FCC Test Report

Report No.:	RF180613C24B
FCC ID:	PY317300397
Test Model:	Leopard
Received Date:	Jun. 13, 2018
Test Date:	Jun. 14 ~ Oct. 18, 2018
Issued Date:	Oct. 24, 2018
Applicant:	NETGEAR, INC.
Address:	350 East Plumeria Drive San Jose, CA 95134
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

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

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Release Control Record

Issue No.	Description	Date Issued
RF180613C24B	Original release.	Oct. 24, 2018

1 Certificate of Conformity

Product:	Leopard
Brand:	NETGEAR
Test Model:	Leopard
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Jun. 14 ~ Oct. 18, 2018
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Oct. 24, 2018

Suntee Liu / Specialist

Approved by : _____ , **Date:** Oct. 24, 2018

Bruce Chen / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.68dB 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 -0.5dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 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	Leopard
Brand	NETGEAR
Test Model	Leopard
Sample Status	Engineering sample
Power Supply Rating	19Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM for OFDMA
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 1200Mbps 802.11ac: up to 3466.4Mbps 802.11ax: up to 4804Mbps
Operating Frequency	5260~5320MHz, 5500~5720MHz
Number of Channel	5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5500~5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 Simultaneous transmission: 802.11ac (VHT160(80+80)), 802.11ax (HE160(80+80)): 2 sets
Output Power	CDD Mode: 5260~5320MHz: 235.487mW 5500~5720MHz: 231.760mW Beamforming_NSS1 Mode: 5260~5320MHz: 65.714mW 5500~5720MHz: 71.372mW Beamforming_NSS2 Mode: 5260~5320MHz: 129.316mW 5500~5720MHz: 137.376mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Cable Supplied	1.95m non-shielded RJ45 cable without core

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of the original report no.: RF180613C24-1. The difference compared with the original report is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz by software.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 8 completed transmitter and 8 receivers.

Band	Modulation Mode	CDD mode	Beamforming mode
2.4GHz	802.11b	Support	Not Support
	802.11g	Support	Not Support
	802.11n (HT20)	Support	Not Support
	802.11n (HT40)	Support	Not Support
	802.11ax (HE20)	Support	Not Support
	802.11ax (HE40)	Support	Not Support
5GHz	802.11a	Support	Not Support
	802.11n(HT20)	Support	Support(Nss1/Nss2)
	802.11n(HT40)	Support	Support(Nss1/Nss2)
	802.11ac(VHT20)	Support	Support(Nss1/Nss2)
	802.11ac(VHT40)	Support	Support(Nss1/Nss2)
	802.11ac(VHT80)	Support	Support(Nss1/Nss2)
	802.11ac(VHT80+80)	Support	Not Support
	802.11ax(HE20)	Support	Support(Nss1/Nss2)
	802.11ax(HE40)	Support	Support(Nss1/Nss2)
	802.11ax(HE80)	Support	Support(Nss1/Nss2)
	802.11ax(HE80+80)	Support	Not Support

Note: The CDD mode supports Nss1 to Nss4. The Nss 1 configuration is the worst case for final testing.

Band	Modulation Mode	Ant1	Ant2	Ant3	Ant4	Ant5	Ant6	Ant7	Ant8
2.4GHz	802.11b	TX/RX	TX/RX	TX/RX	TX/RX				
	802.11g	TX/RX	TX/RX	TX/RX	TX/RX				
	802.11n (HT20)	TX/RX	TX/RX	TX/RX	TX/RX				
	802.11n (HT40)	TX/RX	TX/RX	TX/RX	TX/RX				
	802.11ax (HE20)	TX/RX	TX/RX	TX/RX	TX/RX				
	802.11ax (HE40)	TX/RX	TX/RX	TX/RX	TX/RX				
5GHz	802.11a	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11n(HT20)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11n(HT40)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ac(VHT20)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ac(VHT40)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ac(VHT80)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ac(VHT80+80)*	TX/RX (UNII-1)	TX/RX (UNII-1)	TX/RX (UNII-1)	TX/RX (UNII-1)				
						TX/RX (UNII-3)	TX/RX (UNII-3)	TX/RX (UNII-3)	TX/RX (UNII-3)
	802.11ax(HE20)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ax(HE40)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ax(HE80)	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX	TX/RX
	802.11ax(HE80+80)*	TX/RX (UNII-1)	TX/RX (UNII-1)	TX/RX (UNII-1)	TX/RX (UNII-1)				
						TX/RX (UNII-3)	TX/RX (UNII-3)	TX/RX (UNII-3)	TX/RX (UNII-3)

Note*: When VHT80+80 configured by 4Tx+4Tx, by using 8Tx directional gain as the worst case for final testing.

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode and HE20/HE40 on 802.11ax mode. The bandwidth and modulation are similar for VHT80 on 802.11ac mode and HE80 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

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

3. The EUT uses following antenna.

Antenna Type		Dipole						Connecter Type			I-PEX		
Directional Antenna Gain (dBi)													
Antenna No.	2.4G	5G Band 1			5G Band 2			5G Band 3			5G Band 4		
		CDD	NSS1	NSS2	CDD	NSS1	NSS2	CDD	NSS1	NSS2	CDD	NSS1	NSS2
4TX	3.29	-	-	-	-	-	-	-	-	-	-	-	-
8TX	-	3.22	11.37	8.76	3.25	11.72	8.81	3.32	11.38	8.40	3.10	11.55	8.32
4TX+4TX	-	3.22	-	-	3.25	-	-	3.32	-	-	3.10	-	-

4. The EUT consumes power from the following adapters.

Adapter 1	
Brand	NETGEAR
Model	2ABS060K NA
P/N	332-10856-01
Input Power	100-240Vac, 50/60Hz, 1.7A
Output Power	19Vdc, 3.16A
Power Cord	1.8m power cable without core attached on adapter

Adapter 2	
Brand	NETGEAR
Model	AD2073F20
P/N	332-10835-01
Input Power	100-240Vac, 50/60Hz, 1.5A
Output Power	19Vdc, 3.16A
Power Cord	1.8m power cable without core attached on adapter

* Adapter 2 is the worst case for final test after pretesting.

5. The worst case spurious emission of the simultaneous operation mode is listed as below and the test data please refer to BV CPS report no.: RF180613C24B-1.

No	Mode
1	WLAN 2.4GHz + WLAN 5GHz band 4 (8TX)
2	WLAN 2.4GHz + WLAN 5GHz band 1 (4TX) + WLAN 5GHz band 2 (4TX)
3	WLAN 2.4GHz + WLAN 5GHz band 3 (4TX) + WLAN 5GHz band 3 (4TX)

3.2 Description of Test Modes

5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
58	5290 MHz

5500~5720MHz:

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

Simultaneous transmission:

11 sets are provided for 802.11ac (VHT160(80+80)), 802.11ax (HE160(80+80)):

Channel	Frequency
42+58	5210 + 5290 MHz
106+122	5530 + 5610 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	MCS0	-
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	MCS0	-
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	MCS0	-
	802.11ac (VHT80)		58	58	OFDM	MCS0	-
	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	MCS0	-
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	MCS0	-
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	MCS0	-
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	MCS0	-
	802.11ac (VHT160(80+80))	5180-5240	42+58	42+58	OFDM	MCS0	-
		5260-5320 5500-5720	106+122	106+122	OFDM	MCS0	-

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
-	802.11ac (VHT40)	5260-5320	54 to 62	54	OFDM	MCS0	-	
	802.11ac (VHT40)	5500-5720	102 to 142					

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)	Remark
-	802.11ac (VHT40)	5260-5320	54 to 62	54	OFDM	MCS0	-	
	802.11ac (VHT40)	5500-5720	102 to 142					

Antenna Port Conducted Measurement:

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

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	MCS0	-
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	MCS0	-
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	MCS0	-
	802.11ac (VHT80)		58	58	OFDM	MCS0	-
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDM	MCS0	-
	802.11ax (HE40)		54 to 62	54, 62	OFDM	MCS0	-
	802.11ax (HE80)		58	58	OFDM	MCS0	-
	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	MCS0	-
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	MCS0	-
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	MCS0	-
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	MCS0	-
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDM	MCS0	-
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDM	MCS0	-
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDM	MCS0	-
	802.11ac (VHT160(80+80))	5180-5240 5260-5320 5500-5720	42+58	42+58	OFDM	MCS0	-
			106+122	106+122	OFDM	MCS0	-
	802.11ax (HE160(80+80))		42+58	42+58	OFDM	MCS0	-
			106+122	106+122	OFDM	MCS0	-

Test Condition:

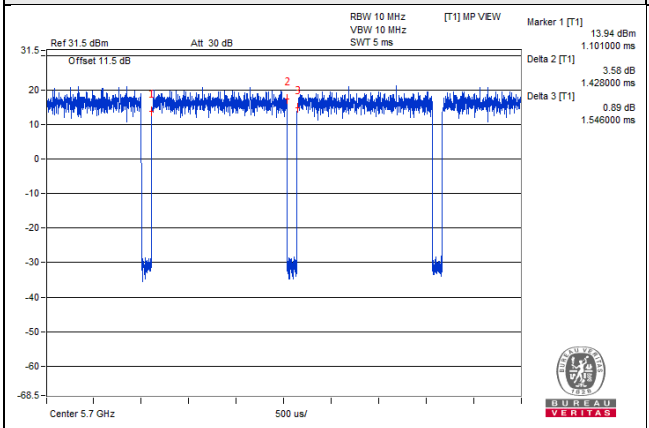
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25deg. C, 70%RH 28deg. C, 70%RH 25deg. C, 69%RH	120Vac, 60Hz	Luis Lee Noah Chang
RE<1G	25deg. C, 71%RH	120Vac, 60Hz	Noah Chang
PLC	25deg. C, 65%RH	120Vac, 60Hz	Jones Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Alan Wu Chris Lin

3.3 Duty Cycle of Test Signal

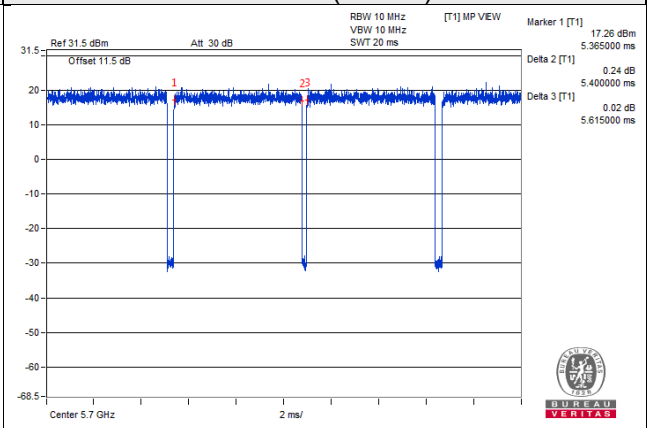
Duty cycle of test signal is ≥ 98%, duty factor is not required.
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 1.428/1.546 = 0.924, Duty factor = 10 * log(1/0.924) = 0.34
802.11ac (VHT20): Duty cycle = 5.4/5.615 = 0.962, Duty factor = 10 * log(1/0.962) = 0.17
802.11ac (VHT40): Duty cycle = 5.42/5.73 = 0.946, Duty factor = 10 * log(1/0.946) = 0.24
802.11ac (VHT80): Duty cycle = 5.405/5.725 = 0.944, Duty factor = 10 * log(1/0.944) = 0.25
802.11ac (VHT160(80+80)): 5.405/5.725 = 0.944, Duty factor = 10 * log(1/0.944) = 0.25

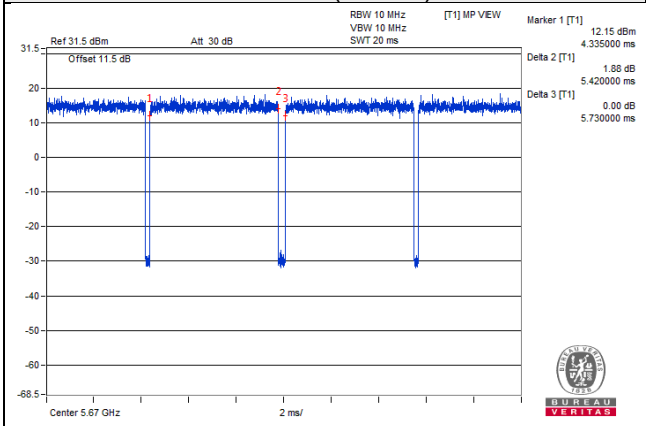
802.11a



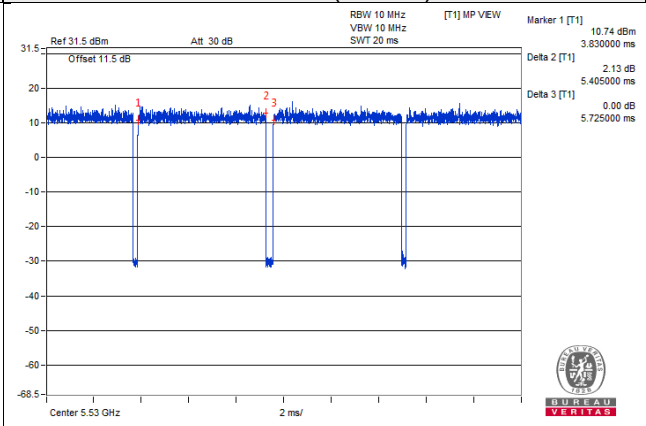
802.11ac (VHT20)



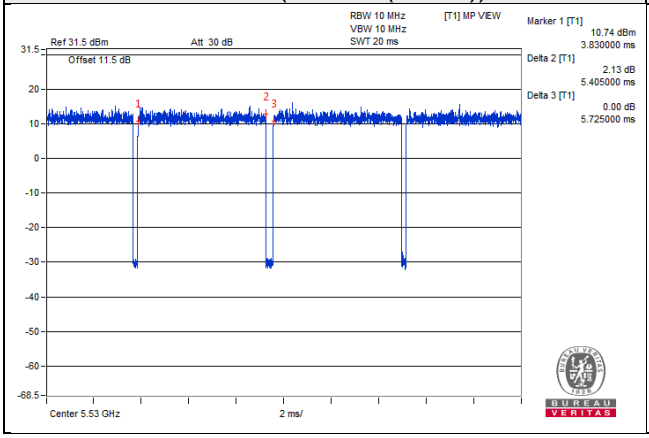
802.11ac (VHT40)



802.11ac (VHT80)



802.11ac (VHT160(80+80))



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.

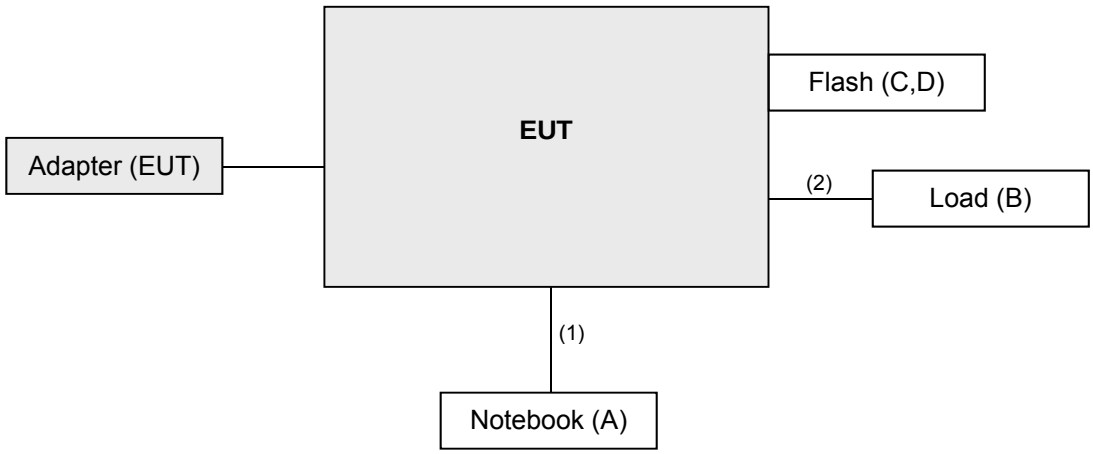
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	HP	11-u018TU	8CG70505V9	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	Flash	HP	v250W	06	NA	-
D.	Flash	HP	v250W	03	NA	-

Note:

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

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

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 v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Dec. 12, 2017	Dec. 11, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 2018
			Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A01961	Oct. 16, 2017	Oct. 15, 2018
	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2017	Aug. 07, 2018
			Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2017	Aug. 07, 2018
			Aug. 08, 2018	Aug. 07, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2017	Nov. 13, 2018
High Speed Peak Power Meter	ML2495A	1232001	Dec. 13, 2017	Dec. 12, 2018
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019

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 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-4.

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

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

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

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

Note:

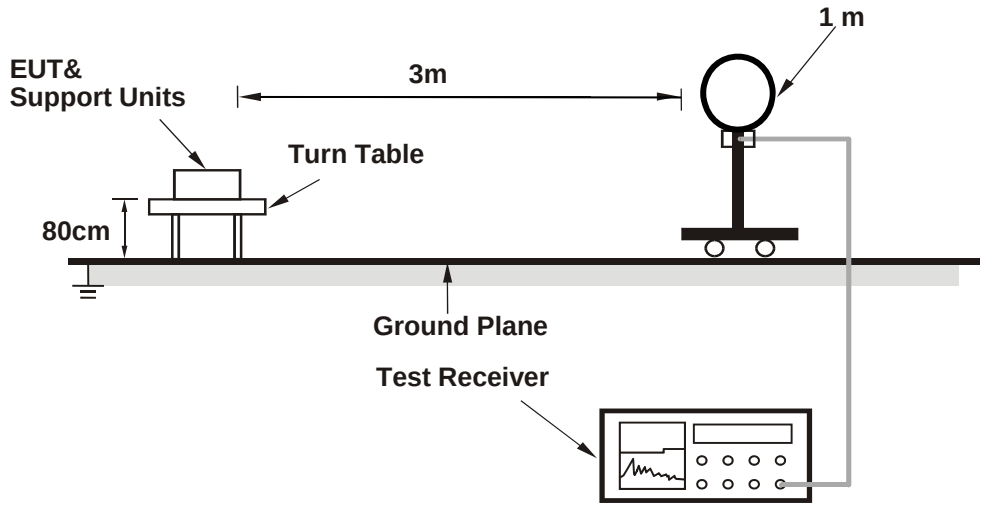
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

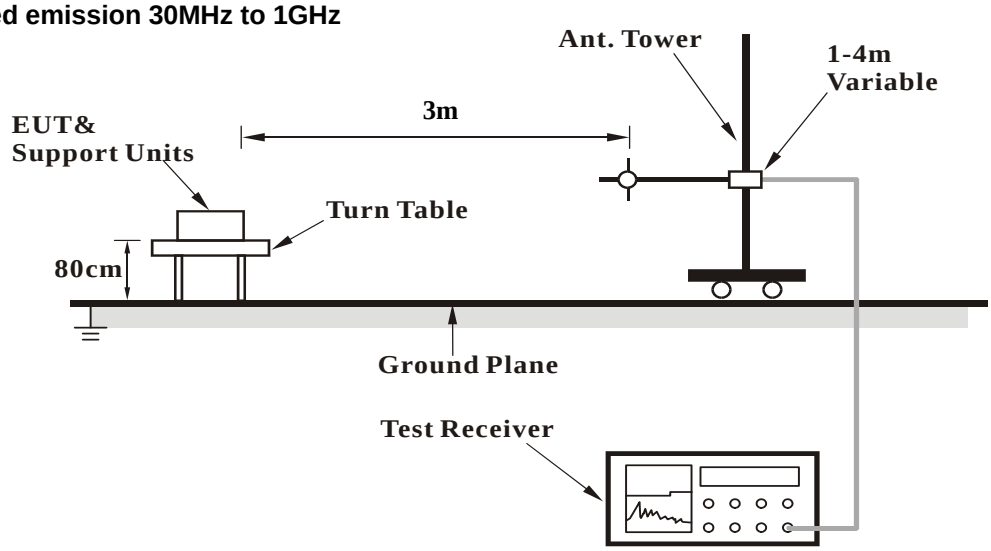
No deviation.

