FCC Test Report

Report No.: RFBDYS-WTW-P21040408A

FCC ID: 2AKCZ-106

Test Model: APL66-106

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Test Date: May 10 ~ Jul. 09, 2021

Issued Date: Mar. 30, 2023

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FCC Registration / Designation Number: 788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBDYS-WTW-P21040408A	Original release	Mar. 30, 2023

1 Certificate of Conformity

Product: Wireless Access Point

Brand: SONICWALL

Test Model: APL66-106

Sample Status: Engineering sample

Applicant: SonicWall Inc.

Test Date: May 10 ~ Jul. 09, 2021

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 : Pettie Chen , **Date:** Mar. 30, 2023

Pettie Chen / Senior Specialist

Approved by : Jeremy Lin , **Date:** Mar. 30, 2023

Jeremy Lin / 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)(8)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -17.33dB at 0.43152MHz.
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.7dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

Note:

1. For U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless Access Point
Brand	SONICWALL
Test Model	APL66-106
Sample Status	Engineering sample
Power Supply Rating	12Vdc from Adapter 48~56Vdc from POE
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to 1200Mbps 802.11ac (VHT20/40/80): up to 1600Mbps 802.11ax: up to 4804Mbps
Operating Frequency	5260 ~ 5320MHz, 5500 ~ 5720MHz
Number of Channel	5G traffic radio (Radio 1): 5180 ~ 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), 802.11ac (VHT80+VHT80), 802.11ax (HE80+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): 3 802.11ac (VHT80+VHT80), 802.11ax (HE80+HE80): 1
Output Power	5G traffic radio (Radio 1): CDD Mode: 5260 ~ 5320MHz: 190.767mW 5500 ~ 5720MHz: 197.242mW Beamforming Mode: 5260 ~ 5320MHz: 81.731mW 5500 ~ 5720MHz: 44.666mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter (Optional)
Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RFBDYS-WTW-P21040408-1) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz and 5180~5240MHz [802ac (VHT80+VHT80), 802.11ax (HE80+HE80)] by software.

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

Radio	Modulation Mode	Beamforming Mode	TX Function
5G traffic radio (Radio 1)	802.11a	Not Support	8TX
	802.11n (HT20)	Support	8TX
	802.11n (HT40)	Support	8TX
	802.11ac (VHT20)	Support	8TX
	802.11ac (VHT40)	Support	8TX
	802.11ac (VHT80)	Support	8TX
	802.11ac (VHT80+VHT80)	Support	4TX+4TX
	802.11ax (HE20)	Support	8TX
	802.11ax (HE40)	Support	8TX
	802.11ax (HE80)	Support	8TX
	802.11ax (HE80+HE80)	Support	4TX+4TX
Scanning radio (Radio 3)	802.11a	Not Support	Rx Only
	802.11n (HT20)	Not Support	Rx Only
	802.11n (HT40)	Not Support	Rx Only
	802.11ac (VHT20)	Not Support	Rx Only
	802.11ac (VHT40)	Not Support	Rx Only
	802.11ac (VHT80)	Not Support	Rx Only

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80 on 802.11ac mode and HE20/HE40/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)

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

3. The EUT consumes power from the following adapter and PoE.

Adapter (Optional)	
Brand	Sunny
Model	SYS1546-3612-T3
Input Power	100-240Vac, 1.5A MAX, 50-60Hz
Output Power	12Vdc, 3.0A
Power cord	Non-shielded AC (0.5m) Non-shielded DC (1.86m) with one core

POE (Support unit only)	
Brand	EnGenius
Model	PNA90BGS-54
Input Power	100-240Vac, 1.5A, 50-60Hz
Output Power	48~56Vdc, 1.7A

4. The following antennas were provided to the EUT.

Antenna Type	PIFA					
Antenna Connector	I-PEX					
Antenna No.	Gain (dBi)					
	2400MHz	2450MHz	2500MHz	5150MHz	5500MHz	5850MHz
2G1 (Ant1)	3.30	3.87	3.32	-	-	-
2G2 (Ant2)	2.89	4.21	4.24	-	-	-
2G3 (Ant3)	4.08	4.54	4.39	-	-	-
2G4 (Ant4)	4.89	4.66	4.06	-	-	-
5G1 (Ant5)	-	-	-	4.29	4.65	4.37
5G2 (Ant5)	-	-	-	4.54	4.28	4.63
5G3 (Ant6)	-	-	-	5.27	5.25	4.87
5G4 (Ant6)	-	-	-	3.75	4.93	4.55
5G5 (Ant7)	-	-	-	3.94	4.15	4.30
5G6 (Ant7)	-	-	-	4.44	3.91	3.68
5G7 (Ant8)	-	-	-	4.74	4.31	4.67
5G8 (Ant8)	-	-	-	4.63	4.12	3.74
Scan (Ant9)	3.96	4.91	4.84	4.85	5.23	5.23
BLE (Ant10)	3.14	4.05	3.80	-	-	-

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

5. The simultaneous operation mode was determined by client.

No	Mode
1	2GHz traffic radio (Radio 2) + 5GHz traffic radio (Radio 1) + BLE
2	5GHz traffic radio (Radio 1) + BLE

* Spurious emission of the simultaneous operation has been evaluated and no non-compliance was found.

3.2 Description of Test Modes

For 5180 ~ 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

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

Channel	Frequency
42+58	5210 MHz + 5290 MHz

For 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	122	5610 MHz
138	5690 MHz		

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

Channel	Frequency
106+122	5530 MHz + 5610 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT power from adapter
B	-	√	√	-	EUT power from PoE

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

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane.**
2. For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum power mode.
3. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	Radio 1
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
A	802.11ax (HE80+HE80)	5180-5240+ 5260-5320	42+58	42+58	OFDMA	MCS0	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
A	802.11ax (HE80+HE80)		106+122	106+122	OFDMA	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	Data Rate (Mbps)	Remark
A, B	802.11ax (HE80)	5260-5320	58	58	OFDMA	MCS0	Radio 1
A, B	802.11ax (HE80)	5500-5720	106 to 138		OFDMA	MCS0	

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A, B	802.11ax (HE80)	5260-5320	58	58	OFDMA	MCS0	Radio 1
A, B	802.11ax (HE80)	5500-5720	106 to 138		OFDMA	MCS0	

Transmit Power 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
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	Radio 1
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
	802.11ac (VHT80)		58	58	OFDM	29.3	
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
A	802.11ac (VHT80+ VHT80)	5180-5240+ 5260-5320	42+58	42+58	OFDM	29.3	
	802.11ax (HE80+HE80)		42+58	42+58	OFDMA	MCS0	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3	
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
A	802.11ac (VHT80+ VHT80)		106+122	106+122	OFDM	29.3	
	802.11ax (HE80+HE80)		106+122	106+122	OFDMA	MCS0	

Bandwidth, Power Spectral Density and Frequency Stability 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
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	Radio 1
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
A	802.11ax (HE80+HE80)	5180-5240+ 5260-5320	42+58	42+58	OFDMA	MCS0	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
A	802.11ax (HE80+HE80)		106+122	106+122	OFDMA	MCS0	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 69% RH	120Vac, 60Hz	Edison Lee, Adair Peng
RE<1G	23 deg. C, 67% RH	120Vac, 60Hz 56Vdc	Adair Peng
PLC	24 deg. C, 69% RH	120Vac, 60Hz 56Vdc	Adair Peng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Jisyong Wang

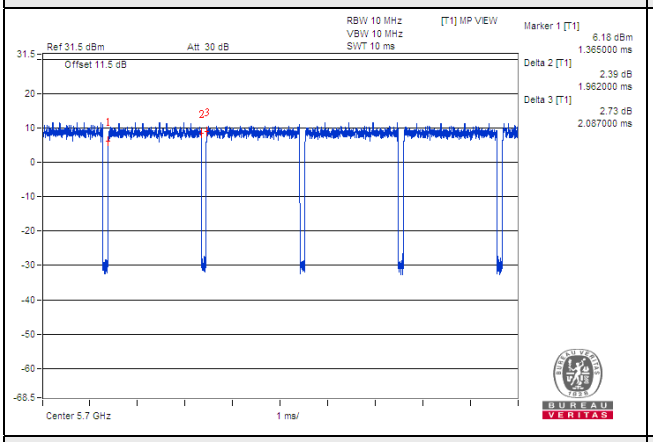
3.3 Duty Cycle of Test Signal

5G traffic radio (Radio 1)

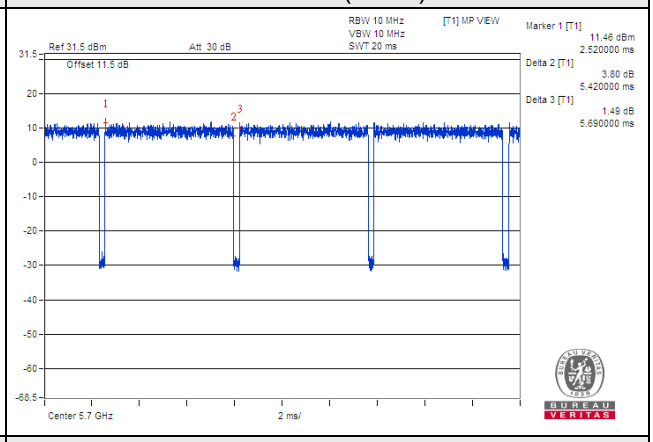
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.962/2.087 = 0.94, Duty factor = 10 * log (1/0.94) = 0.27
802.11ax (HE20): Duty cycle = 5.420/5.690 = 0.953, Duty factor = 10 * log (1/0.953) = 0.21
802.11ax (HE40): Duty cycle = 5.400/5.745 = 0.940, Duty factor = 10 * log (1/0.940) = 0.27
802.11ax (HE80): Duty cycle = 5.425/5.735 = 0.946, Duty factor = 10 * log (1/0.946) = 0.24
802.11ax (HE80+HE80) Ch 42: Duty cycle = 5.43/6.212 = 0.874, Duty factor = 10 * log (1/0.874) = 0.58
802.11ax (HE80+HE80) Ch 58: Duty cycle = 5.425/5.710 = 0.950, Duty factor = 10 * log (1/0.950) = 0.22
802.11ax (HE80+HE80) Ch 106+Ch122:
Duty cycle = 5.425/5.710 = 0.950, Duty factor = 10 * log (1/0.950) = 0.22

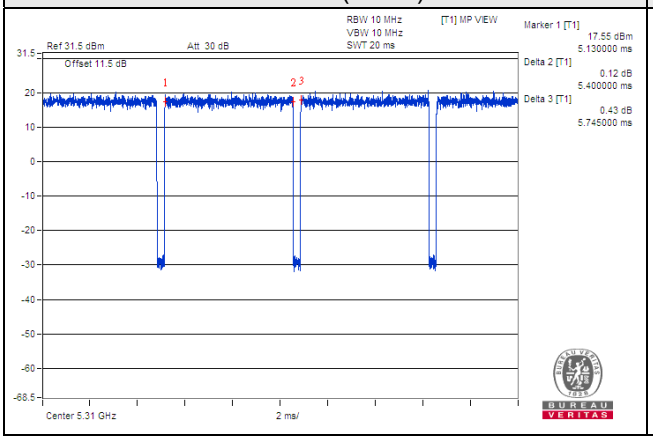
802.11a



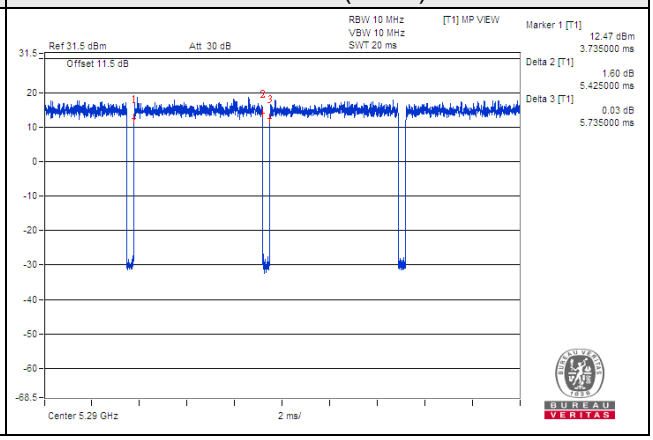
802.11ax (HE20)



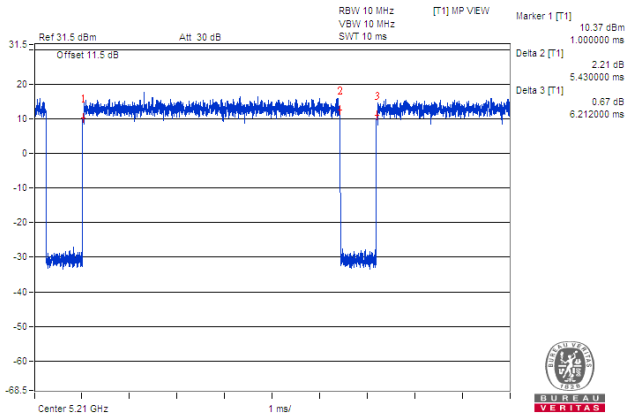
802.11ax (HE40)



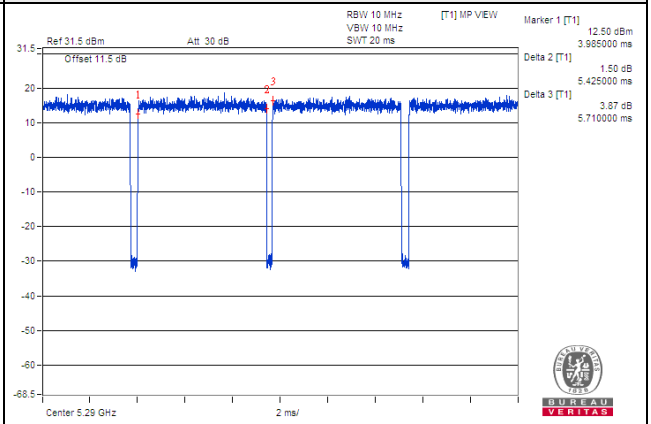
802.11ax (HE80)



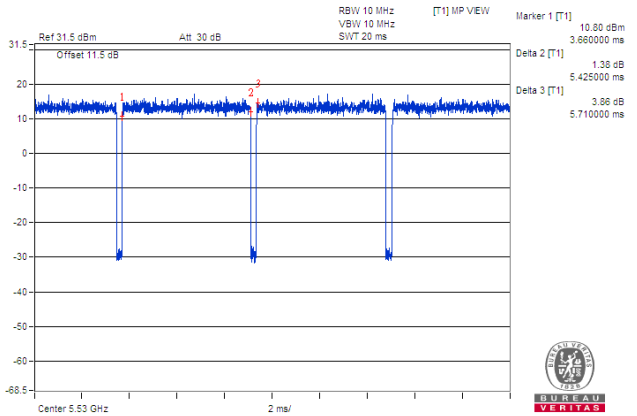
802.11ax (HE80+HE80) Ch 42



802.11ax (HE80+HE80) Ch 58



802.11ax (HE80+HE80) Ch 106+122



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Adapter	Sunny	SYS1546-3612-T3	NA	NA	Provided by client (Optional)
C.	802.3AT/ AF GIGABIT SINGLE PORT PoE INJECTOR	EnGenius	PNA90BGS-54	NA	NA	Provided by client
D.	Flash	HP	v250W	NA	NA	-

Note:

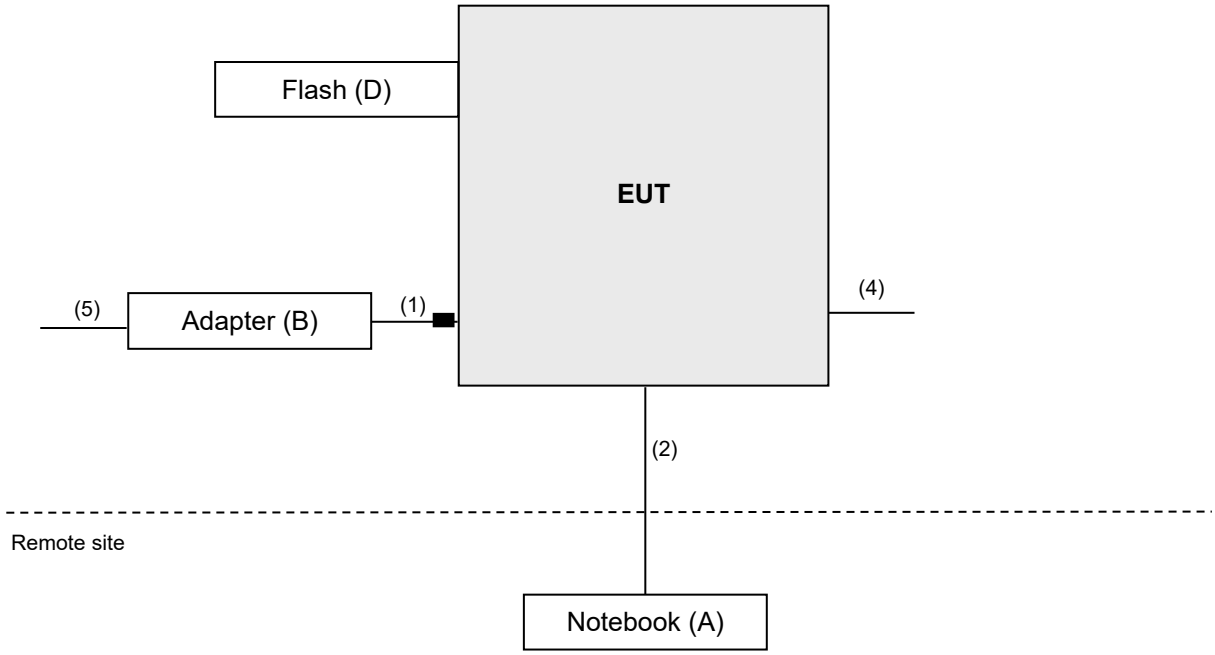
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A acted as communication partner to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Power cable	1	1.86	N	1	Provided by client
2.	LAN cable	1	7.0	N	0	RJ45, Cat5e
3.	LAN cable	1	1.5	N	0	RJ45, Cat5e
4.	Console cable	1	1.5	N	0	Provided by labs
5.	AC Power cable	1	0.5	N	0	Provided by client (Optional) (Brand: KING-CORD, Model: KC-001)
6.	AC Power cable	1	0.6	N	0	Provided by client (Brand: I-SHENG, Model: SP-305B)

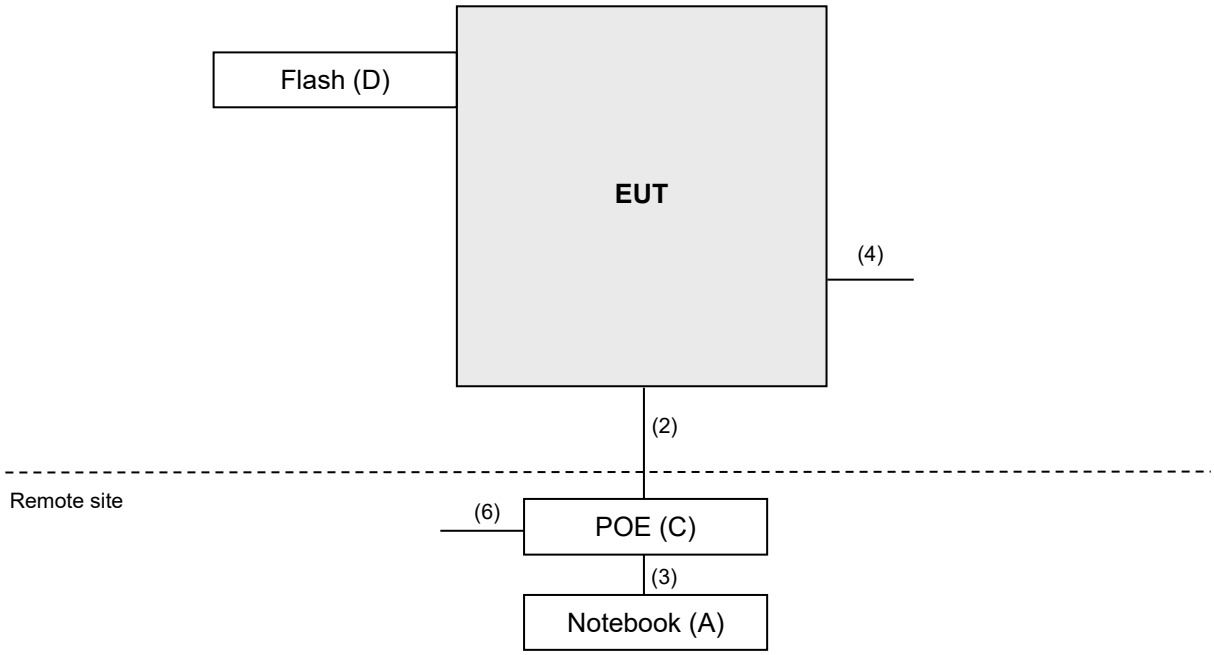
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



3.5 General Description of Applied Standards and References

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

Test standard:
FCC Part 15, Subpart E (15.407)
ANSI C63.10:2013

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

References Test Guidance:
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

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><th>Frequency Band</th><th colspan="2">Applicable To</th><th>EIRP Limit</th><th>Equivalent Field Strength at 3m</th></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	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
			Jul. 05, 2021	Jul. 04, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
			Jun. 07, 2021	Jun. 06, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 22, 2021	Mar. 21, 2022
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 13, 2020	Jul. 12, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

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

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

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

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

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

Note:

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

For Radiated emission above 30MHz

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

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

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

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

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

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

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. RBW = 1MHz, VBW = 1kHz

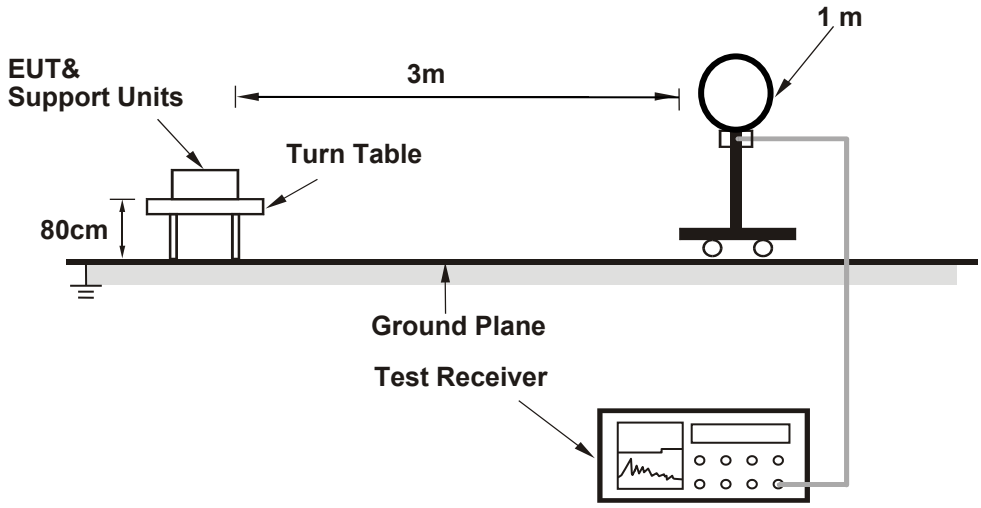
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

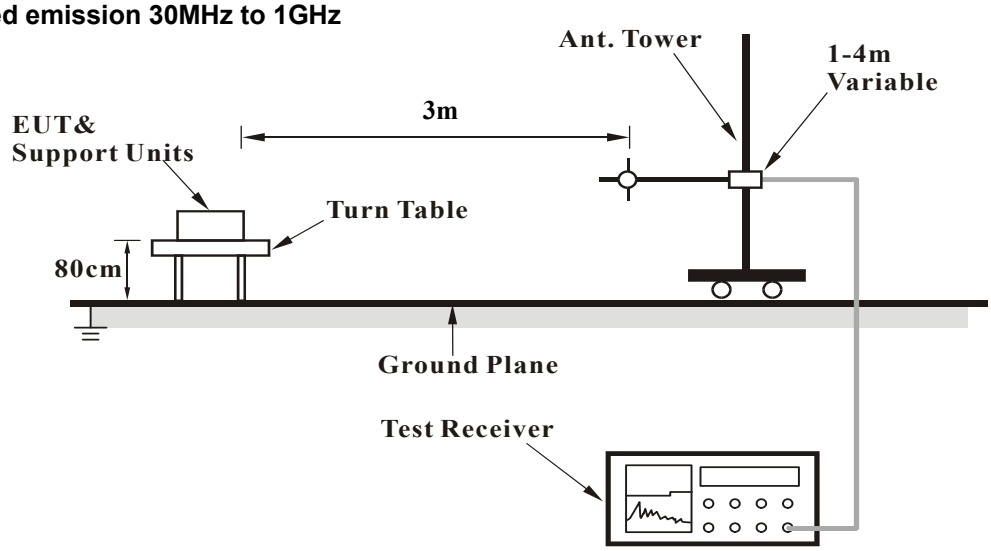
No deviation.

4.1.5 Test Setup

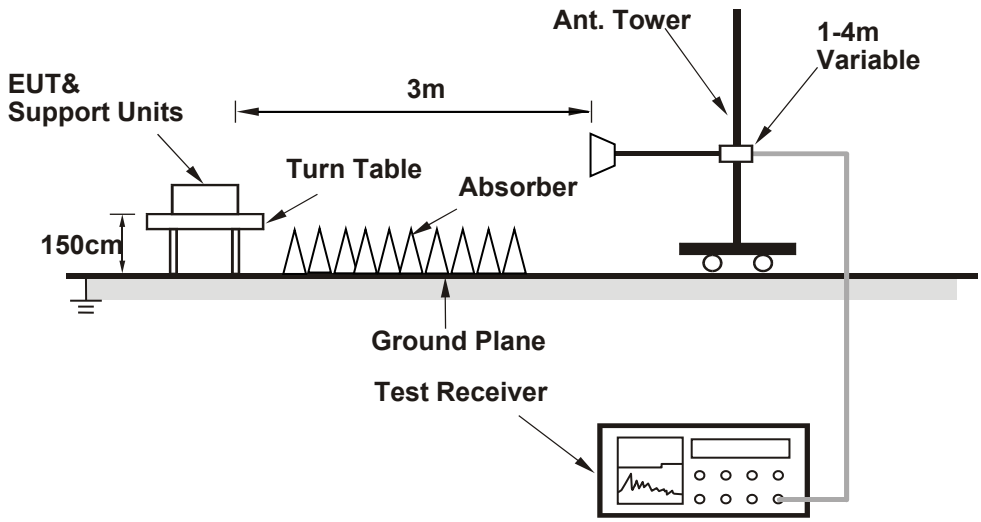
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.

b. Prepared a notebook to act as a communication partner and placed it outside of testing area.

c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

5G traffic radio (Radio 1)

RF Mode	TX 802.11a	Channel	CH 52：5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.8 PK	74.0	-16.2	1.81 H	358	51.4	6.4
2	5150.00	45.0 AV	54.0	-9.0	1.81 H	358	38.6	6.4
3	*5260.00	113.4 PK			1.74 H	359	71.5	41.9
4	*5260.00	104.1 AV			1.74 H	359	62.2	41.9
5	#10520.00	59.0 PK	68.2	-9.2	1.53 H	39	40.8	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	1.22 V	338	50.8	6.4
2	5150.00	44.7 AV	54.0	-9.3	1.22 V	338	38.3	6.4
3	*5260.00	112.0 PK			1.20 V	339	70.1	41.9
4	*5260.00	102.4 AV			1.20 V	339	60.5	41.9
5	#10520.00	58.8 PK	68.2	-9.4	1.91 V	174	40.6	18.2

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 60：5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.1 PK			1.66 H	340	71.2	41.9
2	*5300.00	103.9 AV			1.66 H	340	62.0	41.9
3	10600.00	59.5 PK	74.0	-14.5	1.55 H	49	41.9	17.6
4	10600.00	45.7 AV	54.0	-8.3	1.55 H	49	28.1	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	110.3 PK			1.38 V	6	68.4	41.9
2	*5300.00	100.4 AV			1.38 V	6	58.5	41.9
3	10600.00	58.6 PK	74.0	-15.4	1.85 V	172	41.0	17.6
4	10600.00	45.2 AV	54.0	-8.8	1.85 V	172	27.6	17.6

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 64：5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	113.0 PK			1.72 H	342	71.0	42.0
2	*5320.00	109.2 AV			1.72 H	342	67.2	42.0
3	5350.00	57.6 PK	74.0	-16.4	1.77 H	348	51.3	6.3
4	5350.00	44.6 AV	54.0	-9.4	1.77 H	348	38.3	6.3
5	10640.00	59.3 PK	74.0	-14.7	1.63 H	33	41.8	17.5
6	10640.00	46.1 AV	54.0	-7.9	1.63 H	33	28.6	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	110.1 PK			1.37 V	339	68.1	42.0
2	*5320.00	100.8 AV			1.37 V	339	58.8	42.0
3	5350.00	57.3 PK	74.0	-16.7	1.37 V	339	51.0	6.3
4	5350.00	44.4 AV	54.0	-9.6	1.37 V	339	38.1	6.3
5	10640.00	58.4 PK	74.0	-15.6	2.00 V	178	40.9	17.5
6	10640.00	45.0 AV	54.0	-9.0	2.00 V	178	27.5	17.5

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 100：5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	1.09 H	1	51.5	6.3
2	5460.00	44.8 AV	54.0	-9.2	1.09 H	1	38.5	6.3
3	#5470.00	57.8 PK	68.2	-10.4	1.11 H	10	51.6	6.2
4	*5500.00	113.8 PK			1.07 H	2	71.7	42.1
5	*5500.00	103.7 AV			1.07 H	2	61.6	42.1
6	11000.00	59.2 PK	74.0	-14.8	1.61 H	57	41.1	18.1
7	11000.00	46.1 AV	54.0	-7.9	1.61 H	57	28.0	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	1.55 V	357	51.5	6.3
2	5460.00	57.7 PK	74.0	-16.3	1.53 V	350	51.4	6.3
3	5460.00	44.7 AV	54.0	-9.3	1.53 V	350	38.4	6.3
4	*5500.00	112.4 PK			1.51 V	351	70.3	42.1
5	*5500.00	102.2 AV			1.51 V	351	60.1	42.1
6	11000.00	59.0 PK	74.0	-15.0	1.86 V	155	40.9	18.1
7	11000.00	45.8 AV	54.0	-8.2	1.86 V	155	27.7	18.1

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 116：5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	114.7 PK			1.81 H	350	72.6	42.1
2	*5580.00	104.3 AV			1.81 H	350	62.2	42.1
3	11160.00	59.6 PK	74.0	-14.4	1.70 H	63	41.2	18.4
4	11160.00	46.5 AV	54.0	-7.5	1.70 H	63	28.1	18.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	113.2 PK			1.60 V	343	71.1	42.1
2	*5580.00	102.8 AV			1.60 V	343	60.7	42.1
3	11160.00	59.4 PK	74.0	-14.6	1.91 V	160	41.0	18.4
4	11160.00	46.2 AV	54.0	-7.8	1.91 V	160	27.8	18.4

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. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11a	Channel	CH 140：5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	112.7 PK			2.06 H	13	70.4	42.3
2	*5700.00	103.3 AV			2.06 H	13	61.0	42.3
3	#5725.00	58.2 PK	68.2	-10.0	2.00 H	10	52.0	6.2
4	11400.00	59.2 PK	74.0	-14.8	1.71 H	57	41.3	17.9
5	11400.00	46.2 AV	54.0	-7.8	1.71 H	57	28.3	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	111.3 PK			1.67 V	352	69.0	42.3
2	*5700.00	101.9 AV			1.67 V	352	59.6	42.3
3	#5725.00	58.0 PK	68.2	-10.2	1.57 V	355	51.8	6.2
4	11400.00	58.9 PK	74.0	-15.1	1.81 V	152	41.0	17.9
5	11400.00	46.0 AV	54.0	-8.0	1.81 V	152	28.1	17.9

