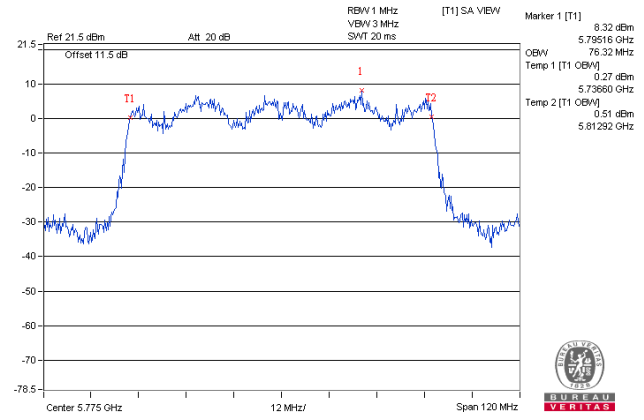
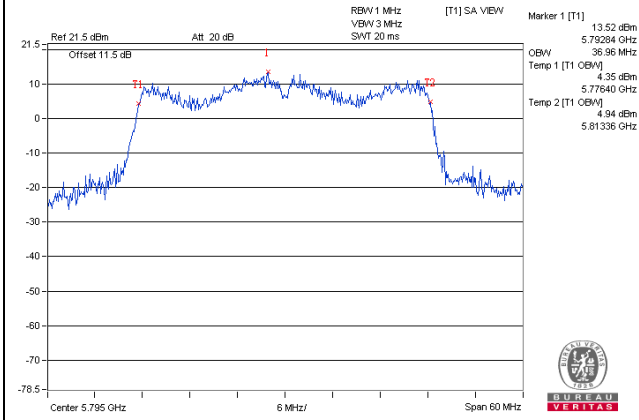
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode B

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.56
40	5200	16.56	16.44
48	5240	16.56	16.56
149	5745	16.44	16.32
157	5785	16.44	16.32
165	5825	16.44	16.32

802.11ac (VHT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.64
40	5200	17.76	17.76
48	5240	17.76	17.64
149	5745	17.64	17.40
157	5785	17.64	17.28
165	5825	17.64	17.16

802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.48
46	5230	36.24	36.24
151	5755	36.24	36.60
159	5795	36.36	36.72

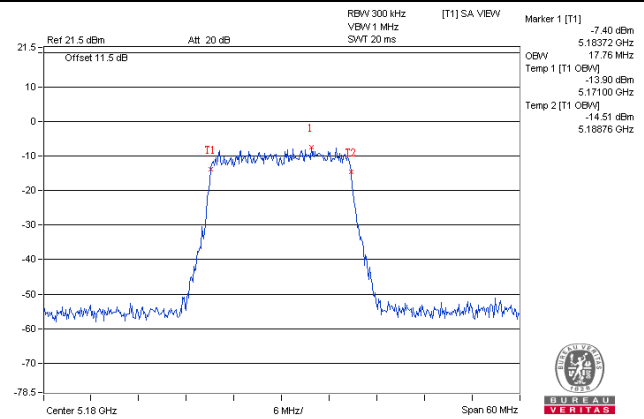
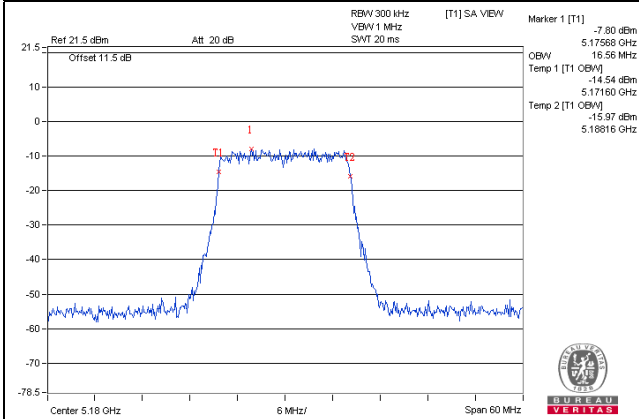
802.11ac (VHT80)

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

Spectrum Plot of Worst Value

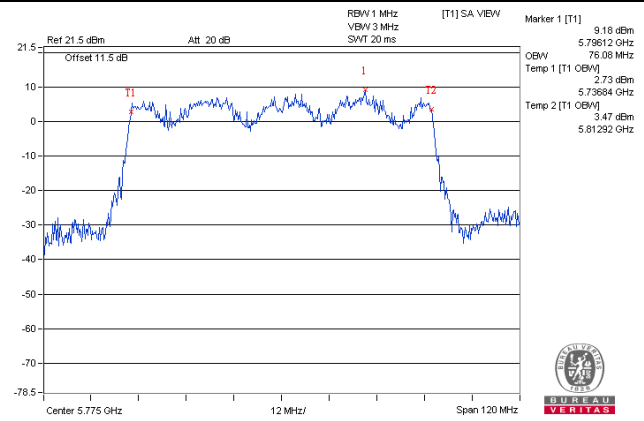
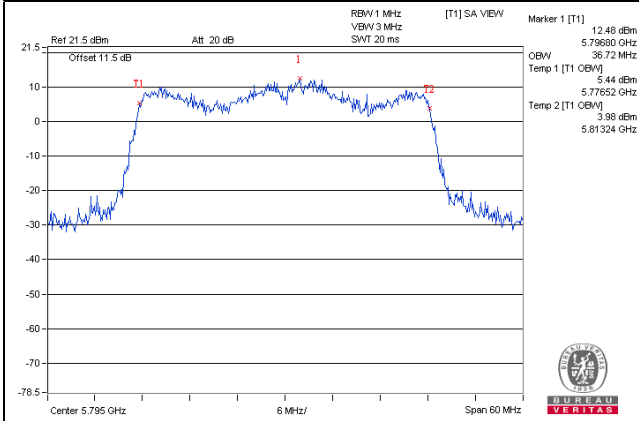
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode C

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.56
40	5200	16.56	16.44
48	5240	16.56	16.44
149	5745	21.96	27.36
157	5785	24.96	27.24
165	5825	25.44	24.36

802.11ac (VHT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.64
40	5200	17.76	17.76
48	5240	17.76	17.64
149	5745	21.84	26.52
157	5785	25.20	24.60
165	5825	26.52	23.64

802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.24
46	5230	36.24	36.36
151	5755	36.72	37.80
159	5795	38.64	40.56

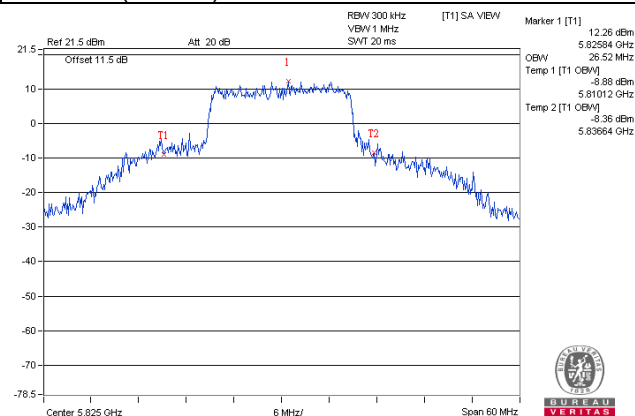
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.60	75.84
155	5775	76.32	76.32

Spectrum Plot of Worst Value

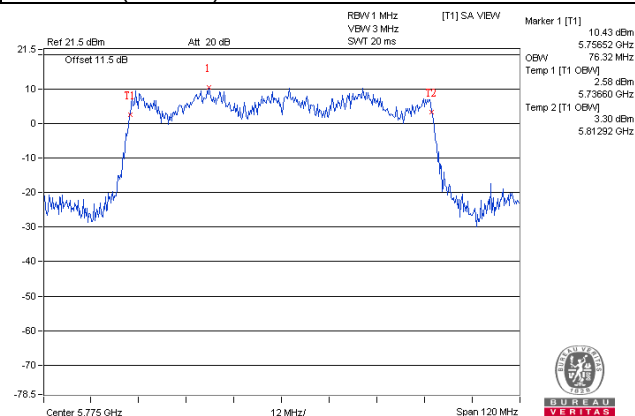
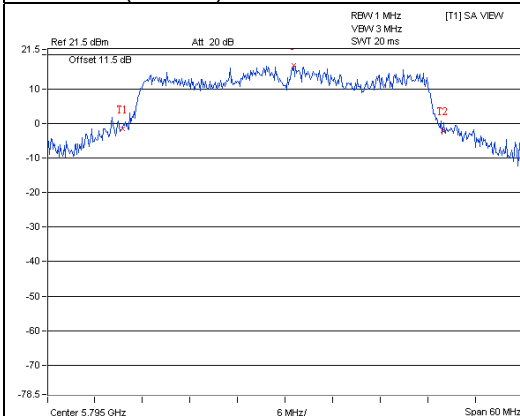
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)

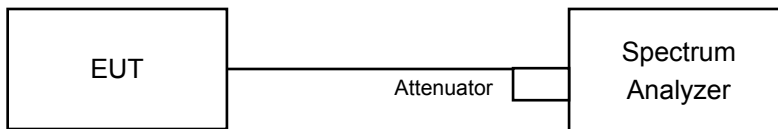


4.5 Peak Power Spectral Density Measurement

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:

Using method SA-1, Duty cycle >98%:

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 1 MHz, Set VBW \geq 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

Using method SA-2, Duty cycle <98%

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

For U-NII-3 band:

Duty cycle >98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW \geq 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- 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

Duty cycle <98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW \geq 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 $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- 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 $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

Test Mode A

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-1.42	-0.82	1.89	0.34	2.23	6.60	Pass
40	5200	-1.40	-0.27	2.21	0.34	2.55	6.60	Pass
48	5240	-1.94	-0.31	1.96	0.34	2.30	6.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(16.40-6) = 6.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-1.86	-1.02	1.59	0.11	1.70	6.60	Pass
40	5200	-1.76	-0.72	1.80	0.11	1.91	6.60	Pass
48	5240	-2.54	-0.46	1.63	0.11	1.74	6.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(16.40-6) = 6.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-4.45	-3.60	-1.00	0.27	-0.73	6.60	Pass
46	5230	-4.68	-3.04	-0.78	0.27	-0.51	6.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40 \text{ dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(16.40-6) = 6.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

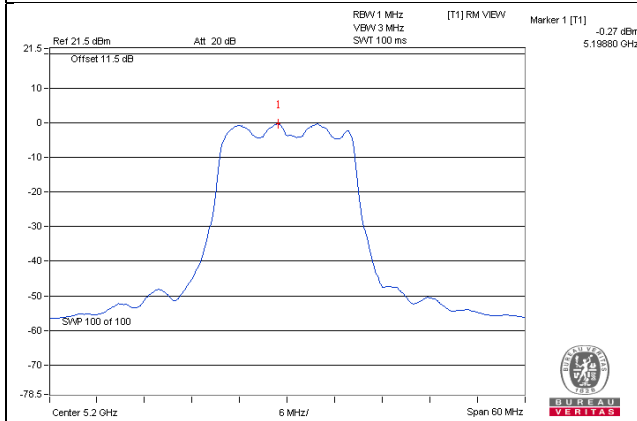
Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-8.44	-6.72	-4.48	0.52	-3.96	6.60	Pass

Note:

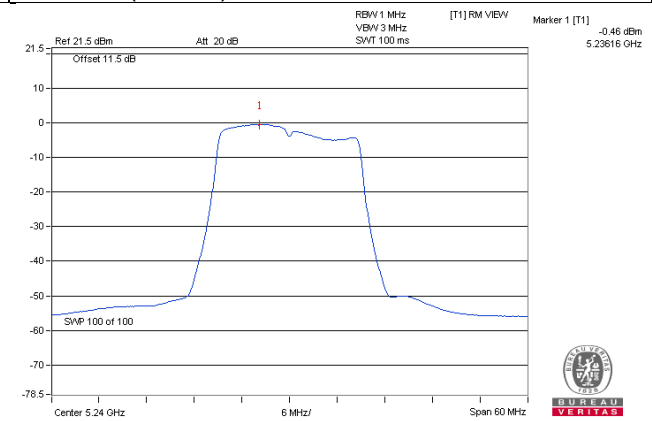
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $17 - (16.40 - 6) = 6.60 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

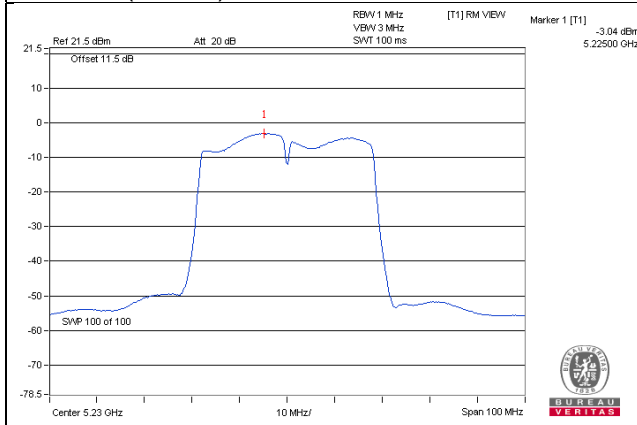
802.11a / Chain 1 / CH 40



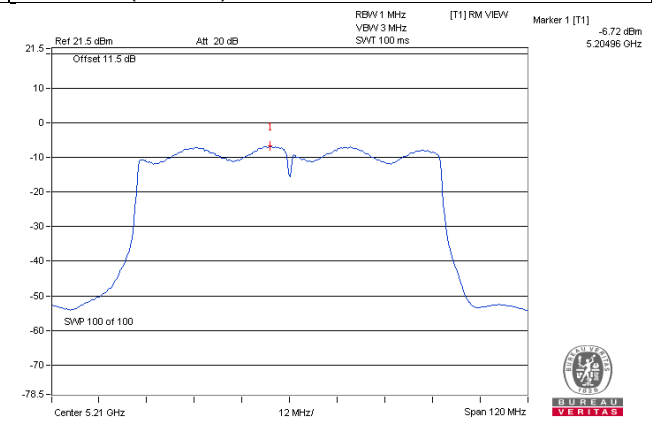
802.11ac (VHT20) / Chain 1 / CH 48



802.11ac (VHT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 1 / CH 42



For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-3.16	-3.47	-0.31	0.34	0.03	0.60	Pass
40	5200	-2.95	-4.20	-0.53	0.34	-0.19	0.60	Pass
48	5240	-3.32	-3.51	-0.41	0.34	-0.07	0.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (16.40 - 6) = 0.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-2.73	-3.64	-0.15	0.11	-0.04	0.60	Pass
40	5200	-2.70	-3.66	-0.14	0.11	-0.03	0.60	Pass
48	5240	-3.14	-3.39	-0.25	0.11	-0.14	0.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (16.40 - 6) = 0.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-4.45	-3.60	-1.00	0.27	-0.73	0.60	Pass
46	5230	-4.68	-3.04	-0.78	0.27	-0.51	0.60	Pass