4.1.5 Test Set Up

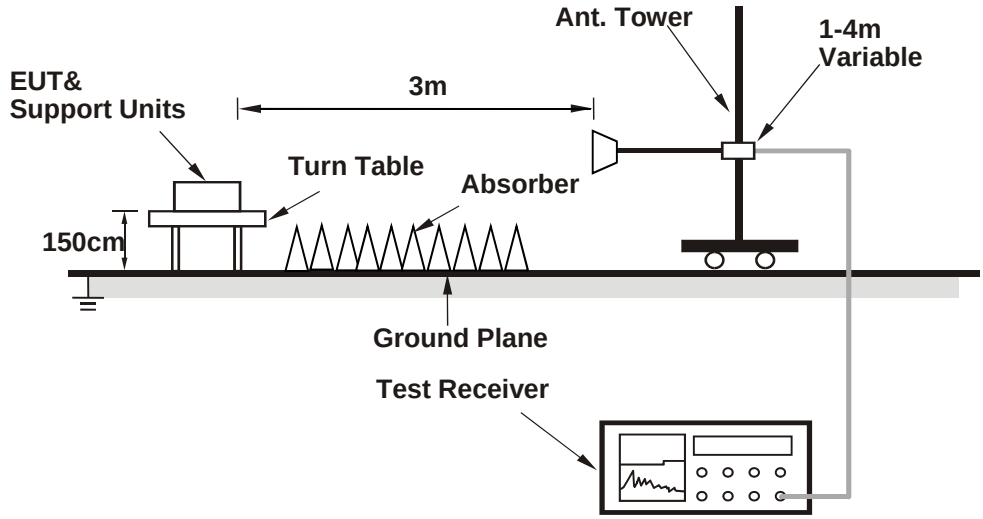
For Radiated emission below 30MHz



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 necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz worst-case data:

802.11a

CHANNEL	TX Channel 52	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	56.8 PK	74.0	-17.2	1.04 H	354	54.2	2.6
2	5150.00	44.1 AV	54.0	-9.9	1.04 H	354	41.5	2.6
3	*5260.00	111.0 PK			1.04 H	354	70.3	40.7
4	*5260.00	101.3 AV			1.04 H	354	60.6	40.7
5	#10520.00	59.9 PK	68.2	-8.3	2.09 H	140	45.1	14.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.7 PK	74.0	-17.3	2.75 V	140	54.1	2.6
2	5150.00	44.1 AV	54.0	-9.9	2.75 V	140	41.5	2.6
3	*5260.00	118.9 PK			2.75 V	140	78.2	40.7
4	*5260.00	108.5 AV			2.75 V	140	67.8	40.7
5	#10520.00	60.7 PK	68.2	-7.5	1.89 V	205	45.9	14.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 60	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	*5300.00	109.8 PK			1.01 H	321	69.2	40.6
2	*5300.00	99.8 AV			1.01 H	321	59.2	40.6
3	10600.00	60.1 PK	74.0	-13.9	2.14 H	153	44.9	15.2
4	10600.00	47.4 AV	54.0	-6.6	2.14 H	153	32.2	15.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	117.3 PK			3.39 V	212	76.7	40.6
2	*5300.00	107.2 AV			3.39 V	212	66.6	40.6
3	10600.00	61.0 PK	74.0	-13.0	1.50 V	22	45.8	15.2
4	10600.00	47.5 AV	54.0	-6.5	1.50 V	22	32.3	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 64	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	*5320.00	111.8 PK			1.18 H	305	71.1	40.7
2	*5320.00	101.8 AV			1.18 H	305	61.1	40.7
3	5350.00	56.9 PK	74.0	-17.1	1.18 H	305	54.1	2.8
4	5350.00	45.3 AV	54.0	-8.7	1.18 H	305	42.5	2.8
5	10640.00	60.6 PK	74.0	-13.4	2.63 H	157	45.2	15.4
6	10640.00	47.3 AV	54.0	-6.7	2.63 H	157	31.9	15.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	118.2 PK			3.40 V	179	77.5	40.7
2	*5320.00	108.1 AV			3.40 V	179	67.4	40.7
3	5350.00	57.2 PK	74.0	-16.8	3.40 V	179	54.4	2.8
4	5350.00	44.6 AV	54.0	-9.4	3.40 V	179	41.8	2.8
5	10640.00	61.0 PK	74.0	-13.0	1.59 V	29	45.6	15.4
6	10640.00	47.9 AV	54.0	-6.1	1.59 V	29	32.5	15.4

Remarks:

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

CHANNEL	TX Channel 100	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	5460.00	57.6 PK	74.0	-16.4	3.12 H	241	54.4	3.2
2	5460.00	45.2 AV	54.0	-8.8	3.12 H	241	42.0	3.2
3	#5470.00	57.7 PK	68.2	-10.5	3.12 H	241	54.5	3.2
4	*5500.00	112.3 PK			3.12 H	241	70.8	41.5
5	*5500.00	102.3 AV			3.12 H	241	60.8	41.5
6	11000.00	60.6 PK	74.0	-13.4	1.50 H	199	44.6	16.0
7	11000.00	47.3 AV	54.0	-6.7	1.50 H	199	31.3	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.0 PK	74.0	-16.0	1.49 V	350	54.8	3.2
2	5460.00	45.3 AV	54.0	-8.7	1.49 V	350	42.1	3.2
3	#5470.00	58.7 PK	68.2	-9.5	1.49 V	350	55.5	3.2
4	*5500.00	120.7 PK			1.49 V	350	79.2	41.5
5	*5500.00	110.7 AV			1.49 V	350	69.2	41.5
6	11000.00	61.6 PK	74.0	-12.4	1.53 V	301	45.6	16.0
7	11000.00	48.7 AV	54.0	-5.3	1.53 V	301	32.7	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 116	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	*5580.00	112.2 PK			3.21 H	243	70.3	41.9
2	*5580.00	101.7 AV			3.21 H	243	59.8	41.9
3	11160.00	60.7 PK	74.0	-13.3	1.42 H	107	45.0	15.7
4	11160.00	47.8 AV	54.0	-6.2	1.42 H	107	32.1	15.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	119.2 PK			1.59 V	351	77.3	41.9
2	*5580.00	109.0 AV			1.59 V	351	67.1	41.9
3	11160.00	61.5 PK	74.0	-12.5	1.59 V	310	45.8	15.7
4	11160.00	48.3 AV	54.0	-5.7	1.59 V	310	32.6	15.7

Remarks:

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

CHANNEL	TX Channel 140	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	*5700.00	113.8 PK			3.22 H	339	71.7	42.1
2	*5700.00	103.6 AV			3.22 H	339	61.5	42.1
3	#5725.00	58.0 PK	68.2	-10.2	3.22 H	339	54.3	3.7
4	11400.00	60.9 PK	74.0	-13.1	1.50 H	112	44.9	16.0
5	11400.00	47.8 AV	54.0	-6.2	1.50 H	112	31.8	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	120.8 PK			1.43 V	12	78.7	42.1
2	*5700.00	110.6 AV			1.43 V	12	68.5	42.1
3	#5725.00	58.7 PK	68.2	-9.5	1.43 V	12	55.0	3.7
4	11400.00	61.6 PK	74.0	-12.4	1.63 V	277	45.6	16.0
5	11400.00	48.8 AV	54.0	-5.2	1.63 V	277	32.8	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 144	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	#5470.00	61.4 PK	68.2	-6.8	1.00 H	58	48.9	12.5
2	*5720.00	111.1 PK			1.00 H	58	69.0	42.1
3	*5720.00	99.0 AV			1.00 H	58	56.9	42.1
4	#5850.00	62.3 PK	68.2	-5.9	1.00 H	58	48.5	13.8
5	11440.00	63.8 PK	74.0	-10.2	1.50 H	211	40.2	23.6
6	11440.00	50.5 AV	54.0	-3.5	1.50 H	211	26.9	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.6 PK	68.2	-6.6	1.00 V	360	49.1	12.5
2	*5720.00	116.0 PK			1.00 V	360	73.9	42.1
3	*5720.00	105.2 AV			1.00 V	360	63.1	42.1
4	#5850.00	62.5 PK	68.2	-5.7	1.00 V	360	48.7	13.8
5	11440.00	64.0 PK	74.0	-10.0	2.53 V	152	40.4	23.6
6	11440.00	50.7 AV	54.0	-3.3	2.53 V	152	27.1	23.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
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 52	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	56.8 PK	74.0	-17.2	1.17 H	329	54.2	2.6
2	5150.00	44.1 AV	54.0	-9.9	1.17 H	329	41.5	2.6
3	*5260.00	108.0 PK			1.17 H	329	67.3	40.7
4	*5260.00	97.7 AV			1.17 H	329	57.0	40.7
5	#10520.00	60.0 PK	68.2	-8.2	2.36 H	114	45.2	14.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	2.38 V	65	54.5	2.6
2	5150.00	43.9 AV	54.0	-10.1	2.38 V	65	41.3	2.6
3	*5260.00	117.5 PK			2.38 V	65	76.8	40.7
4	*5260.00	106.8 AV			2.38 V	65	66.1	40.7
5	#10520.00	60.7 PK	68.2	-7.5	1.55 V	325	45.9	14.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 60	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	*5300.00	107.3 PK			1.37 H	304	66.7	40.6
2	*5300.00	96.8 AV			1.37 H	304	56.2	40.6
3	10600.00	60.4 PK	74.0	-13.6	2.63 H	198	45.2	15.2
4	10600.00	47.3 AV	54.0	-6.7	2.63 H	198	32.1	15.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	116.7 PK			2.19 V	231	76.1	40.6
2	*5300.00	106.3 AV			2.19 V	231	65.7	40.6
3	10600.00	60.8 PK	74.0	-13.2	2.55 V	55	45.6	15.2
4	10600.00	47.7 AV	54.0	-6.3	2.55 V	55	32.5	15.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 64	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	*5320.00	111.2 PK			1.42 H	268	70.5	40.7
2	*5320.00	100.6 AV			1.42 H	268	59.9	40.7
3	5350.00	56.9 PK	74.0	-17.1	1.42 H	268	54.1	2.8
4	5350.00	44.3 AV	54.0	-9.7	1.42 H	268	41.5	2.8
5	10640.00	60.0 PK	74.0	-14.0	2.30 H	181	44.6	15.4
6	10640.00	47.1 AV	54.0	-6.9	2.30 H	181	31.7	15.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	116.8 PK			3.36 V	348	76.1	40.7
2	*5320.00	106.1 AV			3.36 V	348	65.4	40.7
3	5350.00	57.3 PK	74.0	-16.7	3.36 V	348	54.5	2.8
4	5350.00	44.7 AV	54.0	-9.3	3.36 V	348	41.9	2.8
5	10640.00	60.2 PK	74.0	-13.8	1.53 V	26	44.8	15.4
6	10640.00	48.0 AV	54.0	-6.0	1.53 V	26	32.6	15.4

Remarks:

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

CHANNEL	TX Channel 100	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	5460.00	57.2 PK	74.0	-16.8	2.55 H	139	54.0	3.2
2	5460.00	45.2 AV	54.0	-8.8	2.55 H	139	42.0	3.2
3	#5470.00	58.2 PK	68.2	-10.0	2.55 H	139	55.0	3.2
4	*5500.00	109.8 PK			2.55 H	139	68.3	41.5
5	*5500.00	98.4 AV			2.55 H	139	56.9	41.5
6	11000.00	60.6 PK	74.0	-13.4	1.42 H	326	44.6	16.0
7	11000.00	47.9 AV	54.0	-6.1	1.42 H	326	31.9	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.4 PK	74.0	-16.6	2.88 V	18	54.2	3.2
2	5460.00	45.3 AV	54.0	-8.7	2.88 V	18	42.1	3.2
3	#5470.00	58.5 PK	68.2	-9.7	2.88 V	18	55.3	3.2
4	*5500.00	118.4 PK			2.88 V	18	76.9	41.5
5	*5500.00	107.7 AV			2.88 V	18	66.2	41.5
6	11000.00	61.8 PK	74.0	-12.2	1.28 V	317	45.8	16.0
7	11000.00	48.7 AV	54.0	-5.3	1.28 V	317	32.7	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 116	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	*5580.00	111.2 PK			2.90 H	238	69.3	41.9
2	*5580.00	100.9 AV			2.90 H	238	59.0	41.9
3	11160.00	60.5 PK	74.0	-13.5	2.00 H	333	44.8	15.7
4	11160.00	47.1 AV	54.0	-6.9	2.00 H	333	31.4	15.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	116.9 PK			2.73 V	72	75.0	41.9
2	*5580.00	106.2 AV			2.73 V	72	64.3	41.9
3	11160.00	61.5 PK	74.0	-12.5	1.60 V	327	45.8	15.7
4	11160.00	48.3 AV	54.0	-5.7	1.60 V	327	32.6	15.7

Remarks:

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

CHANNEL	TX Channel 140	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	*5700.00	111.4 PK			2.91 H	226	69.3	42.1
2	*5700.00	101.3 AV			2.91 H	226	59.2	42.1
3	#5725.00	58.9 PK	68.2	-9.3	2.91 H	226	55.2	3.7
4	11400.00	60.9 PK	74.0	-13.1	1.04 H	15	44.9	16.0
5	11400.00	48.1 AV	54.0	-5.9	1.04 H	15	32.1	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	118.9 PK			1.28 V	16	76.8	42.1
2	*5700.00	108.5 AV			1.28 V	16	66.4	42.1
3	#5725.00	61.2 PK	68.2	-7.0	1.28 V	16	57.5	3.7
4	11400.00	61.7 PK	74.0	-12.3	1.65 V	329	45.7	16.0
5	11400.00	48.8 AV	54.0	-5.2	1.65 V	329	32.8	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 144	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	#5470.00	60.9 PK	68.2	-7.3	1.00 H	58	48.4	12.5
2	*5720.00	110.1 PK			1.00 H	58	68.0	42.1
3	*5720.00	98.0 AV			1.00 H	58	55.9	42.1
4	#5850.00	61.8 PK	68.2	-6.4	1.00 H	58	48.0	13.8
5	11440.00	63.8 PK	74.0	-10.2	1.50 H	211	40.2	23.6
6	11440.00	50.9 AV	54.0	-3.1	1.50 H	211	27.3	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.3 PK	68.2	-6.9	1.00 V	360	48.8	12.5
2	*5720.00	115.7 PK			1.00 V	360	73.6	42.1
3	*5720.00	104.7 AV			1.00 V	360	62.6	42.1
4	#5850.00	62.4 PK	68.2	-5.8	1.00 V	360	48.6	13.8
5	11440.00	64.1 PK	74.0	-9.9	2.53 V	152	40.5	23.6
6	11440.00	51.0 AV	54.0	-3.0	2.53 V	152	27.4	23.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
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 54	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	57.1 PK	74.0	-16.9	1.00 H	43	54.5	2.6
2	5150.00	44.1 AV	54.0	-9.9	1.00 H	43	41.5	2.6
3	*5270.00	106.2 PK			1.00 H	43	65.6	40.6
4	*5270.00	96.5 AV			1.00 H	43	55.9	40.6
5	#10540.00	59.5 PK	68.2	-8.7	2.05 H	221	44.6	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.65 V	358	55.4	2.6
2	5150.00	44.9 AV	54.0	-9.1	1.65 V	358	42.3	2.6
3	*5270.00	113.6 PK			1.65 V	358	73.0	40.6
4	*5270.00	103.5 AV			1.65 V	358	62.9	40.6
5	#10540.00	60.2 PK	68.2	-8.0	2.07 V	326	45.3	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 62	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	*5310.00	105.7 PK			1.01 H	42	65.1	40.6
2	*5310.00	96.8 AV			1.01 H	42	56.2	40.6
3	5460.00	57.9 PK	74.0	-16.1	1.01 H	42	54.7	3.2
4	5460.00	44.8 AV	54.0	-9.2	1.01 H	42	41.6	3.2
5	10620.00	59.9 PK	74.0	-14.1	2.25 H	320	44.6	15.3
6	10620.00	46.5 AV	54.0	-7.5	2.25 H	320	31.2	15.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	111.4 PK			1.94 V	142	70.8	40.6
2	*5310.00	103.2 AV			1.94 V	142	62.6	40.6
3	5350.00	59.0 PK	74.0	-15.0	1.94 V	142	56.2	2.8
4	5350.00	46.2 AV	54.0	-7.8	1.94 V	142	43.4	2.8
5	10620.00	60.2 PK	74.0	-13.8	3.20 V	22	44.9	15.3
6	10620.00	47.5 AV	54.0	-6.5	3.20 V	22	32.2	15.3

Remarks:

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

CHANNEL	TX Channel 102	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	5460.00	58.4 PK	74.0	-15.6	2.19 H	331	55.2	3.2
2	5460.00	45.1 AV	54.0	-8.9	2.19 H	331	41.9	3.2
3	#5470.00	58.8 PK	68.2	-9.4	2.19 H	331	55.6	3.2
4	*5510.00	106.4 PK			2.19 H	331	64.8	41.6
5	*5510.00	96.5 AV			2.19 H	331	54.9	41.6
6	11020.00	60.0 PK	74.0	-14.0	1.59 H	110	44.2	15.8
7	11020.00	47.3 AV	54.0	-6.7	1.59 H	110	31.5	15.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.9 PK	74.0	-15.1	2.85 V	10	55.7	3.2
2	5460.00	45.7 AV	54.0	-8.3	2.85 V	10	42.5	3.2
3	#5470.00	60.4 PK	68.2	-7.8	2.85 V	10	57.2	3.2
4	*5510.00	114.7 PK			2.85 V	10	73.1	41.6
5	*5510.00	103.7 AV			2.85 V	10	62.1	41.6
6	11020.00	60.6 PK	74.0	-13.4	1.50 V	199	44.8	15.8
7	11020.00	48.0 AV	54.0	-6.0	1.50 V	199	32.2	15.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 110	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	*5550.00	106.8 PK			2.18 H	245	65.0	41.8
2	*5550.00	97.1 AV			2.18 H	245	55.3	41.8
3	11100.00	60.4 PK	74.0	-13.6	1.50 H	325	44.7	15.7
4	11100.00	47.6 AV	54.0	-6.4	1.50 H	325	31.9	15.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	113.7 PK			1.41 V	6	71.9	41.8
2	*5550.00	102.2 AV			1.41 V	6	60.4	41.8
3	11100.00	60.9 PK	74.0	-13.1	2.56 V	332	45.2	15.7
4	11100.00	48.3 AV	54.0	-5.7	2.56 V	332	32.6	15.7

Remarks:

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

CHANNEL	TX Channel 134	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	*5670.00	108.2 PK			2.40 H	236	66.4	41.8
2	*5670.00	96.0 AV			2.40 H	236	54.2	41.8
3	#5725.00	59.2 PK	68.2	-9.0	2.40 H	236	55.5	3.7
4	11340.00	60.9 PK	74.0	-13.1	1.09 H	336	44.9	16.0
5	11340.00	47.5 AV	54.0	-6.5	1.09 H	336	31.5	16.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	113.0 PK			1.43 V	7	71.2	41.8
2	*5670.00	103.9 AV			1.43 V	7	62.1	41.8
3	#5725.00	59.7 PK	68.2	-8.5	1.43 V	7	56.0	3.7
4	11340.00	61.1 PK	74.0	-12.9	2.59 V	221	45.1	16.0
5	11340.00	47.8 AV	54.0	-6.2	2.59 V	221	31.8	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 142	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	*5710.00	107.9 PK			1.00 H	60	65.8	42.1
2	*5710.00	94.5 AV			1.00 H	60	52.4	42.1
3	#5850.00	61.9 PK	68.2	-6.3	1.00 H	60	48.1	13.8
4	11420.00	64.1 PK	74.0	-9.9	2.66 H	232	40.3	23.8
5	11420.00	51.0 AV	54.0	-3.0	2.66 H	232	27.2	23.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5710.00	115.0 PK			1.53 V	1	72.9	42.1
2	*5710.00	101.9 AV			1.53 V	1	59.8	42.1
3	#5850.00	62.4 PK	68.2	-5.8	1.53 V	1	48.6	13.8
4	11420.00	64.6 PK	74.0	-9.4	2.53 V	211	40.8	23.8
5	11420.00	51.9 AV	54.0	-2.1	2.53 V	211	28.1	23.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 58	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	57.2 PK	74.0	-16.8	1.42 H	309	54.6	2.6
2	5150.00	44.1 AV	54.0	-9.9	1.42 H	309	41.5	2.6
3	*5290.00	103.9 PK			1.42 H	309	63.3	40.6
4	*5290.00	92.9 AV			1.42 H	309	52.3	40.6
5	5350.00	57.3 PK	74.0	-16.7	1.42 H	309	54.5	2.8
6	5350.00	44.9 AV	54.0	-9.1	1.42 H	309	42.1	2.8
7	#10580.00	60.0 PK	68.2	-8.2	2.51 H	174	44.9	15.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.5 PK	74.0	-15.5	1.79 V	6	55.9	2.6
2	5150.00	44.2 AV	54.0	-9.8	1.79 V	6	41.6	2.6
3	*5290.00	110.5 PK			1.79 V	6	69.9	40.6
4	*5290.00	100.3 AV			1.79 V	6	59.7	40.6
5	5350.00	61.0 PK	74.0	-13.0	1.79 V	6	58.2	2.8
6	5350.00	48.1 AV	54.0	-5.9	1.79 V	6	45.3	2.8
7	#10580.00	60.2 PK	68.2	-8.0	2.33 V	100	45.1	15.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 106	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	5460.00	59.1 PK	74.0	-14.9	2.31 H	269	55.9	3.2
2	5460.00	45.1 AV	54.0	-8.9	2.31 H	269	41.9	3.2
3	#5470.00	59.3 PK	68.2	-8.9	2.31 H	269	56.1	3.2
4	*5530.00	104.6 PK			2.31 H	269	62.8	41.8
5	*5530.00	93.7 AV			2.31 H	269	51.9	41.8
6	#5725.00	58.3 PK	68.2	-9.9	2.31 H	269	54.6	3.7
7	11060.00	60.2 PK	74.0	-13.8	1.59 H	302	44.5	15.7
8	11060.00	47.0 AV	54.0	-7.0	1.59 H	302	31.3	15.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.7 PK	74.0	-14.3	2.70 V	5	56.5	3.2
2	5460.00	45.9 AV	54.0	-8.1	2.70 V	5	42.7	3.2
3	#5470.00	60.3 PK	68.2	-7.9	2.70 V	5	57.1	3.2
4	*5530.00	110.2 PK			2.70 V	5	68.4	41.8
5	*5530.00	98.9 AV			2.70 V	5	57.1	41.8
6	#5725.00	58.4 PK	68.2	-9.8	2.70 V	5	54.7	3.7
7	11060.00	60.5 PK	74.0	-13.5	3.25 V	100	44.8	15.7
8	11060.00	47.5 AV	54.0	-6.5	3.25 V	100	31.8	15.7

Remarks:

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

CHANNEL	TX Channel 122	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	5460.00	57.5 PK	74.0	-16.5	2.02 H	265	54.3	3.2
2	5460.00	44.7 AV	54.0	-9.3	2.02 H	265	41.5	3.2
3	#5470.00	58.4 PK	68.2	-9.8	2.02 H	265	55.2	3.2
4	*5610.00	102.8 PK			2.02 H	265	61.0	41.8
5	*5610.00	92.4 AV			2.02 H	265	50.6	41.8
6	#5725.00	58.7 PK	68.2	-9.5	2.02 H	265	55.0	3.7
7	11220.00	60.4 PK	74.0	-13.6	1.98 H	144	44.5	15.9
8	11220.00	47.7 AV	54.0	-6.3	1.98 H	144	31.8	15.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.0	-16.2	2.89 V	187	54.6	3.2
2	5460.00	44.8 AV	54.0	-9.2	2.89 V	187	41.6	3.2
3	#5470.00	59.4 PK	68.2	-8.8	2.89 V	187	56.2	3.2
4	*5610.00	109.3 PK			2.89 V	187	67.5	41.8
5	*5610.00	100.2 AV			2.89 V	187	58.4	41.8
6	#5725.00	58.9 PK	68.2	-9.3	2.89 V	187	55.2	3.7
7	11220.00	60.8 PK	74.0	-13.2	1.88 V	55	44.9	15.9
8	11220.00	48.1 AV	54.0	-5.9	1.88 V	55	32.2	15.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 138	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	#5470.00	61.2 PK	68.2	-7.0	1.00 H	175	48.7	12.5
2	*5690.00	102.4 PK			1.00 H	175	60.4	42.0
3	*5690.00	91.9 AV			1.00 H	175	49.9	42.0
4	#5850.00	62.1 PK	68.2	-6.1	1.00 H	175	48.3	13.8
5	11380.00	64.6 PK	74.0	-9.4	2.00 H	202	41.0	23.6
6	11380.00	50.5 AV	54.0	-3.5	2.00 H	202	26.9	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.0 PK	68.2	-6.2	1.64 V	5	49.5	12.5
2	*5690.00	110.1 PK			1.64 V	5	68.1	42.0
3	*5690.00	97.7 AV			1.64 V	5	55.7	42.0
4	#5850.00	62.7 PK	68.2	-5.5	1.64 V	5	48.9	13.8
5	11380.00	64.9 PK	74.0	-9.1	1.99 V	262	41.3	23.6
6	11380.00	50.8 AV	54.0	-3.2	1.99 V	262	27.2	23.6

Remarks:

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

802.11ac (VHT160(80+80))

CHANNEL	TX Channel 42+58	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	59.9 PK	74.0	-14.1	1.10 H	0	48.1	11.8
2	5150.00	46.9 AV	54.0	-7.1	1.10 H	0	35.1	11.8
3	*5210.00	104.8 PK			1.10 H	0	64.1	40.7
4	*5210.00	93.7 AV			1.10 H	0	53.0	40.7
5	*5290.00	103.9 PK			1.10 H	269	63.5	40.4
6	*5290.00	93.2 AV			1.10 H	269	52.8	40.4
7	5350.00	59.8 PK	74.0	-14.2	1.10 H	269	47.9	11.9
8	5350.00	46.4 AV	54.0	-7.6	1.10 H	269	34.5	11.9
9	#10420.00	62.4 PK	68.2	-5.8	2.33 H	141	40.1	22.3
10	#10580.00	62.5 PK	68.2	-5.7	2.10 H	162	40.3	22.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.2 PK	74.0	-7.8	1.21 V	355	54.4	11.8
2	**5150.00**	**53.5 AV**	**54.0**	**-0.5**	**1.21 V**	**355**	**41.7**	**11.8**
3	*5210.00	113.1 PK			1.21 V	355	72.4	40.7
4	*5210.00	102.0 AV			1.21 V	355	61.3	40.7
5	*5290.00	108.4 PK			1.19 V	316	68.0	40.4
6	*5290.00	98.3 AV			1.19 V	316	57.9	40.4
7	5350.00	61.3 PK	74.0	-12.7	1.19 V	316	49.4	11.9
8	5350.00	47.8 AV	54.0	-6.2	1.19 V	316	35.9	11.9
9	#10420.00	62.5 PK	68.2	-5.7	1.33 V	28	40.2	22.3
10	#10580.00	62.8 PK	68.2	-5.4	1.38 V	35	40.6	22.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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 106+122	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	5460.00	58.3 PK	74.0	-15.7	1.00 H	57	45.8	12.5
2	5460.00	45.4 AV	54.0	-8.6	1.00 H	57	32.9	12.5
3	#5470.00	58.9 PK	68.2	-9.3	1.00 H	57	46.4	12.5
4	*5530.00	104.1 PK			1.00 H	57	62.4	41.7
5	*5530.00	93.8 AV			1.00 H	57	52.1	41.7
6	*5610.00	105.5 PK			2.77 H	223	63.8	41.7
7	*5610.00	94.9 AV			2.77 H	223	53.2	41.7
8	#5725.00	58.4 PK	68.2	-9.8	2.77 H	223	45.6	12.8
9	11060.00	62.6 PK	74.0	-11.4	2.30 H	168	39.8	22.8
10	11060.00	50.4 AV	54.0	-3.6	2.30 H	168	27.6	22.8
11	11220.00	62.2 PK	74.0	-11.8	1.98 H	144	39.6	22.6
12	11220.00	49.8 AV	54.0	-4.2	1.98 H	144	27.2	22.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.7 PK	74.0	-12.3	2.17 V	41	49.2	12.5
2	5460.00	48.4 AV	54.0	-5.6	2.17 V	41	35.9	12.5
3	#5470.00	62.6 PK	68.2	-5.6	2.17 V	41	50.1	12.5
4	*5530.00	112.0 PK			2.17 V	41	70.3	41.7
5	*5530.00	101.5 AV			2.17 V	41	59.8	41.7
6	*5610.00	111.3 PK			2.94 V	196	69.6	41.7
7	*5610.00	100.8 AV			2.94 V	196	59.1	41.7
8	#5725.00	60.0 PK	68.2	-8.2	2.94 V	196	47.2	12.8
9	11060.00	62.3 PK	74.0	-11.7	1.93 V	254	39.5	22.8
10	11060.00	50.1 AV	54.0	-3.9	1.93 V	254	27.3	22.8
11	11220.00	62.1 PK	74.0	-11.9	2.07 V	115	39.5	22.6
12	11220.00	49.9 AV	54.0	-4.1	2.07 V	115	27.3	22.6

Remarks:

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

Below 1GHz worst-case data:

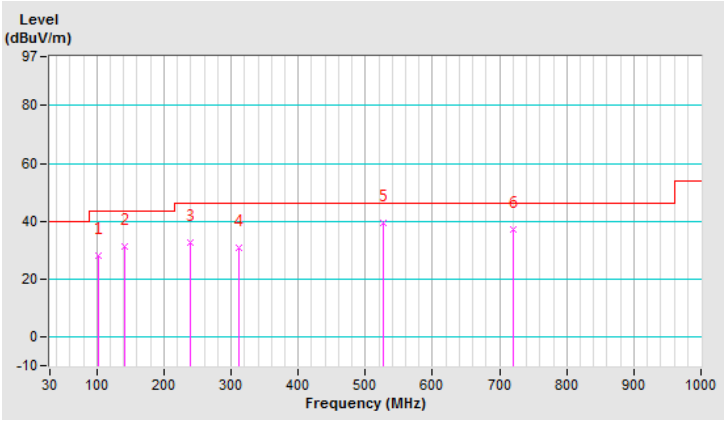
802.11ac (VHT40)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.69	28.0 QP	43.5	-15.5	1.01 H	85	41.1	-13.1
2	140.50	31.2 QP	43.5	-12.3	1.01 H	7	40.3	-9.1
3	239.46	32.5 QP	46.0	-13.5	1.99 H	157	42.1	-9.6
4	311.26	30.9 QP	46.0	-15.1	1.01 H	63	37.7	-6.8
5	526.64	39.2 QP	46.0	-6.8	1.50 H	238	42.1	-2.9
6	720.68	37.2 QP	46.0	-8.8	1.99 H	151	35.6	1.6

Remarks:

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

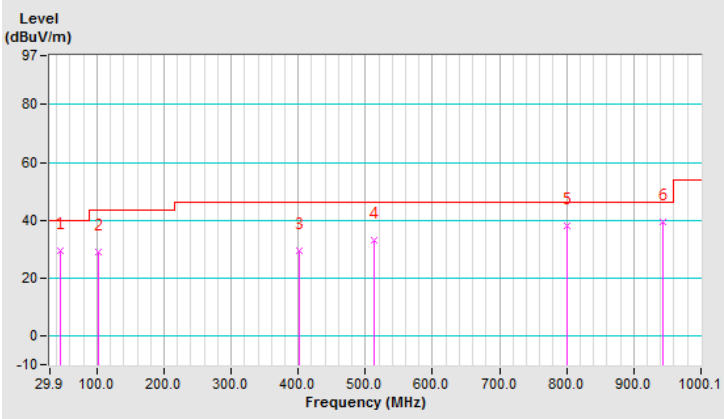


CHANNEL	TX Channel 54	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	45.42	29.4 QP	40.0	-10.6	1.00 V	96	38.6	-9.2
2	101.69	29.0 QP	43.5	-14.5	1.00 V	190	42.1	-13.1
3	402.46	29.4 QP	46.0	-16.6	1.00 V	7	34.6	-5.2
4	513.06	33.2 QP	46.0	-12.8	1.00 V	346	36.2	-3.0
5	800.24	37.9 QP	46.0	-8.1	1.49 V	291	34.6	3.3
6	943.83	39.2 QP	46.0	-6.8	1.49 V	100	33.1	6.1

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 23, 2017	Nov. 22, 2018
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
			Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 06, 2018	Mar. 05, 2019
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100220	Nov. 14, 2017	Nov. 13, 2018
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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

4.2.3 Test Procedures

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

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

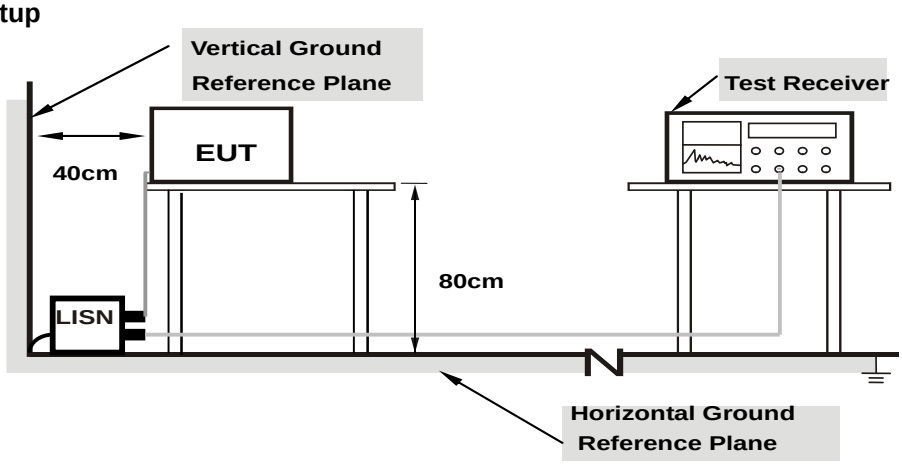
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as item 4.1.6.

4.2.7 Test Results

Worst-case data:

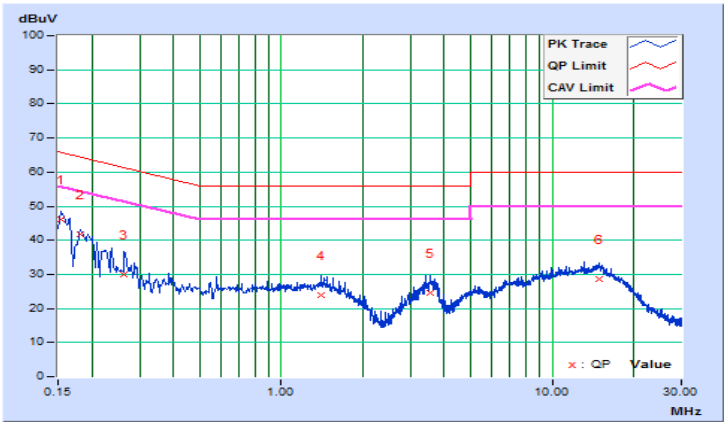
802.11ac (VHT40)

Channel	TX Channel 54	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Line (L)		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15391**	**9.73**	**36.38**	**21.63**	**46.11**	**31.36**	**65.79**	**55.79**	**-19.68**	**-24.43**
2	0.18122	9.72	31.98	17.55	41.70	27.27	64.43	54.43	-22.73	-27.16
3	0.26346	9.73	20.29	12.00	30.02	21.73	61.32	51.32	-31.30	-29.59
4	1.39729	9.70	14.34	11.34	24.04	21.04	56.00	46.00	-31.96	-24.96
5	3.55952	9.78	14.83	7.28	24.61	17.06	56.00	46.00	-31.39	-28.94
6	14.94153	9.92	18.85	12.74	28.77	22.66	60.00	50.00	-31.23	-27.34

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.

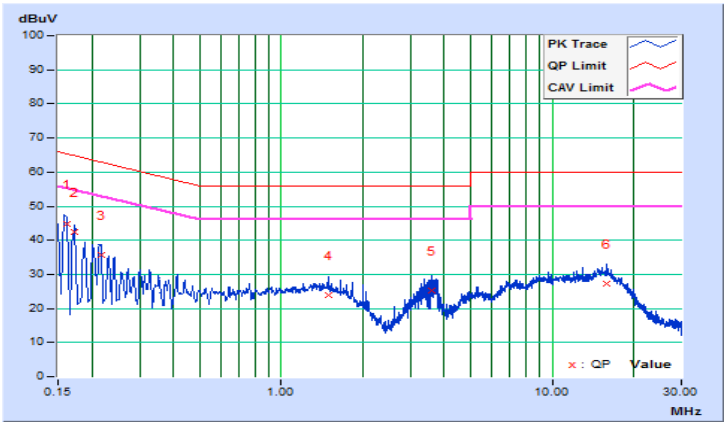


Channel	TX Channel 54	Detector Function	Quasi-Peak (QP) / Average (AV)
Phase	Neutral (N)		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	9.72	35.12	19.72	44.84	29.44	65.37	55.37	-20.53	-25.93
2	0.17346	9.72	32.57	16.57	42.29	26.29	64.79	54.79	-22.50	-28.50
3	0.21647	9.73	25.90	12.45	35.63	22.18	62.95	52.95	-27.32	-30.77
4	1.48722	9.72	14.15	11.07	23.87	20.79	56.00	46.00	-32.13	-25.21
5	3.61426	9.79	15.32	6.15	25.11	15.94	56.00	46.00	-30.89	-30.06
6	15.86038	10.02	17.37	12.38	27.39	22.40	60.00	50.00	-32.61	-27.60

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

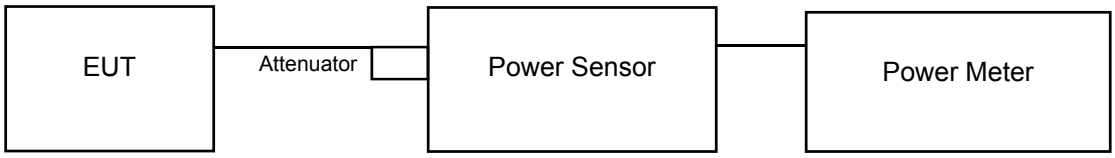
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

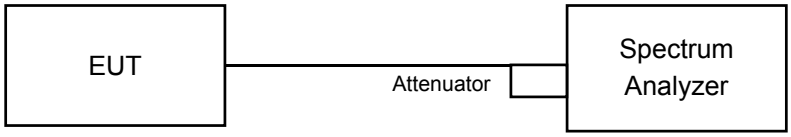
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

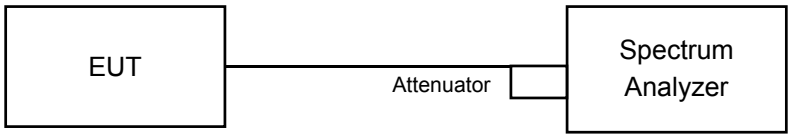
For Power Output
802.11a, 802.11ac (VHT20), 802.11ac (VHT40), 802.11ax (HE20), 802.11ax (HE40)



802.11ac (VHT80), 802.11ac (VHT160(80+80)), 802.11ax (HE80), 802.11ax (HE160(80+80))



For Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

802.11a, 802.11ac (VHT20), 802.11ac (VHT40), 802.11ax (HE20), 802.11ax (HE40)
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

802.11ac (VHT80), 802.11ac (VHT160(80+80)), 802.11ax (HE80), 802.11ax (HE160(80+80))

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

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	13.75	14.34	14.49	14.42	15.12	14.80	14.28	14.85	226.716	23.55	23.86	Pass
60	5300	13.92	14.32	14.72	14.62	14.86	14.68	14.23	14.88	227.564	23.57	24	Pass
64	5320	13.83	14.85	14.51	14.54	14.20	14.66	14.74	15.12	229.235	23.60	24	Pass
100	5500	14.59	14.41	13.84	14.47	14.63	14.66	14.55	14.68	224.748	23.52	23.99	Pass
116	5580	14.43	14.79	14.45	14.01	14.81	14.75	14.44	15.00	230.444	23.63	24	Pass
140	5700	14.67	13.88	14.72	14.80	14.70	14.05	14.27	14.38	222.659	23.48	24	Pass
144	5720 For 5500~5720MHz	10.14	8.14	8.31	9.47	10.28	8.81	9.47	8.98	73.076	18.64	22.83	Pass
144	5720 For 5720~5825MHz	2.75	4.00	3.68	4.77	3.79	1.49	2.56	2.06	18.341	12.63	30.00	Pass

Note:
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (21.11) = 24.24 dBm > 24dBm
2. 11dBm + 10log (21.01) = 24.22 dBm > 24dBm
3. 11dBm + 10log (21.25) = 24.27 dBm > 24dBm
4. 11dBm + 10log (21.33) = 24.29 dBm > 24dBm
5. 11dBm + 10log (20.55) = 24.13 dBm > 24dBm
6. 11dBm + 10log (20.87) = 24.20 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.03) = 23.03 dBm < 24dBm