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 144：5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.6 PK	68.2	-10.6	1.43 H	350	51.4	6.2
2	*5720.00	112.6 PK			1.36 H	342	70.4	42.2
3	*5720.00	103.1 AV			1.36 H	342	60.9	42.2
4	#5850.00	57.9 PK	68.2	-10.3	1.39 H	349	51.2	6.7
5	11440.00	59.3 PK	74.0	-14.7	1.72 H	65	41.1	18.2
6	11440.00	46.3 AV	54.0	-7.7	1.72 H	65	28.1	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.5 PK	68.2	-10.7	1.65 V	357	51.3	6.2
2	*5720.00	111.2 PK			1.63 V	358	69.0	42.2
3	*5720.00	101.7 AV			1.63 V	358	59.5	42.2
4	#5850.00	57.7 PK	68.2	-10.5	1.53 V	348	51.0	6.7
5	11440.00	59.0 PK	74.0	-15.0	1.90 V	157	40.8	18.2
6	11440.00	46.0 AV	54.0	-8.0	1.90 V	157	27.8	18.2

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 52：5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	1.59 H	36	51.6	6.4
2	5150.00	44.7 AV	54.0	-9.3	1.59 H	36	38.3	6.4
3	*5260.00	116.7 PK			1.57 H	31	74.8	41.9
4	*5260.00	103.6 AV			1.57 H	31	61.7	41.9
5	#10520.00	59.8 PK	68.2	-8.4	1.49 H	47	41.6	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	1.33 V	350	51.6	6.4
2	5150.00	45.5 AV	54.0	-8.5	1.33 V	350	39.1	6.4
3	*5260.00	113.9 PK			1.33 V	344	72.0	41.9
4	*5260.00	101.8 AV			1.33 V	344	59.9	41.9
5	#10520.00	59.0 PK	68.2	-9.2	1.86 V	163	40.8	18.2

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 60：5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	114.8 PK			1.58 H	345	72.9	41.9
2	*5300.00	102.1 AV			1.58 H	345	60.2	41.9
3	10600.00	59.1 PK	74.0	-14.9	1.57 H	41	41.5	17.6
4	10600.00	45.9 AV	54.0	-8.1	1.57 H	41	28.3	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	114.0 PK			1.13 V	344	72.1	41.9
2	*5300.00	101.5 AV			1.13 V	344	59.6	41.9
3	10600.00	58.4 PK	74.0	-15.6	1.95 V	176	40.8	17.6
4	10600.00	45.9 AV	54.0	-8.1	1.95 V	176	28.3	17.6

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 64：5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	114.5 PK			2.56 H	3	72.5	42.0
2	*5320.00	101.3 AV			2.56 H	3	59.3	42.0
3	5350.00	59.0 PK	74.0	-15.0	2.48 H	354	52.7	6.3
4	5350.00	45.0 AV	54.0	-9.0	2.48 H	354	38.7	6.3
5	10640.00	59.3 PK	74.0	-14.7	1.59 H	46	41.8	17.5
6	10640.00	45.8 AV	54.0	-8.2	1.59 H	46	28.3	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	114.1 PK			1.12 V	360	72.1	42.0
2	*5320.00	100.9 AV			1.12 V	360	58.9	42.0
3	5350.00	57.8 PK	74.0	-16.2	1.13 V	335	51.5	6.3
4	5350.00	44.2 AV	54.0	-9.8	1.13 V	335	37.9	6.3
5	10640.00	58.4 PK	74.0	-15.6	1.98 V	176	40.9	17.5
6	10640.00	45.1 AV	54.0	-8.9	1.98 V	176	27.6	17.5

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 100：5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	2.12 H	20	52.0	6.3
2	5460.00	44.4 AV	54.0	-9.6	2.12 H	20	38.1	6.3
3	#5470.00	57.5 PK	68.2	-10.7	2.03 H	19	51.3	6.2
4	*5500.00	116.7 PK			2.28 H	22	74.6	42.1
5	*5500.00	103.8 AV			2.28 H	22	61.7	42.1
6	11000.00	59.6 PK	74.0	-14.4	1.69 H	62	41.5	18.1
7	11000.00	46.4 AV	54.0	-7.6	1.69 H	62	28.3	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.1 PK	74.0	-15.9	1.63 V	358	51.8	6.3
2	5460.00	44.3 AV	54.0	-9.7	1.63 V	358	38.0	6.3
3	#5470.00	57.3 PK	68.2	-10.9	1.66 V	350	51.1	6.2
4	*5500.00	115.2 PK			1.71 V	352	73.1	42.1
5	*5500.00	102.4 AV			1.71 V	352	60.3	42.1
6	11000.00	59.3 PK	74.0	-14.7	1.94 V	149	41.2	18.1
7	11000.00	46.1 AV	54.0	-7.9	1.94 V	149	28.0	18.1

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 116：5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.3 PK			2.30 H	356	73.2	42.1
2	*5580.00	103.0 AV			2.30 H	356	60.9	42.1
3	11160.00	59.8 PK	74.0	-14.2	1.72 H	53	41.4	18.4
4	11160.00	46.6 AV	54.0	-7.4	1.72 H	53	28.2	18.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	113.8 PK			1.72 V	347	71.7	42.1
2	*5580.00	101.6 AV			1.72 V	347	59.5	42.1
3	11160.00	59.5 PK	74.0	-14.5	1.93 V	160	41.1	18.4
4	11160.00	46.4 AV	54.0	-7.6	1.93 V	160	28.0	18.4

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. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11ax (HE20)	Channel	CH 140：5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.0 PK			2.20 H	25	72.7	42.3
2	*5700.00	101.8 AV			2.20 H	25	59.5	42.3
3	#5725.00	57.6 PK	68.2	-10.6	2.10 H	20	51.4	6.2
4	11400.00	59.2 PK	74.0	-14.8	1.67 H	59	41.3	17.9
5	11400.00	46.0 AV	54.0	-8.0	1.67 H	59	28.1	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	113.6 PK			1.52 V	359	71.3	42.3
2	*5700.00	100.4 AV			1.52 V	359	58.1	42.3
3	#5725.00	57.5 PK	68.2	-10.7	1.60 V	352	51.3	6.2
4	11400.00	58.9 PK	74.0	-15.1	1.93 V	160	41.0	17.9
5	11400.00	45.7 AV	54.0	-8.3	1.93 V	160	27.8	17.9

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 144：5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.0 PK	68.2	-10.2	2.19 H	341	51.8	6.2
2	*5720.00	114.2 PK			2.11 H	348	72.0	42.2
3	*5720.00	101.2 AV			2.11 H	348	59.0	42.2
4	#5850.00	57.9 PK	68.2	-10.3	2.03 H	352	51.2	6.7
5	11440.00	59.3 PK	74.0	-14.7	1.65 H	69	41.1	18.2
6	11440.00	46.1 AV	54.0	-7.9	1.65 H	69	27.9	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.9 PK	68.2	-10.3	1.43 V	359	51.7	6.2
2	*5720.00	112.8 PK			1.57 V	352	70.6	42.2
3	*5720.00	99.7 AV			1.57 V	352	57.5	42.2
4	#5850.00	57.8 PK	68.2	-10.4	1.51 V	1	51.1	6.7
5	11440.00	59.1 PK	74.0	-14.9	1.85 V	152	40.9	18.2
6	11440.00	45.9 AV	54.0	-8.1	1.85 V	152	27.7	18.2

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 54：5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.8 PK	74.0	-16.2	2.40 H	7	51.4	6.4
2	5150.00	45.1 AV	54.0	-8.9	2.40 H	7	38.7	6.4
3	*5270.00	115.8 PK			2.39 H	9	73.9	41.9
4	*5270.00	103.5 AV			2.39 H	9	61.6	41.9
5	5350.00	58.3 PK	74.0	-15.7	2.44 H	360	52.0	6.3
6	5350.00	44.9 AV	54.0	-9.1	2.44 H	360	38.6	6.3
7	#10540.00	60.0 PK	68.2	-8.2	1.68 H	48	41.9	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.6 PK	74.0	-16.4	1.47 V	28	51.2	6.4
2	5150.00	44.7 AV	54.0	-9.3	1.47 V	28	38.3	6.4
3	*5270.00	114.7 PK			1.41 V	20	72.8	41.9
4	*5270.00	101.8 AV			1.41 V	20	59.9	41.9
5	5350.00	57.8 PK	74.0	-16.2	1.43 V	23	51.5	6.3
6	5350.00	44.7 AV	54.0	-9.3	1.43 V	23	38.4	6.3
7	#10540.00	58.9 PK	68.2	-9.3	1.93 V	169	40.8	18.1

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 62：5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.6 PK			2.46 H	357	73.6	42.0
2	*5310.00	103.4 AV			2.46 H	357	61.4	42.0
3	5350.00	60.6 PK	74.0	-13.4	2.26 H	3	54.3	6.3
4	5350.00	48.5 AV	54.0	-5.5	2.26 H	3	42.2	6.3
5	10620.00	59.8 PK	74.0	-14.2	1.79 H	48	42.1	17.7
6	10620.00	46.0 AV	54.0	-8.0	1.79 H	48	28.3	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	114.1 PK			1.46 V	21	72.1	42.0
2	*5310.00	102.2 AV			1.46 V	21	60.2	42.0
3	5350.00	47.5 PK	74.0	-26.5	1.44 V	18	41.2	6.3
4	5350.00	44.8 AV	54.0	-9.2	1.44 V	18	38.5	6.3
5	10620.00	58.5 PK	74.0	-15.5	1.88 V	173	40.8	17.7
6	10620.00	44.8 AV	54.0	-9.2	1.88 V	173	27.1	17.7

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 102：5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.1 PK	74.0	-15.9	1.53 H	350	51.8	6.3
2	5460.00	45.1 AV	54.0	-8.9	1.53 H	350	38.8	6.3
3	#5470.00	59.0 PK	68.2	-9.2	1.57 H	349	52.8	6.2
4	*5510.00	115.4 PK			1.48 H	342	73.3	42.1
5	*5510.00	102.5 AV			1.48 H	342	60.4	42.1
6	11020.00	60.1 PK	74.0	-13.9	1.75 H	73	42.0	18.1
7	11020.00	46.5 AV	54.0	-7.5	1.75 H	73	28.4	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.9 PK	74.0	-16.1	1.56 V	352	51.6	6.3
2	5460.00	45.0 AV	54.0	-9.0	1.56 V	352	38.7	6.3
3	#5470.00	58.8 PK	68.2	-9.4	1.62 V	359	52.6	6.2
4	*5510.00	113.9 PK			1.70 V	355	71.8	42.1
5	*5510.00	101.1 AV			1.70 V	355	59.0	42.1
6	11020.00	59.7 PK	74.0	-14.3	1.87 V	152	41.6	18.1
7	11020.00	46.2 AV	54.0	-7.8	1.87 V	152	28.1	18.1

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 110：5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.7 PK			1.32 H	7	73.6	42.1
2	*5550.00	103.1 AV			1.32 H	7	61.0	42.1
3	11100.00	60.4 PK	74.0	-13.6	1.66 H	69	42.2	18.2
4	11100.00	46.7 AV	54.0	-7.3	1.66 H	69	28.5	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	114.2 PK			1.66 V	347	72.1	42.1
2	*5550.00	101.7 AV			1.66 V	347	59.6	42.1
3	11100.00	60.0 PK	74.0	-14.0	1.87 V	154	41.8	18.2
4	11100.00	46.4 AV	54.0	-7.6	1.87 V	154	28.2	18.2

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 134：5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	115.2 PK			1.56 H	10	73.0	42.2
2	*5670.00	102.8 AV			1.56 H	10	60.6	42.2
3	#5725.00	57.6 PK	68.2	-10.6	1.66 H	12	51.4	6.2
4	11340.00	60.6 PK	74.0	-13.4	1.70 H	71	42.3	18.3
5	11340.00	46.9 AV	54.0	-7.1	1.70 H	71	28.6	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	113.7 PK			1.71 V	358	71.5	42.2
2	*5670.00	101.3 AV			1.71 V	358	59.1	42.2
3	#5725.00	57.4 PK	68.2	-10.8	1.58 V	352	51.2	6.2
4	11340.00	60.3 PK	74.0	-13.7	1.82 V	158	42.0	18.3
5	11340.00	46.6 AV	54.0	-7.4	1.82 V	158	28.3	18.3

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 142：5710 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.7 PK	68.2	-10.5	2.53 H	3	51.5	6.2
2	*5710.00	116.0 PK			2.72 H	359	73.7	42.3
3	*5710.00	103.0 AV			2.72 H	359	60.7	42.3
4	#5850.00	59.0 PK	68.2	-9.2	2.60 H	352	52.3	6.7
5	11420.00	60.4 PK	74.0	-13.6	1.63 H	59	42.4	18.0
6	11420.00	46.7 AV	54.0	-7.3	1.63 H	59	28.7	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.5 PK	68.2	-10.7	1.51 V	340	51.3	6.2
2	*5710.00	114.5 PK			1.65 V	358	72.2	42.3
3	*5710.00	101.5 AV			1.65 V	358	59.2	42.3
4	#5850.00	58.8 PK	68.2	-9.4	1.51 V	342	52.1	6.7
5	11420.00	60.0 PK	74.0	-14.0	1.93 V	160	42.0	18.0
6	11420.00	46.3 AV	54.0	-7.7	1.93 V	160	28.3	18.0

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	58.4 PK	74.0	-15.6	1.82 H	28	52.0	6.4
2	5150.00	45.3 AV	54.0	-8.7	1.82 H	28	38.9	6.4
3	*5290.00	114.7 PK			1.78 H	4	72.8	41.9
4	*5290.00	102.7 AV			1.78 H	4	60.8	41.9
5	5350.00	63.1 PK	74.0	-10.9	1.73 H	19	56.8	6.3
6	5350.00	50.5 AV	54.0	-3.5	1.73 H	19	44.2	6.3
7	#10580.00	60.1 PK	68.2	-8.1	1.77 H	48	42.3	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.9 PK	74.0	-15.1	1.55 V	12	52.5	6.4
2	5150.00	45.1 AV	54.0	-8.9	1.55 V	12	38.7	6.4
3	*5290.00	114.4 PK			1.52 V	6	72.5	41.9
4	*5290.00	102.1 AV			1.52 V	6	60.2	41.9
5	5350.00	61.1 PK	74.0	-12.9	1.40 V	9	54.8	6.3
6	5350.00	47.3 AV	54.0	-6.7	1.40 V	9	41.0	6.3
7	#10580.00	58.9 PK	68.2	-9.3	1.91 V	185	41.1	17.8

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 106：5530 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	61.3 PK	74.0	-12.7	2.41 H	20	55.0	6.3
2	5460.00	48.8 AV	54.0	-5.2	2.41 H	20	42.5	6.3
3	#5470.00	63.0 PK	68.2	-5.2	2.43 H	25	56.8	6.2
4	*5530.00	114.7 PK			2.48 H	17	72.6	42.1
5	*5530.00	102.5 AV			2.48 H	17	60.4	42.1
6	#5725.00	57.9 PK	68.2	-10.3	2.31 H	32	51.7	6.2
7	11060.00	58.6 PK	74.0	-15.4	1.72 H	57	40.5	18.1
8	11060.00	45.3 AV	54.0	-8.7	1.72 H	57	27.2	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	59.8 PK	74.0	-14.2	1.63 V	359	53.5	6.3
2	5460.00	47.3 AV	54.0	-6.7	1.63 V	359	41.0	6.3
3	#5470.00	61.1 PK	68.2	-7.1	1.60 V	349	54.9	6.2
4	*5530.00	113.2 PK			1.58 V	355	71.1	42.1
5	*5530.00	101.1 AV			1.58 V	355	59.0	42.1
6	#5725.00	57.4 PK	68.2	-10.8	1.52 V	353	51.2	6.2
7	11060.00	58.3 PK	74.0	-15.7	1.86 V	163	40.2	18.1
8	11060.00	45.1 AV	54.0	-8.9	1.86 V	163	27.0	18.1

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 122：5610 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	1.39 H	339	52.0	6.3
2	5460.00	44.8 AV	54.0	-9.2	1.39 H	339	38.5	6.3
3	#5470.00	58.3 PK	68.2	-9.9	1.43 H	341	52.1	6.2
4	*5610.00	115.9 PK			1.27 H	337	73.8	42.1
5	*5610.00	103.3 AV			1.27 H	337	61.2	42.1
6	#5725.00	57.8 PK	68.2	-10.4	1.22 H	330	51.6	6.2
7	11220.00	59.2 PK	74.0	-14.8	1.79 H	65	40.7	18.5
8	11220.00	45.8 AV	54.0	-8.2	1.79 H	65	27.3	18.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	58.1 PK	74.0	-15.9	1.60 V	349	51.8	6.3
2	5460.00	44.6 AV	54.0	-9.4	1.60 V	349	38.3	6.3
3	#5470.00	58.0 PK	68.2	-10.2	1.63 V	341	51.8	6.2
4	*5610.00	114.5 PK			1.71 V	339	72.4	42.1
5	*5610.00	101.9 AV			1.71 V	339	59.8	42.1
6	#5725.00	57.7 PK	68.2	-10.5	1.58 V	344	51.5	6.2
7	11220.00	59.0 PK	74.0	-15.0	1.94 V	159	40.5	18.5
8	11220.00	45.6 AV	54.0	-8.4	1.94 V	159	27.1	18.5

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 138：5690 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	57.6 PK	68.2	-10.6	1.59 H	12	51.4	6.2
2	*5690.00	114.9 PK			1.49 H	7	72.6	42.3
3	*5690.00	102.6 AV			1.49 H	7	60.3	42.3
4	#5850.00	58.6 PK	68.2	-9.6	1.61 H	10	51.9	6.7
5	11380.00	58.4 PK	74.0	-15.6	1.72 H	59	40.5	17.9
6	11380.00	45.0 AV	54.0	-9.0	1.72 H	59	27.1	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	57.5 PK	68.2	-10.7	1.69 V	339	51.3	6.2
2	*5690.00	113.5 PK			1.70 V	357	71.2	42.3
3	*5690.00	92.8 AV			1.70 V	357	50.5	42.3
4	#5850.00	58.4 PK	68.2	-9.8	1.55 V	344	51.7	6.7
5	11380.00	58.3 PK	74.0	-15.7	1.85 V	163	40.4	17.9
6	11380.00	44.9 AV	54.0	-9.1	1.85 V	163	27.0	17.9

Remarks:

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

RF Mode	TX 802.11ax (HE80+ HE80)	Channel	CH 42：5210 MHz+ CH 58：5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	59.6 PK	74.0	-14.4	3.01 H	19	53.2	6.4
2	5150.00	51.9 AV	54.0	-2.1	3.01 H	19	45.5	6.4
3	*5210.00	112.4 PK			2.90 H	28	70.4	42.0
4	*5210.00	100.7 AV			2.90 H	28	58.7	42.0
5	*5290.00	110.8 PK			3.16 H	57	68.9	41.9
6	*5290.00	98.1 AV			3.16 H	57	56.2	41.9
7	5350.00	58.1 PK	74.0	-15.9	2.89 H	55	51.8	6.3
8	5350.00	47.0 AV	54.0	-7.0	2.89 H	55	40.7	6.3
9	#10420.00	59.1 PK	68.2	-9.1	1.66 H	59	42.1	17.0
10	#10580.00	59.7 PK	68.2	-8.5	1.69 H	44	41.9	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.1 PK	74.0	-10.9	1.59 V	340	56.7	6.4
2	**5150.00**	**52.3 AV**	**54.0**	**-1.7**	**1.59 V**	**340**	**45.9**	**6.4**
3	*5210.00	110.7 PK			1.55 V	337	68.7	42.0
4	*5210.00	97.5 AV			1.55 V	337	55.5	42.0
5	*5290.00	110.7 PK			1.86 V	338	68.8	41.9
1	*5290.00	98.9 AV			1.86 V	338	57.0	41.9
2	5350.00	60.4 PK	74.0	-13.6	1.58 V	338	54.1	6.3
3	5350.00	47.3 AV	54.0	-6.7	1.58 V	338	41.0	6.3
4	#10420.00	57.9 PK	68.2	-10.3	1.83 V	165	40.9	17.0
5	#10580.00	58.3 PK	68.2	-9.9	1.79 V	175	40.5	17.8

Remark:

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.

RF Mode	TX 802.11ax (HE80+ HE80)	Channel	CH 106：5530 MHz+ CH 122：5610 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (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	59.5 PK	74.0	-14.5	2.42 H	30	53.2	6.3
2	5460.00	51.2 AV	54.0	-2.8	2.42 H	30	44.9	6.3
3	5470.00	60.4 PK	68.2	-7.8	2.44 H	39	54.2	6.2
4	*5530.00	112.4 PK			1.73 H	14	70.3	42.1
5	*5530.00	100.3 AV			1.73 H	14	58.2	42.1
6	*5610.00	110.4 PK			2.03 H	17	68.3	42.1
7	*5610.00	98.1 AV			2.03 H	17	56.0	42.1
8	#5725.00	58.0 PK	68.2	-10.2	2.08 H	18	51.8	6.2
9	11060.00	59.9 PK	74.0	-14.1	1.59 H	67	41.8	18.1
10	11060.00	46.0 AV	54.0	-8.0	1.59 H	67	27.9	18.1
11	11220.00	60.1 PK	74.0	-13.9	1.79 H	59	41.6	18.5
12	11220.00	46.6 AV	54.0	-7.4	1.79 H	59	28.1	18.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (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	59.6 PK	74.0	-14.4	1.68 V	342	53.3	6.3
2	5460.00	52.1 AV	54.0	-1.9	1.68 V	342	45.8	6.3
3	5470.00	60.1 PK	68.2	-8.1	1.66 V	344	53.9	6.2
4	*5530.00	109.2 PK			1.67 V	357	67.1	42.1
5	*5530.00	96.0 AV			1.67 V	357	53.9	42.1
6	*5610.00	109.8 PK			1.72 V	316	67.7	42.1
7	*5610.00	97.3 AV			1.72 V	316	55.2	42.1
8	#5725.00	57.8 PK	68.2	-10.4	1.67 V	332	51.6	6.2
9	11060.00	58.3 PK	74.0	-15.7	1.79 V	170	40.2	18.1
10	11060.00	45.1 AV	54.0	-8.9	1.79 V	170	27.0	18.1
11	11220.00	58.6 PK	74.0	-15.4	1.87 V	166	40.1	18.5
12	11220.00	45.7 AV	54.0	-8.3	1.87 V	166	27.2	18.5

Remark:

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.

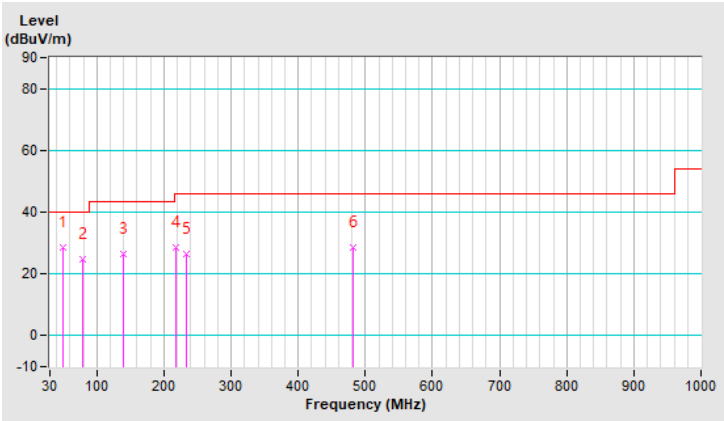
Below 1GHz Worst-Case Data:

RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	28.6 QP	40.0	-11.4	1.00 H	221	37.7	-9.1
2	79.20	24.7 QP	40.0	-15.3	1.50 H	265	37.8	-13.1
3	139.65	26.6 QP	43.5	-16.9	1.50 H	306	35.6	-9.0
4	216.97	28.6 QP	46.0	-17.4	2.00 H	245	39.2	-10.6
5	233.84	26.6 QP	46.0	-19.4	1.50 H	331	36.5	-9.9
6	481.26	28.5 QP	46.0	-17.5	1.50 H	25	31.1	-2.6

Remarks:

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

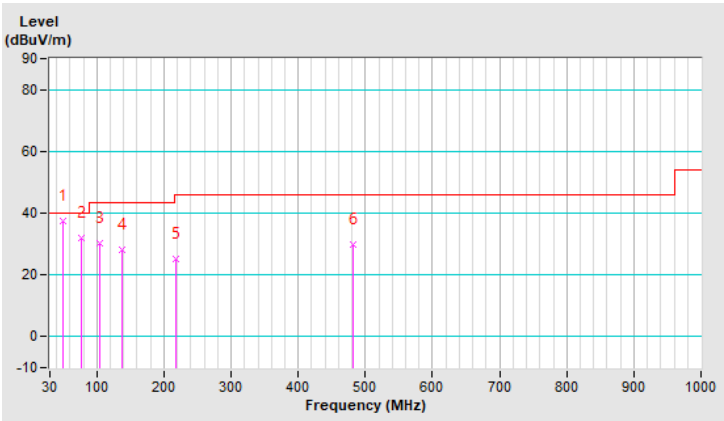


RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	37.6 QP	40.0	-2.4	1.00 V	74	46.7	-9.1
2	76.39	31.8 QP	40.0	-8.2	1.50 V	225	44.3	-12.5
3	104.51	30.4 QP	43.5	-13.1	1.50 V	94	42.9	-12.5
4	138.25	28.3 QP	43.5	-15.2	1.00 V	48	37.4	-9.1
5	216.97	25.3 QP	46.0	-20.7	2.00 V	156	35.9	-10.6
6	481.26	30.0 QP	46.0	-16.0	1.50 V	74	32.6	-2.6

Remarks:

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

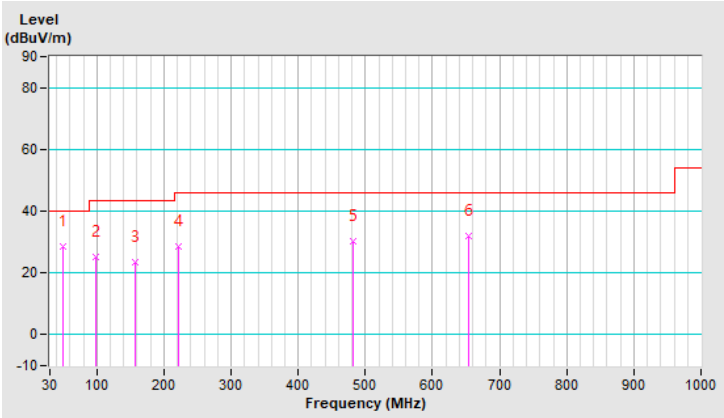


RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	28.7 QP	40.0	-11.3	1.50 H	56	37.8	-9.1
2	98.88	25.1 QP	43.5	-18.4	1.50 H	309	38.6	-13.5
3	156.52	23.6 QP	43.5	-19.9	1.00 H	248	32.0	-8.4
4	222.59	28.7 QP	46.0	-17.3	1.50 H	141	39.3	-10.6
5	481.26	30.4 QP	46.0	-15.6	1.00 H	6	33.0	-2.6
6	654.17	32.1 QP	46.0	-13.9	2.00 H	251	30.9	1.2

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

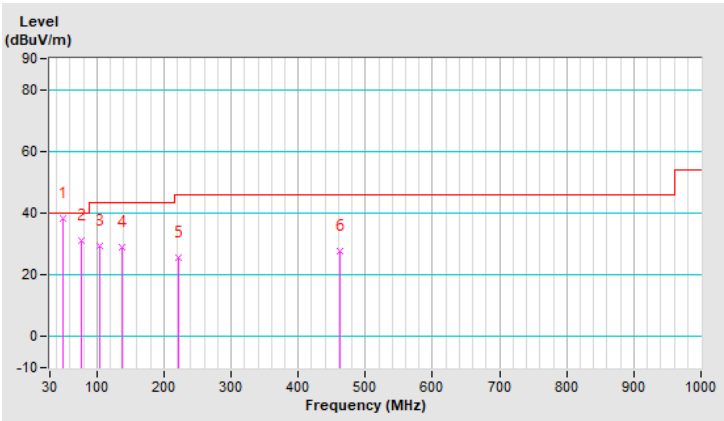


RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	38.1 QP	40.0	-1.9	1.00 V	347	47.2	-9.1
2	76.39	31.3 QP	40.0	-8.7	1.00 V	11	43.8	-12.5
3	104.51	29.2 QP	43.5	-14.3	1.50 V	124	41.7	-12.5
4	138.25	29.1 QP	43.5	-14.4	1.00 V	59	38.2	-9.1
5	222.59	25.5 QP	46.0	-20.5	2.00 V	187	36.1	-10.6
6	461.58	27.8 QP	46.0	-18.2	1.00 V	340	30.8	-3.0

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Dec. 21, 2020	Dec. 20, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
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 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

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

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

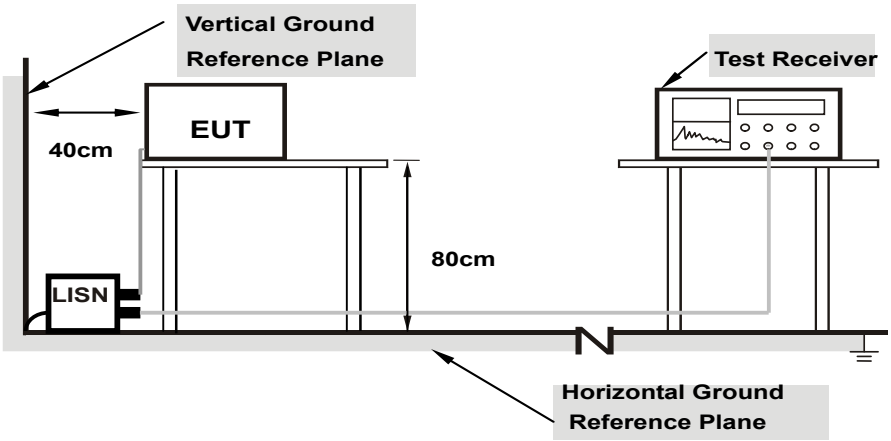
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

5G traffic radio (Radio 1)

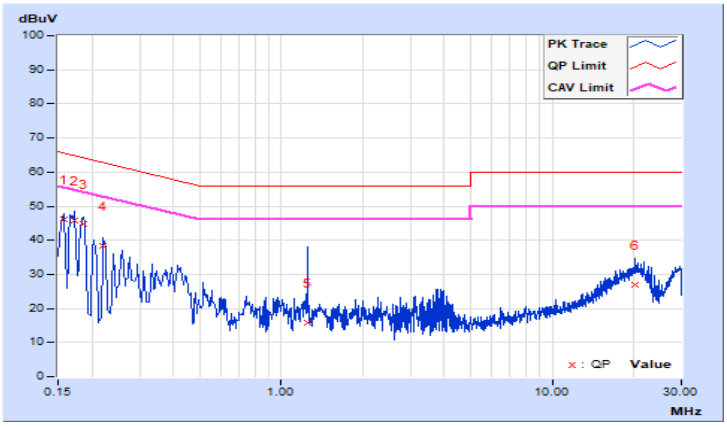
802.11ax (HE80)

