FCC Test Report (WLAN_DFS Band)

Report No.:	RF200511E11A
FCC ID:	MSQ-CMAXI800
Test Model:	CMAX6000
Series Model:	CMAX6000V
Received Date:	May 11, 2020
Test Date:	May 30 to June 05, 2020
Issued Date:	Oct. 07, 2020
Applicant:	ASUSTeK Computer Inc.
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Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF200511E11A	Original release.	Oct. 07, 2020

1 Certificate of Conformity

Product: AX6000 Dual Band DOCSIS 3.1 Cable Modem Router,
AX6000 Dual Band DOCSIS 3.1 Cable Modem Voice Router

Brand: ASUS

Test Model: CMAX6000

Series Model: CMAX6000V

Sample Status: ENGINEERING SAMPLE

Applicant: ASUSTeK Computer Inc.

Test Date: May 30 to June 05, 2020

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

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

Prepared by : _____ , **Date:** Oct. 07, 2020
Joyce Kuo / Specialist

Approved by : _____ , **Date:** Oct. 07, 2020
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -13.64dB at 0.32188MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.2 dB at 5470.00 MHz.
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(MHF) 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	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (WLAN_DFS Band)

Product	AX6000 Dual Band DOCSIS 3.1 Cable Modem Router, AX6000 Dual Band DOCSIS 3.1 Cable Modem Voice Router
Brand	ASUS
Test Model	CMAX6000
Series Model	CMAX6000V
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 3466.7 Mbps 802.11ax: up to 4803.9 Mbps
Operating Frequency	5.25GHz ~ 5.32GHz, 5.5 ~ 5.72GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 80211ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 80211ax (HE40): 8 802.11ac (VHT80), 80211ax (HE80): 4 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	**CDD Mode:** **5.25 ~ 5.32 GHz:** 249.327 mW **5.5 ~ 5.72 GHz:** 250.403 mW **Beamforming Mode:** **5.25 ~ 5.32 GHz:** 177.607 mW **5.5 ~ 5.72 GHz:** 177.371 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	RJ-45 Cable x 1(Unshielded, 1m)

Note:

1. This report is prepared for FCC class II change. The difference compared with the Report No.: RF200511E11-1 as the following:
   - ◆ Add DFS band <5.25 ~ 5.32 GHz, 5.5 ~ 5.72GHz> by software.
2. According to above conditions, for DFS band all of test items need to be performed and all data was verified to meet the requirements.
3. The EUT has two model names which are identical to each other in all aspects except for the followings:

Brand Name	Product Name	Model Name	Description
ASUS	AX6000 Dual Band DOCSIS 3.1 Cable Modem Voice Router	CMAX6000V	Main board has FXS RJ11 port X2, RF board has battery status port X1.
	AX6000 Dual Band DOCSIS 3.1 Cable Modem Router	CMAX6000	Main board hasn't FXS RJ11 port, RF board hasn't battery status port.
Note: From the above models, the radiated emission and conducted emission worse case was found in Model: **CMAX6000**. Therefore only the test data of the mode was recorded in this report.			

4. The EUT has two radios as following table:

Radio 1	Radio 2
WLAN 2.4GHz	WLAN 5GHz

5. Simultaneously transmission condition.

Condition	Technology	
1	WLAN 2.4GHz	WLAN 5GHz
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

6. The EUT must be supplied with a power adapter and following different models could be chosen:

No.	Brand	Model No.	Spec.
1	Asian Power Devices Inc	WA-36A12FU	Input: 100-240Vac, 0.9A, 50/60Hz Output: 12Vdc, 3.0A DC Output cable: Unshielded, 1.5m
2	HONOR	ADS-36FKJ-12 12036EPCU	Input: 100-240Vac, 1A, 50/60Hz Output: 12Vdc, 3.0A DC Output cable: Unshielded, 1.5m
Note: From the above models, the worst radiated emission test and conducted emission test were found in **Adapter 2**. Therefore only the test data of the models were recorded in this report.			

7. The antennas provided to the EUT, please refer to the following table:

Antenna NO.	Chain No.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type	Cable Length (mm)
1	0	2.42	2.4~2.4835GHz	PIFA	i-pex(MHF)	227
		0.49	5.15~5.85GHz			
2	1	0.09	2.4~2.4835GHz	PIFA	i-pex(MHF)	171
		1.42	5.15~5.85GHz			
3	2	1.38	2.4~2.4835GHz	PIFA	i-pex(MHF)	145
		1.44	5.15~5.85GHz			
4	3	3.69	2.4~2.4835GHz	PIFA	i-pex(MHF)	73
		2.46	5.15~5.85GHz			

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	4TX	4TX
802.11n (HT20)	4TX	4TX
802.11n (HT40)	4TX	4TX
802.11ac (VHT20)	4TX	4TX
802.11ac (VHT40)	4TX	4TX
802.11ac (VHT80)	4TX	4TX
802.11ac (VHT160)	4TX	4TX
802.11ax (HE20)	4TX	4TX
802.11ax (HE40)	4TX	4TX
802.11ax (HE80)	4TX	4TX
802.11ax (HE160)	4TX	4TX

Note:
1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz, 160MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 160MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

9. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

FOR 5250 ~ 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 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
50	5250 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	138	5690 MHz
122	5610 MHz		

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
114	5570 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Radiated Emission Test (Above 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	OFDMA	BPSK	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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5260-5320 5500-5720	54 to 62 102 to 142	110	OFDMA	BPSK	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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5260-5320 5500-5720	54 to 62 102 to 142	110	OFDMA	BPSK	MCS0

Antenna Port Conducted Measurement:

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

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

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		106 to 138	106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT160) (Output power only)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	OFDMA	BPSK	MCS0

Beamforming Mode (output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate Parameter**
802.11ac (VHT20)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT160)		50	50	OFDM	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE160)		50	50	OFDMA	BPSK	MCS0
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT160)		114	114	OFDM	BPSK	MCS0
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	OFDMA	BPSK	MCS0

Test Condition:

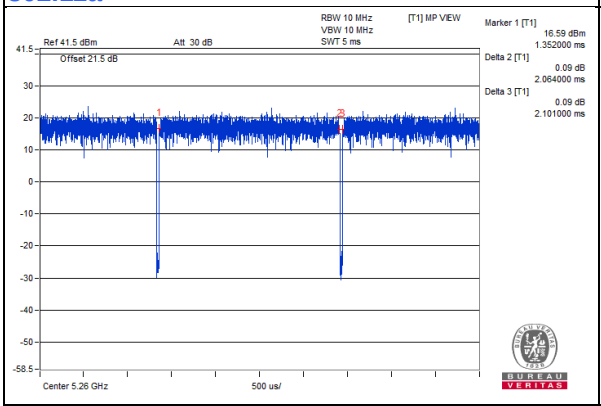
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
RE<1G	22deg. C, 67%RH	120Vac, 60Hz	Kevin Ko
PLC	22deg. C, 68%RH	120Vac, 60Hz	Nick Lo
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

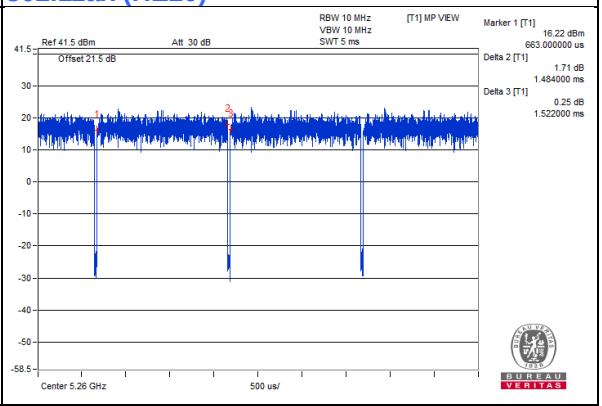
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.064 ms /2.101 ms=0.982
802.11ax (HE20): Duty cycle = 1.484 ms /1.522 ms=0.975, Duty factor = 10 * log (1/Duty cycle) = 0.11 dB
802.11ax (HE40): Duty cycle = 0.77 ms /0.804 ms=0.958, Duty factor = 10 * log (1/Duty cycle) = 0.19 dB
802.11ax (HE80): Duty cycle = 0.401 ms /0.434 ms=0.924, Duty factor = 10 * log (1/Duty cycle) = 0.34 dB
802.11ax (HE160): Duty cycle = 1.223 ms /1.258 ms=0.972, Duty factor = 10 * log (1/Duty cycle) = 0.12 dB

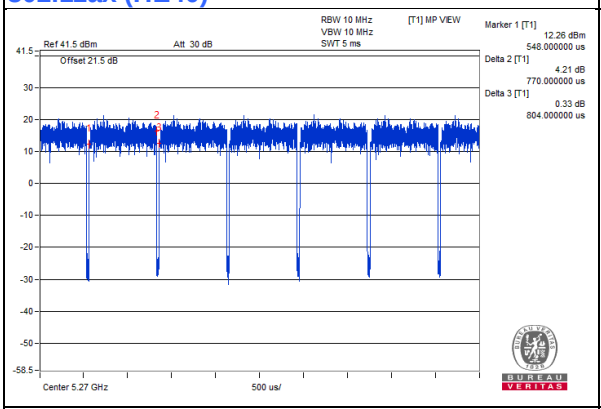
802.11a



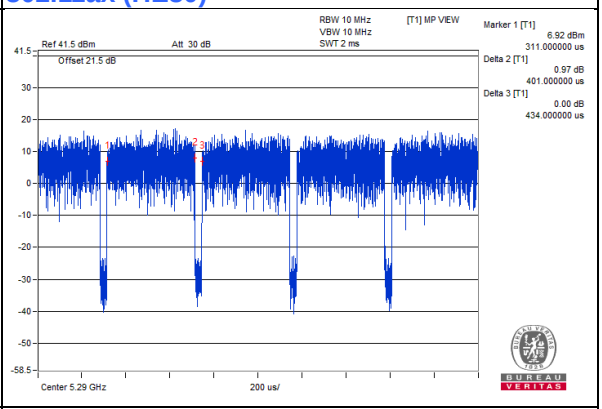
802.11ax (HE20)



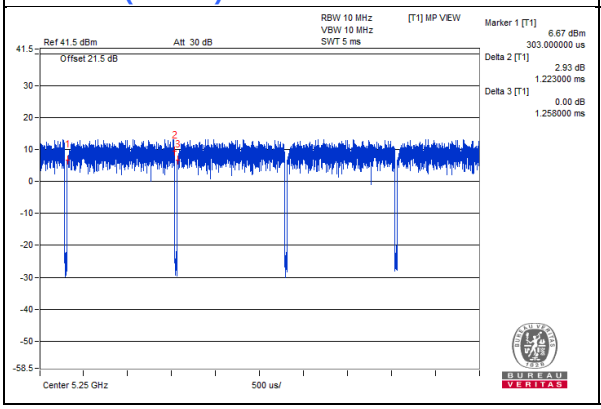
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)



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.

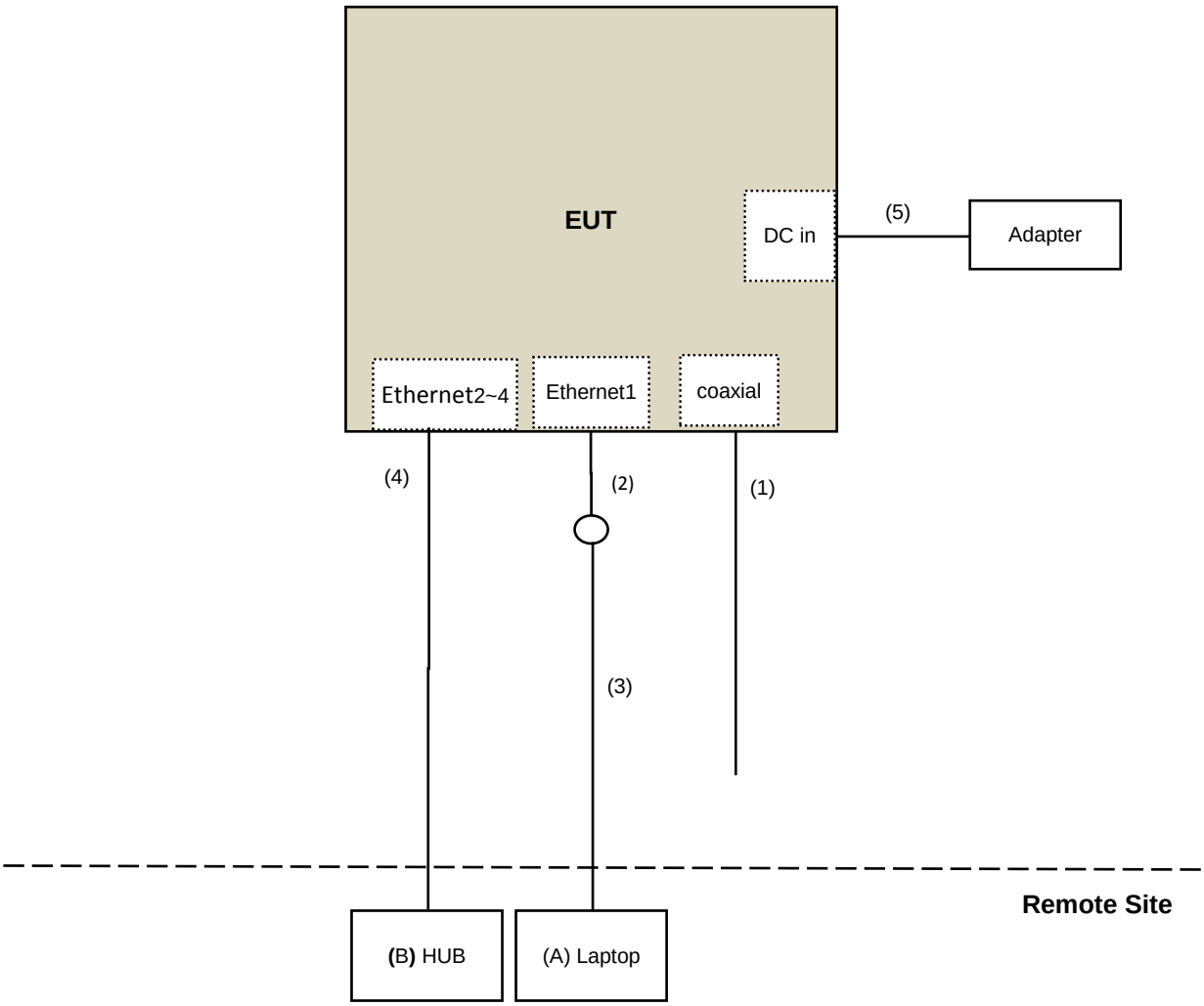
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	HUB	D-Link	DGS-1005D	DR8WC92000968	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Coaxial Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	1	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	RJ-45 Cable	3	10	No	0	Provided by Lab
5.	DC Cable	1	1.5	No	0	Supplied by client

3.4.1 Configuration of System under Test



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

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 03, 2019	July 02, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 26, 2019	Sep. 25, 2020
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1200	160922	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 10, 2019	June 09, 2020
RF Cable	EMC104-SM-SM-6000	180602	June 10, 2019	June 09, 2020
Spectrum Analyzer Keysight	N9030A	MY54490679	July 17, 2019	July 16, 2020
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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 966 Chamber No. 3.
3. Tested Date: May 30 to June 01, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 26, 2019	July 25, 2020
Power sensor Anritsu	MA2411B	1339443	July 26, 2019	July 25, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
AC Power Source Extech Electronics	6205	1440452	NA	NA
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
Voltage Meter FLUKE	179	89610322	Sep. 25, 2019	Sep. 24, 2020
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

Note:

1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: June 05, 2020

4.1.3 Test Procedure

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 detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

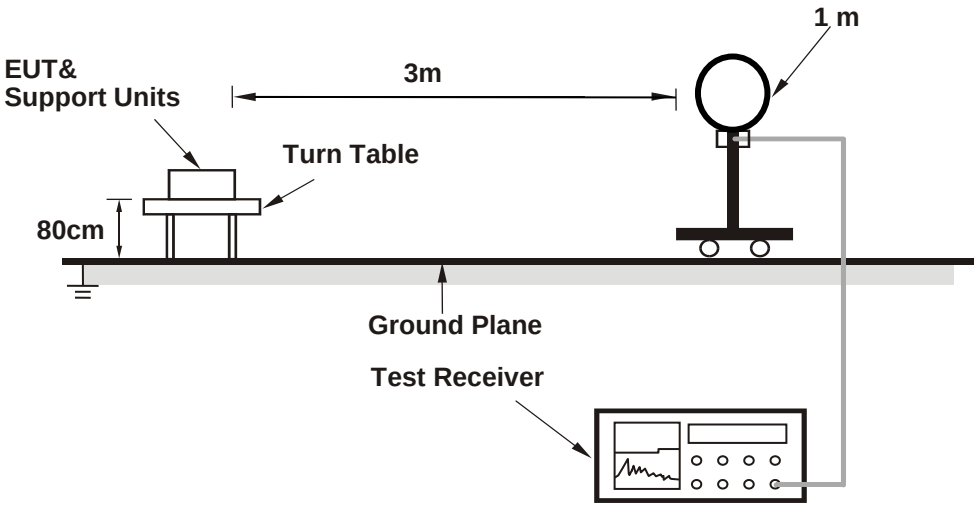
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

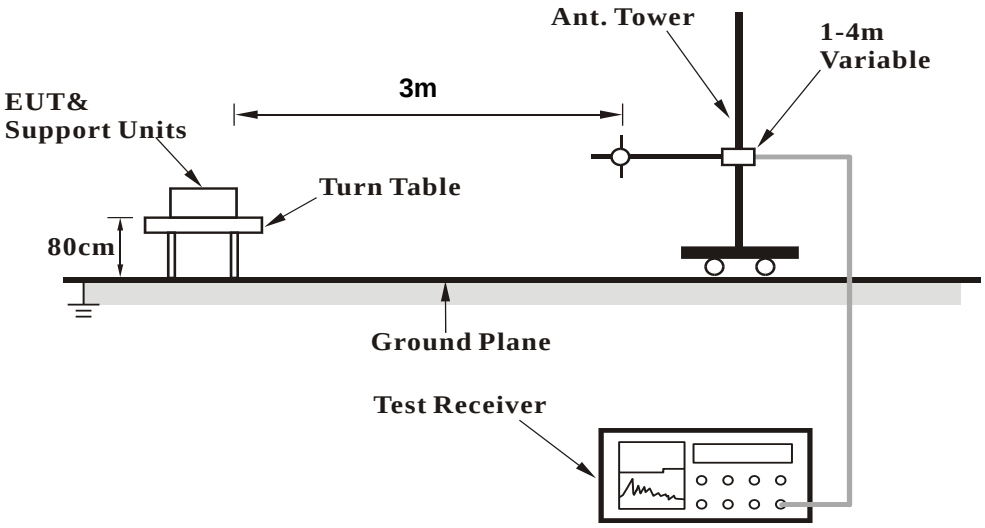
No deviation.

4.1.5 Test Setup

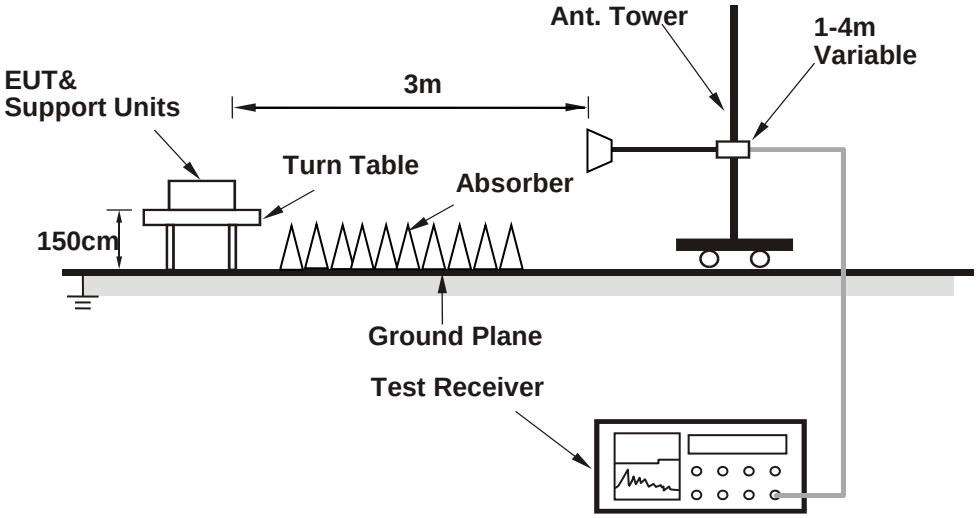
For Radiated emission below 30MHz



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 Condition

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (accessMtool v3.1.01) has been activated to set the EUT under transmission condition continuously at specific channel frenquency.

4.1.7 Test Results

Above 1GHz Data:

802.11a

Channel	TX Channel 52	**Detector Function**	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**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	54.2 PK	74.0	-19.8	1.73 H	301	50.5	3.7
2	5150.00	43.5 AV	54.0	-10.5	1.73 H	301	39.8	3.7
3	*5260.00	110.5 PK			1.73 H	301	107.1	3.4
4	*5260.00	103.5 AV			1.73 H	301	100.1	3.4
5	5363.40	54.0 PK	74.0	-20.0	1.73 H	301	50.5	3.5
6	5363.40	43.6 AV	54.0	-10.4	1.73 H	301	40.1	3.5
7	#10520.00	47.2 PK	68.2	-21.0	2.09 H	115	34.1	13.1
8	15780.00	48.0 PK	74.0	-26.0	2.32 H	121	34.5	13.5
9	15780.00	34.8 AV	54.0	-19.2	2.32 H	121	21.3	13.5
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	5150.00	54.3 PK	74.0	-19.7	1.86 V	115	50.6	3.7
2	5150.00	46.9 AV	54.0	-7.1	1.86 V	115	43.2	3.7
3	*5260.00	118.8 PK			1.86 V	115	115.4	3.4
4	*5260.00	110.3 AV			1.86 V	115	106.9	3.4
5	5363.40	56.4 PK	74.0	-17.6	1.86 V	115	52.9	3.5
6	5363.40	47.6 AV	54.0	-6.4	1.86 V	115	44.1	3.5
7	#10520.00	46.7 PK	68.2	-21.5	1.57 V	129	33.6	13.1
8	15780.00	46.0 PK	74.0	-28.0	2.92 V	227	32.5	13.5
9	15780.00	33.5 AV	54.0	-20.5	2.92 V	227	20.0	13.5

Remarks:

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

Channel	TX Channel 60	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	117.0 PK			1.68 H	110	113.7	3.3
2	*5300.00	106.9 AV			1.68 H	110	103.6	3.3
3	10600.00	47.9 PK	74.0	-26.1	2.11 H	106	35.0	12.9
4	10600.00	36.4 AV	54.0	-17.6	2.11 H	106	23.5	12.9
5	15900.00	48.2 PK	74.0	-25.8	2.34 H	127	35.4	12.8
6	15900.00	34.9 AV	54.0	-19.1	2.34 H	127	22.1	12.8
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	*5300.00	118.7 PK			1.77 V	116	115.4	3.3
2	*5300.00	110.2 AV			1.77 V	116	106.9	3.3
3	10600.00	47.3 PK	74.0	-26.7	1.53 V	122	34.4	12.9
4	10600.00	35.7 AV	54.0	-18.3	1.53 V	122	22.8	12.9
5	15900.00	46.4 PK	74.0	-27.6	2.88 V	240	33.6	12.8
6	15900.00	33.8 AV	54.0	-20.2	2.88 V	240	21.0	12.8

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.

Channel	TX Channel 64	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	112.2 PK			1.78 H	324	108.8	3.4
2	*5320.00	104.4 AV			1.78 H	324	101.0	3.4
3	5376.00	61.8 PK	74.0	-12.2	1.78 H	324	58.3	3.5
4	5376.00	46.4 AV	54.0	-7.6	1.78 H	324	42.9	3.5
5	10640.00	47.2 PK	74.0	-26.8	2.09 H	106	34.3	12.9
6	10640.00	36.2 AV	54.0	-17.8	2.09 H	106	23.3	12.9
7	15960.00	48.1 PK	74.0	-25.9	2.32 H	128	35.3	12.8
8	15960.00	35.2 AV	54.0	-18.8	2.32 H	128	22.4	12.8
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	*5320.00	118.0 PK			1.68 V	113	114.6	3.4
2	*5320.00	109.7 AV			1.68 V	113	106.3	3.4
3	5351.75	70.6 PK	74.0	-3.4	1.68 V	113	67.2	3.4
4	5351.75	52.8 AV	54.0	-1.2	1.68 V	113	49.4	3.4
5	10640.00	47.0 PK	74.0	-27.0	1.60 V	135	34.1	12.9
6	10640.00	35.7 AV	54.0	-18.3	1.60 V	135	22.8	12.9
7	15960.00	45.5 PK	74.0	-28.5	2.95 V	237	32.7	12.8
8	15960.00	33.0 AV	54.0	-21.0	2.95 V	237	20.2	12.8

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.

Channel	TX Channel 100	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5448.35	56.7 PK	74.0	-17.3	1.76 H	244	53.0	3.7
2	5448.35	46.5 AV	54.0	-7.5	1.76 H	244	42.8	3.7
3	#5470.00	64.2 PK	68.2	-4.0	1.76 H	244	60.3	3.9
4	*5500.00	111.5 PK			1.76 H	244	107.6	3.9
5	*5500.00	104.0 AV			1.76 H	244	100.1	3.9
6	11000.00	47.3 PK	74.0	-26.7	2.06 H	126	34.3	13.0
7	11000.00	35.8 AV	54.0	-18.2	2.06 H	126	22.8	13.0
8	#16500.00	47.9 PK	68.2	-20.3	2.33 H	128	33.3	14.6
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	5436.39	60.4 PK	74.0	-13.6	1.83 V	118	56.7	3.7
2	5436.39	45.7 AV	54.0	-8.3	1.83 V	118	42.0	3.7
3	#5470.00	67.5 PK	68.2	-0.7	1.83 V	118	63.6	3.9
4	*5500.00	117.6 PK			1.83 V	118	113.7	3.9
5	*5500.00	106.5 AV			1.83 V	118	102.6	3.9
6	11000.00	46.5 PK	74.0	-27.5	1.58 V	141	33.5	13.0
7	11000.00	35.2 AV	54.0	-18.8	1.58 V	141	22.2	13.0
8	#16500.00	46.4 PK	68.2	-21.8	2.87 V	240	31.8	14.6

Remarks:

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

Channel	TX Channel 116	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	116.0 PK			2.31 H	135	112.2	3.8
2	*5580.00	105.4 AV			2.31 H	135	101.6	3.8
3	11160.00	47.2 PK	74.0	-26.8	2.12 H	103	34.1	13.1
4	11160.00	36.2 AV	54.0	-17.8	2.12 H	103	23.1	13.1
5	#16740.00	47.8 PK	68.2	-20.4	2.30 H	126	31.6	16.2
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	*5580.00	116.5 PK			2.05 V	145	112.7	3.8
2	*5580.00	106.6 AV			2.05 V	145	102.8	3.8
3	11160.00	46.6 PK	74.0	-27.4	1.61 V	117	33.5	13.1
4	11160.00	35.5 AV	54.0	-18.5	1.61 V	117	22.4	13.1
5	#16740.00	46.2 PK	68.2	-22.0	2.95 V	213	30.0	16.2

Remarks:

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

Channel	TX Channel 140	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	115.2 PK			1.71 H	65	111.2	4.0
2	*5700.00	103.0 AV			1.71 H	65	99.0	4.0
3	#5725.00	65.0 PK	68.2	-3.2	1.71 H	65	61.0	4.0
4	11400.00	47.6 PK	74.0	-26.4	2.12 H	118	34.4	13.2
5	11400.00	36.2 AV	54.0	-17.8	2.12 H	118	23.0	13.2
6	#17100.00	47.9 PK	68.2	-20.3	2.31 H	118	30.7	17.2
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	*5700.00	115.8 PK			1.88 V	142	111.8	4.0
2	*5700.00	105.5 AV			1.88 V	142	101.5	4.0
3	#5725.00	67.6 PK	68.2	-0.6	1.88 V	142	63.6	4.0
4	11400.00	46.6 PK	74.0	-27.4	1.57 V	136	33.4	13.2
5	11400.00	34.9 AV	54.0	-19.1	1.57 V	136	21.7	13.2
6	#17100.00	45.7 PK	68.2	-22.5	2.90 V	227	28.5	17.2

Remarks:

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

Channel	TX Channel 144	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	54.4 PK	74.0	-19.6	1.60 H	63	50.6	3.8
2	5460.00	42.1 AV	54.0	-11.9	1.60 H	63	38.3	3.8
3	#5470.00	54.4 PK	68.2	-13.8	1.60 H	63	50.5	3.9
4	*5720.00	115.4 PK			1.60 H	63	111.5	3.9
5	*5720.00	105.9 AV			1.60 H	63	102.0	3.9
6	#5850.00	52.3 PK	68.2	-15.9	1.60 H	63	47.9	4.4
7	11440.00	47.3 PK	74.0	-26.7	2.15 H	120	34.0	13.3
8	11440.00	35.8 AV	54.0	-18.2	2.15 H	120	22.5	13.3
9	#17160.00	48.0 PK	68.2	-20.2	2.37 H	110	30.6	17.4
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	5460.00	53.7 PK	74.0	-20.3	1.96 V	142	49.9	3.8
2	5460.00	41.2 AV	54.0	-12.8	1.96 V	142	37.4	3.8
3	#5470.00	53.6 PK	68.2	-14.6	1.96 V	142	49.7	3.9
4	*5720.00	116.4 PK			1.96 V	142	112.5	3.9
5	*5720.00	106.3 AV			1.96 V	142	102.4	3.9
6	#5850.00	52.9 PK	68.2	-15.3	1.96 V	142	48.5	4.4
7	11440.00	46.5 PK	74.0	-27.5	1.56 V	135	33.2	13.3
8	11440.00	35.1 AV	54.0	-18.9	1.56 V	135	21.8	13.3
9	#17160.00	45.7 PK	68.2	-22.5	2.88 V	234	28.3	17.4

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.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (HE20)

Channel	TX Channel 52	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	52.8 PK	74.0	-21.2	1.85 H	301	49.1	3.7
2	5150.00	42.9 AV	54.0	-11.1	1.85 H	301	39.2	3.7
3	*5260.00	114.5 PK			1.85 H	301	111.1	3.4
4	*5260.00	103.4 AV			1.85 H	301	100.0	3.4
5	5361.01	53.0 PK	74.0	-21.0	1.85 H	301	49.5	3.5
6	5361.01	43.8 AV	54.0	-10.2	1.85 H	301	40.3	3.5
7	#10520.00	47.1 PK	68.2	-21.1	2.04 H	125	34.0	13.1
8	15780.00	48.0 PK	74.0	-26.0	2.34 H	136	34.5	13.5
9	15780.00	34.7 AV	54.0	-19.3	2.34 H	136	21.2	13.5
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	5150.00	54.7 PK	74.0	-19.3	1.77 V	116	51.0	3.7
2	5150.00	43.5 AV	54.0	-10.5	1.77 V	116	39.8	3.7
3	*5260.00	118.6 PK			1.77 V	116	115.2	3.4
4	*5260.00	107.7 AV			1.77 V	116	104.3	3.4
5	5361.90	56.4 PK	74.0	-17.6	1.77 V	116	52.9	3.5
6	5361.90	45.1 AV	54.0	-8.9	1.77 V	116	41.6	3.5
7	#10520.00	46.4 PK	68.2	-21.8	1.52 V	130	33.3	13.1
8	15780.00	45.7 PK	74.0	-28.3	2.91 V	235	32.2	13.5
9	15780.00	33.3 AV	54.0	-20.7	2.91 V	235	19.8	13.5

Remarks:

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

Channel	TX Channel 60	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	116.9 PK			1.78 H	115	113.6	3.3
2	*5300.00	104.5 AV			1.78 H	115	101.2	3.3
3	10600.00	46.5 PK	74.0	-27.5	2.07 H	103	33.6	12.9
4	10600.00	35.5 AV	54.0	-18.5	2.07 H	103	22.6	12.9
5	15900.00	48.5 PK	74.0	-25.5	2.26 H	131	35.7	12.8
6	15900.00	35.1 AV	54.0	-18.9	2.26 H	131	22.3	12.8
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	*5300.00	118.8 PK			1.88 V	112	115.5	3.3
2	*5300.00	107.6 AV			1.88 V	112	104.3	3.3
3	10600.00	46.9 PK	74.0	-27.1	1.55 V	138	34.0	12.9
4	10600.00	35.6 AV	54.0	-18.4	1.55 V	138	22.7	12.9
5	15900.00	45.9 PK	74.0	-28.1	2.96 V	224	33.1	12.8
6	15900.00	33.6 AV	54.0	-20.4	2.96 V	224	20.8	12.8

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.

Channel	TX Channel 64	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	113.5 PK			1.82 H	298	110.1	3.4
2	*5320.00	103.7 AV			1.82 H	298	100.3	3.4
3	5351.19	63.2 PK	74.0	-10.8	1.82 H	298	59.8	3.4
4	5351.19	50.6 AV	54.0	-3.4	1.82 H	298	47.2	3.4
5	10640.00	46.9 PK	74.0	-27.1	2.14 H	112	34.0	12.9
6	10640.00	35.5 AV	54.0	-18.5	2.14 H	112	22.6	12.9
7	15960.00	48.1 PK	74.0	-25.9	2.35 H	120	35.3	12.8
8	15960.00	35.2 AV	54.0	-18.8	2.35 H	120	22.4	12.8
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	*5320.00	118.2 PK			1.84 V	110	114.8	3.4
2	*5320.00	107.7 AV			1.84 V	110	104.3	3.4
3	5351.19	68.3 PK	74.0	-5.7	1.84 V	110	64.9	3.4
4	5351.19	53.3 AV	54.0	-0.7	1.84 V	110	49.9	3.4
5	10640.00	46.9 PK	74.0	-27.1	1.62 V	142	34.0	12.9
6	10640.00	35.4 AV	54.0	-18.6	1.62 V	142	22.5	12.9
7	15960.00	45.7 PK	74.0	-28.3	2.95 V	227	32.9	12.8
8	15960.00	33.3 AV	54.0	-20.7	2.95 V	227	20.5	12.8

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.