Chain 1
1. 11dBm + 10log (22.10) = 24.44 dBm > 24dBm
2. 11dBm + 10log (21.88) = 24.40 dBm > 24dBm
3. 11dBm + 10log (22.34) = 24.49 dBm > 24dBm
4. 11dBm + 10log (22.22) = 24.47 dBm > 24dBm
5. 11dBm + 10log (22.07) = 24.44 dBm > 24dBm
6. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.45) = 22.92 dBm < 24dBm

Chain 2
1. 11dBm + 10log (21.12) = 24.25 dBm > 24dBm
2. 11dBm + 10log (21.08) = 24.24 dBm > 24dBm
3. 11dBm + 10log (20.90) = 24.20 dBm > 24dBm
4. 11dBm + 10log (20.71) = 24.16 dBm > 24dBm
5. 11dBm + 10log (20.84) = 24.19 dBm > 24dBm
6. 11dBm + 10log (20.79) = 24.18 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.54) = 22.89 dBm < 24dBm

Chain 3

1. 11dBm + 10log (20.25) = 24.06 dBm > 24dBm
2. 11dBm + 10log (20.96) = 24.21 dBm > 24dBm
3. 11dBm + 10log (20.41) = 24.10 dBm > 24dBm
4. 11dBm + 10log (21.03) = 24.23 dBm > 24dBm
5. 11dBm + 10log (20.72) = 24.16 dBm > 24dBm
6. 11dBm + 10log (20.83) = 24.19 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.24) = 22.89 dBm < 24dBm

Chain 4

1. 11dBm + 10log (21.37) = 24.30 dBm > 24dBm
2. 11dBm + 10log (21.03) = 24.23 dBm > 24dBm
3. 11dBm + 10log (21.08) = 24.24 dBm > 24dBm
4. 11dBm + 10log (21.11) = 24.24 dBm > 24dBm
5. 11dBm + 10log (21.91) = 24.41 dBm > 24dBm
6. 11dBm + 10log (22.38) = 24.50 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.38) = 22.94 dBm < 24dBm

Chain 5

1. 11dBm + 10log (20.12) = 24.04 dBm > 24dBm
2. 11dBm + 10log (20.25) = 24.06 dBm > 24dBm
3. 11dBm + 10log (19.97) = 24.00 dBm > 24dBm
4. 11dBm + 10log (19.92) = 23.99 dBm < 24dBm
5. 11dBm + 10log (20.96) = 24.21 dBm > 24dBm
6. 11dBm + 10log (21.19) = 24.26 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.70) = 22.85 dBm < 24dBm

Chain 6

1. 11dBm + 10log (20.22) = 24.06 dBm > 24dBm
2. 11dBm + 10log (20.75) = 24.17 dBm > 24dBm
3. 11dBm + 10log (20.30) = 24.07 dBm > 24dBm
4. 11dBm + 10log (21.04) = 24.23 dBm > 24dBm
5. 11dBm + 10log (20.78) = 24.18 dBm > 24dBm
6. 11dBm + 10log (21.27) = 24.28 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.23) = 22.98 dBm < 24dBm

Chain 7

1. 11dBm + 10log (19.33) = 23.86 dBm < 24dBm
2. 11dBm + 10log (20.63) = 24.14 dBm > 24dBm
3. 11dBm + 10log (20.13) = 24.04 dBm > 24dBm
4. 11dBm + 10log (19.96) = 24.00 dBm > 24dBm
5. 11dBm + 10log (20.73) = 24.17 dBm > 24dBm
6. 11dBm + 10log (20.69) = 24.16 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5709.74) = 22.83 dBm < 24dBm

For reference only - power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	217.771	23.38

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	13.69	14.16	14.32	14.62	14.23	14.67	14.85	15.12	224.315	23.51	24	Pass
60	5300	13.58	14.04	14.42	14.98	14.77	14.85	15.20	14.6	229.796	23.61	24	Pass
64	5320	13.12	15.01	14.55	14.28	14.63	15.20	14.32	14.84	227.181	23.56	24	Pass
100	5500	15.25	14.91	15.10	14.14	13.55	14.03	13.82	14.84	225.289	23.53	24	Pass
116	5580	14.96	14.03	14.14	14.67	15.19	15.01	14.45	14.36	231.760	23.65	24	Pass
140	5700	14.26	14.22	14.67	14.75	15.44	14.31	14.03	14.44	227.317	23.57	24	Pass
144	5720 For 5500~5720MHz	11.38	12.53	11.23	10.92	12.69	11.37	11.41	10.73	119.821	20.79	23.10	Pass
144	5720 For 5720~5825MHz	7.45	4.98	8.33	7.82	8.93	6.43	6.58	5.6	43.631	16.40	30.00	Pass

Note:
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (22.78) = 24.58 dBm > 24dBm
2. 11dBm + 10log (22.54) = 24.53 dBm > 24dBm
3. 11dBm + 10log (22.62) = 24.54 dBm > 24dBm
4. 11dBm + 10log (22.44) = 24.51 dBm > 24dBm
5. 11dBm + 10log (22.61) = 24.54 dBm > 24dBm
6. 11dBm + 10log (22.24) = 24.47 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.31) = 23.22 dBm < 24dBm

Chain 1
1. 11dBm + 10log (22.99) = 24.62 dBm > 24dBm
2. 11dBm + 10log (23.36) = 24.68 dBm > 24dBm
3. 11dBm + 10log (23.09) = 24.63 dBm > 24dBm
4. 11dBm + 10log (23.24) = 24.66 dBm > 24dBm
5. 11dBm + 10log (23.32) = 24.68 dBm > 24dBm
6. 11dBm + 10log (23.14) = 24.64 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.59) = 23.15 dBm < 24dBm

Chain 2
1. 11dBm + 10log (22.18) = 24.46 dBm > 24dBm
2. 11dBm + 10log (21.89) = 24.40 dBm > 24dBm
3. 11dBm + 10log (22.10) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 24dBm
6. 11dBm + 10log (21.81) = 24.39 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.57) = 23.16 dBm < 24dBm

Chain 3

1. 11dBm + 10log (21.59) = 24.34 dBm > 24dBm
2. 11dBm + 10log (22.07) = 24.44 dBm > 24dBm
3. 11dBm + 10log (21.92) = 24.41 dBm > 24dBm
4. 11dBm + 10log (22.23) = 24.47 dBm > 24dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 24dBm
6. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.66) = 23.13 dBm < 24dBm

Chain 4

1. 11dBm + 10log (22.91) = 24.60 dBm > 24dBm
2. 11dBm + 10log (22.58) = 24.54 dBm > 24dBm
3. 11dBm + 10log (23.12) = 24.64 dBm > 24dBm
4. 11dBm + 10log (23.26) = 24.67 dBm > 24dBm
5. 11dBm + 10log (22.89) = 24.60 dBm > 24dBm
6. 11dBm + 10log (22.88) = 24.59 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.78) = 23.10 dBm < 24dBm

Chain 5

1. 11dBm + 10log (23.21) = 24.66 dBm > 24dBm
2. 11dBm + 10log (22.89) = 24.60 dBm > 24dBm
3. 11dBm + 10log (23.16) = 24.65 dBm > 24dBm
4. 11dBm + 10log (23.94) = 24.79 dBm > 24dBm
5. 11dBm + 10log (23.21) = 24.66 dBm > 24dBm
6. 11dBm + 10log (23.36) = 24.68 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.65) = 23.14 dBm < 24dBm

Chain 6

1. 11dBm + 10log (22.05) = 24.43 dBm > 24dBm
2. 11dBm + 10log (22.23) = 24.47 dBm > 24dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.38) = 24.50 dBm > 24dBm
5. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
6. 11dBm + 10log (22.17) = 24.46 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.56) = 23.16 dBm < 24dBm

Chain 7

1. 11dBm + 10log (22.38) = 24.50 dBm > 24dBm
2. 11dBm + 10log (22.83) = 24.59 dBm > 24dBm
3. 11dBm + 10log (23.13) = 24.64 dBm > 24dBm
4. 11dBm + 10log (22.28) = 24.48 dBm > 24dBm
5. 11dBm + 10log (22.50) = 24.52 dBm > 24dBm
6. 11dBm + 10log (22.06) = 24.44 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.47) = 23.18 dBm < 24dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	217.771	23.38

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	13.68	14.15	14.31	15.13	15.58	14.98	14.92	14.46	235.487	23.72	24	Pass
62	5310	13.94	14.11	14.66	15.55	14.91	15.06	14.32	14.51	233.996	23.69	24	Pass
102	5510	13.77	14.58	14.72	14.76	14.79	14.11	13.64	14.95	222.377	23.47	24	Pass
110	5550	14.54	14.65	14.88	14.57	13.31	13.77	14.33	14.94	220.565	23.44	24	Pass
134	5670	14.05	15.14	14.55	14.60	14.94	13.85	13.49	14.80	223.409	23.49	24	Pass
142	5710 For 5500~5720MHz	13.69	12.98	12.47	14.64	14.91	12.99	14.2	13.54	200.65	23.02	24	Pass
142	5710 For 5720~5825MHz	5.01	4.07	4.19	5.57	4.81	3.71	3.89	4.48	23.875	13.78	30	Pass

Note:
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (46.49) = 27.67 dBm > 24dBm
2. 11dBm + 10log (46.41) = 27.67 dBm > 24dBm
3. 11dBm + 10log (46.29) = 27.65 dBm > 24dBm
4. 11dBm + 10log (46.50) = 27.67 dBm > 24dBm
5. 11dBm + 10log (45.64) = 27.59 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.33) = 26.87 dBm > 24dBm

Chain 1
1. 11dBm + 10log (47.55) = 27.77 dBm > 24dBm
2. 11dBm + 10log (47.94) = 27.81 dBm > 24dBm
3. 11dBm + 10log (48.26) = 27.84 dBm > 24dBm
4. 11dBm + 10log (47.63) = 27.78 dBm > 24dBm
5. 11dBm + 10log (47.98) = 27.81 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.58) = 26.85 dBm > 24dBm

Chain 2
1. 11dBm + 10log (44.80) = 27.51 dBm > 24dBm
2. 11dBm + 10log (44.85) = 27.52 dBm > 24dBm
3. 11dBm + 10log (45.92) = 27.62 dBm > 24dBm
4. 11dBm + 10log (44.98) = 27.53 dBm > 24dBm
5. 11dBm + 10log (44.98) = 27.53 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.67) = 26.83 dBm > 24dBm

Chain 3
1. 11dBm + 10log (44.81) = 27.51 dBm > 24dBm
2. 11dBm + 10log (45.14) = 27.55 dBm > 24dBm
3. 11dBm + 10log (45.08) = 27.54 dBm > 24dBm
4. 11dBm + 10log (45.09) = 27.54 dBm > 24dBm
5. 11dBm + 10log (45.37) = 27.57 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.74) = 26.83 dBm > 24dBm

Chain 4

1. 11dBm + 10log (48.04) = 27.82 dBm > 24dBm
2. 11dBm + 10log (46.83) = 27.71 dBm > 24dBm
3. 11dBm + 10log (46.15) = 27.64 dBm > 24dBm
4. 11dBm + 10log (47.22) = 27.74 dBm > 24dBm
5. 11dBm + 10log (48.34) = 27.84 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 24dBm

Chain 5

1. 11dBm + 10log (45.28) = 27.56 dBm > 24dBm
2. 11dBm + 10log (45.37) = 27.57 dBm > 24dBm
3. 11dBm + 10log (44.94) = 27.53 dBm > 24dBm
4. 11dBm + 10log (45.51) = 27.58 dBm > 24dBm
5. 11dBm + 10log (45.08) = 27.54 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.99) = 26.80 dBm > 24dBm

Chain 6

1. 11dBm + 10log (47.06) = 27.73 dBm > 24dBm
2. 11dBm + 10log (46.76) = 27.70 dBm > 24dBm
3. 11dBm + 10log (48.11) = 27.82 dBm > 24dBm
4. 11dBm + 10log (47.20) = 27.74 dBm > 24dBm
5. 11dBm + 10log (47.64) = 27.78 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 24dBm

Chain 7

1. 11dBm + 10log (46.85) = 27.71 dBm > 24dBm
2. 11dBm + 10log (48.09) = 27.82 dBm > 24dBm
3. 11dBm + 10log (48.34) = 27.84 dBm > 24dBm
4. 11dBm + 10log (48.28) = 27.84 dBm > 24dBm
5. 11dBm + 10log (47.41) = 27.76 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.80) = 26.82 dBm > 24dBm

For reference only - power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	220.800	23.44

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	13.11	14.28	14.33	14.88	15.06	14.49	14.55	15.61	230.202	23.62	24	Pass
106	5530	13.93	14.53	14.61	13.95	13.95	14.88	14.82	14.43	220.499	23.43	24	Pass
122	5610	14.11	13.62	14.58	14.82	13.77	14.52	14.75	14.89	220.647	23.44	24	Pass
138	5690 For 5500~5720MHz	14.04	14.62	14.55	15.17	14.73	14.26	13.86	13.71	232.119	23.66	24	Pass
138	5690 For 5720~5825MHz	1.94	1.73	1.55	1.71	1.17	1.27	1.45	0.28	11.690	10.68	30	Pass

Note:
5180~5240MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5745~5825MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (89.64) = 30.53 dBm > 24dBm
2. 11dBm + 10log (91.10) = 30.60 dBm > 24dBm
3. 11dBm + 10log (90.82) = 30.58 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.82) = 29.99 dBm > 24dBm

Chain 1
1. 11dBm + 10log (88.47) = 30.47 dBm > 24dBm
2. 11dBm + 10log (89.62) = 30.52 dBm > 24dBm
3. 11dBm + 10log (89.73) = 30.53 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.88) = 29.98 dBm > 24dBm

Chain 2
1. 11dBm + 10log (88.21) = 30.46 dBm > 24dBm
2. 11dBm + 10log (88.20) = 30.45 dBm > 24dBm
3. 11dBm + 10log (88.66) = 30.48 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.54) = 30.00 dBm > 24dBm

Chain 3
1. 11dBm + 10log (89.10) = 30.50 dBm > 24dBm
2. 11dBm + 10log (89.03) = 30.50 dBm > 24dBm
3. 11dBm + 10log (87.60) = 30.43 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.05) = 29.97 dBm > 24dBm

Chain 4
1. 11dBm + 10log (89.35) = 30.51 dBm > 24dBm
2. 11dBm + 10log (87.98) = 30.44 dBm > 24dBm
3. 11dBm + 10log (89.80) = 30.53 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.35) = 29.96 dBm > 24dBm

Chain 5
1. 11dBm + 10log (90.02) = 30.54 dBm > 24dBm
2. 11dBm + 10log (89.49) = 30.52 dBm > 24dBm
3. 11dBm + 10log (87.84) = 30.44 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.60) = 29.94 dBm > 24dBm

Chain 6

1. 11dBm + 10log (88.76) = 30.48 dBm > 24dBm
2. 11dBm + 10log (88.62) = 30.48 dBm > 24dBm
3. 11dBm + 10log (89.39) = 30.51 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.84) = 29.99 dBm > 24dBm

Chain 7

1. 11dBm + 10log (90.25) = 30.55 dBm > 24dBm
2. 11dBm + 10log (91.16) = 30.60 dBm > 24dBm
3. 11dBm + 10log (88.74) = 30.48 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.29) = 29.96 dBm > 24dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	226.986	23.56

802.11ac (VHT160(80+80))

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42+58	5210	18.12	17.08	17.22	17.06	-	-	-	-	219.453	23.41	30	Pass
	5290	-	-	-	-	16.91	17.23	17.82	17.45	218.060	23.39	24	Pass
106+122	5530	14.22	14.77	14.24	14.53	-	-	-	-	111.341	20.47	24	Pass
	5610	-	-	-	-	15.02	14.78	14.73	14.65	120.720	20.82	24	Pass

Note:
5180~5240MHz Directional Gain = 3.22dBi < 6dBi, so the limit no need to be reduced.
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (82.50) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.31) = 30.15 dBm > 24dBm
3. 11dBm + 10log (81.81) = 30.13 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.56) = 29.93 dBm > 24dBm

Chain 1
1. 11dBm + 10log (82.60) = 30.17 dBm > 24dBm
2. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.51) = 29.84 dBm > 24dBm

Chain 2
1. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.40) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.21) = 30.15 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.58) = 29.83 dBm > 24dBm

Chain 3
1. 11dBm + 10log (81.98) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.61) = 30.17 dBm > 24dBm
3. 11dBm + 10log (82.17) = 30.15 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.50) = 29.84 dBm > 24dBm

Chain 4
1. 11dBm + 10log (82.11) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.96) = 30.19 dBm > 24dBm

Chain 5
1. 11dBm + 10log (81.31) = 30.10 dBm > 24dBm
2. 11dBm + 10log (82.35) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.09) = 30.14 dBm > 24dBm

Chain 6
1. 11dBm + 10log (82.04) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.53) = 30.17 dBm > 24dBm
3. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm

Chain 7
1. 11dBm + 10log (82.14) = 30.15 dBm > 24dBm
2. 11dBm + 10log (82.77) = 30.18 dBm > 24dBm
3. 11dBm + 10log (82.53) = 30.17 dBm > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	13.52	14.10	14.18	14.49	14.11	14.56	14.71	14.98	217.892	23.38	24	Pass
60	5300	13.52	14.02	14.23	14.85	14.66	14.83	15.13	14.49	225.113	23.52	24	Pass
64	5320	13.03	14.82	14.41	14.11	14.46	15.12	14.31	14.82	221.549	23.45	24	Pass
100	5500	15.14	14.76	14.90	13.98	13.53	13.91	13.73	14.71	218.819	23.40	24	Pass
116	5580	14.86	13.99	14.08	14.56	15.06	14.87	14.27	14.17	225.447	23.53	24	Pass
140	5700	14.23	14.15	14.50	14.60	15.40	14.24	14.00	14.39	223.328	23.49	24	Pass
144	5720 For 5500~5720MHz	11.32	12.48	11.17	10.89	12.69	11.37	11.41	10.73	119.134	20.76	23.1	Pass
144	5720 For 5720~5825MHz	7.43	4.95	8.33	7.76	8.93	6.43	6.58	5.6	43.495	16.38	30	Pass

Note:
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (22.78) = 24.58 dBm > 24dBm
2. 11dBm + 10log (22.54) = 24.53 dBm > 24dBm
3. 11dBm + 10log (22.62) = 24.54 dBm > 24dBm
4. 11dBm + 10log (22.44) = 24.51 dBm > 24dBm
5. 11dBm + 10log (22.61) = 24.54 dBm > 24dBm
6. 11dBm + 10log (22.24) = 24.47 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.31) = 23.22 dBm < 24dBm

Chain 1
1. 11dBm + 10log (22.99) = 24.62 dBm > 24dBm
2. 11dBm + 10log (23.36) = 24.68 dBm > 24dBm
3. 11dBm + 10log (23.09) = 24.63 dBm > 24dBm
4. 11dBm + 10log (23.24) = 24.66 dBm > 24dBm
5. 11dBm + 10log (23.32) = 24.68 dBm > 24dBm
6. 11dBm + 10log (23.14) = 24.64 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.59) = 23.15 dBm < 24dBm

Chain 2
1. 11dBm + 10log (22.18) = 24.46 dBm > 24dBm
2. 11dBm + 10log (21.89) = 24.40 dBm > 24dBm
3. 11dBm + 10log (22.10) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 24dBm
6. 11dBm + 10log (21.81) = 24.39 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.57) = 23.16 dBm < 24dBm

Chain 3

1. 11dBm + 10log (21.59) = 24.34 dBm > 24dBm
2. 11dBm + 10log (22.07) = 24.44 dBm > 24dBm
3. 11dBm + 10log (21.92) = 24.41 dBm > 24dBm
4. 11dBm + 10log (22.23) = 24.47 dBm > 24dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 24dBm
6. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.66) = 23.13 dBm < 24dBm

Chain 4

1. 11dBm + 10log (22.91) = 24.60 dBm > 24dBm
2. 11dBm + 10log (22.58) = 24.54 dBm > 24dBm
3. 11dBm + 10log (23.12) = 24.64 dBm > 24dBm
4. 11dBm + 10log (23.26) = 24.67 dBm > 24dBm
5. 11dBm + 10log (22.89) = 24.60 dBm > 24dBm
6. 11dBm + 10log (22.88) = 24.59 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.78) = 23.10 dBm < 24dBm