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15760	10.07	36.00	18.98	46.07	29.05	65.59	55.59	-19.52	-26.54
2	0.17328	10.07	35.65	20.47	45.72	30.54	64.80	54.80	-19.08	-24.26
3	0.18508	10.08	34.55	18.76	44.63	28.84	64.25	54.25	-19.62	-25.41
4	0.22038	10.08	28.40	12.27	38.48	22.35	62.80	52.80	-24.32	-30.45
5	1.24871	10.14	5.78	1.39	15.92	11.53	56.00	46.00	-40.08	-34.47
6	20.20439	10.44	16.61	9.33	27.05	19.77	60.00	50.00	-32.95	-30.23

Remarks:

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

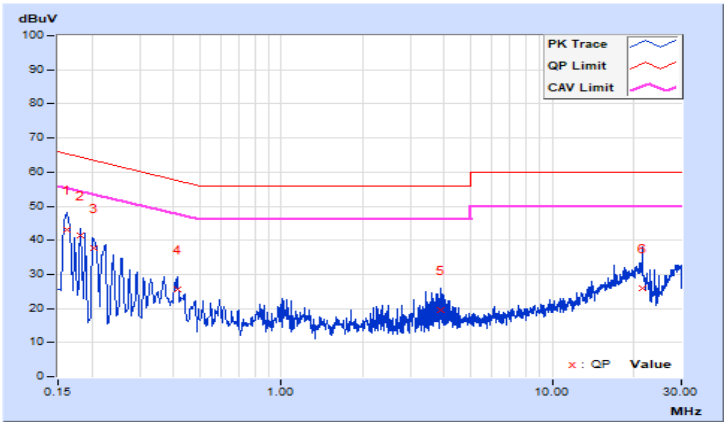


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16139	10.08	33.12	16.10	43.20	26.18	65.39	55.39	-22.19	-29.21
2	0.18128	10.08	31.29	17.77	41.37	27.85	64.43	54.43	-23.06	-26.58
3	0.20474	10.08	27.75	11.11	37.83	21.19	63.42	53.42	-25.59	-32.23
4	0.41197	10.10	15.34	6.80	25.44	16.90	57.61	47.61	-32.17	-30.71
5	3.89187	10.26	9.40	1.95	19.66	12.21	56.00	46.00	-36.34	-33.79
6	21.60417	10.61	15.18	7.09	25.79	17.70	60.00	50.00	-34.21	-32.30

Remarks:

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

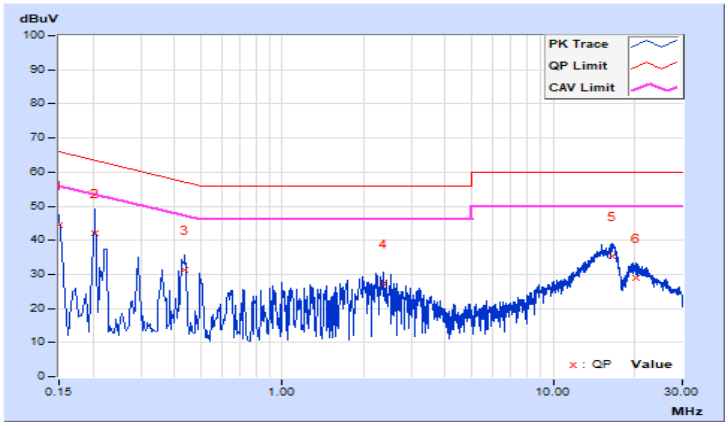


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.07	34.25	24.59	44.32	34.66	66.00	56.00	-21.68	-21.34
2	0.20474	10.08	31.96	7.93	42.04	18.01	63.42	53.42	-21.38	-35.41
3	0.43543	10.09	21.22	17.22	31.31	27.31	57.15	47.15	-25.84	-19.84
4	2.36697	10.17	17.17	1.28	27.34	11.45	56.00	46.00	-28.66	-34.55
5	16.61110	10.40	24.85	11.77	35.25	22.17	60.00	50.00	-24.75	-27.83
6	20.14965	10.45	18.55	5.77	29.00	16.22	60.00	50.00	-31.00	-33.78

Remarks:

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

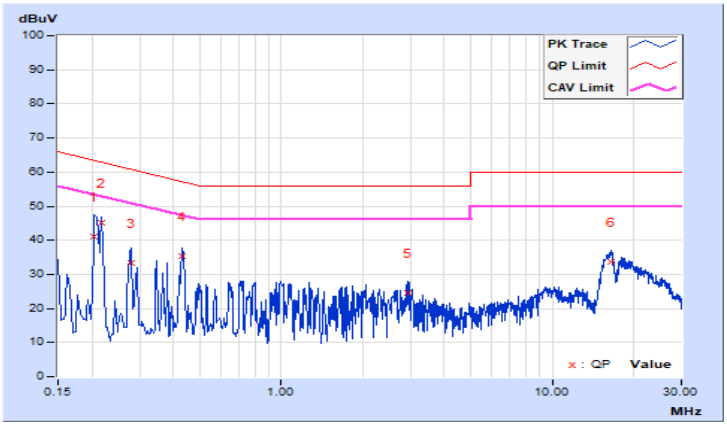


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20474	10.08	30.88	7.84	40.96	17.92	63.42	53.42	-22.46	-35.50
2	0.21647	10.08	35.14	24.51	45.22	34.59	62.95	52.95	-17.73	-18.36
3	0.27903	10.09	23.27	6.46	33.36	16.55	60.84	50.84	-27.48	-34.29
4	**0.43152**	**10.10**	**25.41**	**19.79**	**35.51**	**29.89**	**57.22**	**47.22**	**-21.71**	**-17.33**
5	2.94956	10.21	14.43	2.02	24.64	12.23	56.00	46.00	-31.36	-33.77
6	16.52117	10.56	23.22	12.61	33.78	23.17	60.00	50.00	-26.22	-26.83

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

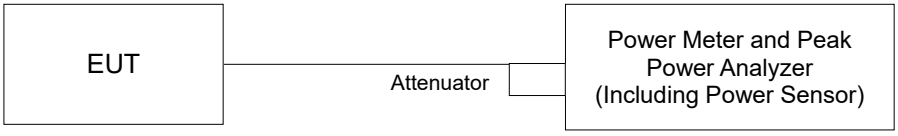
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

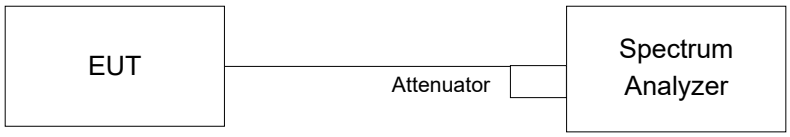
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth and power output of ransmission above 5.725 GHz where the EBW crosses 5.725 GHz



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

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

For transmission above 5.725 GHz where the EBW crosses 5.725 GHz
For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II E 2 b) method SA-1.

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

5G traffic radio (Radio 1)

Power Output:

CDD Mode

802.11a

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	7.63	6.62	7.52	6.55	6.96	6.85	6.46	7.63	40.582	16.08	21.65	Pass
60	5300	7.49	6.59	7.47	6.61	6.61	6.62	6.67	7.61	39.923	16.01	21.70	Pass
64	5320	7.55	6.35	7.37	6.51	6.76	6.75	6.43	7.63	39.602	15.98	21.70	Pass
100	5500	7.86	6.76	7.04	6.46	6.37	6.43	6.72	7.28	39.111	15.92	21.75	Pass
116	5580	7.95	6.99	7.35	6.55	6.72	6.35	7.24	7.76	41.470	16.18	21.69	Pass
140	5700	7.63	6.39	7.13	6.51	6.92	6.68	6.45	7.53	39.445	15.96	21.69	Pass
144	5720 (For U-NII-2C)	7.33	6.59	6.91	6.37	6.85	6.78	6.85	7.69	39.535	15.97	20.47	Pass
144	5720 (For U-NII-3)	1.84	0.72	0.80	0.65	0.95	0.87	0.72	1.67	10.187	10.08	28.13	Pass

Note:

1. 5260MHz: Directional gain = 8.27dBi > 6dBi, so the power limit shall be reduced to 23.92 - (8.27 - 6) = 21.65dBm.
2. 5300MHz, 5320MHz: Directional gain = 8.27dBi > 6dBi, so the power limit shall be reduced to 23.97 - (8.27 - 6) = 21.70dBm.
3. 5500MHz: Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 24 - (8.25 - 6) = 21.75dBm.
4. 5580-5700MHz: Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 23.94 - (8.25 - 6) = 21.69dBm.
5. 5720MHz (For U-NII-2C): Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 22.72 - (8.25 - 6) = 20.47dBm.
6. 5720MHz (For U-NII-3): Directional gain = 7.87dBi > 6dBi, so the power limit shall be reduced to 30 - (7.87-6) = 28.13dBm.

Chain 0

1. 11dBm + 10log (19.72) = 23.94 < 24dBm
2. 11dBm + 10log (20.05) = 24.02 > 24dBm
3. 11dBm + 10log (20.04) = 24.01 > 24dBm
4. 11dBm + 10log (20.01) = 24.01 > 24dBm
5. 11dBm + 10log (19.81) = 23.96 < 24dBm
6. 11dBm + 10log (19.83) = 23.97 < 24dBm
7. 11dBm + 10log (5725.00 - 5709.84) = 22.80 < 24dBm

Chain 1

1. 11dBm + 10log (19.92) = 23.99 < 24dBm
2. 11dBm + 10log (19.91) = 23.99 < 24dBm
3. 11dBm + 10log (19.83) = 23.97 < 24dBm
4. 11dBm + 10log (20.00) = 24.01 > 24dBm

5. 11dBm + 10log (19.77) = 23.96 < 24dBm
6. 11dBm + 10log (20.13) = 24.03 > 24dBm
7. 11dBm + 10log (5725.00 - 5710.05) = 22.74 < 24dBm
Chain 2
1. 11dBm + 10log (19.59) = 23.92 < 24dBm
2. 11dBm + 10log (20.18) = 24.04 > 24dBm
3. 11dBm + 10log (19.90) = 23.98 < 24dBm
4. 11dBm + 10log (20.03) = 24.01 > 24dBm
5. 11dBm + 10log (19.82) = 23.97 < 24dBm
6. 11dBm + 10log (19.72) = 23.94 < 24dBm
7. 11dBm + 10log (5725.00 - 5709.94) = 22.77 < 24dBm
Chain 3
1. 11dBm + 10log (19.82) = 23.97 < 24dBm
2. 11dBm + 10log (20.04) = 24.01 > 24dBm
3. 11dBm + 10log (19.96) = 24.00 = 24dBm
4. 11dBm + 10log (20.00) = 24.01 > 24dBm
5. 11dBm + 10log (19.72) = 23.94 < 24dBm
6. 11dBm + 10log (19.87) = 23.98 < 24dBm
7. 11dBm + 10log (5725.00 - 5709.93) = 22.78 < 24dBm
Chain 4
1. 11dBm + 10log (19.99) = 24.00 = 24dBm
2. 11dBm + 10log (20.04) = 24.01 > 24dBm
3. 11dBm + 10log (19.93) = 23.99 < 24dBm
4. 11dBm + 10log (20.03) = 24.01 > 24dBm
5. 11dBm + 10log (20.23) = 24.05 > 24dBm
6. 11dBm + 10log (20.06) = 24.02 > 24dBm
7. 11dBm + 10log (5725.00 - 5710.06) = 22.74 < 24dBm
Chain 5
1. 11dBm + 10log (19.91) = 23.99 < 24dBm
2. 11dBm + 10log (20.14) = 24.04 > 24dBm
3. 11dBm + 10log (19.92) = 23.99 < 24dBm
4. 11dBm + 10log (20.24) = 24.06 > 24dBm
5. 11dBm + 10log (19.83) = 23.97 < 24dBm
6. 11dBm + 10log (20.09) = 24.02 > 24dBm
7. 11dBm + 10log (5725.00 - 5710.05) = 22.74 < 24dBm
Chain 6
1. 11dBm + 10log (19.96) = 24.00 = 24dBm
2. 11dBm + 10log (19.82) = 23.97 < 24dBm
3. 11dBm + 10log (19.86) = 23.97 < 24dBm
4. 11dBm + 10log (20.10) = 24.03 > 24dBm
5. 11dBm + 10log (19.68) = 23.94 < 24dBm
6. 11dBm + 10log (19.84) = 23.97 < 24dBm
7. 11dBm + 10log (5725.00 - 5710.14) = 22.72 < 24dBm

Chain 7

1. 11dBm + 10log (19.74) = 23.95 < 24dBm
2. 11dBm + 10log (19.88) = 23.98 < 24dBm
3. 11dBm + 10log (19.92) = 23.99 < 24dBm
4. 11dBm + 10log (20.03) = 24.01 > 24dBm
5. 11dBm + 10log (20.03) = 24.01 > 24dBm
6. 11dBm + 10log (19.73) = 23.95 < 24dBm
7. 11dBm + 10log (5725.00 - 5710.05) = 22.74 < 24dBm

802.11ac (VHT20)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	7.49	6.47	7.23	6.36	6.97	6.83	6.43	7.58	39.576	15.97	21.73	Pass
60	5300	7.44	6.52	7.52	6.56	6.20	6.68	6.47	7.57	39.187	15.93	21.73	Pass
64	5320	7.49	6.24	7.15	6.41	6.71	6.75	6.47	7.56	38.938	15.90	21.73	Pass
100	5500	7.64	6.85	6.68	6.72	6.31	6.48	6.67	7.14	38.547	15.86	21.75	Pass
116	5580	7.95	6.86	7.37	7.24	6.78	6.38	7.34	7.54	42.049	16.24	21.75	Pass
140	5700	7.42	6.35	6.93	6.24	6.73	6.69	6.92	7.71	39.174	15.93	21.75	Pass
144	5720 (For U-NII-2C)	7.00	6.01	6.86	6.00	6.01	6.02	5.96	6.90	34.668	15.40	20.67	Pass
144	5720 (For U-NII-3)	1.30	0.68	1.35	0.17	1.00	0.65	0.24	1.75	9.896	9.95	28.13	Pass

Note:

1. 5260-5320MHz: Directional gain = 8.27dBi > 6dBi, so the power limit shall be reduced to 24 - (8.27 - 6) = 21.73dBm.
2. 5500-5700MHz: Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 24 - (8.25 - 6) = 21.75dBm.
3. 5720MHz (For U-NII-2C): Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 22.92 - (8.25 - 6) = 20.67dBm.
4. 5720MHz (For U-NII-3): Directional gain = 7.87dBi > 6dBi, so the power limit shall be reduced to 30 - (7.87-6) = 28.13dBm.

Chain 0

1. 11dBm + 10log (21.52) = 24.32 > 24dBm
2. 11dBm + 10log (21.52) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.86) = 24.39 > 24dBm
5. 11dBm + 10log (21.33) = 24.28 > 24dBm
6. 11dBm + 10log (21.73) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.42) = 22.92 < 24dBm

Chain 1

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.70) = 24.36 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm
4. 11dBm + 10log (21.52) = 24.32 > 24dBm

5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.39) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm
Chain 2
1. 11dBm + 10log (21.32) = 24.28 > 24dBm
2. 11dBm + 10log (21.54) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.30) = 24.28 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.30) = 24.28 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.23) = 22.97 < 24dBm
Chain 3
1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.54) = 24.33 > 24dBm
4. 11dBm + 10log (21.60) = 24.34 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.43) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.30) = 22.95 < 24dBm
Chain 4
1. 11dBm + 10log (21.23) = 24.26 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.50) = 24.32 > 24dBm
4. 11dBm + 10log (21.67) = 24.35 > 24dBm
5. 11dBm + 10log (21.55) = 24.33 > 24dBm
6. 11dBm + 10log (21.42) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.38) = 22.93 < 24dBm
Chain 5
1. 11dBm + 10log (21.39) = 24.30 > 24dBm
2. 11dBm + 10log (21.26) = 24.27 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.42) = 24.30 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm
Chain 6
1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.74) = 24.37 > 24dBm
4. 11dBm + 10log (21.54) = 24.33 > 24dBm
5. 11dBm + 10log (21.51) = 24.32 > 24dBm
6. 11dBm + 10log (21.46) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.22) = 22.98 < 24dBm

Chain 7

1. 11dBm + 10log (21.77) = 24.37 > 24dBm
2. 11dBm + 10log (21.66) = 24.35 > 24dBm
3. 11dBm + 10log (21.51) = 24.32 > 24dBm
4. 11dBm + 10log (21.61) = 24.34 > 24dBm
5. 11dBm + 10log (21.65) = 24.35 > 24dBm
6. 11dBm + 10log (21.52) = 24.32 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.28) = 22.96 < 24dBm

802.11ac (VHT40)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	11.11	10.42	11.01	10.01	10.40	10.30	10.35	11.28	92.516	19.66	24.00	Pass
62	5310	11.32	10.06	10.83	10.07	10.30	10.14	10.24	10.81	89.621	19.52	24.00	Pass
102	5510	11.33	10.22	10.52	10.18	10.09	10.04	10.34	10.83	89.020	19.49	24.00	Pass
110	5550	11.21	10.36	10.69	10.44	10.37	10.24	10.39	11.20	92.445	19.66	24.00	Pass
134	5670	11.33	10.73	11.00	10.16	10.65	10.44	10.62	11.32	96.145	19.83	24.00	Pass
142	5710 (For U-NII-2C)	11.41	10.85	10.87	10.50	10.68	10.37	10.70	10.34	94.583	19.76	24.00	Pass
142	5710 (For U-NII-3)	5.10	4.67	4.71	3.80	4.12	3.85	4.31	3.71	21.580	13.34	30.00	Pass

Note:
1. 5260-5320MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5500-5720MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.
3. 5710MHz (For U-NII-3): Max. Antenna gain = 4.87dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (42.11) = 27.24 > 24dBm
2. 11dBm + 10log (42.34) = 27.26 > 24dBm
3. 11dBm + 10log (42.49) = 27.28 > 24dBm
4. 11dBm + 10log (42.57) = 27.29 > 24dBm
5. 11dBm + 10log (42.44) = 27.27 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.65) = 26.60 > 24dBm

Chain 1

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.30) = 27.26 > 24dBm
4. 11dBm + 10log (42.36) = 27.26 > 24dBm
5. 11dBm + 10log (42.14) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.84) = 26.58 > 24dBm

Chain 2

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.42) = 27.27 > 24dBm

3. 11dBm + 10log (42.28) = 27.26 > 24dBm
4. 11dBm + 10log (42.26) = 27.25 > 24dBm
5. 11dBm + 10log (42.06) = 27.23 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 3

1. 11dBm + 10log (42.13) = 27.24 > 24dBm
2. 11dBm + 10log (42.16) = 27.24 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (41.95) = 27.22 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

Chain 4

1. 11dBm + 10log (42.40) = 27.27 > 24dBm
2. 11dBm + 10log (41.82) = 27.21 > 24dBm
3. 11dBm + 10log (42.18) = 27.25 > 24dBm
4. 11dBm + 10log (42.18) = 27.25 > 24dBm
5. 11dBm + 10log (42.26) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.71) = 26.59 > 24dBm

Chain 5

1. 11dBm + 10log (42.29) = 27.26 > 24dBm
2. 11dBm + 10log (42.14) = 27.24 > 24dBm
3. 11dBm + 10log (41.91) = 27.22 > 24dBm
4. 11dBm + 10log (42.12) = 27.24 > 24dBm
5. 11dBm + 10log (42.18) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 6

1. 11dBm + 10log (42.35) = 27.26 > 24dBm
2. 11dBm + 10log (42.45) = 27.27 > 24dBm
3. 11dBm + 10log (42.14) = 27.24 > 24dBm
4. 11dBm + 10log (42.21) = 27.25 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.75) = 26.59 > 24dBm

Chain 7

1. 11dBm + 10log (42.30) = 27.26 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm
3. 11dBm + 10log (42.07) = 27.23 > 24dBm
4. 11dBm + 10log (42.20) = 27.25 > 24dBm
5. 11dBm + 10log (42.23) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.85) = 26.58 > 24dBm

802.11ac (VHT80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	14.40	13.36	14.19	13.17	13.40	13.37	13.25	14.38	188.366	22.75	24.00	Pass
106	5530	13.99	13.01	13.79	13.01	13.46	13.22	12.96	13.98	176.936	22.48	24.00	Pass
122	5610	14.32	13.37	14.27	13.21	13.58	13.51	13.68	14.36	192.304	22.84	24.00	Pass
138	5690 (For U-NII-2C)	14.11	13.40	14.08	13.21	13.52	13.55	13.42	14.34	188.448	22.75	24.00	Pass
138	5690 (For U-NII-3)	7.78	6.62	7.63	6.42	7.41	7.40	7.13	7.75	42.894	16.32	30.00	Pass

Note:
1. 5260-5320MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5500-5720MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.
3. 5690MHz (For U-NII-3): Max. Antenna gain = 4.87dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (82.87) = 30.18 > 24dBm
2. 11dBm + 10log (82.93) = 30.18 > 24dBm
3. 11dBm + 10log (83.50) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.45) = 29.83 > 24dBm

Chain 1

1. 11dBm + 10log (82.72) = 30.17 > 24dBm
2. 11dBm + 10log (83.64) = 30.22 > 24dBm
3. 11dBm + 10log (83.37) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 2

1. 11dBm + 10log (82.59) = 30.16 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (83.02) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.55) = 29.83 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (82.81) = 30.18 > 24dBm
3. 11dBm + 10log (82.98) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.56) = 29.83 > 24dBm

Chain 4

1. 11dBm + 10log (83.00) = 30.19 > 24dBm
2. 11dBm + 10log (83.09) = 30.19 > 24dBm
3. 11dBm + 10log (83.60) = 30.22 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.84) = 29.81 > 24dBm

Chain 5

1. 11dBm + 10log (83.34) = 30.20 > 24dBm
2. 11dBm + 10log (83.08) = 30.19 > 24dBm

3. 11dBm + 10log (83.11) = 30.19 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 6

1. 11dBm + 10log (83.04) = 30.19 > 24dBm

2. 11dBm + 10log (83.61) = 30.22 > 24dBm

3. 11dBm + 10log (83.23) = 30.20 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.49) = 29.83 > 24dBm

Chain 7

1. 11dBm + 10log (83.03) = 30.19 > 24dBm

2. 11dBm + 10log (83.40) = 30.21 > 24dBm

3. 11dBm + 10log (82.93) = 30.18 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.42) = 29.84 > 24dBm

802.11ac (VHT80+VHT80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42	5210	15.32	14.85	15.80	14.98	-	-	-	-	134.086	21.27	30	Pass
58	5290	-	-	-	-	14.86	14.51	14.54	15.83	125.596	20.99	24	Pass
106	5530	14.27	13.41	13.81	13.23	-	-	-	-	193.567	22.87	24	Pass
122	5610	-	-	-	-	13.50	13.99	13.73	14.59				Pass

Note:
1. 5180-5240MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5260-5320MHz: Max. Antenna gain = 4.74dBi < 6dBi, so the power limit no need to reduced.
3. 5500-5700MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 1

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 2

1. 11dBm + 10log (82.80) = 30.18 > 24dBm

Chain 3

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

Chain 4

1. 11dBm + 10log (83.45) = 30.21 > 24dBm

2. 11dBm + 10log (83.20) = 30.20 > 24dBm

Chain 5

1. 11dBm + 10log (83.48) = 30.21 > 24dBm

2. 11dBm + 10log (83.37) = 30.21 > 24dBm

Chain 6

1. 11dBm + 10log (83.57) = 30.22 > 24dBm

2. 11dBm + 10log (83.11) = 30.19 > 24dBm

Chain 7

1. 11dBm + 10log (82.79) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm

802.11ax (HE20)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	7.57	6.62	7.33	6.45	7.01	6.87	6.51	7.62	40.276	16.05	21.73	Pass
60	5300	7.52	6.59	7.62	6.57	6.31	6.74	6.51	7.62	39.784	16.00	21.73	Pass
64	5320	7.53	6.38	7.26	6.53	6.72	6.79	6.59	7.63	39.655	15.98	21.73	Pass
100	5500	7.76	6.93	6.71	6.74	6.43	6.62	6.73	7.26	39.329	15.95	21.75	Pass
116	5580	7.96	6.98	7.51	7.32	6.81	6.53	7.37	7.67	42.873	16.32	21.75	Pass
140	5700	7.53	6.41	7.08	6.36	6.84	6.75	6.94	7.79	39.985	16.02	21.75	Pass
144	5720 (For U-NII-2C)	7.59	6.56	7.23	6.65	6.85	6.75	6.40	7.84	34.869	15.42	20.67	Pass
144	5720 (For U-NII-3)	1.32	0.71	1.38	0.21	1.02	0.70	0.27	1.78	9.967	9.99	28.13	Pass

Note:
1. 5260-5320MHz: Directional gain = 8.27dBi > 6dBi, so the power limit shall be reduced to 24 - (8.27 - 6) = 21.73dBm.
2. 5500-5700MHz: Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 24 - (8.25 - 6) = 21.75dBm.
3. 5720MHz (For U-NII-2C): Directional gain = 8.25dBi > 6dBi, so the power limit shall be reduced to 22.92 - (8.25 - 6) = 20.67dBm.
4. 5720MHz (For U-NII-3): Directional gain = 7.87dBi > 6dBi, so the power limit shall be reduced to 30 - (7.87-6) = 28.13dBm.

Chain 0

1. 11dBm + 10log (21.52) = 24.32 > 24dBm
2. 11dBm + 10log (21.52) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.86) = 24.39 > 24dBm
5. 11dBm + 10log (21.33) = 24.28 > 24dBm
6. 11dBm + 10log (21.73) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.42) = 22.92 < 24dBm

Chain 1

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.70) = 24.36 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm
4. 11dBm + 10log (21.52) = 24.32 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.39) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 2

1. 11dBm + 10log (21.32) = 24.28 > 24dBm
2. 11dBm + 10log (21.54) = 24.33 > 24dBm

3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.30) = 24.28 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.30) = 24.28 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.23) = 22.97 < 24dBm

Chain 3

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.54) = 24.33 > 24dBm
4. 11dBm + 10log (21.60) = 24.34 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.43) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.30) = 22.95 < 24dBm

Chain 4

1. 11dBm + 10log (21.23) = 24.26 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.50) = 24.32 > 24dBm
4. 11dBm + 10log (21.67) = 24.35 > 24dBm
5. 11dBm + 10log (21.55) = 24.33 > 24dBm
6. 11dBm + 10log (21.42) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.38) = 22.93 < 24dBm

Chain 5

1. 11dBm + 10log (21.39) = 24.30 > 24dBm
2. 11dBm + 10log (21.26) = 24.27 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.42) = 24.30 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 6

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.74) = 24.37 > 24dBm
4. 11dBm + 10log (21.54) = 24.33 > 24dBm
5. 11dBm + 10log (21.51) = 24.32 > 24dBm
6. 11dBm + 10log (21.46) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.22) = 22.98 < 24dBm

Chain 7

1. 11dBm + 10log (21.77) = 24.37 > 24dBm
2. 11dBm + 10log (21.66) = 24.35 > 24dBm
3. 11dBm + 10log (21.51) = 24.32 > 24dBm
4. 11dBm + 10log (21.61) = 24.34 > 24dBm
5. 11dBm + 10log (21.65) = 24.35 > 24dBm
6. 11dBm + 10log (21.52) = 24.32 > 24dBm

7. 11dBm + 10log (5725.00 - 5709.28) = 22.96 < 24dBm

802.11ax (HE40)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	11.21	10.46	11.06	10.04	10.49	10.31	10.47	11.43	94.164	19.74	24.00	Pass
62	5310	11.35	10.17	10.92	10.13	10.36	10.26	10.36	10.87	91.272	19.60	24.00	Pass
102	5510	11.37	10.35	10.62	10.29	10.12	10.19	10.49	10.93	91.083	19.59	24.00	Pass
110	5550	11.23	10.44	10.78	10.55	10.47	10.34	10.52	11.35	94.533	19.76	24.00	Pass
134	5670	11.41	10.84	11.02	10.29	10.77	10.55	10.74	11.47	98.483	19.93	24.00	Pass
142	5710 (For U-NII-2C)	11.44	10.88	10.91	10.53	10.71	10.41	10.73	10.37	95.293	19.79	24.00	Pass
142	5710 (For U-NII-3)	5.13	4.71	4.75	3.83	4.14	3.88	4.34	3.74	21.737	13.37	30.00	Pass

Note:
1. 5260-5320MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5500-5720MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.
3. 5710MHz (For U-NII-3): Max. Antenna gain = 4.87dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (42.11) = 27.24 > 24dBm
2. 11dBm + 10log (42.34) = 27.26 > 24dBm
3. 11dBm + 10log (42.49) = 27.28 > 24dBm
4. 11dBm + 10log (42.57) = 27.29 > 24dBm
5. 11dBm + 10log (42.44) = 27.27 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.65) = 26.60 > 24dBm

Chain 1

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.30) = 27.26 > 24dBm
4. 11dBm + 10log (42.36) = 27.26 > 24dBm
5. 11dBm + 10log (42.14) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.84) = 26.58 > 24dBm

Chain 2

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.42) = 27.27 > 24dBm
3. 11dBm + 10log (42.28) = 27.26 > 24dBm
4. 11dBm + 10log (42.26) = 27.25 > 24dBm
5. 11dBm + 10log (42.06) = 27.23 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 3

1. 11dBm + 10log (42.13) = 27.24 > 24dBm

2. 11dBm + 10log (42.16) = 27.24 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (41.95) = 27.22 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

Chain 4

1. 11dBm + 10log (42.40) = 27.27 > 24dBm
2. 11dBm + 10log (41.82) = 27.21 > 24dBm
3. 11dBm + 10log (42.18) = 27.25 > 24dBm
4. 11dBm + 10log (42.18) = 27.25 > 24dBm
5. 11dBm + 10log (42.26) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.71) = 26.59 > 24dBm

Chain 5

1. 11dBm + 10log (42.29) = 27.26 > 24dBm
2. 11dBm + 10log (42.14) = 27.24 > 24dBm
3. 11dBm + 10log (41.91) = 27.22 > 24dBm
4. 11dBm + 10log (42.12) = 27.24 > 24dBm
5. 11dBm + 10log (42.18) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 6

1. 11dBm + 10log (42.35) = 27.26 > 24dBm
2. 11dBm + 10log (42.45) = 27.27 > 24dBm
3. 11dBm + 10log (42.14) = 27.24 > 24dBm
4. 11dBm + 10log (42.21) = 27.25 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.75) = 26.59 > 24dBm

Chain 7

1. 11dBm + 10log (42.30) = 27.26 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm
3. 11dBm + 10log (42.07) = 27.23 > 24dBm
4. 11dBm + 10log (42.20) = 27.25 > 24dBm
5. 11dBm + 10log (42.23) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.85) = 26.58 > 24dBm

802.11ax (HE80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	14.42	13.39	14.21	13.27	13.43	13.41	13.37	14.47	190.767	22.81	24.00	Pass
106	5530	14.05	13.02	13.82	13.03	13.49	13.33	13.08	14.02	179.066	22.53	24.00	Pass
122	5610	14.47	13.43	14.32	13.32	13.69	13.61	13.74	14.37	195.899	22.92	24.00	Pass
138	5690 (For U-NII-2C)	14.20	13.44	14.13	13.30	13.60	13.59	13.50	14.37	191.149	22.81	24.00	Pass
138	5690 (For U-NII-3)	7.82	6.70	7.70	6.50	7.49	7.47	7.17	7.81	43.533	16.39	30.00	Pass

Note:
1. 5260-5320MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5500-5720MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.
3. 5690MHz (For U-NII-3): Max. Antenna gain = 4.87dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (82.87) = 30.18 > 24dBm
2. 11dBm + 10log (82.93) = 30.18 > 24dBm
3. 11dBm + 10log (83.50) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.45) = 29.83 > 24dBm

Chain 1

1. 11dBm + 10log (82.72) = 30.17 > 24dBm
2. 11dBm + 10log (83.64) = 30.22 > 24dBm
3. 11dBm + 10log (83.37) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 2

1. 11dBm + 10log (82.59) = 30.16 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (83.02) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.55) = 29.83 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (82.81) = 30.18 > 24dBm
3. 11dBm + 10log (82.98) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.56) = 29.83 > 24dBm

Chain 4

1. 11dBm + 10log (83.00) = 30.19 > 24dBm
2. 11dBm + 10log (83.09) = 30.19 > 24dBm
3. 11dBm + 10log (83.60) = 30.22 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.84) = 29.81 > 24dBm

Chain 5

1. 11dBm + 10log (83.34) = 30.20 > 24dBm
2. 11dBm + 10log (83.08) = 30.19 > 24dBm

3. 11dBm + 10log (83.11) = 30.19 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 6

1. 11dBm + 10log (83.04) = 30.19 > 24dBm

2. 11dBm + 10log (83.61) = 30.22 > 24dBm

3. 11dBm + 10log (83.23) = 30.20 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.49) = 29.83 > 24dBm

Chain 7

1. 11dBm + 10log (83.03) = 30.19 > 24dBm

2. 11dBm + 10log (83.40) = 30.21 > 24dBm

3. 11dBm + 10log (82.93) = 30.18 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.42) = 29.84 > 24dBm

802.11ax (HE80+HE80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42	5210	15.36	14.90	15.82	15.00	-	-	-	-	135.076	21.31	30	Pass
58	5290	-	-	-	-	15.00	14.60	14.59	15.89	128.052	21.07	24	Pass
106	5530	14.41	13.52	13.95	13.32	-	-	-	-	197.401	22.95	24	Pass
122	5610	-	-	-	-	13.56	14.02	13.83	14.61				Pass

Note:
1. 5180-5240MHz: Max. Antenna gain = 5.27dBi < 6dBi, so the power limit no need to reduced.
2. 5260-5320MHz: Max. Antenna gain = 4.74dBi < 6dBi, so the power limit no need to reduced.
3. 5500-5700MHz: Max. Antenna gain = 5.25dBi < 6dBi, so the power limit no need to reduced.