Channel	TX Channel 100	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5440.28	55.8 PK	74.0	-18.2	1.96 H	342	52.1	3.7
2	5440.28	46.8 AV	54.0	-7.2	1.96 H	342	43.1	3.7
3	#5470.00	64.1 PK	68.2	-4.1	1.96 H	342	60.2	3.9
4	*5500.00	113.2 PK			1.96 H	342	109.3	3.9
5	*5500.00	104.0 AV			1.96 H	342	100.1	3.9
6	11000.00	47.5 PK	74.0	-26.5	2.09 H	126	34.5	13.0
7	11000.00	36.4 AV	54.0	-17.6	2.09 H	126	23.4	13.0
8	#16500.00	47.9 PK	68.2	-20.3	2.34 H	112	33.3	14.6
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	5460.00	61.0 PK	74.0	-13.0	1.89 V	114	57.2	3.8
2	5460.00	47.0 AV	54.0	-7.0	1.89 V	114	43.2	3.8
3	#5470.00	67.3 PK	68.2	-0.9	1.89 V	114	63.4	3.9
4	*5500.00	117.1 PK			1.89 V	114	113.2	3.9
5	*5500.00	106.5 AV			1.89 V	114	102.6	3.9
6	11000.00	46.6 PK	74.0	-27.4	1.57 V	114	33.6	13.0
7	11000.00	35.2 AV	54.0	-18.8	1.57 V	114	22.2	13.0
8	#16500.00	46.5 PK	68.2	-21.7	2.89 V	237	31.9	14.6

Remarks:

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

Channel	TX Channel 116	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	116.7 PK			2.23 H	132	112.9	3.8
2	*5580.00	105.2 AV			2.23 H	132	101.4	3.8
3	11160.00	47.3 PK	74.0	-26.7	2.13 H	113	34.2	13.1
4	11160.00	36.0 AV	54.0	-18.0	2.13 H	113	22.9	13.1
5	#16740.00	47.6 PK	68.2	-20.6	2.30 H	130	31.4	16.2
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	*5580.00	118.2 PK			1.89 V	116	114.4	3.8
2	*5580.00	107.2 AV			1.89 V	116	103.4	3.8
3	11160.00	47.0 PK	74.0	-27.0	1.59 V	131	33.9	13.1
4	11160.00	35.4 AV	54.0	-18.6	1.59 V	131	22.3	13.1
5	#16740.00	45.7 PK	68.2	-22.5	2.87 V	235	29.5	16.2

Remarks:

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

Channel	TX Channel 140	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	115.2 PK			1.84 H	64	111.2	4.0
2	*5700.00	104.4 AV			1.84 H	64	100.4	4.0
3	#5725.00	62.5 PK	68.2	-5.7	1.84 H	64	58.5	4.0
4	11400.00	47.3 PK	74.0	-26.7	2.04 H	104	34.1	13.2
5	11400.00	36.2 AV	54.0	-17.8	2.04 H	104	23.0	13.2
6	#17100.00	47.7 PK	68.2	-20.5	2.30 H	114	30.5	17.2
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	*5700.00	117.6 PK			2.16 V	135	113.6	4.0
2	*5700.00	105.8 AV			2.16 V	135	101.8	4.0
3	#5725.00	67.5 PK	68.2	-0.7	2.16 V	135	63.5	4.0
4	11400.00	46.4 PK	74.0	-27.6	1.56 V	115	33.2	13.2
5	11400.00	35.2 AV	54.0	-18.8	1.56 V	115	22.0	13.2
6	#17100.00	46.1 PK	68.2	-22.1	2.90 V	222	28.9	17.2

Remarks:

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

Channel	TX Channel 144	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	54.2 PK	74.0	-19.8	1.82 H	112	50.4	3.8
2	5460.00	42.2 AV	54.0	-11.8	1.82 H	112	38.4	3.8
3	#5470.00	55.4 PK	68.2	-12.8	1.82 H	112	51.5	3.9
4	*5720.00	116.8 PK			1.82 H	112	112.9	3.9
5	*5720.00	105.6 AV			1.82 H	112	101.7	3.9
6	#5850.00	54.2 PK	68.2	-14.0	1.82 H	112	49.8	4.4
7	11440.00	47.2 PK	74.0	-26.8	2.04 H	105	33.9	13.3
8	11440.00	35.8 AV	54.0	-18.2	2.04 H	105	22.5	13.3
9	#17160.00	48.1 PK	68.2	-20.1	2.31 H	131	30.7	17.4
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	5460.00	54.5 PK	74.0	-19.5	2.11 V	135	50.7	3.8
2	5460.00	43.1 AV	54.0	-10.9	2.11 V	135	39.3	3.8
3	#5470.00	55.4 PK	68.2	-12.8	2.11 V	135	51.5	3.9
4	*5720.00	119.7 PK			2.11 V	135	115.8	3.9
5	*5720.00	108.1 AV			2.11 V	135	104.2	3.9
6	#5850.00	53.1 PK	68.2	-15.1	2.11 V	135	48.7	4.4
7	11440.00	46.7 PK	74.0	-27.3	1.53 V	132	33.4	13.3
8	11440.00	35.1 AV	54.0	-18.9	1.53 V	132	21.8	13.3
9	#17160.00	46.1 PK	68.2	-22.1	2.96 V	217	28.7	17.4

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.
6. " # ": The radiated frequency is out of the restricted band.

802.11ax (HE40)

Channel	TX Channel 54	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	52.8 PK	74.0	-21.2	1.86 H	167	49.1	3.7
2	5150.00	41.8 AV	54.0	-12.2	1.86 H	167	38.1	3.7
3	*5270.00	110.7 PK			1.86 H	167	107.3	3.4
4	*5270.00	100.3 AV			1.86 H	167	96.9	3.4
5	#10540.00	46.7 PK	68.2	-21.5	2.08 H	108	33.7	13.0
6	15810.00	48.1 PK	74.0	-25.9	2.29 H	117	34.9	13.2
7	15810.00	34.6 AV	54.0	-19.4	2.29 H	117	21.4	13.2
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	53.3 PK	74.0	-20.7	1.76 V	117	49.6	3.7
2	5150.00	43.5 AV	54.0	-10.5	1.76 V	117	39.8	3.7
3	*5270.00	113.6 PK			1.76 V	117	110.2	3.4
4	*5270.00	103.6 AV			1.76 V	117	100.2	3.4
5	#10540.00	46.5 PK	68.2	-21.7	1.55 V	129	33.5	13.0
6	15810.00	46.0 PK	74.0	-28.0	2.94 V	234	32.8	13.2
7	15810.00	33.6 AV	54.0	-20.4	2.94 V	234	20.4	13.2

Remarks:

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

Channel	TX Channel 62	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	109.7 PK			1.83 H	298	106.4	3.3
2	*5310.00	99.2 AV			1.83 H	298	95.9	3.3
3	5351.00	66.9 PK	74.0	-7.1	1.83 H	298	63.5	3.4
4	5351.00	50.6 AV	54.0	-3.4	1.83 H	298	47.2	3.4
5	10620.00	47.3 PK	74.0	-26.7	2.07 H	113	34.4	12.9
6	10620.00	36.0 AV	54.0	-18.0	2.07 H	113	23.1	12.9
7	15930.00	48.1 PK	74.0	-25.9	2.30 H	117	35.3	12.8
8	15930.00	35.1 AV	54.0	-18.9	2.30 H	117	22.3	12.8
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	*5310.00	113.5 PK			1.75 V	114	110.2	3.3
2	*5310.00	102.8 AV			1.75 V	114	99.5	3.3
3	5350.00	68.7 PK	74.0	-5.3	1.75 V	114	65.3	3.4
4	5350.00	53.6 AV	54.0	-0.4	1.75 V	114	50.2	3.4
5	10620.00	46.6 PK	74.0	-27.4	1.58 V	115	33.7	12.9
6	10620.00	35.4 AV	54.0	-18.6	1.58 V	115	22.5	12.9
7	15930.00	46.1 PK	74.0	-27.9	2.87 V	240	33.3	12.8
8	15930.00	33.7 AV	54.0	-20.3	2.87 V	240	20.9	12.8

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.

Channel	TX Channel 102	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5458.44	57.3 PK	74.0	-16.7	1.72 H	162	53.5	3.8
2	5458.44	44.5 AV	54.0	-9.5	1.72 H	162	40.7	3.8
3	#5470.00	59.9 PK	68.2	-8.3	1.72 H	162	56.0	3.9
4	*5510.00	108.2 PK			1.72 H	162	104.3	3.9
5	*5510.00	96.7 AV			1.72 H	162	92.8	3.9
6	11020.00	46.8 PK	74.0	-27.2	2.09 H	130	33.8	13.0
7	11020.00	35.5 AV	54.0	-18.5	2.09 H	130	22.5	13.0
8	#16530.00	48.3 PK	68.2	-19.9	2.31 H	117	33.6	14.7
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	5457.47	63.6 PK	74.0	-10.4	1.87 V	118	59.8	3.8
2	5457.47	48.2 AV	54.0	-5.8	1.87 V	118	44.4	3.8
3	**#5470.00**	**68.0 PK**	**68.2**	**-0.2**	**1.87 V**	**118**	**64.1**	**3.9**
4	*5510.00	111.8 PK			1.87 V	118	107.9	3.9
5	*5510.00	101.1 AV			1.87 V	118	97.2	3.9
6	11020.00	46.9 PK	74.0	-27.1	1.54 V	122	33.9	13.0
7	11020.00	35.5 AV	54.0	-18.5	1.54 V	122	22.5	13.0
8	#16530.00	46.3 PK	68.2	-21.9	2.96 V	236	31.6	14.7

Remarks:

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

Channel	TX Channel 110	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	113.2 PK			1.94 H	137	109.4	3.8
2	*5550.00	100.4 AV			1.94 H	137	96.6	3.8
3	11100.00	47.5 PK	74.0	-26.5	2.09 H	106	34.5	13.0
4	11100.00	36.4 AV	54.0	-17.6	2.09 H	106	23.4	13.0
5	#16650.00	48.0 PK	68.2	-20.2	2.33 H	110	32.3	15.7
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	*5550.00	114.2 PK			1.88 V	115	110.4	3.8
2	*5550.00	103.2 AV			1.88 V	115	99.4	3.8
3	11100.00	46.3 PK	74.0	-27.7	1.58 V	119	33.3	13.0
4	11100.00	35.0 AV	54.0	-19.0	1.58 V	119	22.0	13.0
5	#16650.00	45.4 PK	68.2	-22.8	2.94 V	226	29.7	15.7

Remarks:

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

Channel	TX Channel 134	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	111.9 PK			1.89 H	134	107.9	4.0
2	*5670.00	101.5 AV			1.89 H	134	97.5	4.0
3	#5725.00	62.5 PK	68.2	-5.7	1.89 H	134	58.5	4.0
4	11340.00	47.1 PK	74.0	-26.9	2.09 H	102	33.9	13.2
5	11340.00	36.0 AV	54.0	-18.0	2.09 H	102	22.8	13.2
6	#17010.00	47.7 PK	68.2	-20.5	2.33 H	125	30.7	17.0
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	*5670.00	114.5 PK			2.11 V	140	110.5	4.0
2	*5670.00	103.7 AV			2.11 V	140	99.7	4.0
3	#5725.00	67.4 PK	68.2	-0.8	2.11 V	140	63.4	4.0
4	11340.00	46.6 PK	74.0	-27.4	1.62 V	116	33.4	13.2
5	11340.00	35.4 AV	54.0	-18.6	1.62 V	116	22.2	13.2
6	#17010.00	46.7 PK	68.2	-21.5	2.92 V	232	29.7	17.0

Remarks:

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

Channel	TX Channel 142	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	53.4 PK	74.0	-20.6	1.64 H	127	49.6	3.8
2	5460.00	43.1 AV	54.0	-10.9	1.64 H	127	39.3	3.8
3	#5470.00	54.9 PK	68.2	-13.3	1.64 H	127	51.0	3.9
4	*5710.00	111.6 PK			1.64 H	127	107.6	4.0
5	*5710.00	101.5 AV			1.64 H	127	97.5	4.0
6	#5850.00	54.6 PK	68.2	-13.6	1.64 H	127	50.2	4.4
7	11420.00	46.8 PK	74.0	-27.2	2.08 H	104	33.6	13.2
8	11420.00	35.7 AV	54.0	-18.3	2.08 H	104	22.5	13.2
9	#17130.00	47.7 PK	68.2	-20.5	2.28 H	119	30.5	17.2
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	5460.00	54.0 PK	74.0	-20.0	2.11 V	139	50.2	3.8
2	5460.00	42.5 AV	54.0	-11.5	2.11 V	139	38.7	3.8
3	#5470.00	55.1 PK	68.2	-13.1	2.11 V	139	51.2	3.9
4	*5710.00	114.7 PK			2.11 V	139	110.7	4.0
5	*5710.00	103.8 AV			2.11 V	139	99.8	4.0
6	#5850.00	53.1 PK	68.2	-15.1	2.11 V	139	48.7	4.4
7	11420.00	46.5 PK	74.0	-27.5	1.58 V	135	33.3	13.2
8	11420.00	35.1 AV	54.0	-18.9	1.58 V	135	21.9	13.2
9	#17130.00	45.7 PK	68.2	-22.5	2.92 V	227	28.5	17.2

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.

802.11ax (HE80)

Channel	TX Channel 58	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5124.60	53.1 PK	74.0	-20.9	1.89 H	297	49.4	3.7
2	5124.60	42.9 AV	54.0	-11.1	1.89 H	297	39.2	3.7
3	*5290.00	108.0 PK			1.89 H	297	104.7	3.3
4	*5290.00	96.7 AV			1.89 H	297	93.4	3.3
5	5351.95	62.7 PK	74.0	-11.3	1.89 H	297	59.3	3.4
6	5351.95	50.1 AV	54.0	-3.9	1.89 H	297	46.7	3.4
7	#10580.00	47.5 PK	68.2	-20.7	2.06 H	130	34.6	12.9
8	15870.00	48.3 PK	74.0	-25.7	2.26 H	131	35.4	12.9
9	15870.00	35.3 AV	54.0	-18.7	2.26 H	131	22.4	12.9
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	5124.60	55.4 PK	74.0	-18.6	2.17 V	125	51.7	3.7
2	5124.60	46.9 AV	54.0	-7.1	2.17 V	125	43.2	3.7
3	*5290.00	110.8 PK			2.17 V	125	107.5	3.3
4	*5290.00	99.6 AV			2.17 V	125	96.3	3.3
5	5351.95	66.9 PK	74.0	-7.1	2.17 V	125	63.5	3.4
6	5351.95	53.4 AV	54.0	-0.6	2.17 V	125	50.0	3.4
7	#10580.00	46.8 PK	68.2	-21.4	1.61 V	113	33.9	12.9
8	15870.00	46.0 PK	74.0	-28.0	2.92 V	242	33.1	12.9
9	15870.00	33.6 AV	54.0	-20.4	2.92 V	242	20.7	12.9

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.

Channel	TX Channel 106	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5458.57	58.7 PK	74.0	-15.3	1.77 H	163	54.9	3.8
2	5458.57	48.6 AV	54.0	-5.4	1.77 H	163	44.8	3.8
3	#5470.00	61.0 PK	68.2	-7.2	1.77 H	163	57.1	3.9
4	*5530.00	106.5 PK			1.77 H	163	102.7	3.8
5	*5530.00	97.6 AV			1.77 H	163	93.8	3.8
6	#5725.00	52.4 PK	68.2	-15.8	1.77 H	163	48.4	4.0
7	11060.00	46.9 PK	74.0	-27.1	2.05 H	125	34.0	12.9
8	11060.00	35.5 AV	54.0	-18.5	2.05 H	125	22.6	12.9
9	#16590.00	48.1 PK	68.2	-20.1	2.27 H	121	33.2	14.9
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	5457.25	63.8 PK	74.0	-10.2	2.24 V	58	60.0	3.8
2	5457.25	50.9 AV	54.0	-3.1	2.24 V	58	47.1	3.8
3	#5470.00	67.6 PK	68.2	-0.6	2.24 V	58	63.7	3.9
4	*5530.00	112.4 PK			2.24 V	58	108.6	3.8
5	*5530.00	99.9 AV			2.24 V	58	96.1	3.8
6	#5725.00	55.2 PK	68.2	-13.0	2.24 V	58	51.2	4.0
7	11060.00	47.0 PK	74.0	-27.0	1.59 V	125	34.1	12.9
8	11060.00	35.5 AV	54.0	-18.5	1.59 V	125	22.6	12.9
9	#16590.00	45.6 PK	68.2	-22.6	2.92 V	213	30.7	14.9

Remarks:

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

Channel	TX Channel 122	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	*5610.00	110.0 PK			1.67 H	133	106.3	3.7
2	*5610.00	94.5 AV			1.67 H	133	90.8	3.7
3	#5725.00	59.5 PK	68.2	-8.7	1.67 H	133	55.5	4.0
4	11220.00	47.4 PK	74.0	-26.6	2.06 H	127	34.2	13.2
5	11220.00	36.3 AV	54.0	-17.7	2.06 H	127	23.1	13.2
6	#16830.00	48.1 PK	68.2	-20.1	2.32 H	116	32.0	16.1
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	*5610.00	113.0 PK			2.16 V	64	109.3	3.7
2	*5610.00	100.3 AV			2.16 V	64	96.6	3.7
3	#5725.00	60.7 PK	68.2	-7.5	2.16 V	64	56.7	4.0
4	11220.00	46.9 PK	74.0	-27.1	1.62 V	140	33.7	13.2
5	11220.00	35.5 AV	54.0	-18.5	1.62 V	140	22.3	13.2
6	#16830.00	45.6 PK	68.2	-22.6	2.90 V	224	29.5	16.1

Remarks:

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

Channel	TX Channel 138	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	55.0 PK	74.0	-19.0	1.72 H	163	51.2	3.8
2	5460.00	44.1 AV	54.0	-9.9	1.72 H	163	40.3	3.8
3	#5470.00	54.9 PK	68.2	-13.3	1.72 H	163	51.0	3.9
4	*5690.00	109.5 PK			1.72 H	163	105.5	4.0
5	*5690.00	97.5 AV			1.72 H	163	93.5	4.0
6	#5850.00	55.9 PK	68.2	-12.3	1.72 H	163	51.5	4.4
7	11380.00	47.2 PK	74.0	-26.8	2.14 H	105	34.0	13.2
8	11380.00	35.6 AV	54.0	-18.4	2.14 H	105	22.4	13.2
9	#17070.00	47.9 PK	68.2	-20.3	2.31 H	116	30.9	17.0
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	5460.00	56.0 PK	74.0	-18.0	2.20 V	60	52.2	3.8
2	5460.00	43.4 AV	54.0	-10.6	2.20 V	60	39.6	3.8
3	#5470.00	56.6 PK	68.2	-11.6	2.20 V	60	52.7	3.9
4	*5690.00	113.2 PK			2.20 V	60	109.2	4.0
5	*5690.00	100.7 AV			2.20 V	60	96.7	4.0
6	#5850.00	54.6 PK	68.2	-13.6	2.20 V	60	50.2	4.4
7	11380.00	46.6 PK	74.0	-27.4	1.60 V	132	33.4	13.2
8	11380.00	35.4 AV	54.0	-18.6	1.60 V	132	22.2	13.2
9	#17070.00	45.7 PK	68.2	-22.5	2.96 V	214	28.7	17.0

Remarks:

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

802.11ax (HE160)

Channel	TX Channel 50	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5135.44	60.8 PK	74.0	-13.2	1.73 H	167	57.1	3.7
2	5135.44	49.3 AV	54.0	-4.7	1.73 H	167	45.6	3.7
3	*5250.00	102.8 PK			1.73 H	167	99.4	3.4
4	*5250.00	94.2 AV			1.73 H	167	90.8	3.4
5	5378.65	62.4 PK	74.0	-11.6	1.73 H	167	58.9	3.5
6	5378.65	50.5 AV	54.0	-3.5	1.73 H	167	47.0	3.5
7	#10500.00	47.8 PK	68.2	-20.4	2.04 H	109	34.7	13.1
8	15750.00	47.5 PK	74.0	-26.5	2.36 H	119	33.8	13.7
9	15750.00	34.4 AV	54.0	-19.6	2.36 H	119	20.7	13.7
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	5150.00	63.9 PK	74.0	-10.1	2.35 V	155	60.2	3.7
2	5150.00	50.9 AV	54.0	-3.1	2.35 V	155	47.2	3.7
3	*5250.00	108.6 PK			2.35 V	155	105.2	3.4
4	*5250.00	96.5 AV			2.35 V	155	93.1	3.4
5	5353.00	67.4 PK	74.0	-6.6	2.35 V	155	64.0	3.4
6	5353.00	53.3 AV	54.0	-0.7	2.35 V	155	49.9	3.4
7	#10500.00	47.2 PK	68.2	-21.0	1.55 V	117	34.1	13.1
8	15750.00	45.8 PK	74.0	-28.2	2.94 V	221	32.1	13.7
9	15750.00	33.3 AV	54.0	-20.7	2.94 V	221	19.6	13.7

Remarks:

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

Channel	TX Channel 114	Detector Function	Peak (PK) Average (AV)
Frequency Range	1GHz ~ 40GHz		

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	5458.62	64.1 PK	74.0	-9.9	1.76 H	168	60.3	3.8
2	5458.62	51.1 AV	54.0	-2.9	1.76 H	168	47.3	3.8
3	#5470.00	65.0 PK	68.2	-3.2	1.76 H	168	61.1	3.9
4	*5570.00	105.2 PK			1.76 H	168	101.4	3.8
5	*5570.00	94.8 AV			1.76 H	168	91.0	3.8
6	#5725.00	59.3 PK	68.2	-8.9	1.76 H	168	55.3	4.0
7	11140.00	46.8 PK	74.0	-27.2	2.09 H	130	33.7	13.1
8	11140.00	35.5 AV	54.0	-18.5	2.09 H	130	22.4	13.1
9	#16710.00	47.4 PK	68.2	-20.8	2.36 H	122	31.0	16.4
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	5457.30	64.8 PK	74.0	-9.2	1.92 V	64	61.0	3.8
2	5457.30	53.6 AV	54.0	-0.4	1.92 V	64	49.8	3.8
3	#5470.00	66.3 PK	68.2	-1.9	1.92 V	64	62.4	3.9
4	*5570.00	110.4 PK			1.92 V	64	106.6	3.8
5	*5570.00	97.2 AV			1.92 V	64	93.4	3.8
6	#5725.00	64.0 PK	68.2	-4.2	1.92 V	64	60.0	4.0
7	11140.00	46.4 PK	74.0	-27.6	1.57 V	130	33.3	13.1
8	11140.00	35.0 AV	54.0	-19.0	1.57 V	130	21.9	13.1
9	#16710.00	45.9 PK	68.2	-22.3	2.97 V	215	29.5	16.4

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.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Data:

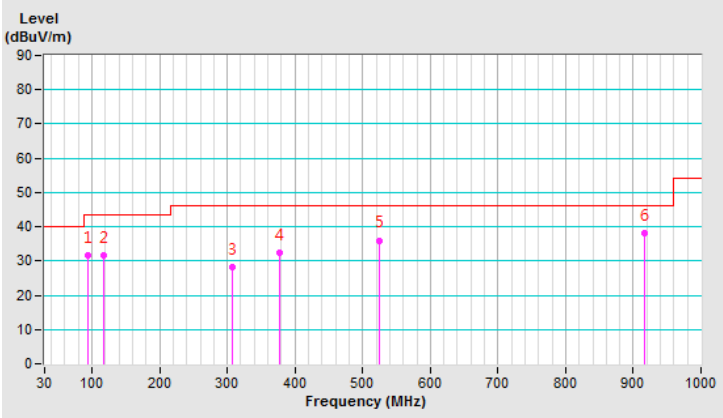
802.11ax (HE40)

CHANNEL	TX Channel 110	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	94.67	31.5 QP	43.5	-12.0	2.00 H	276	44.2	-12.7
2	116.91	31.8 QP	43.5	-11.7	1.50 H	264	41.1	-9.3
3	307.59	28.1 QP	46.0	-17.9	1.00 H	82	33.6	-5.5
4	377.67	32.3 QP	46.0	-13.7	1.00 H	69	35.9	-3.6
5	525.38	36.0 QP	46.0	-10.0	1.50 H	360	35.8	0.2
6	917.53	38.2 QP	46.0	-7.8	1.00 H	172	30.4	7.8

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

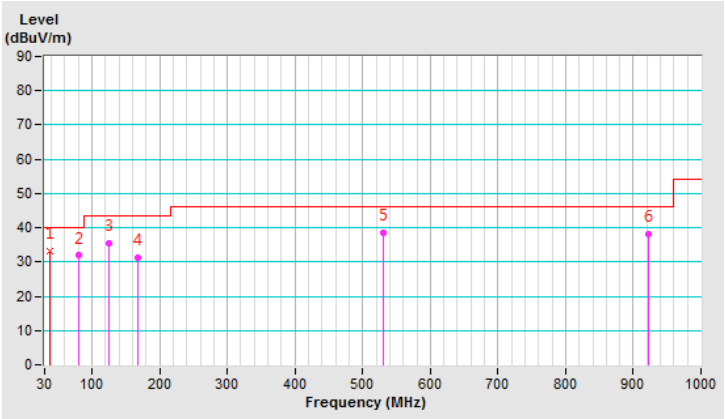


CHANNEL	TX Channel 110	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	37.08	33.2 QP	40.0	-6.8	1.00 V	24	41.6	-8.4
2	81.14	31.8 QP	40.0	-8.2	1.50 V	69	44.6	-12.8
3	125.01	35.6 QP	43.5	-7.9	1.00 V	21	44.2	-8.6
4	167.57	31.3 QP	43.5	-12.2	1.00 V	309	38.4	-7.1
5	530.30	38.5 QP	46.0	-7.5	1.00 V	323	38.3	0.2
6	921.99	38.1 QP	46.0	-7.9	1.50 V	247	30.2	7.9

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 of frequency range 30MHz~1000MHz.
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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 30, 2019	Aug. 29, 2020
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: June 01, 2020

4.2.3 Test Procedure

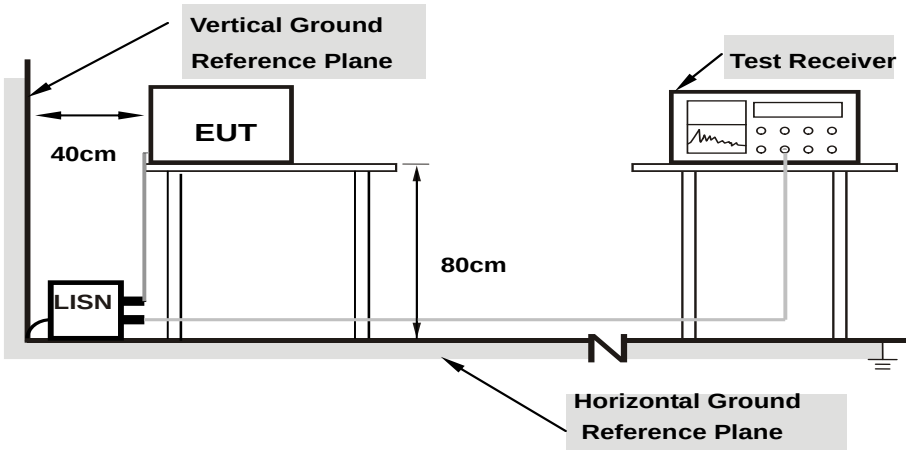
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

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 Condition

Same as 4.1.6.

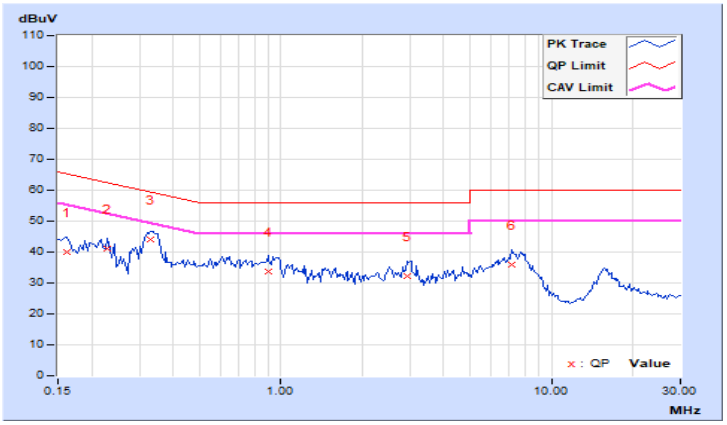
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	10.03	30.10	21.56	40.13	31.59	65.38	55.38	-25.25	-23.79
2	0.22812	10.04	31.23	24.61	41.27	34.65	62.52	52.52	-21.25	-17.87
3	0.32969	10.05	33.92	25.10	43.97	35.15	59.46	49.46	-15.49	-14.31
4	0.89609	10.09	23.77	17.78	33.86	27.87	56.00	46.00	-22.14	-18.13
5	2.93750	10.25	22.15	15.29	32.40	25.54	56.00	46.00	-23.60	-20.46
6	7.15234	10.56	25.28	20.52	35.84	31.08	60.00	50.00	-24.16	-18.92

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

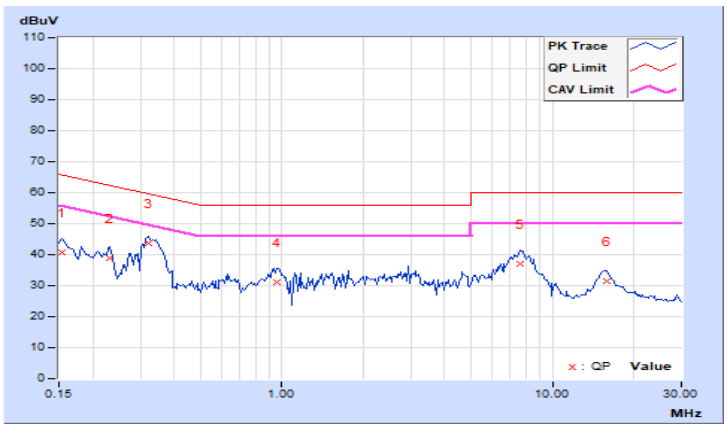


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.02	30.88	23.60	40.90	33.62	65.79	55.79	-24.89	-22.17
2	0.23203	10.03	28.85	21.87	38.88	31.90	62.38	52.38	-23.50	-20.48
3	**0.32188**	**10.04**	**33.84**	**25.98**	**43.88**	**36.02**	**59.66**	**49.66**	**-15.78**	**-13.64**
4	0.95859	10.09	20.87	13.40	30.96	23.49	56.00	46.00	-25.04	-22.51
5	7.63281	10.52	26.63	22.07	37.15	32.59	60.00	50.00	-22.85	-17.41
6	15.88672	10.98	20.35	16.21	31.33	27.19	60.00	50.00	-28.67	-22.81

Remarks:

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



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)
		Client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

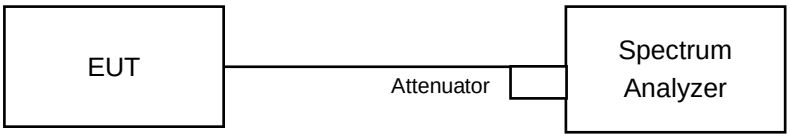
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

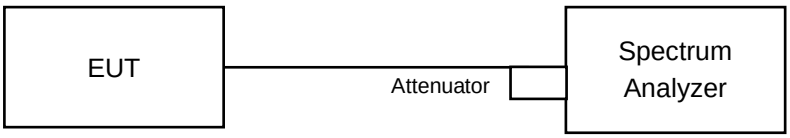
FOR POWER OUTPUT MEASUREMENT

For channel straddling 5250MHz and 5725MHz:



For other channels:

FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

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

For channel straddling 5725MHz or 5250MHz:
Follow FCC KDB 789033 UNII test procedure:
Method SA-1 (802.11a) / Method SA-2 (Other Modes)

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x RBW.
4. Number of points in sweep ≥ 2 Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (for modes other than 802.11a).

FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. 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 Condition

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 Results

CDD Mode

POWER OUTPUT

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.14	16.35	16.61	16.40	173.733	22.40	24.00	PASS
60	5300	15.75	16.28	16.94	16.69	176.143	22.46	24.00	PASS
64	5320	15.55	16.27	17.00	16.82	176.459	22.47	24.00	PASS
100	5500	16.17	16.54	17.18	15.74	176.219	22.46	24.00	PASS
116	5580	16.20	16.42	16.94	15.95	174.326	22.41	24.00	PASS
140	5700	16.14	16.57	16.92	15.87	174.35	22.41	24.00	PASS
*144 (U-NII-2C Band)	5720	12.74	13.06	13.88	12.11	79.713	19.02	23.00	PASS
*144 (U-NII-3 Band)	5720	6.39	6.84	7.45	5.83	18.573	12.69	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	98.286	19.92	15.92	16.78	17.07	15.84	176.031	22.46

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.65	24.35 > 24
60	5300	21.73	24.37 > 24
64	5320	21.64	24.35 > 24
100	5500	21.57	24.33 > 24
116	5580	21.69	24.36 > 24
140	5700	21.66	24.35 > 24
144 (U-NII-2C Band)	5720	15.86	23 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	15.79	16.18	16.58	16.31	167.682	22.24	24.00	PASS
60	5300	15.78	16.18	16.54	16.26	166.688	22.22	24.00	PASS
64	5320	15.36	16.14	16.18	16.49	161.532	22.08	24.00	PASS
100	5500	15.91	16.26	16.78	15.73	166.315	22.21	24.00	PASS
116	5580	15.97	16.37	16.78	15.53	166.258	22.21	24.00	PASS
140	5700	15.93	16.55	16.86	15.41	167.642	22.24	24.00	PASS
*144 (U-NII-2C Band)	5720	12.79	12.80	13.70	12.37	78.766	18.96	23.00	PASS
*144 (U-NII-3 Band)	5720	7.20	7.55	7.99	6.84	22.062	13.44	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
144	5720	100.828	20.04	15.88	16.51	16.86	15.41	166.78	22.22

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.59	24.34 > 24
60	5300	21.54	24.33 > 24
64	5320	21.54	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.5	24.32 > 24
144 (U-NII-2C Band)	5720	15.86	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.14	17.29	17.66	17.32	217.636	23.38	24.00	PASS
62	5310	17.05	17.44	17.67	17.36	219.091	23.41	24.00	PASS
102	5510	16.56	16.28	17.02	15.94	177.366	22.49	24.00	PASS
110	5550	17.51	17.34	17.93	16.64	218.783	23.40	24.00	PASS
134	5670	17.34	17.41	17.73	16.97	218.347	23.39	24.00	PASS
*142 (U-NII-2C Band)	5710	14.66	14.83	15.42	13.73	118.089	20.72	24.00	PASS
*142 (U-NII-3 Band)	5710	4.57	4.74	5.14	3.66	11.431	10.58	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	129.52	21.12	17.20	17.22	17.77	17.19	217.405	23.37

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.64	27.19 > 24
62	5310	41.66	27.19 > 24
102	5510	41.38	27.16 > 24
110	5550	41.57	27.18 > 24
134	5670	41.45	27.17 > 24
142 (U-NII-2C Band)	5710	35.71	26.52 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	17.01	17.44	17.47	17.53	218.168	23.39	24.00	PASS
106	5530	17.48	16.62	18.39	16.80	218.783	23.40	24.00	PASS
122	5610	17.57	17.24	17.84	16.89	219.793	23.42	24.00	PASS
*138 (U-NII-2C Band)	5690	14.48	14.91	15.42	14.02	119.097	20.76	24.00	PASS
*138 (U-NII-3 Band)	5690	0.25	1.66	1.29	-0.48	4.766	6.78	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
138	5690	123.863	20.93	17.38	17.55	17.64	16.97	219.437	23.41

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.15	30.14 > 24
106	5530	82.38	30.15 > 24
122	5610	82.25	30.15 > 24
138 (U-NII-2C Band)	5690	76.11	29.81 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	11.11	10.96	12.32	11.58	56.835	17.55	30.00	PASS
*50 (U-NII-2A Band)	5250	12.23	12.88	12.79	11.94	70.762	18.50	24.00	PASS
114	5570	17.48	17.38	17.66	17.11	220.426	23.43	24.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
50	5250	127.597	21.06	16.86	17.37	17.71	17.09	213.293	23.29

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	82.2	30.14 > 24
114	5570	162.88	33.11 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.35	16.69	17.13	16.84	189.765	22.78	24.00	PASS
60	5300	16.31	16.76	17.11	16.78	189.228	22.77	24.00	PASS
64	5320	15.95	16.71	16.78	17.00	183.998	22.65	24.00	PASS
100	5500	16.44	16.82	17.36	16.32	189.445	22.77	24.00	PASS
116	5580	16.55	16.87	17.34	16.08	188.577	22.75	24.00	PASS
140	5700	16.46	17.08	17.37	15.96	189.331	22.77	24.00	PASS
*144 (U-NII-2C Band)	5720	13.03	13.08	13.91	12.60	83.215	19.20	23.00	PASS
*144 (U-NII-3 Band)	5720	7.53	7.87	8.45	7.06	23.866	13.78	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
144	5720	107.081	20.30	16.38	17.06	17.38	15.98	188.596	22.76

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.59	24.34 > 24
60	5300	21.54	24.33 > 24
64	5320	21.54	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.5	24.32 > 24
144 (U-NII-2C Band)	5720	15.86	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.68	17.88	18.23	17.90	248.177	23.95	24.00	PASS
62	5310	17.65	17.99	18.21	17.92	249.327	23.97	24.00	PASS
102	5510	17.10	16.81	17.53	16.44	199.939	23.01	24.00	PASS
110	5550	18.06	17.94	18.49	17.21	249.437	23.97	24.00	PASS
134	5670	17.84	17.94	18.24	17.55	246.609	23.92	24.00	PASS
*142 (U-NII-2C Band)	5710	14.91	15.04	15.66	14.07	125.229	20.98	24.00	PASS
*142 (U-NII-3 Band)	5710	4.71	5.19	5.42	3.89	12.194	10.86	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	137.423	21.38	17.78	17.73	18.36	17.75	247.387	23.93

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.64	27.19 > 24
62	5310	41.66	27.19 > 24
102	5510	41.38	27.16 > 24
110	5550	41.57	27.18 > 24
134	5670	41.45	27.17 > 24
142 (U-NII-2C Band)	5710	35.71	26.52 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	17.56	18.02	18.03	18.04	247.616	23.94	24.00	PASS
106	5530	18.02	17.14	18.95	17.38	248.373	23.95	24.00	PASS
122	5610	18.08	17.81	18.35	17.48	249.031	23.96	24.00	PASS
*138 (U-NII-2C Band)	5690	14.85	15.15	15.81	14.29	128.243	21.08	24.00	PASS
*138 (U-NII-3 Band)	5690	0.65	1.91	1.48	-0.12	5.0926	7.07	30.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
138	5690	133.3356	21.25	17.90	18.06	18.24	17.53	248.938	23.96

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.15	30.14 > 24
106	5530	82.38	30.15 > 24
122	5610	82.25	30.15 > 24
138 (U-NII-2C Band)	5690	76.11	29.81 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	11.47	11.14	12.67	11.99	61.335	17.88	30.00	PASS
*50 (U-NII-2A Band)	5250	12.54	13.29	13.14	12.10	76.102	18.81	24.00	PASS
114	5570	18.01	17.94	18.26	17.63	250.403	23.99	24.00	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
50	5250	137.437	21.38	17.40	17.92	18.23	17.63	241.368	23.83

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	82.2	30.14 > 24
114	5570	162.88	33.11 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	15.79	16.18	16.58	16.31	167.682	22.24	22.50	PASS
60	5300	15.78	16.18	16.54	16.26	166.688	22.22	22.50	PASS
64	5320	15.36	16.14	16.18	16.49	161.532	22.08	22.50	PASS
100	5500	15.91	16.26	16.78	15.73	166.315	22.21	22.50	PASS
116	5580	15.97	16.37	16.78	15.53	166.258	22.21	22.50	PASS
140	5700	15.93	16.55	16.86	15.41	167.642	22.24	22.50	PASS
*144 (U-NII-2C Band)	5720	11.86	12.03	12.63	11.31	63.149	18.00	21.50	PASS
*144 (U-NII-3 Band)	5720	6.28	6.59	7.39	5.82	18.109	12.58	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (7.50-6)”.
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
144	5720	81.258	19.10	15.88	16.51	16.86	15.41	166.78	22.22

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.59	24.34 > 24
60	5300	21.54	24.33 > 24
64	5320	21.54	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.5	24.32 > 24
144 (U-NII-2C Band)	5720	15.86	23 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	15.50	15.85	16.15	15.74	152.648	21.84	22.50	PASS
62	5310	15.59	15.87	16.16	15.78	154.01	21.88	22.50	PASS
102	5510	15.82	15.73	16.26	15.45	152.948	21.85	22.50	PASS
110	5550	15.92	15.98	16.29	15.07	153.408	21.86	22.50	PASS
134	5670	15.64	15.99	16.28	15.33	152.944	21.85	22.50	PASS
*142 (U-NII-2C Band)	5710	12.63	12.47	13.32	12.23	74.173	18.70	22.50	PASS
*142 (U-NII-3 Band)	5710	2.01	2.81	2.78	1.82	6.916	8.40	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (7.50-6)”.
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	81.089	19.09	15.69	15.61	16.43	15.58	153.555	21.86

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.64	27.19 > 24
62	5310	41.66	27.19 > 24
102	5510	41.38	27.16 > 24
110	5550	41.57	27.18 > 24
134	5670	41.45	27.17 > 24
142 (U-NII-2C Band)	5710	35.71	26.52 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.49	15.91	16.09	15.80	153.057	21.85	22.50	PASS
106	5530	15.95	14.85	16.83	15.37	152.534	21.83	22.50	PASS
122	5610	16.01	15.68	16.14	15.40	152.674	21.84	22.50	PASS
*138 (U-NII-2C Band)	5690	13.01	12.84	13.40	12.20	77.703	18.90	22.50	PASS
*138 (U-NII-3 Band)	5690	-1.58	-0.41	-0.78	-2.12	3.0543	4.85	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (7.50-6)”.
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
138	5690	80.7573	19.07	15.79	15.83	16.23	15.32	152.231	21.83

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.15	30.14 > 24
106	5530	82.38	30.15 > 24
122	5610	82.25	30.15 > 24
138 (U-NII-2C Band)	5690	76.11	29.81 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	8.97	8.89	10.41	9.75	36.064	15.57	29.98	PASS
*50 (U-NII-2A Band)	5250	9.84	10.89	10.72	9.88	43.443	16.38	22.50	PASS
114	5570	15.92	15.98	16.15	15.46	155.078	21.91	22.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-1: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] =6.02dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.02-6)".
2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (7.50-6)".