Note:

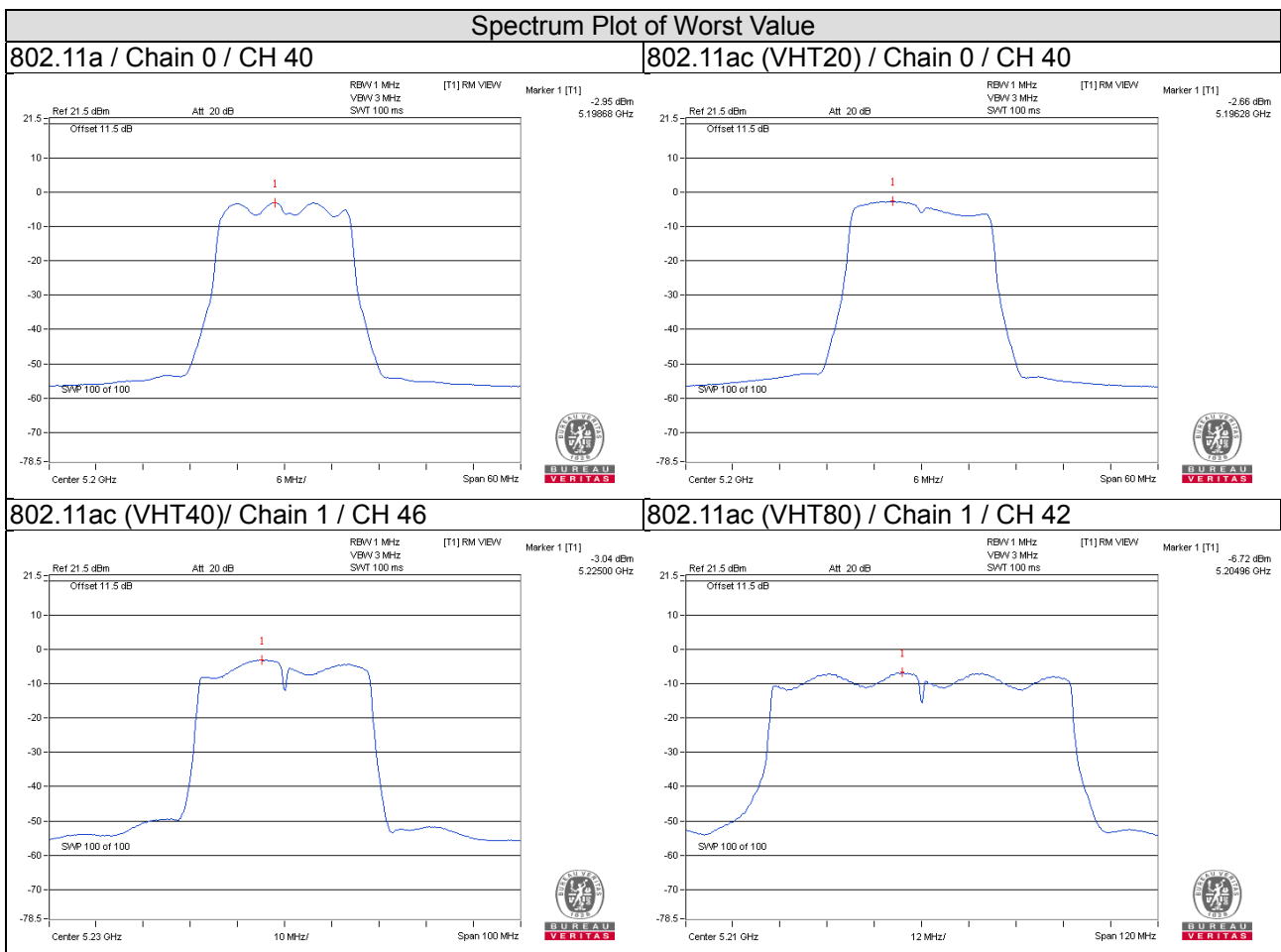
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (16.40 - 6) = 0.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-8.44	-6.72	-4.48	0.52	-3.96	0.60	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (16.40 - 6) = 0.60\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 Band

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-2.77	-0.55	3.01	0.34	2.80	19.60	Pass
	157	5785	-3.07	-0.85	3.01	0.34	2.50	19.60	Pass
	165	5825	-3.66	-1.44	3.01	0.34	1.91	19.60	Pass
1	149	5745	-1.32	0.90	3.01	0.34	4.25	19.60	Pass
	157	5785	-1.92	0.30	3.01	0.34	3.65	19.60	Pass
	165	5825	-2.35	-0.13	3.01	0.34	3.22	19.60	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-3.35	-1.13	3.01	0.11	1.99	19.60	Pass
	157	5785	-3.67	-1.45	3.01	0.11	1.67	19.60	Pass
	165	5825	-4.28	-2.06	3.01	0.11	1.06	19.60	Pass
1	149	5745	-1.97	0.25	3.01	0.11	3.37	19.60	Pass
	157	5785	-2.44	-0.22	3.01	0.11	2.90	19.60	Pass
	165	5825	-2.98	-0.76	3.01	0.11	2.36	19.60	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-5.93	-3.71	3.01	0.27	-0.43	19.60	Pass
	159	5795	-5.93	-3.71	3.01	0.27	-0.43	19.60	Pass
1	151	5755	-4.75	-2.53	3.01	0.27	0.75	19.60	Pass
	159	5795	-5.01	-2.79	3.01	0.27	0.49	19.60	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-13.23	-11.01	3.01	0.52	-7.48	19.60	Pass
1	155	5775	-11.67	-9.45	3.01	0.52	-5.92	19.60	Pass

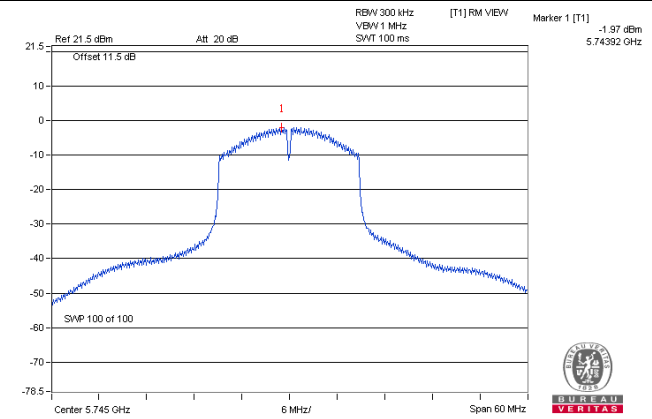
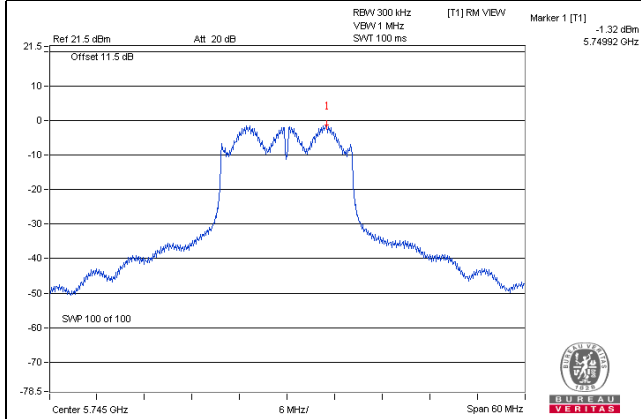
Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 16.40\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (16.40 - 6) = 19.60\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

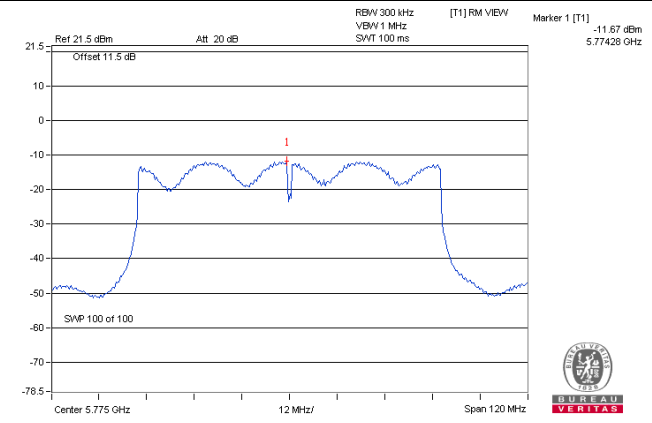
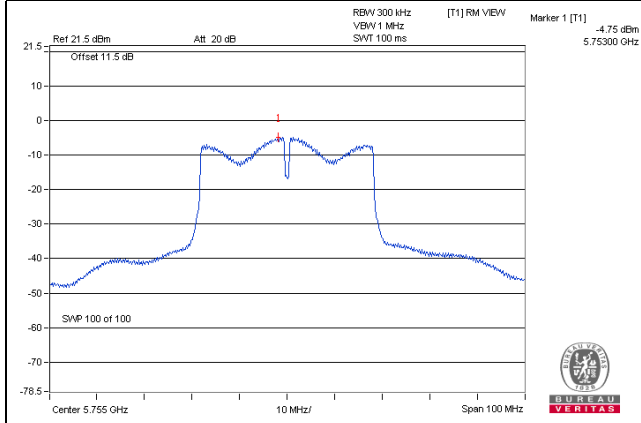
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode B

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-12.34	-10.40	-7.83	0.21	-8.04	4.64	Pass
40	5200	-12.12	-10.11	-7.57	0.21	-7.78	4.64	Pass
48	5240	-11.73	-10.07	-7.39	0.21	-7.60	4.64	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(18.36-6) = 4.64\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-12.61	-10.81	-8.61	4.64	Pass
40	5200	-12.45	-10.43	-8.31	4.64	Pass
48	5240	-12.30	-10.24	-8.14	4.64	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(18.36-6) = 4.64\text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-15.43	-13.22	-10.34	0.42	-10.76	4.64	Pass
46	5230	-14.78	-13.07	-9.99	0.42	-10.41	4.64	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(18.36-6) = 4.64\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

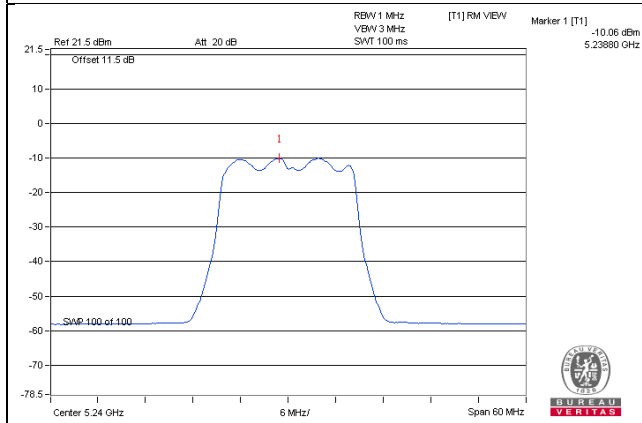
Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-18.50	-16.67	-13.03	0.56	-13.93	4.64	Pass

Note:

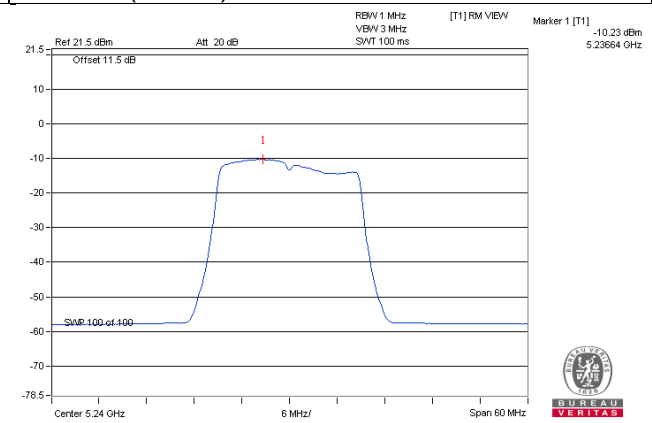
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17-(18.36-6) = 4.64\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