Chain 0

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 1

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 2

1. 11dBm + 10log (82.80) = 30.18 > 24dBm

Chain 3

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

Chain 4

1. 11dBm + 10log (83.45) = 30.21 > 24dBm

2. 11dBm + 10log (83.20) = 30.20 > 24dBm

Chain 5

1. 11dBm + 10log (83.48) = 30.21 > 24dBm

2. 11dBm + 10log (83.37) = 30.21 > 24dBm

Chain 6

1. 11dBm + 10log (83.57) = 30.22 > 24dBm

2. 11dBm + 10log (83.11) = 30.19 > 24dBm

Chain 7

1. 11dBm + 10log (82.79) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm

Beamforming Mode

802.11ac (VHT20)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	7.49	6.47	7.23	6.36	6.97	6.83	6.43	7.58	39.576	15.97	16.51	Pass
60	5300	7.44	6.52	7.52	6.56	6.20	6.68	6.47	7.57	39.187	15.93	16.51	Pass
64	5320	7.49	6.24	7.15	6.41	6.71	6.75	6.47	7.56	38.938	15.90	16.51	Pass
100	5500	7.64	6.85	6.68	6.72	6.31	6.48	6.67	7.14	38.547	15.86	16.51	Pass
116	5580	7.88	6.87	7.42	7.26	6.71	6.45	7.28	7.58	42.021	16.23	16.51	Pass
140	5700	7.42	6.35	6.93	6.24	6.73	6.69	6.92	7.71	39.174	15.93	16.51	Pass
144	5720 (For U-NII-2C)	7.00	6.01	6.86	6.00	6.01	6.02	5.96	6.90	34.668	15.40	15.43	Pass
144	5720 (For U-NII-3)	1.30	0.68	1.35	0.17	1.00	0.65	0.24	1.75	9.896	9.95	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5720MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 22.92 - (13.49 - 6) = 15.43dBm.
4. 5720MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (21.52) = 24.32 > 24dBm
2. 11dBm + 10log (21.52) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.86) = 24.39 > 24dBm
5. 11dBm + 10log (21.33) = 24.28 > 24dBm
6. 11dBm + 10log (21.73) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.42) = 22.92 < 24dBm

Chain 1

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.70) = 24.36 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm
4. 11dBm + 10log (21.52) = 24.32 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.39) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 2

1. 11dBm + 10log (21.32) = 24.28 > 24dBm
2. 11dBm + 10log (21.54) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.30) = 24.28 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.30) = 24.28 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.23) = 22.97 < 24dBm

Chain 3

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.54) = 24.33 > 24dBm
4. 11dBm + 10log (21.60) = 24.34 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.43) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.30) = 22.95 < 24dBm

Chain 4

1. 11dBm + 10log (21.23) = 24.26 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.50) = 24.32 > 24dBm
4. 11dBm + 10log (21.67) = 24.35 > 24dBm
5. 11dBm + 10log (21.55) = 24.33 > 24dBm
6. 11dBm + 10log (21.42) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.38) = 22.93 < 24dBm

Chain 5

1. 11dBm + 10log (21.39) = 24.30 > 24dBm
2. 11dBm + 10log (21.26) = 24.27 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.42) = 24.30 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 6

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.74) = 24.37 > 24dBm
4. 11dBm + 10log (21.54) = 24.33 > 24dBm
5. 11dBm + 10log (21.51) = 24.32 > 24dBm
6. 11dBm + 10log (21.46) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.22) = 22.98 < 24dBm

Chain 7

1. 11dBm + 10log (21.77) = 24.37 > 24dBm
2. 11dBm + 10log (21.66) = 24.35 > 24dBm
3. 11dBm + 10log (21.51) = 24.32 > 24dBm

4. 11dBm + 10log (21.61) = 24.34 > 24dBm
5. 11dBm + 10log (21.65) = 24.35 > 24dBm
6. 11dBm + 10log (21.52) = 24.32 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.28) = 22.96 < 24dBm

802.11ac (VHT40)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	7.86	7.17	7.76	6.76	7.15	7.05	7.10	8.03	43.774	16.41	16.51	Pass
62	5310	8.07	6.81	7.58	6.82	7.05	6.89	6.99	7.56	42.404	16.27	16.51	Pass
102	5510	7.96	6.85	7.15	6.81	6.72	6.67	6.97	7.46	40.972	16.12	16.51	Pass
110	5550	7.84	6.99	7.32	7.07	7.00	6.87	7.02	7.83	42.548	16.29	16.51	Pass
134	5670	7.96	7.36	7.63	6.79	7.28	7.07	7.25	7.95	44.251	16.46	16.51	Pass
142	5710 (For U-NII-2C)	7.91	7.35	7.38	7.01	7.16	6.88	7.20	6.85	42.271	16.26	16.51	Pass
142	5710 (For U-NII-3)	1.60	1.18	1.23	0.31	0.60	0.34	0.81	0.21	9.643	9.84	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5710MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
4. 5710MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (42.11) = 27.24 > 24dBm
2. 11dBm + 10log (42.34) = 27.26 > 24dBm
3. 11dBm + 10log (42.49) = 27.28 > 24dBm
4. 11dBm + 10log (42.57) = 27.29 > 24dBm
5. 11dBm + 10log (42.44) = 27.27 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.65) = 26.60 > 24dBm

Chain 1

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.30) = 27.26 > 24dBm
4. 11dBm + 10log (42.36) = 27.26 > 24dBm
5. 11dBm + 10log (42.14) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.84) = 26.58 > 24dBm

Chain 2

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.42) = 27.27 > 24dBm

3. 11dBm + 10log (42.28) = 27.26 > 24dBm
4. 11dBm + 10log (42.26) = 27.25 > 24dBm
5. 11dBm + 10log (42.06) = 27.23 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 3

1. 11dBm + 10log (42.13) = 27.24 > 24dBm
2. 11dBm + 10log (42.16) = 27.24 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (41.95) = 27.22 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

Chain 4

1. 11dBm + 10log (42.40) = 27.27 > 24dBm
2. 11dBm + 10log (41.82) = 27.21 > 24dBm
3. 11dBm + 10log (42.18) = 27.25 > 24dBm
4. 11dBm + 10log (42.18) = 27.25 > 24dBm
5. 11dBm + 10log (42.26) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.71) = 26.59 > 24dBm

Chain 5

1. 11dBm + 10log (42.29) = 27.26 > 24dBm
2. 11dBm + 10log (42.14) = 27.24 > 24dBm
3. 11dBm + 10log (41.91) = 27.22 > 24dBm
4. 11dBm + 10log (42.12) = 27.24 > 24dBm
5. 11dBm + 10log (42.18) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 6

1. 11dBm + 10log (42.35) = 27.26 > 24dBm
2. 11dBm + 10log (42.45) = 27.27 > 24dBm
3. 11dBm + 10log (42.14) = 27.24 > 24dBm
4. 11dBm + 10log (42.21) = 27.25 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.75) = 26.59 > 24dBm

Chain 7

1. 11dBm + 10log (42.30) = 27.26 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm
3. 11dBm + 10log (42.07) = 27.23 > 24dBm
4. 11dBm + 10log (42.20) = 27.25 > 24dBm
5. 11dBm + 10log (42.23) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.85) = 26.58 > 24dBm

802.11ac (VHT80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	7.62	6.86	7.69	6.67	6.90	6.87	6.75	7.88	41.785	16.21	16.51	Pass
106	5530	7.82	6.84	7.62	6.84	7.29	7.05	6.79	7.81	42.738	16.31	16.51	Pass
122	5610	7.79	7.04	7.74	6.88	7.25	7.18	7.35	7.93	44.062	16.44	16.51	Pass
138	5690 (For U-NII-2C)	7.65	6.91	7.60	6.78	7.05	7.03	6.95	7.85	42.411	16.27	16.51	Pass
138	5690 (For U-NII-3)	1.30	0.05	1.05	-0.02	0.96	0.95	0.65	1.28	9.6256	9.83	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5690MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
4. 5690MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (82.87) = 30.18 > 24dBm
2. 11dBm + 10log (82.93) = 30.18 > 24dBm
3. 11dBm + 10log (83.50) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.45) = 29.83 > 24dBm

Chain 1

1. 11dBm + 10log (82.72) = 30.17 > 24dBm
2. 11dBm + 10log (83.64) = 30.22 > 24dBm
3. 11dBm + 10log (83.37) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 2

1. 11dBm + 10log (82.59) = 30.16 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (83.02) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.55) = 29.83 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (82.81) = 30.18 > 24dBm
3. 11dBm + 10log (82.98) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.56) = 29.83 > 24dBm

Chain 4

1. 11dBm + 10log (83.00) = 30.19 > 24dBm
2. 11dBm + 10log (83.09) = 30.19 > 24dBm

3. 11dBm + 10log (83.60) = 30.22 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.84) = 29.81 > 24dBm

Chain 5

1. 11dBm + 10log (83.34) = 30.20 > 24dBm
2. 11dBm + 10log (83.08) = 30.19 > 24dBm
3. 11dBm + 10log (83.11) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 6

1. 11dBm + 10log (83.04) = 30.19 > 24dBm
2. 11dBm + 10log (83.61) = 30.22 > 24dBm
3. 11dBm + 10log (83.23) = 30.20 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.49) = 29.83 > 24dBm

Chain 7

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (83.40) = 30.21 > 24dBm
3. 11dBm + 10log (82.93) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.42) = 29.84 > 24dBm

802.11ac (VHT80+VHT80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42	5210	13.37	12.90	13.85	13.13	-	-	-	-	86.050	19.35	25.50	Pass
58	5290	-	-	-	-	12.91	12.63	12.64	13.88	80.666	19.07	19.54	Pass
106	5530	7.73	7.18	7.58	7.00	-	-	-	-	44.531	16.49	19.19	Pass
122	5610	-	-	-	-	7.27	7.46	7.50	7.86			19.86	Pass

Note:

1. 5210MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.50dBi > 6dBi, so the power limit shall be reduced to 30 - (10.50 - 6) = 25.50dBm.
2. 5290MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.46dBi > 6dBi, so the power limit shall be reduced to 24 - (10.46 - 6) = 19.54dBm.
3. 5530MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.81dBi > 6dBi, so the power limit shall be reduced to 24 - (10.81 - 6) = 19.19dBm.
4. 5610MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.14dBi > 6dBi, so the power limit shall be reduced to 24 - (10.14 - 6) = 19.86dBm.

Chain 0

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 1

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 2

1. 11dBm + 10log (82.80) = 30.18 > 24dBm

Chain 3

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

Chain 4

1. 11dBm + 10log (83.45) = 30.21 > 24dBm
2. 11dBm + 10log (83.20) = 30.20 > 24dBm

Chain 5

1. 11dBm + 10log (83.48) = 30.21 > 24dBm
2. 11dBm + 10log (83.37) = 30.21 > 24dBm

Chain 6

1. 11dBm + 10log (83.57) = 30.22 > 24dBm
2. 11dBm + 10log (83.11) = 30.19 > 24dBm

Chain 7

1. 11dBm + 10log (82.79) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm

802.11ax (HE20)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	7.57	6.62	7.33	6.45	7.01	6.87	6.51	7.62	40.276	16.05	16.51	Pass
60	5300	7.52	6.59	7.62	6.57	6.31	6.74	6.51	7.62	39.784	16.00	16.51	Pass
64	5320	7.53	6.38	7.26	6.53	6.72	6.79	6.59	7.63	39.655	15.98	16.51	Pass
100	5500	7.76	6.93	6.71	6.74	6.43	6.62	6.73	7.26	39.329	15.95	16.51	Pass
116	5580	7.90	6.88	7.43	7.28	6.73	6.48	7.30	7.60	42.201	16.25	16.51	Pass
140	5700	7.53	6.41	7.08	6.36	6.84	6.75	6.94	7.79	39.985	16.02	16.51	Pass
144	5720 (For U-NII-2C)	7.02	6.03	6.90	6.02	6.03	6.04	6.00	6.92	34.869	15.42	15.43	Pass
144	5720 (For U-NII-3)	1.32	0.71	1.38	0.21	1.02	0.70	0.27	1.78	9.967	9.99	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5720MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 22.92 - (13.49 - 6) = 15.43dBm.
4. 5720MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (21.52) = 24.32 > 24dBm
2. 11dBm + 10log (21.52) = 24.32 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.86) = 24.39 > 24dBm
5. 11dBm + 10log (21.33) = 24.28 > 24dBm
6. 11dBm + 10log (21.73) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.42) = 22.92 < 24dBm

Chain 1

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.70) = 24.36 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm
4. 11dBm + 10log (21.52) = 24.32 > 24dBm
5. 11dBm + 10log (21.36) = 24.29 > 24dBm
6. 11dBm + 10log (21.39) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 2

1. 11dBm + 10log (21.32) = 24.28 > 24dBm
2. 11dBm + 10log (21.54) = 24.33 > 24dBm
3. 11dBm + 10log (21.57) = 24.33 > 24dBm
4. 11dBm + 10log (21.30) = 24.28 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.30) = 24.28 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.23) = 22.97 < 24dBm

Chain 3

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.54) = 24.33 > 24dBm
4. 11dBm + 10log (21.60) = 24.34 > 24dBm
5. 11dBm + 10log (21.48) = 24.32 > 24dBm
6. 11dBm + 10log (21.43) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.30) = 22.95 < 24dBm

Chain 4

1. 11dBm + 10log (21.23) = 24.26 > 24dBm
2. 11dBm + 10log (21.55) = 24.33 > 24dBm
3. 11dBm + 10log (21.50) = 24.32 > 24dBm
4. 11dBm + 10log (21.67) = 24.35 > 24dBm
5. 11dBm + 10log (21.55) = 24.33 > 24dBm
6. 11dBm + 10log (21.42) = 24.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.38) = 22.93 < 24dBm

Chain 5

1. 11dBm + 10log (21.39) = 24.30 > 24dBm
2. 11dBm + 10log (21.26) = 24.27 > 24dBm
3. 11dBm + 10log (21.45) = 24.31 > 24dBm
4. 11dBm + 10log (21.42) = 24.30 > 24dBm
5. 11dBm + 10log (21.60) = 24.34 > 24dBm
6. 11dBm + 10log (21.56) = 24.33 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.34) = 22.94 < 24dBm

Chain 6

1. 11dBm + 10log (21.26) = 24.27 > 24dBm
2. 11dBm + 10log (21.50) = 24.32 > 24dBm
3. 11dBm + 10log (21.74) = 24.37 > 24dBm

4. 11dBm + 10log (21.54) = 24.33 > 24dBm
5. 11dBm + 10log (21.51) = 24.32 > 24dBm
6. 11dBm + 10log (21.46) = 24.31 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.22) = 22.98 < 24dBm

Chain 7

1. 11dBm + 10log (21.77) = 24.37 > 24dBm
2. 11dBm + 10log (21.66) = 24.35 > 24dBm
3. 11dBm + 10log (21.51) = 24.32 > 24dBm
4. 11dBm + 10log (21.61) = 24.34 > 24dBm
5. 11dBm + 10log (21.65) = 24.35 > 24dBm
6. 11dBm + 10log (21.52) = 24.32 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.28) = 22.96 < 24dBm

802.11ax (HE40)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	7.96	7.21	7.81	6.79	7.24	7.06	7.22	8.18	44.554	16.49	16.51	Pass
62	5310	8.10	6.92	7.67	6.88	7.11	7.01	7.11	7.62	43.185	16.35	16.51	Pass
102	5510	7.89	6.98	7.25	6.92	6.75	6.82	7.12	7.56	41.764	16.21	16.51	Pass
110	5550	7.86	7.07	7.41	7.18	7.10	6.97	7.15	7.98	43.509	16.39	16.51	Pass
134	5670	7.80	7.47	7.65	6.92	7.40	7.18	7.37	7.88	44.666	16.50	16.51	Pass
142	5710 (For U-NII-2C)	7.94	7.38	7.41	7.03	7.21	6.91	7.23	6.87	42.566	16.29	16.51	Pass
142	5710 (For U-NII-3)	1.63	1.21	1.25	0.33	0.64	0.38	0.84	0.24	9.710	9.87	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5710MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
4. 5710MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (42.11) = 27.24 > 24dBm
2. 11dBm + 10log (42.34) = 27.26 > 24dBm
3. 11dBm + 10log (42.49) = 27.28 > 24dBm
4. 11dBm + 10log (42.57) = 27.29 > 24dBm
5. 11dBm + 10log (42.44) = 27.27 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.65) = 26.60 > 24dBm

Chain 1

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.36) = 27.26 > 24dBm
3. 11dBm + 10log (42.30) = 27.26 > 24dBm
4. 11dBm + 10log (42.36) = 27.26 > 24dBm
5. 11dBm + 10log (42.14) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.84) = 26.58 > 24dBm

Chain 2

1. 11dBm + 10log (42.26) = 27.25 > 24dBm
2. 11dBm + 10log (42.42) = 27.27 > 24dBm
3. 11dBm + 10log (42.28) = 27.26 > 24dBm
4. 11dBm + 10log (42.26) = 27.25 > 24dBm
5. 11dBm + 10log (42.06) = 27.23 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 3

1. 11dBm + 10log (42.13) = 27.24 > 24dBm
2. 11dBm + 10log (42.16) = 27.24 > 24dBm
3. 11dBm + 10log (42.03) = 27.23 > 24dBm
4. 11dBm + 10log (41.95) = 27.22 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

Chain 4

1. 11dBm + 10log (42.40) = 27.27 > 24dBm
2. 11dBm + 10log (41.82) = 27.21 > 24dBm
3. 11dBm + 10log (42.18) = 27.25 > 24dBm
4. 11dBm + 10log (42.18) = 27.25 > 24dBm
5. 11dBm + 10log (42.26) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.71) = 26.59 > 24dBm

Chain 5

1. 11dBm + 10log (42.29) = 27.26 > 24dBm
2. 11dBm + 10log (42.14) = 27.24 > 24dBm
3. 11dBm + 10log (41.91) = 27.22 > 24dBm
4. 11dBm + 10log (42.12) = 27.24 > 24dBm
5. 11dBm + 10log (42.18) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.86) = 26.57 > 24dBm

Chain 6

1. 11dBm + 10log (42.35) = 27.26 > 24dBm
2. 11dBm + 10log (42.45) = 27.27 > 24dBm
3. 11dBm + 10log (42.14) = 27.24 > 24dBm
4. 11dBm + 10log (42.21) = 27.25 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.75) = 26.59 > 24dBm

Chain 7

1. 11dBm + 10log (42.30) = 27.26 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm

3. 11dBm + 10log (42.07) = 27.23 > 24dBm
4. 11dBm + 10log (42.20) = 27.25 > 24dBm
5. 11dBm + 10log (42.23) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.85) = 26.58 > 24dBm

802.11ax (HE80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	7.81	6.89	7.71	6.77	6.93	6.91	6.87	7.97	42.552	16.29	16.51	Pass
106	5530	7.88	6.85	7.65	6.86	7.32	7.16	6.91	7.85	43.253	16.36	16.51	Pass
122	5610	7.80	7.10	7.69	6.99	7.36	7.28	7.41	7.94	44.551	16.49	16.51	Pass
138	5690 (For U-NII-2C)	7.70	6.94	7.63	6.80	7.10	7.09	7.00	7.87	42.793	16.31	16.51	Pass
138	5690 (For U-NII-3)	1.32	0.20	1.20	0.00	0.99	0.97	0.67	1.31	9.746	9.89	22.61	Pass

Note:

1. 5260-5320MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
2. 5500-5700MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
3. 5690MHz (For U-NII-2C): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power limit shall be reduced to 24 - (13.49 - 6) = 16.51dBm.
4. 5690MHz (For U-NII-3): Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.

Chain 0

1. 11dBm + 10log (82.87) = 30.18 > 24dBm
2. 11dBm + 10log (82.93) = 30.18 > 24dBm
3. 11dBm + 10log (83.50) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.45) = 29.83 > 24dBm

Chain 1

1. 11dBm + 10log (82.72) = 30.17 > 24dBm
2. 11dBm + 10log (83.64) = 30.22 > 24dBm
3. 11dBm + 10log (83.37) = 30.21 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 2

1. 11dBm + 10log (82.59) = 30.16 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (83.02) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.55) = 29.83 > 24dBm

Chain 3

1. 11dBm + 10log (83.01) = 30.19 > 24dBm
2. 11dBm + 10log (82.81) = 30.18 > 24dBm
3. 11dBm + 10log (82.98) = 30.18 > 24dBm

4. 11dBm + 10log (5725.00 - 5648.56) = 29.83 > 24dBm

Chain 4

1. 11dBm + 10log (83.00) = 30.19 > 24dBm
2. 11dBm + 10log (83.09) = 30.19 > 24dBm
3. 11dBm + 10log (83.60) = 30.22 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.84) = 29.81 > 24dBm

Chain 5

1. 11dBm + 10log (83.34) = 30.20 > 24dBm
2. 11dBm + 10log (83.08) = 30.19 > 24dBm
3. 11dBm + 10log (83.11) = 30.19 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.48) = 29.83 > 24dBm

Chain 6

1. 11dBm + 10log (83.04) = 30.19 > 24dBm
2. 11dBm + 10log (83.61) = 30.22 > 24dBm
3. 11dBm + 10log (83.23) = 30.20 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.49) = 29.83 > 24dBm

Chain 7

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (83.40) = 30.21 > 24dBm
3. 11dBm + 10log (82.93) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.42) = 29.84 > 24dBm

802.11ax (HE80+HE80)

Ch	Freq. (MHz)	Average Power (dBm)								Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42	5210	13.41	12.95	13.87	13.16	-	-	-	-	86.732	19.38	25.50	Pass
58	5290	-	-	-	-	13.05	12.65	12.64	13.94	81.731	19.12	19.54	Pass
106	5530	7.71	7.29	7.32	7.09	-	-	-	-	44.618	16.50	19.19	Pass
122	5610	-	-	-	-	7.33	7.44	7.60	7.88			19.86	Pass

Note:

1. 5210MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.50dBi > 6dBi, so the power limit shall be reduced to 30 - (10.50 - 6) = 25.50dBm.
2. 5290MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.46dBi > 6dBi, so the power limit shall be reduced to 24 - (10.46 - 6) = 19.54dBm.
3. 5530MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.81dBi > 6dBi, so the power limit shall be reduced to 24 - (10.81 - 6) = 19.19dBm.
4. 5610MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.14dBi > 6dBi, so the power limit shall be reduced to 24 - (10.14 - 6) = 19.86dBm.

Chain 0

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 1

1. 11dBm + 10log (83.72) = 30.22 > 24dBm

Chain 2

1. 11dBm + 10log (82.80) = 30.18 > 24dBm

Chain 3

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

Chain 4

1. 11dBm + 10log (83.45) = 30.21 > 24dBm
2. 11dBm + 10log (83.20) = 30.20 > 24dBm

Chain 5

1. 11dBm + 10log (83.48) = 30.21 > 24dBm
2. 11dBm + 10log (83.37) = 30.21 > 24dBm

Chain 6

1. 11dBm + 10log (83.57) = 30.22 > 24dBm
2. 11dBm + 10log (83.11) = 30.19 > 24dBm

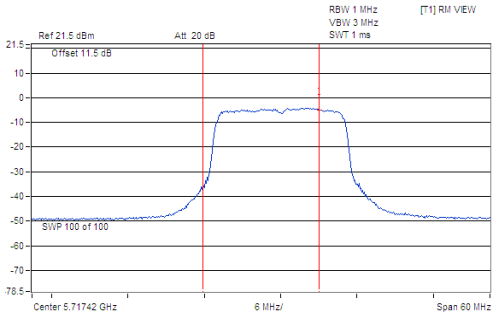
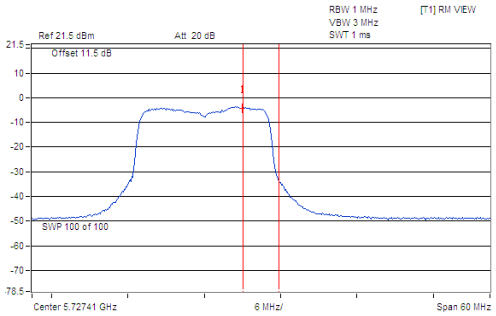
Chain 7

1. 11dBm + 10log (82.79) = 30.17 > 24dBm
2. 11dBm + 10log (83.32) = 30.20 > 24dBm

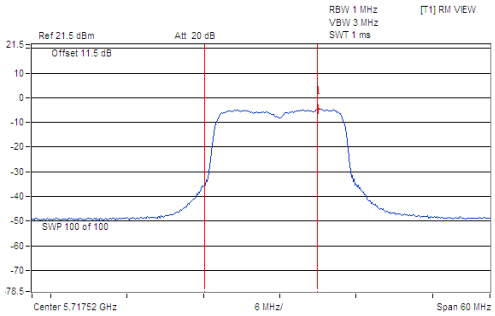
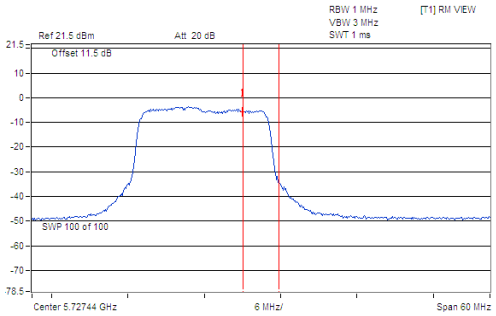
Straddle channel power plots:

802.11a

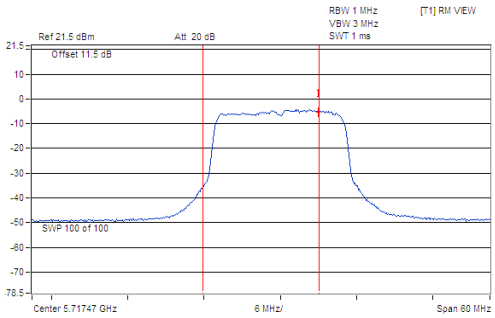
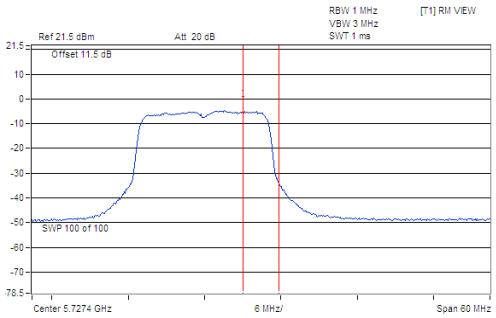
Chain 0

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.16 MHz Power 7.33 dBm	TX Channel Bandwidth 4.83 MHz Power 1.84 dBm

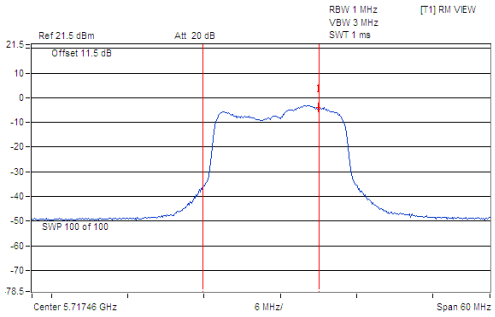
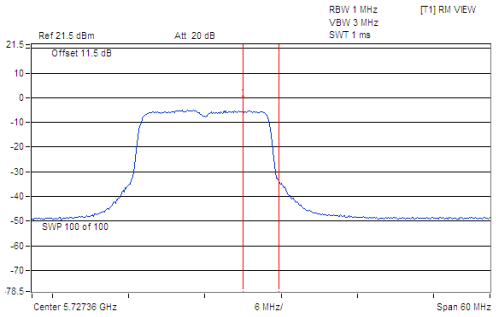
Chain 1

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 14.95 MHz Power 6.59 dBm	TX Channel Bandwidth 4.88 MHz Power 0.72 dBm

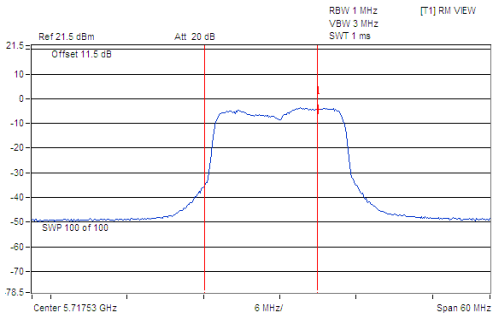
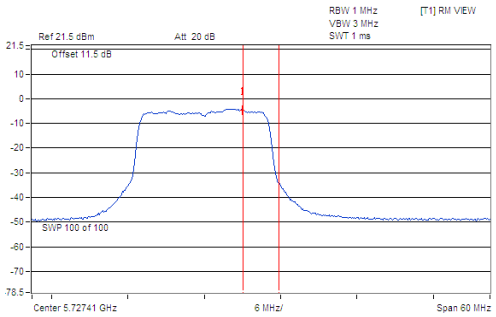
Chain 2

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.06 MHz Power 6.91 dBm	TX Channel Bandwidth 4.81 MHz Power 0.8 dBm

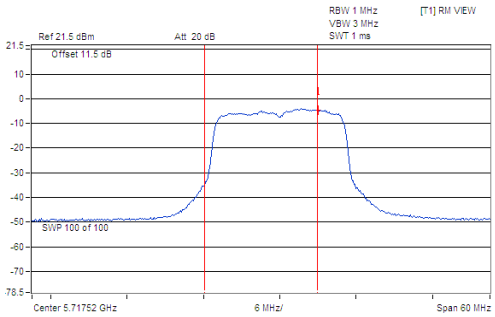
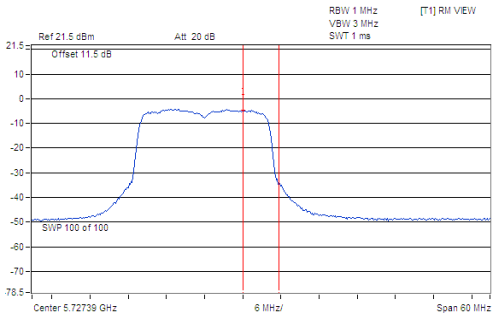
Chain 3