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
50	5250	79.507	19.00	15.12	15.86	16.08	15.63	148.167	21.71

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	82.2	30.14 > 24
114	5570	162.88	33.11 > 24

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	16.10	16.44	16.75	16.58	177.607	22.49	22.50	PASS
60	5300	16.06	16.51	16.54	16.52	175.092	22.43	22.50	PASS
64	5320	15.69	16.45	16.53	16.75	173.518	22.39	22.50	PASS
100	5500	16.19	16.57	16.85	16.06	175.767	22.45	22.50	PASS
116	5580	16.31	16.61	16.99	15.82	176.768	22.47	22.50	PASS
140	5700	16.21	16.82	17.02	15.70	177.371	22.49	22.50	PASS
*144 (U-NII-2C Band)	5720	12.24	12.19	13.13	11.68	68.589	18.36	21.50	PASS
*144 (U-NII-3 Band)	5720	6.63	6.92	7.67	6.15	19.492	12.90	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (7.50-6)”.
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
144	5720	88.081	19.45	16.13	16.81	16.88	15.74	175.244	22.44

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.59	24.34 > 24
60	5300	21.54	24.33 > 24
64	5320	21.54	24.33 > 24
100	5500	21.43	24.31 > 24
116	5580	21.61	24.34 > 24
140	5700	21.5	24.32 > 24
144 (U-NII-2C Band)	5720	15.86	23 < 24

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	16.13	16.38	16.78	16.40	175.766	22.45	22.50	PASS
62	5310	16.11	16.55	16.79	16.39	177.322	22.49	22.50	PASS
102	5510	16.49	16.31	16.95	16.00	176.678	22.47	22.50	PASS
110	5550	16.47	16.48	16.93	15.65	174.87	22.43	22.50	PASS
134	5670	16.28	16.51	16.79	16.01	174.889	22.43	22.50	PASS
*142 (U-NII-2C Band)	5710	12.79	12.79	13.47	12.58	78.368	18.94	22.50	PASS
*142 (U-NII-3 Band)	5710	2.52	2.94	3.22	2.29	7.548	8.78	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (7.50-6)".
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	85.916	19.34	16.32	16.16	16.96	16.18	175.314	22.44

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.64	27.19 > 24
62	5310	41.66	27.19 > 24
102	5510	41.38	27.16 > 24
110	5550	41.57	27.18 > 24
134	5670	41.45	27.17 > 24
142 (U-NII-2C Band)	5710	35.71	26.52 > 24

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.13	16.55	16.61	16.50	176.689	22.47	22.50	PASS
106	5530	16.50	15.54	17.45	15.96	175.514	22.44	22.50	PASS
122	5610	16.53	16.33	16.83	16.03	176.213	22.46	22.50	PASS
*138 (U-NII-2C Band)	5690	13.22	13.25	13.56	12.52	82.688	19.17	22.50	PASS
*138 (U-NII-3 Band)	5690	-1.17	-0.02	-0.62	-1.76	3.293	5.18	28.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (7.50-6)”.
2. For U-NII-3: the directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50 dBi > 6 dBi, so the power limit shall be reduced to 30-(7.50-6)= 28.50 dBm

The Total Power for the straddle channel and power meter value for reference only:

Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
138	5690	85.981	19.34	16.41	16.46	16.75	15.93	174.5	22.42

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.15	30.14 > 24
106	5530	82.38	30.15 > 24
122	5610	82.25	30.15 > 24
138 (U-NII-2C Band)	5690	76.11	29.81 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	9.18	9.23	10.64	10.05	38.358	15.84	28.50	PASS
*50 (U-NII-2A Band)	5250	10.01	11.29	10.94	10.11	46.155	16.64	22.50	PASS
114	5570	16.50	16.53	16.68	16.03	176.292	22.46	22.50	PASS

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-1: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] =6.02dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (6.02-6)".
2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 7.50dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit- (7.50-6)".

The Total Power for the straddle channel and power meter value for reference only:

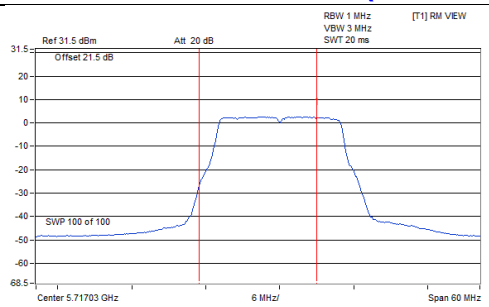
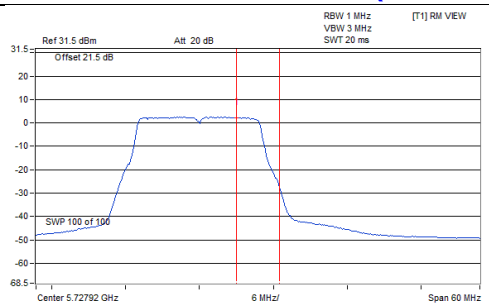
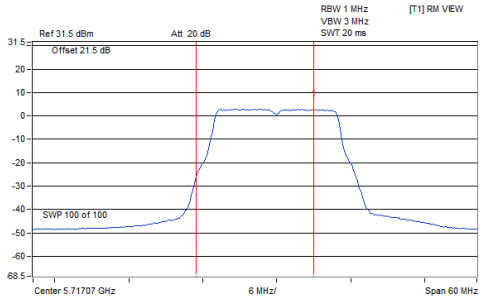
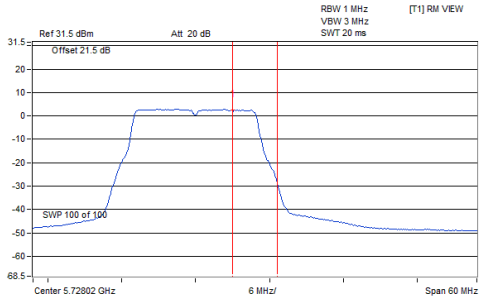
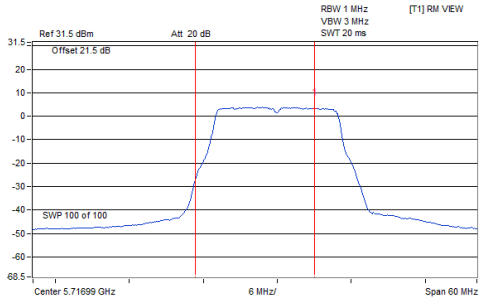
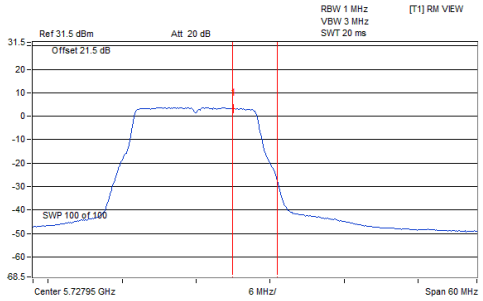
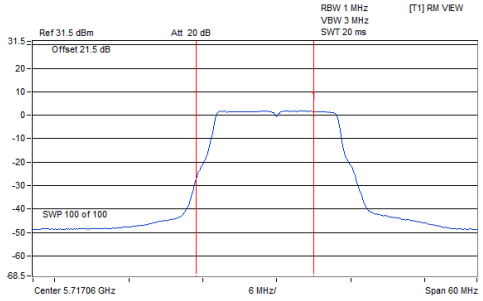
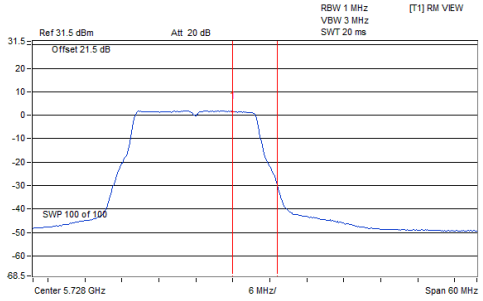
Chan.	Chan. Freq. (MHz)	Total Power (mW)	Total Power (dBm)	Average Power (dBm)				Total Average Power (mW)	Total Average Power (dBm)
				Chain0	Chain1	Chain 2	Chain 3		
50	5250	84.513	19.27	15.80	16.46	16.74	16.19	171.075	22.33

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	82.2	30.14 > 24
114	5570	162.88	33.11 > 24

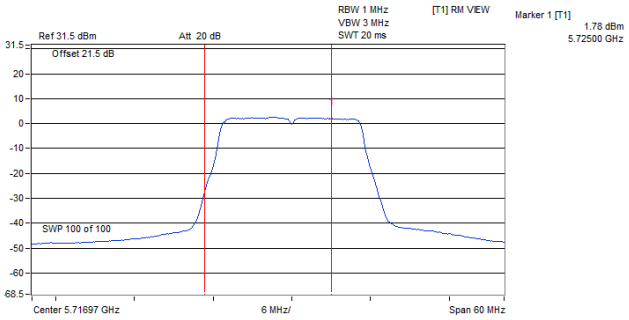
For channel straddling 5725MHz of Power

CDD Mode

Spectrum Plot Value of Power	
802.11a_Chain 0 / CH144 (U-NII-2C Band)	**802.11a_Chain 0 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.93 MHz Power 12.74 dBm	 TX Channel Bandwidth 5.84 MHz Power 6.39 dBm
802.11a_Chain 1 / CH144 (U-NII-2C Band)	**802.11a_Chain 1 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.86 MHz Power 13.06 dBm	 TX Channel Bandwidth 6.05 MHz Power 6.84 dBm
802.11a_Chain 2 / CH144 (U-NII-2C Band)	**802.11a_Chain 2 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 16.02 MHz Power 13.88 dBm	 TX Channel Bandwidth 5.91 MHz Power 7.45 dBm
802.11a_Chain 3 / CH144 (U-NII-2C Band)	**802.11a_Chain 3 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.87 MHz Power 12.11 dBm	 TX Channel Bandwidth 6 MHz Power 5.83 dBm

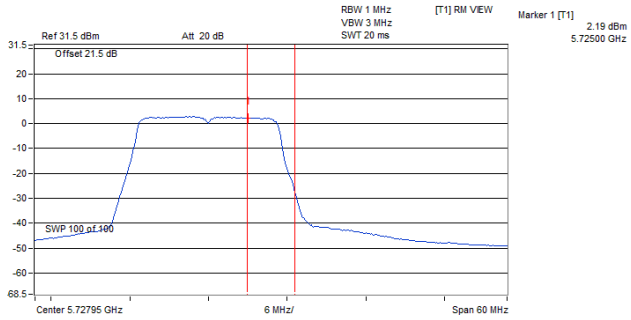
Spectrum Plot Value of Power

802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)



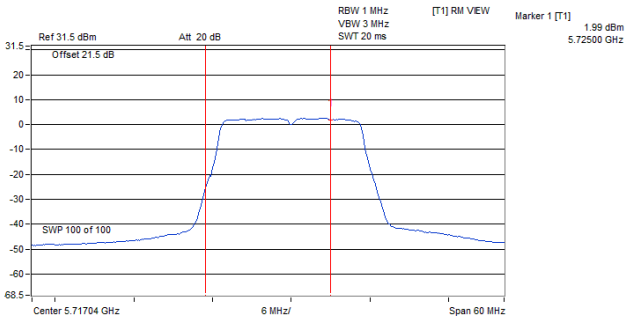
TX Channel Bandwidth 16.05 MHz Power 12.79 dBm

802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



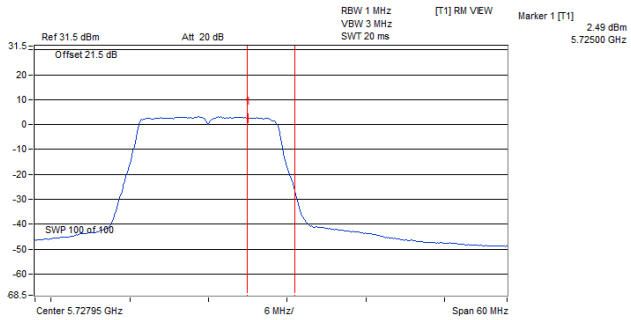
TX Channel Bandwidth 5.9 MHz Power 7.2 dBm

802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)



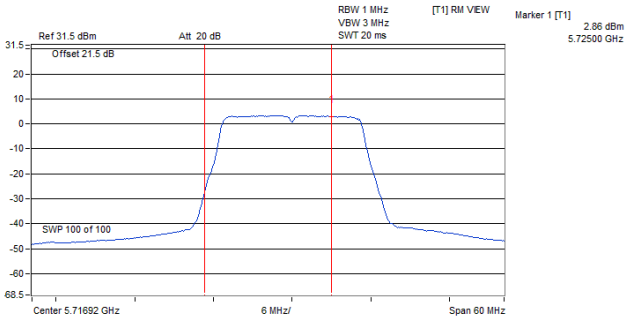
TX Channel Bandwidth 15.92 MHz Power 12.8 dBm

802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



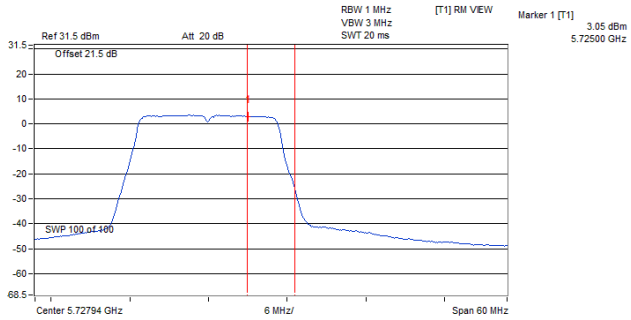
TX Channel Bandwidth 5.9 MHz Power 7.55 dBm

802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)



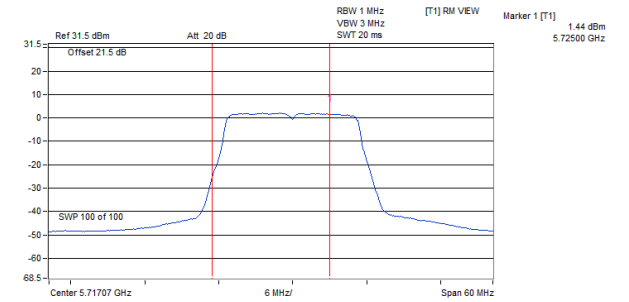
TX Channel Bandwidth 16.15 MHz Power 13.7 dBm

802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)



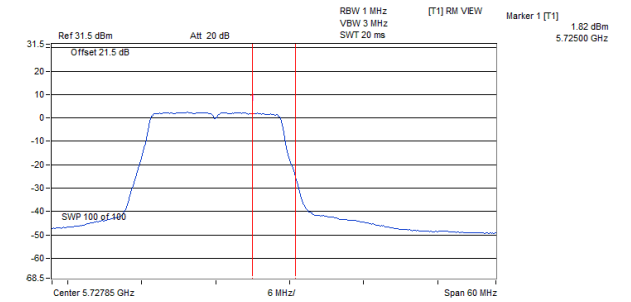
TX Channel Bandwidth 5.89 MHz Power 7.99 dBm

802.11ac (VHT20)_Chain 3 / CH144 (U-NII-2C Band)



TX Channel Bandwidth 15.86 MHz Power 12.37 dBm

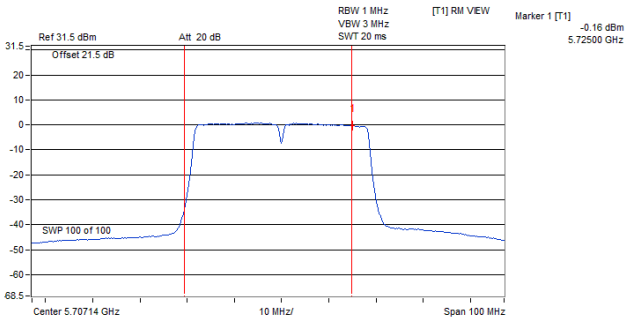
802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 6.84 dBm

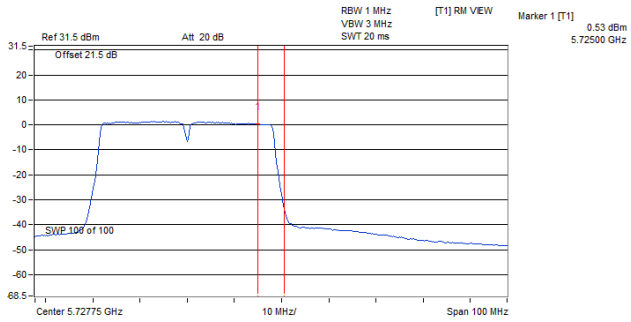
Spectrum Plot Value of Power

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



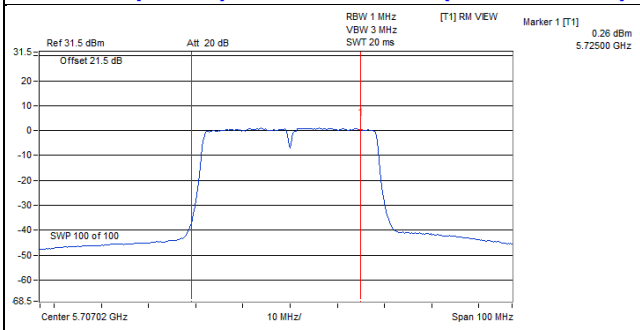
TX Channel Bandwidth 35.71 MHz Power 14.66 dBm

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



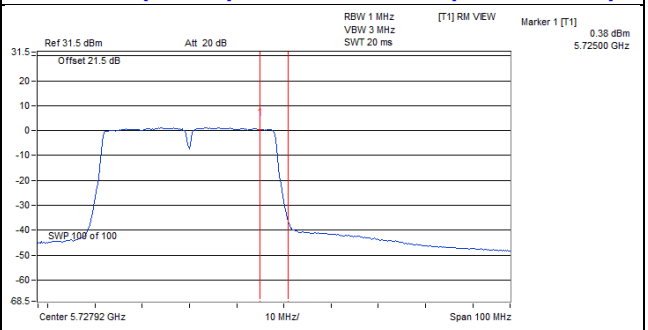
TX Channel Bandwidth 5.5 MHz Power 4.57 dBm

802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



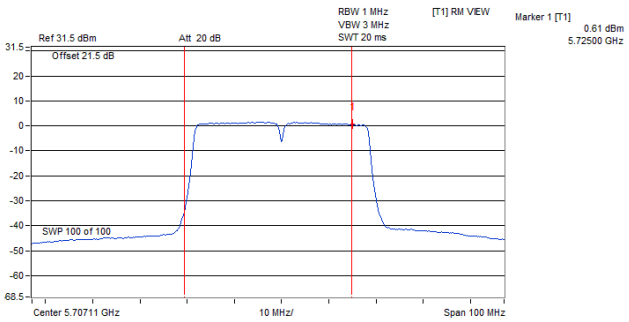
TX Channel Bandwidth 35.95 MHz Power 14.83 dBm

802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



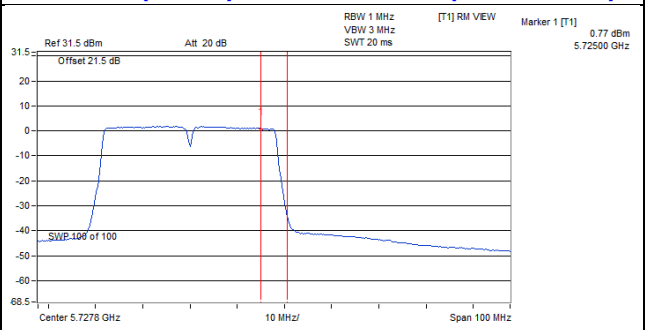
TX Channel Bandwidth 5.84 MHz Power 4.74 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



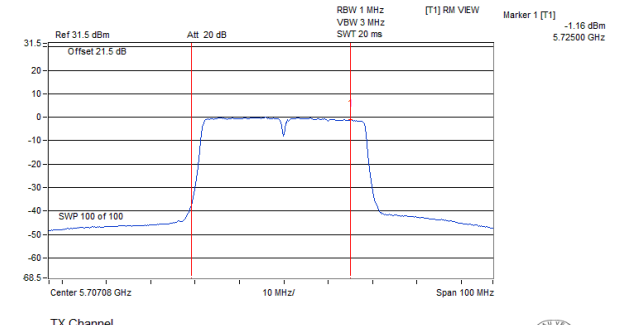
TX Channel Bandwidth 35.77 MHz Power 15.42 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



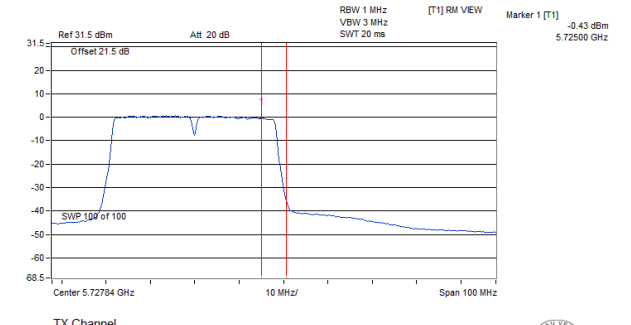
TX Channel Bandwidth 5.6 MHz Power 5.14 dBm

802.11ac (VHT40)_Chain 3 / CH142 (U-NII-2C Band)



TX Channel Bandwidth 35.84 MHz Power 13.73 dBm

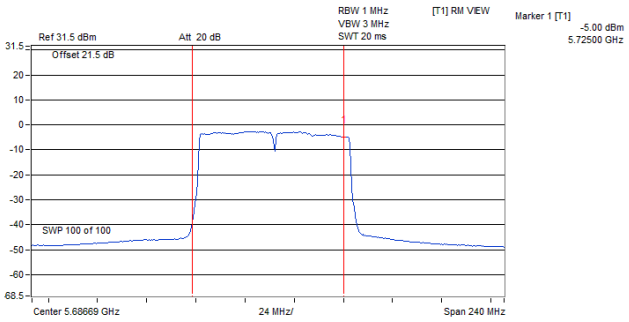
802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.69 MHz Power 3.66 dBm

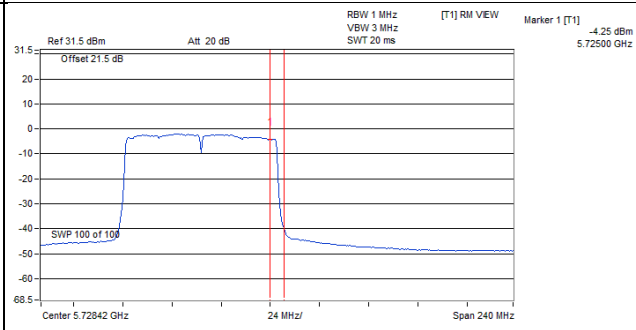
Spectrum Plot Value of Power

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



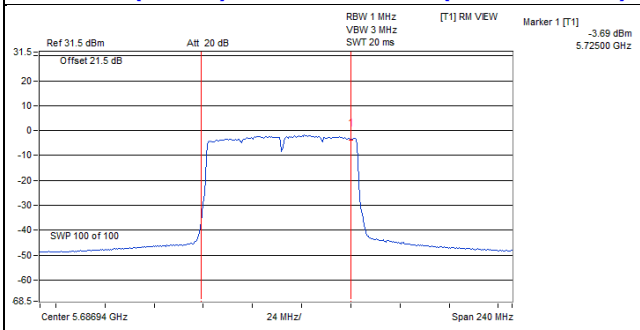
TX Channel Bandwidth 76.62 MHz Power 14.48 dBm

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



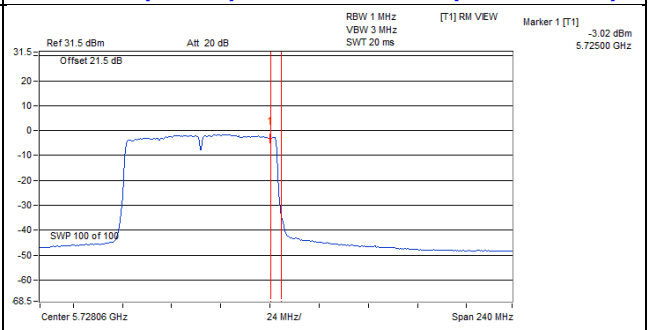
TX Channel Bandwidth 6.85 MHz Power 0.25 dBm

802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



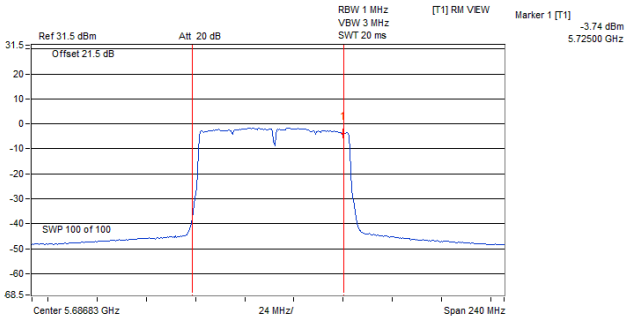
TX Channel Bandwidth 76.11 MHz Power 14.91 dBm

802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



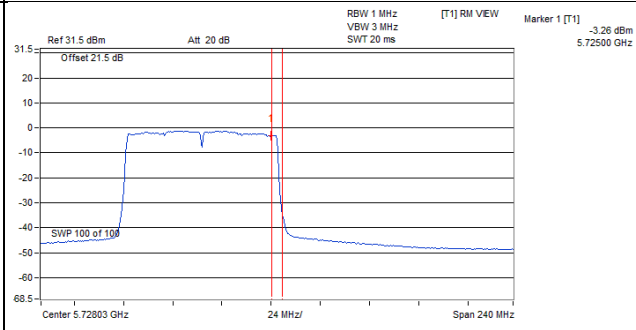
TX Channel Bandwidth 6.12 MHz Power 1.66 dBm

802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



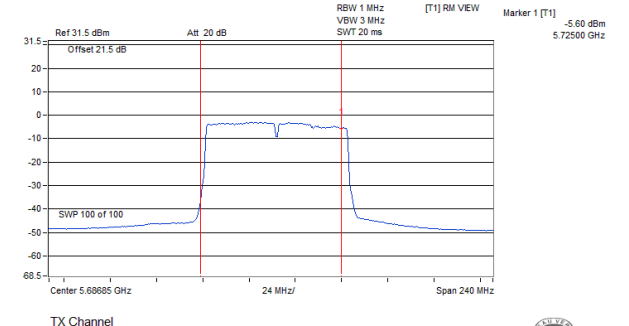
TX Channel Bandwidth 76.34 MHz Power 15.42 dBm

802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



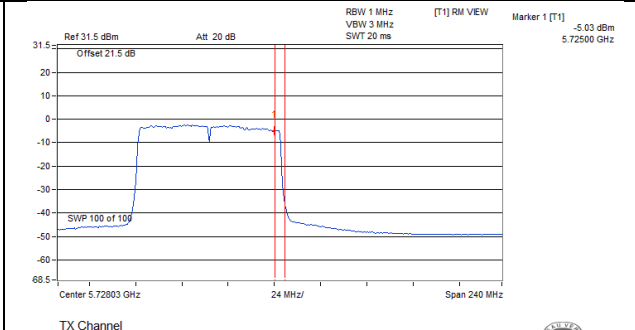
TX Channel Bandwidth 6.06 MHz Power 1.29 dBm

802.11ac (VHT80)_Chain 3 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.3 MHz Power 14.02 dBm

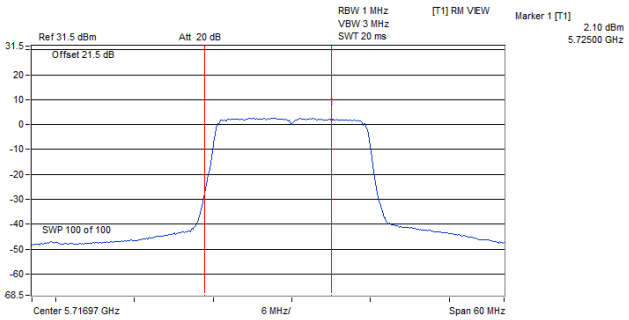
802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.06 MHz Power -0.48 dBm

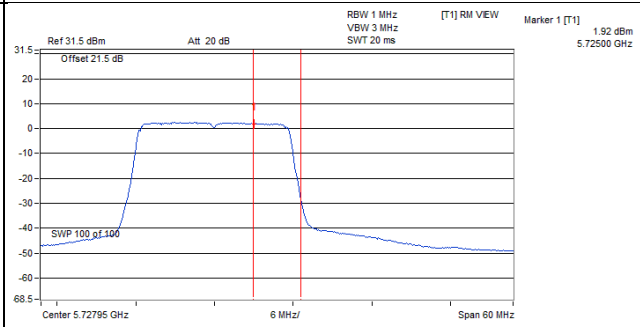
Spectrum Plot Value of Power

802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



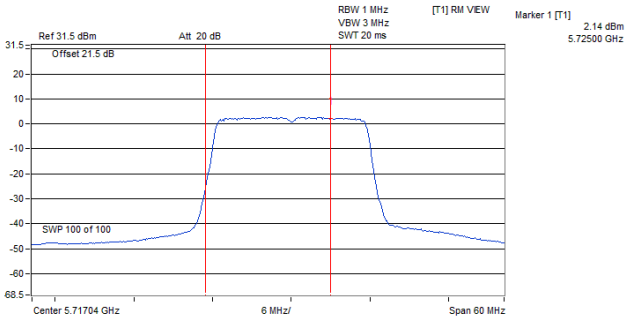
TX Channel Bandwidth 16.05 MHz Power 13.03 dBm

802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



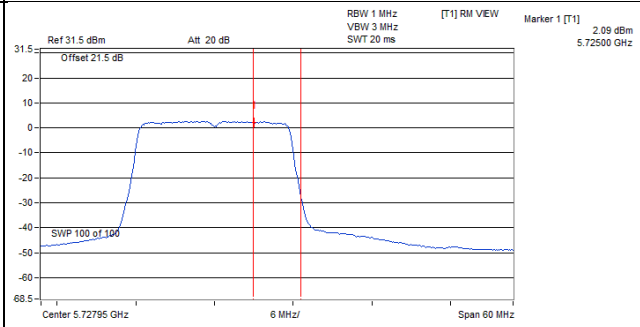
TX Channel Bandwidth 5.9 MHz Power 7.53 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



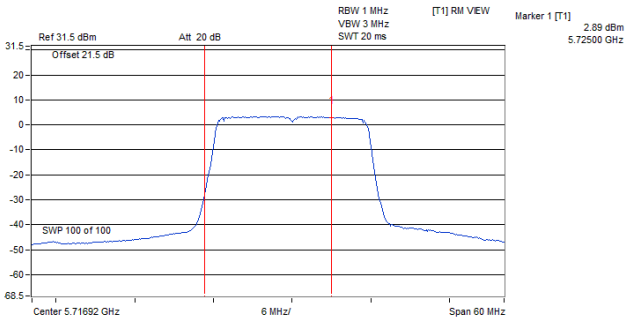
TX Channel Bandwidth 15.92 MHz Power 13.08 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



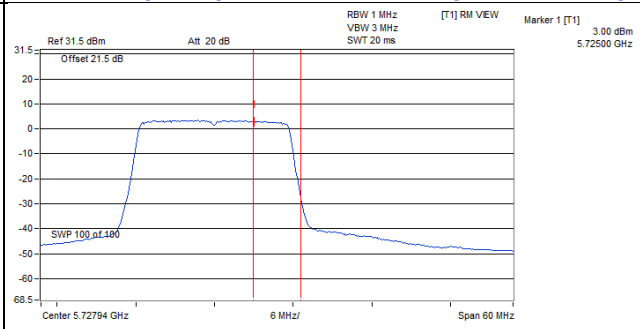
TX Channel Bandwidth 5.9 MHz Power 7.87 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



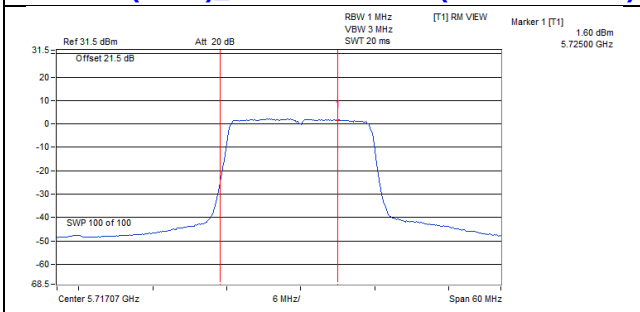
TX Channel Bandwidth 16.15 MHz Power 13.91 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



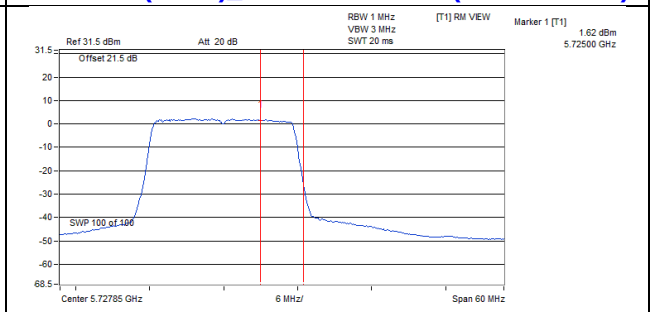
TX Channel Bandwidth 5.89 MHz Power 8.45 dBm

802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C Band)