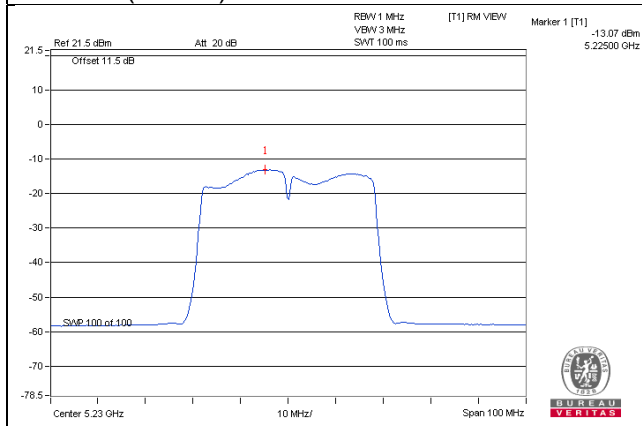
802.11a / Chain 1 / CH 48



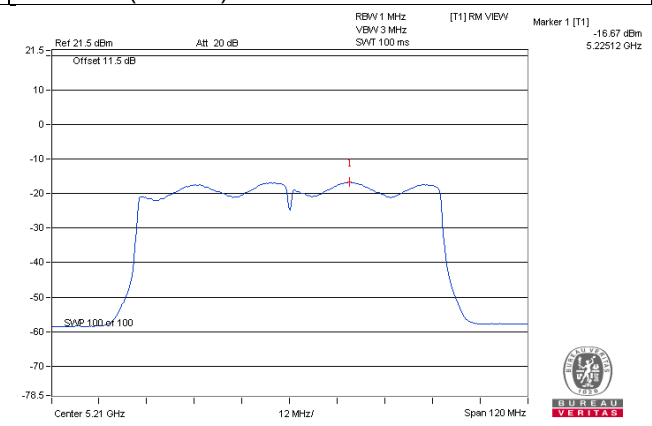
802.11ac (VHT20) / Chain 1 / CH 48



802.11ac (VHT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 1 / CH 42



For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-12.34	-10.40	-7.83	0.21	-8.04	-1.36	Pass
40	5200	-12.12	-10.11	-7.57	0.21	-7.78	-1.36	Pass
48	5240	-11.73	-10.07	-7.39	0.21	-7.60	-1.36	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(18.36-6) = -1.36\text{dBm}$
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-12.61	-10.81	-8.61	-1.36	Pass
40	5200	-12.45	-10.43	-8.31	-1.36	Pass
48	5240	-12.30	-10.24	-8.14	-1.36	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(18.36-6) = -1.36\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-15.43	-13.22	-10.34	0.42	-10.76	-1.36	Pass
46	5230	-14.78	-13.07	-9.99	0.42	-10.41	-1.36	Pass

Note:

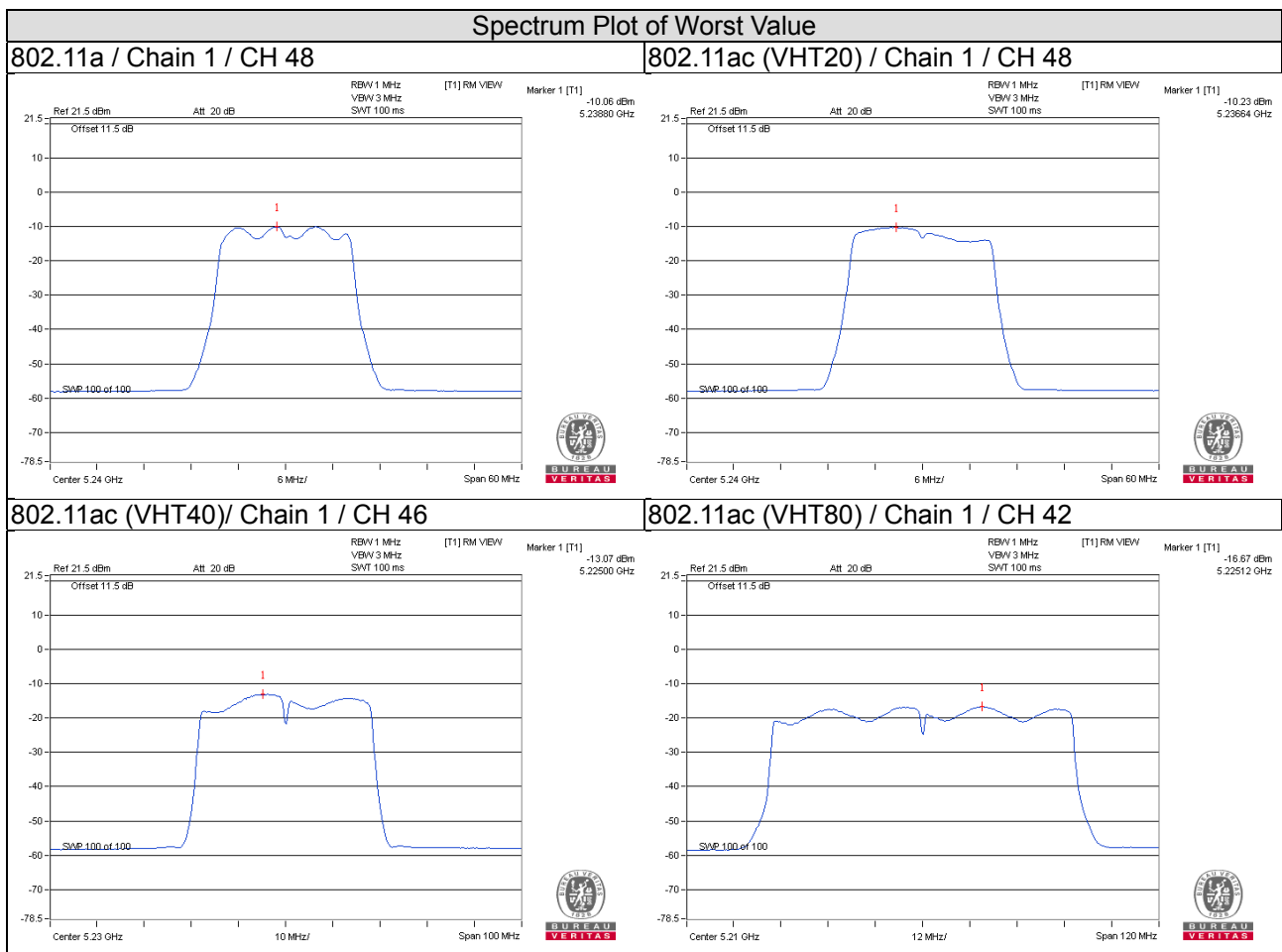
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(18.36-6) = -1.36\text{dBm}$
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-18.50	-16.67	-13.03	0.56	-13.93	-1.36	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (18.36 - 6) = -1.36\text{dBm}$
- Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 Band

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-5.76	-3.54	3.01	0.21	-0.32	17.64	Pass
	157	5785	-6.11	-3.89	3.01	0.21	-0.67	17.64	Pass
	165	5825	-6.60	-4.38	3.01	0.21	-1.16	17.64	Pass
1	149	5745	-2.30	-0.08	3.01	0.21	3.14	17.64	Pass
	157	5785	-2.20	0.02	3.01	0.21	3.24	17.64	Pass
	165	5825	-2.35	-0.13	3.01	0.21	3.09	17.64	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(18.36-6) = 17.64\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-5.55	-3.33	3.01	-0.32	17.64	Pass
	157	5785	-3.52	-1.30	3.01	1.71	17.64	Pass
	165	5825	-6.81	-4.59	3.01	-1.58	17.64	Pass
1	149	5745	-2.16	0.06	3.01	3.07	17.64	Pass
	157	5785	-2.59	-0.37	3.01	2.64	17.64	Pass
	165	5825	-2.91	-0.69	3.01	2.32	17.64	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(18.36-6) = 17.64\text{dBm}$.

802.11ac (VHT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-8.96	-6.74	3.01	0.42	-3.31	17.64	Pass
	159	5795	-7.23	-5.01	3.01	0.42	-1.58	17.64	Pass
1	151	5755	-5.25	-3.03	3.01	0.42	0.40	17.64	Pass
	159	5795	-5.66	-3.44	3.01	0.42	-0.01	17.64	Pass

Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(18.36-6) = 17.64\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-8.18	-5.96	3.01	0.56	-2.39	17.64	Pass
1	155	5775	-9.80	-7.58	3.01	0.56	-4.01	17.64	Pass

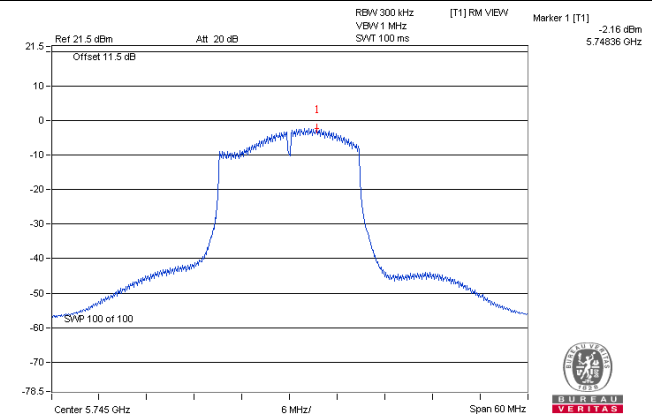
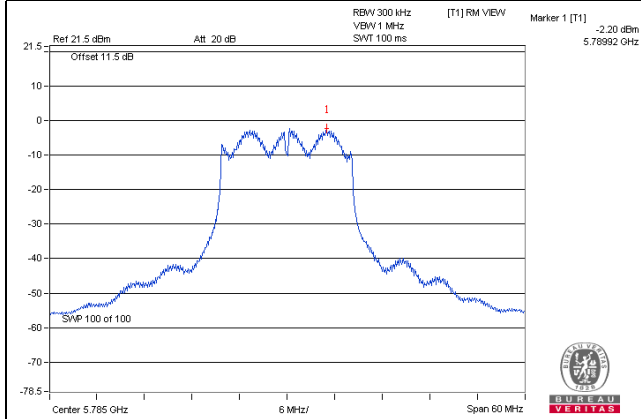
Note:

1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 18.36\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (18.36 - 6) = 17.64\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

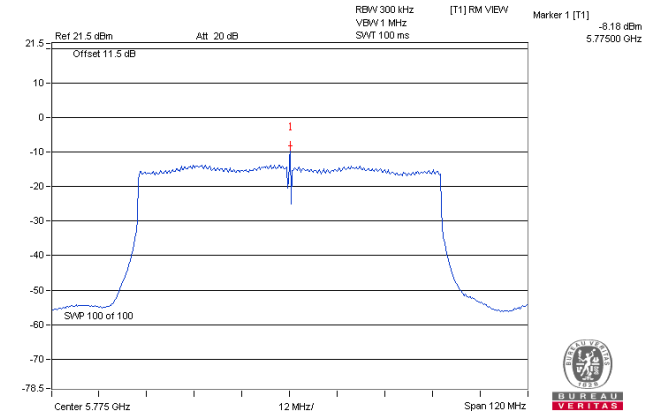
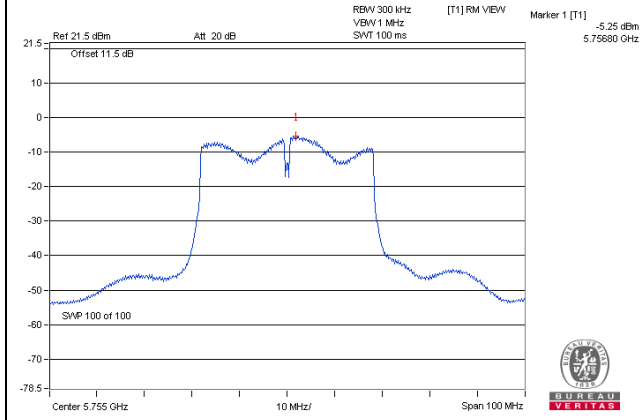
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode C

For U-NII-1 Band (Outdoor Access Point)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-0.94	2.03	3.81	0.23	4.04	14.87	Pass
40	5200	-0.21	2.38	4.29	0.23	4.52	14.87	Pass
48	5240	0.23	1.95	4.19	0.23	4.42	14.87	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $17 - (8.13 - 6) = 14.87 \text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-1.28	1.81	3.54	14.87	Pass
40	5200	-0.89	1.98	3.79	14.87	Pass
48	5240	-0.04	1.69	3.92	14.87	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $17 - (8.13 - 6) = 14.87 \text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-3.96	-1.33	0.56	0.27	0.83	14.87	Pass
46	5230	-3.43	-1.07	0.92	0.27	1.19	14.87	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $17 - (8.13 - 6) = 14.87 \text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

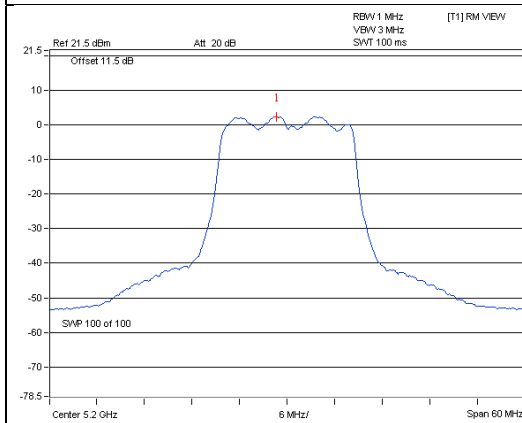
Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-7.26	-4.89	-2.91	0.56	-2.35	14.87	Pass

Note:

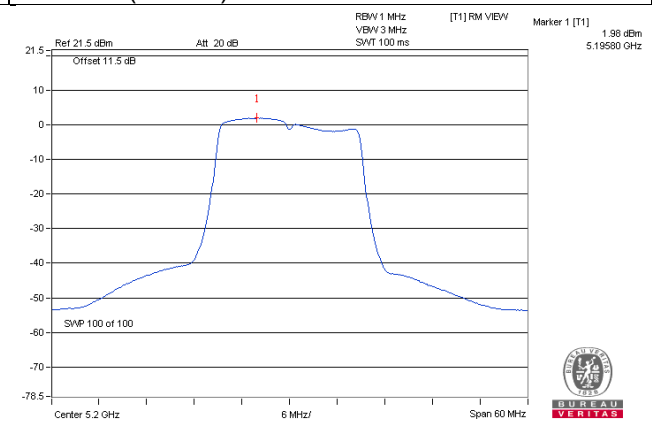
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $17 - (8.13 - 6) = 14.87 \text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