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.07 MHz Power 6.37 dBm	TX Channel Bandwidth 4.73 MHz Power 0.65 dBm

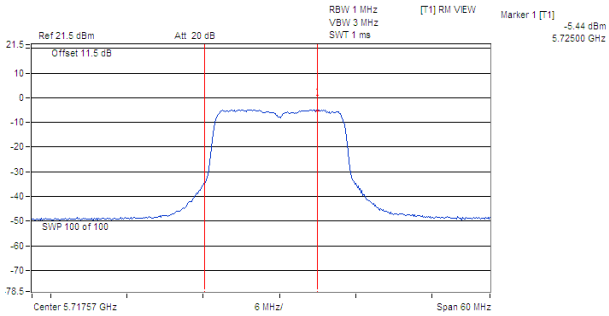
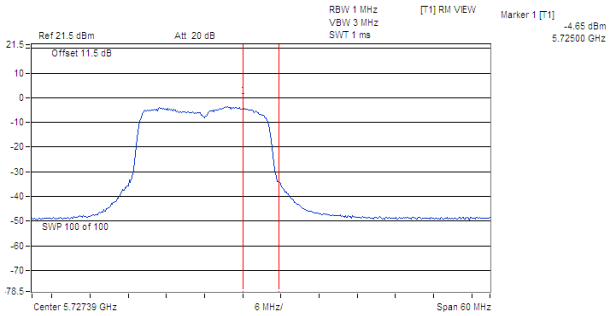
Chain 4

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 14.94 MHz Power 6.85 dBm	TX Channel Bandwidth 4.83 MHz Power 0.95 dBm

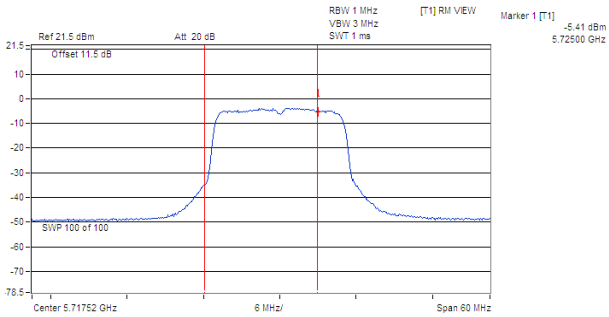
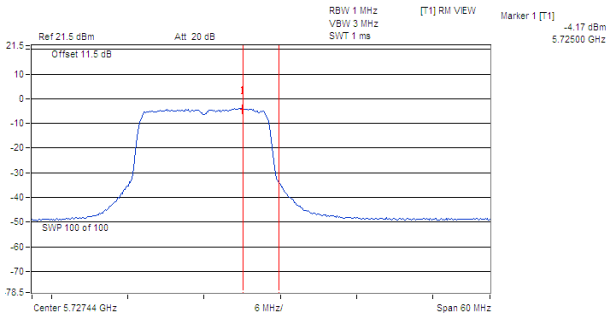
Chain 5

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 14.95 MHz Power 6.78 dBm	TX Channel Bandwidth 4.79 MHz Power 0.87 dBm

Chain 6

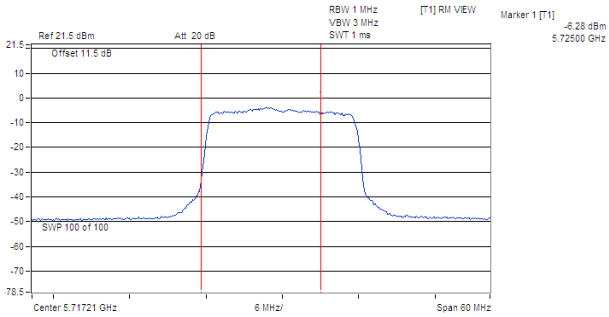
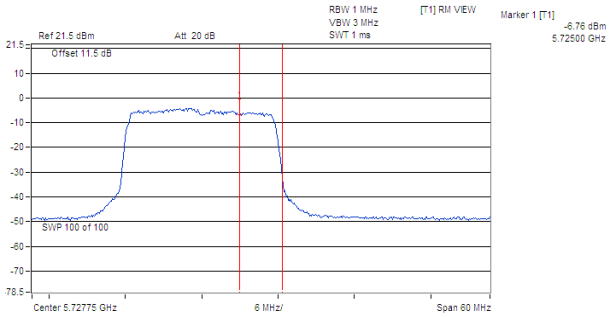
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 14.86 MHz Power 6.85 dBm	TX Channel Bandwidth 4.79 MHz Power 0.72 dBm

Chain 7

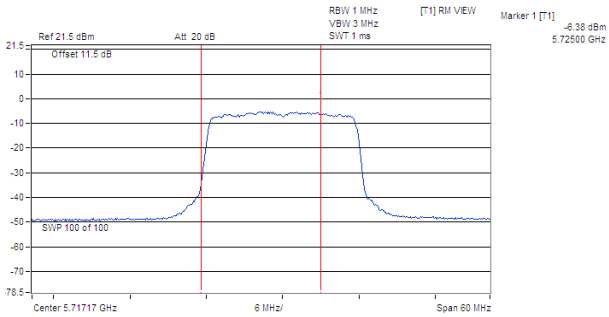
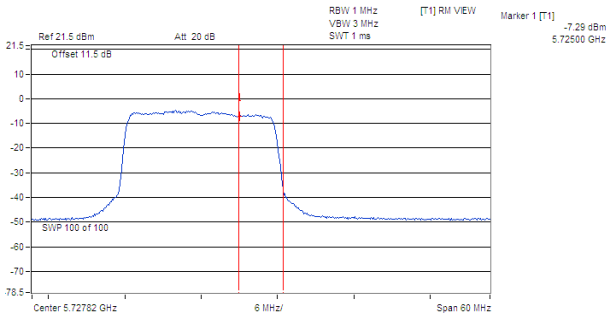
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 14.95 MHz Power 7.69 dBm	TX Channel Bandwidth 4.89 MHz Power 1.67 dBm

802.11ax (HE20)

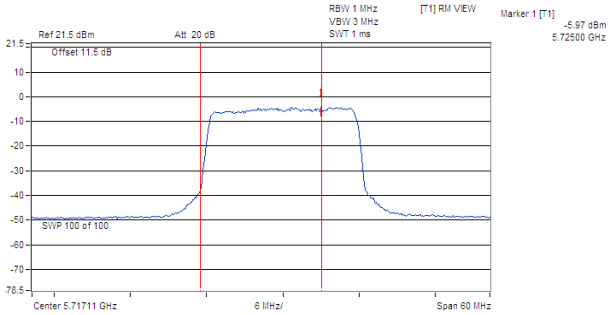
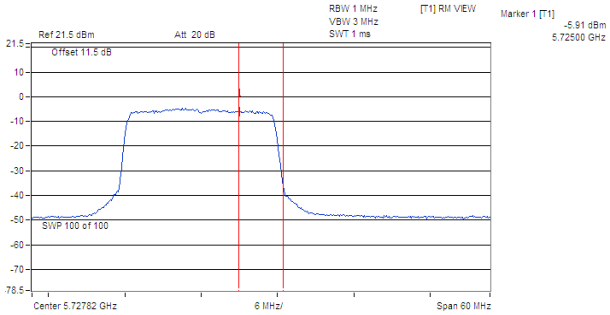
Chain 0

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.58 MHz Power 7.59 dBm	TX Channel Bandwidth 5.5 MHz Power 1.32 dBm

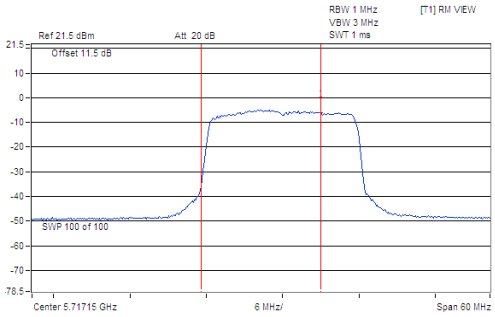
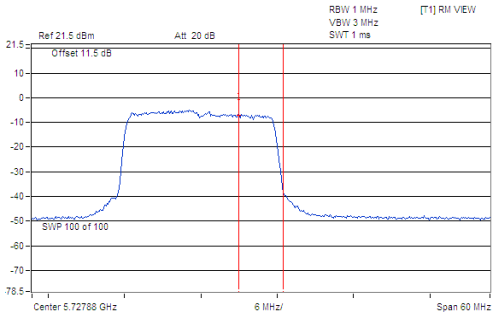
Chain 1

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.66 MHz Power 6.56 dBm	TX Channel Bandwidth 5.64 MHz Power 0.71 dBm

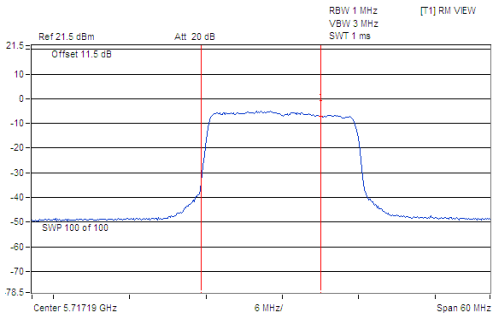
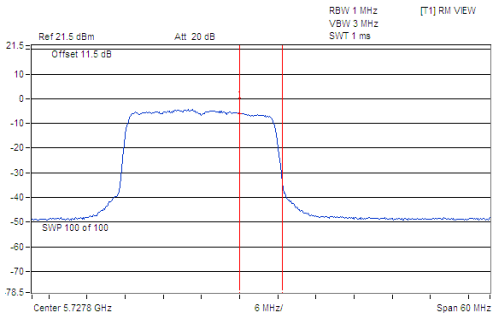
Chain 2

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.77 MHz Power 7.23 dBm	TX Channel Bandwidth 5.64 MHz Power 1.38 dBm

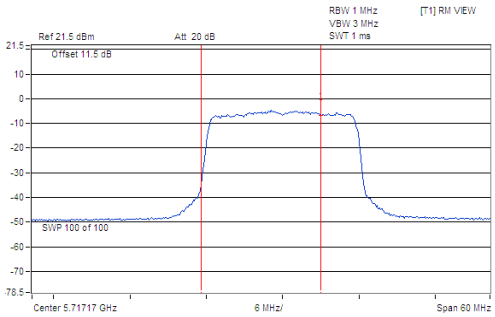
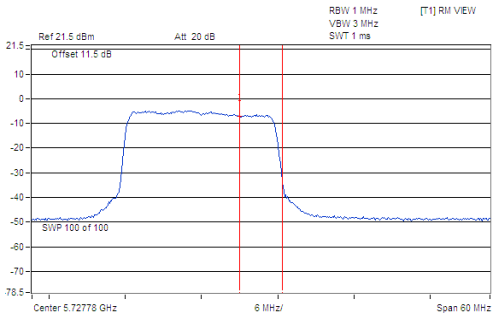
Chain 3

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.7 MHz Power 6.65 dBm	TX Channel Bandwidth 5.76 MHz Power 0.21 dBm

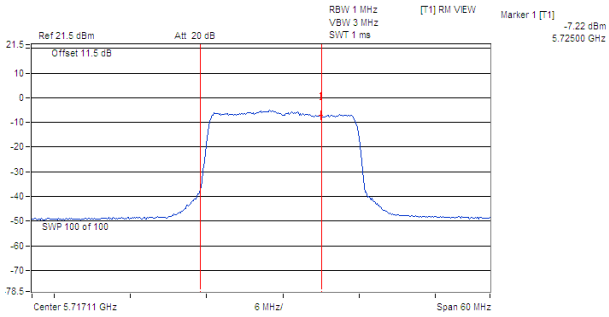
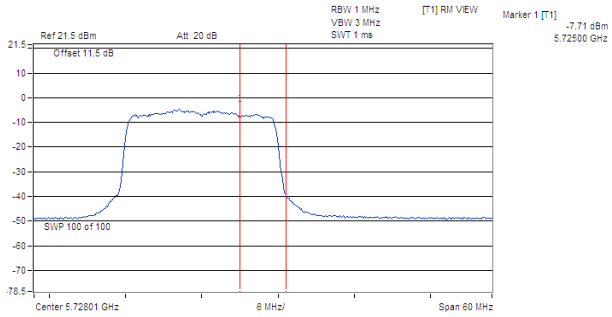
Chain 4

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.62 MHz Power 6.85 dBm	TX Channel Bandwidth 5.6 MHz Power 1.02 dBm

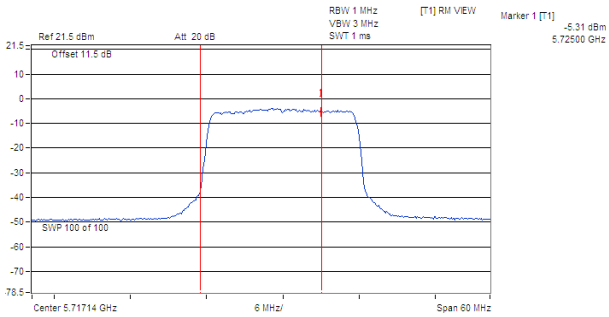
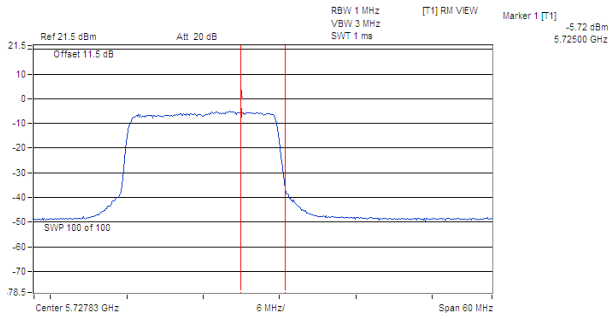
Chain 5

CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.66 MHz Power 6.75 dBm	TX Channel Bandwidth 5.57 MHz Power 0.7 dBm

Chain 6

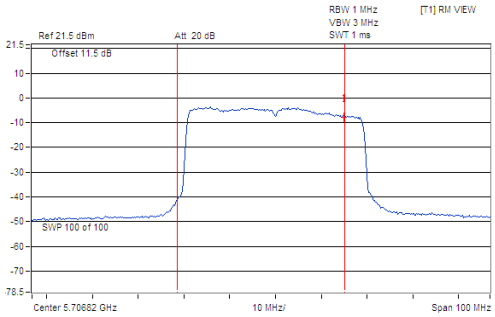
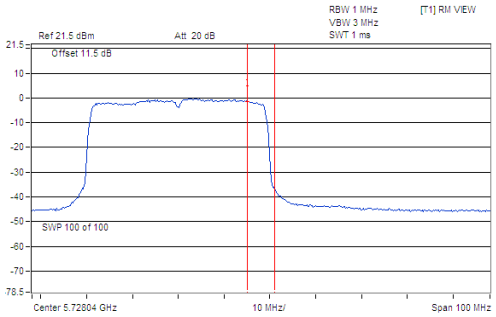
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.78 MHz Power 6.4 dBm	TX Channel Bandwidth 6.03 MHz Power 0.27 dBm

Chain 7

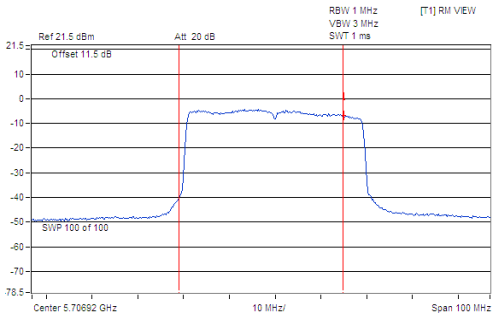
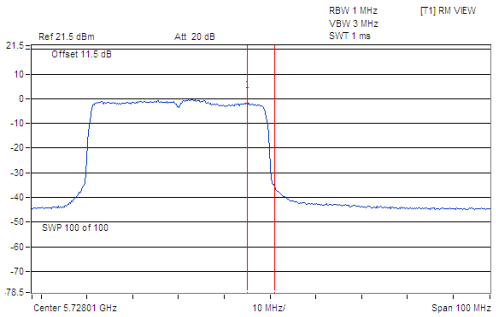
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.72 MHz Power 7.84 dBm	TX Channel Bandwidth 5.66 MHz Power 1.78 dBm

802.11ax (HE40)

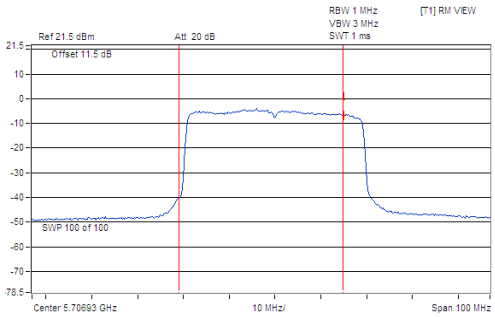
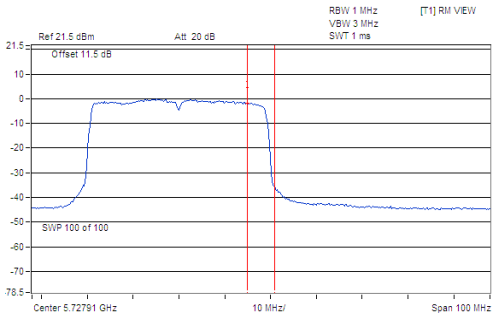
Chain 0

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.35 MHz Power 11.44 dBm	TX Channel Bandwidth 6.09 MHz Power 5.13 dBm

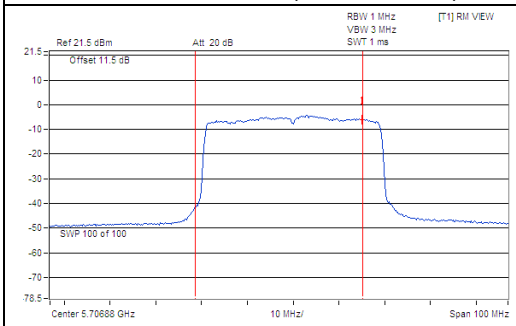
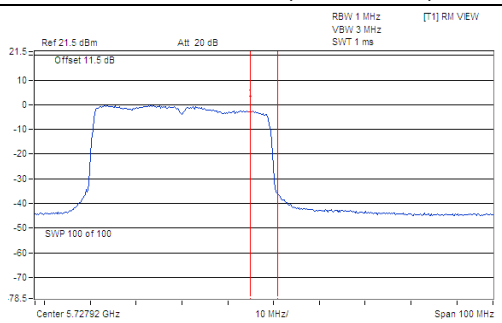
Chain 1

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.16 MHz Power 10.88 dBm	TX Channel Bandwidth 6.02 MHz Power 4.71 dBm

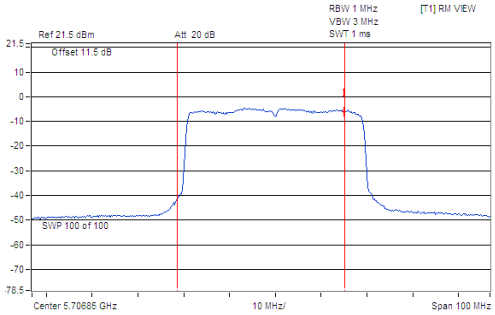
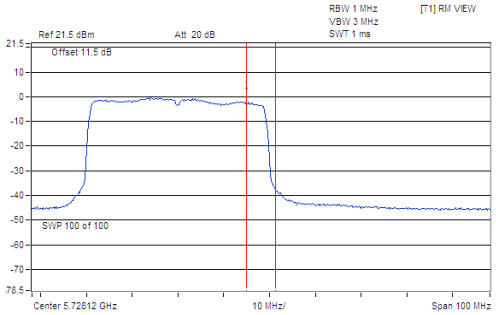
Chain 2

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.14 MHz Power 10.91 dBm	TX Channel Bandwidth 5.83 MHz Power 4.75 dBm

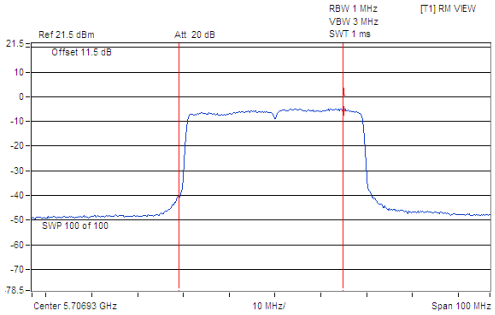
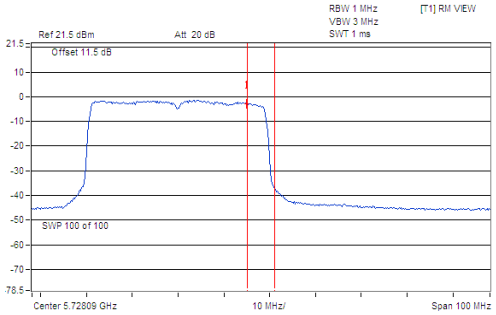
Chain 3

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.23 MHz Power 10.53 dBm	TX Channel Bandwidth 5.85 MHz Power 3.83 dBm

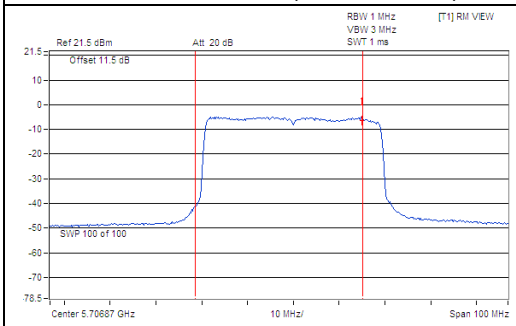
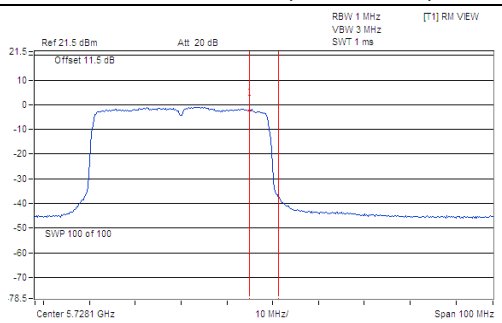
Chain 4

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.29 MHz Power 10.71 dBm	TX Channel Bandwidth 6.24 MHz Power 4.14 dBm

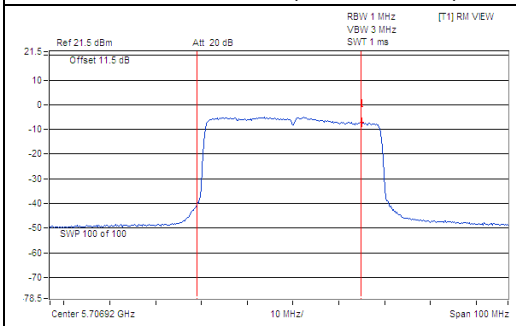
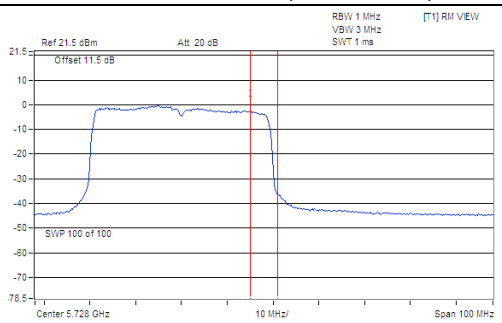
Chain 5

CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.14 MHz Power 10.41 dBm	TX Channel Bandwidth 6.19 MHz Power 3.88 dBm

Chain 6

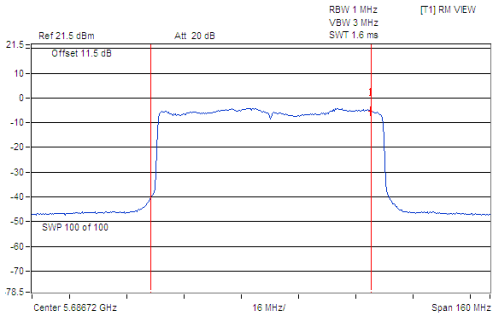
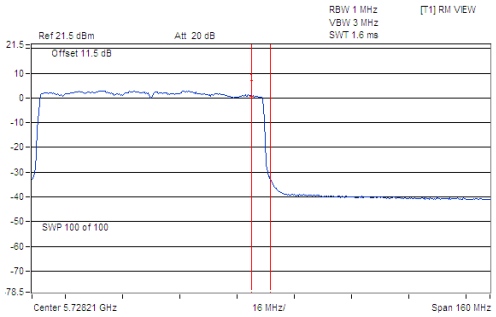
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.25 MHz Power 10.73 dBm	TX Channel Bandwidth 6.21 MHz Power 4.34 dBm

Chain 7

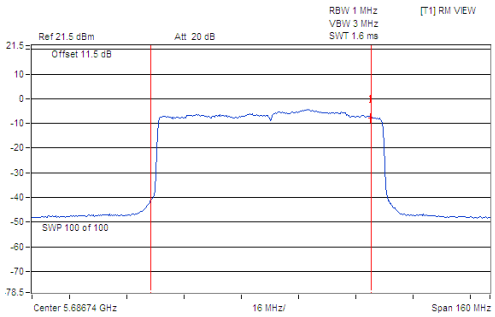
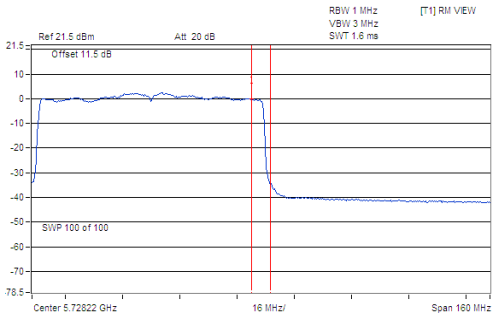
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	
TX Channel Bandwidth 36.15 MHz Power 10.37 dBm	TX Channel Bandwidth 6.01 MHz Power 3.74 dBm

802.11ax (HE80)

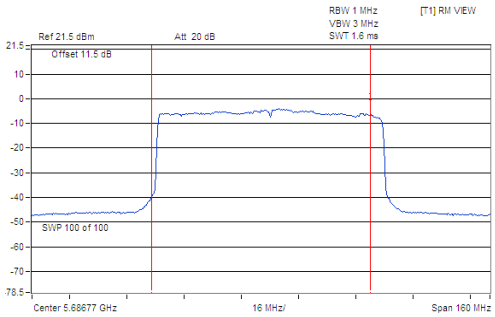
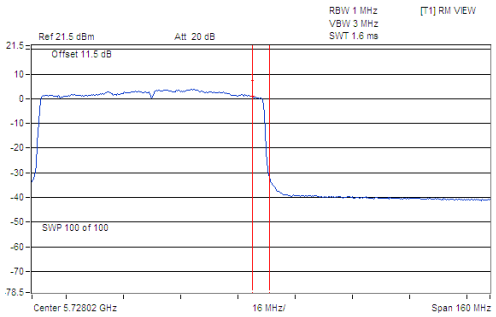
Chain 0

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.55 MHz Power 14.2 dBm	TX Channel Bandwidth 6.42 MHz Power 7.82 dBm

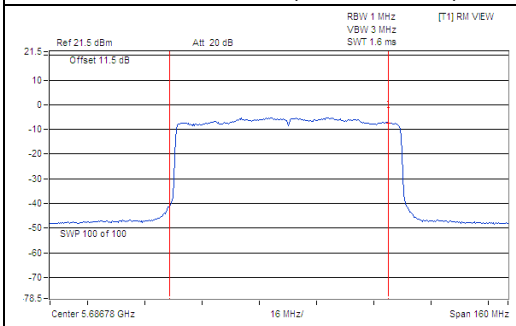
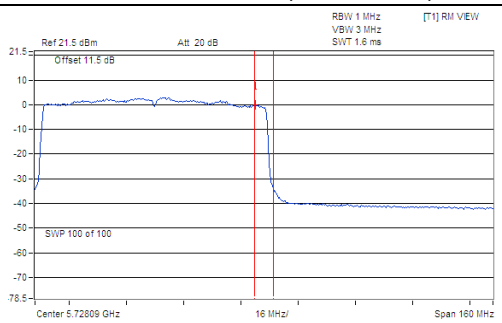
Chain 1

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.52 MHz Power 13.44 dBm	TX Channel Bandwidth 6.44 MHz Power 6.7 dBm

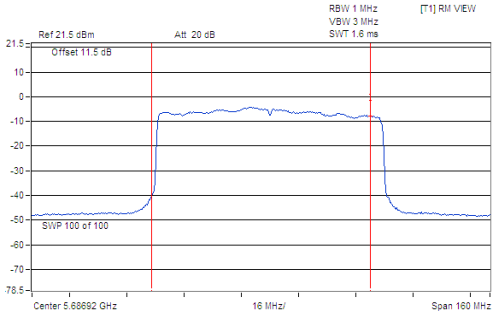
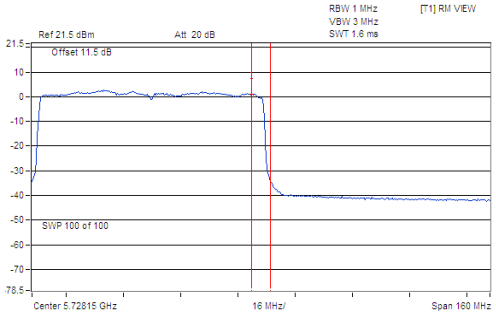
Chain 2

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.45 MHz Power 14.13 dBm	TX Channel Bandwidth 6.04 MHz Power 7.7 dBm

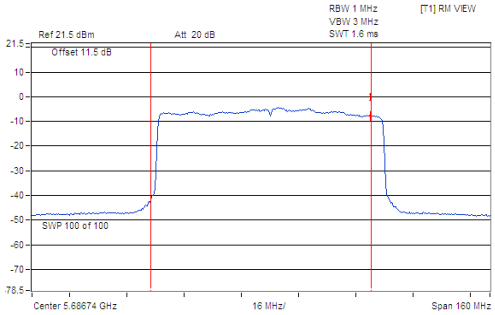
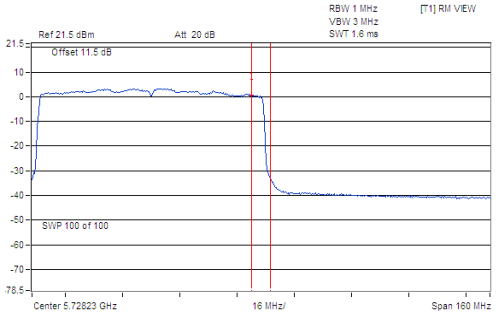
Chain 3

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.44 MHz Power 13.3 dBm	TX Channel Bandwidth 6.19 MHz Power 6.5 dBm

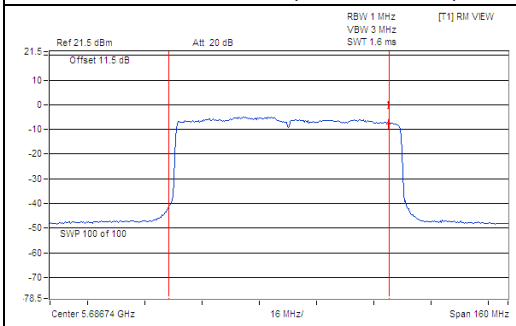
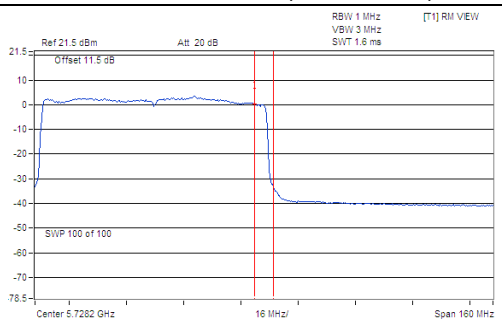
Chain 4