TX Channel Bandwidth 15.86 MHz Power 12.6 dBm

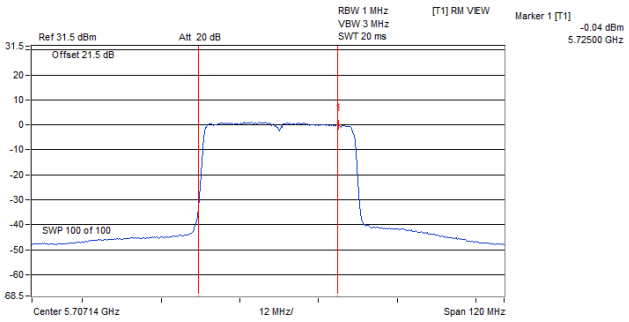
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 7.06 dBm

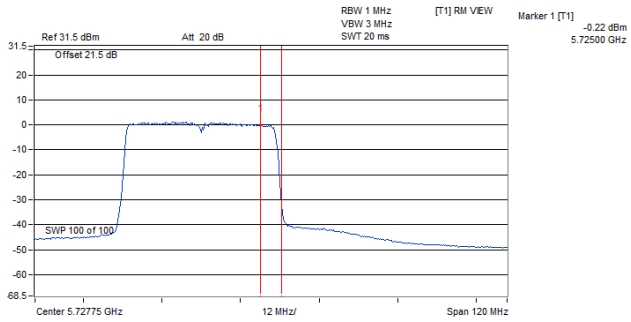
Spectrum Plot Value of Power

802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



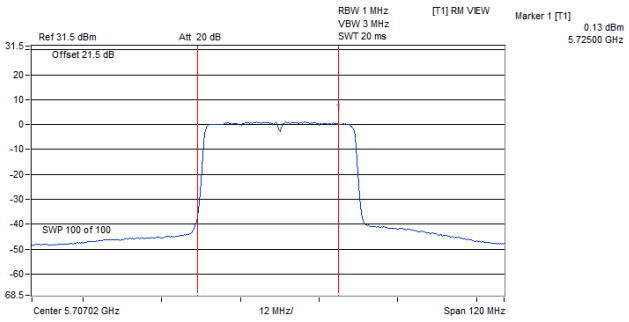
TX Channel Bandwidth 35.71 MHz Power 14.91 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



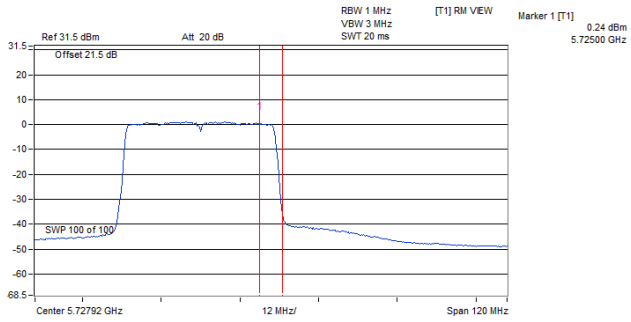
TX Channel Bandwidth 5.5 MHz Power 4.71 dBm

802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



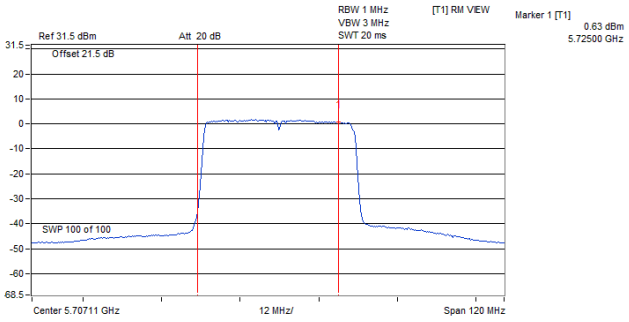
TX Channel Bandwidth 35.95 MHz Power 15.04 dBm

802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



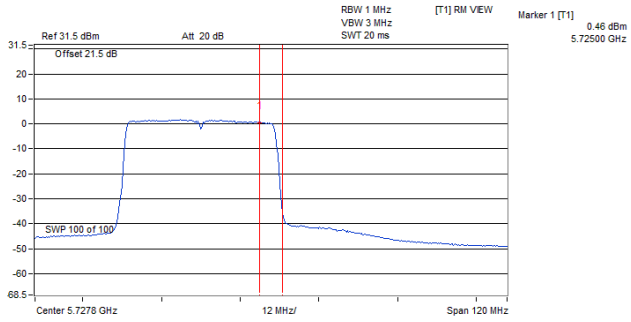
TX Channel Bandwidth 5.84 MHz Power 5.19 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



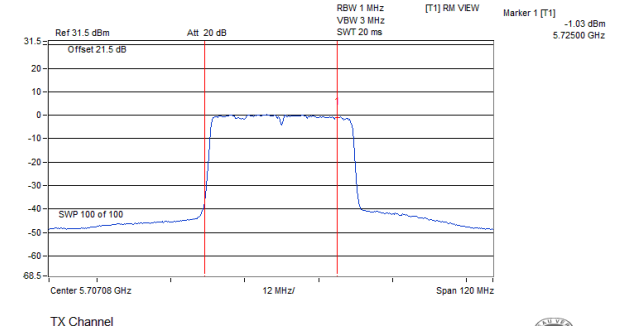
TX Channel Bandwidth 35.77 MHz Power 15.66 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



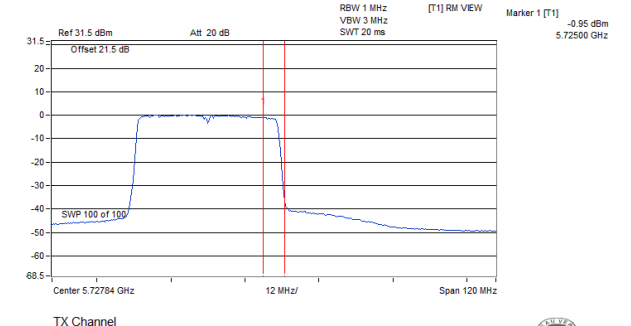
TX Channel Bandwidth 5.6 MHz Power 5.42 dBm

802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)



TX Channel Bandwidth 35.84 MHz Power 14.07 dBm

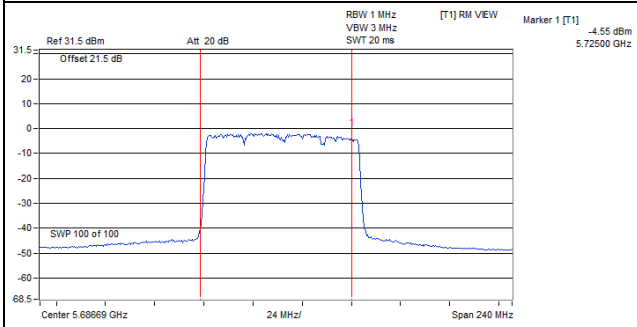
802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.69 MHz Power 3.89 dBm

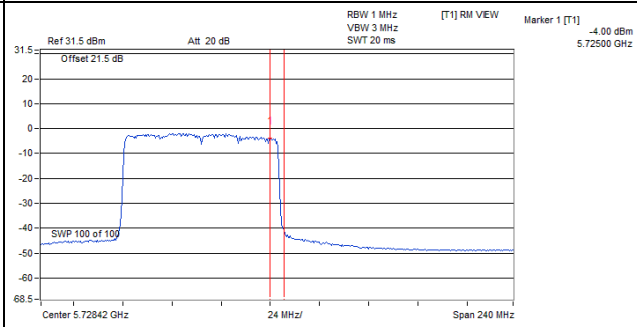
Spectrum Plot Value of Power

802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



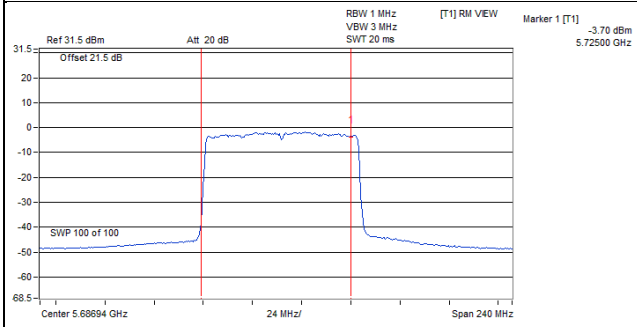
TX Channel Bandwidth 76.62 MHz Power 14.85 dBm

802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



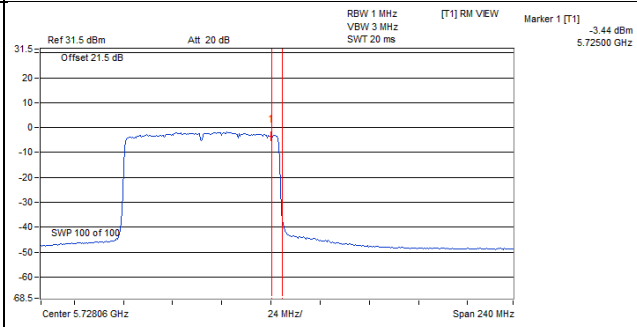
TX Channel Bandwidth 6.85 MHz Power 0.65 dBm

802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



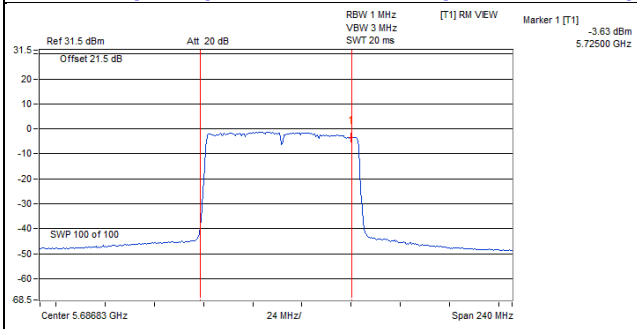
TX Channel Bandwidth 76.11 MHz Power 15.15 dBm

802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



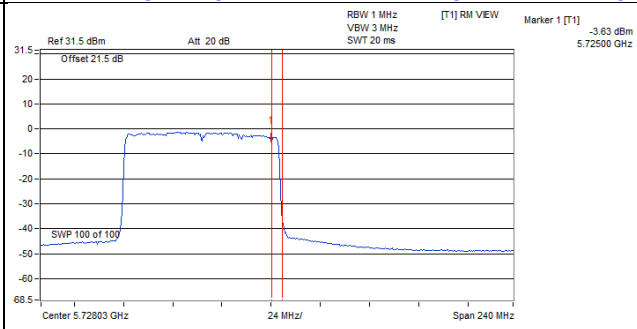
TX Channel Bandwidth 6.12 MHz Power 1.91 dBm

802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



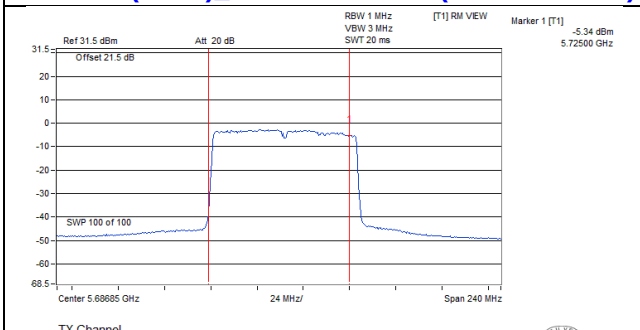
TX Channel Bandwidth 76.34 MHz Power 15.81 dBm

802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



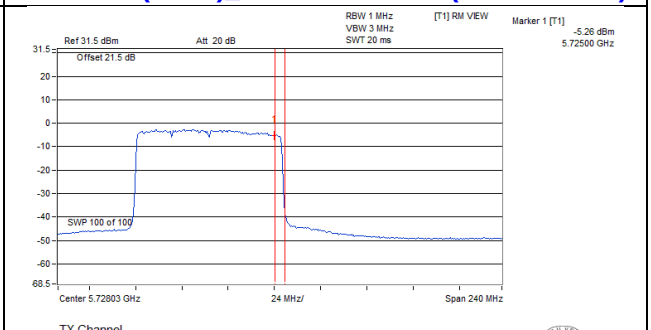
TX Channel Bandwidth 6.06 MHz Power 1.48 dBm

802.11ax (HE80)_Chain 3 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.3 MHz Power 14.29 dBm

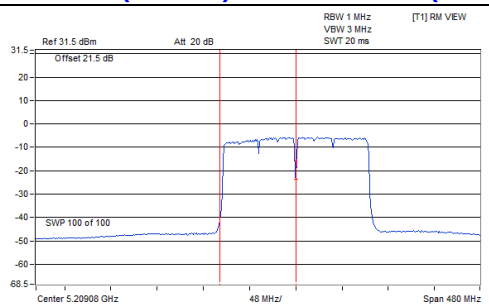
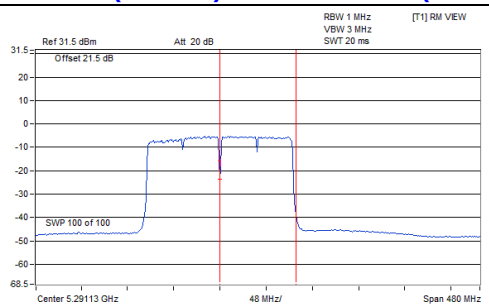
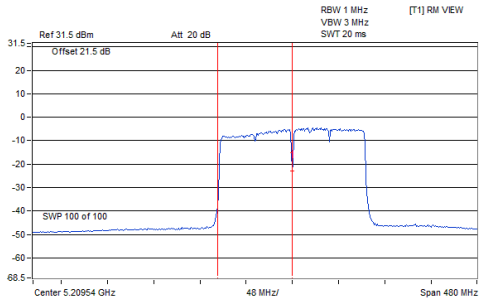
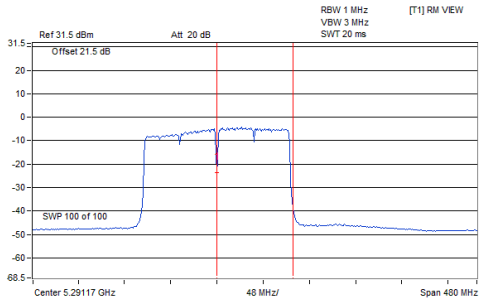
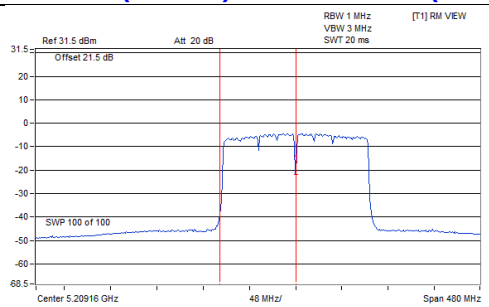
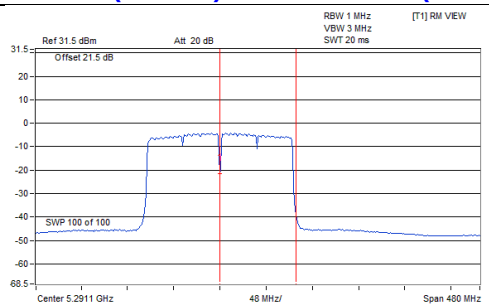
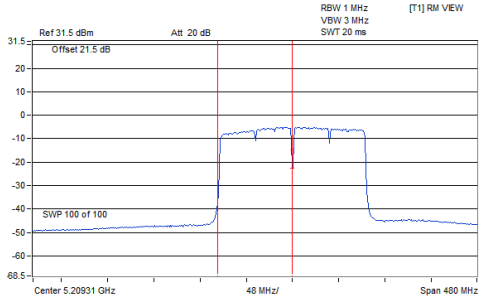
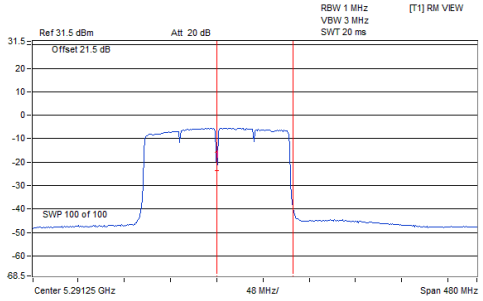
802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.06 MHz Power -0.12 dBm

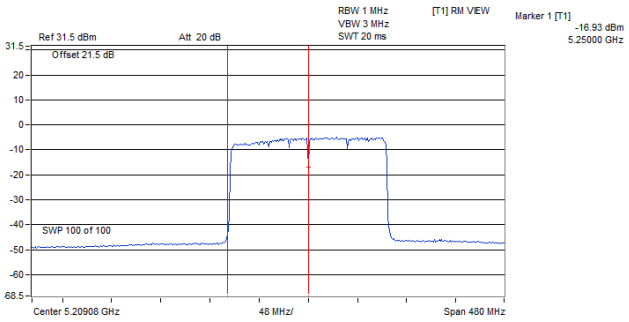
For channel straddling 5250MHz of Power

CDD Mode

Spectrum Plot Value of Power	
802.11ac (VHT160)_Chain 0 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 0 / CH50 (U-NII-2A Band)**
 TX Channel Bandwidth 81.84 MHz Power 11.11 dBm	 TX Channel Bandwidth 82.27 MHz Power 12.23 dBm
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)**
 TX Channel Bandwidth 80.91 MHz Power 10.96 dBm	 TX Channel Bandwidth 82.34 MHz Power 12.88 dBm
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)**
 TX Channel Bandwidth 81.67 MHz Power 12.32 dBm	 TX Channel Bandwidth 82.2 MHz Power 12.79 dBm
802.11ac (VHT160)_Chain 3 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)**
 TX Channel Bandwidth 81.38 MHz Power 11.58 dBm	 TX Channel Bandwidth 82.5 MHz Power 11.94 dBm

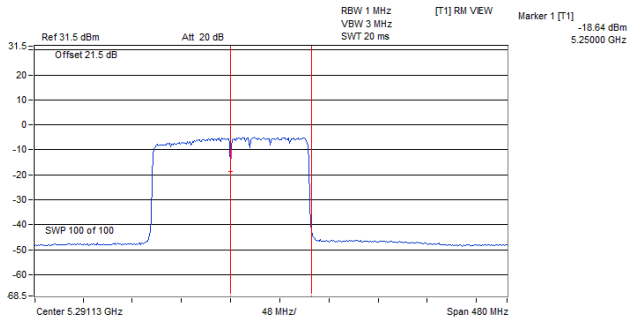
Spectrum Plot Value of Power

802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



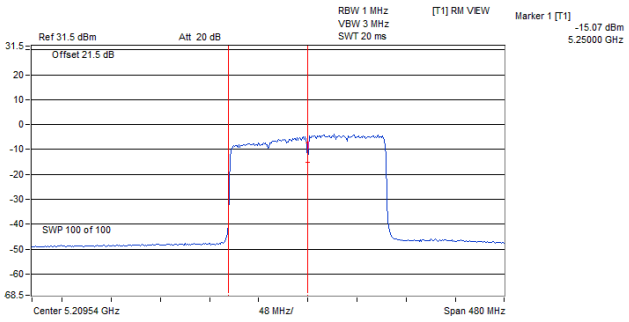
TX Channel Bandwidth 81.84 MHz Power 11.47 dBm

802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



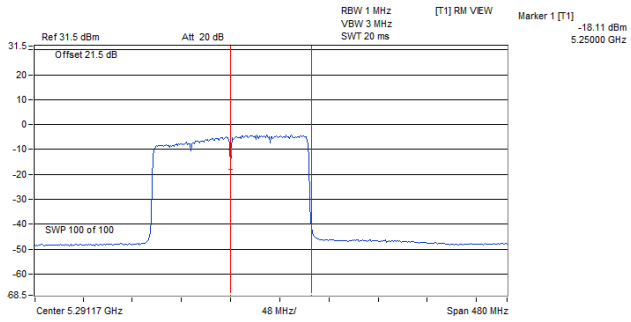
TX Channel Bandwidth 82.27 MHz Power 12.54 dBm

802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



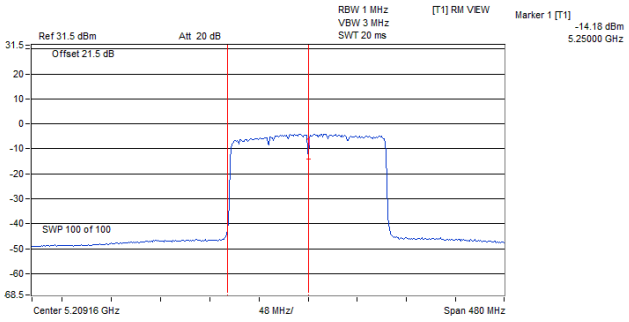
TX Channel Bandwidth 80.91 MHz Power 11.14 dBm

802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



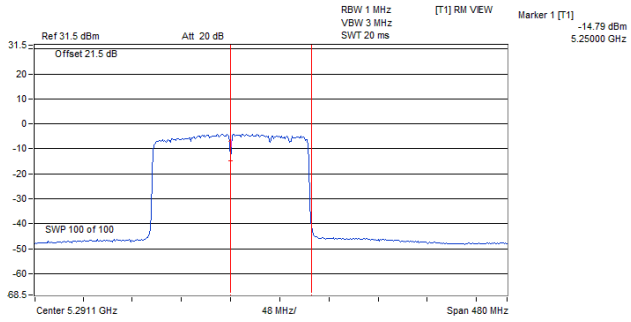
TX Channel Bandwidth 82.34 MHz Power 13.29 dBm

802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



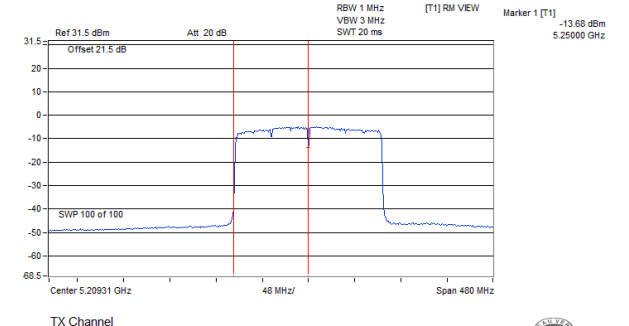
TX Channel Bandwidth 81.67 MHz Power 12.67 dBm

802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



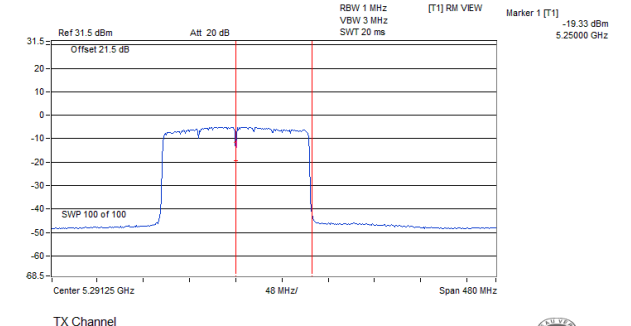
TX Channel Bandwidth 82.2 MHz Power 13.14 dBm

802.11ax (HE160)_Chain 3 / CH50 (U-NII-1 Band)



TX Channel Bandwidth 81.38 MHz Power 11.99 dBm

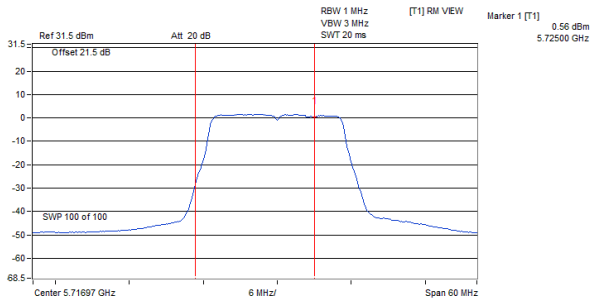
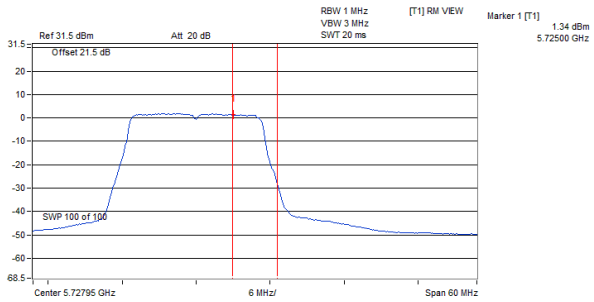
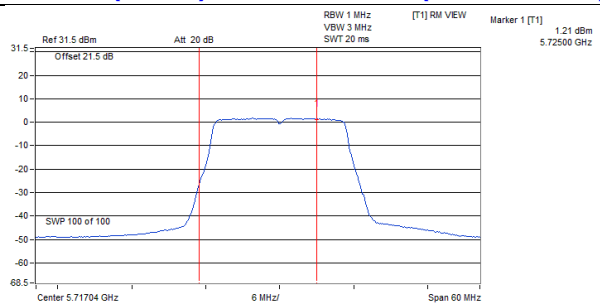
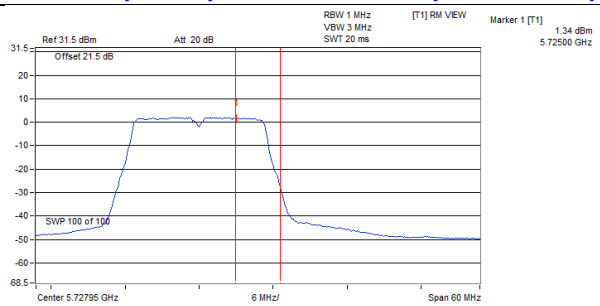
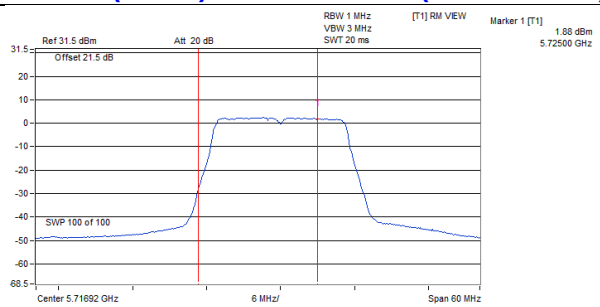
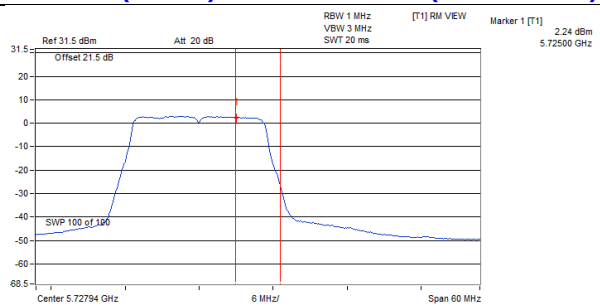
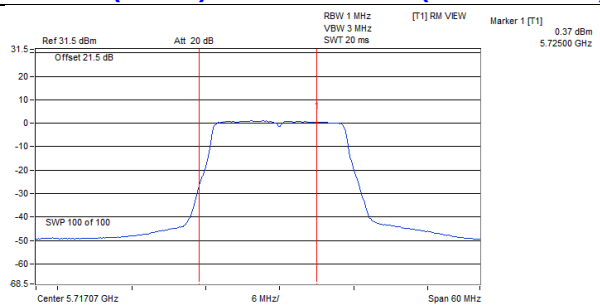
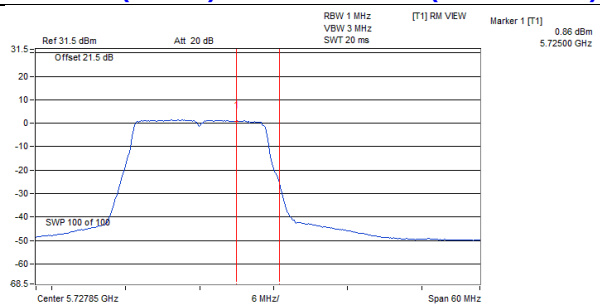
802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)



TX Channel Bandwidth 82.5 MHz Power 12.1 dBm

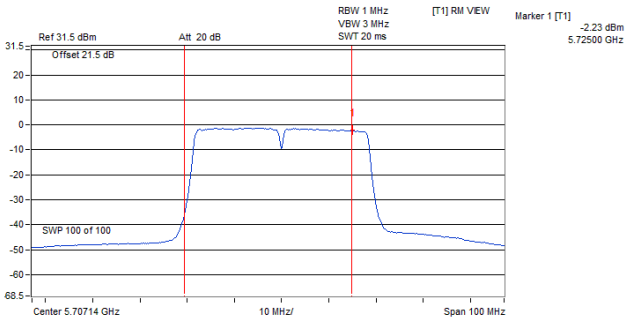
For channel straddling 5725MHz of Power

Beamforming Mode

Spectrum Plot Value of Power	
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 16.05 MHz Power 11.86 dBm	 TX Channel Bandwidth 5.9 MHz Power 6.28 dBm
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.92 MHz Power 12.03 dBm	 TX Channel Bandwidth 5.9 MHz Power 6.59 dBm
802.11ac (VHT20)_Chain 2 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 2 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 16.15 MHz Power 12.63 dBm	 TX Channel Bandwidth 5.89 MHz Power 7.39 dBm
802.11ac (VHT20)_Chain 3 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)**
 TX Channel Bandwidth 15.86 MHz Power 11.31 dBm	 TX Channel Bandwidth 5.71 MHz Power 5.82 dBm

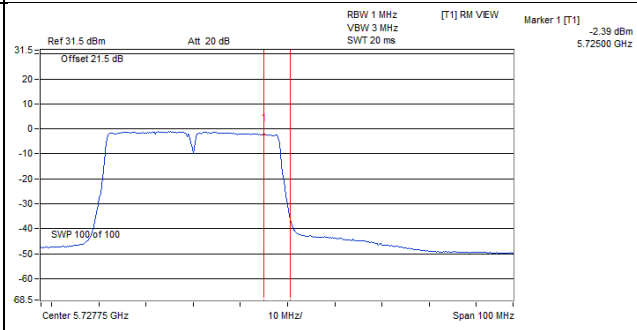
Spectrum Plot Value of Power

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



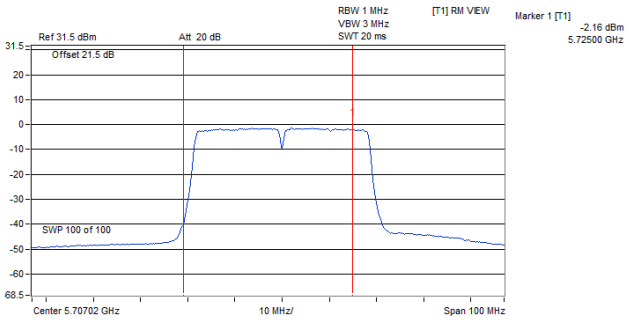
TX Channel Bandwidth 35.71 MHz Power 12.63 dBm

802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



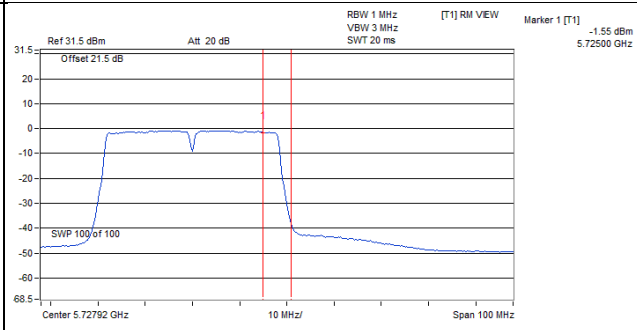
TX Channel Bandwidth 5.5 MHz Power 2.01 dBm

802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band)



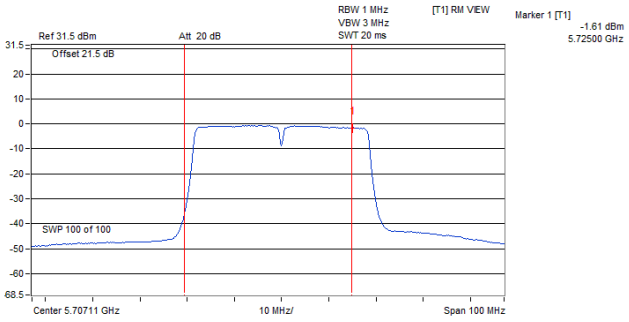
TX Channel Bandwidth 35.95 MHz Power 12.47 dBm

802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



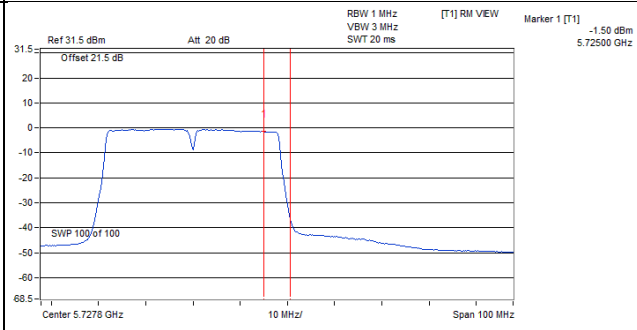
TX Channel Bandwidth 5.84 MHz Power 2.81 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-2C Band)



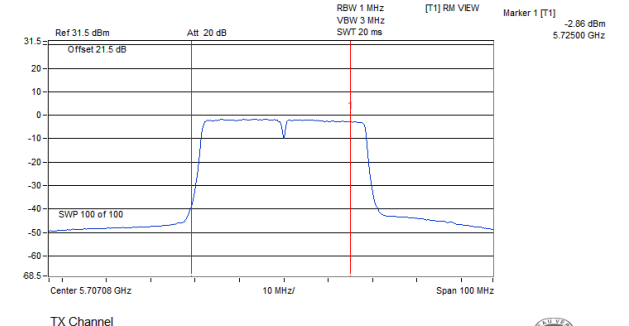
TX Channel Bandwidth 35.77 MHz Power 13.32 dBm

802.11ac (VHT40)_Chain 2 / CH142 (U-NII-3 Band)



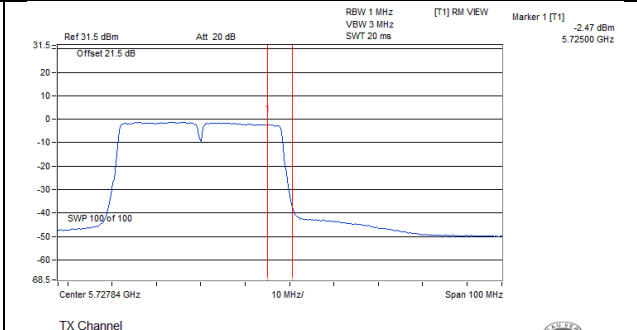
TX Channel Bandwidth 5.6 MHz Power 2.78 dBm

802.11ac (VHT40)_Chain 3 / CH142 (U-NII-2C Band)



TX Channel Bandwidth 35.84 MHz Power 12.23 dBm

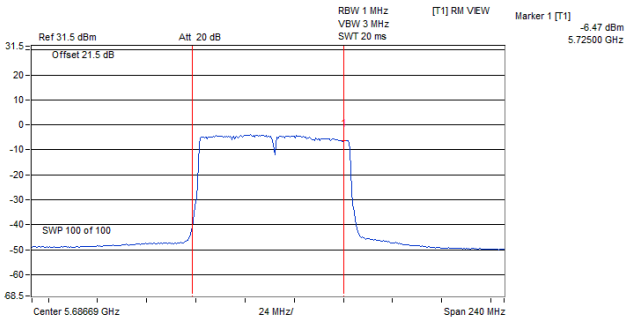
802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.69 MHz Power 1.82 dBm

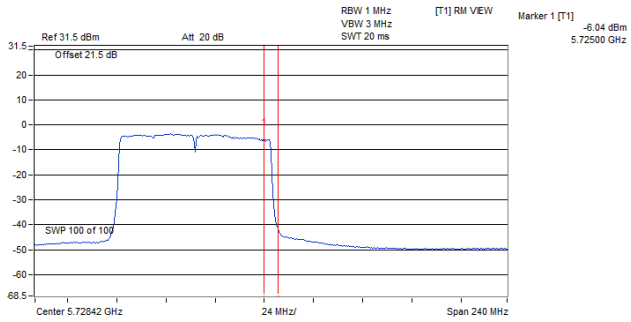
Spectrum Plot Value of Power

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



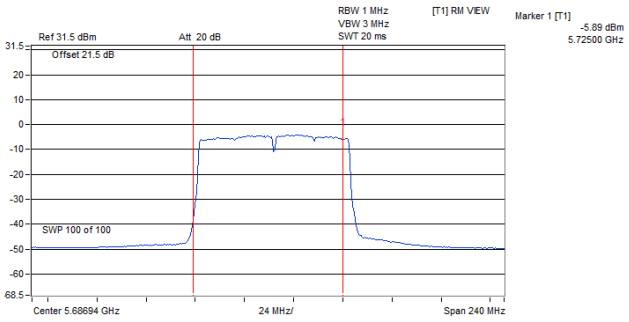
TX Channel Bandwidth 76.62 MHz Power 13.01 dBm