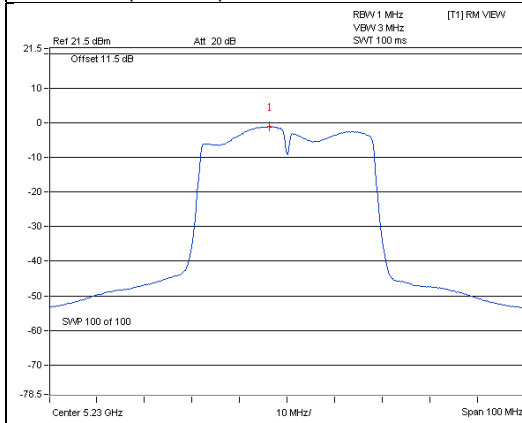
802.11a / Chain 1 / CH 40



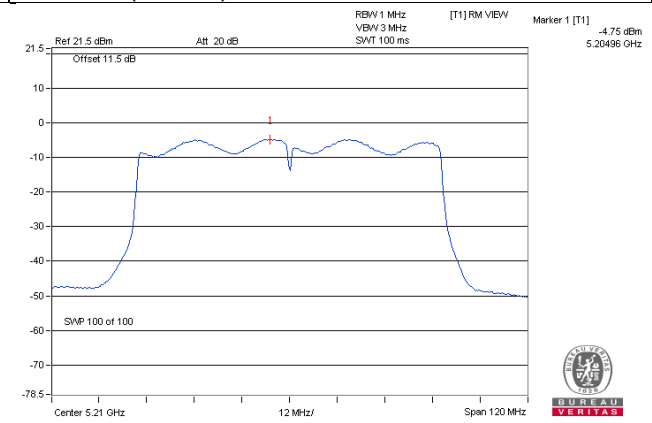
802.11ac (VHT20) / Chain 1 / CH 40



802.11ac (VHT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 1 / CH 42



For U-NII-1 Band (Mobile and Portable client device)

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
36	5180	-0.94	2.03	3.81	0.23	4.04	8.87	Pass
40	5200	-0.21	2.38	4.29	0.23	4.52	8.87	Pass
48	5240	0.23	1.95	4.19	0.23	4.42	8.87	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $11 - (8.13 - 6) = 8.87 \text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-1.28	1.81	3.54	8.87	Pass
40	5200	-0.89	1.98	3.79	8.87	Pass
48	5240	-0.04	1.69	3.92	8.87	Pass

Note:

- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $11 - (8.13 - 6) = 8.87 \text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
38	5190	-3.96	-1.33	0.56	0.27	0.83	8.87	Pass
46	5230	-3.43	-1.07	0.92	0.27	1.19	8.87	Pass

Note:

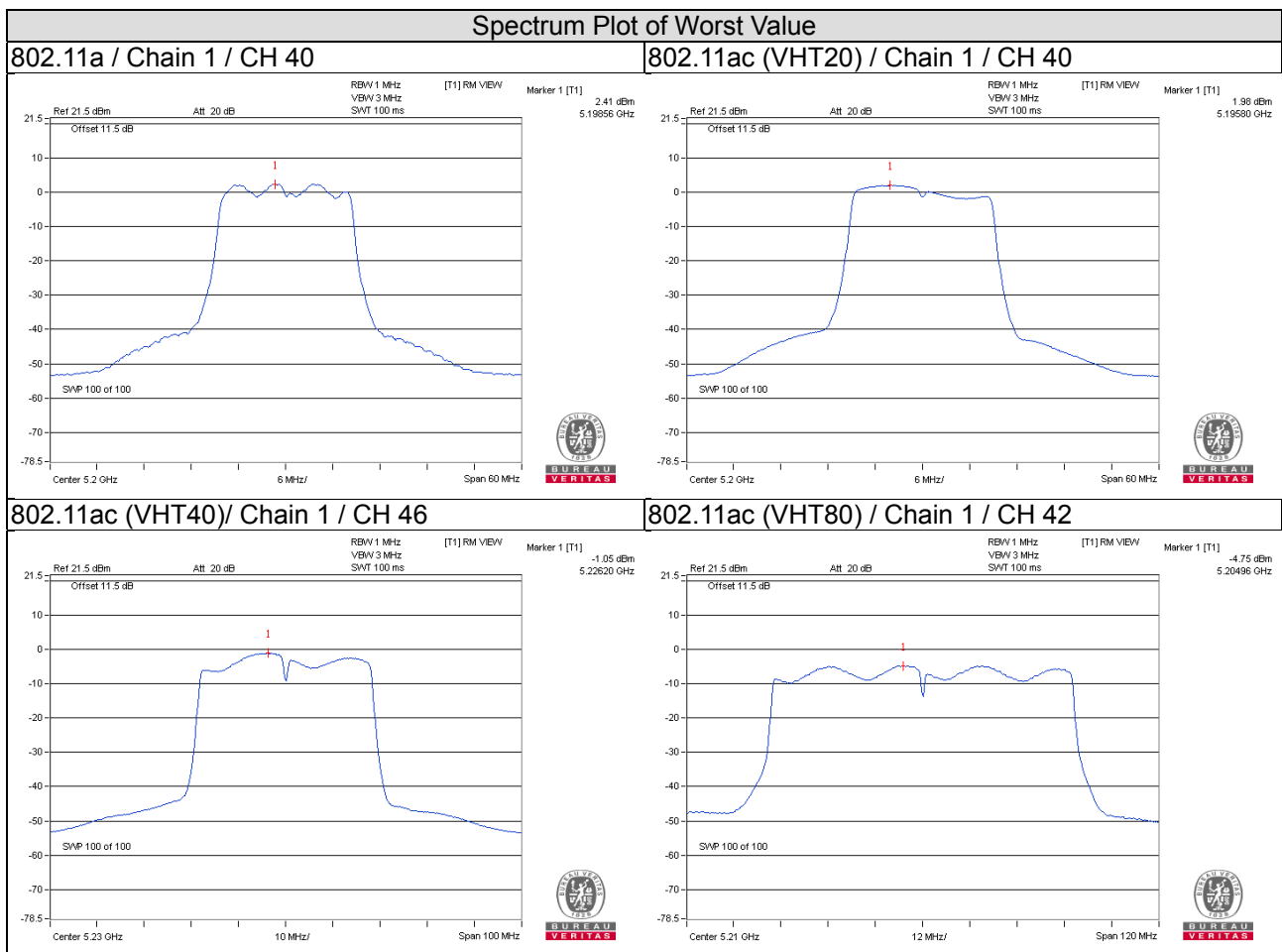
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $11 - (8.13 - 6) = 8.87 \text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1					
42	5210	-7.26	-4.89	-2.91	0.56	-2.35	8.87	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $5.12 + 10 \log(2) = 8.13 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $11 - (8.13 - 6) = 8.87 \text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.



For U-NII-3 Band

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	0.47	2.69	3.01	0.23	5.93	27.82	Pass
	157	5785	0.71	2.93	3.01	0.23	6.17	27.82	Pass
	165	5825	0.73	2.95	3.01	0.23	6.19	27.82	Pass
1	149	5745	2.95	5.17	3.01	0.23	8.41	27.82	Pass
	157	5785	2.74	4.96	3.01	0.23	8.20	27.82	Pass
	165	5825	2.17	4.39	3.01	0.23	7.63	27.82	Pass

Note:

1. Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	0.28	2.50	3.01	5.51	27.82	Pass
	157	5785	0.24	2.46	3.01	5.47	27.82	Pass
	165	5825	0.24	2.46	3.01	5.47	27.82	Pass
1	149	5745	2.54	4.76	3.01	7.77	27.82	Pass
	157	5785	2.40	4.62	3.01	7.63	27.82	Pass
	165	5825	1.66	3.88	3.01	6.89	27.82	Pass

Note:

1. Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.

802.11ac (VHT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-4.41	-2.19	3.01	0.27	1.09	27.82	Pass
	159	5795	-2.84	-0.62	3.01	0.27	2.66	27.82	Pass
1	151	5755	-1.39	0.83	3.01	0.27	4.11	27.82	Pass
	159	5795	-1.07	1.15	3.01	0.27	4.43	27.82	Pass

Note:

1. Directional gain = $5.17 + 10 \log(2) = 8.18 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

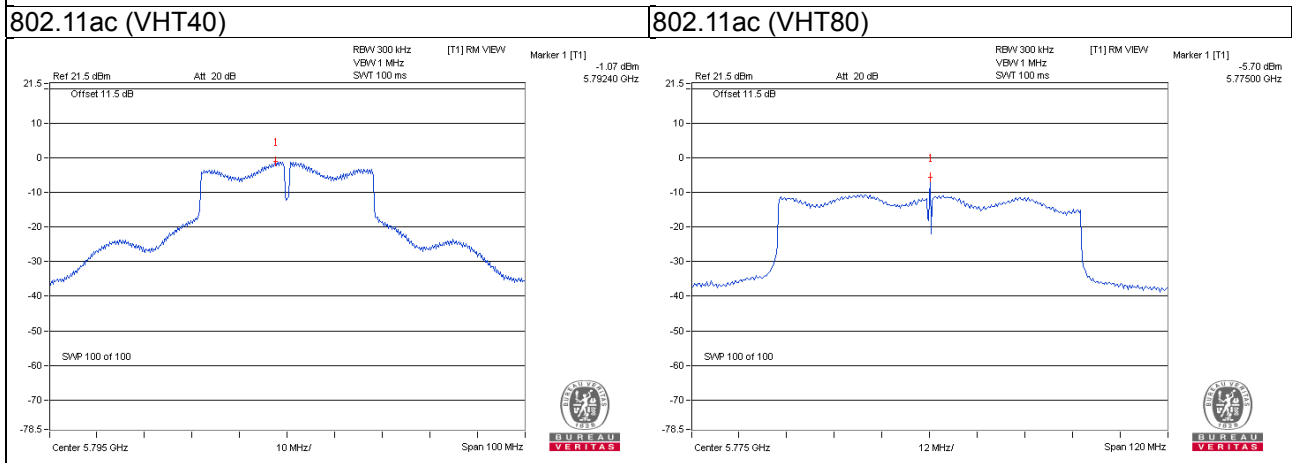
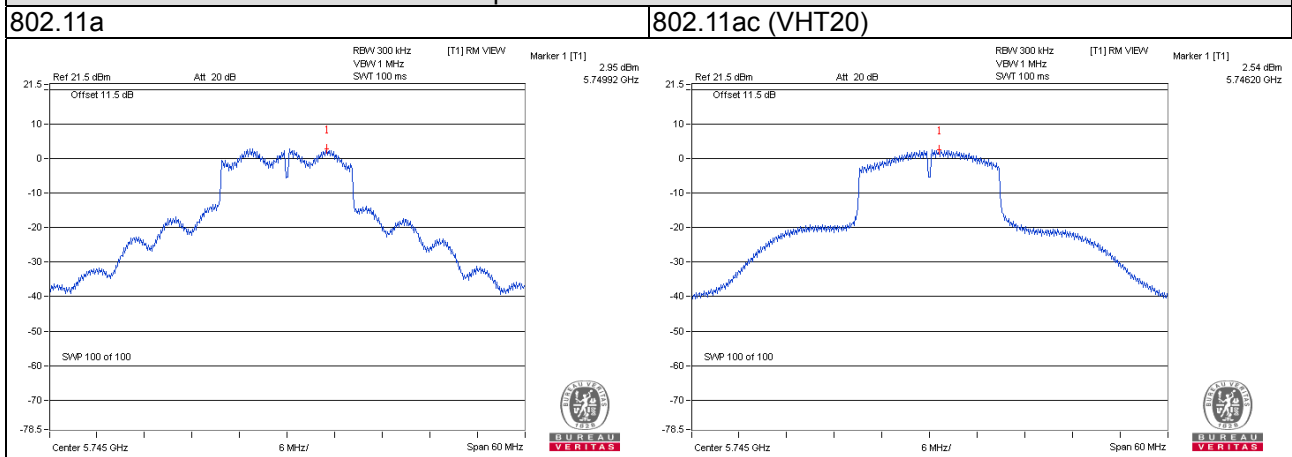
802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-5.70	-3.48	3.01	0.56	0.09	27.82	Pass
1	155	5775	-8.55	-6.33	3.01	0.56	-2.76	27.82	Pass

Note:

- Directional gain = $5.17 + 10 \log(2) = 8.18 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (8.18 - 6) = 27.82 \text{ dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

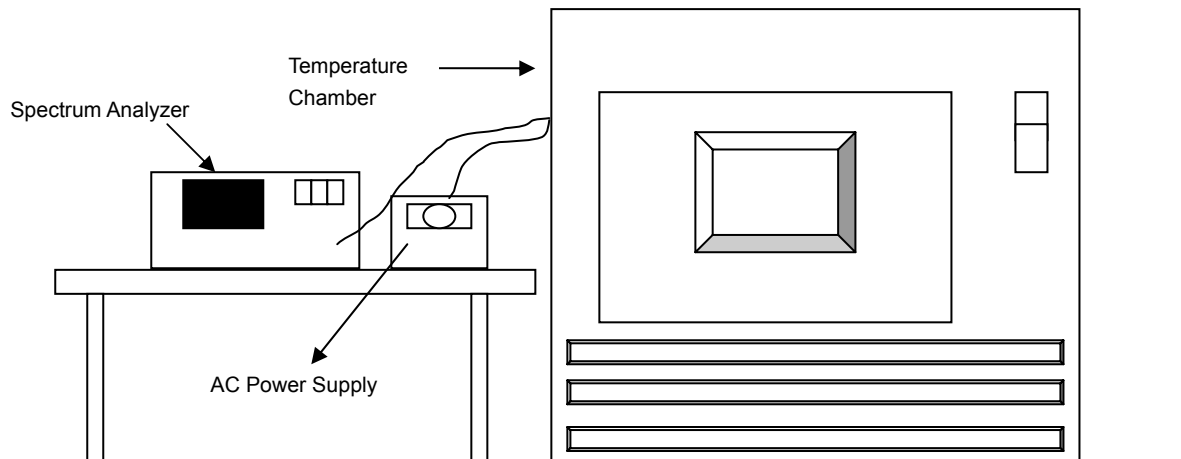


4.6 Frequency Stability

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 Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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.