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.16 MHz Power 13.6 dBm	TX Channel Bandwidth 6.31 MHz Power 7.49 dBm

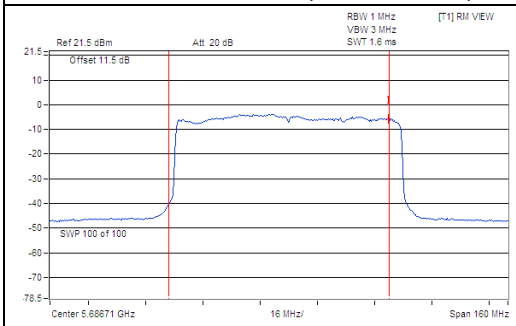
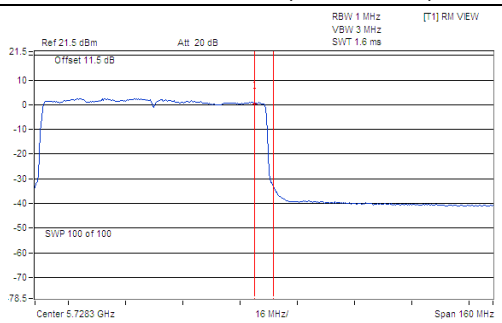
Chain 5

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.52 MHz Power 13.59 dBm	TX Channel Bandwidth 6.46 MHz Power 7.47 dBm

Chain 6

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.51 MHz Power 13.5 dBm	TX Channel Bandwidth 6.4 MHz Power 7.17 dBm

Chain 7

bnCH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.58 MHz Power 14.37 dBm	TX Channel Bandwidth 6.6 MHz Power 7.81 dBm

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	19.72	19.92	19.59	19.82	19.99	19.91	19.96	19.74
60	5300	20.05	19.91	20.18	20.04	20.04	20.14	19.82	19.88
64	5320	20.04	19.83	19.90	19.96	19.93	19.92	19.86	19.92
100	5500	20.01	20.00	20.03	20.00	20.03	20.24	20.10	20.03
116	5580	19.81	19.77	19.82	19.72	20.23	19.83	19.68	20.03
140	5700	19.83	20.13	19.72	19.87	20.06	20.09	19.84	19.73
144	5720 (For U-NII-2C)	15.16	14.95	15.06	15.07	14.94	14.95	14.86	14.95
144	5720 (For U-NII-3)	4.83	4.88	4.81	4.73	4.83	4.79	4.79	4.89

802.11ax (HE20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	21.52	21.26	21.32	21.62	21.23	21.39	21.26	21.77
60	5300	21.52	21.70	21.54	21.55	21.55	21.26	21.50	21.66
64	5320	21.45	21.65	21.57	21.54	21.50	21.45	21.74	21.51
100	5500	21.86	21.52	21.30	21.60	21.67	21.42	21.54	21.61
116	5580	21.33	21.36	21.48	21.48	21.55	21.60	21.51	21.65
140	5700	21.73	21.39	21.30	21.43	21.42	21.56	21.46	21.52
144	5720 (For U-NII-2C)	15.58	15.66	15.77	15.70	15.62	15.66	15.78	15.72
144	5720 (For U-NII-3)	5.50	5.64	5.64	5.76	5.60	5.57	6.03	5.66

802.11ax (HE40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
54	5270	42.11	42.26	42.26	42.13	42.40	42.29	42.35	42.30
62	5310	42.34	42.36	42.42	42.16	41.82	42.14	42.45	42.07
102	5510	42.49	42.30	42.28	42.03	42.18	41.91	42.14	42.07
110	5550	42.57	42.36	42.26	41.95	42.18	42.12	42.21	42.20
134	5670	42.44	42.14	42.06	42.11	42.26	42.18	42.20	42.23
142	5710 (For U-NII-2C)	36.35	36.16	36.14	36.23	36.29	36.14	36.25	36.15
142	5710 (For U-NII-3)	6.09	6.02	5.83	5.85	6.24	6.19	6.21	6.01

802.11ax (HE80)

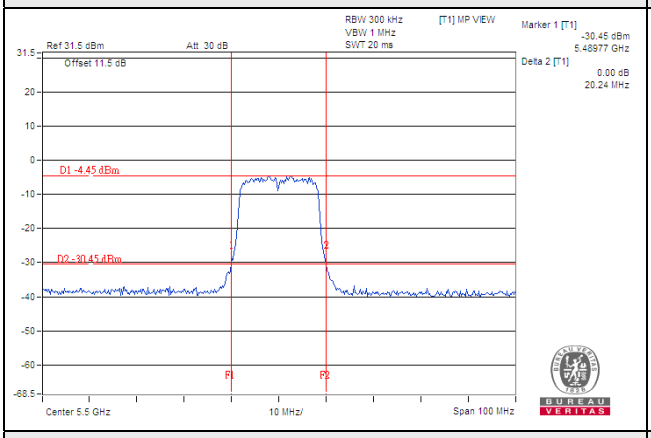
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
58	5290	82.87	82.72	82.59	83.01	83.00	83.34	83.04	83.03
106	5530	82.93	83.64	82.80	82.81	83.09	83.08	83.61	83.40
122	5610	83.50	83.37	83.02	82.98	83.60	83.11	83.23	82.93
138	5690 (For U-NII-2C)	76.55	76.52	76.45	76.44	76.16	76.52	76.51	76.58
138	5690 (For U-NII-3)	6.42	6.44	6.04	6.19	6.31	6.46	6.40	6.60

802.11ax (HE80+HE80)

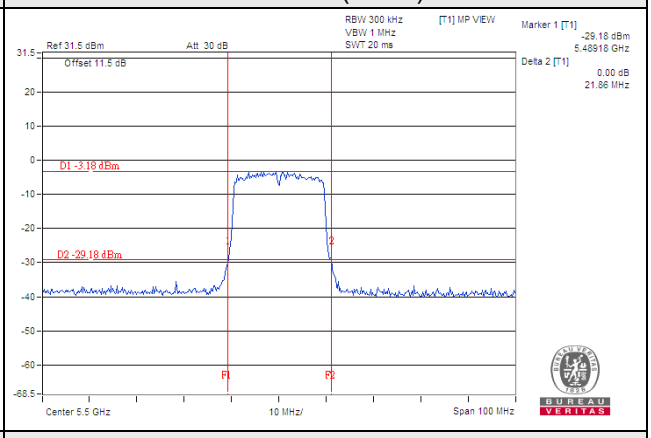
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
42	5210	82.96	83.01	83.01	82.76	-	-	-	-
58	5290	-	-	-	-	83.45	83.48	83.57	82.79
106	5530	83.72	83.78	82.80	83.32	-	-	-	-
122	5610	-	-	-	-	83.20	83.37	83.11	83.32

Spectrum Plot of Worst Value

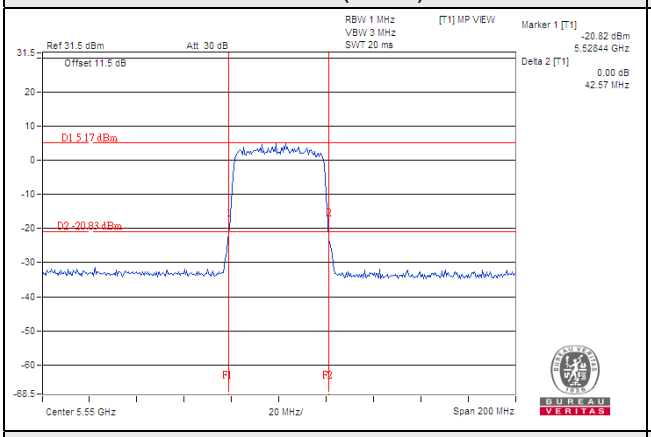
802.11a



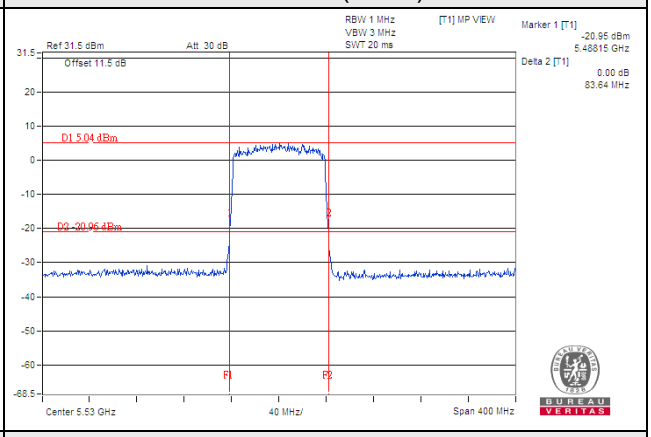
802.11ax (HE20)



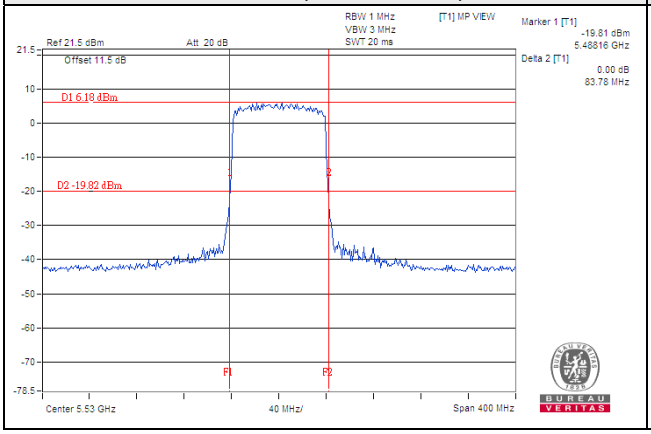
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE80+HE80)



EUT Average Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.08	40.582
5470~5725	16.18	41.470

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	15.97	39.576
5470~5725	16.24	42.049

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	19.66	92.516
5470~5725	19.83	96.145

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.75	188.366
5470~5725	22.84	192.304

802.11ac (VHT80+VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.99	125.596
5470~5725	22.87	193.526

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.05	40.276
5470~5725	16.32	42.873

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	19.74	94.164
5470~5725	19.93	98.483

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.81	190.767
5470~5725	22.92	195.899

802.11ax (HE80+HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	21.07	128.052
5470~5725	22.95	197.401

Beamforming Mode

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	15.97	39.576
5470~5725	16.23	42.021

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.41	43.774
5470~5725	16.46	44.251

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.21	41.785
5470~5725	16.44	44.062

802.11ac (VHT80+VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	19.07	80.666
5470~5725	16.49	44.566

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.05	40.276
5470~5725	16.25	42.201

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.49	44.554
5470~5725	16.50	44.666

802.11ax (HE80)

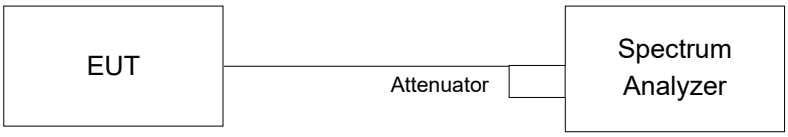
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	16.29	42.552
5470~5725	16.49	44.551

802.11ax (HE80+HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	19.12	81.731
5470~5725	16.50	44.618

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

5G traffic radio (Radio 1)

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43
60	5300	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44
64	5320	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44
100	5500	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44
116	5580	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44
140	5700	16.44	16.44	16.44	16.44	16.44	16.44	16.44	16.44
144	5720 (For U-NII-2C)	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28
144	5720 (For U-NII-3)	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16

802.11ax (HE20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
52	5260	18.96	18.96	18.87	18.87	19.05	18.96	18.87	18.96
60	5300	18.84	18.84	18.96	18.96	18.96	18.96	18.84	18.84
64	5320	18.96	19.08	18.96	18.96	18.84	18.96	18.84	18.96
100	5500	19.08	18.96	18.96	18.96	19.08	19.08	18.96	18.84
116	5580	18.84	18.96	18.84	18.84	18.96	18.96	19.08	19.08
140	5700	19.08	19.08	18.96	18.96	18.84	18.96	18.96	19.08
144	5720 (For U-NII-2C)	14.60	14.60	14.60	14.60	14.57	14.60	14.48	14.60
144	5720 (For U-NII-3)	4.36	4.36	4.36	4.36	4.48	4.36	4.36	4.48

802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
54	5270	38.60	38.60	38.78	38.60	38.60	38.60	38.60	38.60
62	5310	37.92	37.92	37.92	37.92	37.92	37.92	37.92	38.16
102	5510	38.16	38.16	38.16	38.16	38.16	38.16	38.16	38.16
110	5550	38.16	38.16	38.16	38.16	38.16	38.16	38.16	38.16
134	5670	38.16	38.16	38.16	37.92	38.16	38.16	37.92	38.16
142	5710 (For U-NII-2C)	34.08	34.08	34.20	34.20	34.08	34.20	34.20	34.08
142	5710 (For U-NII-3)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96

802.11ax (HE80)

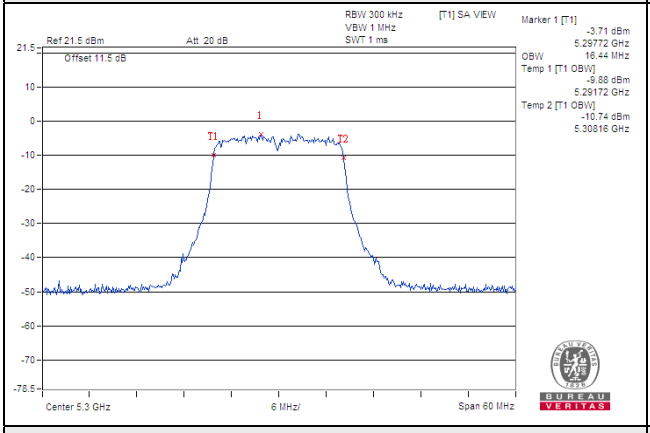
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
58	5290	77.56	77.56	77.39	77.57	77.39	77.39	77.56	77.39
106	5530	77.52	77.52	77.28	77.52	77.52	77.52	77.52	77.28
122	5610	77.28	77.28	77.28	77.28	77.28	77.28	77.52	77.28
138	5690 (For U-NII-2C)	73.88	73.88	73.88	73.88	73.88	73.88	73.88	73.88
138	5690 (For U-NII-3)	3.40	3.40	3.40	3.40	3.40	3.64	3.40	3.40

802.11ax (HE80+HE80)

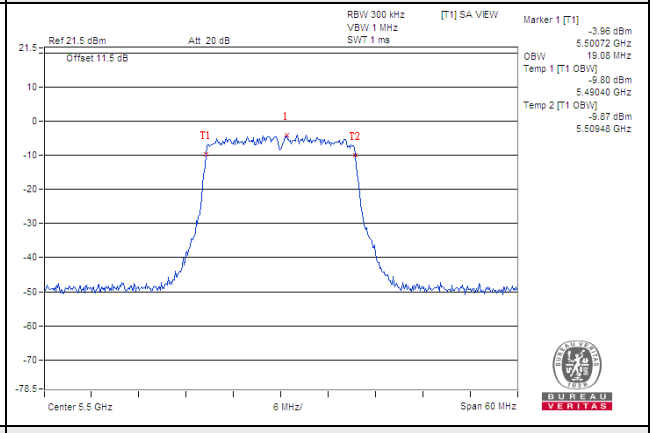
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)							
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7
42	5210	77.76	77.76	77.52	77.76	-	-	-	-
58	5290	-	-	-	-	77.76	77.52	78.00	77.52
106	5530	77.28	77.52	77.04	77.52	-	-	-	-
122	5610	-	-	-	-	77.04	77.76	77.76	77.52

Spectrum Plot of Worst Value

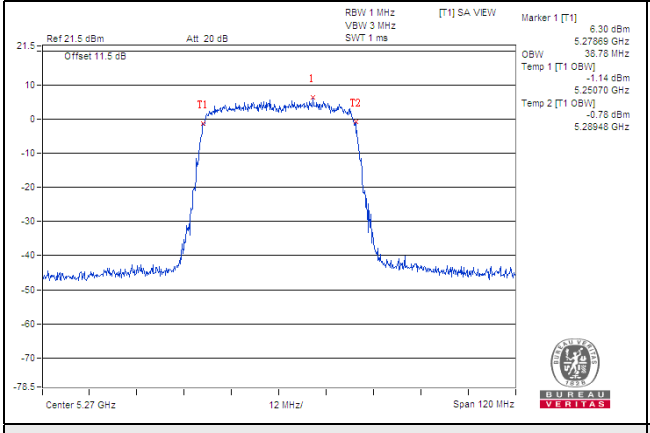
802.11a



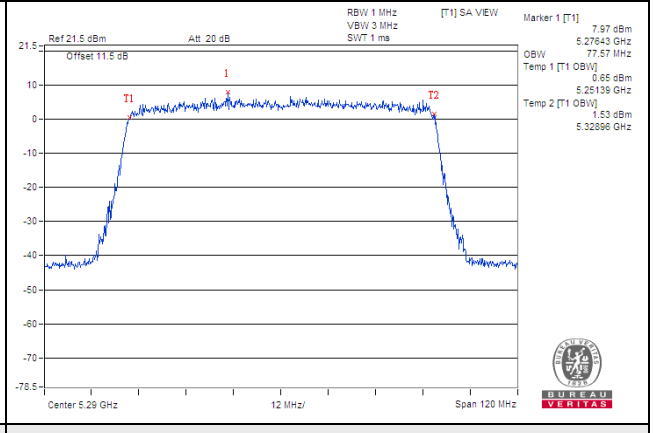
802.11ax (HE20)



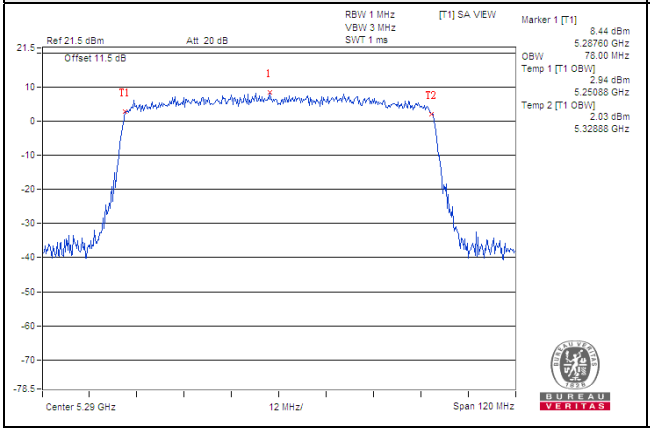
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE80+HE80)

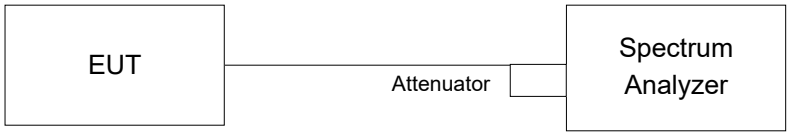


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
	√	Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Using method SA-2

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

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

c. Set Channel power measure = 1MHz

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

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

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

For U-NII-2A and U-NII-2C band:

Using method SA-2

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

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

c. Set Channel power measure = 1MHz

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

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

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

For U-NII-3 band:

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

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

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

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz)

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

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

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

5G traffic radio (Radio 1)

For U-NII-2A and U-NII-2C band:

802.11a

Ch	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)								Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	-6.10	-6.20	-6.39	-6.76	-6.29	-5.88	-6.64	-7.26	0.27	2.88	3.51	Pass
60	5300	-6.66	-6.04	-6.72	-6.33	-5.97	-6.62	-6.11	-6.37	0.27	2.96	3.51	Pass
64	5320	-6.55	-6.38	-6.05	-6.07	-7.16	-7.03	-6.34	-7.47	0.27	2.70	3.51	Pass
100	5500	-6.01	-7.77	-6.37	-6.13	-6.03	-7.17	-7.01	-7.82	0.27	2.57	3.51	Pass
116	5580	-5.95	-7.24	-6.03	-6.32	-6.55	-6.43	-6.06	-7.11	0.27	2.86	3.51	Pass
140	5700	-5.95	-6.58	-6.35	-6.47	-6.53	-6.56	-6.03	-6.43	0.27	2.94	3.51	Pass
144	5720 (For U-NII-2C)	-6.04	-5.91	-5.98	-6.03	-5.92	-6.15	-5.93	-5.94	0.27	3.31	3.51	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power density limit shall be reduced to 11 - (13.49 - 6) = 3.51dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Ch	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)								Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
52	5260	-5.82	-6.23	-5.86	-6.19	-5.92	-5.88	-6.07	-6.75	0.21	3.16	3.51	Pass
60	5300	-6.61	-5.85	-5.83	-5.96	-6.09	-5.84	-6.43	-5.83	0.21	3.20	3.51	Pass
64	5320	-6.27	-5.98	-5.88	-6.19	-5.83	-5.86	-6.00	-5.96	0.21	3.25	3.51	Pass
100	5500	-5.89	-6.03	-5.86	-6.78	-6.05	-5.93	-5.88	-6.19	0.21	3.17	3.51	Pass
116	5580	-6.13	-5.87	-5.82	-6.09	-6.12	-6.65	-5.91	-6.23	0.21	3.15	3.51	Pass
140	5700	-5.95	-7.10	-5.86	-5.94	-6.04	-6.05	-6.02	-5.87	0.21	3.15	3.51	Pass
144	5720 (For U-NII-2C)	-5.87	-5.89	-6.50	-6.64	-6.14	-6.07	-5.80	-6.37	0.21	3.09	3.51	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power density limit shall be reduced to 11 - (13.49 - 6) = 3.51dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Ch	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)								Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
54	5270	-6.01	-6.81	-6.76	-6.12	-6.21	-5.93	-7.22	-6.16	0.27	2.92	3.51	Pass
62	5310	-6.14	-6.26	-6.25	-6.16	-6.14	-6.14	-6.26	-5.96	0.27	3.14	3.51	Pass
102	5510	-5.98	-6.13	-6.14	-6.09	-6.29	-6.53	-6.06	-6.48	0.27	3.09	3.51	Pass
110	5550	-5.98	-6.04	-6.90	-7.46	-6.00	-6.25	-6.70	-6.69	0.27	2.82	3.51	Pass
134	5670	-6.13	-6.45	-6.29	-6.91	-5.98	-5.87	-6.59	-6.35	0.27	2.99	3.51	Pass
142	5710 (For U-NII-2C)	-6.29	-6.02	-5.99	-6.63	-5.90	-6.09	-6.11	-6.47	0.27	3.12	3.51	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power density limit shall be reduced to 11 - (13.49 - 6) = 3.51dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Ch	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)								Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
58	5290	-6.16	-6.43	-5.94	-5.93	-6.13	-5.79	-6.12	-6.58	0.24	3.14	3.51	Pass
106	5530	-5.94	-8.32	-5.80	-6.44	-6.10	-5.94	-6.13	-5.78	0.24	3.03	3.51	Pass
122	5610	-6.51	-6.76	-6.18	-5.83	-6.02	-6.64	-5.81	-7.09	0.24	2.94	3.51	Pass
138	5690 (For U-NII-2C)	-6.30	-6.42	-6.06	-6.34	-5.89	-6.23	-6.31	-5.84	0.24	3.10	3.51	Pass

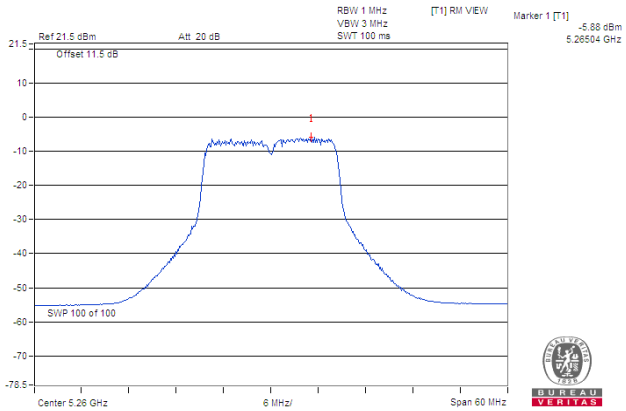
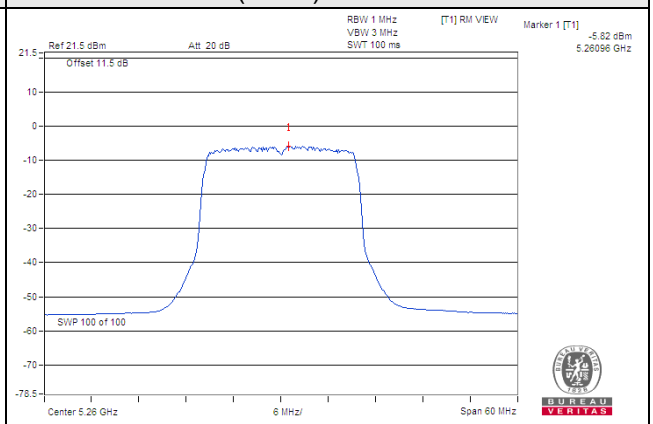
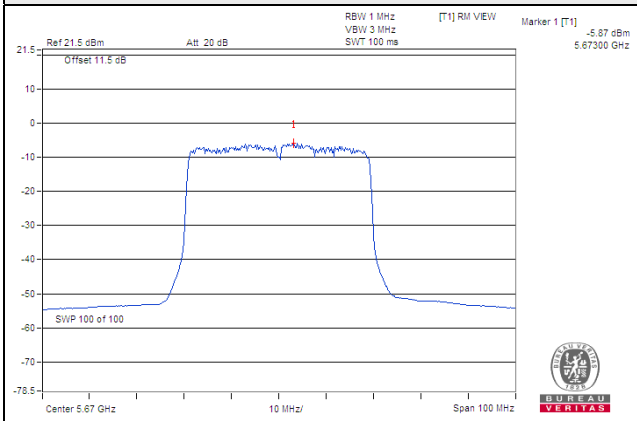
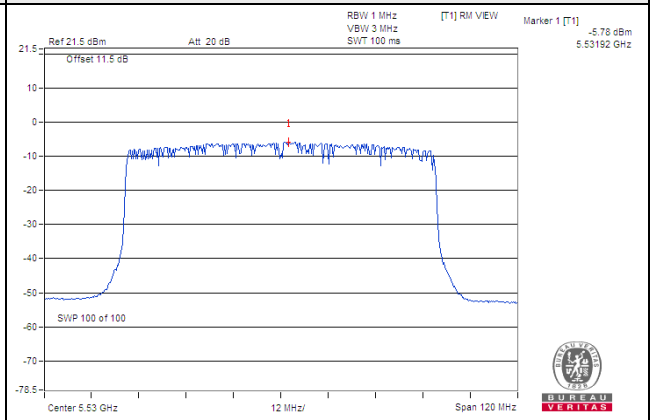
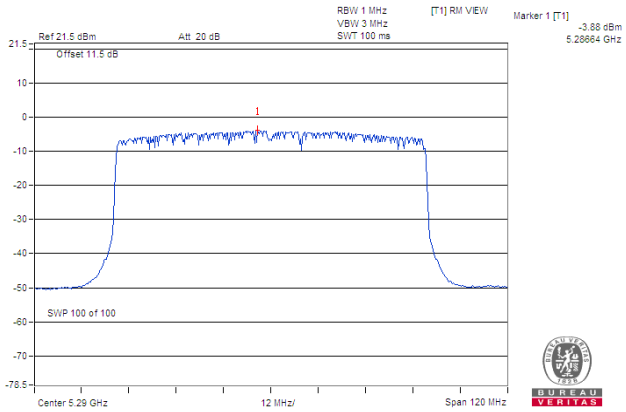
Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.49dBi > 6dBi, so the power density limit shall be reduced to 11 - (13.49 - 6) = 3.51dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80+HE80)

Ch	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)								Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	Chain 4	Chain 5	Chain 6	Chain 7				
42	5210	-3.97	-5.40	-3.65	-4.66	-	-	-	-	0.58	2.24	12.50	Pass
58	5290	-	-	-	-	-4.90	-4.61	-4.47	-3.88	0.22	1.79	6.54	Pass
106	5530	-4.64	-5.55	-9.14	-9.58	-	-	-	-	0.22	-0.46	6.19	Pass
122	5610	-	-	-	-	-5.97	-5.64	-5.76	-4.81	0.22	0.72	6.86	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5210MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.50dBi > 6dBi, so the power limit shall be reduced to 17 - (10.50 - 6) = 12.50dBm.
3. 5290MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.46dBi > 6dBi, so the power limit shall be reduced to 11 - (10.46 - 6) = 6.54dBm.
4. 5530MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.81dBi > 6dBi, so the power limit shall be reduced to 11 - (10.81 - 6) = 6.19dBm.
5. 5610MHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4$] = 10.14dBi > 6dBi, so the power limit shall be reduced to 11 - (10.14 - 6) = 6.86dBm.
6. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 5 / CH 52	802.11ax (HE20) / Chain 0 / CH 52
	
802.11ax (HE40) / Chain 5 / CH 134	802.11ax (HE80) / Chain 7 / CH 106
	
802.11ax (HE80+HE80) / Chain 7 / CH 58	
	

For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-15.79	-13.57	9.03	0.27	-4.27	22.61	Pass
1	144	5720 (For U-NII-3)	-15.66	-13.44	9.03	0.27	-4.14	22.61	Pass
2	144	5720 (For U-NII-3)	-15.69	-13.47	9.03	0.27	-4.17	22.61	Pass
3	144	5720 (For U-NII-3)	-15.48	-13.26	9.03	0.27	-3.96	22.61	Pass
4	144	5720 (For U-NII-3)	-15.64	-13.42	9.03	0.27	-4.12	22.61	Pass
5	144	5720 (For U-NII-3)	-15.44	-13.22	9.03	0.27	-3.92	22.61	Pass
6	144	5720 (For U-NII-3)	-15.63	-13.41	9.03	0.27	-4.11	22.61	Pass
7	144	5720 (For U-NII-3)	-15.70	-13.48	9.03	0.27	-4.18	22.61	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-15.30	-13.08	9.03	0.21	-3.84	22.61	Pass
1	144	5720 (For U-NII-3)	-15.29	-13.07	9.03	0.21	-3.83	22.61	Pass
2	144	5720 (For U-NII-3)	-15.07	-12.85	9.03	0.21	-3.61	22.61	Pass
3	144	5720 (For U-NII-3)	-15.22	-13.00	9.03	0.21	-3.76	22.61	Pass
4	144	5720 (For U-NII-3)	-15.63	-13.41	9.03	0.21	-4.17	22.61	Pass
5	144	5720 (For U-NII-3)	-15.59	-13.37	9.03	0.21	-4.13	22.61	Pass
6	144	5720 (For U-NII-3)	-15.17	-12.95	9.03	0.21	-3.71	22.61	Pass
7	144	5720 (For U-NII-3)	-15.42	-13.20	9.03	0.21	-3.96	22.61	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