802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



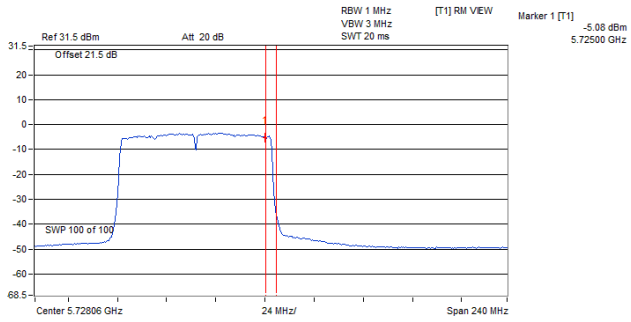
TX Channel Bandwidth 6.85 MHz Power -1.58 dBm

802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band)



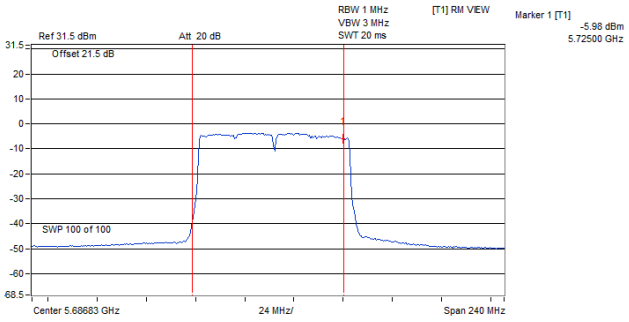
TX Channel Bandwidth 76.11 MHz Power 12.84 dBm

802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



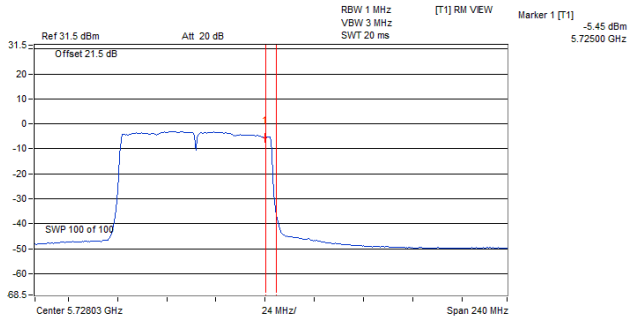
TX Channel Bandwidth 6.12 MHz Power -0.41 dBm

802.11ac (VHT80)_Chain 2 / CH138 (U-NII-2C Band)



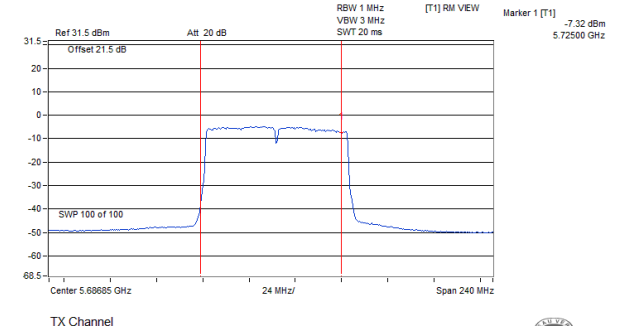
TX Channel Bandwidth 76.34 MHz Power 13.4 dBm

802.11ac (VHT80)_Chain 2 / CH138 (U-NII-3 Band)



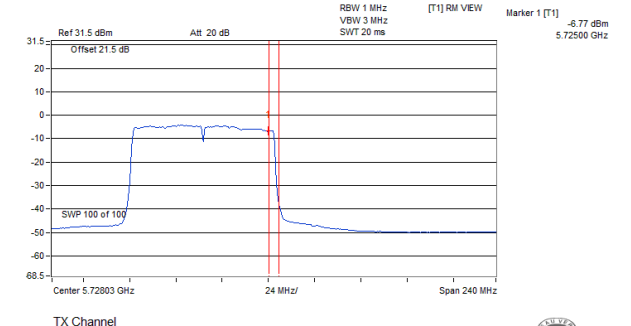
TX Channel Bandwidth 6.06 MHz Power -0.78 dBm

802.11ac (VHT80)_Chain 3 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.3 MHz Power 12.2 dBm

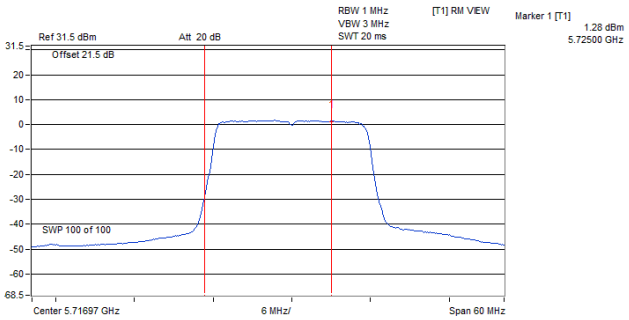
802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.06 MHz Power -2.12 dBm

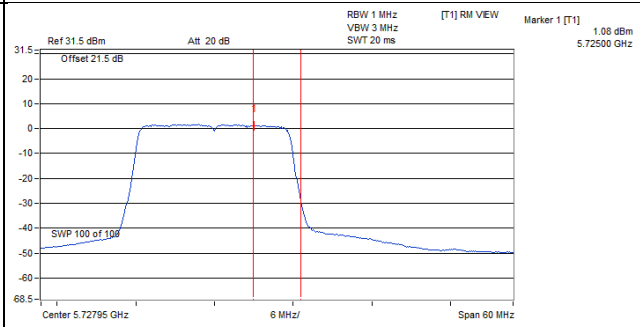
Spectrum Plot Value of Power

802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



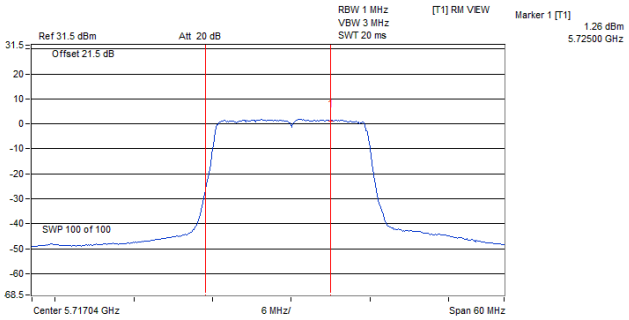
TX Channel Bandwidth 16.05 MHz Power 12.24 dBm

802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



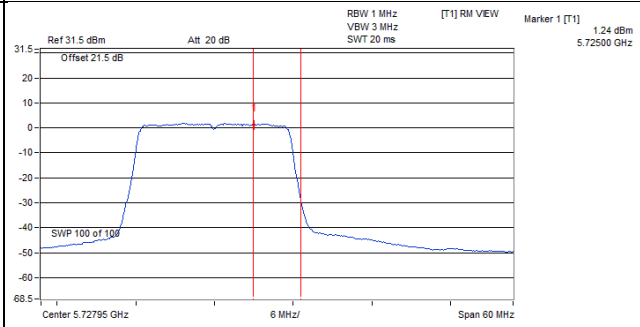
TX Channel Bandwidth 5.9 MHz Power 6.63 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



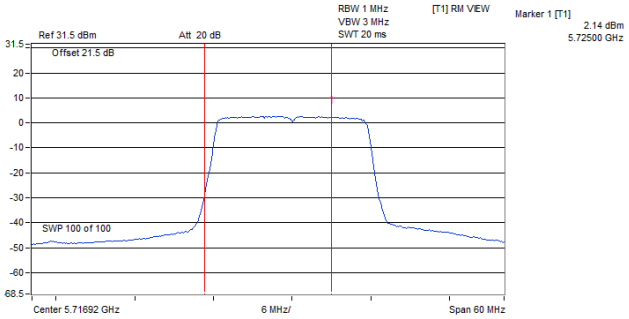
TX Channel Bandwidth 15.92 MHz Power 12.19 dBm

802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



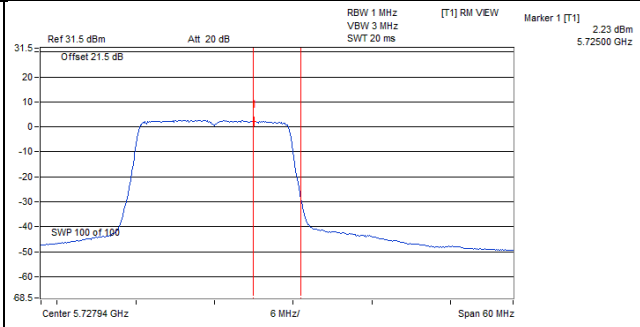
TX Channel Bandwidth 5.9 MHz Power 6.92 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-2C Band)



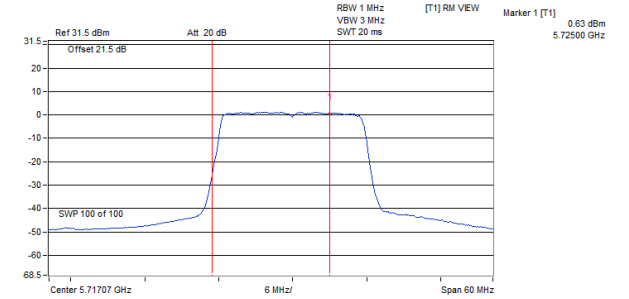
TX Channel Bandwidth 16.15 MHz Power 13.13 dBm

802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



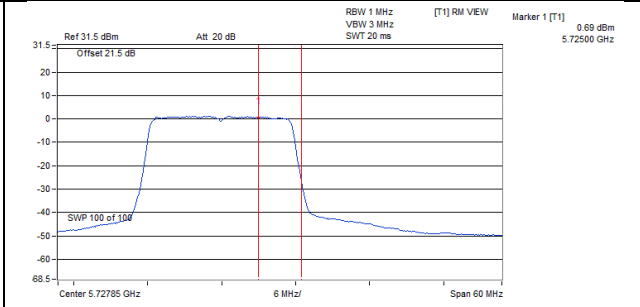
TX Channel Bandwidth 5.89 MHz Power 7.67 dBm

802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C Band)



TX Channel Bandwidth 15.86 MHz Power 11.68 dBm

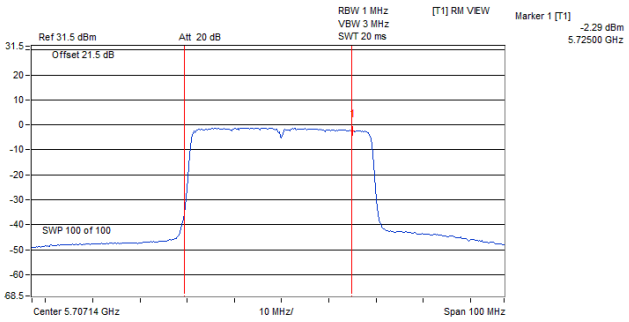
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 6.15 dBm

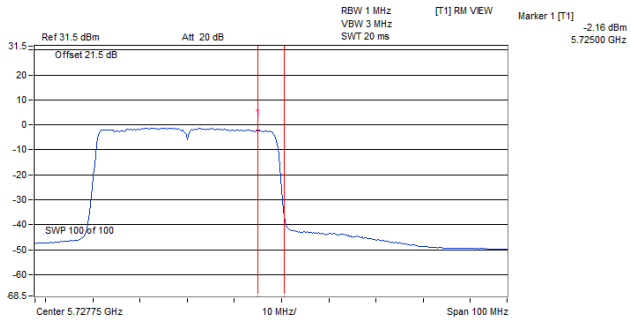
Spectrum Plot Value of Power

802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



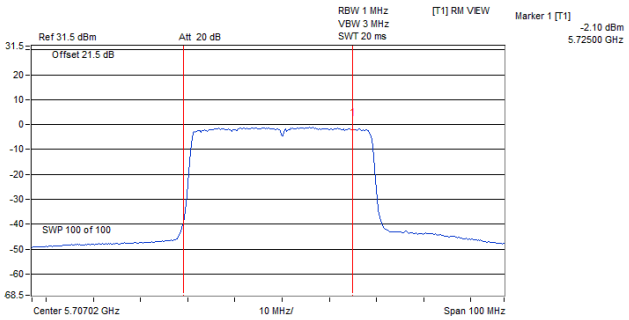
TX Channel Bandwidth 35.71 MHz Power 12.79 dBm

802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)



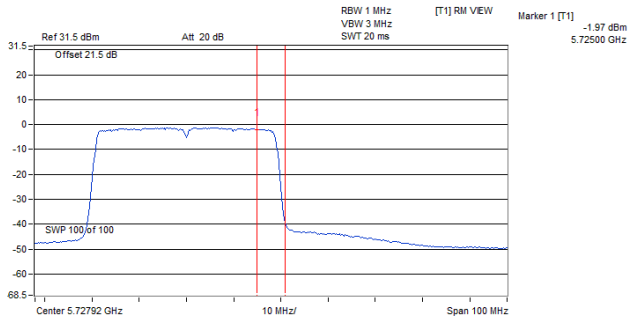
TX Channel Bandwidth 5.5 MHz Power 2.52 dBm

802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



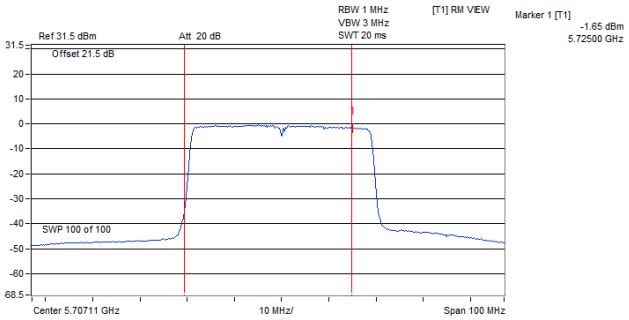
TX Channel Bandwidth 35.95 MHz Power 12.79 dBm

802.11ax (HE40)_Chain 1 / CH142 (U-NII-3 Band)



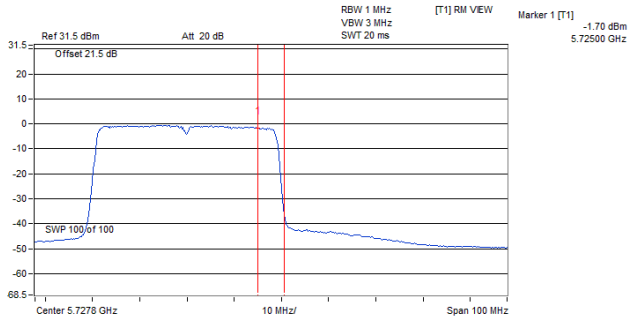
TX Channel Bandwidth 5.84 MHz Power 2.94 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



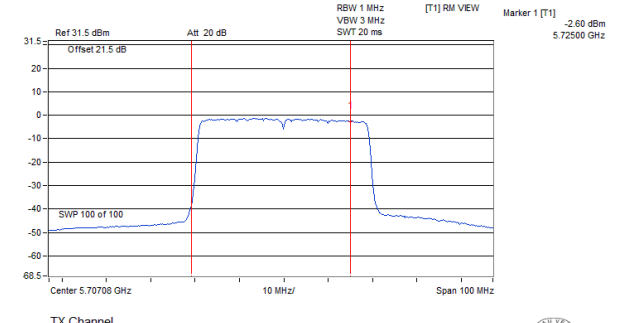
TX Channel Bandwidth 35.77 MHz Power 13.47 dBm

802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



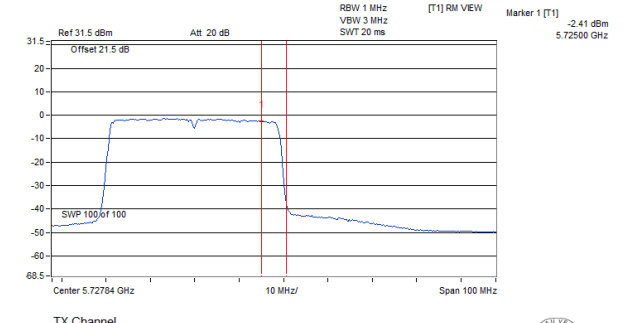
TX Channel Bandwidth 5.6 MHz Power 3.22 dBm

802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)



TX Channel Bandwidth 35.84 MHz Power 12.58 dBm

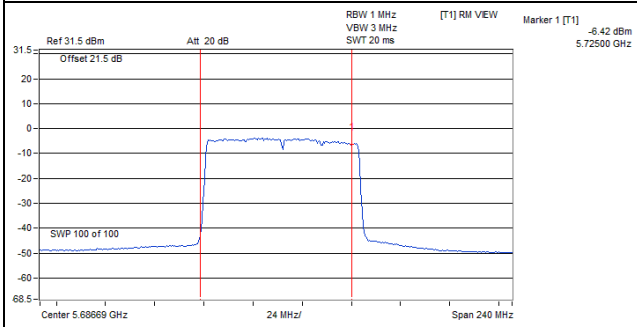
802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.69 MHz Power 2.29 dBm

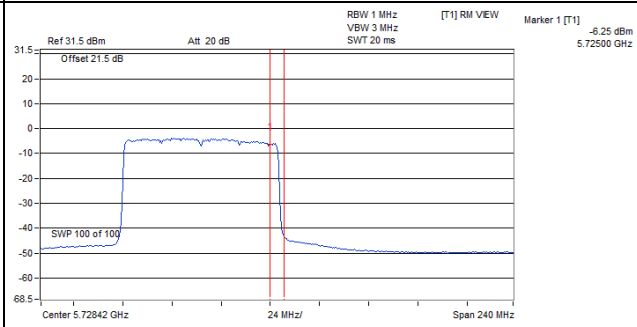
Spectrum Plot Value of Power

802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



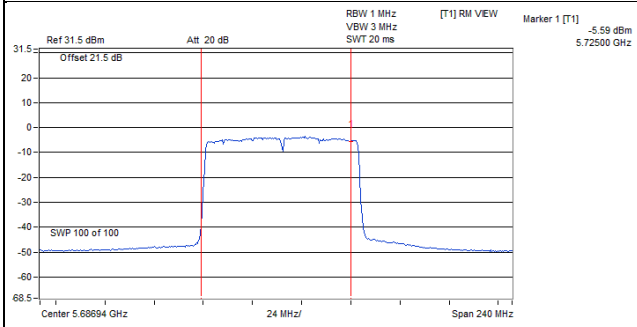
TX Channel Bandwidth 76.62 MHz Power 13.22 dBm

802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



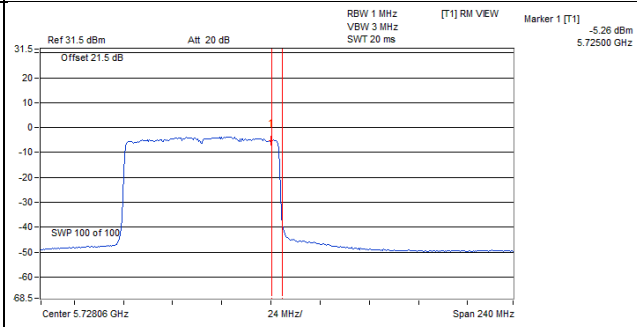
TX Channel Bandwidth 6.85 MHz Power -1.17 dBm

802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C Band)



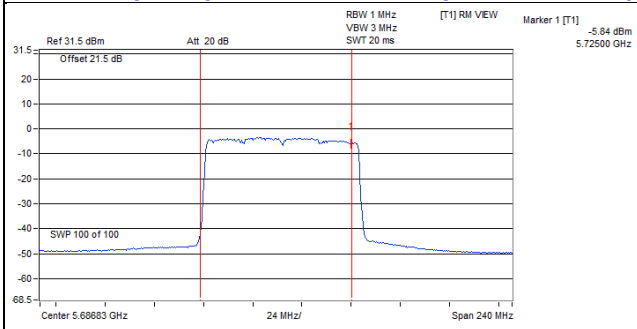
TX Channel Bandwidth 76.11 MHz Power 13.25 dBm

802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)



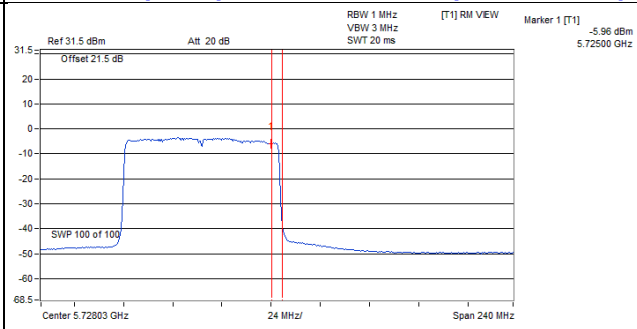
TX Channel Bandwidth 6.12 MHz Power -0.02 dBm

802.11ax (HE80)_Chain 2 / CH138 (U-NII-2C Band)



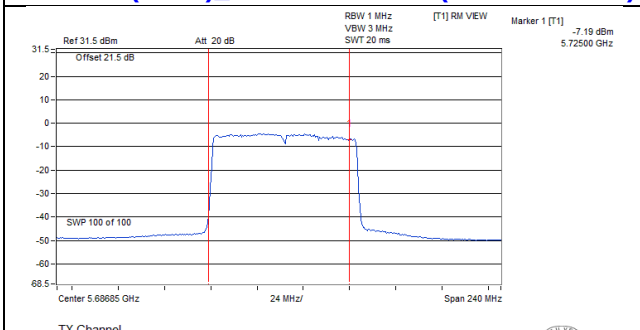
TX Channel Bandwidth 76.34 MHz Power 13.56 dBm

802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)



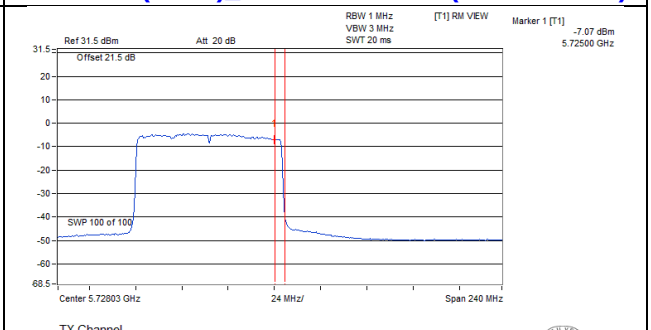
TX Channel Bandwidth 6.06 MHz Power -0.62 dBm

802.11ax (HE80)_Chain 3 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.3 MHz Power 12.52 dBm

802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



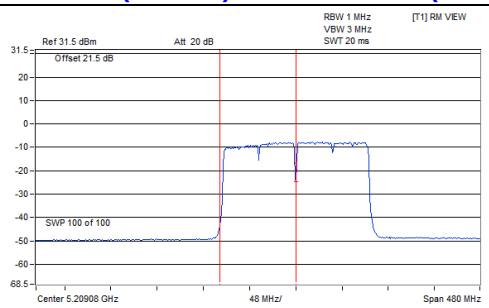
TX Channel Bandwidth 6.06 MHz Power -1.76 dBm

For channel straddling 5250MHz of Power

Beamforming Mode

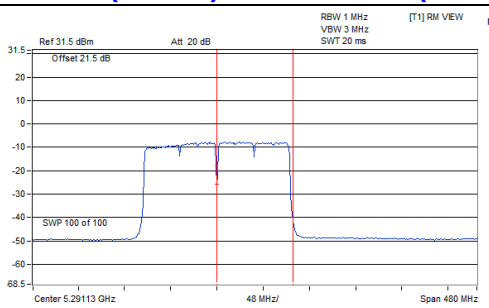
Spectrum Plot Value of Power

802.11ac (VHT160)_Chain 0 / CH50 (U-NII-1 Band)



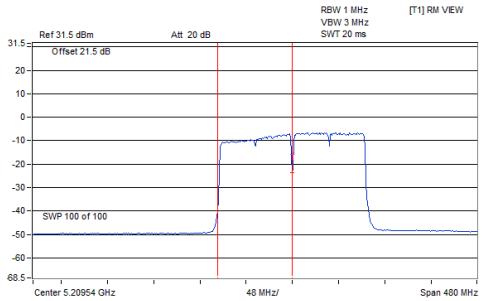
TX Channel Bandwidth 81.84 MHz Power 8.97 dBm

802.11ac (VHT160)_Chain 0 / CH50 (U-NII-2A Band)



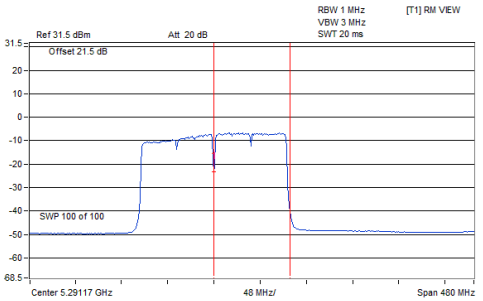
TX Channel Bandwidth 82.27 MHz Power 9.84 dBm

802.11ac (VHT160)_Chain 1 / CH50 (U-NII-1 Band)



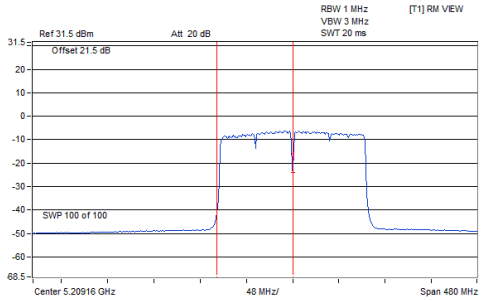
TX Channel Bandwidth 80.91 MHz Power 8.89 dBm

802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)



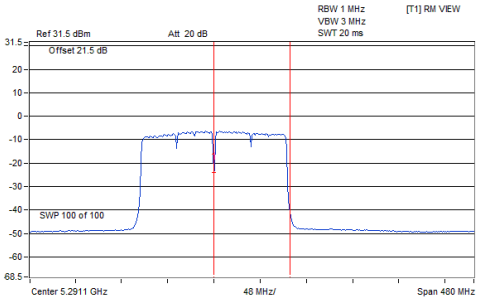
TX Channel Bandwidth 82.34 MHz Power 10.89 dBm

802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)



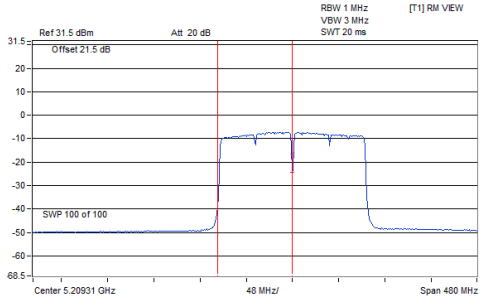
TX Channel Bandwidth 81.67 MHz Power 10.41 dBm

802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)



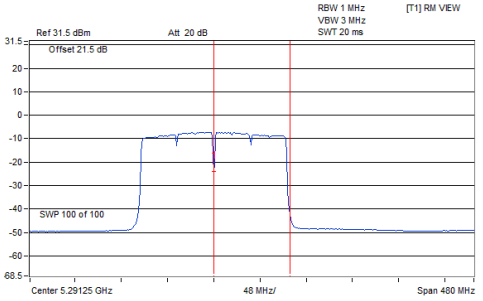
TX Channel Bandwidth 82.2 MHz Power 10.72 dBm

802.11ac (VHT160)_Chain 3 / CH50 (U-NII-1 Band)



TX Channel Bandwidth 81.38 MHz Power 9.75 dBm

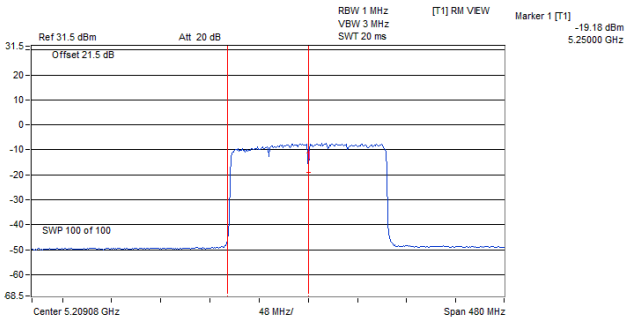
802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)



TX Channel Bandwidth 82.5 MHz Power 9.88 dBm

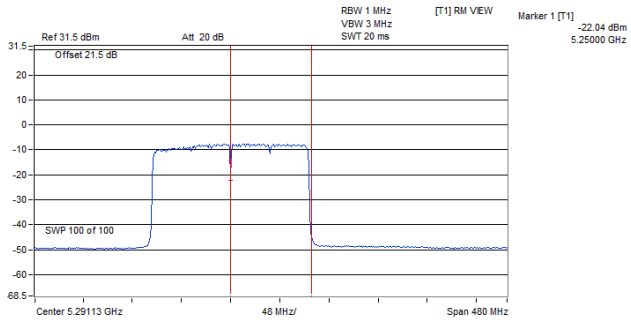
Spectrum Plot Value of Power

802.11ax (HE160)_Chain 0 / CH50 (U-NII-1 Band)



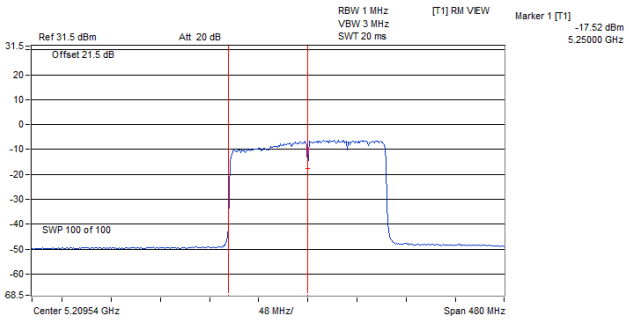
TX Channel Bandwidth 81.84 MHz Power 9.18 dBm

802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)



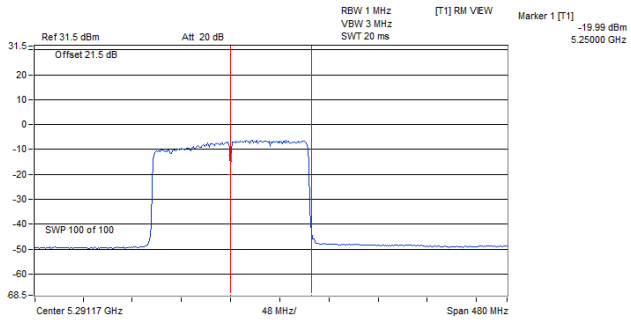
TX Channel Bandwidth 82.27 MHz Power 10.01 dBm

802.11ax (HE160)_Chain 1 / CH50 (U-NII-1 Band)



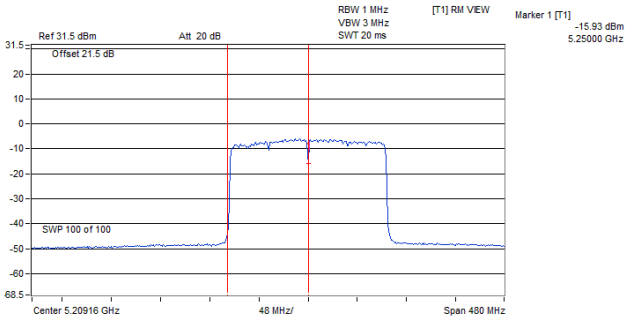
TX Channel Bandwidth 80.91 MHz Power 9.23 dBm

802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)



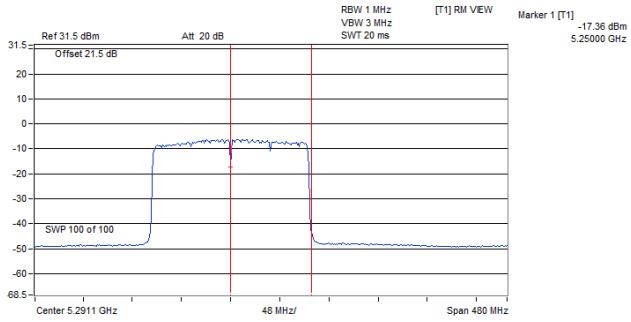
TX Channel Bandwidth 82.34 MHz Power 11.29 dBm

802.11ax (HE160)_Chain 2 / CH50 (U-NII-1 Band)



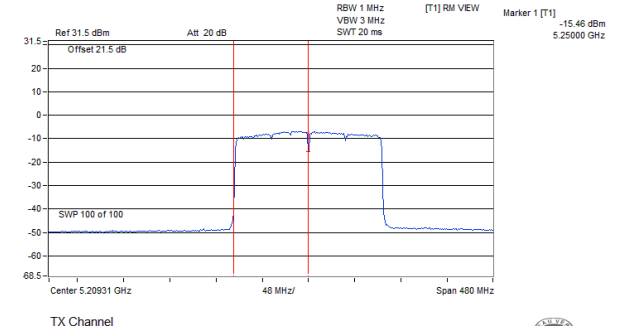
TX Channel Bandwidth 81.67 MHz Power 10.64 dBm

802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)



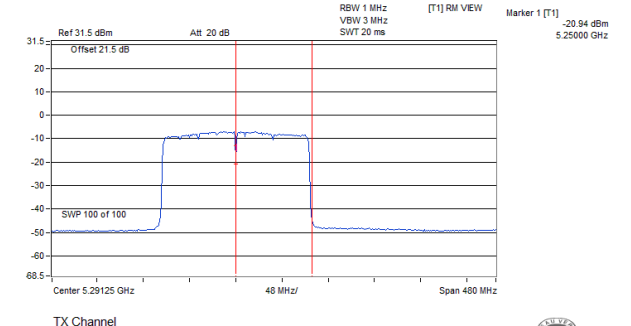
TX Channel Bandwidth 82.2 MHz Power 10.94 dBm

802.11ax (HE160)_Chain 3 / CH50 (U-NII-1 Band)



TX Channel Bandwidth 81.38 MHz Power 10.05 dBm

802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)



TX Channel Bandwidth 82.5 MHz Power 10.11 dBm

CDD Mode

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.65	22	21.95	21.76
60	5300	21.8	21.98	21.81	21.73
64	5320	21.64	21.91	21.9	21.79
100	5500	21.57	21.9	21.85	21.58
116	5580	21.69	21.88	21.94	21.73
140	5700	21.66	21.79	21.81	21.68
144 (U-NII-2C Band)	5720	15.93	15.86	16.02	15.87

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	22.08	21.85	22.08	21.59
60	5300	21.95	21.92	22.13	21.54
64	5320	22	21.9	21.98	21.54
100	5500	21.84	21.8	22.14	21.43
116	5580	21.94	21.86	22.08	21.61
140	5700	21.94	21.88	22.11	21.5
144 (U-NII-2C Band)	5720	16.05	15.92	16.15	15.86

802.11ax (HE40)

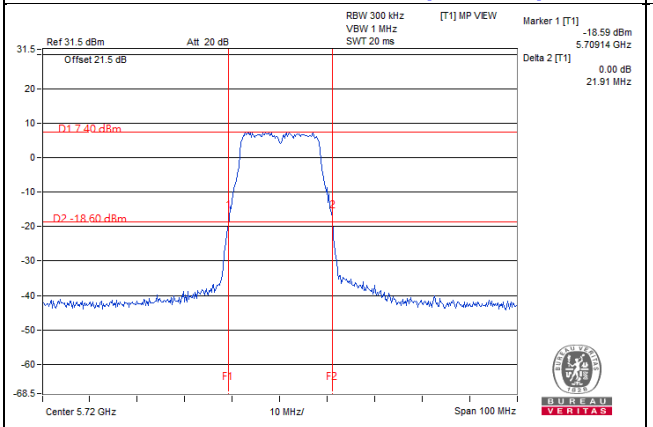
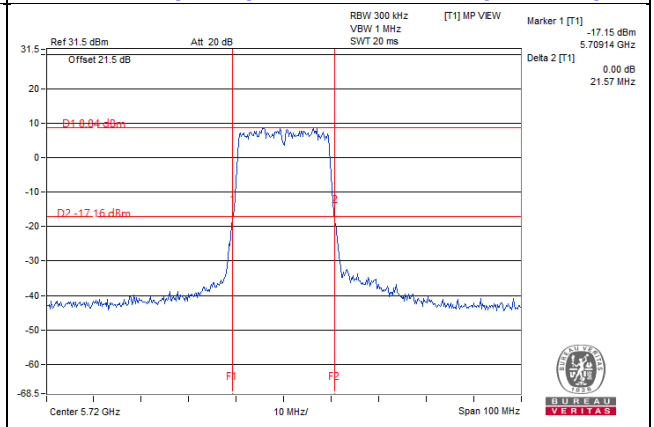
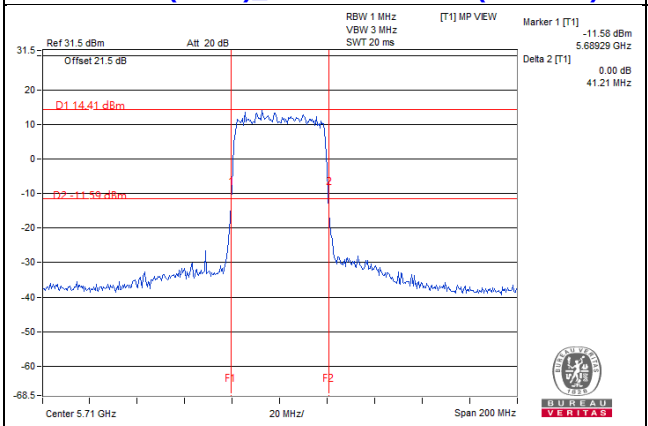
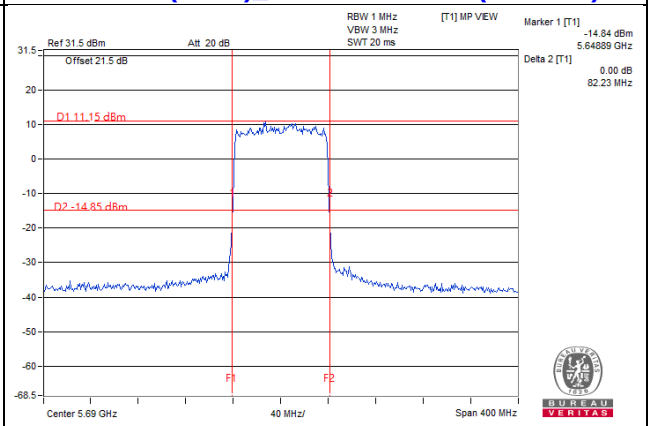
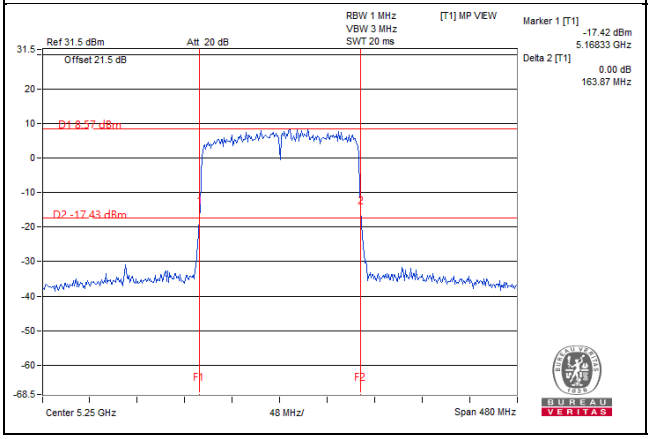
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
54	5270	41.7	41.8	41.64	41.74
62	5310	41.66	41.78	41.78	41.68
102	5510	41.38	41.84	41.41	41.78
110	5550	41.62	41.98	41.57	41.67
134	5670	41.45	41.95	41.53	41.62
142 (U-NII-2C Band)	5710	35.71	35.95	35.77	35.84