4.6.4 Deviation from Test Standard

No deviation.

4.6.5 EUT Operating Condition

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

4.6.6 Test Results

Test Mode A

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5180.0034	0.00007	5180.0077	0.00015	5180.0063	0.00012	5180.0054	0.00010
40	120	5180.0192	0.00037	5180.0218	0.00042	5180.0201	0.00039	5180.0224	0.00043
30	120	5180.0004	0.00001	5180.0014	0.00003	5180.0019	0.00004	5180.0015	0.00003
20	120	5180.013	0.00025	5180.0155	0.00030	5180.015	0.00029	5180.0135	0.00026
10	120	5180.0055	0.00011	5180.006	0.00012	5180.0083	0.00016	5180.0085	0.00016
0	120	5179.9996	-0.00001	5180.0035	0.00007	5179.9998	0.00000	5180.0019	0.00004
-10	120	5180.0114	0.00022	5180.0153	0.00030	5180.0141	0.00027	5180.0126	0.00024
-20	120	5180.0097	0.00019	5180.0076	0.00015	5180.0087	0.00017	5180.0079	0.00015
-30	120	5179.9887	-0.00022	5179.9855	-0.00028	5179.9886	-0.00022	5179.9868	-0.00025

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5180.0122	0.00024	5180.0146	0.00028	5180.0141	0.00027	5180.0141	0.00027
	120	5180.013	0.00025	5180.0155	0.00030	5180.015	0.00029	5180.0135	0.00026
	102	5180.0134	0.00026	5180.0152	0.00029	5180.0147	0.00028	5180.0136	0.00026

Test Mode B

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5179.9777	-0.00043	5179.9783	-0.00042	5179.9788	-0.00041	5179.9796	-0.00039
40	120	5180.0207	0.00040	5180.0229	0.00044	5180.0246	0.00047	5180.0201	0.00039
30	120	5179.9966	-0.00007	5179.9979	-0.00004	5180.001	0.00002	5179.9979	-0.00004
20	120	5180.0259	0.00050	5180.0227	0.00044	5180.0235	0.00045	5180.0244	0.00047
10	120	5180.0138	0.00027	5180.0087	0.00017	5180.0134	0.00026	5180.0139	0.00027
0	120	5179.9859	-0.00027	5179.987	-0.00025	5179.989	-0.00021	5179.9876	-0.00024
-10	120	5180.005	0.00010	5180.009	0.00017	5180.006	0.00012	5180.0094	0.00018
-20	120	5180.0053	0.00010	5180.0051	0.00010	5180.0052	0.00010	5180.0083	0.00016
-30	120	5180.014	0.00027	5180.0126	0.00024	5180.0114	0.00022	5180.0144	0.00028

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5180.0252	0.00049	5180.0231	0.00045	5180.0233	0.00045	5180.0243	0.00047
	120	5180.0259	0.00050	5180.0227	0.00044	5180.0235	0.00045	5180.0244	0.00047
	102	5180.0249	0.00048	5180.0227	0.00044	5180.0226	0.00044	5180.0251	0.00048

Test Mode C

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5179.9851	-0.00029	5179.9833	-0.00032	5179.9844	-0.00030	5179.9822	-0.00034
40	120	5180.0092	0.00018	5180.0122	0.00024	5180.0102	0.00020	5180.0103	0.00020
30	120	5180.0151	0.00029	5180.0155	0.00030	5180.0198	0.00038	5180.017	0.00033
20	120	5180.0082	0.00016	5180.0075	0.00014	5180.0098	0.00019	5180.0103	0.00020
10	120	5179.9819	-0.00035	5179.9855	-0.00028	5179.9835	-0.00032	5179.982	-0.00035
0	120	5179.9879	-0.00023	5179.9886	-0.00022	5179.9904	-0.00019	5179.9884	-0.00022
-10	120	5180.0147	0.00028	5180.0132	0.00025	5180.015	0.00029	5180.0132	0.00025
-20	120	5180.0202	0.00039	5180.0245	0.00047	5180.0203	0.00039	5180.0195	0.00038
-30	120	5180.0243	0.00047	5180.0254	0.00049	5180.0254	0.00049	5180.0236	0.00046

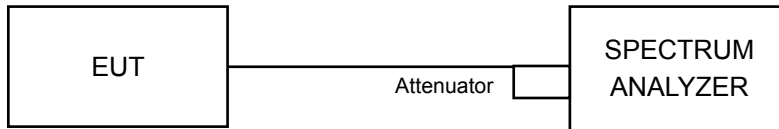
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0082	0.00016	5180.008	0.00015	5180.0099	0.00019	5180.011	0.00021
	120	5180.0082	0.00016	5180.0075	0.00014	5180.0098	0.00019	5180.0103	0.00020
	102	5180.0079	0.00015	5180.0071	0.00014	5180.0108	0.00021	5180.0103	0.00020

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

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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

Test Mode A

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.34	12.71	0.5	Pass
157	5785	16.34	12.68	0.5	Pass
165	5825	16.37	13.01	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.26	11.29	0.5	Pass
157	5785	17.16	11.42	0.5	Pass
165	5825	17.32	13.84	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.28	33.88	0.5	Pass
159	5795	35.33	35.96	0.5	Pass

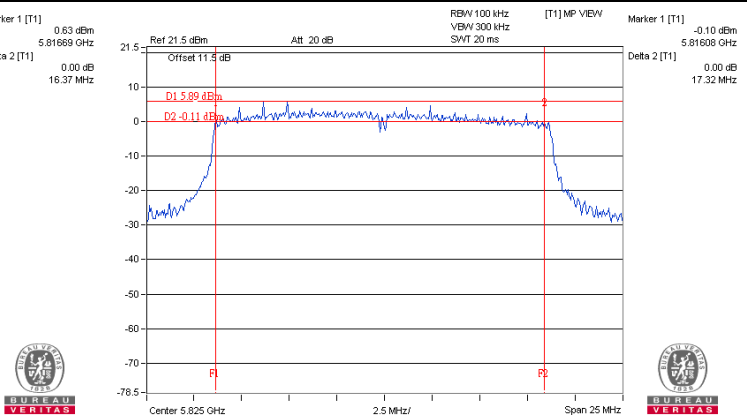
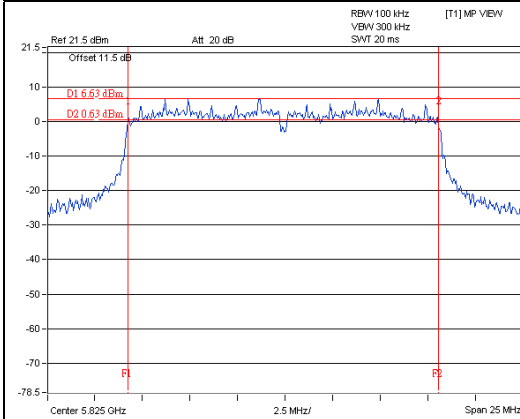
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.18	76.27	0.5	Pass

Spectrum Plot of Worst Value

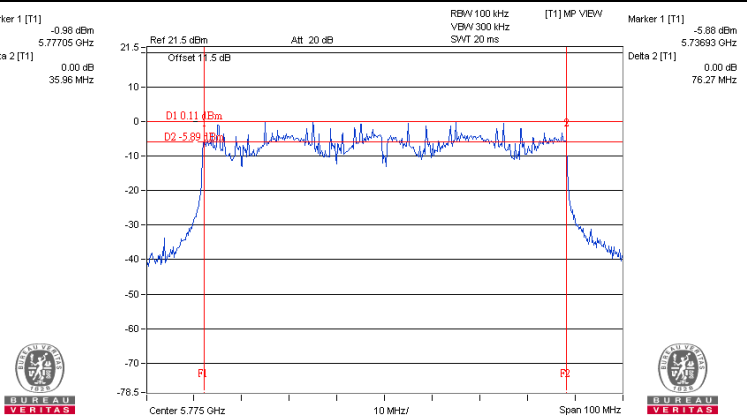
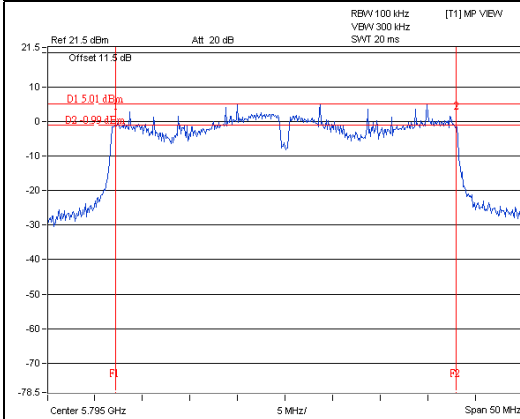
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode B

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.37	15.07	0.5	Pass
157	5785	16.33	12.70	0.5	Pass
165	5825	16.34	12.66	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.22	15.09	0.5	Pass
157	5785	16.92	12.64	0.5	Pass
165	5825	17.32	12.55	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.20	35.93	0.5	Pass
159	5795	35.77	35.17	0.5	Pass

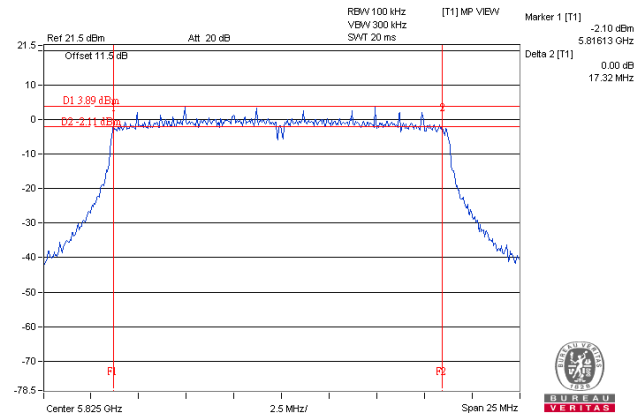
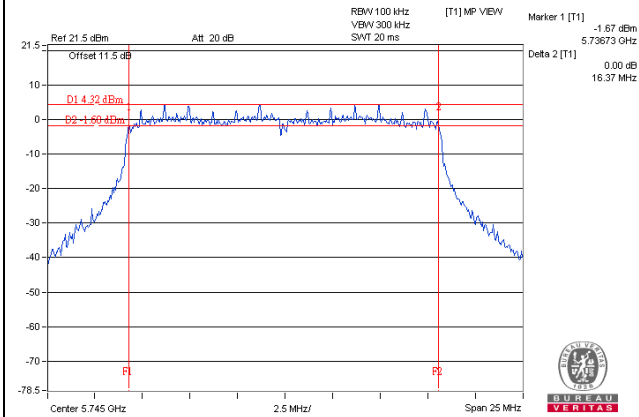
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.51	75.83	0.5	Pass

Spectrum Plot of Worst Value

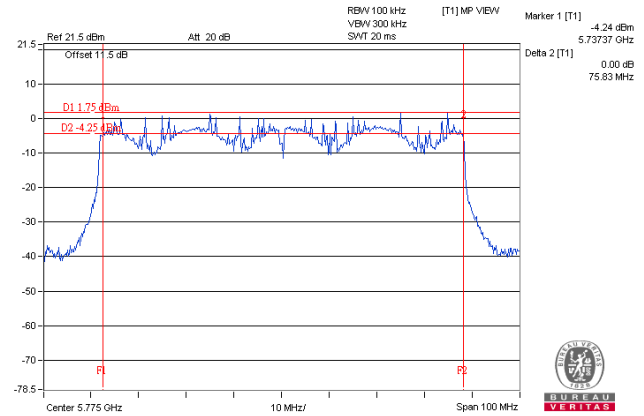
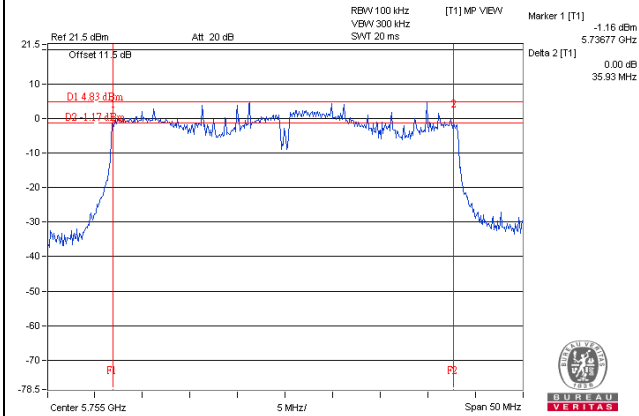
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



Test Mode C

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.34	15.08	0.5	Pass
157	5785	16.34	15.01	0.5	Pass
165	5825	16.37	13.83	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.06	15.07	0.5	Pass
157	5785	17.67	12.67	0.5	Pass
165	5825	17.63	13.83	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.29	35.13	0.5	Pass
159	5795	35.39	32.60	0.5	Pass