Chain 5

1. 11dBm + 10log (23.21) = 24.66 dBm > 24dBm
2. 11dBm + 10log (22.89) = 24.60 dBm > 24dBm
3. 11dBm + 10log (23.16) = 24.65 dBm > 24dBm
4. 11dBm + 10log (23.94) = 24.79 dBm > 24dBm
5. 11dBm + 10log (23.21) = 24.66 dBm > 24dBm
6. 11dBm + 10log (23.36) = 24.68 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.65) = 23.14 dBm < 24dBm

Chain 6

1. 11dBm + 10log (22.05) = 24.43 dBm > 24dBm
2. 11dBm + 10log (22.23) = 24.47 dBm > 24dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.38) = 24.50 dBm > 24dBm
5. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
6. 11dBm + 10log (22.17) = 24.46 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.56) = 23.16 dBm < 24dBm

Chain 7

1. 11dBm + 10log (22.38) = 24.50 dBm > 24dBm
2. 11dBm + 10log (22.83) = 24.59 dBm > 24dBm
3. 11dBm + 10log (23.13) = 24.64 dBm > 24dBm
4. 11dBm + 10log (22.28) = 24.48 dBm > 24dBm
5. 11dBm + 10log (22.50) = 24.52 dBm > 24dBm
6. 11dBm + 10log (22.06) = 24.44 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5708.47) = 23.18 dBm < 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	13.59	14.01	14.26	14.95	15.57	14.87	14.88	14.33	230.573	23.63	24	Pass
62	5310	13.83	14.00	14.65	15.50	14.71	15.03	14.22	14.32	228.815	23.59	24	Pass
102	5510	13.75	14.56	14.54	14.60	14.59	13.96	13.52	14.82	216.067	23.35	24	Pass
110	5550	14.44	14.63	14.75	14.47	13.25	13.60	14.22	14.75	215.002	23.32	24	Pass
134	5670	14.04	15.04	14.51	14.49	14.83	13.74	13.39	14.65	218.704	23.40	24	Pass
142	5710 For 5500~5720MHz	13.62	12.97	12.46	14.58	14.91	12.99	14.2	13.54	199.741	23.00	24	Pass
142	5710 For 5720~5825MHz	4.96	4.06	4.17	5.52	4.81	3.71	3.89	4.48	23.774	13.76	30	Pass

Note:
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (46.49) = 27.67 dBm > 24dBm
2. 11dBm + 10log (46.41) = 27.67 dBm > 24dBm
3. 11dBm + 10log (46.29) = 27.65 dBm > 24dBm
4. 11dBm + 10log (46.50) = 27.67 dBm > 24dBm
5. 11dBm + 10log (45.64) = 27.59 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.33) = 26.87 dBm > 24dBm

Chain 1
1. 11dBm + 10log (47.55) = 27.77 dBm > 24dBm
2. 11dBm + 10log (47.94) = 27.81 dBm > 24dBm
3. 11dBm + 10log (48.26) = 27.84 dBm > 24dBm
4. 11dBm + 10log (47.63) = 27.78 dBm > 24dBm
5. 11dBm + 10log (47.98) = 27.81 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.58) = 26.85 dBm > 24dBm

Chain 2
1. 11dBm + 10log (44.80) = 27.51 dBm > 24dBm
2. 11dBm + 10log (44.85) = 27.52 dBm > 24dBm
3. 11dBm + 10log (45.92) = 27.62 dBm > 24dBm
4. 11dBm + 10log (44.98) = 27.53 dBm > 24dBm
5. 11dBm + 10log (44.98) = 27.53 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.67) = 26.83 dBm > 24dBm

Chain 3
1. 11dBm + 10log (44.81) = 27.51 dBm > 24dBm
2. 11dBm + 10log (45.14) = 27.55 dBm > 24dBm
3. 11dBm + 10log (45.08) = 27.54 dBm > 24dBm
4. 11dBm + 10log (45.09) = 27.54 dBm > 24dBm
5. 11dBm + 10log (45.37) = 27.57 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.74) = 26.83 dBm > 24dBm

Chain 4

1. 11dBm + 10log (48.04) = 27.82 dBm > 24dBm
2. 11dBm + 10log (46.83) = 27.71 dBm > 24dBm
3. 11dBm + 10log (46.15) = 27.64 dBm > 24dBm
4. 11dBm + 10log (47.22) = 27.74 dBm > 24dBm
5. 11dBm + 10log (48.34) = 27.84 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 24dBm

Chain 5

1. 11dBm + 10log (45.28) = 27.56 dBm > 24dBm
2. 11dBm + 10log (45.37) = 27.57 dBm > 24dBm
3. 11dBm + 10log (44.94) = 27.53 dBm > 24dBm
4. 11dBm + 10log (45.51) = 27.58 dBm > 24dBm
5. 11dBm + 10log (45.08) = 27.54 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.99) = 26.80 dBm > 24dBm

Chain 6

1. 11dBm + 10log (47.06) = 27.73 dBm > 24dBm
2. 11dBm + 10log (46.76) = 27.70 dBm > 24dBm
3. 11dBm + 10log (48.11) = 27.82 dBm > 24dBm
4. 11dBm + 10log (47.20) = 27.74 dBm > 24dBm
5. 11dBm + 10log (47.64) = 27.78 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 24dBm

Chain 7

1. 11dBm + 10log (46.85) = 27.71 dBm > 24dBm
2. 11dBm + 10log (48.09) = 27.82 dBm > 24dBm
3. 11dBm + 10log (48.34) = 27.84 dBm > 24dBm
4. 11dBm + 10log (48.28) = 27.84 dBm > 24dBm
5. 11dBm + 10log (47.41) = 27.76 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5686.80) = 26.82 dBm > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	13.01	14.22	14.20	14.73	15.00	14.32	14.44	15.46	224.058	23.50	24	Pass
106	5530	13.81	14.39	14.45	13.83	13.85	14.75	14.74	14.28	214.235	23.31	24	Pass
122	5610	14.01	13.56	14.39	14.73	13.71	14.39	14.62	14.72	214.668	23.32	24	Pass
138	5690 For 5500~5720MHz	14.02	14.53	14.51	15.12	14.73	14.26	13.86	13.71	230.696	23.63	24	Pass

Note:
5180~5240MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (89.64) = 30.53 dBm > 24dBm
2. 11dBm + 10log (91.10) = 30.60 dBm > 24dBm
3. 11dBm + 10log (90.82) = 30.58 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.82) = 29.99 dBm > 24dBm

Chain 1
1. 11dBm + 10log (88.47) = 30.47 dBm > 24dBm
2. 11dBm + 10log (89.62) = 30.52 dBm > 24dBm
3. 11dBm + 10log (89.73) = 30.53 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.88) = 29.98 dBm > 24dBm

Chain 2
1. 11dBm + 10log (88.21) = 30.46 dBm > 24dBm
2. 11dBm + 10log (88.20) = 30.45 dBm > 24dBm
3. 11dBm + 10log (88.66) = 30.48 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.54) = 30.00 dBm > 24dBm

Chain 3
1. 11dBm + 10log (89.10) = 30.50 dBm > 24dBm
2. 11dBm + 10log (89.03) = 30.50 dBm > 24dBm
3. 11dBm + 10log (87.60) = 30.43 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.05) = 29.97 dBm > 24dBm

Chain 4
1. 11dBm + 10log (89.35) = 30.51 dBm > 24dBm
2. 11dBm + 10log (87.98) = 30.44 dBm > 24dBm
3. 11dBm + 10log (89.80) = 30.53 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.35) = 29.96 dBm > 24dBm

Chain 5
1. 11dBm + 10log (90.02) = 30.54 dBm > 24dBm
2. 11dBm + 10log (89.49) = 30.52 dBm > 24dBm
3. 11dBm + 10log (87.84) = 30.44 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.60) = 29.94 dBm > 24dBm

Chain 6

1. 11dBm + 10log (88.76) = 30.48 dBm > 24dBm
2. 11dBm + 10log (88.62) = 30.48 dBm > 24dBm
3. 11dBm + 10log (89.39) = 30.51 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5645.84) = 29.99 dBm > 24dBm

Chain 7

1. 11dBm + 10log (90.25) = 30.55 dBm > 24dBm
2. 11dBm + 10log (91.16) = 30.60 dBm > 24dBm
3. 11dBm + 10log (88.74) = 30.48 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5646.29) = 29.96 dBm > 24dBm

802.11ax (HE160(80+80))

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42+58	5210	18.02	16.97	17.05	16.91	-	-	-	-	212.951	23.28	30	Pass
	5290	-	-	-	-	16.80	17.07	17.67	17.31	211.102	23.24	24	Pass
106+122	5530	14.06	14.62	14.05	14.41	-	-	-	-	107.457	20.31	24	Pass
	5610	-	-	-	-	14.92	14.68	14.59	14.63	118.236	20.73	24	Pass
138	5690 For 5500~5720MHz	17.06	17.01	16.69	16.62	-	-	-	-	204.374	23.10	24	Pass

Note:
5180~5240MHz Directional Gain = 3.22dBi < 6dBi, so the limit no need to be reduced.
5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (82.50) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.31) = 30.15 dBm > 24dBm
3. 11dBm + 10log (81.81) = 30.13 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.56) = 29.93 dBm > 24dBm

Chain 1
1. 11dBm + 10log (82.60) = 30.17 dBm > 24dBm
2. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.51) = 29.84 dBm > 24dBm

Chain 2
1. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.40) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.21) = 30.15 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.58) = 29.83 dBm > 24dBm

Chain 3
1. 11dBm + 10log (81.98) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.61) = 30.17 dBm > 24dBm
3. 11dBm + 10log (82.17) = 30.15 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5648.50) = 29.84 dBm > 24dBm

Chain 4
1. 11dBm + 10log (82.11) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.96) = 30.19 dBm > 24dBm

Chain 5
1. 11dBm + 10log (81.31) = 30.10 dBm > 24dBm
2. 11dBm + 10log (82.35) = 30.16 dBm > 24dBm
3. 11dBm + 10log (82.09) = 30.14 dBm > 24dBm

Chain 6
1. 11dBm + 10log (82.04) = 30.14 dBm > 24dBm
2. 11dBm + 10log (82.53) = 30.17 dBm > 24dBm
3. 11dBm + 10log (82.41) = 30.16 dBm > 24dBm

Chain 7
1. 11dBm + 10log (82.14) = 30.15 dBm > 24dBm
2. 11dBm + 10log (82.77) = 30.18 dBm > 24dBm
3. 11dBm + 10log (82.53) = 30.17 dBm > 24dBm

Beamforming_NSS1 Mode

802.11ac (VHT20) / 802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	8.05	8.49	8.79	9.32	9.87	8.47	10.03	9.59	65.469	18.16	18.28	Pass
60	5300	8.22	9.07	8.64	9.19	9.19	9.32	9.41	8.86	63.590	18.03	18.28	Pass
64	5320	8.06	9.42	8.95	8.75	8.97	9.68	8.61	9.60	64.058	18.07	18.28	Pass
100	5500	9.01	8.97	9.05	9.77	8.71	9.73	9.10	9.13	66.510	18.23	18.62	Pass
116	5580	9.10	9.72	9.74	9.49	9.12	9.54	9.64	9.23	70.555	18.49	18.62	Pass
140	5700	9.71	8.77	9.12	9.20	9.47	9.02	8.73	9.36	66.296	18.21	18.62	Pass
144	5720 For 5500~5720MHz	7.01	7.07	6.89	7.25	5.26	5.5	5.27	4.8	34.941	15.43	18.62	Pass
144	5720 For 5720~5825MHz	4.03	3.02	3.41	4.12	1.23	0.64	0.65	0.38	14.607	11.65	24.45	Pass

Note:
5260~5320MHz Directional Gain = 11.72dBi > 6dBi, so the limit shall be reduced to 24-(11.72-6) = 18.28dBm.
5500~5720MHz Directional Gain = 11.38dBi > 6dBi, so the limit shall be reduced to 24-(11.38-6) = 18.62dBm.
5720~5825MHz Directional Gain = 11.55dBi > 6dBi, so the limit shall be reduced to 30-(11.55-6) = 24.45dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (22.78) = 24.58 dBm > 18.28dBm
2. 11dBm + 10log (22.54) = 24.53 dBm > 18.28dBm
3. 11dBm + 10log (22.62) = 24.54 dBm > 18.28dBm
4. 11dBm + 10log (22.44) = 24.51 dBm > 18.62dBm
5. 11dBm + 10log (22.61) = 24.54 dBm > 18.62dBm
6. 11dBm + 10log (22.24) = 24.47 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.31) = 23.22 dBm > 18.62dBm

Chain 1
1. 11dBm + 10log (22.99) = 24.62 dBm > 18.28dBm
2. 11dBm + 10log (23.36) = 24.68 dBm > 18.28dBm
3. 11dBm + 10log (23.09) = 24.63 dBm > 18.28dBm
4. 11dBm + 10log (23.24) = 24.66 dBm > 18.62dBm
5. 11dBm + 10log (23.32) = 24.68 dBm > 18.62dBm
6. 11dBm + 10log (23.14) = 24.64 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.59) = 23.15 dBm > 18.62dBm

Chain 2
1. 11dBm + 10log (22.18) = 24.46 dBm > 18.28dBm
2. 11dBm + 10log (21.89) = 24.40 dBm > 18.28dBm
3. 11dBm + 10log (22.10) = 24.44 dBm > 18.28dBm
4. 11dBm + 10log (22.09) = 24.44 dBm > 18.62dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 18.62dBm
6. 11dBm + 10log (21.81) = 24.39 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.57) = 23.16 dBm > 18.62dBm

Chain 3
1. 11dBm + 10log (21.59) = 24.34 dBm > 18.28dBm
2. 11dBm + 10log (22.07) = 24.44 dBm > 18.28dBm
3. 11dBm + 10log (21.92) = 24.41 dBm > 18.28dBm
4. 11dBm + 10log (22.23) = 24.47 dBm > 18.62dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 18.62dBm
6. 11dBm + 10log (21.97) = 24.42 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.66) = 23.13 dBm > 18.62dBm

Chain 4
1. 11dBm + 10log (22.91) = 24.60 dBm > 18.28dBm
2. 11dBm + 10log (22.58) = 24.54 dBm > 18.28dBm
3. 11dBm + 10log (23.12) = 24.64 dBm > 18.28dBm
4. 11dBm + 10log (23.26) = 24.67 dBm > 18.62dBm
5. 11dBm + 10log (22.89) = 24.60 dBm > 18.62dBm
6. 11dBm + 10log (22.88) = 24.59 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.78) = 23.10 dBm > 18.62dBm

Chain 5
1. 11dBm + 10log (23.21) = 24.66 dBm > 18.28dBm
2. 11dBm + 10log (22.89) = 24.60 dBm > 18.28dBm
3. 11dBm + 10log (23.16) = 24.65 dBm > 18.28dBm
4. 11dBm + 10log (23.94) = 24.79 dBm > 18.62dBm
5. 11dBm + 10log (23.21) = 24.66 dBm > 18.62dBm
6. 11dBm + 10log (23.36) = 24.68 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.65) = 23.14 dBm > 18.62dBm

Chain 6
1. 11dBm + 10log (22.05) = 24.43 dBm > 18.28dBm
2. 11dBm + 10log (22.23) = 24.47 dBm > 18.28dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 18.28dBm
4. 11dBm + 10log (22.38) = 24.50 dBm > 18.62dBm
5. 11dBm + 10log (21.97) = 24.42 dBm > 18.62dBm
6. 11dBm + 10log (22.17) = 24.46 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.56) = 23.16 dBm > 18.62dBm

Chain 7
1. 11dBm + 10log (22.38) = 24.50 dBm > 18.28dBm
2. 11dBm + 10log (22.83) = 24.59 dBm > 18.28dBm
3. 11dBm + 10log (23.13) = 24.64 dBm > 18.28dBm
4. 11dBm + 10log (22.28) = 24.48 dBm > 18.62dBm
5. 11dBm + 10log (22.50) = 24.52 dBm > 18.62dBm
6. 11dBm + 10log (22.06) = 24.44 dBm > 18.62dBm
7. 11dBm + 10log (5725.00 - 5708.47) = 23.18 dBm > 18.62dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	65.464	18.16

802.11ac (VHT40) / 802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	8.34	8.33	8.77	9.71	9.75	9.55	9.36	9.09	65.714	18.18	18.28	Pass
62	5310	8.69	8.39	9.07	9.77	9.18	9.50	8.75	8.99	64.471	18.09	18.28	Pass
102	5510	9.00	9.28	9.01	9.18	9.14	9.51	9.11	8.83	65.579	18.17	18.62	Pass
110	5550	9.43	9.33	9.71	9.46	9.14	9.84	9.36	9.72	71.372	18.54	18.62	Pass
134	5670	8.83	9.89	9.72	9.04	9.29	9.28	9.54	9.77	70.224	18.46	18.62	Pass
142	5710 For 5500~5720MHz	7.65	7.56	8.26	7.59	9.05	9.09	9.22	9.81	61.355	17.88	18.62	Pass
142	5710 For 5720~5825MHz	0.16	0.08	0.72	0.08	0.98	0.06	0.16	0.41	9.154	9.62	24.45	Pass

Note:
5260~5320MHz Directional Gain = 11.72dBi > 6dBi, so the limit shall be reduced to 24-(11.72-6) = 18.28dBm.
5500~5720MHz Directional Gain = 11.38dBi > 6dBi, so the limit shall be reduced to 24-(11.38-6) = 18.62dBm.
5720~5825MHz Directional Gain = 11.55dBi > 6dBi, so the limit shall be reduced to 30-(11.55-6) = 24.45dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (46.49) = 27.67 dBm > 18.28dBm
2. 11dBm + 10log (46.41) = 27.67 dBm > 18.28dBm
3. 11dBm + 10log (46.29) = 27.65 dBm > 18.62dBm
4. 11dBm + 10log (46.50) = 27.67 dBm > 18.62dBm
5. 11dBm + 10log (45.64) = 27.59 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.33) = 26.87 dBm > 18.62dBm

Chain 1
1. 11dBm + 10log (47.55) = 27.77 dBm > 18.28dBm
2. 11dBm + 10log (47.94) = 27.81 dBm > 18.28dBm
3. 11dBm + 10log (48.26) = 27.84 dBm > 18.62dBm
4. 11dBm + 10log (47.63) = 27.78 dBm > 18.62dBm
5. 11dBm + 10log (47.98) = 27.81 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.58) = 26.85 dBm > 18.62dBm

Chain 2
1. 11dBm + 10log (44.80) = 27.51 dBm > 18.28dBm
2. 11dBm + 10log (44.85) = 27.52 dBm > 18.28dBm
3. 11dBm + 10log (45.92) = 27.62 dBm > 18.62dBm
4. 11dBm + 10log (44.98) = 27.53 dBm > 18.62dBm
5. 11dBm + 10log (44.98) = 27.53 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.67) = 26.83 dBm > 18.62dBm

Chain 3
1. 11dBm + 10log (44.81) = 27.51 dBm > 18.28dBm
2. 11dBm + 10log (45.14) = 27.55 dBm > 18.28dBm
3. 11dBm + 10log (45.08) = 27.54 dBm > 18.62dBm
4. 11dBm + 10log (45.09) = 27.54 dBm > 18.62dBm
5. 11dBm + 10log (45.37) = 27.57 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.74) = 26.83 dBm > 18.62dBm

Chain 4

1. 11dBm + 10log (48.04) = 27.82 dBm > 18.28dBm
2. 11dBm + 10log (46.83) = 27.71 dBm > 18.28dBm
3. 11dBm + 10log (46.15) = 27.64 dBm > 18.62dBm
4. 11dBm + 10log (47.22) = 27.74 dBm > 18.62dBm
5. 11dBm + 10log (48.34) = 27.84 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 18.62dBm

Chain 5

1. 11dBm + 10log (45.28) = 27.56 dBm > 18.28dBm
2. 11dBm + 10log (45.37) = 27.57 dBm > 18.28dBm
3. 11dBm + 10log (44.94) = 27.53 dBm > 18.62dBm
4. 11dBm + 10log (45.51) = 27.58 dBm > 18.62dBm
5. 11dBm + 10log (45.08) = 27.54 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.99) = 26.80 dBm > 18.62dBm