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
58	5290	82.66	82.37	82.63	82.15
106	5530	83.43	82.73	82.68	82.38
122	5610	83.04	82.81	82.72	82.25
138 (U-NII-2C Band)	5690	76.62	76.11	76.34	76.3

802.11ax (HE160)

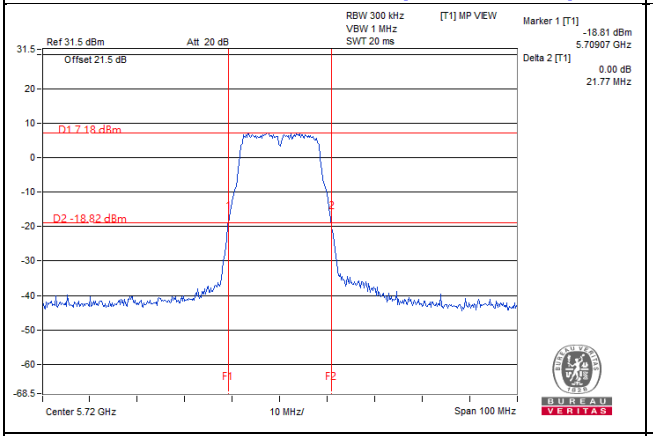
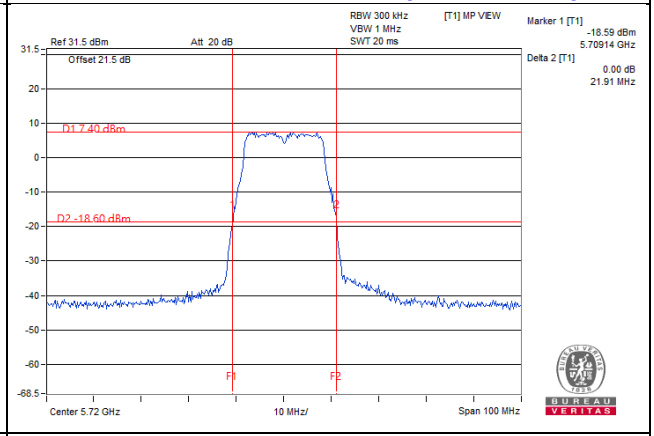
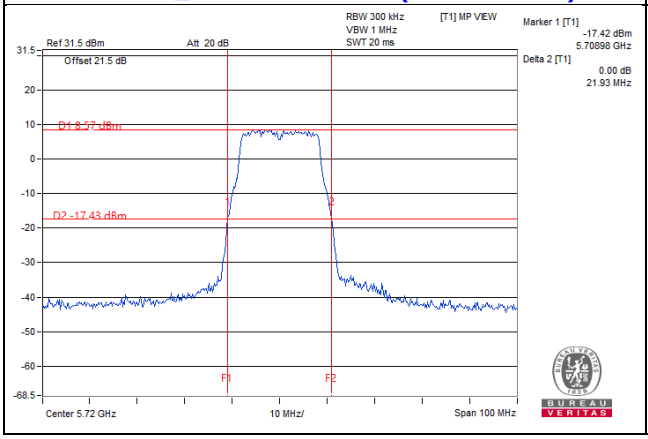
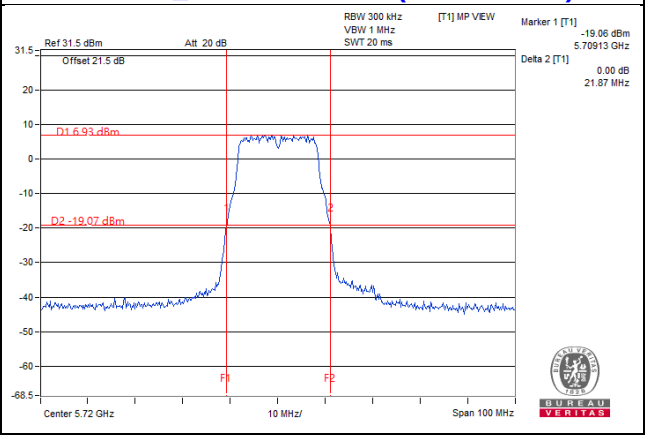
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
50 (U-NII-2A Band)	5250	82.27	82.34	82.2	82.5
114	5570	163.15	163.72	162.88	163

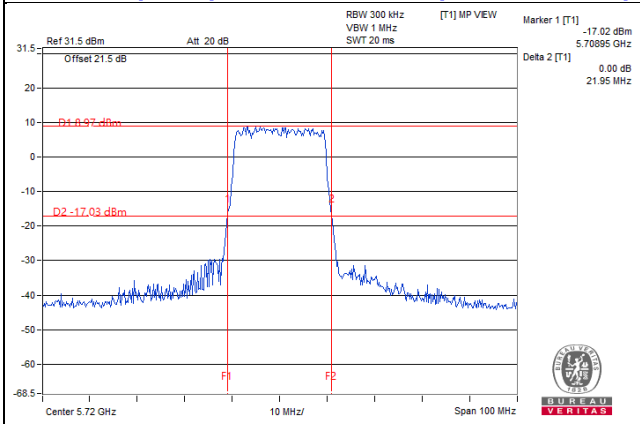
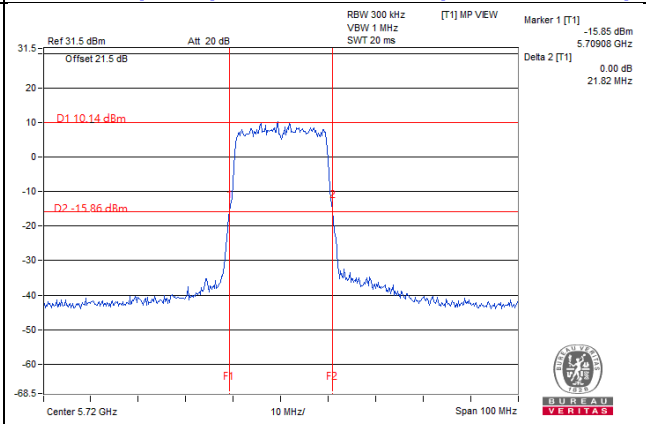
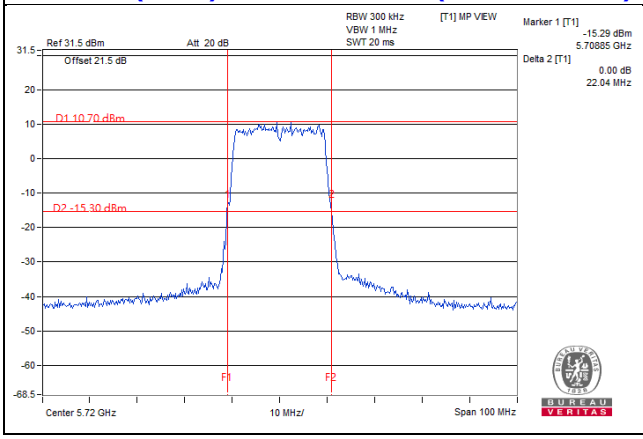
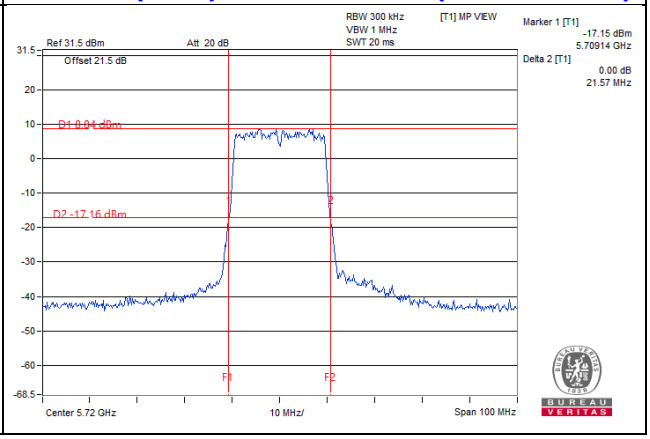
Spectrum Plot of Worst Value	
802.11a_Chain 1 / CH144 (U-NII-2C)	**802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C)**
	
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C)	**802.11ax (HE80)_Chain 1 / CH138 (U-NII-2C)**
	
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A)	
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Marker 1
For CH142 (U-NII-2C) = 5725MHz - Marker 1
For CH138 (U-NII-2C) = 5725MHz - Marker 1
For CH50 (U-NII-2A) = Delta 2 – (5250MHz - Marker 1)

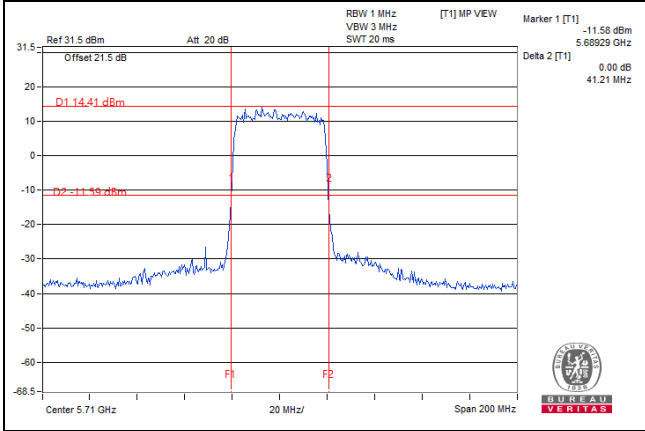
For channel straddling 5725MHz of 26dB BW

Spectrum Plot Value of 26dB BW	
802.11a _Chain 0 / CH144 (U-NII-3 Band)	**802.11a _Chain 1 / CH144 (U-NII-3 Band)**
	
802.11a _Chain 2 / CH144 (U-NII-3 Band)	**802.11a _Chain 3 / CH144 (U-NII-3 Band)**
	

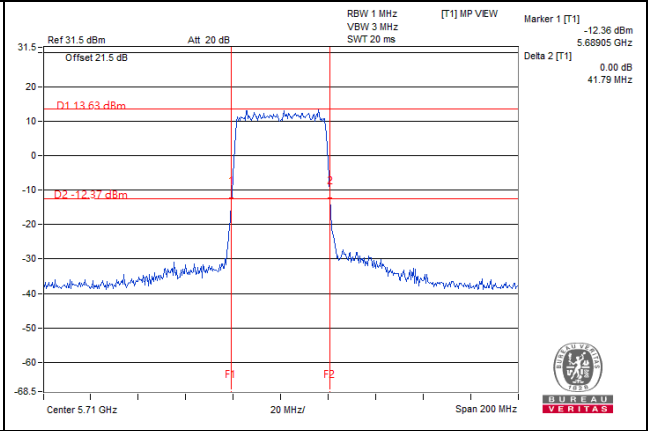
Spectrum Plot Value of 26dB BW	
802.11ax (HE20)_Chain 0/ CH144 (U-NII-2C Band)	**802.11ax (HE20)_Chain 1/ CH144 (U-NII-2C Band)**
	
802.11ax (HE20)_Chain 2/ CH144 (U-NII-2C Band)	**802.11ax (HE20)_Chain 3/ CH144 (U-NII-2C Band)**
	

Spectrum Plot Value of 26dB BW

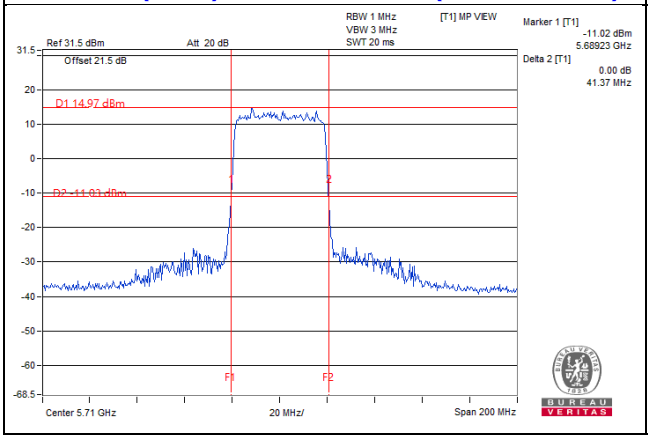
802.11ax (HE40)_Chain 0 / CH142 (U-NII-2C Band)



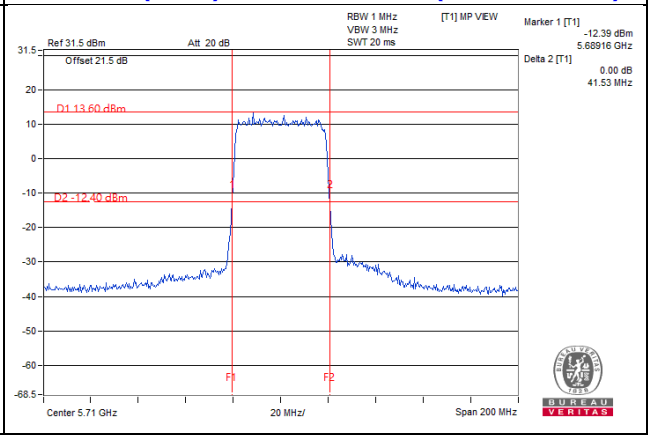
802.11ax (HE40)_Chain 1 / CH142 (U-NII-2C Band)



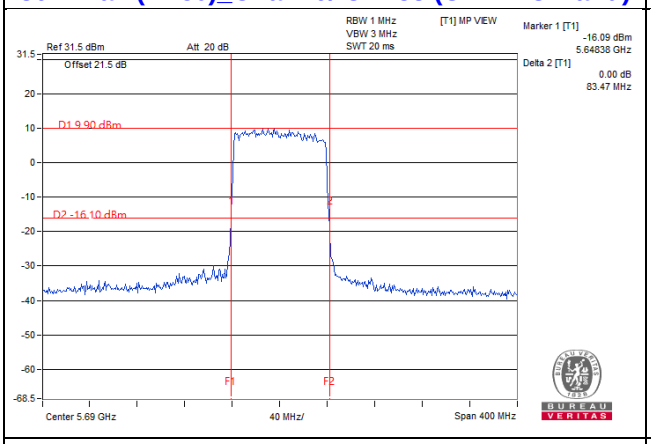
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C Band)



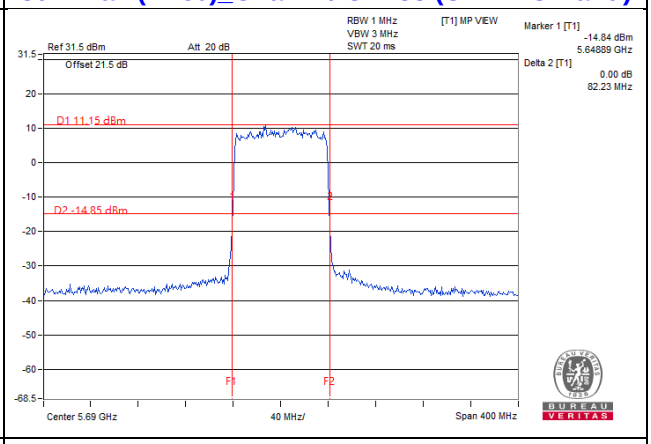
802.11ax (HE40)_Chain 3 / CH142 (U-NII-2C Band)



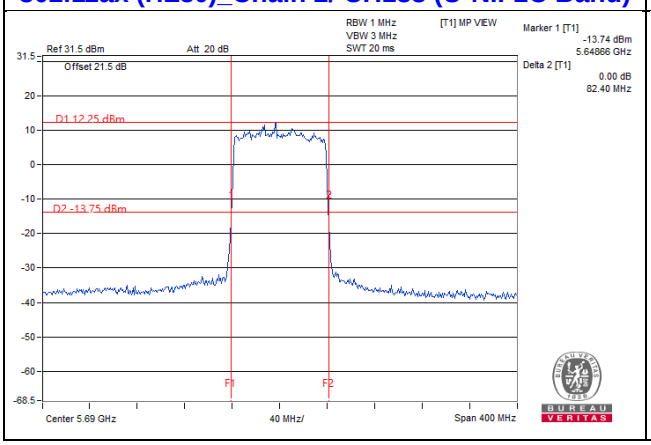
802.11ax (HE80)_Chain 0/ CH138 (U-NII-2C Band)



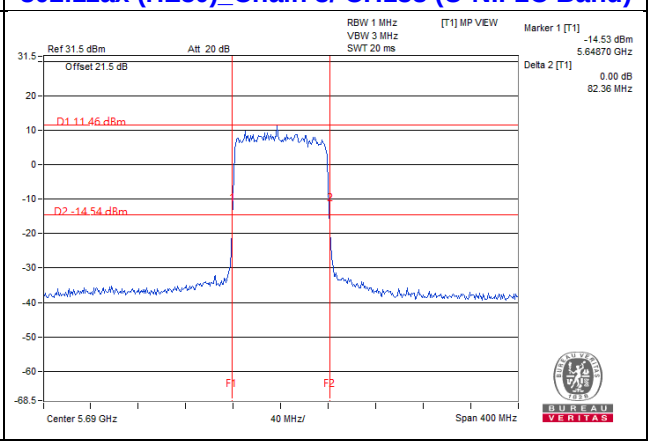
802.11ax (HE80)_Chain 1/ CH138 (U-NII-2C Band)



802.11ax (HE80)_Chain 2/ CH138 (U-NII-2C Band)



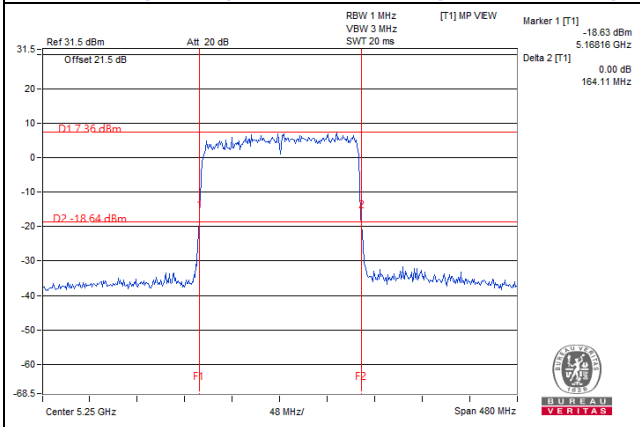
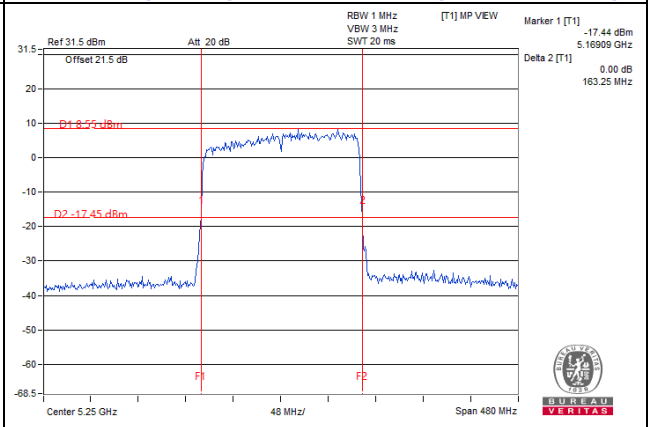
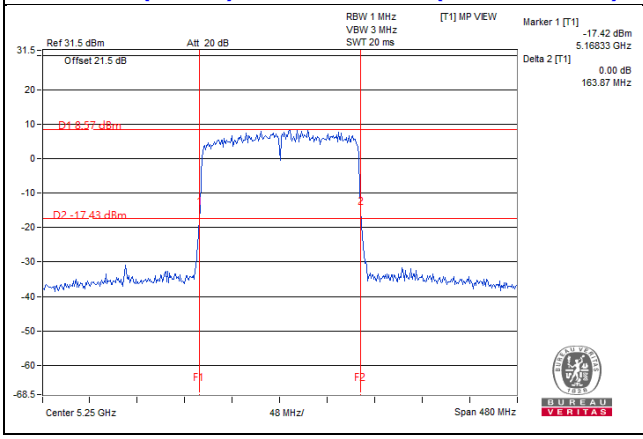
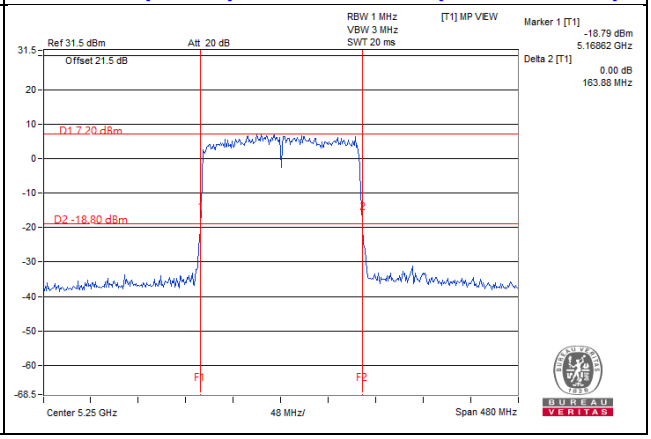
802.11ax (HE80)_Chain 3/ CH138 (U-NII-2C Band)



Note:

For CH144 (U-NII-2C Band) = 5725MHz - Marker 1
For CH142 (U-NII-2C Band) = 5725MHz - Marker 1
For CH138 (U-NII-2C Band) = 5725MHz - Marker 1

For channel straddling 5250MHz of 26dB BW

Spectrum Plot Value of 26dB BW	
802.11ax (HE160)_Chain 0 / CH50 (U-NII-2A Band)	**802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A Band)**
	
802.11ax (HE160)_Chain 2 / CH50 (U-NII-2A Band)	**802.11ax (HE160)_Chain 3 / CH50 (U-NII-2A Band)**
	

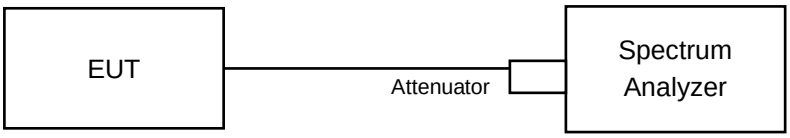
Note:

For CH50 (U-NII-1) = 5250MHz - Marker 1

For CH50 (U-NII-2A) = Marker 1 + Delta 2 - 5250MHz

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

CDD Mode

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.04	16.92	17.04	16.8
60	5300	16.92	16.92	16.92	16.8
64	5320	17.04	16.92	16.92	16.68
100	5500	17.04	17.04	16.8	16.92
116	5580	16.92	16.92	16.92	16.92
140	5700	17.04	16.92	16.8	16.8
144 (U-NII-2C Band)	5720	13.52	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.4	3.4	3.4	3.4

802.11ax (HE20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.08	19.2	19.08	19.08
60	5300	19.08	19.08	19.08	19.08
64	5320	19.08	19.08	19.2	18.96
100	5500	19.08	19.2	19.08	19.2
116	5580	19.08	19.08	19.2	19.2
140	5700	19.08	19.08	19.32	19.08
144 (U-NII-2C Band)	5720	14.72	14.72	14.6	14.6
144 (U-NII-3 Band)	5720	4.36	4.6	4.36	4.48

802.11ax (HE40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	37.68	37.68	37.92	37.92
62	5310	37.68	37.92	37.92	37.92
102	5510	37.92	37.68	37.92	37.92
110	5550	37.92	37.68	38.16	38.16
134	5670	37.92	37.68	37.68	37.92
142 (U-NII-2C Band)	5710	33.96	34.2	33.96	34.2
142 (U-NII-3 Band)	5710	3.72	3.72	3.72	3.72

802.11ax (HE80)

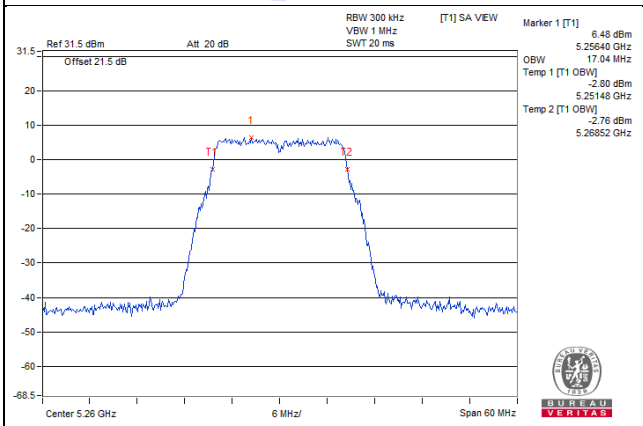
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	76.8	77.28	77.28	77.28
106	5530	77.28	77.28	77.28	77.28
122	5610	77.28	77.28	77.28	77.28
138 (U-NII-2C Band)	5690	73.88	73.4	73.88	73.88
138 (U-NII-3 Band)	5690	3.4	3.4	3.4	2.92

802.11ax (HE160)

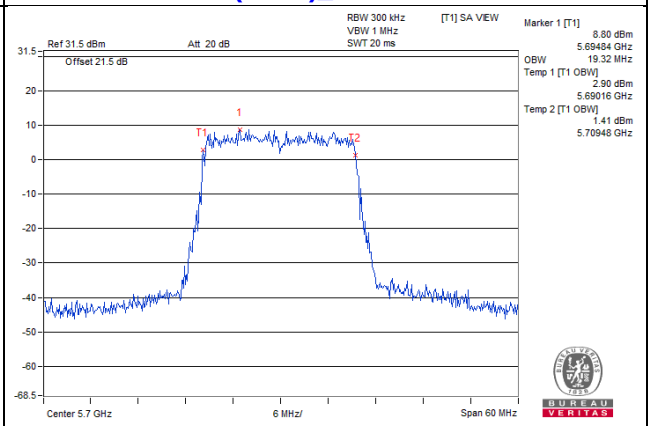
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1 Band)	5250	77.76	76.8	77.76	76.8
50 (U-NII-2A Band)	5250	77.76	77.76	77.76	76.8
114	5570	154.56	155.52	155.52	155.52

Spectrum Plot of Max. Value

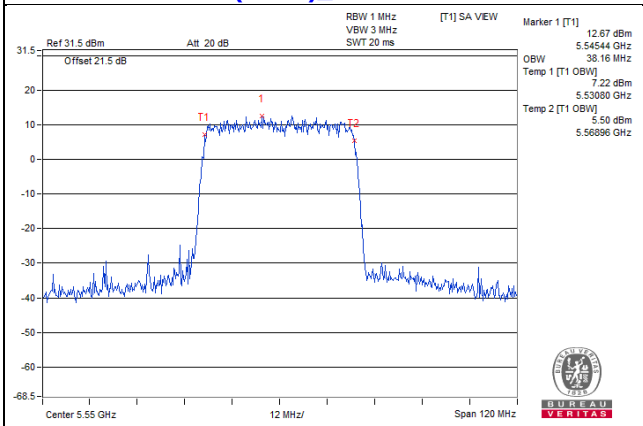
802.11a_Chain 0 / CH52



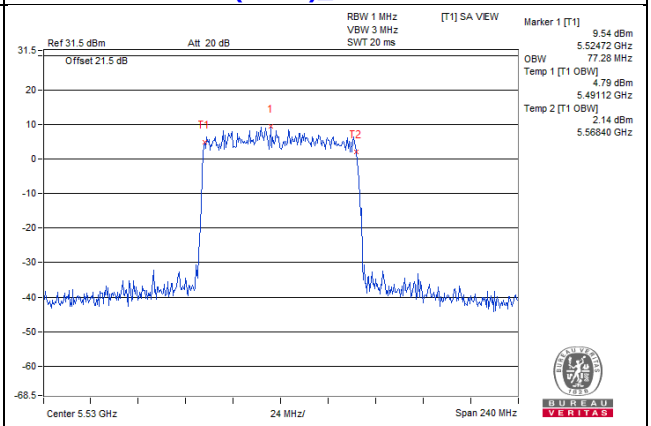
802.11ax (HE20)_Chain 2 / CH140



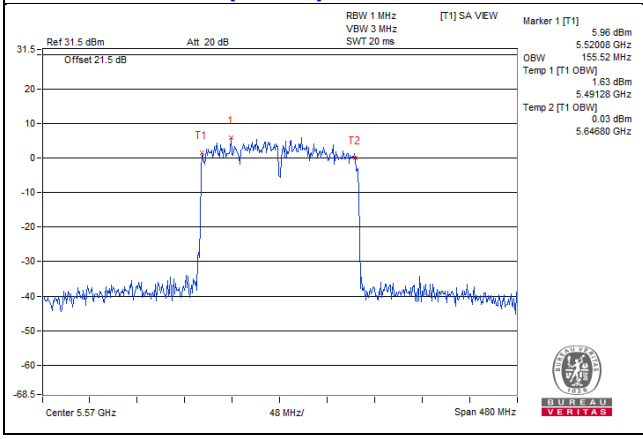
802.11ax (HE40)_Chain 2 / CH110



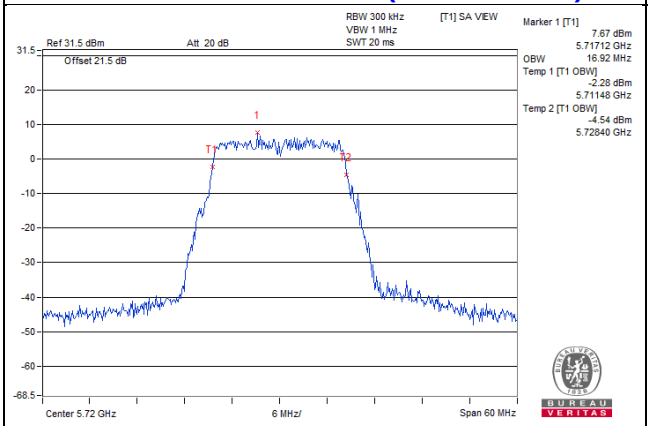
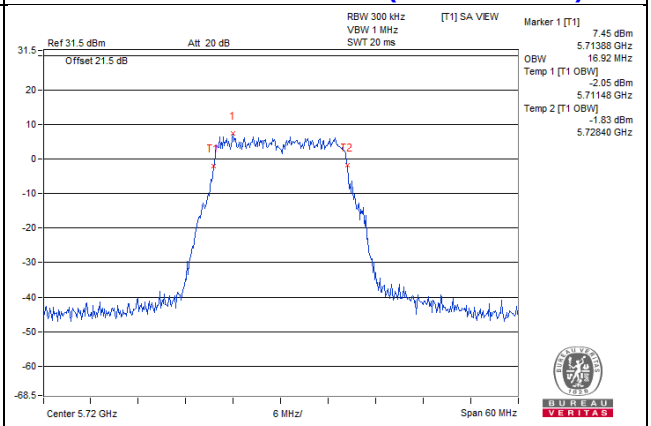
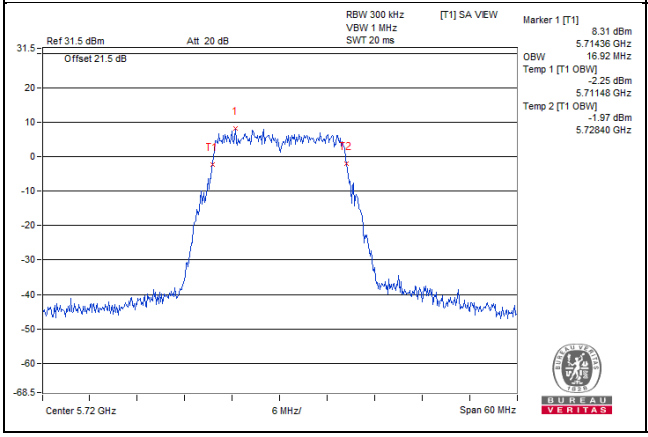
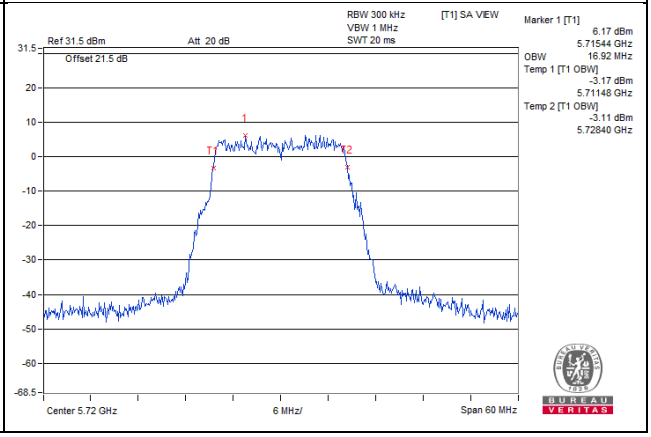
802.11ax (HE80)_Chain 0 / CH106



802.11ax (HE160)_Chain 1 / CH114

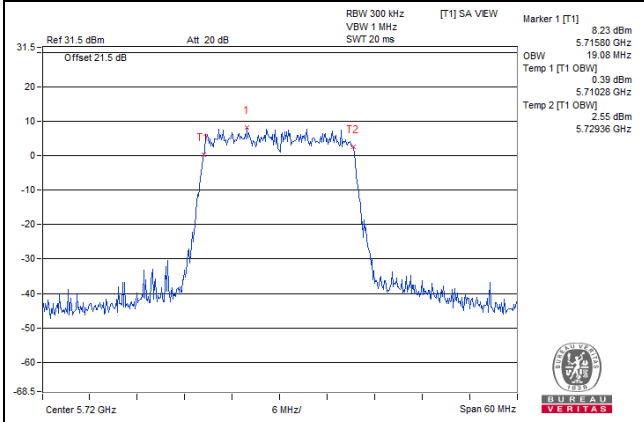


For channel straddling 5725MHz of OCP99 BW

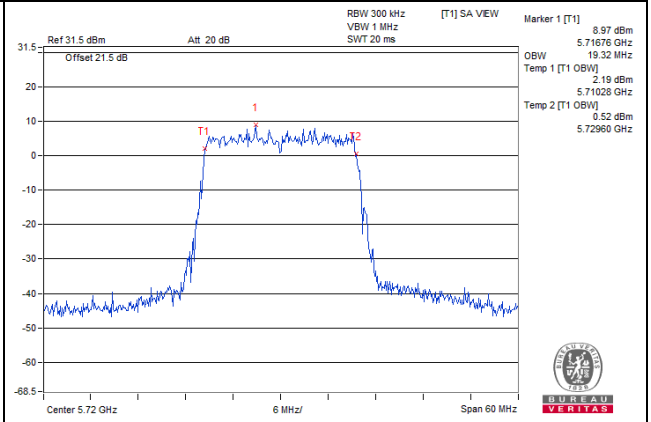
Spectrum Plot Value of OCP99 BW	
802.11a / Chain0 : CH144 (U-NII-2C Band)	**802.11a / Chain1 : CH144 (U-NII-2C Band)**
	
802.11a / Chain2 : CH144 (U-NII-2C Band)	**802.11a / Chain3 : CH144 (U-NII-2C Band)**
	