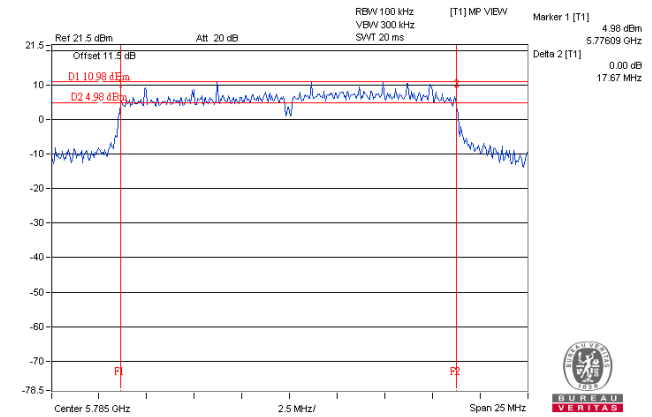
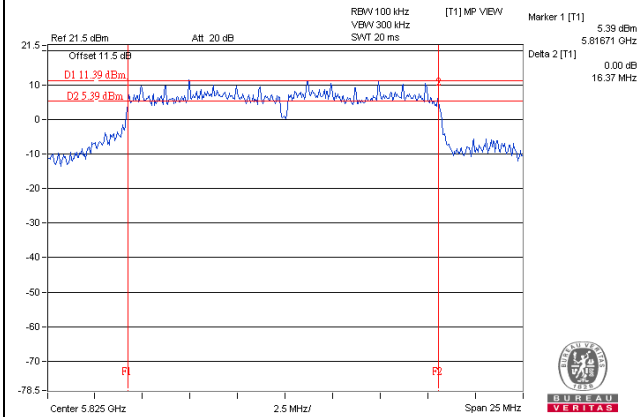
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.87	74.32	0.5	Pass

Spectrum Plot of Worst Value

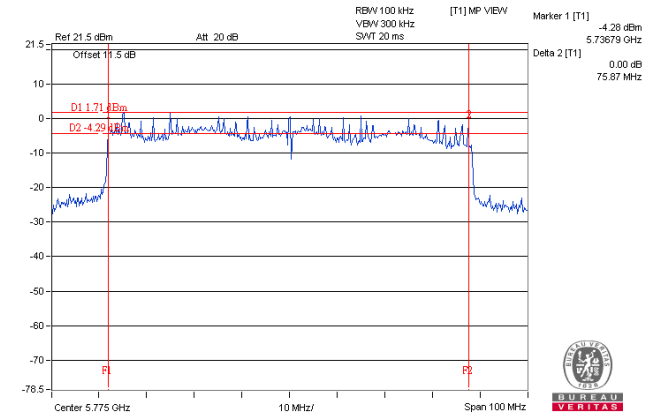
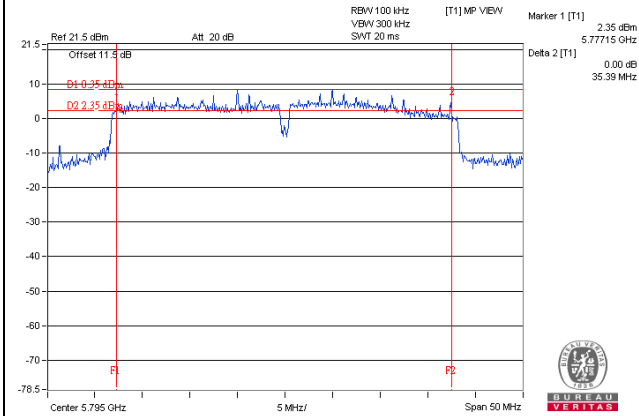
802.11a

802.11ac (VHT20)



802.11ac (VHT40)

802.11ac (VHT80)



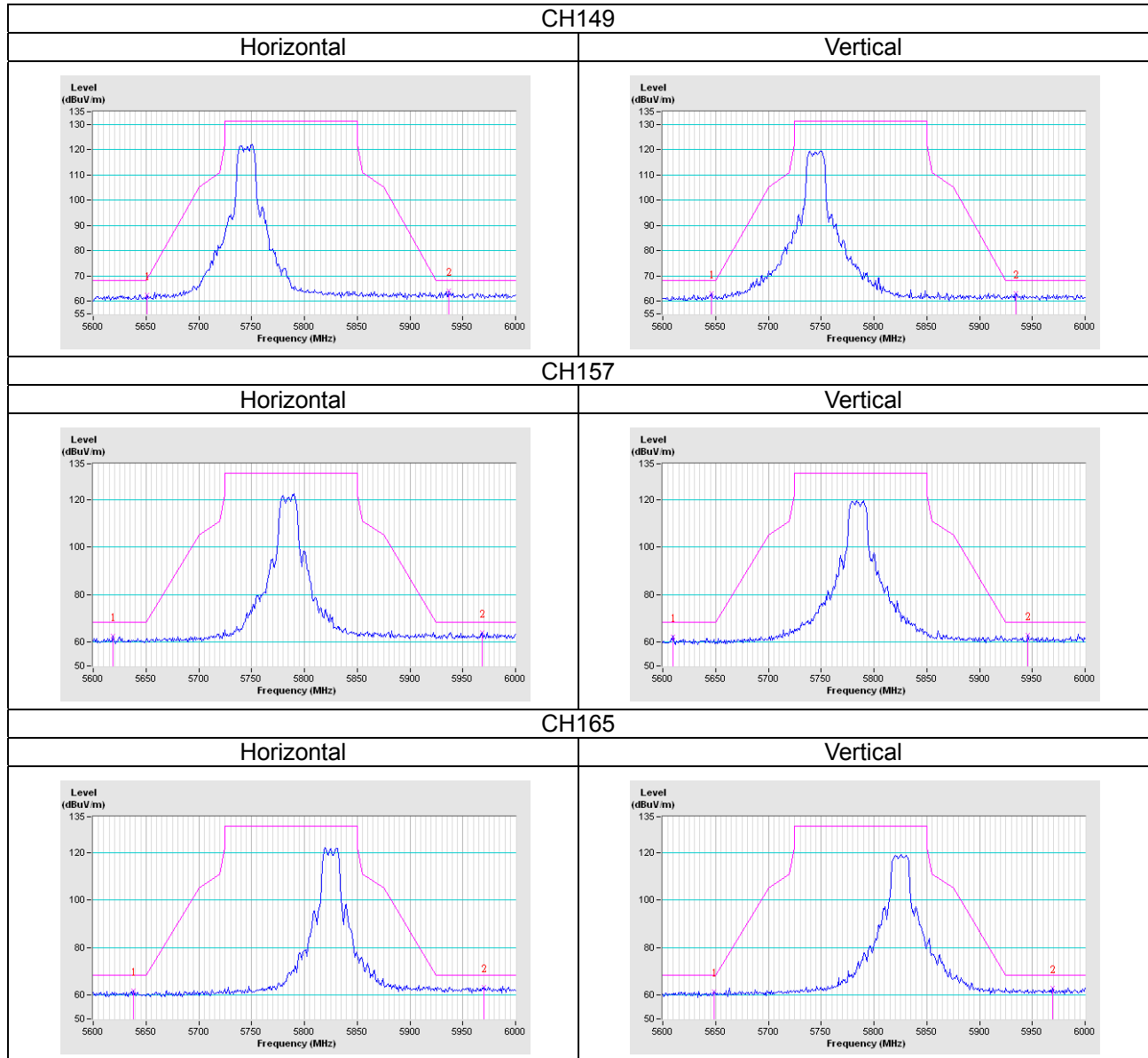
5 Pictures of Test Arrangements

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

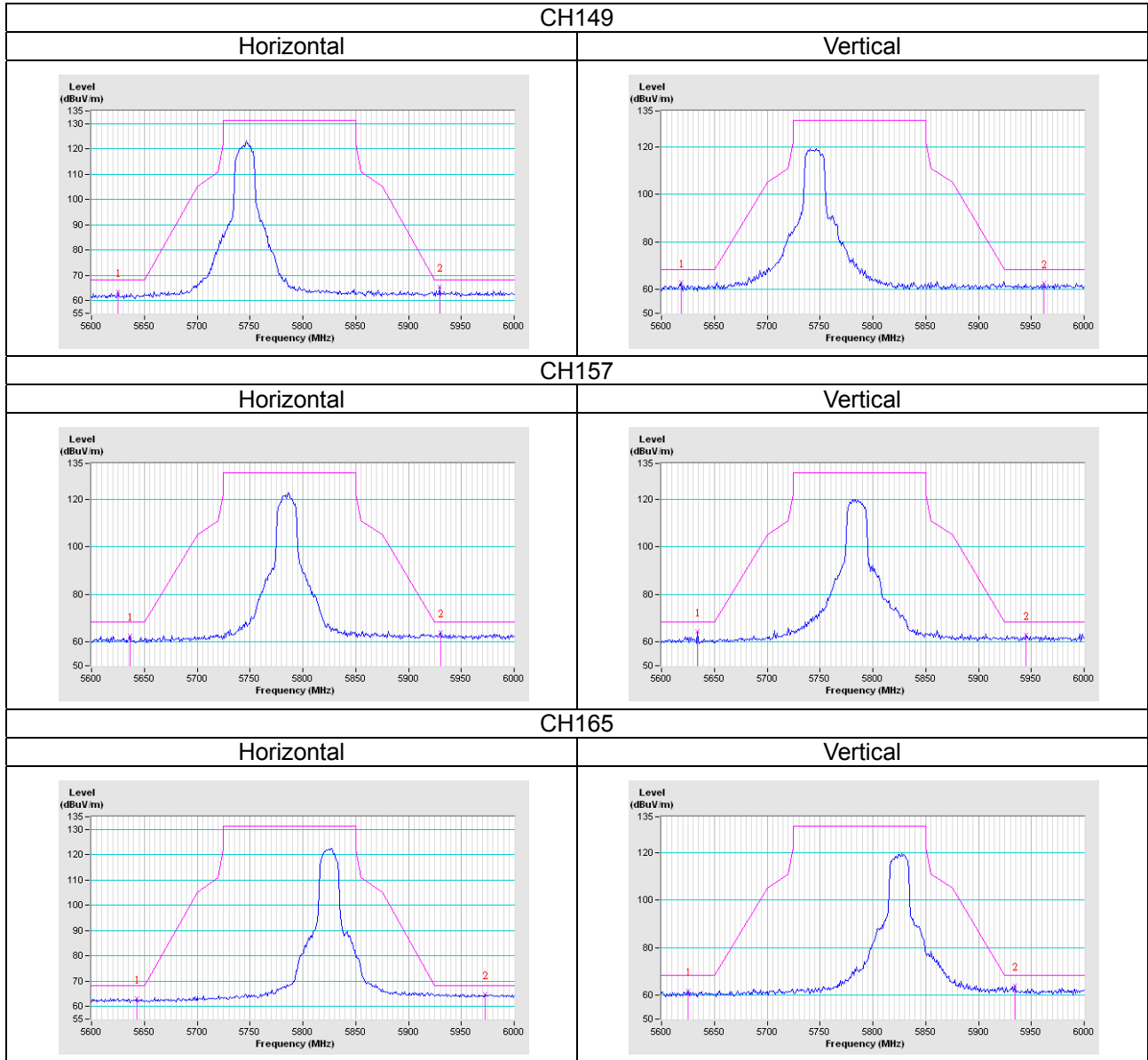
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Test Mode A

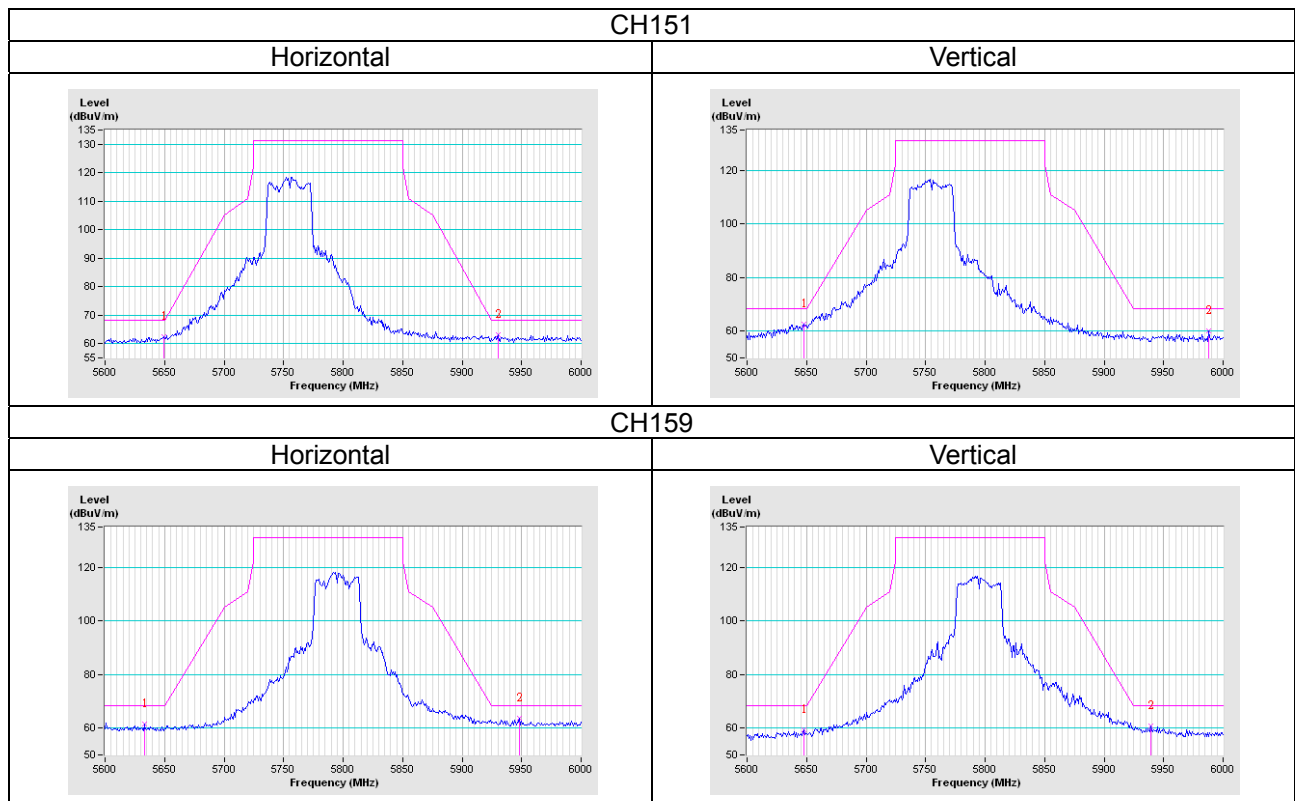
802.11a



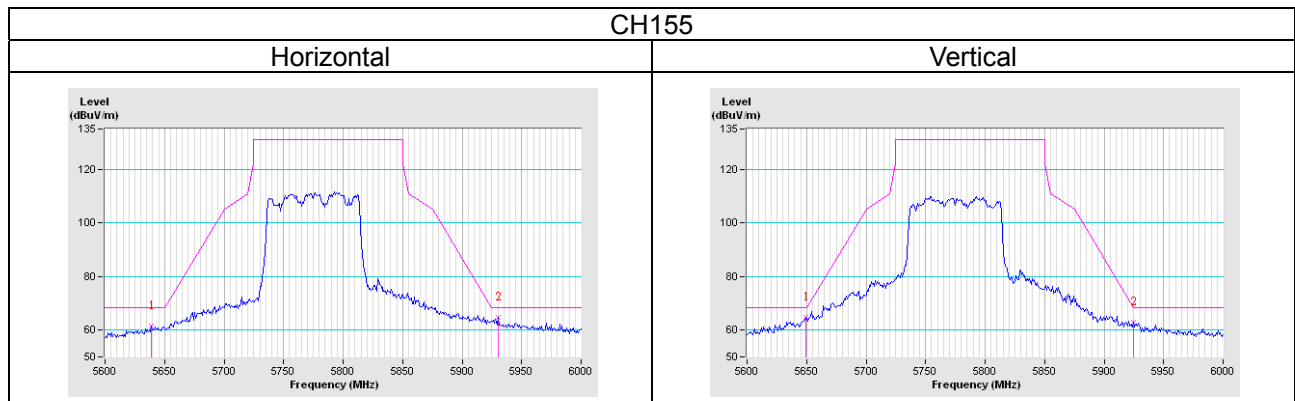
802.11ac (VHT20)