Chain 6

1. 11dBm + 10log (47.06) = 27.73 dBm > 18.28dBm
2. 11dBm + 10log (46.76) = 27.70 dBm > 18.28dBm
3. 11dBm + 10log (48.11) = 27.82 dBm > 18.62dBm
4. 11dBm + 10log (47.20) = 27.74 dBm > 18.62dBm
5. 11dBm + 10log (47.64) = 27.78 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 18.62dBm

Chain 7

1. 11dBm + 10log (46.85) = 27.71 dBm > 18.28dBm
2. 11dBm + 10log (48.09) = 27.82 dBm > 18.28dBm
3. 11dBm + 10log (48.34) = 27.84 dBm > 18.62dBm
4. 11dBm + 10log (48.28) = 27.84 dBm > 18.62dBm
5. 11dBm + 10log (47.41) = 27.76 dBm > 18.62dBm
6. 11dBm + 10log (5725.00 - 5686.80) = 26.82 dBm > 18.62dBm

For reference only - power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5710	67.920	18.32

802.11ac (VHT80) / 802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	8.51	8.68	8.97	9.20	9.36	8.71	8.97	9.93	64.470	18.09	24	Pass
106	5530	9.31	9.37	9.48	9.40	9.57	9.17	9.22	8.94	68.270	18.34	24	Pass
122	5610	8.84	9.72	9.77	9.73	9.29	8.85	8.79	8.79	67.215	18.27	24	Pass
138	5690 For 5500~5720MHz	9.12	8.69	9.56	9.62	9.23	9.29	9.88	9.27	72.624	18.61	18.62	Pass
138	5690 For 5720~5825MHz	-3.76	-4.19	-3.32	-4.26	-3.77	-3.71	-2.12	-3.73	3.7206	5.71	24.45	Pass

Note:
5260~5320MHz Directional Gain = 11.72dBi > 6dBi, so the limit shall be reduced to 24-(11.72-6) = 18.28dBm.
5500~5720MHz Directional Gain = 11.38dBi > 6dBi, so the limit shall be reduced to 24-(11.38-6) = 18.62dBm.
5720~5825MHz Directional Gain = 11.55dBi > 6dBi, so the limit shall be reduced to 30-(11.55-6) = 24.45dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (89.64) = 30.53 dBm > 18.28dBm
2. 11dBm + 10log (91.10) = 30.60 dBm > 18.62dBm
3. 11dBm + 10log (90.82) = 30.58 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5645.82) = 29.99 dBm > 18.62dBm

Chain 1
1. 11dBm + 10log (88.47) = 30.47 dBm > 18.28dBm
2. 11dBm + 10log (89.62) = 30.52 dBm > 18.62dBm
3. 11dBm + 10log (89.73) = 30.53 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5645.88) = 29.98 dBm > 18.62dBm

Chain 2
1. 11dBm + 10log (88.21) = 30.46 dBm > 18.28dBm
2. 11dBm + 10log (88.20) = 30.45 dBm > 18.62dBm
3. 11dBm + 10log (88.66) = 30.48 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5645.54) = 30.00 dBm > 18.62dBm

Chain 3
1. 11dBm + 10log (89.10) = 30.50 dBm > 18.28dBm
2. 11dBm + 10log (89.03) = 30.50 dBm > 18.62dBm
3. 11dBm + 10log (87.60) = 30.43 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5645.05) = 29.97 dBm > 18.62dBm

Chain 4
1. 11dBm + 10log (89.35) = 30.51 dBm > 18.28dBm
2. 11dBm + 10log (87.98) = 30.44 dBm > 18.62dBm
3. 11dBm + 10log (89.80) = 30.53 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5646.35) = 29.96 dBm > 18.62dBm

Chain 5
1. 11dBm + 10log (90.02) = 30.54 dBm > 18.28dBm
2. 11dBm + 10log (89.49) = 30.52 dBm > 18.62dBm
3. 11dBm + 10log (87.84) = 30.44 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5646.60) = 29.94 dBm > 18.62dBm

Chain 6

1. 11dBm + 10log (88.76) = 30.48 dBm > 18.28dBm
2. 11dBm + 10log (88.62) = 30.48 dBm > 18.62dBm
3. 11dBm + 10log (89.39) = 30.51 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5645.84) = 29.99 dBm > 18.62dBm

Chain 7

1. 11dBm + 10log (90.25) = 30.55 dBm > 18.28dBm
2. 11dBm + 10log (91.16) = 30.60 dBm > 18.62dBm
3. 11dBm + 10log (88.74) = 30.48 dBm > 18.62dBm
4. 11dBm + 10log (5725.00 - 5646.29) = 29.96 dBm > 18.62dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	69.823	18.44

Beamforming_NSS2 Mode

802.11ac (VHT20) / 802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	10.82	11.35	11.40	12.02	12.86	11.24	12.68	12.34	123.749	20.93	21.19	Pass
60	5300	10.69	11.34	11.58	12.07	11.97	12.31	12.30	11.78	120.641	20.81	21.19	Pass
64	5320	10.33	12.30	11.81	11.53	11.78	12.28	11.40	13.12	123.452	20.91	21.19	Pass
100	5500	12.43	12.13	12.24	12.06	12.47	11.94	12.75	12.65	137.184	21.37	21.60	Pass
116	5580	11.94	12.64	12.75	12.71	12.72	11.78	11.83	12.27	137.376	21.38	21.60	Pass
140	5700	11.77	12.09	12.13	12.07	12.47	12.68	11.68	11.77	129.599	21.13	21.60	Pass
144	5720 For 5500~5720MHz	9.86	10.01	9.77	10.19	12.2	12.44	12.21	11.74	109.528	20.40	21.60	Pass
144	5720 For 5720~5825MHz	7.12	7.14	6.74	7.13	8.16	7.36	7.18	6.85	43.953	16.43	27.68	Pass

Note:
5260~5320MHz Directional Gain = 8.81dBi > 6dBi, so the limit shall be reduced to 24-(8.81-6) = 21.19dBm.
5500~5720MHz Directional Gain = 8.40dBi > 6dBi, so the limit shall be reduced to 24-(8.40-6) = 21.60dBm.
5720~5825MHz Directional Gain = 8.32dBi > 6dBi, so the limit shall be reduced to 30-(8.32-6) = 27.68dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (22.78) = 24.58 dBm > 21.19dBm
2. 11dBm + 10log (22.54) = 24.53 dBm > 21.19dBm
3. 11dBm + 10log (22.62) = 24.54 dBm > 21.19dBm
4. 11dBm + 10log (22.44) = 24.51 dBm > 21.60dBm
5. 11dBm + 10log (22.61) = 24.54 dBm > 21.60dBm
6. 11dBm + 10log (22.24) = 24.47 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.31) = 23.22 dBm > 21.60dBm

Chain 1
1. 11dBm + 10log (22.99) = 24.62 dBm > 21.19dBm
2. 11dBm + 10log (23.36) = 24.68 dBm > 21.19dBm
3. 11dBm + 10log (23.09) = 24.63 dBm > 21.19dBm
4. 11dBm + 10log (23.24) = 24.66 dBm > 21.60dBm
5. 11dBm + 10log (23.32) = 24.68 dBm > 21.60dBm
6. 11dBm + 10log (23.14) = 24.64 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.59) = 23.15 dBm > 21.60dBm

Chain 2
1. 11dBm + 10log (22.18) = 24.46 dBm > 21.19dBm
2. 11dBm + 10log (21.89) = 24.40 dBm > 21.19dBm
3. 11dBm + 10log (22.10) = 24.44 dBm > 21.19dBm
4. 11dBm + 10log (22.09) = 24.44 dBm > 21.60dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 21.60dBm
6. 11dBm + 10log (21.81) = 24.39 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.57) = 23.16 dBm > 21.60dBm

Chain 3
1. 11dBm + 10log (21.59) = 24.34 dBm > 21.19dBm
2. 11dBm + 10log (22.07) = 24.44 dBm > 21.19dBm
3. 11dBm + 10log (21.92) = 24.41 dBm > 21.19dBm
4. 11dBm + 10log (22.23) = 24.47 dBm > 21.60dBm
5. 11dBm + 10log (21.98) = 24.42 dBm > 21.60dBm
6. 11dBm + 10log (21.97) = 24.42 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.66) = 23.13 dBm > 21.60dBm

Chain 4
1. 11dBm + 10log (22.91) = 24.60 dBm > 21.19dBm
2. 11dBm + 10log (22.58) = 24.54 dBm > 21.19dBm
3. 11dBm + 10log (23.12) = 24.64 dBm > 21.19dBm
4. 11dBm + 10log (23.26) = 24.67 dBm > 21.60dBm
5. 11dBm + 10log (22.89) = 24.60 dBm > 21.60dBm
6. 11dBm + 10log (22.88) = 24.59 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.78) = 23.10 dBm > 21.60dBm

Chain 5
1. 11dBm + 10log (23.21) = 24.66 dBm > 21.19dBm
2. 11dBm + 10log (22.89) = 24.60 dBm > 21.19dBm
3. 11dBm + 10log (23.16) = 24.65 dBm > 21.19dBm
4. 11dBm + 10log (23.94) = 24.79 dBm > 21.60dBm
5. 11dBm + 10log (23.21) = 24.66 dBm > 21.60dBm
6. 11dBm + 10log (23.36) = 24.68 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.65) = 23.14 dBm > 21.60dBm

Chain 6
1. 11dBm + 10log (22.05) = 24.43 dBm > 21.19dBm
2. 11dBm + 10log (22.23) = 24.47 dBm > 21.19dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 21.19dBm
4. 11dBm + 10log (22.38) = 24.50 dBm > 21.60dBm
5. 11dBm + 10log (21.97) = 24.42 dBm > 21.60dBm
6. 11dBm + 10log (22.17) = 24.46 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.56) = 23.16 dBm > 21.60dBm

Chain 7
1. 11dBm + 10log (22.38) = 24.50 dBm > 21.19dBm
2. 11dBm + 10log (22.83) = 24.59 dBm > 21.19dBm
3. 11dBm + 10log (23.13) = 24.64 dBm > 21.19dBm
4. 11dBm + 10log (22.28) = 24.48 dBm > 21.60dBm
5. 11dBm + 10log (22.50) = 24.52 dBm > 21.60dBm
6. 11dBm + 10log (22.06) = 24.44 dBm > 21.60dBm
7. 11dBm + 10log (5725.00 - 5708.47) = 23.18 dBm > 21.60dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	128.825	21.10

802.11ac (VHT40) / 802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	11.20	11.44	11.60	12.41	13.07	12.47	12.28	11.90	129.316	21.12	21.19	Pass
62	5310	11.15	11.12	11.79	12.70	11.95	12.06	11.53	11.79	120.756	20.82	21.19	Pass
102	5510	12.11	12.13	11.92	12.14	11.73	12.71	12.36	12.26	132.117	21.21	21.60	Pass
110	5550	11.69	12.35	12.15	11.95	12.14	11.89	12.51	12.35	130.833	21.17	21.60	Pass
134	5670	12.01	12.40	12.45	12.32	11.92	12.60	12.72	11.91	135.891	21.33	21.60	Pass
142	5710 For 5500~5720MHz	10.59	10.46	11.21	10.53	9.05	9.09	9.22	9.81	85.798	19.33	21.60	Pass
142	5710 For 5720~5825MHz	2.62	3.12	3.03	2.04	0.98	0.06	0.16	0.41	12.572	10.99	27.68	Pass

Note:
5260~5320MHz Directional Gain = 8.81dBi > 6dBi, so the limit shall be reduced to 24-(8.81-6) = 21.19dBm.
5500~5720MHz Directional Gain = 8.40dBi > 6dBi, so the limit shall be reduced to 24-(8.40-6) = 21.60dBm.
5720~5825MHz Directional Gain = 8.32dBi > 6dBi, so the limit shall be reduced to 30-(8.32-6) = 27.68dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (46.49) = 27.67 dBm > 21.19dBm
2. 11dBm + 10log (46.41) = 27.67 dBm > 21.19dBm
3. 11dBm + 10log (46.29) = 27.65 dBm > 21.60dBm
4. 11dBm + 10log (46.50) = 27.67 dBm > 21.60dBm
5. 11dBm + 10log (45.64) = 27.59 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.33) = 26.87 dBm > 21.60dBm

Chain 1
1. 11dBm + 10log (47.55) = 27.77 dBm > 21.19dBm
2. 11dBm + 10log (47.94) = 27.81 dBm > 21.19dBm
3. 11dBm + 10log (48.26) = 27.84 dBm > 21.60dBm
4. 11dBm + 10log (47.63) = 27.78 dBm > 21.60dBm
5. 11dBm + 10log (47.98) = 27.81 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.58) = 26.85 dBm > 21.60dBm

Chain 2
1. 11dBm + 10log (44.80) = 27.51 dBm > 21.19dBm
2. 11dBm + 10log (44.85) = 27.52 dBm > 21.19dBm
3. 11dBm + 10log (45.92) = 27.62 dBm > 21.60dBm
4. 11dBm + 10log (44.98) = 27.53 dBm > 21.60dBm
5. 11dBm + 10log (44.98) = 27.53 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.67) = 26.83 dBm > 21.60dBm

Chain 3
1. 11dBm + 10log (44.81) = 27.51 dBm > 21.19dBm
2. 11dBm + 10log (45.14) = 27.55 dBm > 21.19dBm
3. 11dBm + 10log (45.08) = 27.54 dBm > 21.60dBm
4. 11dBm + 10log (45.09) = 27.54 dBm > 21.60dBm
5. 11dBm + 10log (45.37) = 27.57 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.74) = 26.83 dBm > 21.60dBm

Chain 4

1. 11dBm + 10log (48.04) = 27.82 dBm > 21.19dBm
2. 11dBm + 10log (46.83) = 27.71 dBm > 21.19dBm
3. 11dBm + 10log (46.15) = 27.64 dBm > 21.60dBm
4. 11dBm + 10log (47.22) = 27.74 dBm > 21.60dBm
5. 11dBm + 10log (48.34) = 27.84 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 21.60dBm

Chain 5

1. 11dBm + 10log (45.28) = 27.56 dBm > 21.19dBm
2. 11dBm + 10log (45.37) = 27.57 dBm > 21.19dBm
3. 11dBm + 10log (44.94) = 27.53 dBm > 21.60dBm
4. 11dBm + 10log (45.51) = 27.58 dBm > 21.60dBm
5. 11dBm + 10log (45.08) = 27.54 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.99) = 26.80 dBm > 21.60dBm

Chain 6

1. 11dBm + 10log (47.06) = 27.73 dBm > 21.19dBm
2. 11dBm + 10log (46.76) = 27.70 dBm > 21.19dBm
3. 11dBm + 10log (48.11) = 27.82 dBm > 21.60dBm
4. 11dBm + 10log (47.20) = 27.74 dBm > 21.60dBm
5. 11dBm + 10log (47.64) = 27.78 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.78) = 26.82 dBm > 21.60dBm

Chain 7

1. 11dBm + 10log (46.85) = 27.71 dBm > 21.19dBm
2. 11dBm + 10log (48.09) = 27.82 dBm > 21.19dBm
3. 11dBm + 10log (48.34) = 27.84 dBm > 21.60dBm
4. 11dBm + 10log (48.28) = 27.84 dBm > 21.60dBm
5. 11dBm + 10log (47.41) = 27.76 dBm > 21.60dBm
6. 11dBm + 10log (5725.00 - 5686.80) = 26.82 dBm > 21.60dBm

For reference only - power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5710	133.660	21.26

802.11ac (VHT80) / 802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)								Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	10.21	11.33	11.42	11.89	12.31	11.57	11.75	12.73	118.487	20.74	21.19	Pass
106	5530	12.05	11.94	12.73	11.99	12.33	11.90	12.15	12.64	133.586	21.26	21.60	Pass
122	5610	12.56	12.57	12.04	11.80	11.68	12.57	11.91	11.82	130.757	21.16	21.60	Pass
138	5690 For 5500~5720MHz	12.18	11.75	12.62	12.68	9.23	9.29	9.88	9.27	109.076	20.38	21.60	Pass
138	5690 For 5720~5825MHz	-1.36	-2.14	-1.24	-2.36	-3.77	-3.71	-2.12	-3.73	4.8099	6.82	27.68	Pass

Note:
5260~5320MHz Directional Gain = 8.81dBi > 6dBi, so the limit shall be reduced to 24-(8.81-6) = 21.19dBm.
5500~5720MHz Directional Gain = 8.40dBi > 6dBi, so the limit shall be reduced to 24-(8.40-6) = 21.60dBm.
5720~5825MHz Directional Gain = 8.32dBi > 6dBi, so the limit shall be reduced to 30-(8.32-6) = 27.68dBm.

For 5260~5320MHz, 5500~5720MHz
Chain 0
1. 11dBm + 10log (89.64) = 30.53 dBm > 21.19dBm
2. 11dBm + 10log (91.10) = 30.60 dBm > 21.60dBm
3. 11dBm + 10log (90.82) = 30.58 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5645.82) = 29.99 dBm > 21.60dBm

Chain 1
1. 11dBm + 10log (88.47) = 30.47 dBm > 21.19dBm
2. 11dBm + 10log (89.62) = 30.52 dBm > 21.60dBm
3. 11dBm + 10log (89.73) = 30.53 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5645.88) = 29.98 dBm > 21.60dBm

Chain 2
1. 11dBm + 10log (88.21) = 30.46 dBm > 21.19dBm
2. 11dBm + 10log (88.20) = 30.45 dBm > 21.60dBm
3. 11dBm + 10log (88.66) = 30.48 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5645.54) = 30.00 dBm > 21.60dBm

Chain 3
1. 11dBm + 10log (89.10) = 30.50 dBm > 21.19dBm
2. 11dBm + 10log (89.03) = 30.50 dBm > 21.60dBm
3. 11dBm + 10log (87.60) = 30.43 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5645.05) = 29.97 dBm > 21.60dBm

Chain 4
1. 11dBm + 10log (89.35) = 30.51 dBm > 21.19dBm
2. 11dBm + 10log (87.98) = 30.44 dBm > 21.60dBm
3. 11dBm + 10log (89.80) = 30.53 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5646.35) = 29.96 dBm > 21.60dBm

Chain 5
1. 11dBm + 10log (90.02) = 30.54 dBm > 21.19dBm
2. 11dBm + 10log (89.49) = 30.52 dBm > 21.60dBm
3. 11dBm + 10log (87.84) = 30.44 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5646.60) = 29.94 dBm > 21.60dBm

Chain 6

1. 11dBm + 10log (88.76) = 30.48 dBm > 21.19dBm
2. 11dBm + 10log (88.62) = 30.48 dBm > 21.60dBm
3. 11dBm + 10log (89.39) = 30.51 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5645.84) = 29.99 dBm > 21.60dBm

Chain 7

1. 11dBm + 10log (90.25) = 30.55 dBm > 21.19dBm
2. 11dBm + 10log (91.16) = 30.60 dBm > 21.60dBm
3. 11dBm + 10log (88.74) = 30.48 dBm > 21.60dBm
4. 11dBm + 10log (5725.00 - 5646.29) = 29.96 dBm > 21.60dBm

For reference only - power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	137.404	21.38

26dB Bandwidth:

802.11a

Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	21.11	22.10	21.12	20.25	21.37	20.12	20.22	19.33
60	5300	21.01	21.88	21.08	20.96	21.03	20.25	20.75	20.63
64	5320	21.25	22.34	20.90	20.41	21.08	19.97	20.30	20.13
100	5500	21.33	22.22	20.71	21.03	21.11	19.92	21.04	19.96
116	5580	20.55	22.07	20.84	20.72	21.91	20.96	20.78	20.73
140	5700	20.87	21.97	20.79	20.83	22.38	21.19	21.27	20.69
144	5720 For 5500~5720MHz	15.97	15.55	15.46	15.76	15.62	15.30	15.77	15.26
144	5720 For 5720~5825MHz	5.13	5.37	5.29	5.55	5.12	5.15	5.40	5.40

802.11ac (VHT20)

Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	22.78	22.99	22.18	21.59	22.91	23.21	22.05	22.38
60	5300	22.54	23.36	21.89	22.07	22.58	22.89	22.23	22.83
64	5320	22.62	23.09	22.10	21.92	23.12	23.16	22.09	23.13
100	5500	22.44	23.24	22.09	22.23	23.26	23.94	22.38	22.28
116	5580	22.61	23.32	21.98	21.98	22.89	23.21	21.97	22.50
140	5700	22.24	23.14	21.81	21.97	22.88	23.36	22.17	22.06
144	5720 For 5500~5720MHz	16.69	16.41	16.43	16.34	16.22	16.35	16.44	16.53
144	5720 For 5720~5825MHz	6.35	6.18	6.20	6.13	6.06	6.18	6.34	6.78