Spectrum Plot Value of OCP99 BW

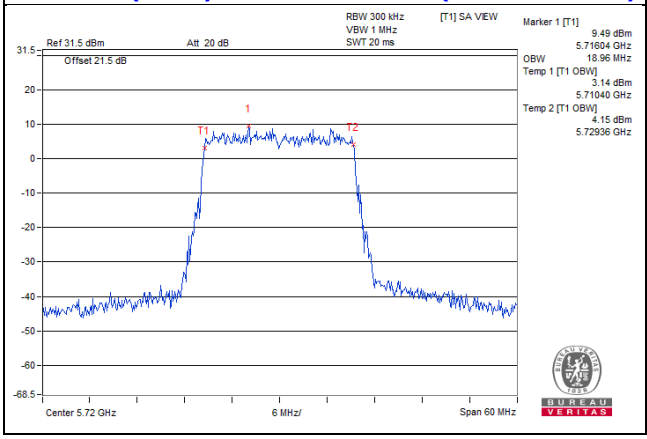
802.11ax (HE20) / Chain0 : CH144 (U-NII-2C Band)



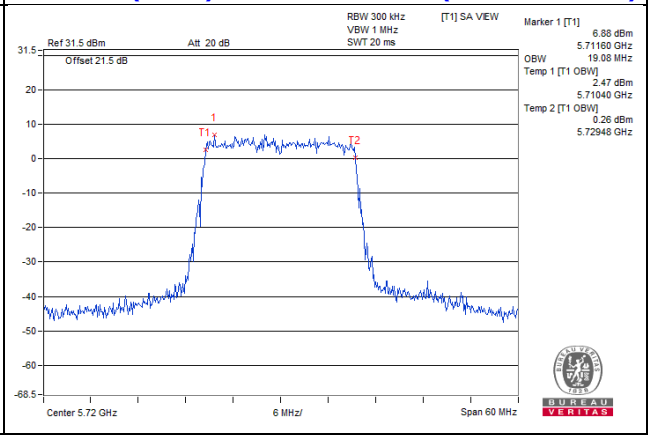
802.11ax (HE20) / Chain1 : CH144 (U-NII-2C Band)

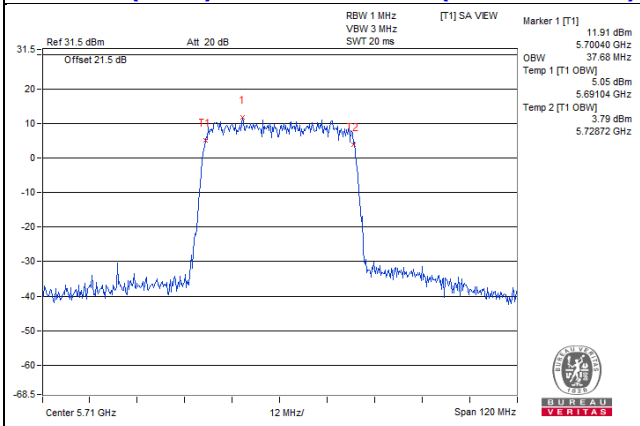
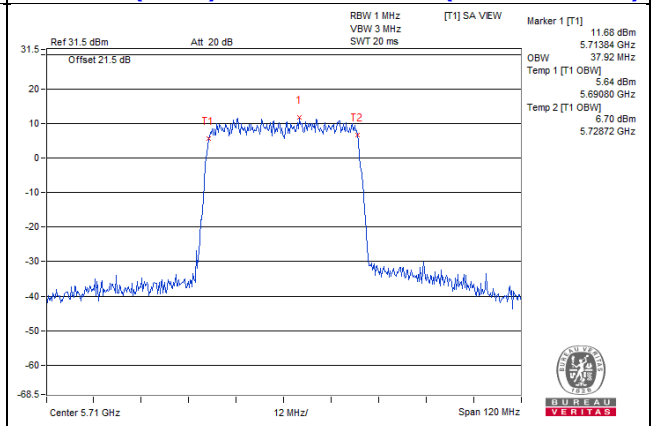
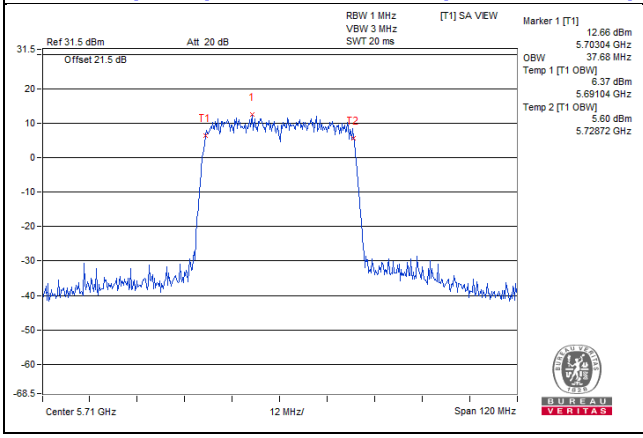
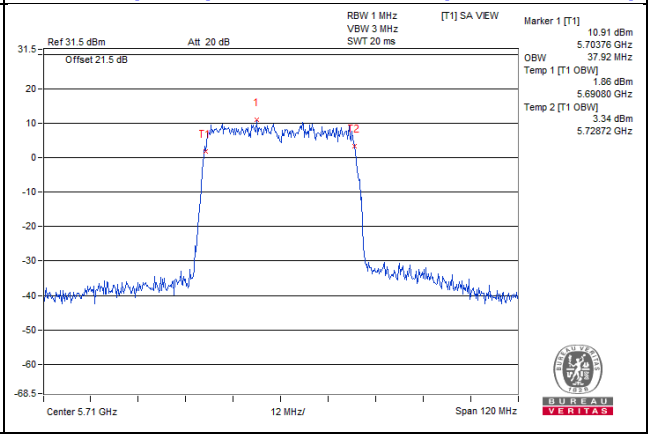


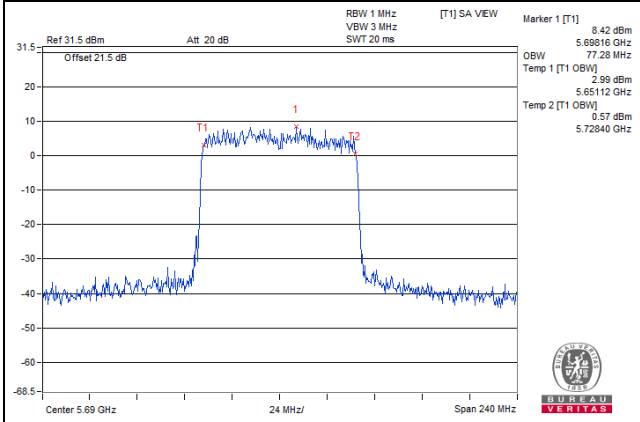
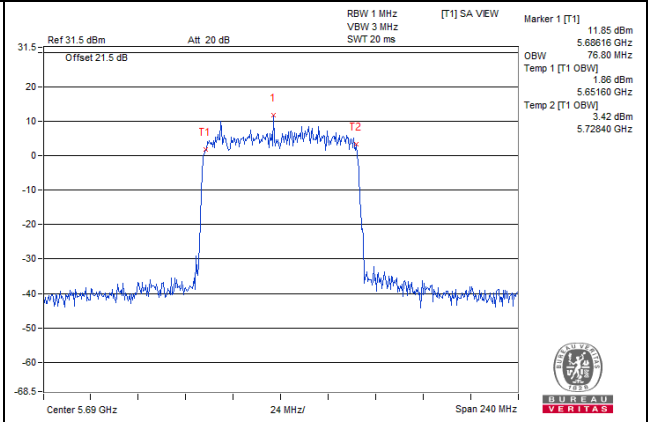
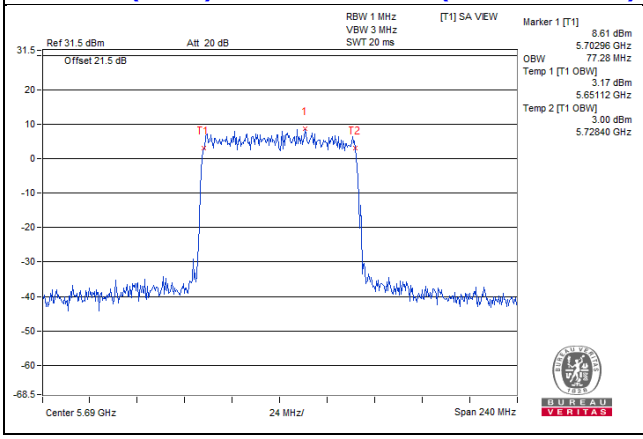
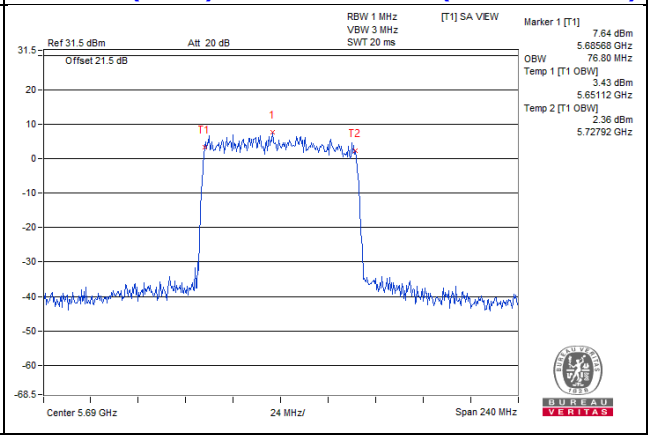
802.11ax (HE20) / Chain2 : CH144 (U-NII-2C Band)



802.11ax (HE20) / Chain3 : CH144 (U-NII-2C Band)



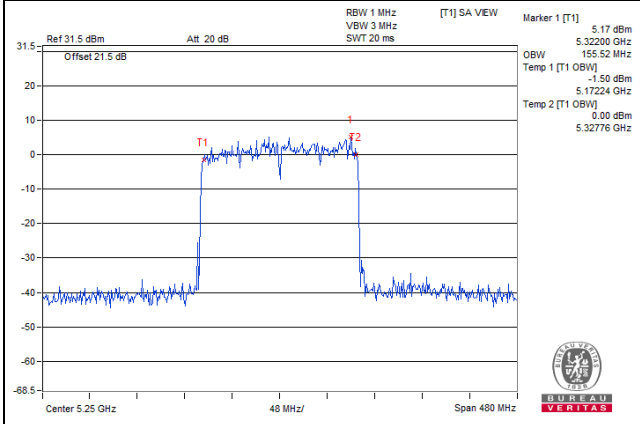
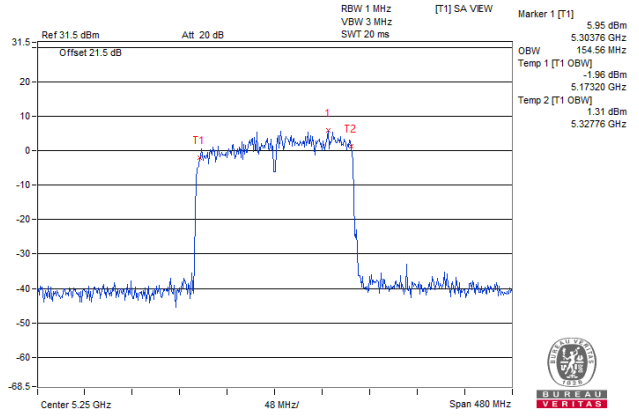
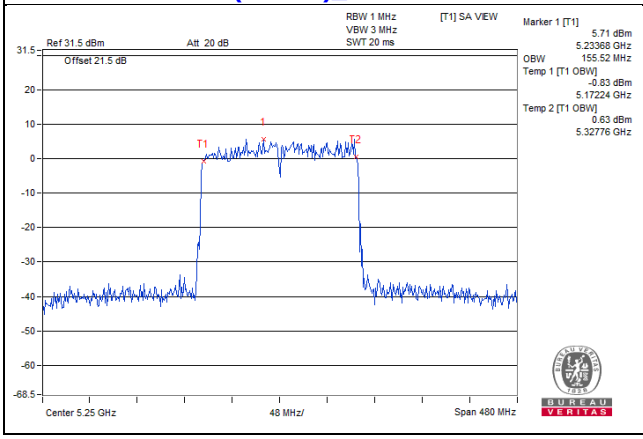
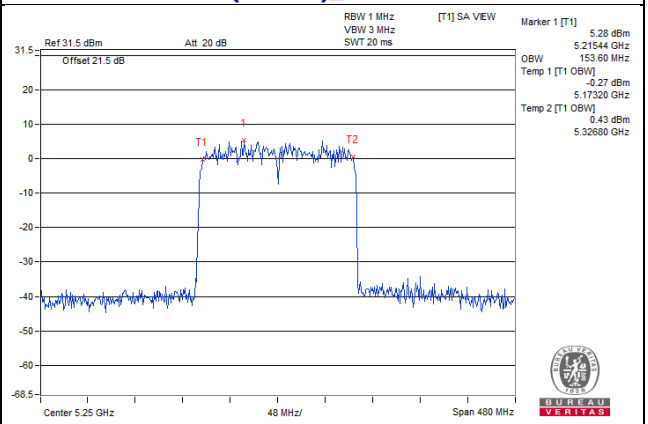
Spectrum Plot Value of OCP99 BW	
802.11ax (HE40) / Chain0 : CH142 (U-NII-2C Band)	**802.11ax (HE40) / Chain1 : CH142 (U-NII-2C Band)**
	
802.11ax (HE40) / Chain2 : CH142 (U-NII-2C Band)	**802.11ax (HE40) / Chain3 : CH142 (U-NII-2C Band)**
	

Spectrum Plot Value of OCP99 BW	
802.11ax (HE80) / Chain0 : CH138 (U-NII-2C Band)	**802.11ax (HE80) / Chain1 : CH138 (U-NII-2C Band)**
	
802.11ax (HE80) / Chain2 : CH138 (U-NII-2C Band)	**802.11ax (HE80) / Chain3 : CH138 (U-NII-2C Band)**
	

Note:

For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

For channel straddling 5250MHz of OCP99 BW

Spectrum Plot Value of OCP99 BW	
802.11ax (HE160)_Chain 0 / CH50	**802.11ax (HE160)_Chain 1 / CH50**
	
802.11ax (HE160)_Chain 2 / CH50	**802.11ax (HE160)_Chain 3 / CH50**
	

Note:

For CH50 (U-NII-1) = 5250MHz - Temp 1

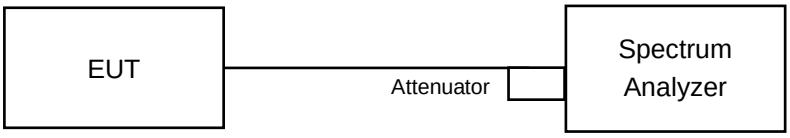
For CH50 (U-NII-2A) = Temp 2 - 5250MHz

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	
		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 Procedure

For 802.11a

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value

For U-NII-3:

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

For other

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

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

For U-NII-3:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

CDD Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	2.23	3.00	2.82	2.22	8.60	9.50	PASS
60	5300	2.35	2.63	2.72	3.10	8.73	9.50	PASS
64	5320	2.64	2.80	3.26	3.20	9.00	9.50	PASS
100	5500	3.18	3.08	3.87	1.56	9.02	9.50	PASS
116	5580	2.63	2.84	3.95	2.32	9.00	9.50	PASS
140	5700	2.43	2.84	3.71	1.97	8.81	9.50	PASS
144 (U-NII-2C Band)	5720	2.51	2.68	3.56	1.97	8.74	9.50	PASS

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50 dBi > 6dBi, so the power density limit shall be reduced to 11-(7.50-6) = 9.50 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	2.07	2.99	3.11	2.53	0.11	8.82	9.50	PASS
60	5300	2.66	2.62	3.40	2.48	0.11	8.94	9.50	PASS
64	5320	1.84	2.83	3.42	2.56	0.11	8.83	9.50	PASS
100	5500	2.26	2.83	3.51	2.53	0.11	8.94	9.50	PASS
116	5580	2.69	2.81	3.39	1.74	0.11	8.83	9.50	PASS
140	5700	2.52	2.62	3.40	1.71	0.11	8.73	9.50	PASS
144 (U-NII-2C Band)	5720	2.49	2.63	3.32	1.94	0.11	8.75	9.50	PASS

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50 dBi > 6dBi, so the power density limit shall be reduced to 11-(7.50-6) = 9.50 dBm.

3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	0.49	1.37	1.32	0.37	0.19	7.12	9.50	PASS
62	5310	0.75	1.03	1.29	0.52	0.19	7.12	9.50	PASS
102	5510	0.34	0.68	1.02	-0.63	0.19	6.61	9.50	PASS
110	5550	0.31	0.37	1.64	0.20	0.19	6.88	9.50	PASS
134	5670	0.52	0.33	1.15	-0.40	0.19	6.65	9.50	PASS
142 (U-NII-2C Band)	5710	0.75	0.64	1.44	0.05	0.19	6.96	9.50	PASS

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50 dBi > 6dBi, so the power density limit shall be reduced to 11-(7.50-6) = 9.50 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-2.19	-1.16	-1.09	-2.45	0.34	4.68	9.50	PASS
106	5530	-1.62	-2.36	-1.12	-1.69	0.34	4.69	9.50	PASS
122	5610	-1.56	-2.24	-1.47	-2.23	0.34	4.50	9.50	PASS
138 (U-NII-2C Band)	5690	-2.02	-2.43	-1.70	-2.75	0.34	4.15	9.50	PASS

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A, U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50 dBi > 6dBi, so the power density limit shall be reduced to 11-(7.50-6) = 9.50 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

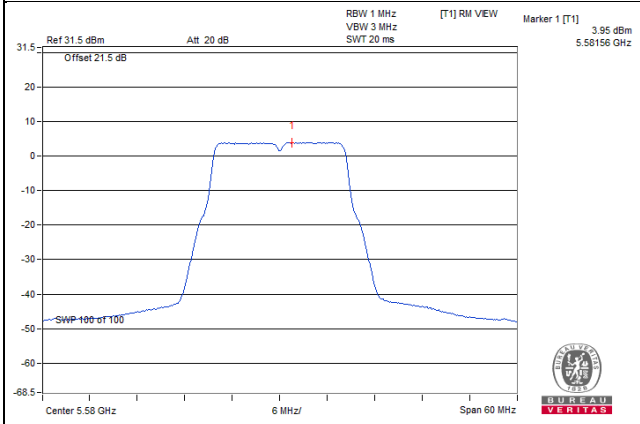
802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
50 (U-NII-1 Band)	5250	-5.52	-5.35	-4.35	-5.27	0.12	1.04	15.50	PASS
50 (U-NII-2A Band)	5250	-5.48	-4.43	-4.23	-5.39	0.12	1.29	9.50	PASS
114	5570	-4.10	-4.45	-3.74	-4.53	0.12	1.95	9.50	PASS

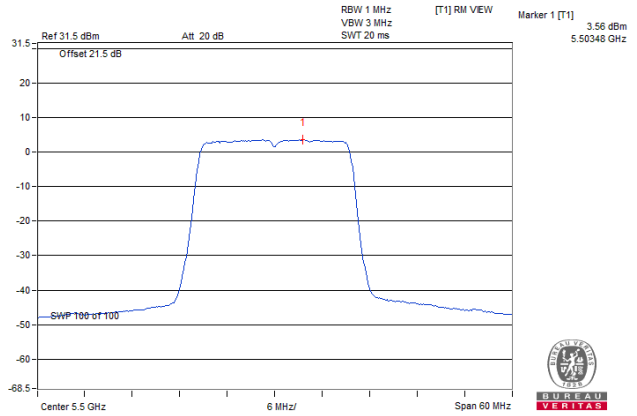
Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50dBi > 6dBi, so the power density limit shall be reduced to 17-(7.50-6) = 15.50dBm.
3. For U-NII-2A, U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] = 7.50 dBi > 6dBi, so the power density limit shall be reduced to 11-(7.50-6) = 9.50 dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

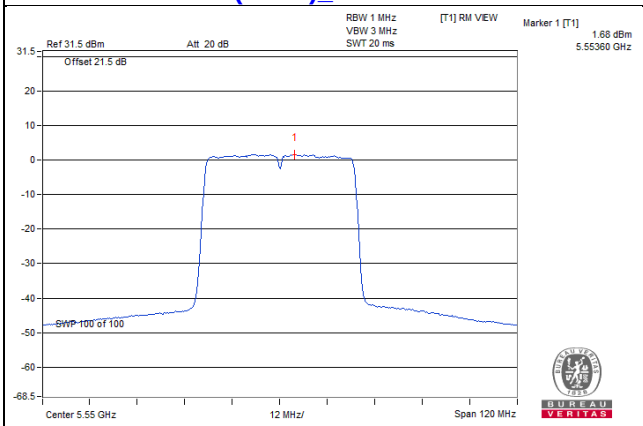
802.11a_Chain 2 / CH116



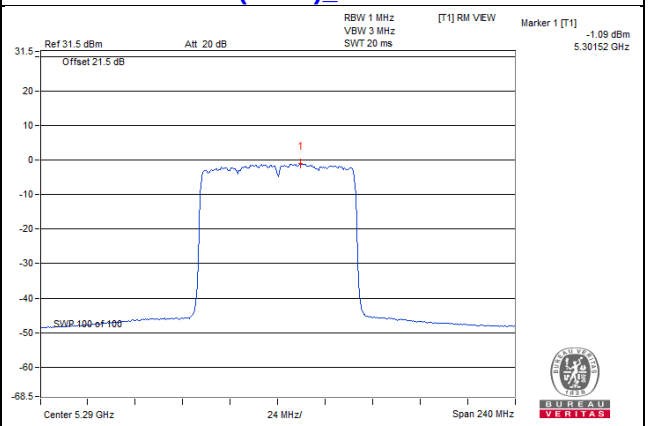
802.11ax (HE20)_Chain 2 / CH100



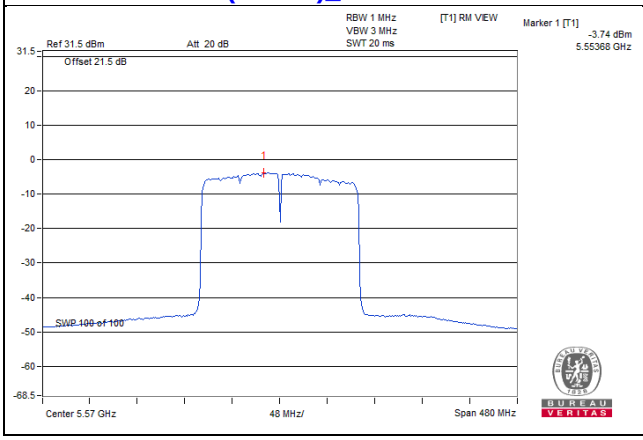
802.11ax (HE40)_Chain 2 / CH110



802.11ax (HE80)_Chain 2 / CH58



802.11ax (HE160)_Chain 2 / CH114



For U-NII-3:

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-5.87	-5.37	-4.65	-6.57	1.1117	0.46	2.68	28.50	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] =7.50 dBi > 6dBi, so the power density limit shall be reduced to 30-(7.50-6) =28.50 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
144 (U-NII-3 Band)	5720	-6.68	-6.45	-5.63	-7.24	0.11	0.9268	-0.33	1.89	28.50	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] =7.50 dBi > 6dBi, so the power density limit shall be reduced to 30-(7.50-6) =28.50 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
142 (U-NII-3 Band)	5710	-8.69	-8.51	-8.29	-9.68	0.19	0.5559	-2.55	-0.33	28.50	PASS

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] =7.50 dBi > 6dBi, so the power density limit shall be reduced to 30-(7.50-6) =28.50 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

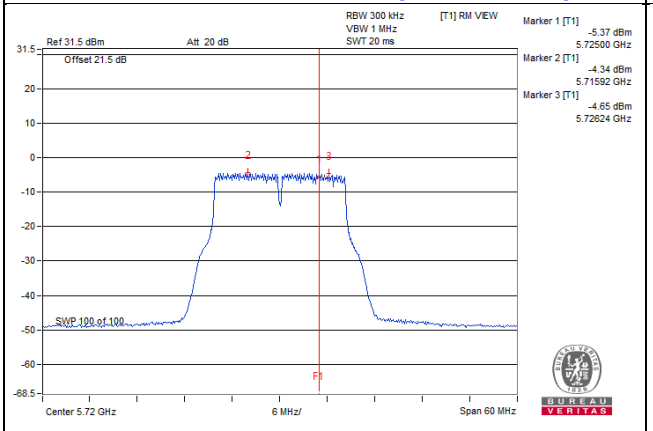
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
138 (U-NII-3 Band)	5690	-12.90	-11.73	-12.45	-13.81	0.34	0.23442	-6.30	-4.08	28.50	PASS

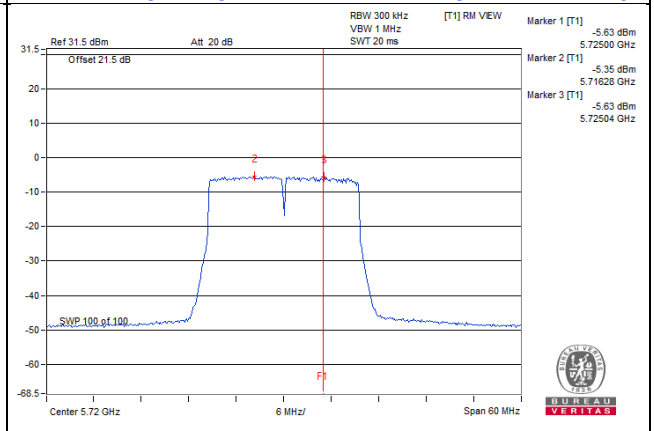
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)2 / 4] =7.50 dBi > 6dBi, so the power density limit shall be reduced to 30-(7.50-6) =28.50 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

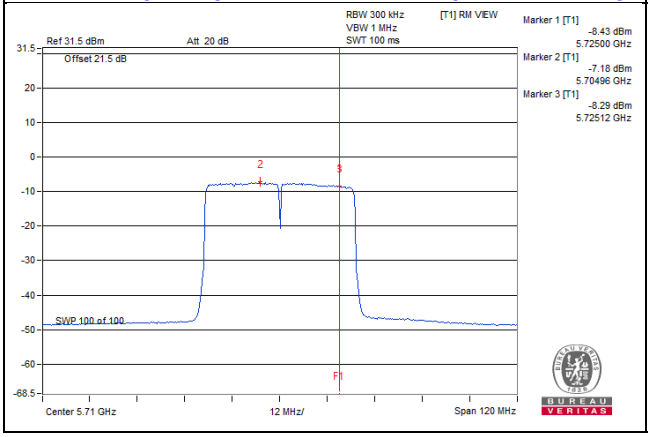
802.11a_Chain 2 / CH144 (U-NII-3 Band)



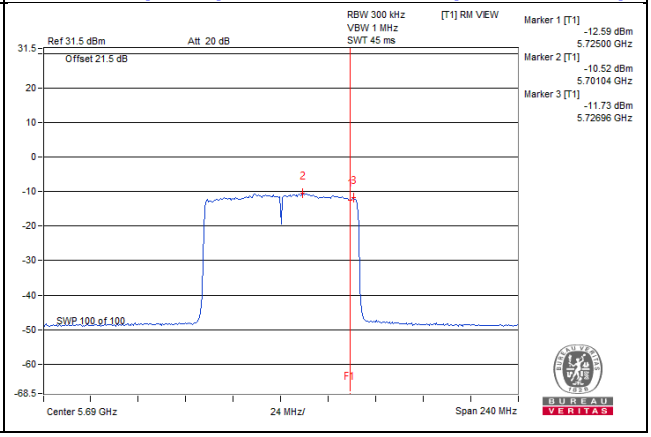
802.11ax (HE20)_Chain 2 / CH144 (U-NII-3 Band)



802.11ax (HE40)_Chain 2 / CH142 (U-NII-3 Band)



802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)

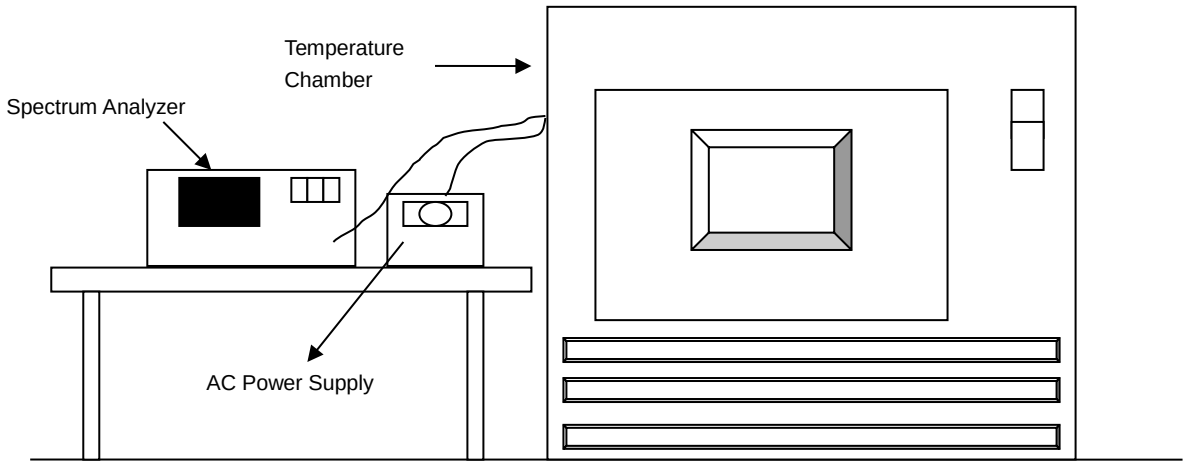


4.6 Frequency Stability Measurement

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

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

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

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

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

e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5260.0042	PASS	5260.0039	PASS	5260.0016	PASS	5260.0013	PASS
30	120	5259.9993	PASS	5259.9997	PASS	5260.0026	PASS	5260.002	PASS
20	120	5260.0034	PASS	5260.0041	PASS	5260.0006	PASS	5259.9999	PASS
10	120	5259.998	PASS	5259.9986	PASS	5259.9963	PASS	5259.9959	PASS
0	120	5260.0045	PASS	5260.0043	PASS	5260.0044	PASS	5260.0039	PASS

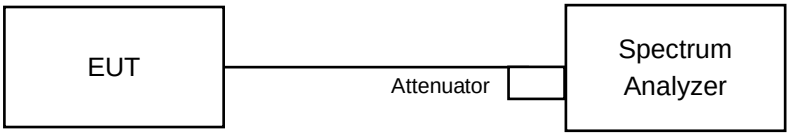
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0035	PASS	5260.0048	PASS	5260.0006	PASS	5259.9997	PASS
	120	5260.0034	PASS	5260.0041	PASS	5260.0006	PASS	5259.9999	PASS
	102	5260.0028	PASS	5260.0034	PASS	5260.0008	PASS	5259.9993	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3 Band)	5720	3.18	3.19	3.18	3.19	0.5	Pass

802.11ax (HE20)

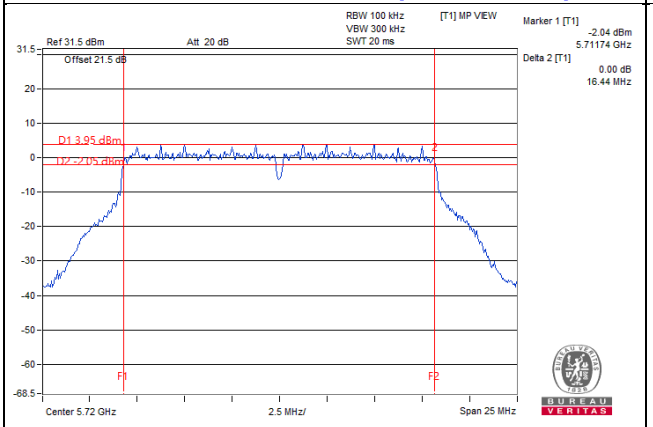
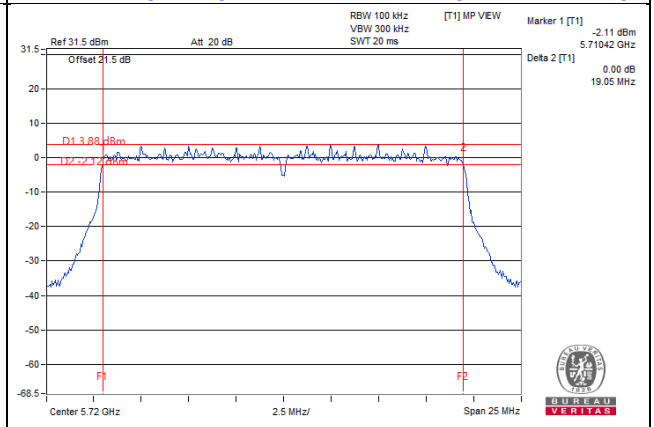
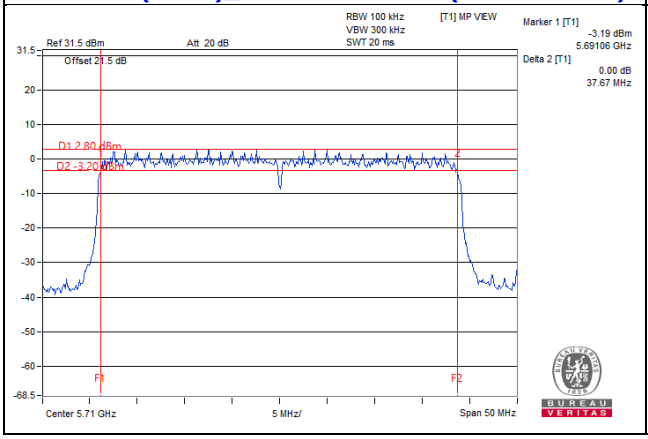
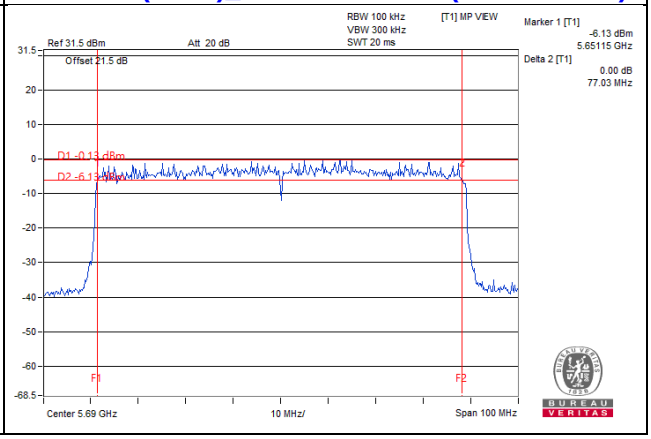
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3 Band)	5720	4.48	4.54	4.49	4.47	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
142 (U-NII-3 Band)	5710	3.73	3.83	3.77	3.77	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
138 (U-NII-3 Band)	5690	3.28	3.18	3.6	3.18	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH144 (U-NII-3 Band)	**802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)**
	
802.11ax (HE40)_Chain 0 / CH142 (U-NII-3 Band)	**802.11ax (HE80)_Chain 1 / CH138 (U-NII-3 Band)**
	

Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

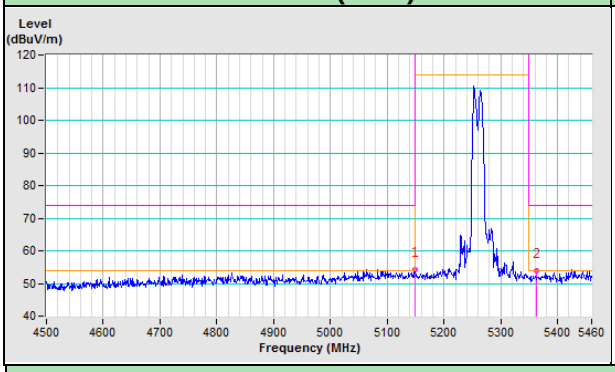
Please refer to the attached file (Test Setup Photo).