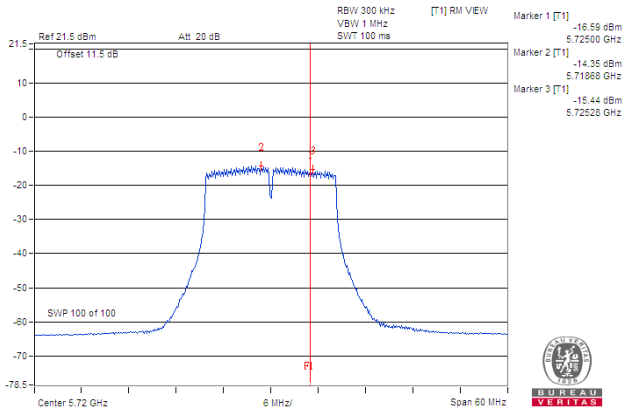
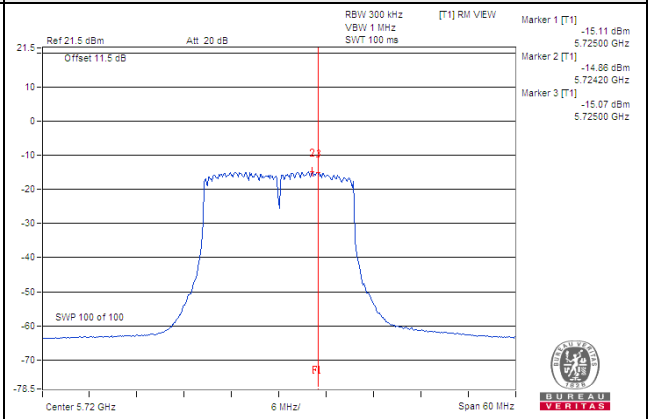
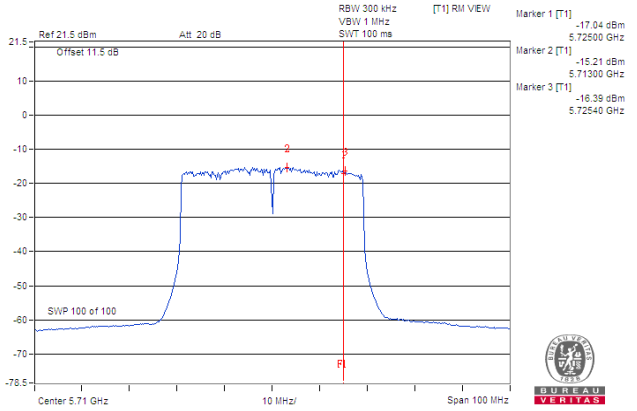
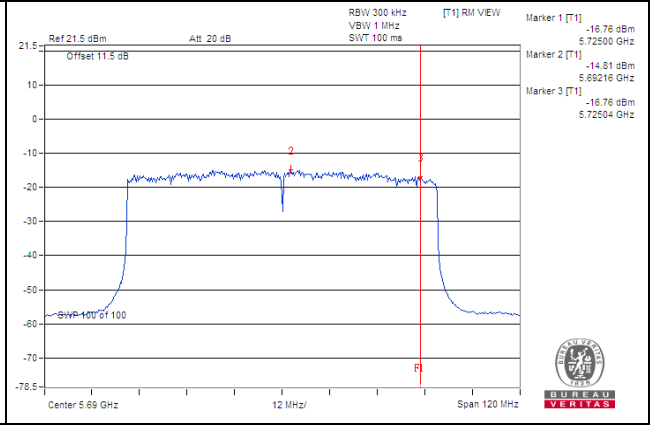
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-16.39	-14.17	9.03	0.27	-4.87	22.61	Pass
1	142	5710 (For U-NII-3)	-16.75	-14.53	9.03	0.27	-5.23	22.61	Pass
2	142	5710 (For U-NII-3)	-16.58	-14.36	9.03	0.27	-5.06	22.61	Pass
3	142	5710 (For U-NII-3)	-16.50	-14.28	9.03	0.27	-4.98	22.61	Pass
4	142	5710 (For U-NII-3)	-16.42	-14.20	9.03	0.27	-4.90	22.61	Pass
5	142	5710 (For U-NII-3)	-16.50	-14.28	9.03	0.27	-4.98	22.61	Pass
6	142	5710 (For U-NII-3)	-16.58	-14.36	9.03	0.27	-5.06	22.61	Pass
7	142	5710 (For U-NII-3)	-16.53	-14.31	9.03	0.27	-5.01	22.61	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-17.00	-14.78	9.03	0.24	-5.51	22.61	Pass
1	138	5690 (For U-NII-3)	-16.76	-14.54	9.03	0.24	-5.27	22.61	Pass
2	138	5690 (For U-NII-3)	-17.13	-14.91	9.03	0.24	-5.64	22.61	Pass
3	138	5690 (For U-NII-3)	-16.84	-14.62	9.03	0.24	-5.35	22.61	Pass
4	138	5690 (For U-NII-3)	-17.40	-15.18	9.03	0.24	-5.91	22.61	Pass
5	138	5690 (For U-NII-3)	-17.28	-15.06	9.03	0.24	-5.79	22.61	Pass
6	138	5690 (For U-NII-3)	-17.36	-15.14	9.03	0.24	-5.87	22.61	Pass
7	138	5690 (For U-NII-3)	-17.04	-14.82	9.03	0.24	-5.55	22.61	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/8$] = 13.39dBi > 6dBi, so the power density limit shall be reduced to 30 - (13.39 - 6) = 22.61dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

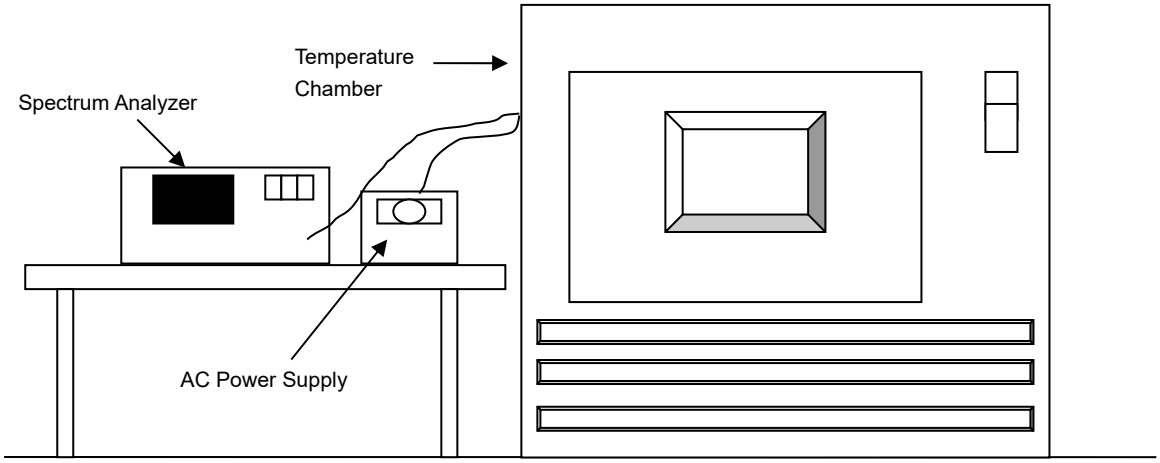
Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

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	100039	Jun. 12, 2020	Jun. 11, 2021
Standard Temperature And Humidity Chamber GIANT FORCE	GTH-120-40-CP-AR	MAA1306-019	Sep. 09, 2020	Sep. 08, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
AC Power Supply Extech	CFW-105	E000603	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Test Date: Jun. 10, 2021

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC 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 d with every 10 degrees reduction until the lowest temperature achieved.

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

5G traffic radio (Radio 1)

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
40	120	5259.9775	PASS	5259.9775	PASS	5259.98	PASS	5259.9791	PASS
30	120	5260.0259	PASS	5260.0237	PASS	5260.0219	PASS	5260.0257	PASS
20	120	5260.0142	PASS	5260.0115	PASS	5260.0138	PASS	5260.0147	PASS
10	120	5259.9928	PASS	5259.9924	PASS	5259.9916	PASS	5259.9924	PASS
0	120	5260.0154	PASS	5260.0181	PASS	5260.0154	PASS	5260.0163	PASS

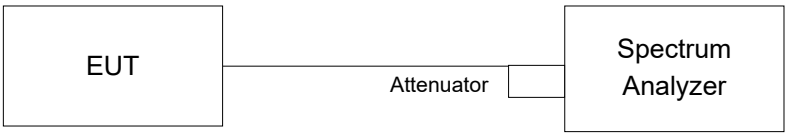
Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5260.0148	PASS	5260.0125	PASS	5260.0138	PASS	5260.0151	PASS
	120	5260.0142	PASS	5260.0115	PASS	5260.0138	PASS	5260.0147	PASS
	102	5260.0132	PASS	5260.0124	PASS	5260.0139	PASS	5260.0137	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

5G traffic radio (Radio 1)

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 (For U-NII-3)	3.14	3.14	3.13	3.13	3.14	3.14	3.12	3.13	0.50	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE20)

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 (For U-NII-3)	4.42	4.42	4.43	4.45	4.40	4.45	4.44	4.42	0.50	Pass

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE40)

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 (For U-NII-3)	3.75	3.71	3.89	3.67	3.70	3.74	3.91	3.91	0.50	Pass

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

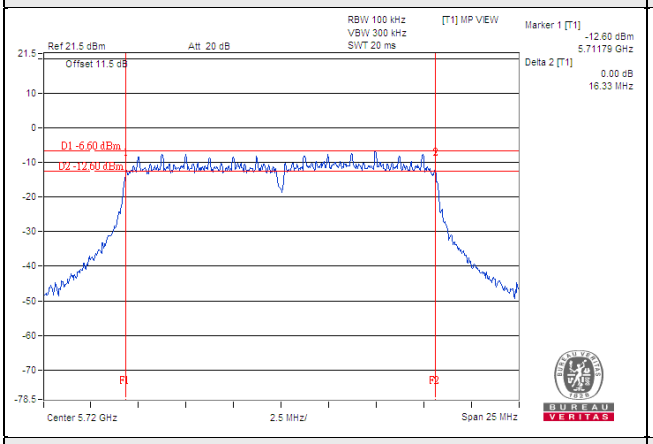
802.11ax (HE80)

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 (For U-NII-3)	3.14	3.73	3.00	3.98	3.56	3.85	3.63	3.62	0.50	Pass

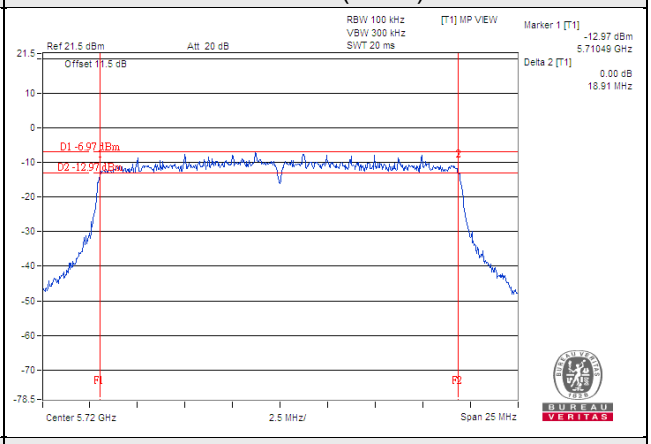
For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

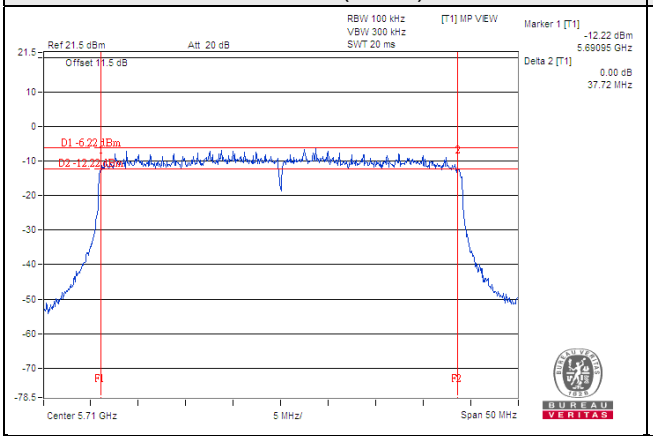
802.11a



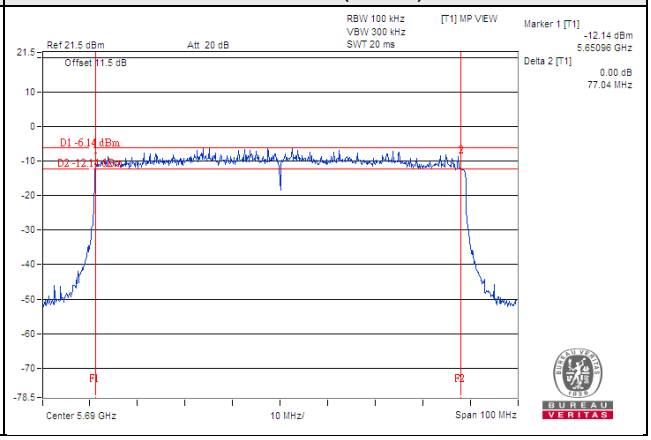
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

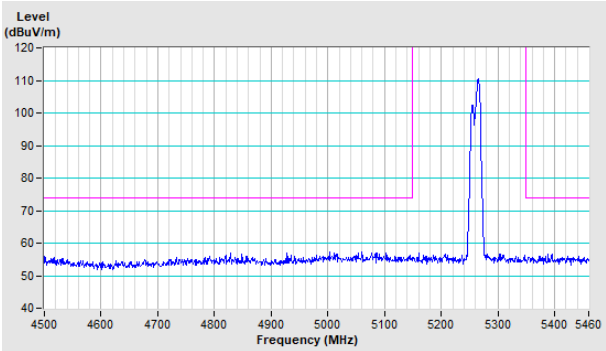
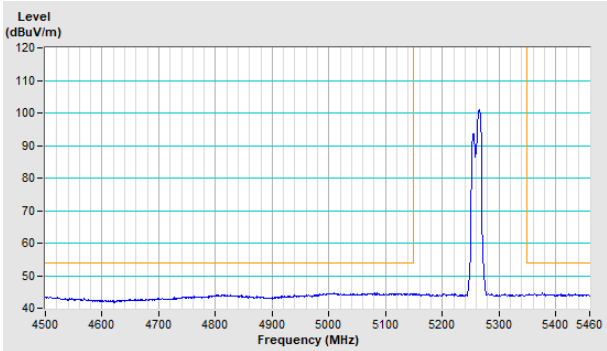
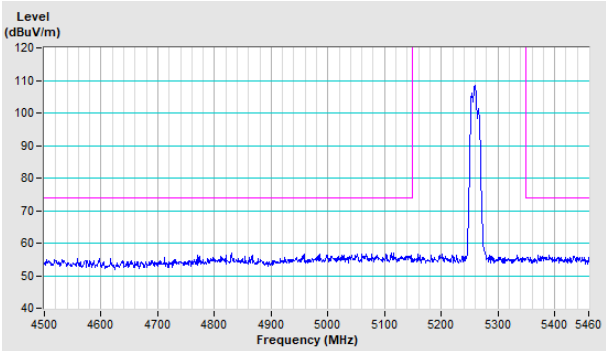
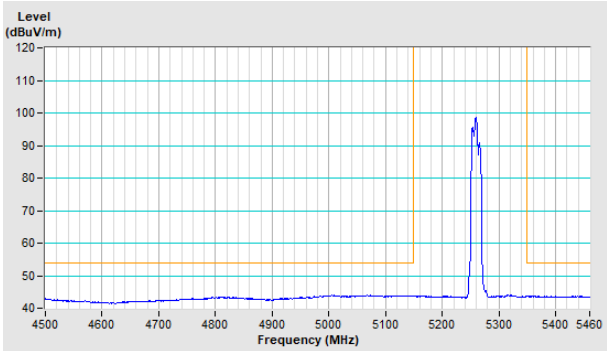


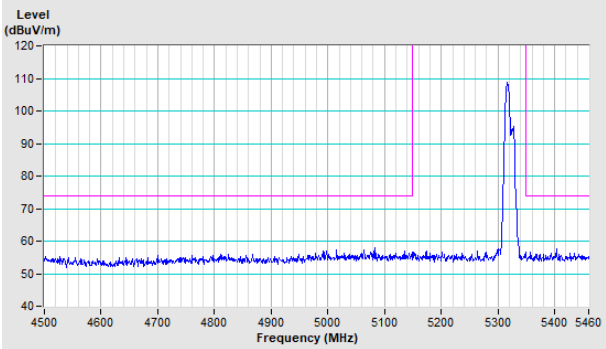
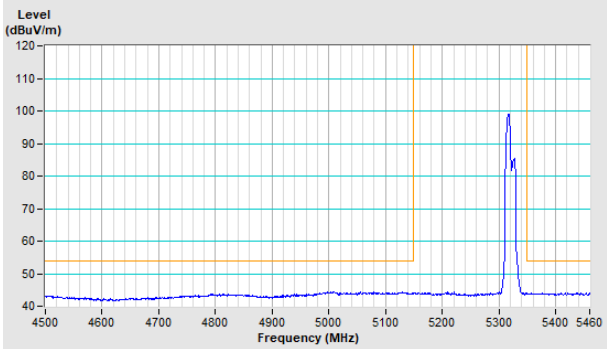
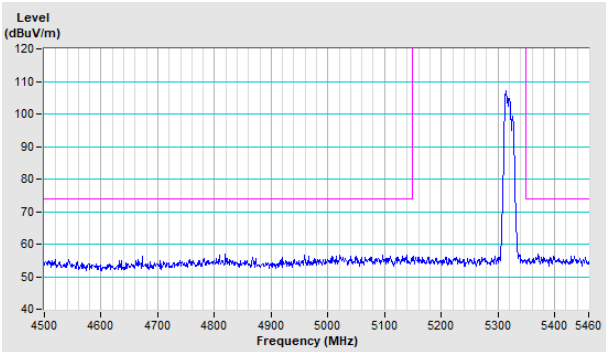
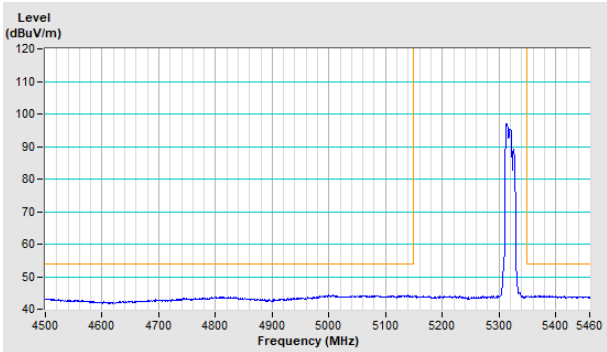
5 Pictures of Test Arrangements

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

Annex A - Band Edge Measurement

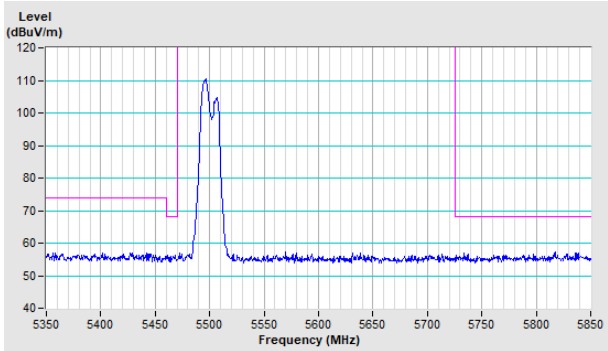
5G traffic radio (Radio 1)

802.11a Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

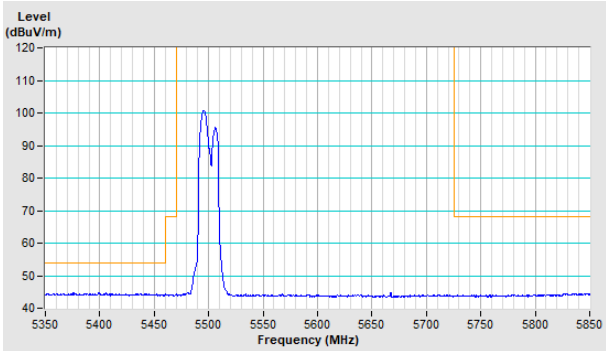
802.11a Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11a Channel 100

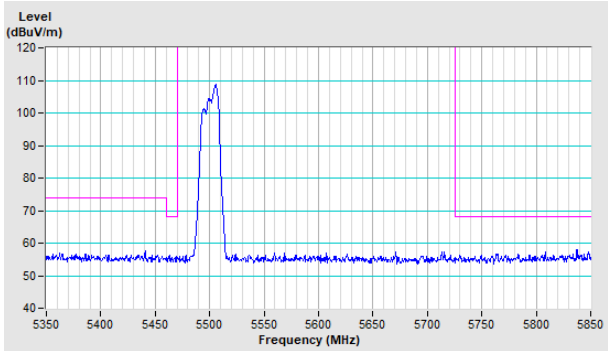
Horizontal (Peak)



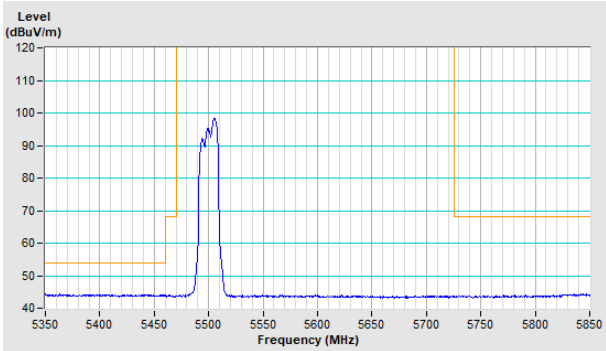
Horizontal (Average)



Vertical (Peak)

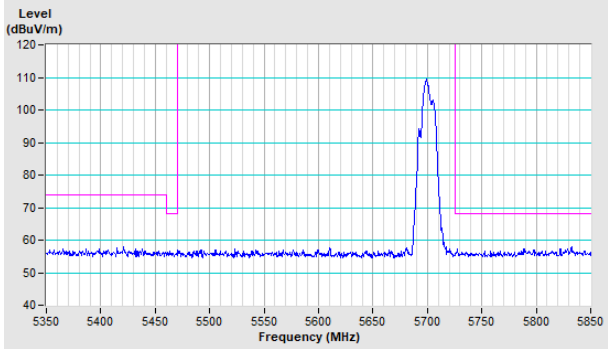


Vertical (Average)

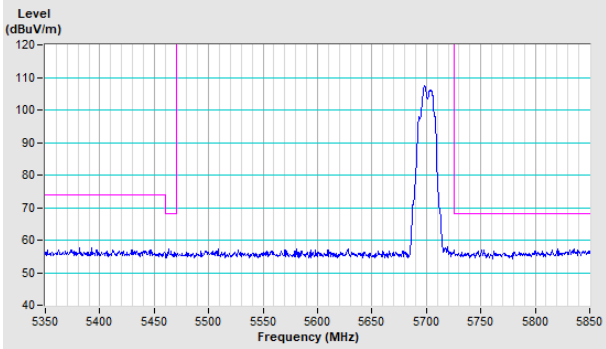


802.11a Channel 140

Horizontal (Peak)

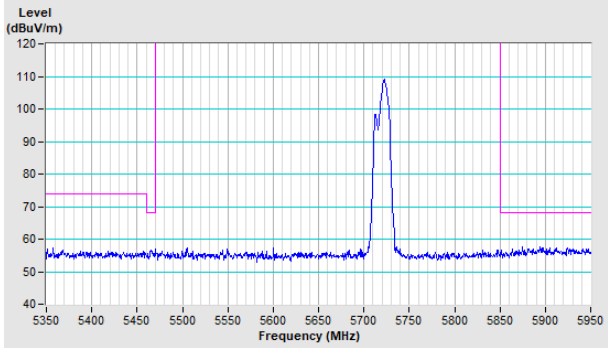


Vertical (Peak)

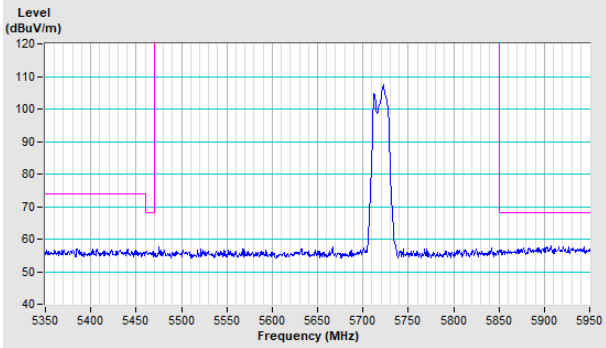


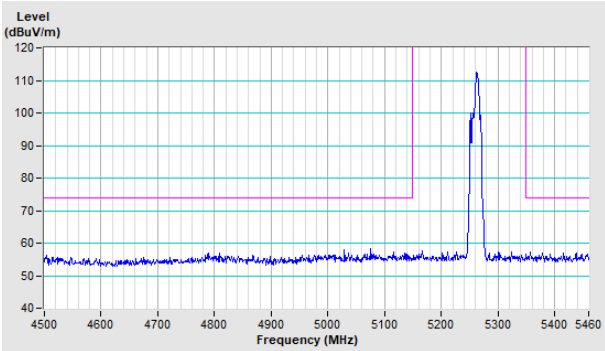
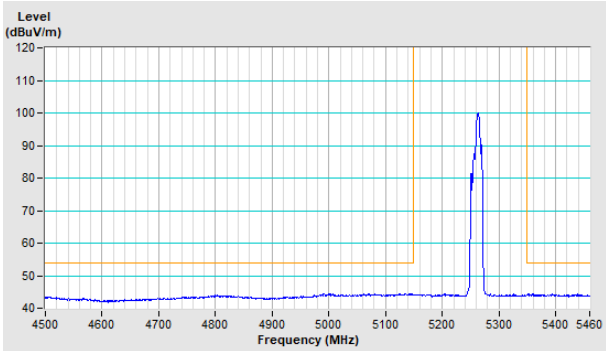
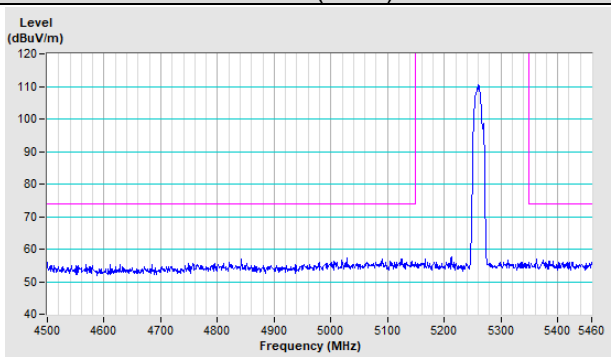
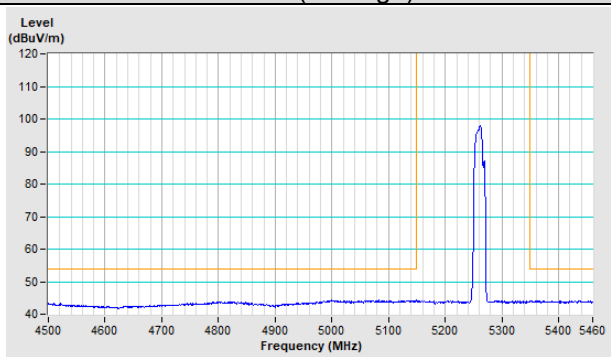
802.11a Channel 144

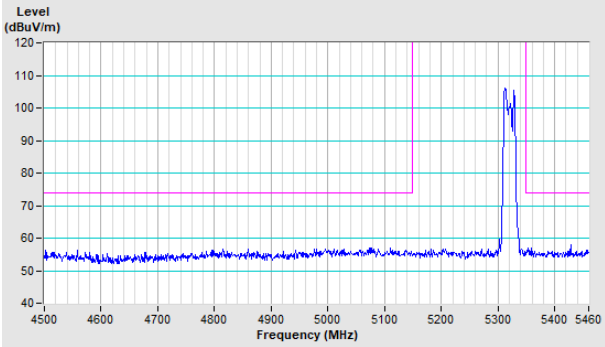
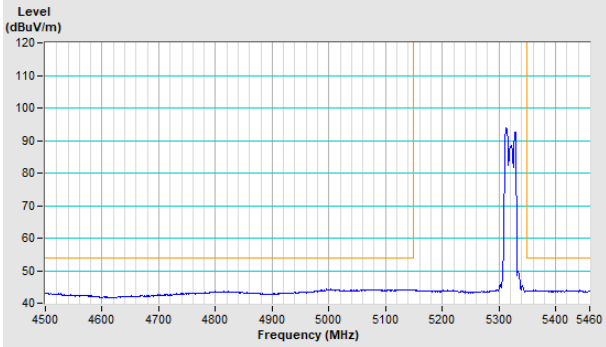
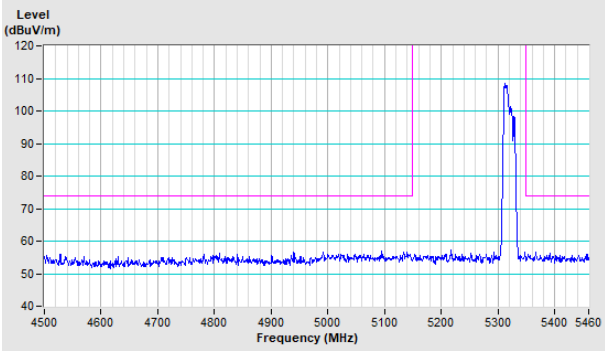
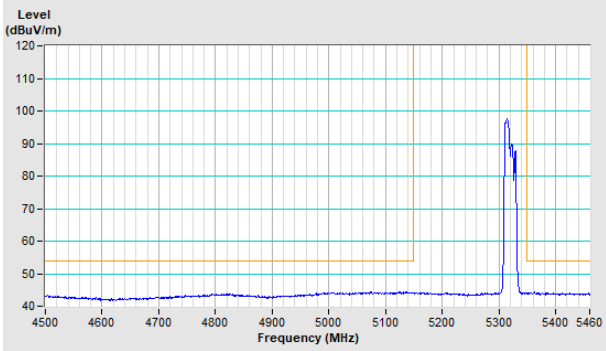
Horizontal (Peak)



Vertical (Peak)

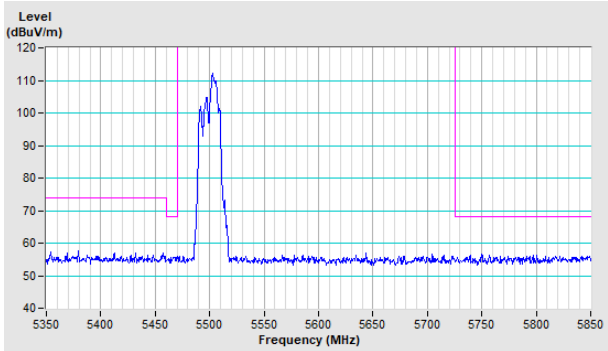


802.11ax (HE20) Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

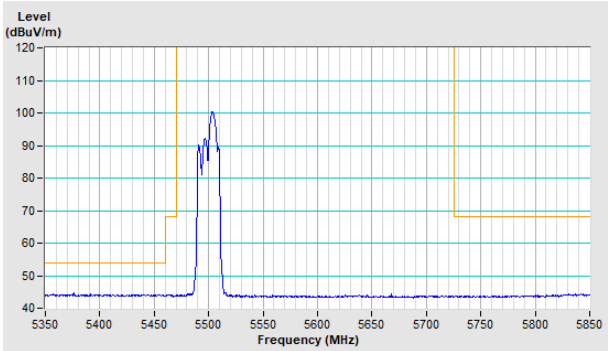
802.11ax (HE20) Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE20) Channel 100

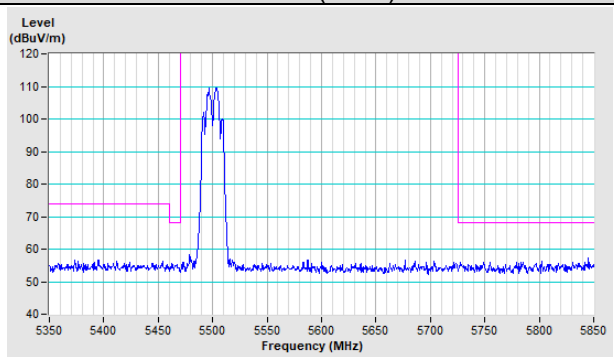
Horizontal (Peak)



