FCC Test Report (DFS Band)

Report No.:	RFBCMA-WTW-P21010371-2
FCC ID:	RAXCM4642342
Test Model:	CM4642342XXX
Series Model:	CG4634XXXXXX (where X character can be replaced by either alphanumeric character between A and Z and between 0 and 9 or "-" or "." or "blank")
Received Date:	Dec. 22, 2020
Test Date:	Jan. 05 to Feb. 02, 2021
Issued Date:	Feb. 26, 2021
Applicant:	Arcadyan Technology Corporation
Address:	No.8, Sec.2, Guangfu Rd.,Hsinchu City 30071, Taiwan, R.O.C.
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

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

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Release Control Record

Issue No.	Description	Date Issued
RFBCMA-WTW-P21010371-2	Original release.	Feb. 26, 2021

1 Certificate of Conformity

Product: DOCSIS® 3.1 Dual-Band AX5660 Wi-Fi 6 Cable Gateway

Brand: XTREAM

Test Model: CM4642342XXX

Series Model: CG4634XXXXXX
(where X character can be replaced by either alphanumeric character between A and Z and between 0 and 9 or "-" or "." or "blank")

Sample Status: ENGINEERING SAMPLE

Applicant: Arcadyan Technology Corporation

Test Date: Jan. 05 to Feb. 02, 2021

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 : Vivian Huang , **Date:** Feb. 26, 2021
Vivian Huang / Specialist

Approved by : , **Date:** Feb. 26, 2021
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 -17.1 dB at 0.33359 MHz.
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 -0.1 dB at 5351.02 MHz and 5725.00 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(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:
1. For U-NII-2A and 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	5.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 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 (DFS Band)

Product	DOCSIS® 3.1 Dual-Band AX5660 Wi-Fi 6 Cable Gateway
Brand	XTREAM
Test Model	CM4642342XXX
Series Model	CG4634XXXXXX (where X character can be replaced by either alphanumeric character between A and Z and between 0 and 9 or "-" or "." or "blank")
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12 Vdc 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	5.25 ~ 5.32 GHz, 5.50 ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 8 802.11ac (VHT80), 802.11ax (HE80): 4 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	**CDD Mode:** **5.25 ~ 5.32 GHz:** 245.391 mW **5.5 ~ 5.72 GHz:** 237.806 mW **Beamforming Mode:** **5.25 ~ 5.32 GHz:** 142.349 mW **5.5 ~ 5.72 GHz:** 142.693 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RFBCMA-WTW-P21010371-1 as the following:
   - ◆ Add DFS band <5250~5350 MHz & 5470~5725 MHz> 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 radios as following table:

Radio 1	Radio 2
WLAN 2.4GHz	WLAN 5GHz

4. 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.		

5. The EUT has below model names, which are identical to each other in all aspects except for the following information:

Brand	Model No.	Differences
XTREAM	CM4642342XXX	NA
	CG4634XXXXXX (where X character can be replaced by either alphanumeric character between A and Z and between 0 and 9 or "-" or "." or "blank")	For marketing reason the same product will be covered by different name.

From the above models, model: **CM4642342XXX** was selected as representative model for the test and its data was recorded in this report.

6. The EUT must be supplied with a power adapter as following table:

Brand	Model No.	Spec.
HONOTO	ADS-36FKJ-12 12036EPCU	AC Input: 100-240Vac, 1A, 50/60Hz DC Output: 12V, 3.0A DC Output Cable: 1.5m unshielded

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

Ant. No	RF Chain No.	Ant. Net Gain (dBi)	Freq. Range (GHz)	Ant. Type	Connector Type
1	2.4GHz Chain 0	1.83	2.4~2.4835	PCB	none
2	2.4GHz Chain 1	0.03	2.4~2.4835	PCB	none
3	2.4GHz Chain 2	1.97	2.4~2.4835	PCB	none
4	5GHz Chain 0	1.81	5.15~5.85	PCB	none
5	5GHz Chain 1	3.32	5.15~5.85	PCB	none
6	5GHz Chain 2	2.37	5.15~5.85	PCB	none
7	5GHz Chain 3	2.07	5.15~5.85	PCB	none

8. The EUT incorporates a MIMO function.

2.4GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11b	3TX	3RX
802.11g	3TX	3RX
802.11n (HT20)	3TX	3RX
802.11n (HT40)	3TX	3RX
VHT20	3TX	3RX
VHT40	3TX	3RX
802.11ax (HE20)	3TX	3RX
802.11ax (HE40)	3TX	3RX
5GHz Band		
MODULATION MODE	**TX & RX CONFIGURATION**	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

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 mode 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.
10. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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 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	122	5610 MHz
138	5690 MHz		

1 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

Note: The EUT had been pre-tested on the positioned of laying-flat and Standing Plane. The worst case was found when positioned of on **Standing Plane**.