802.11ac (VHT40)

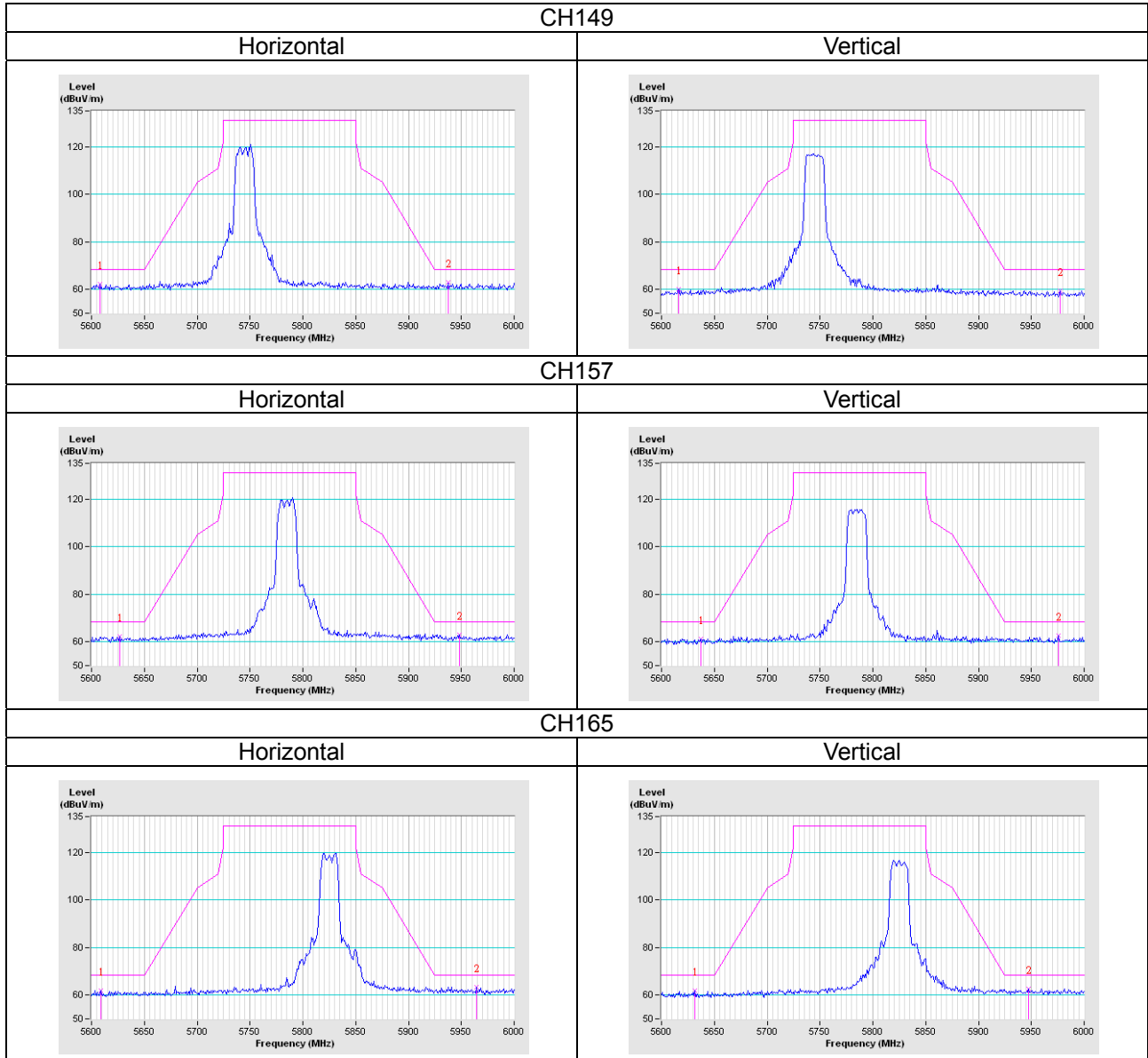


802.11ac (VHT80)

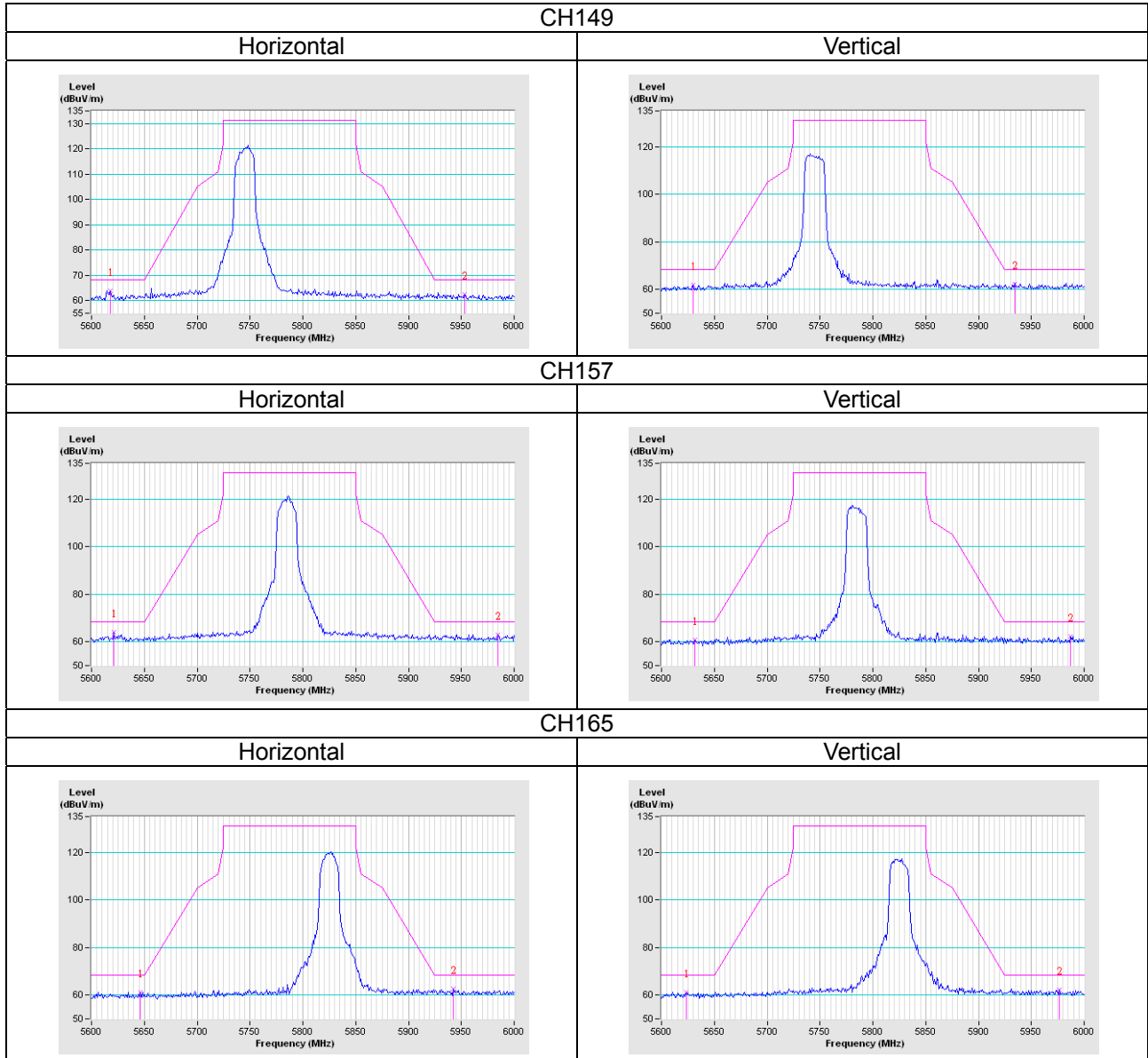


Test Mode B

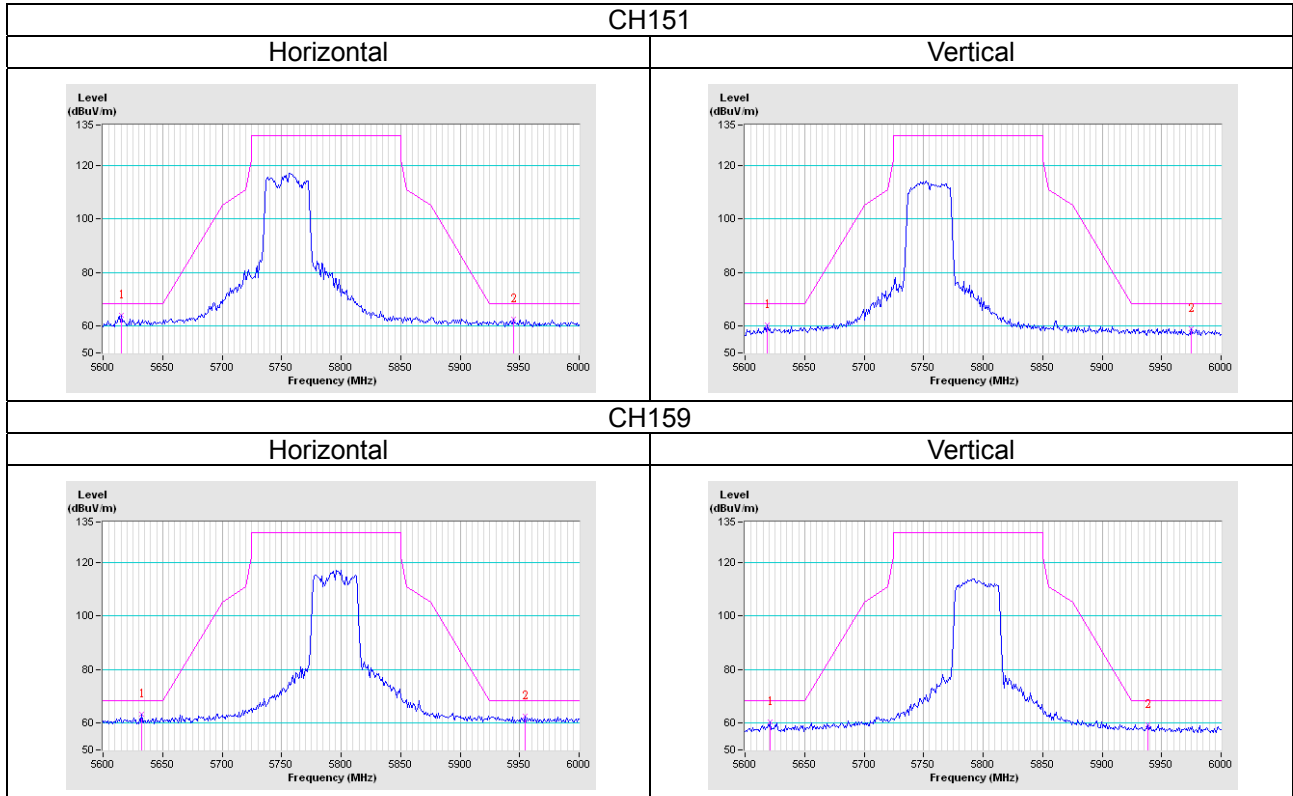
802.11a



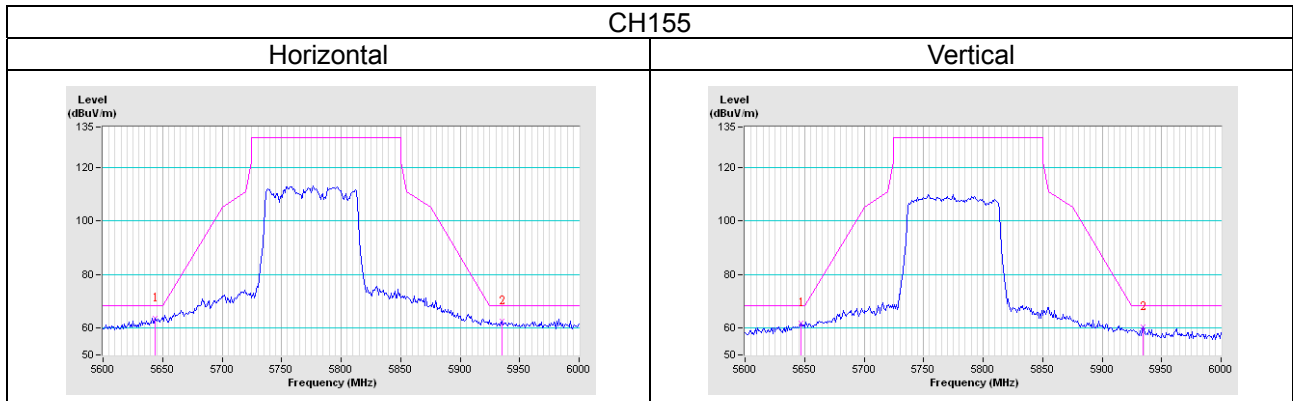
802.11ac (VHT20)