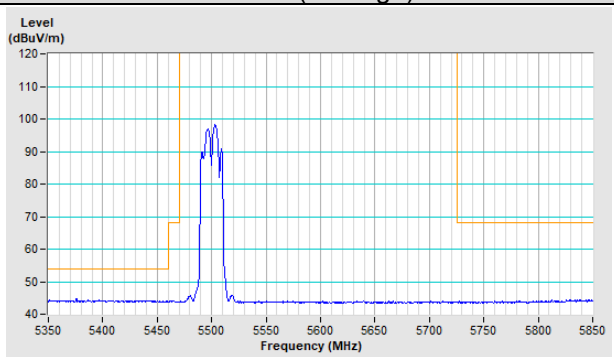
Horizontal (Average)



Vertical (Peak)

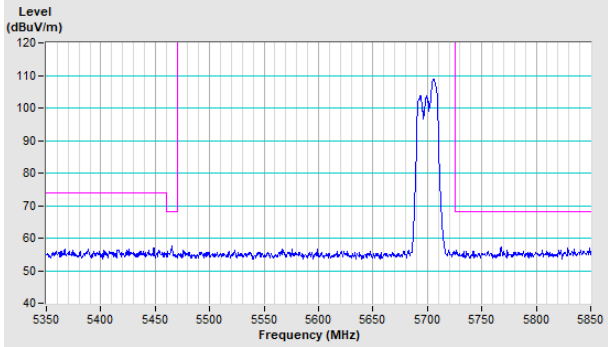


Vertical (Average)

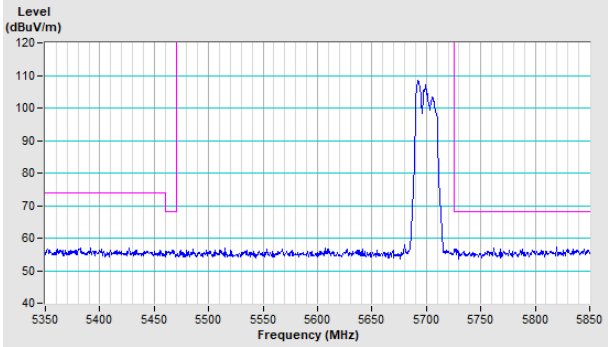


802.11ax (HE20) Channel 140

Horizontal (Peak)

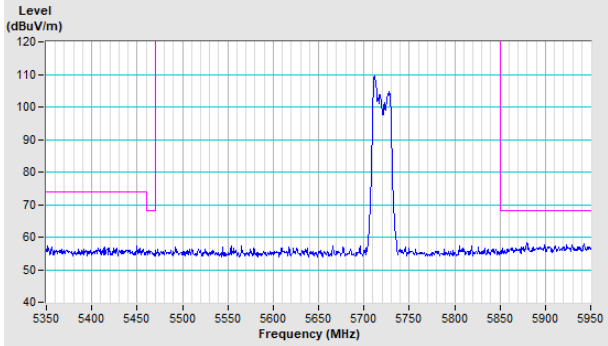


Vertical (Peak)

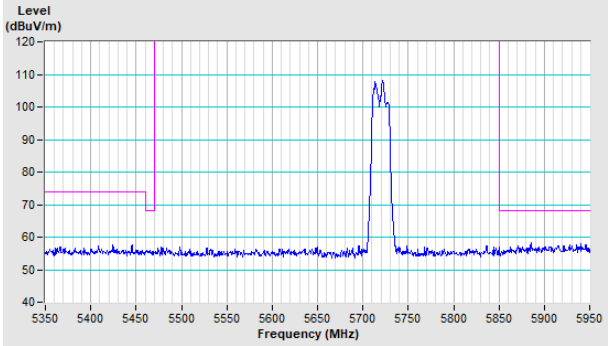


802.11ax (HE20) Channel 144

Horizontal (Peak)

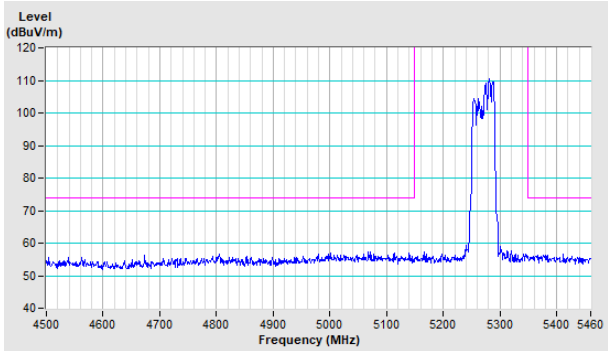


Vertical (Peak)

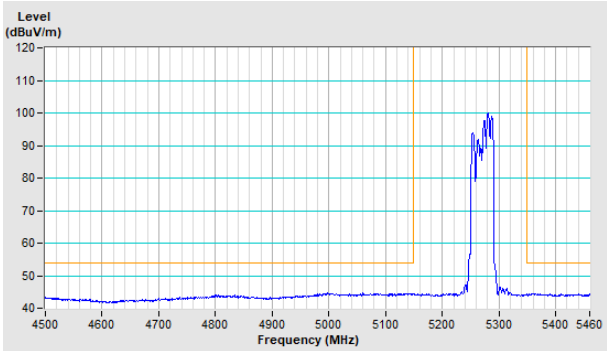


802.11ax (HE40) Channel 54

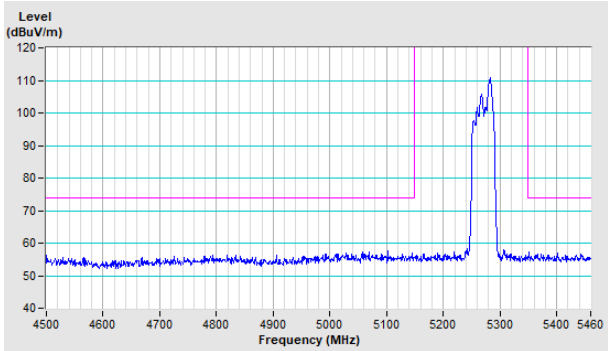
Horizontal (Peak)



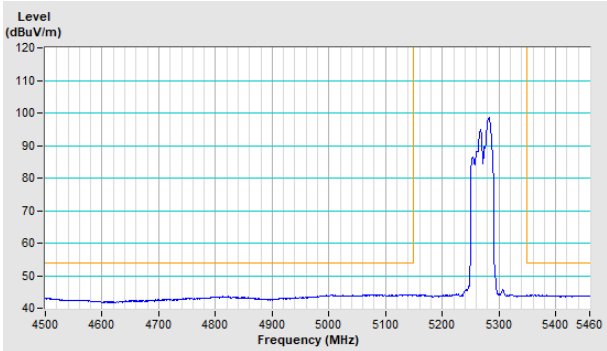
Horizontal (Average)



Vertical (Peak)

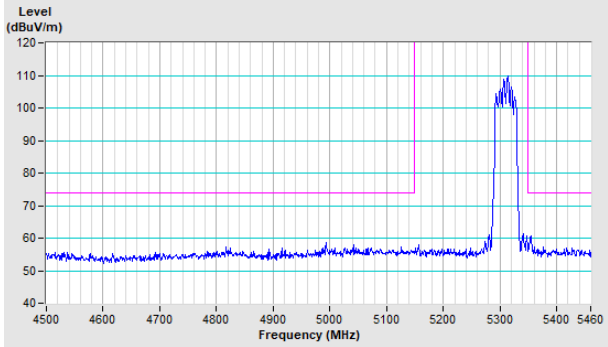


Vertical (Average)

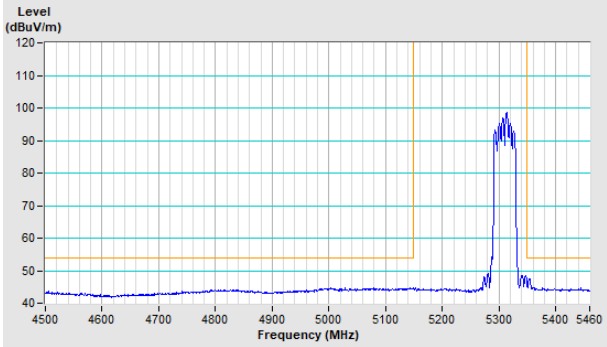


802.11ax (HE40) Channel 62

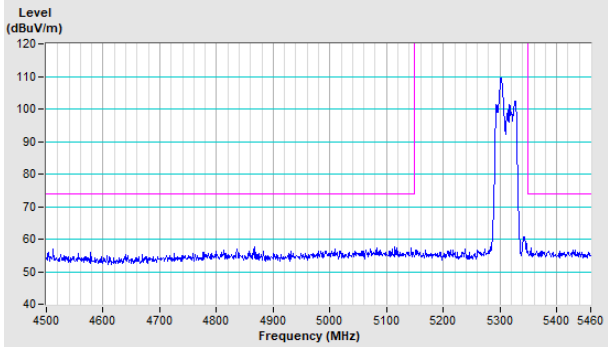
Horizontal (Peak)



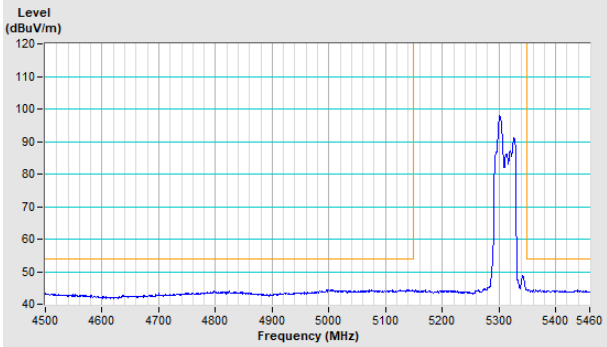
Horizontal (Average)



Vertical (Peak)

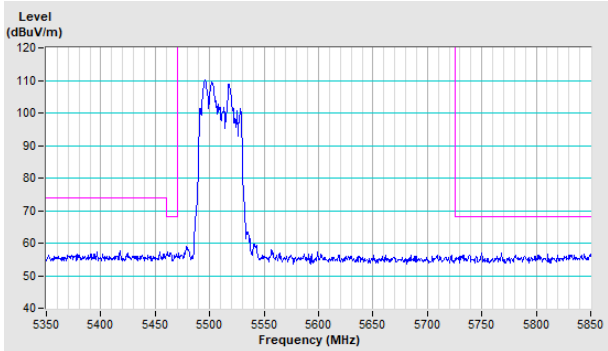


Vertical (Average)

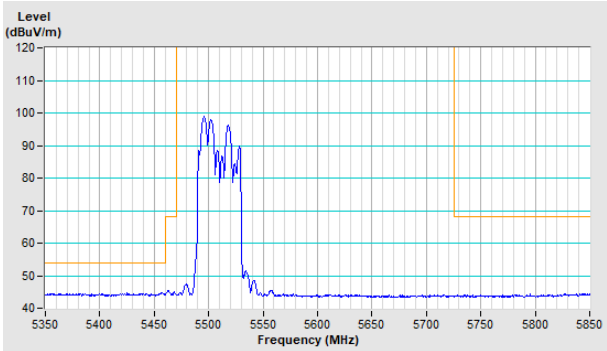


802.11ax (HE40) Channel 102

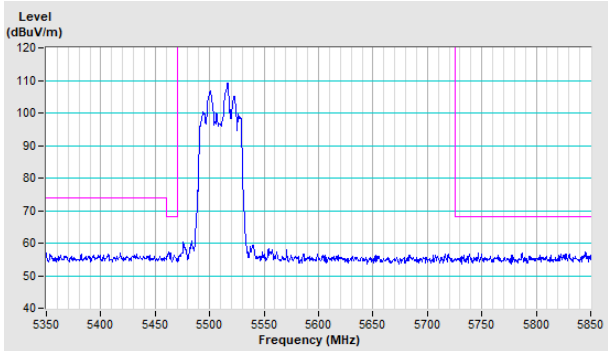
Horizontal (Peak)



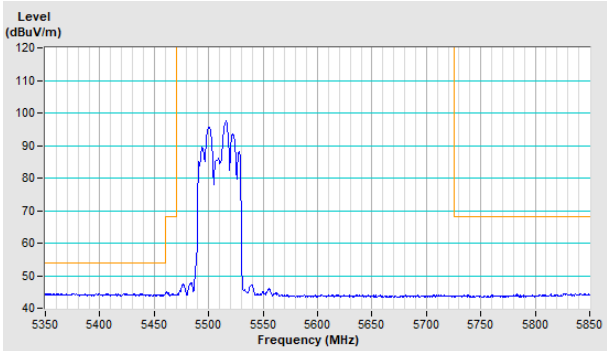
Horizontal (Average)



Vertical (Peak)

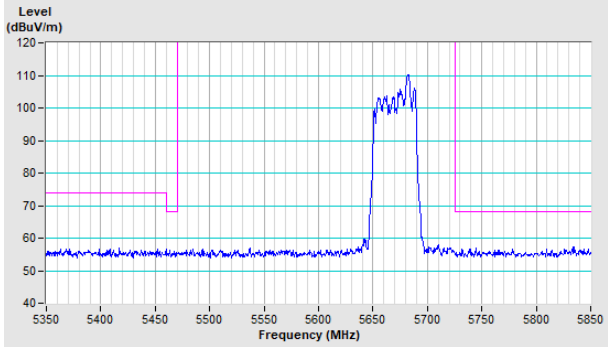


Vertical (Average)

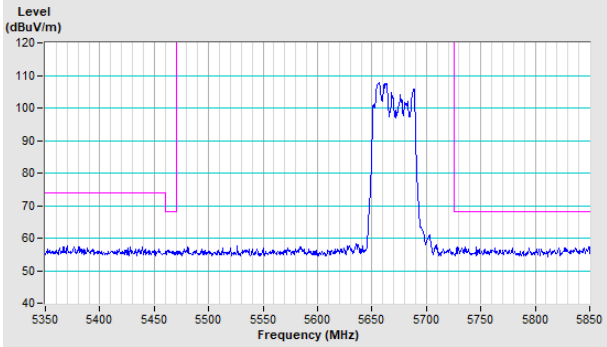


802.11ax (HE40) Channel 134

Horizontal (Peak)

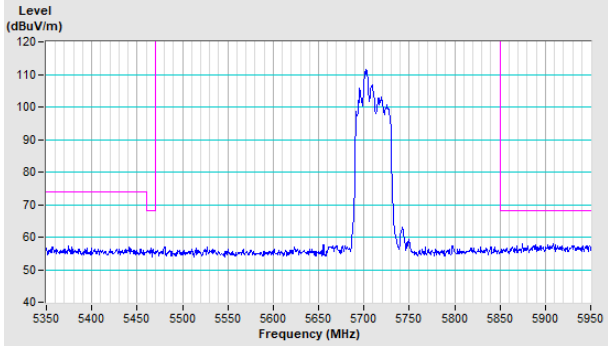


Vertical (Peak)

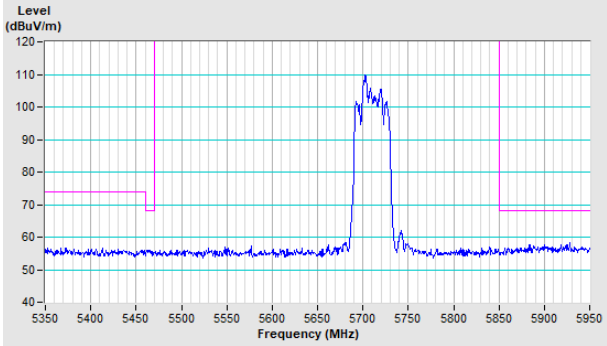


802.11ax (HE40) Channel 142

Horizontal (Peak)

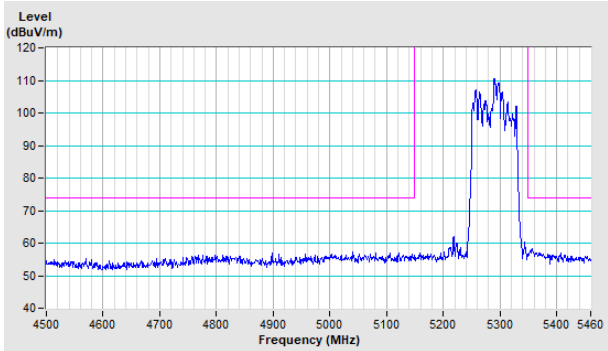


Vertical (Peak)

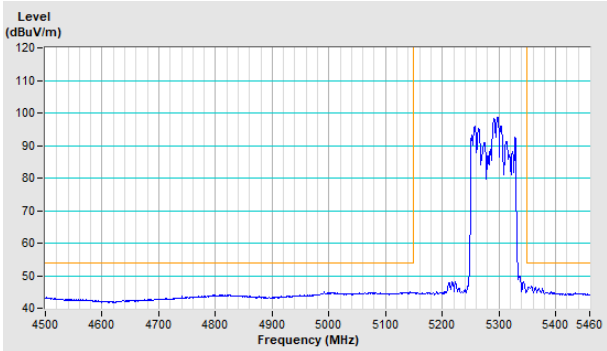


802.11ax (HE80) Channel 58

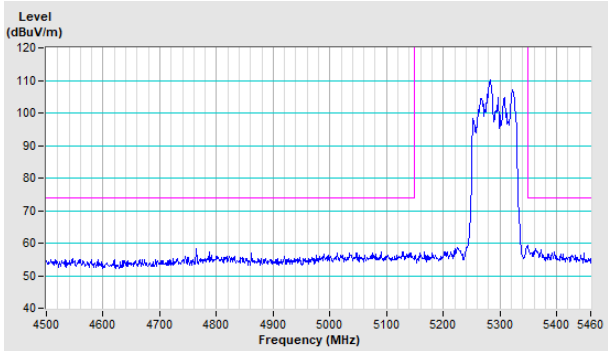
Horizontal (Peak)



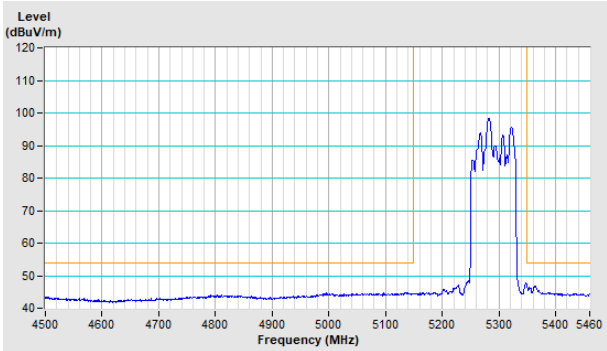
Horizontal (Average)



Vertical (Peak)

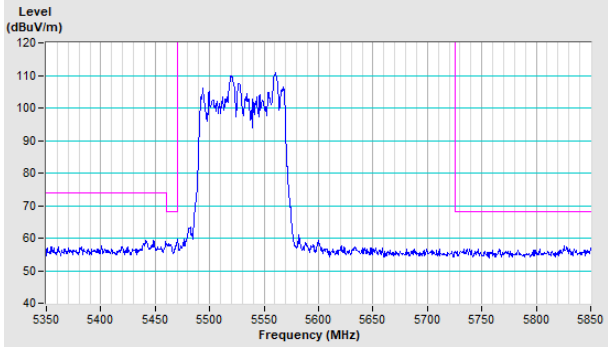


Vertical (Average)

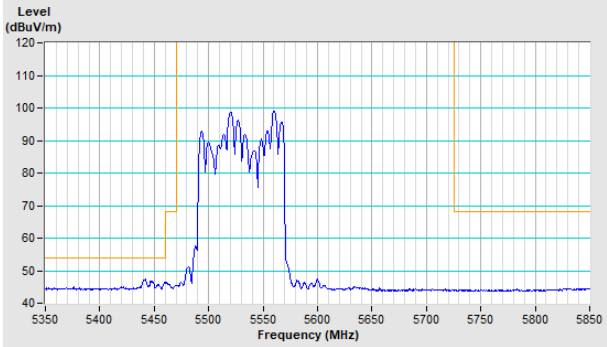


802.11ax (HE80) Channel 106

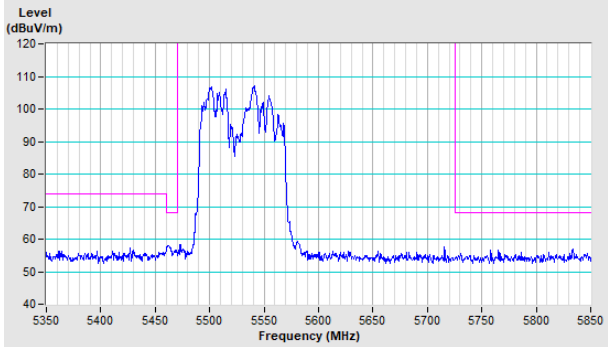
Horizontal (Peak)



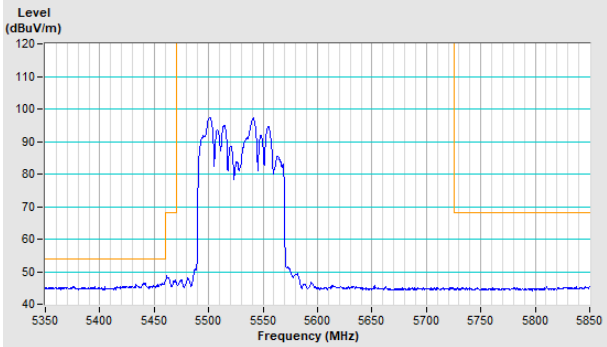
Horizontal (Average)

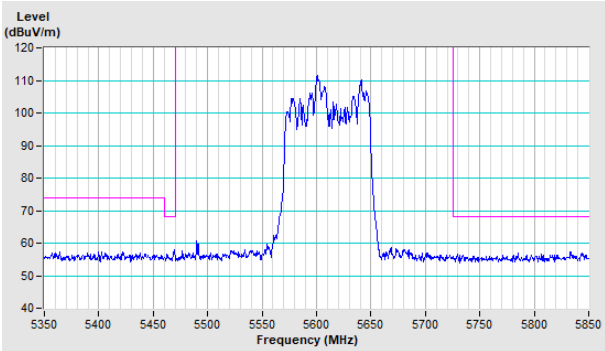
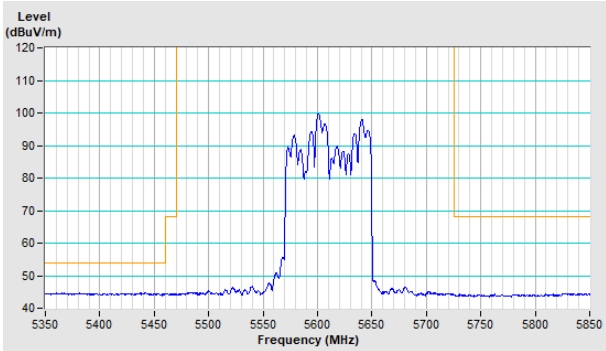
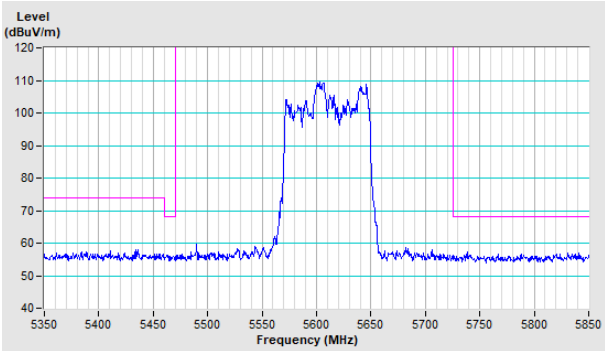
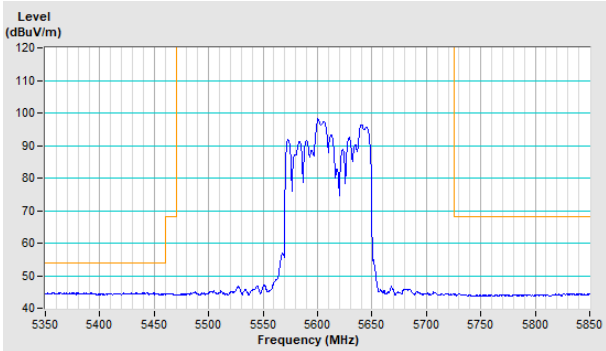
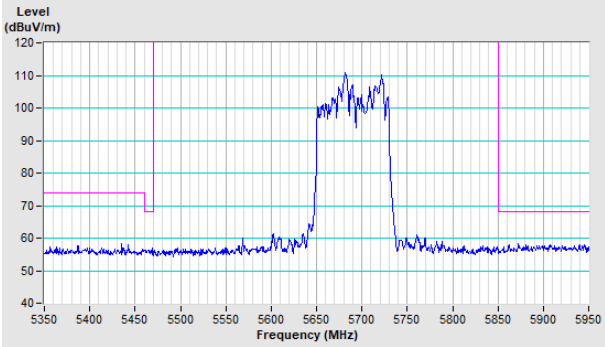
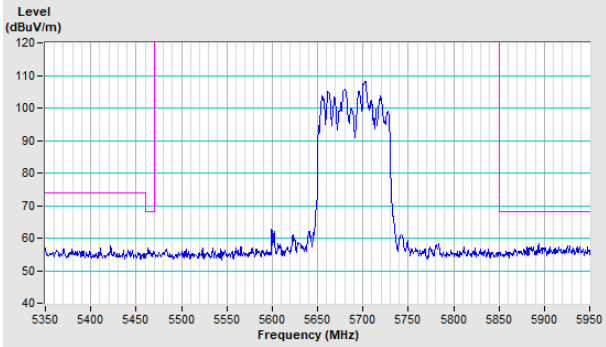


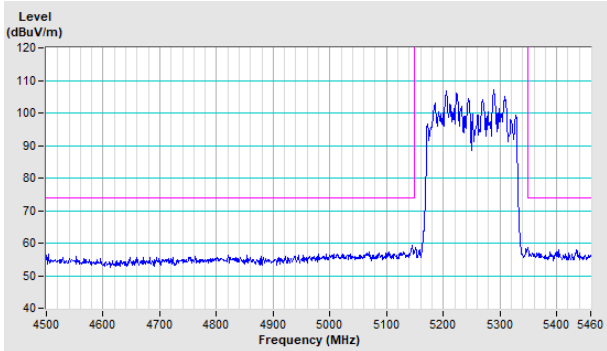
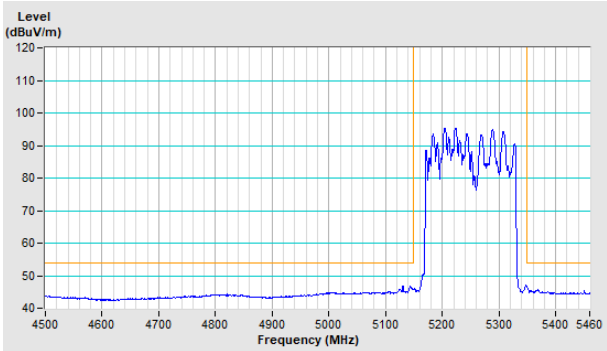
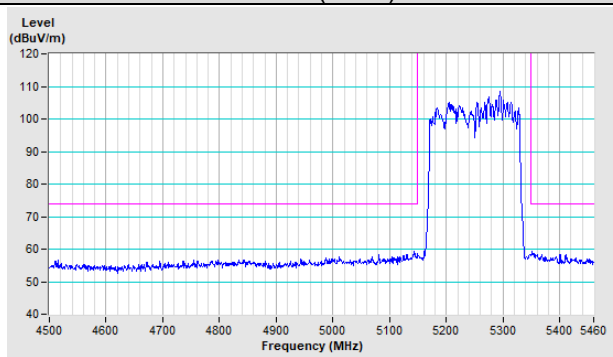
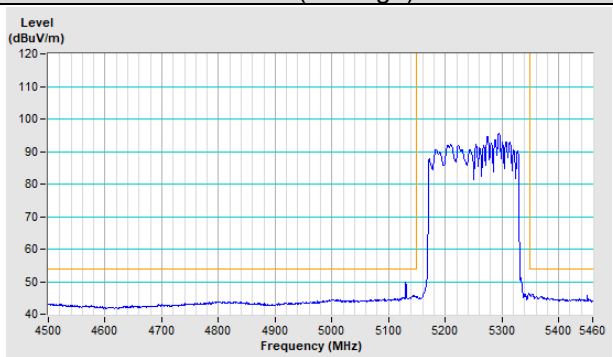
Vertical (Peak)

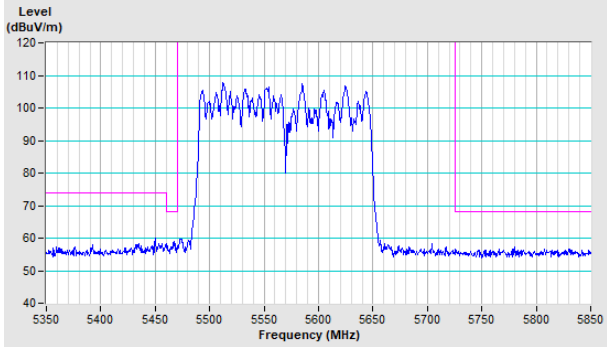
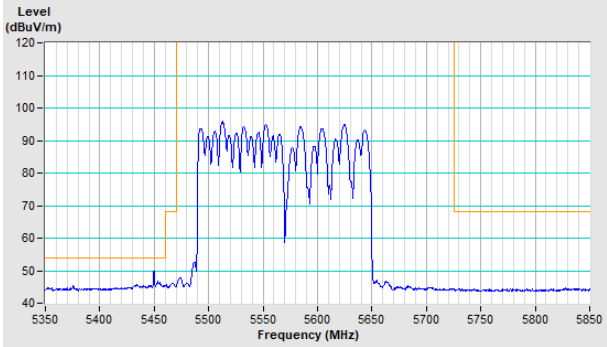
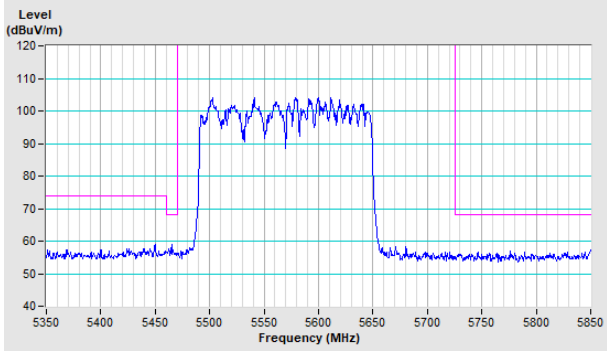
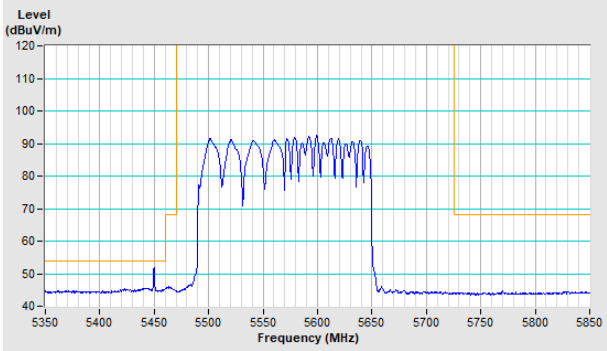


Vertical (Average)



802.11ax (HE80) Channel 122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

802.11ax (HE80+HE80) Channel 42+58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80+HE80) Channel 106+122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Appendix – Information of the Testing Laboratories

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

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

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Email: service.adt@bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

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

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