802.11ac (VHT40)

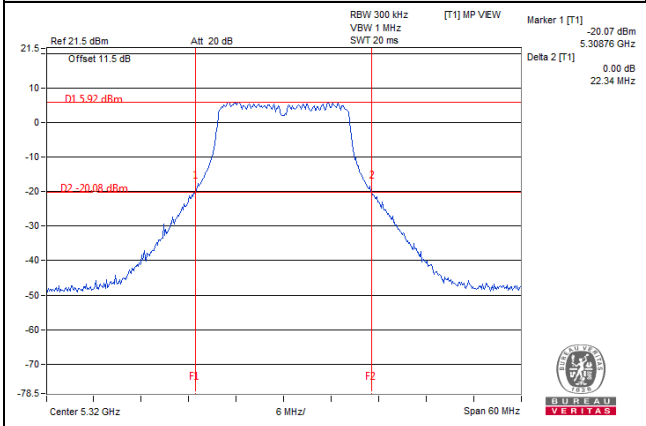
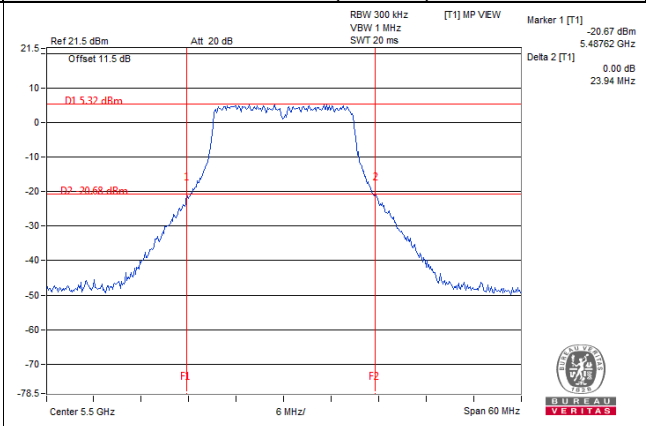
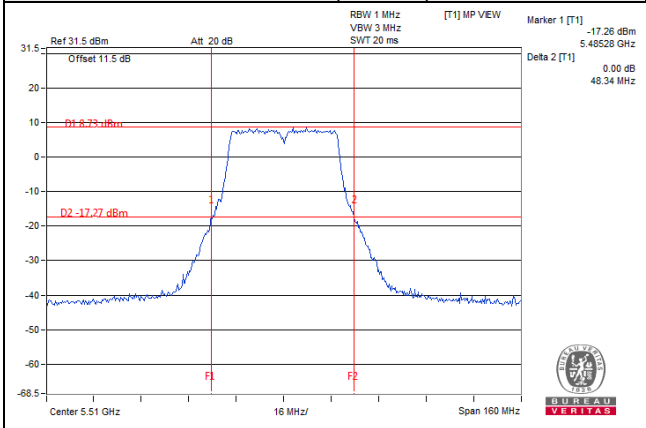
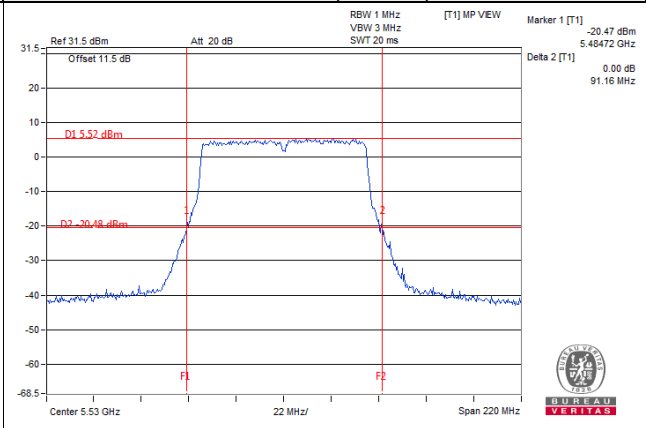
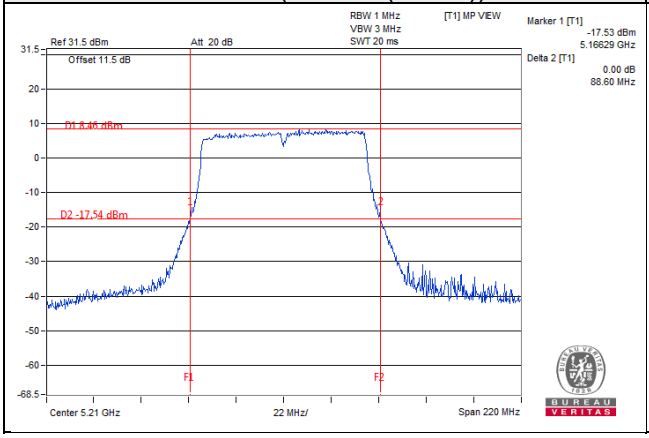
Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
54	5270	46.49	47.55	44.80	44.81	48.04	45.28	47.06	46.85
62	5310	46.41	47.94	44.85	45.14	46.83	45.37	46.76	48.09
102	5510	46.29	48.26	45.92	45.08	46.15	44.94	48.11	48.34
110	5550	46.50	47.63	44.98	45.09	47.22	45.51	47.20	48.28
134	5670	45.64	47.98	44.98	45.37	48.34	45.08	47.64	47.41
142	5710 For 5500~5720MHz	38.67	38.42	38.30	38.26	38.22	38.01	38.22	38.20
142	5710 For 5720~5825MHz	8.60	8.28	8.00	8.33	7.93	8.46	8.68	8.61

802.11ac (VHT80)

Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
58	5290	89.64	88.47	88.21	89.10	89.35	90.02	88.76	90.25
106	5530	91.10	89.62	88.20	89.03	87.98	89.49	88.62	91.16
122	5610	90.82	89.73	88.66	87.60	89.80	87.84	89.39	88.74
138	5690 For 5500~5720MHz	79.18	79.12	79.46	78.95	78.65	78.40	79.16	78.71
138	5690 For 5720~5825MHz	9.25	8.92	8.02	8.42	8.53	8.72	9.27	8.65

802.11ac (VHT160(80+80))

Chan.	Frequency (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
42+58	5210	88.60	82.39	82.35	88.47	-	-	-	-
	5290	-	-	-	-	82.11	81.31	82.04	82.14
106+122	5530	82.31	82.41	82.40	82.61	-	-	-	-
	5610	-	-	-	-	82.96	82.09	82.41	82.53

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	
802.11ac (VHT160(80+80))	
	

EUT Maximum Conducted Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	229.235	23.60
5470~5725	230.444	23.63

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

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	229.796	23.61
5470~5725	231.760	23.65

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

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	235.487	23.72
5470~5725	223.409	23.49

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

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	230.202	23.62
5470~5725	220.647	23.44

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

802.11ac (VHT160(80+80))

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	223.999	23.50
5470~5725	222.009	23.46

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	225.113	23.52
5470~5725	225.447	23.53

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

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	230.573	23.63
5470~5725	218.704	23.40

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

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	224.058	23.50
5470~5725	214.668	23.32

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

802.11ax (HE160(80+80))

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	216.903	23.36
5470~5725	213.686	23.30

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

Beamforming_NSS1 Mode

802.11ac (VHT20) / 802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	65.469	18.16
5470~5725	70.555	18.49

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

802.11ac (VHT40) / 802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	65.714	18.18
5470~5725	71.372	18.54

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

802.11ac (VHT80) / 802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	64.470	18.09
5470~5725	68.270	18.34

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

Beamforming_NSS2 Mode

802.11ac (VHT20) / 802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	123.749	20.93
5470~5725	137.376	21.38

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

802.11ac (VHT40) / 802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	129.316	21.12
5470~5725	135.891	21.33

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

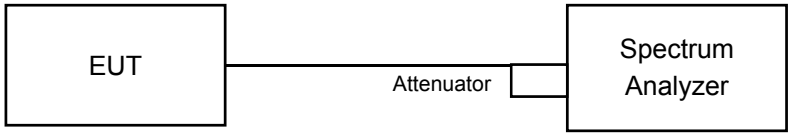
802.11ac (VHT80) / 802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	118.487	20.74
5470~5725	133.586	21.26

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

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

802.11a

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	16.80	16.80	16.68	16.56	16.80	16.56	16.68	16.08
60	5300	16.80	16.68	16.80	16.92	16.68	16.56	16.68	16.80
64	5320	16.80	16.80	16.68	16.56	16.80	16.56	16.56	16.68
100	5500	16.80	16.80	16.68	16.68	16.68	16.44	16.68	16.32
116	5580	16.80	16.92	16.68	16.68	16.68	16.68	16.68	16.92
140	5700	16.80	16.80	16.68	16.68	17.04	16.92	16.80	16.92
144	5720 For 5500~5720MHz	13.40	13.40	13.28	13.40	13.40	13.28	13.40	13.28
144	5720 For 5720~5825MHz	3.16	3.16	3.16	3.16	3.04	3.04	3.16	3.16

802.11ac (VHT20)

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	17.88	17.88	17.88	17.88	17.88	17.88	17.88	18.00
60	5300	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88
64	5320	18.00	17.88	17.88	17.88	17.88	17.88	17.88	17.88
100	5500	17.88	17.88	17.88	17.88	17.88	18.00	17.88	18.00
116	5580	17.88	17.88	17.88	17.88	17.88	18.00	17.88	18.00
140	5700	17.88	18.00	17.88	17.88	17.88	18.00	17.88	18.12
144	5720 For 5500~5720MHz	14.60	14.60	14.60	14.60	14.60	14.60	14.60	14.60
144	5720 For 5720~5825MHz	4.48	4.48	4.48	4.36	4.48	4.48	4.48	4.48

802.11ac (VHT40)

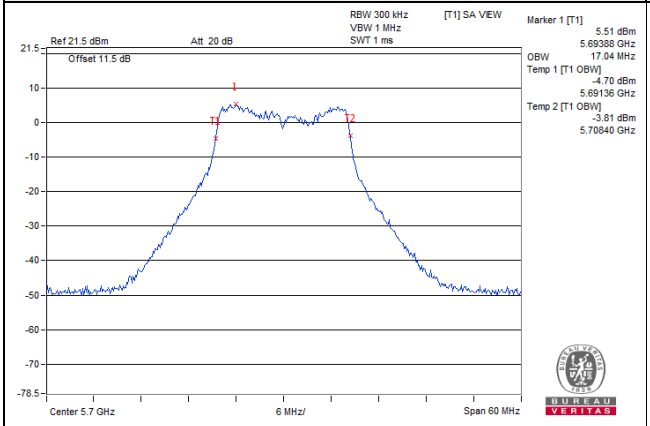
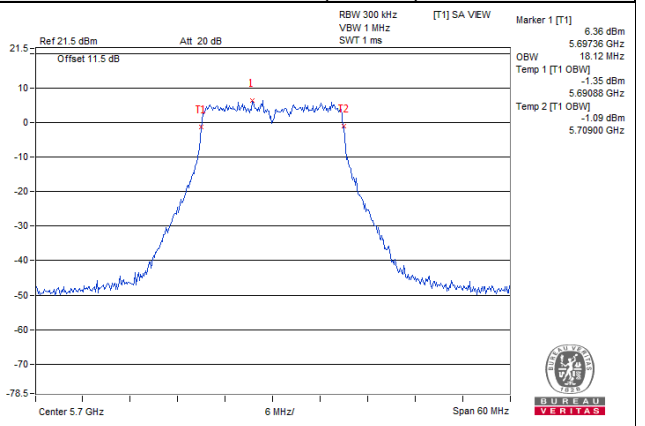
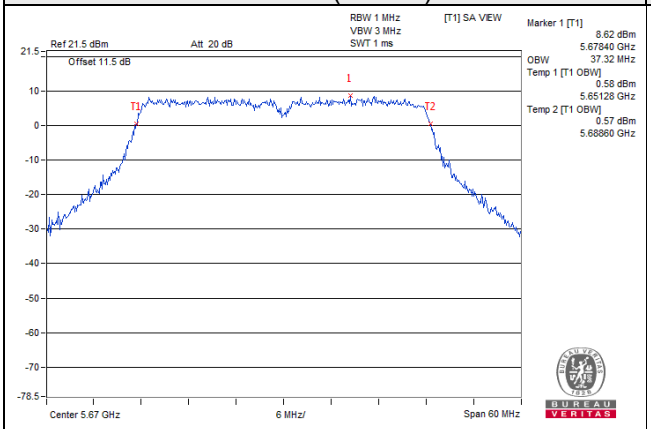
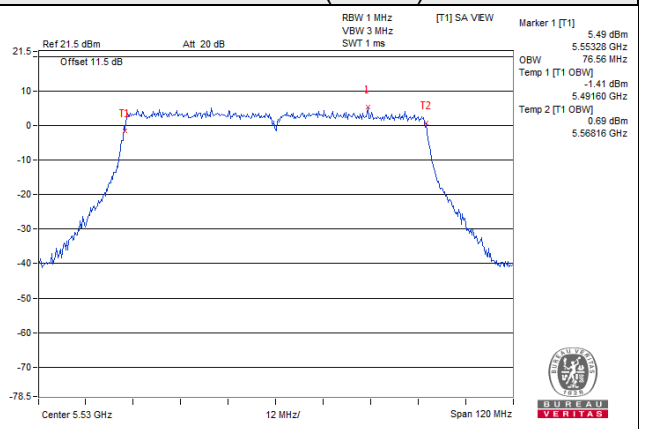
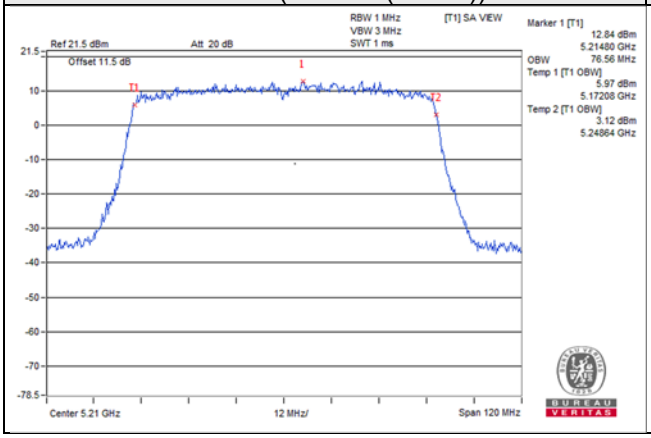
Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
54	5270	37.08	37.20	36.96	36.84	37.20	37.08	37.20	37.20
62	5310	37.20	37.08	37.08	36.96	36.96	37.08	37.20	37.32
102	5510	37.20	37.20	36.96	36.84	37.08	37.08	37.20	37.20
110	5550	37.20	37.32	36.96	36.96	37.20	37.08	37.32	37.20
134	5670	37.20	37.20	36.96	36.96	37.08	37.08	37.20	37.32
142	5710 For 5500~5720MHz	34.32	34.32	34.32	34.32	34.32	34.32	34.32	34.32
142	5710 For 5720~5825MHz	4.20	4.20	4.20	4.08	4.20	4.20	4.20	4.20

802.11ac (VHT80)

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
58	5290	76.32	75.84	76.32	76.08	76.08	76.32	76.32	76.32
106	5530	76.32	76.08	76.08	76.32	76.08	76.56	76.08	76.32
122	5610	76.08	76.08	76.32	76.32	76.08	76.56	76.56	76.32
138	5690 For 5500~5720MHz	74.12	73.88	73.88	73.88	74.12	74.12	73.88	73.88
138	5690 For 5720~5825MHz	3.88	3.88	3.64	3.64	3.64	3.88	3.88	3.64

802.11ac (VHT160(80+80))

Chan.	Frequency (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
42+58	5210	76.56	75.84	75.84	76.18	-	-	-	-
	5290	-	-	-	-	75.84	76.08	75.84	75.84
106+122	5530	75.36	75.36	75.36	75.36	-	-	-	-
	5610	-	-	-	-	75.84	75.84	75.84	75.60

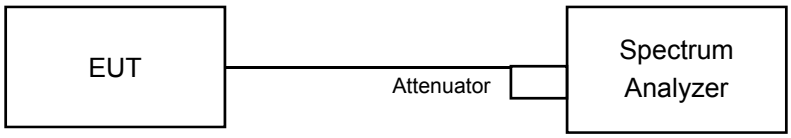
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	
802.11ac (VHT160(80+80))	
	

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, U-NII-2A, U-NII-2C band
Duty cycle of test signal is ≥ 98%
Using method SA-1
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS.
3) Set Channel power measure = 1MHz.
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value.

Duty cycle of test signal is < 98%
Using method SA-2
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS.
3) Set Channel power measure = 1MHz.
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle).

For U-NII-3 band
Duty cycle ≥ 98%
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS.
3) Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4) Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured 1) power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz).
5) Sweep time = auto, trigger set to “free run”.
6) Trace average at least 100 traces in power averaging mode.
7) Record the max value.

Duty cycle <98%
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4) Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)
5) Sweep time = auto, trigger set to “free run”.
6) Trace average at least 100 traces in power averaging mode.
7) Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as item 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm)								Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/ MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	0.96	1.16	0.79	1.21	0.55	-3.69	1.34	1.51	0.34	9.74	11	Pass
60	5300	-1.11	1.22	1.28	-0.70	1.19	1.59	0.30	0.48	0.34	9.66	11	Pass
64	5320	-0.31	0.31	1.25	-0.43	1.65	1.73	1.35	-0.82	0.34	9.73	11	Pass
100	5500	0.54	1.59	1.51	1.45	-1.22	-3.17	1.51	1.90	0.34	9.82	11	Pass
116	5580	0.57	0.31	1.21	0.50	1.10	1.09	-1.44	1.09	0.34	9.65	11	Pass
140	5700	1.49	0.53	1.76	1.63	1.24	1.71	0.53	-0.56	0.34	10.14	11	Pass
144	5720 For 5500~ 5720MHz	2.05	0.79	-0.42	1.19	1.85	-1.98	1.04	-0.45	9.3629	9.71	11	Pass

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
   5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm)								Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/ MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	-0.34	0.17	0.33	0.60	0.73	0.17	-0.95	0.06	0.17	9.16	11	Pass
60	5300	-0.77	0.32	0.57	-0.21	0.25	0.30	0.66	0.13	0.17	9.21	11	Pass
64	5320	0.19	0.29	0.51	-0.28	0.23	-0.08	0.66	-0.03	0.17	9.23	11	Pass
100	5500	0.04	0.19	0.42	0.50	-0.52	-0.32	-0.01	0.02	0.17	9.08	11	Pass
116	5580	-0.06	0.69	0.58	0.43	0.49	-0.44	-0.68	-0.22	0.17	9.16	11	Pass
140	5700	-0.62	0.18	-0.61	-0.30	0.39	0.41	0.58	0.61	0.17	9.14	11	Pass
144	5720 For 5500~ 5720MHz	1.54	1.38	1.28	1.63	1.70	1.02	1.47	0.94	10.9862	10.41	11	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
   5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm)								Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/ MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	-3.61	-2.80	-2.80	-3.78	-2.67	-2.70	-2.89	-3.67	0.24	5.94	11	Pass
62	5310	-3.03	-3.30	-2.50	-2.90	-4.06	-3.11	-2.77	-2.98	0.24	5.97	11	Pass
102	5510	-2.36	-2.99	-3.54	-3.60	-2.62	-3.74	-2.92	-3.12	0.24	5.94	11	Pass
110	5550	-3.89	-2.77	-3.20	-3.40	-3.40	-3.74	-2.88	-3.26	0.24	5.73	11	Pass
134	5670	-3.20	-3.19	-2.93	-2.94	-2.80	-3.02	-3.68	-3.12	0.24	5.93	11	Pass
142	5710 For 5500~ 5720MHz	-0.68	-0.42	-0.47	0.10	0.45	-1.24	-0.68	-0.74	0.24	8.60	11	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
   5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