802.11ac (VHT40)

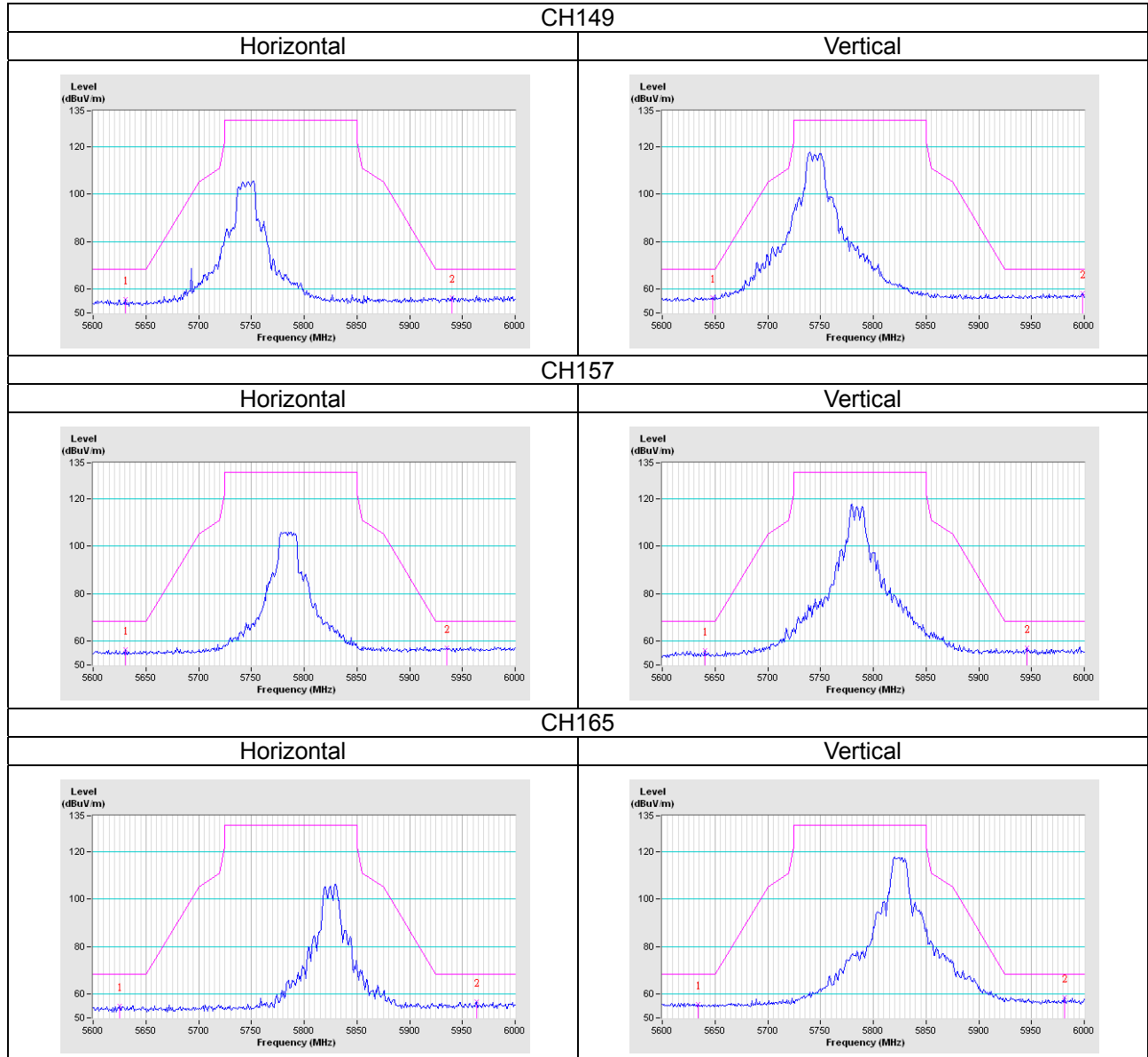


802.11ac (VHT80)

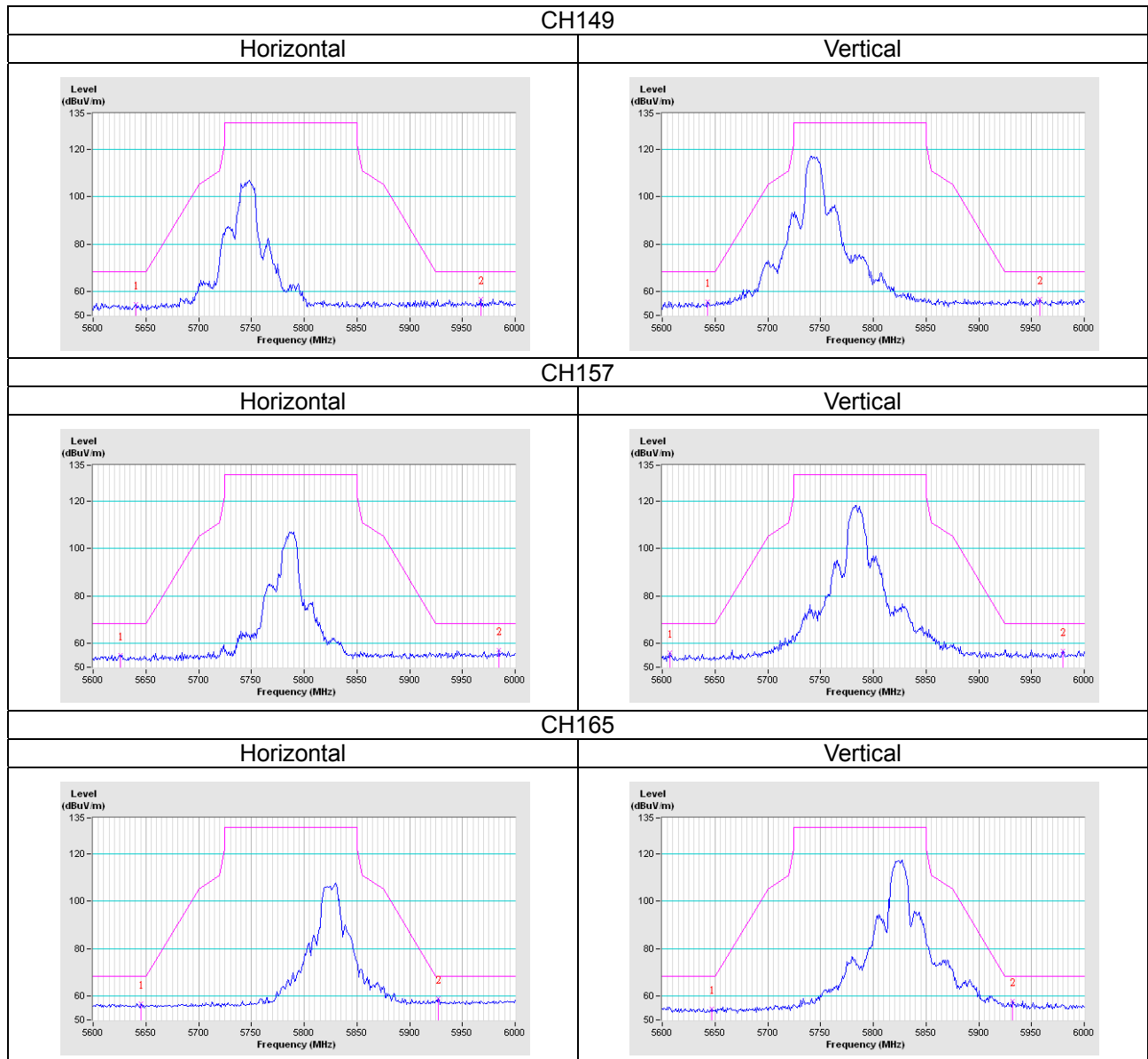


Test Mode C

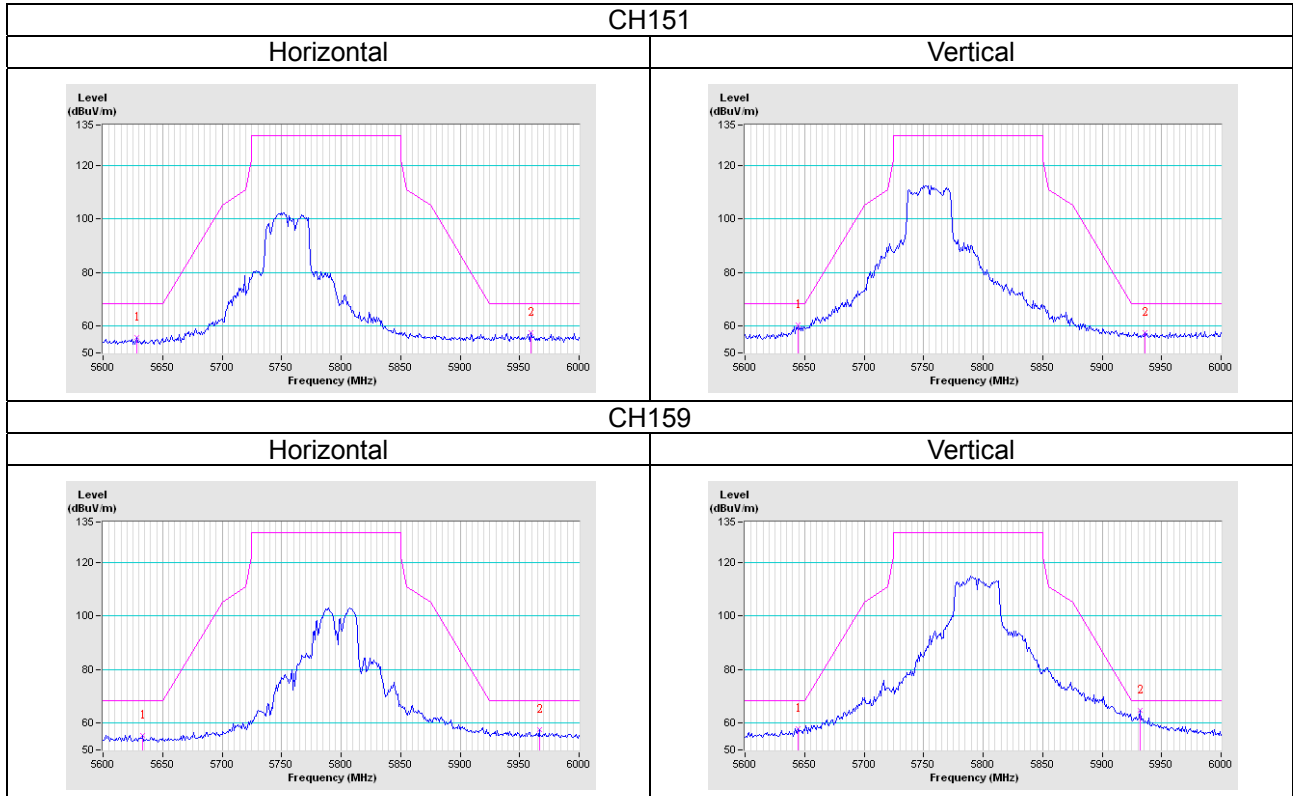
802.11a



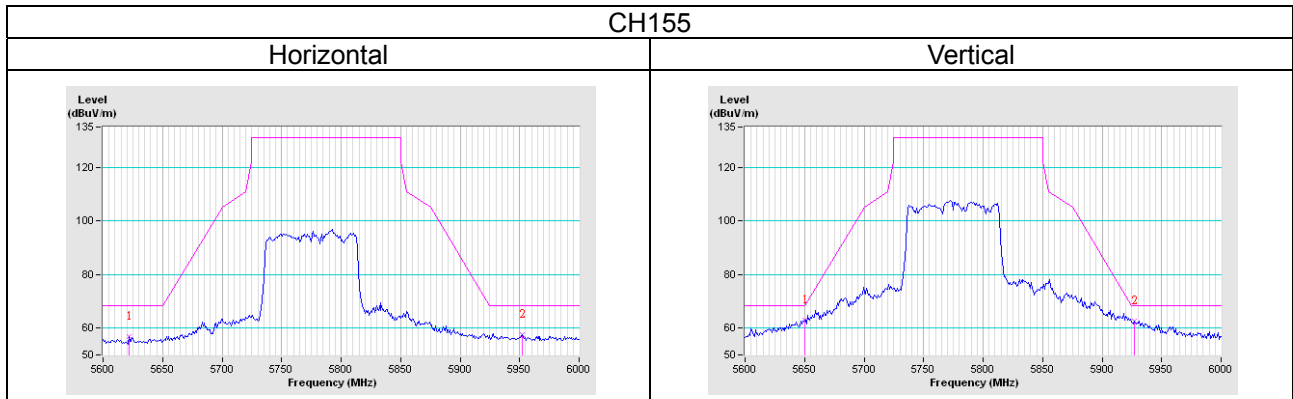
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Appendix – Information on the Testing Laboratories

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

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

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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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