Annex A - Band-Edge Measurement (For U-NII-2A, U-NII-2C band)

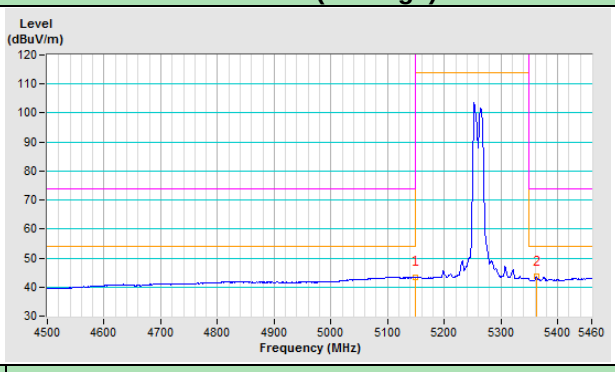
802.11a

Channel 52

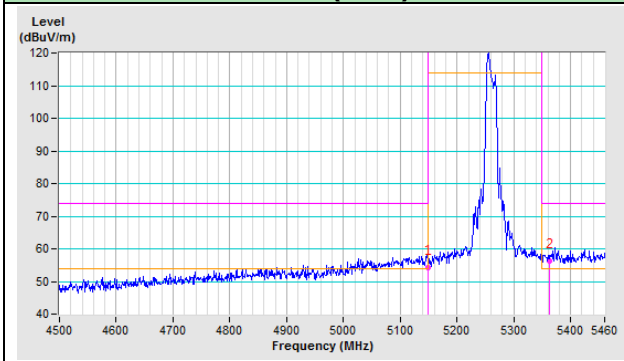
Horizontal (Peak)



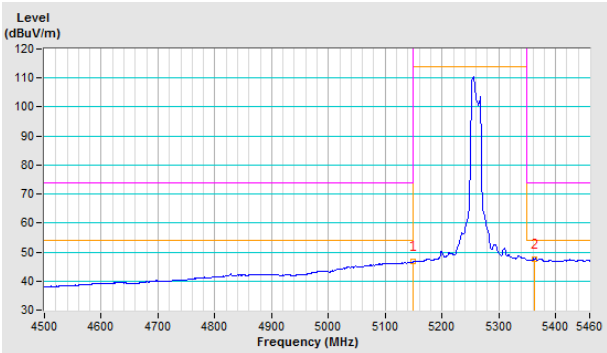
Horizontal (Average)



Vertical (Peak)

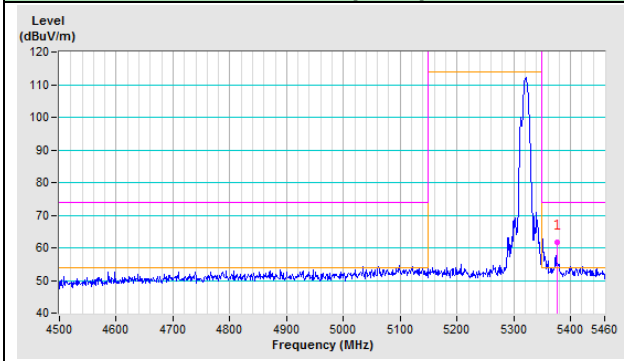


Vertical (Average)

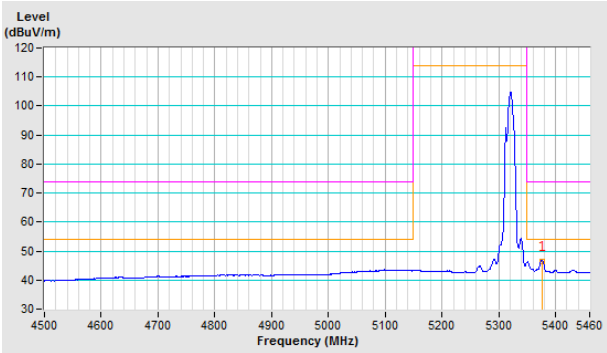


Channel 64

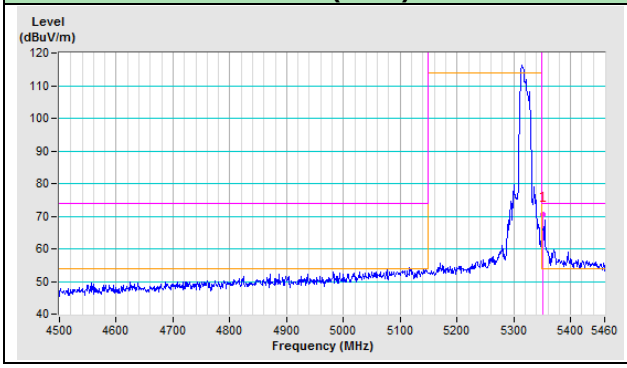
Horizontal (Peak)



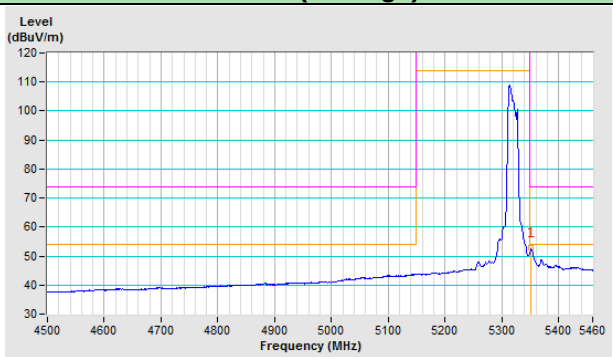
Horizontal (Average)

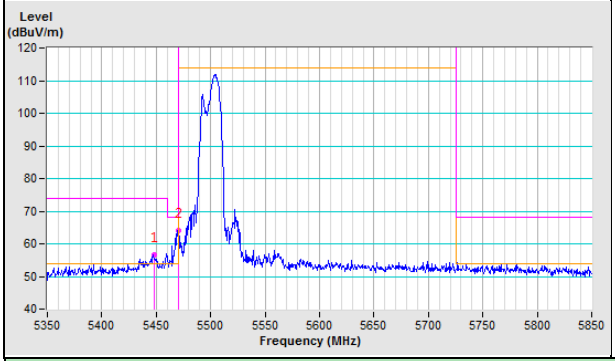
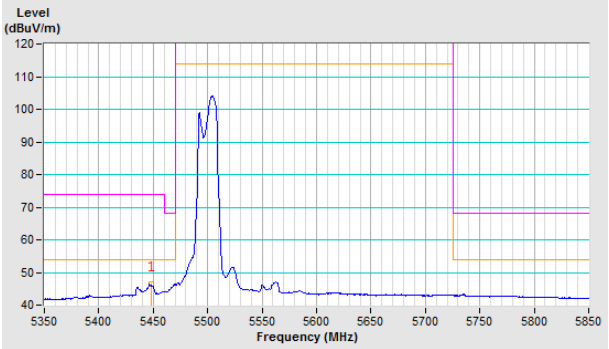
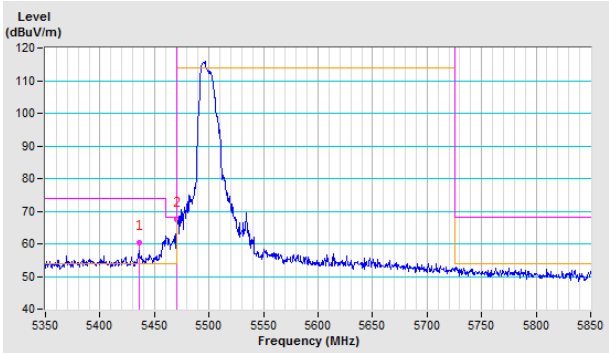
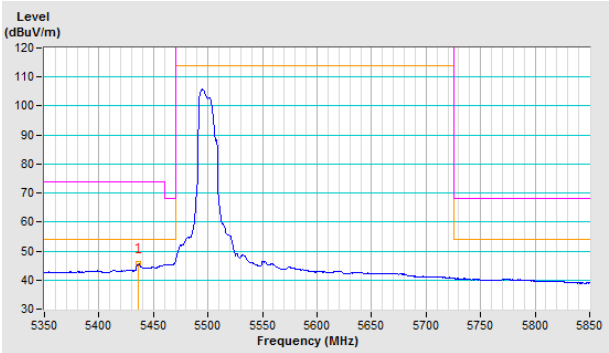


Vertical (Peak)



Vertical (Average)

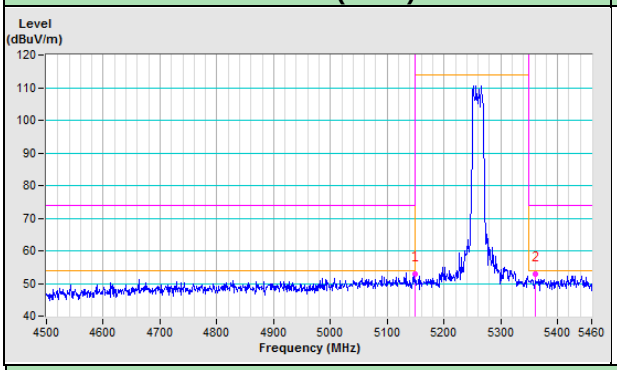


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

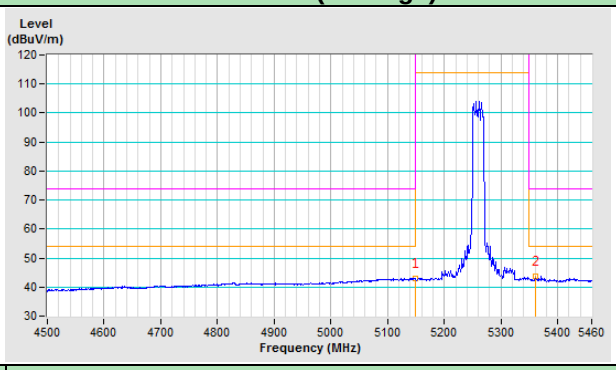
802.11ax (HE20)

Channel 52

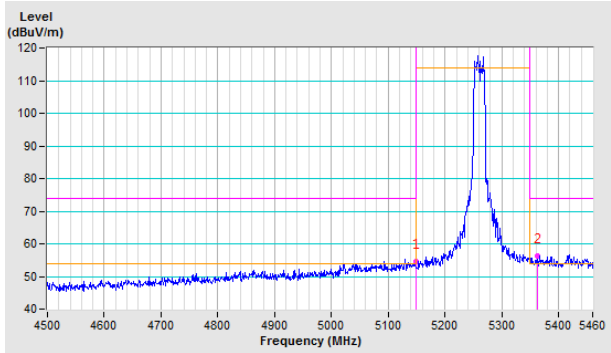
Horizontal (Peak)



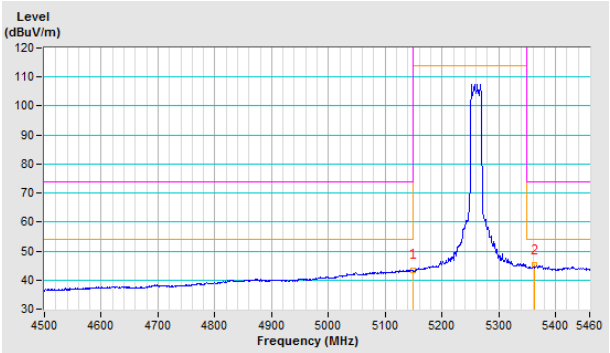
Horizontal (Average)



Vertical (Peak)

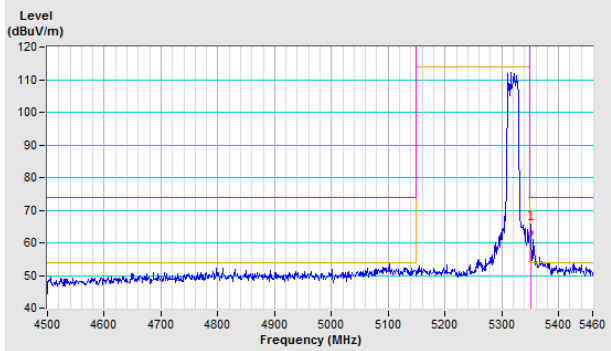


Vertical (Average)

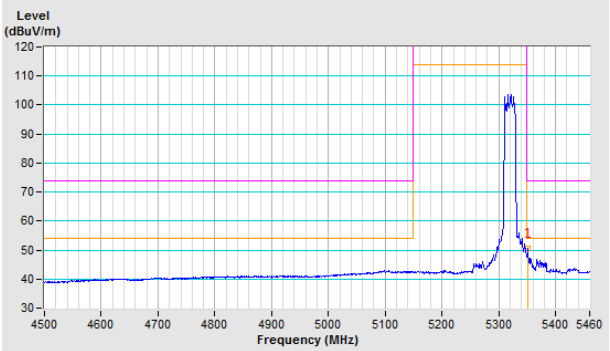


Channel 64

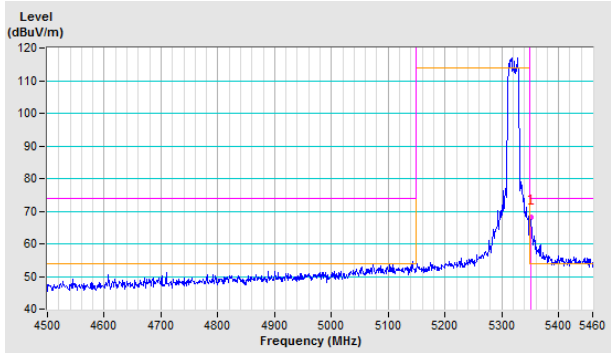
Horizontal (Peak)



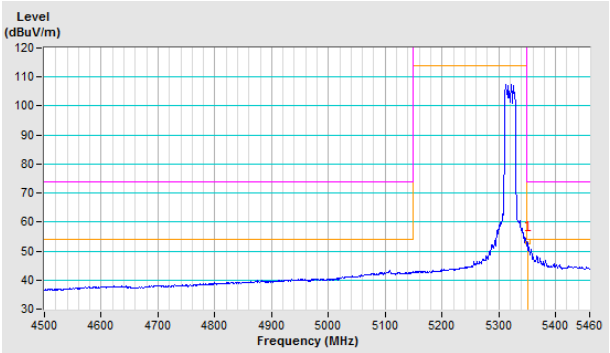
Horizontal (Average)

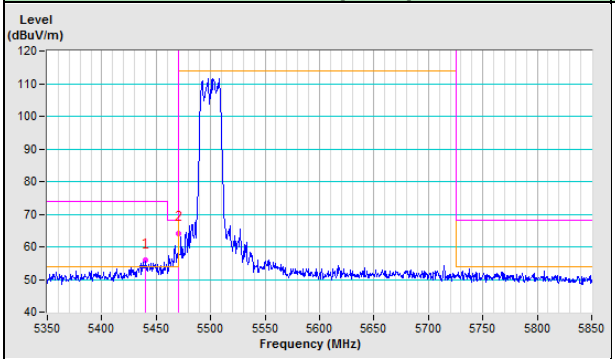
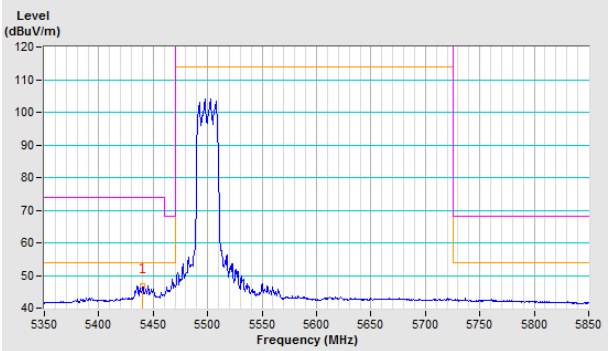
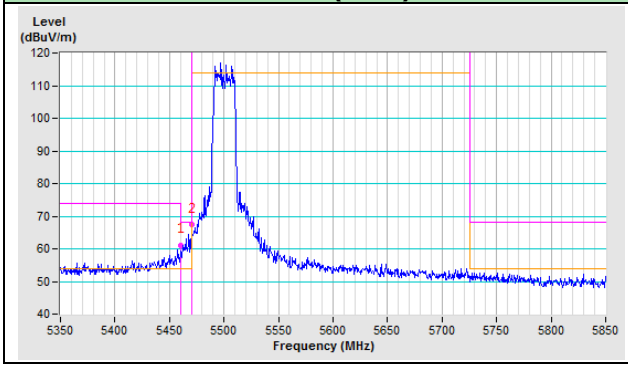
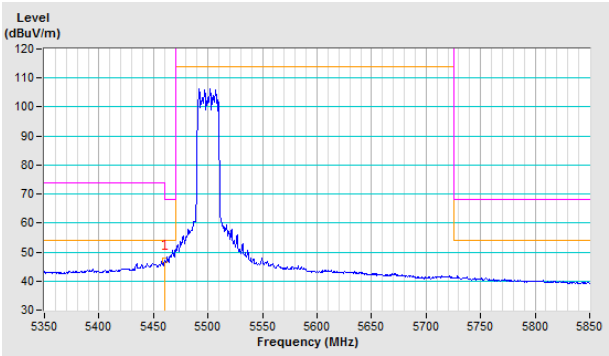


Vertical (Peak)



Vertical (Average)

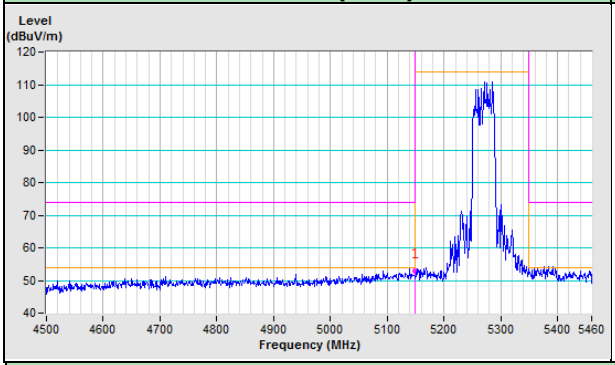


Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

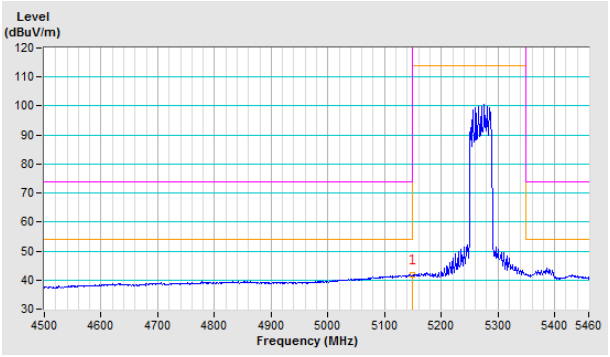
802.11ax (HE40)

Channel 54

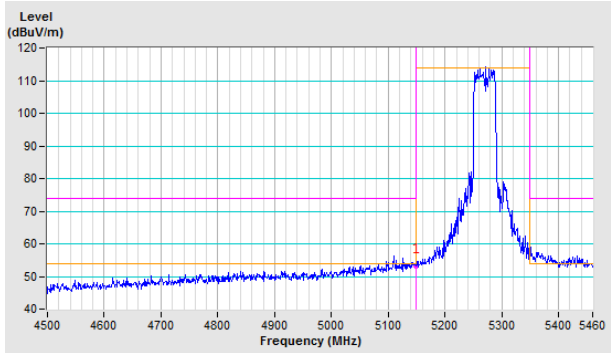
Horizontal (Peak)



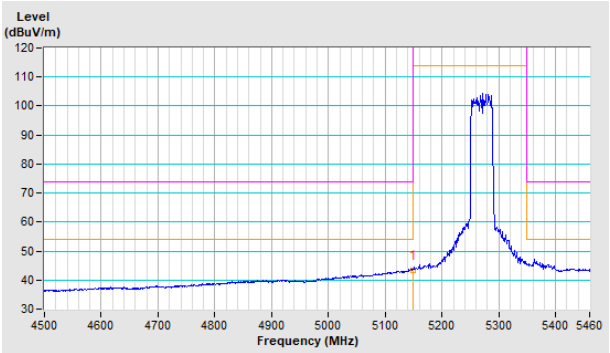
Horizontal (Average)



Vertical (Peak)

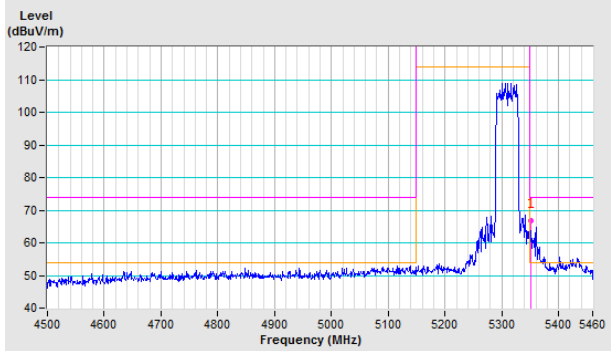


Vertical (Average)

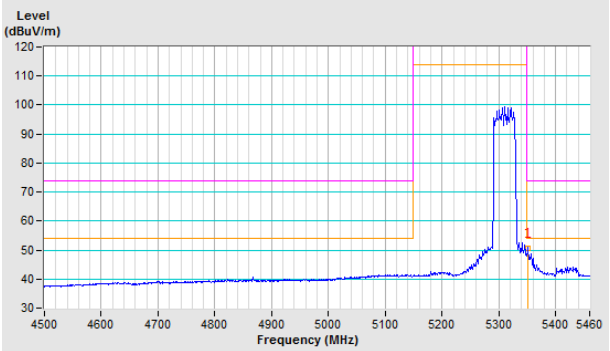


Channel 62

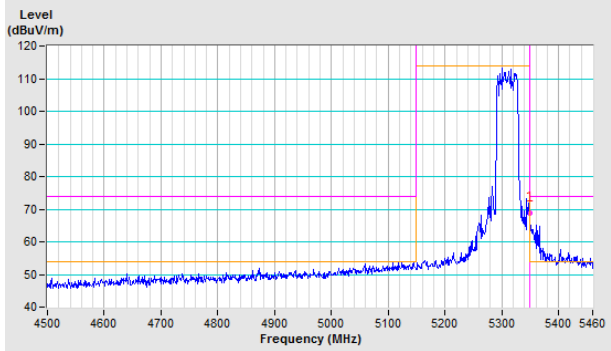
Horizontal (Peak)



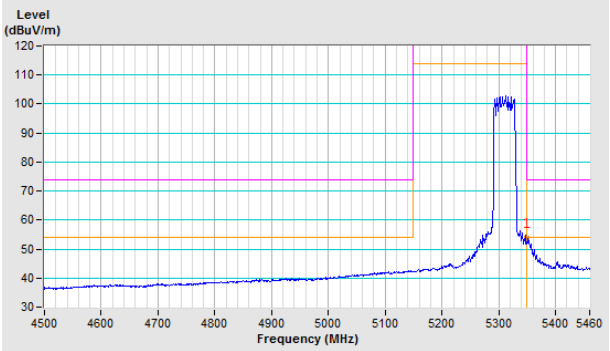
Horizontal (Average)

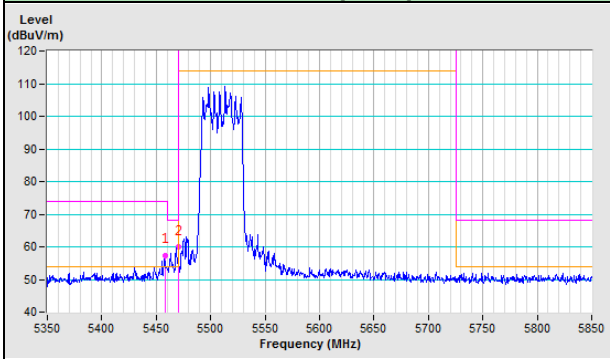
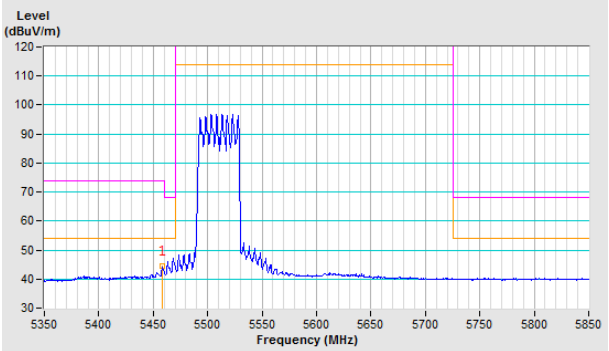
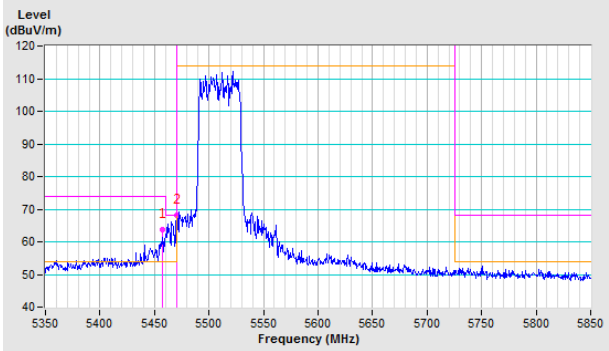
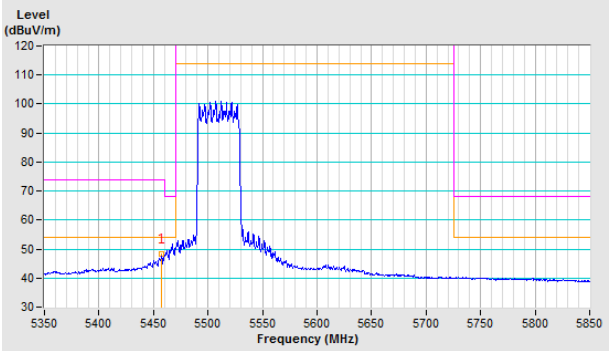


Vertical (Peak)



Vertical (Average)

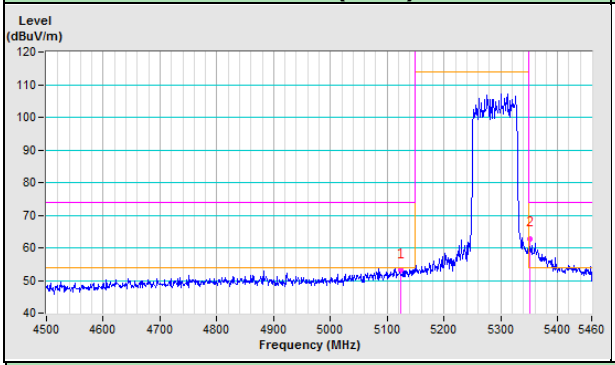


Channel 102	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

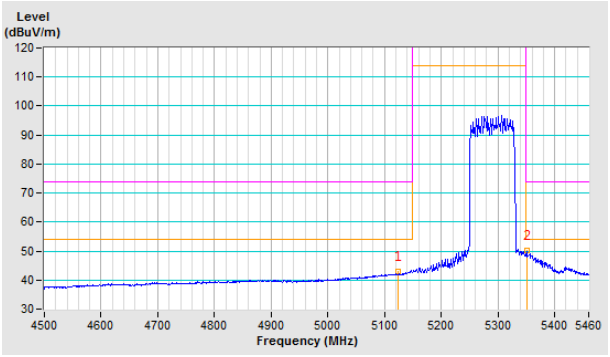
802.11ax (HE80)

Channel 58

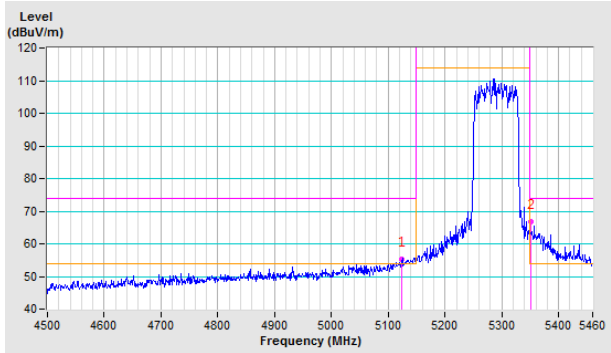
Horizontal (Peak)



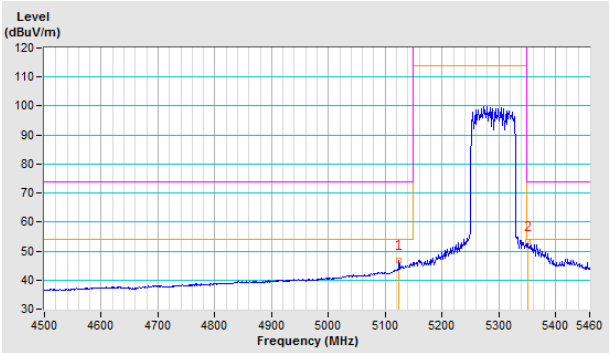
Horizontal (Average)



Vertical (Peak)

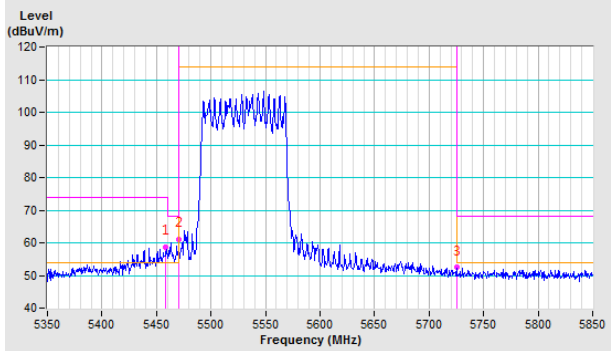


Vertical (Average)

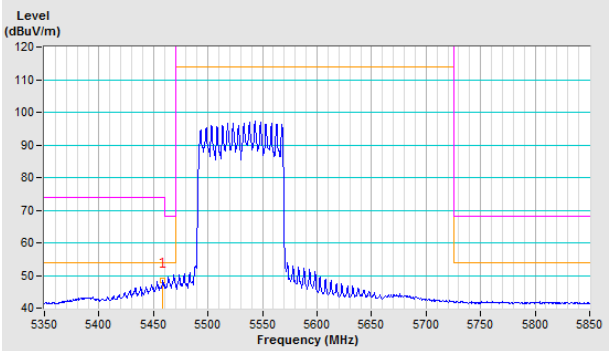


Channel 106

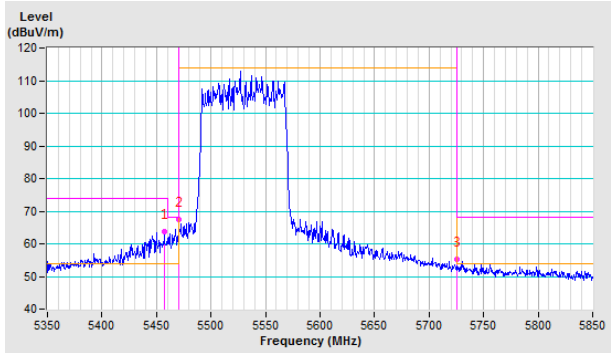
Horizontal (Peak)



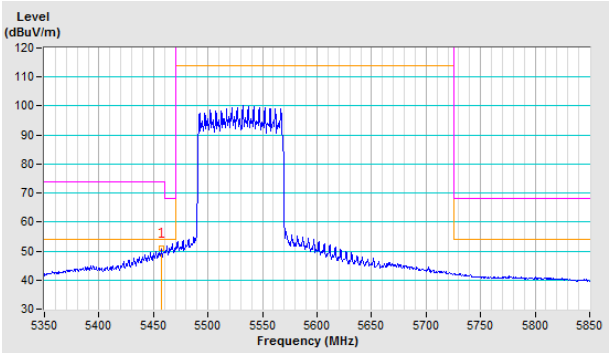
Horizontal (Average)



Vertical (Peak)



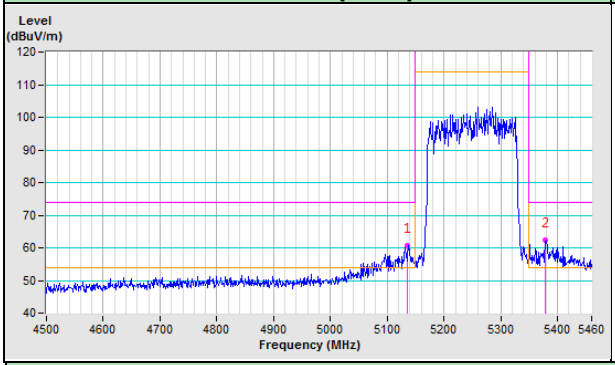
Vertical (Average)



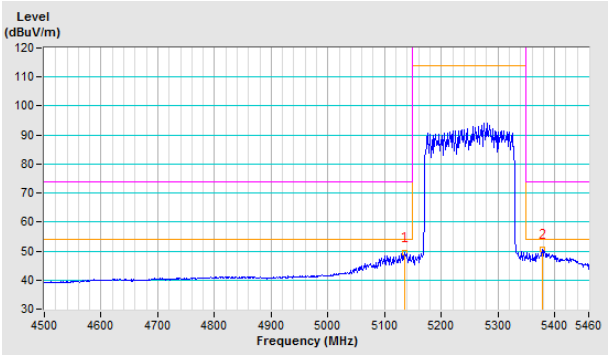
802.11ax (HE160)

Channel 50

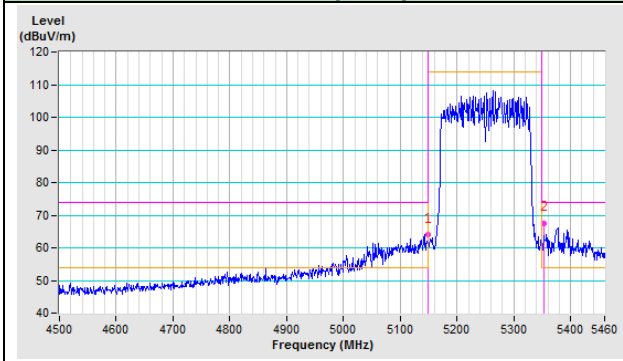
Horizontal (Peak)



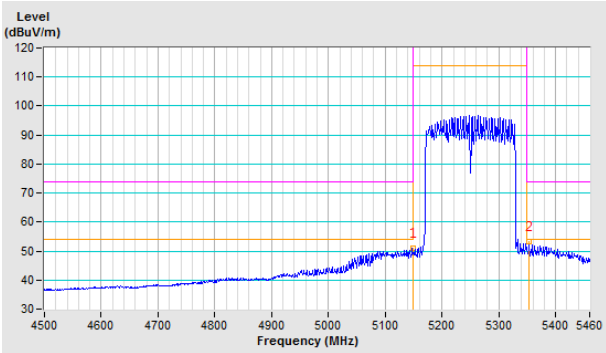
Horizontal (Average)



Vertical (Peak)

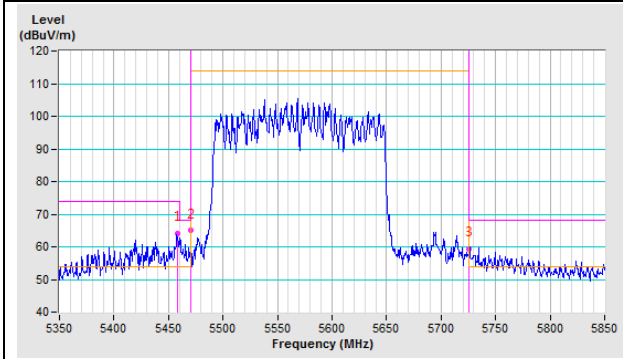


Vertical (Average)

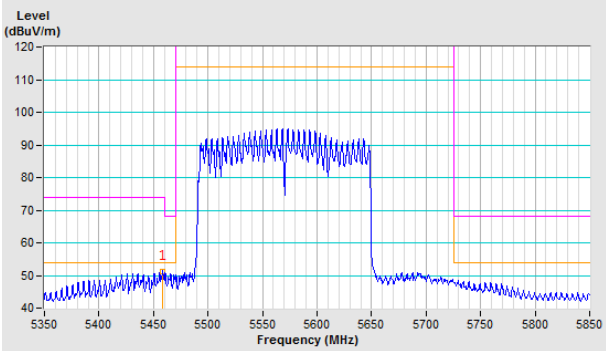


Channel 114

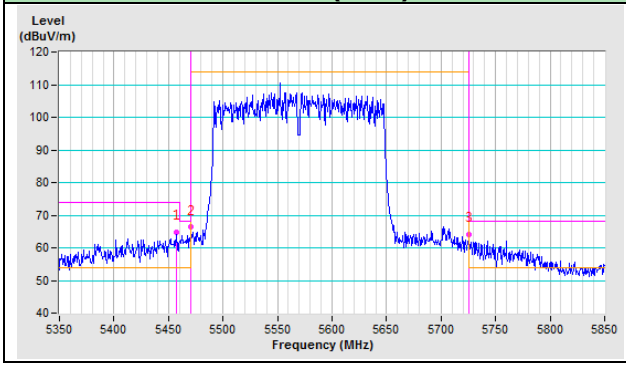
Horizontal (Peak)



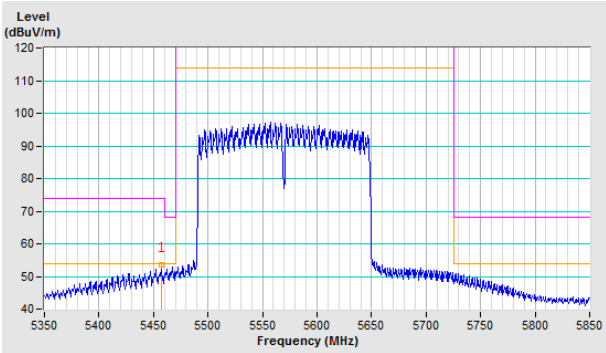
Horizontal (Average)



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 according to ISO/IEC 17025.

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

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Web Site: www.bureauveritas-adt.com

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

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