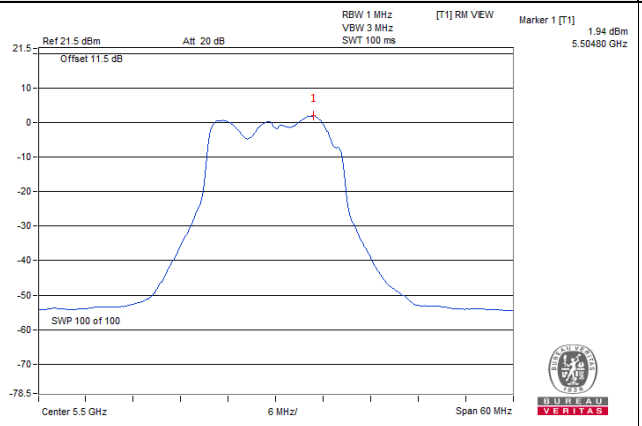
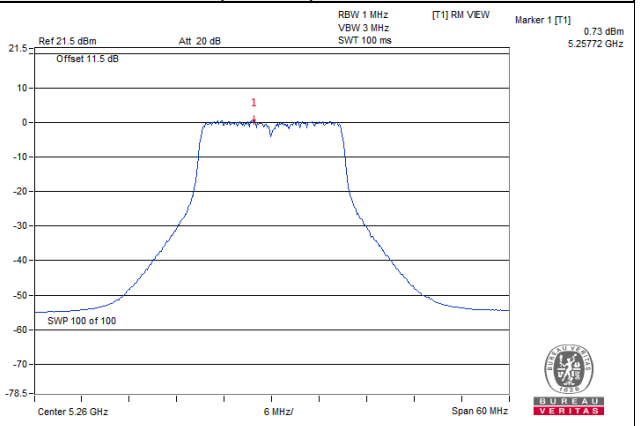
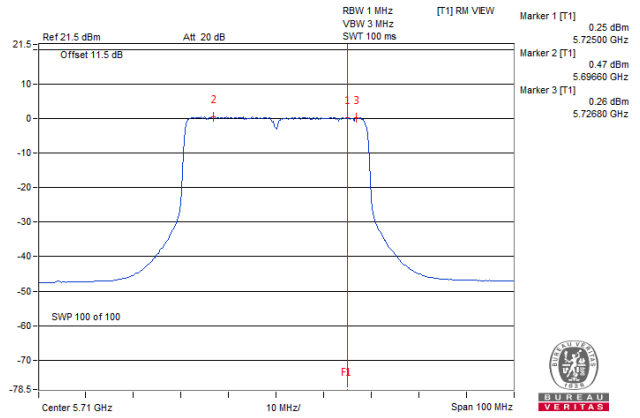
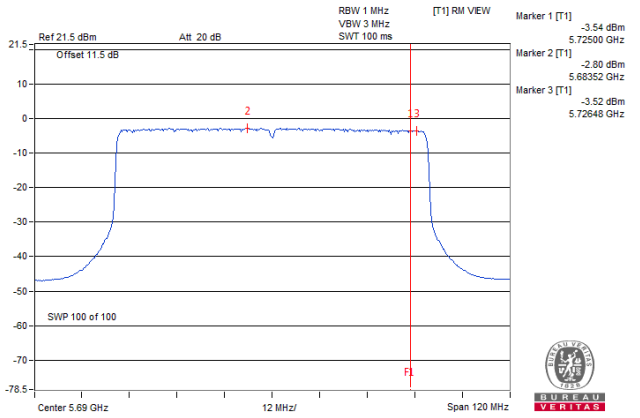
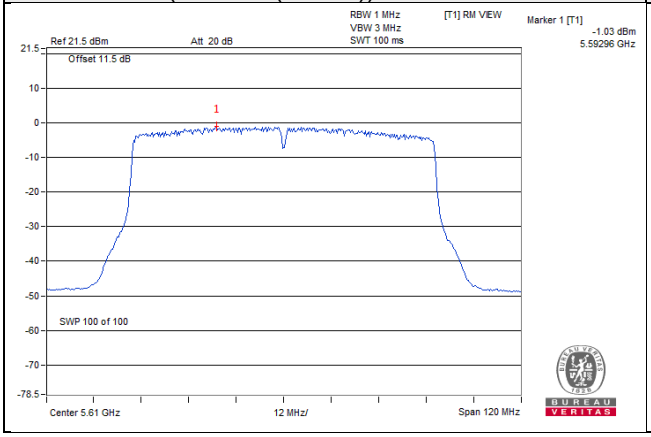
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm)								Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/ MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	-6.73	-6.62	-5.83	-5.73	-6.97	-6.69	-5.52	-7.13	0.25	2.67	11	Pass
106	5530	-6.31	-5.94	-6.28	-6.45	-6.57	-6.85	-6.78	-6.35	0.25	2.60	11	Pass
122	5610	-6.99	-6.41	-6.00	-6.67	-6.74	-6.10	-7.04	-6.31	0.25	2.51	11	Pass
138	5690 For 5500~ 5720MHz	-3.97	-3.49	-3.47	-2.98	-3.03	-3.52	-3.98	-4.35	0.25	5.43	11	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
   5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT160(80+80))

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm)								Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/ MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42+ 58	5210	-1.10	-2.62	-2.23	-3.39	-	-	-	-	0.25	3.77	17	Pass
	5290	-	-	-	-	-3.04	-3.07	-3.53	-3.22	0.25	2.81	11	Pass
106+ 122	5530	-5.91	-5.82	-5.58	-4.83	-	-	-	-	0.25	0.51	11	Pass
	5610	-	-	-	-	-6.21	-6.18	-6.56	-4.30	0.25	0.30	11	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5180~5240MHz Directional Gain = 3.22dBi < 6dBi, so the limit no need to be reduced.
   5260~5320MHz Directional Gain = 3.25dBi < 6dBi, so the limit no need to be reduced.
   5500~5720MHz Directional Gain = 3.32dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 7 / Ch 100	802.11ac (VHT20) / Chain 4 / Ch 52
	
802.11ac (VHT40) / Chain 3 / Ch 144	802.11ac (VHT80) / Chain 3 / Ch 144
	
802.11ac (VHT160(80+80)) / Chain 3 / Ch 122	
	

For U-NII-3 band

802.11a

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=8) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	144	5720	-6.99	-4.77	9.03	0.34	4.60	30	Pass
1	144	5720	-7.62	-5.40	9.03	0.34	3.97	30	Pass
2	144	5720	-7.37	-5.15	9.03	0.34	4.22	30	Pass
3	144	5720	-6.85	-4.63	9.03	0.34	4.74	30	Pass
4	144	5720	-7.37	-5.15	9.03	0.34	4.22	30	Pass
5	144	5720	-8.83	-6.61	9.03	0.34	2.76	30	Pass
6	144	5720	-6.69	-4.47	9.03	0.34	4.90	30	Pass
7	144	5720	-7.65	-5.43	9.03	0.34	3.94	30	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5745~5825MHz Directional Gain = 3.10dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=8) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	144	5720	-7.63	-5.41	9.03	0.17	26.97	30	Pass
1	144	5720	-7.80	-5.58	9.03	0.17	26.97	30	Pass
2	144	5720	-7.94	-5.72	9.03	0.17	26.97	30	Pass
3	144	5720	-7.76	-5.54	9.03	0.17	26.97	30	Pass
4	144	5720	-7.42	-5.20	9.03	0.17	26.97	30	Pass
5	144	5720	-8.13	-5.91	9.03	0.17	26.97	30	Pass
6	144	5720	-7.68	-5.46	9.03	0.17	26.97	30	Pass
7	144	5720	-8.07	-5.85	9.03	0.17	26.97	30	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5745~5825MHz Directional Gain = 3.10dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

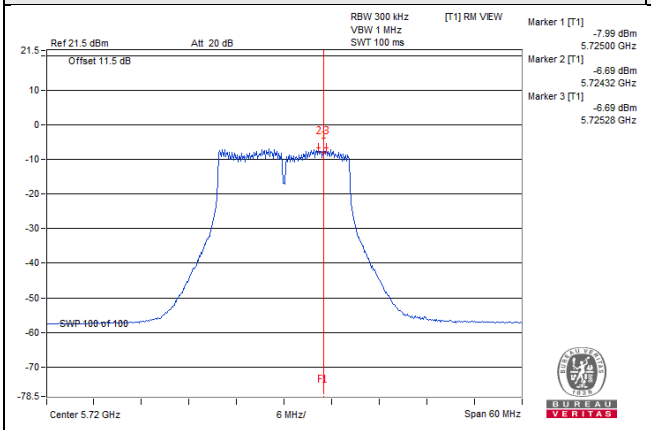
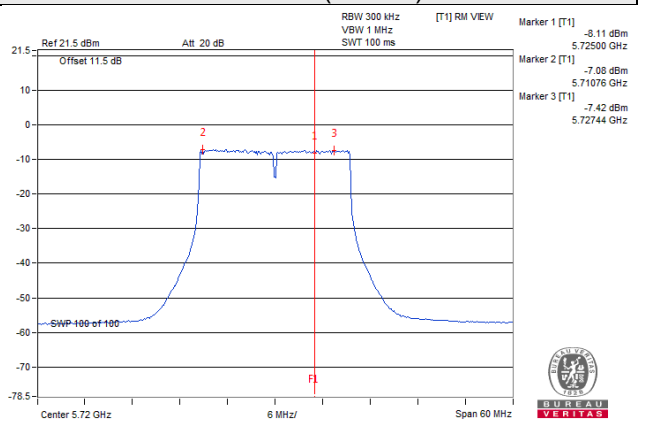
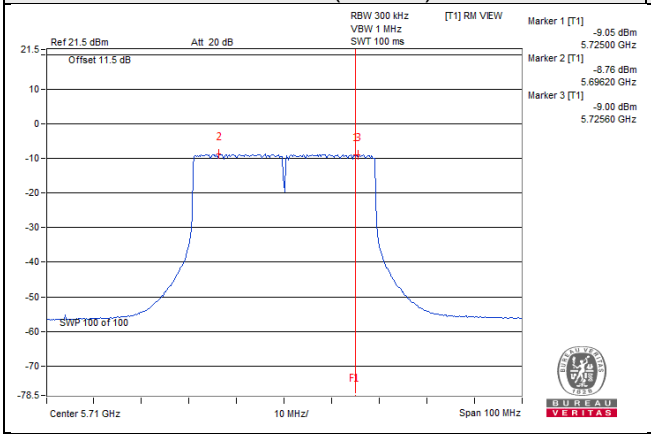
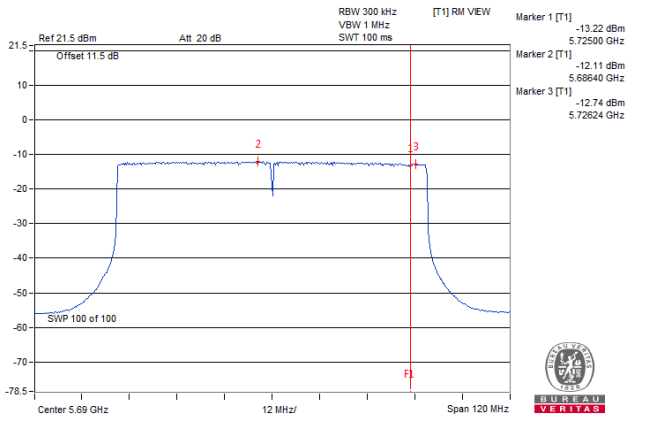
TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=8) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	142	5710	-9.89	-7.67	9.03	0.24	1.60	30	Pass
1	142	5710	-9.70	-7.48	9.03	0.24	1.79	30	Pass
2	142	5710	-9.73	-7.51	9.03	0.24	1.76	30	Pass
3	142	5710	-9.00	-6.78	9.03	0.24	2.49	30	Pass
4	142	5710	-9.13	-6.91	9.03	0.24	2.36	30	Pass
5	142	5710	-10.42	-8.20	9.03	0.24	1.07	30	Pass
6	142	5710	-9.43	-7.21	9.03	0.24	2.06	30	Pass
7	142	5710	-9.91	-7.69	9.03	0.24	1.58	30	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5745~5825MHz Directional Gain = 3.10dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=8) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	138	5690	-13.46	-11.24	9.03	0.25	-1.96	30	Pass
1	138	5690	-13.29	-11.07	9.03	0.25	-1.79	30	Pass
2	138	5690	-13.38	-11.16	9.03	0.25	-1.88	30	Pass
3	138	5690	-12.74	-10.52	9.03	0.25	-1.24	30	Pass
4	138	5690	-13.48	-11.26	9.03	0.25	-1.98	30	Pass
5	138	5690	-13.24	-11.02	9.03	0.25	-1.74	30	Pass
6	138	5690	-13.76	-11.54	9.03	0.25	-2.26	30	Pass
7	138	5690	-13.82	-11.60	9.03	0.25	-2.32	30	Pass

Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5745~5825MHz Directional Gain = 3.10dBi < 6dBi, so the limit no need to be reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

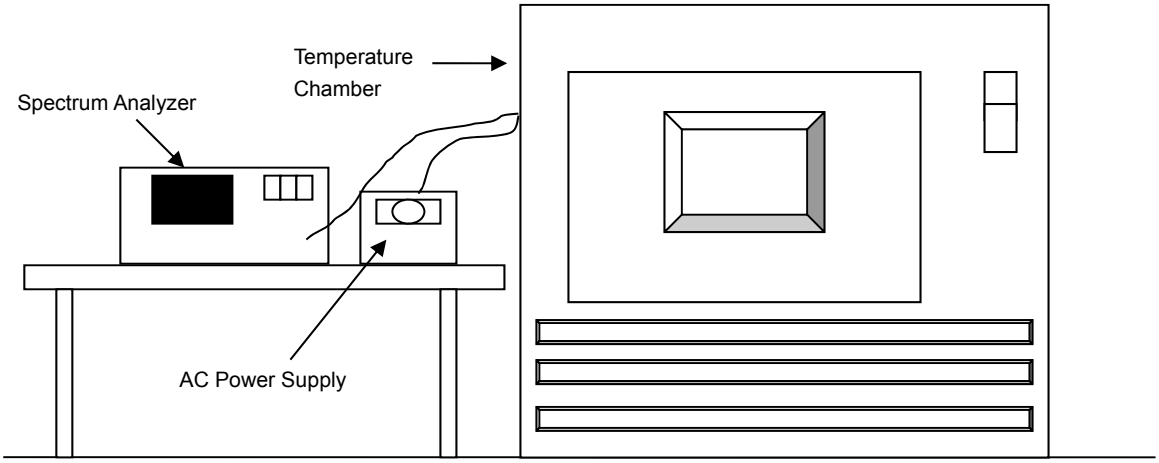
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 30, 2017	Jun. 29, 2018
			Jun. 29, 2018	Jun. 28, 2019
AC Power Supply Extech	CFW-105	E000603	NA	NA

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5260.0178	PASS	5260.0217	PASS	5260.02	PASS	5260.0197	PASS
40	120	5260.0155	PASS	5260.0203	PASS	5260.0172	PASS	5260.0191	PASS
30	120	5260.0251	PASS	5260.0251	PASS	5260.0241	PASS	5260.0255	PASS
20	120	5259.9937	PASS	5259.9959	PASS	5259.9934	PASS	5259.9965	PASS
10	120	5259.9746	PASS	5259.9759	PASS	5259.9745	PASS	5259.9752	PASS
0	120	5260.0141	PASS	5260.0157	PASS	5260.019	PASS	5260.0165	PASS
-10	120	5260.0191	PASS	5260.0168	PASS	5260.0198	PASS	5260.0184	PASS
-20	120	5259.9933	PASS	5259.995	PASS	5259.9921	PASS	5259.9909	PASS
-30	120	5259.9831	PASS	5259.9826	PASS	5259.981	PASS	5259.9825	PASS

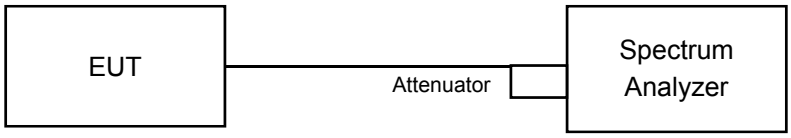
Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5259.9932	PASS	5259.9963	PASS	5259.9931	PASS	5259.9961	PASS
	120	5259.9937	PASS	5259.9959	PASS	5259.9934	PASS	5259.9965	PASS
	102	5259.9935	PASS	5259.9953	PASS	5259.9941	PASS	5259.9973	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)								Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7		
144	5720	16.46	16.46	16.41	16.44	16.40	15.68	16.40	16.44	0.5	Pass

802.11ac (VHT20)

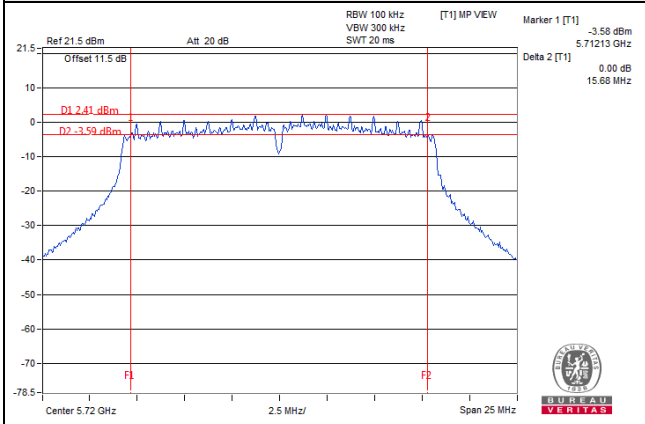
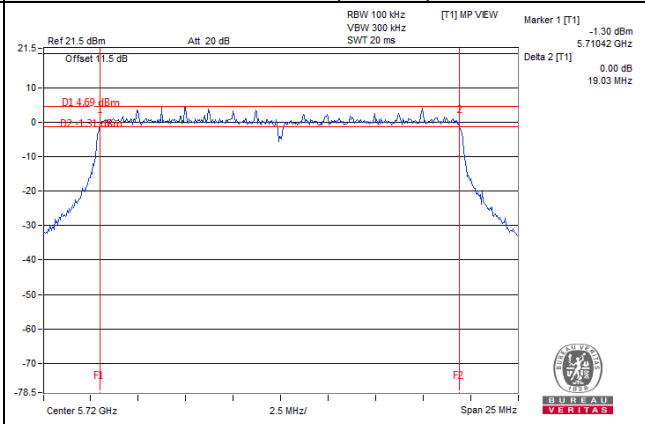
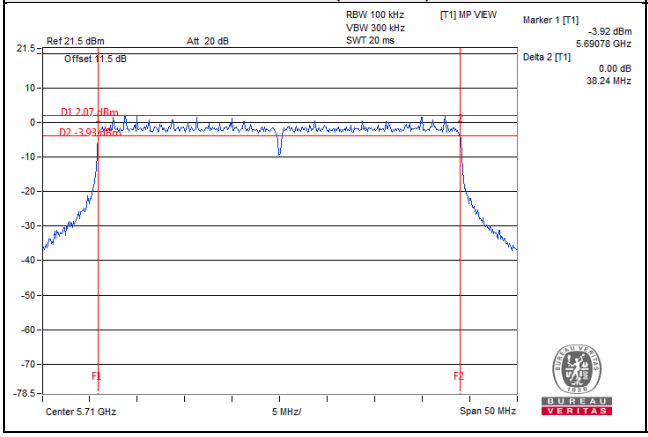
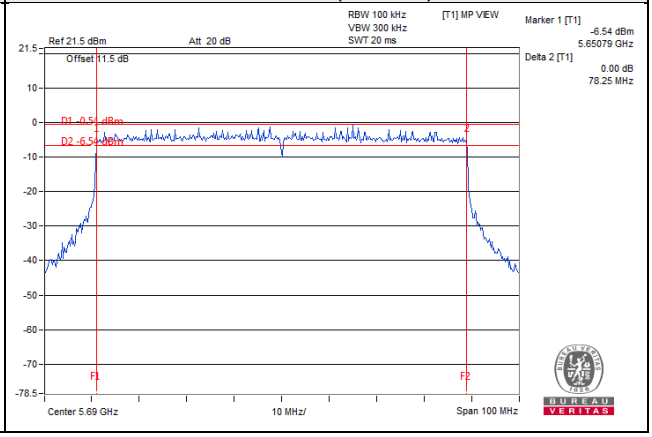
Channel	Frequency (MHz)	6dB Bandwidth (MHz)								Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7		
144	5720	19.15	19.04	19.07	19.09	19.03	19.04	19.11	19.10	0.5	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)								Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7		
142	5710	38.32	38.26	38.24	38.37	38.30	38.28	38.31	38.28	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)								Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7		
138	5690	78.40	78.25	78.43	78.43	78.33	78.29	78.37	78.40	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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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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