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	5250-5320	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 (HE80)	5250-5320 5500-5720	58, 106 to 138	58	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 (HE80)	5250-5320 5500-5720	58, 106 to 138	58	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	5250-5320	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, 138	OFDM	BPSK	MCS0
802.11ac (VHT160) (output power only)		114	114	OFDMA	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, 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)	5250-5320	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, 138	OFDM	BPSK	MCS0
802.11ac (VHT160)		114	114	OFDMA	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, 138	OFDMA	BPSK	MCS0
802.11ax (HE160)		114	114	OFDMA	BPSK	MCS0

Test Condition:

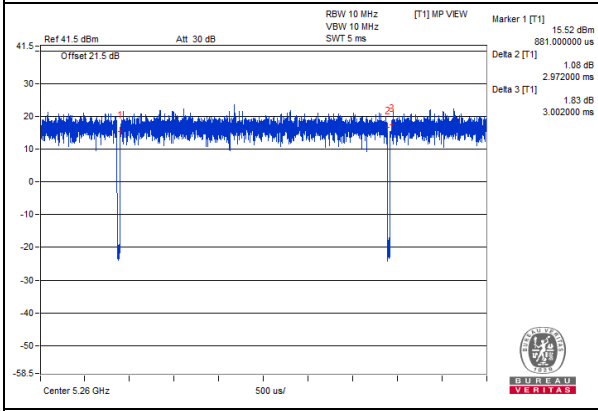
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	25deg. C, 69%RH	120Vac, 60Hz	Benson Chao
RE<1G	22deg. C, 66%RH	120Vac, 60Hz	Benson Chao
PLC	25deg. C, 71%RH	120Vac, 60Hz	Sampon Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

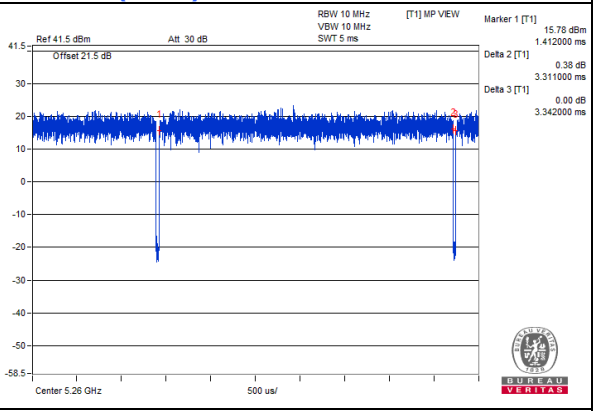
Duty cycle of test signal is > 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.972 ms/3.002 ms = 0.99
802.11ax (HE20): Duty cycle = 3.311 ms/3.342 ms = 0.991
802.11ax (HE40): Duty cycle = 2.498 ms/2.538 ms = 0.984
802.11ax (HE80): Duty cycle = 2.451 ms/2.487 ms = 0.986
802.11ax (HE160): Duty cycle = 2.996 ms/3.03 ms = 0.989

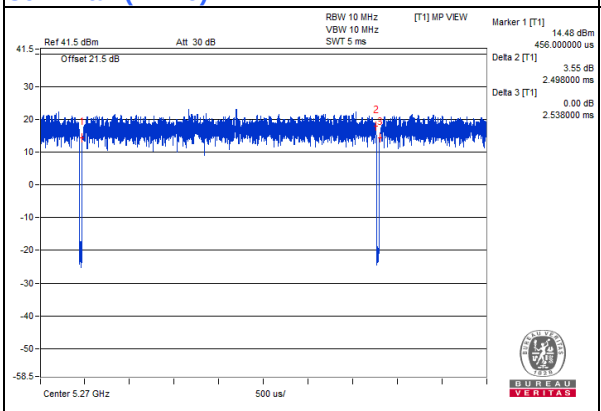
802.11a



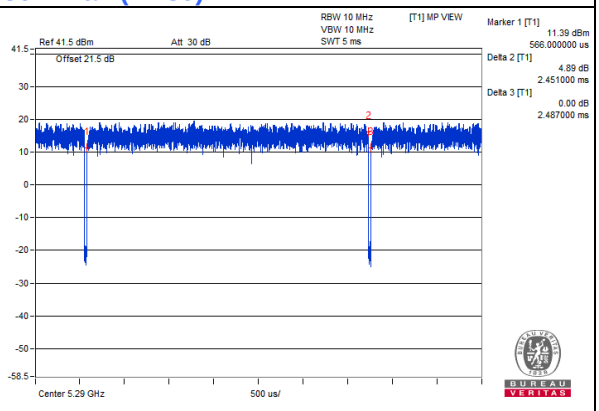
802.11ax (HE20)



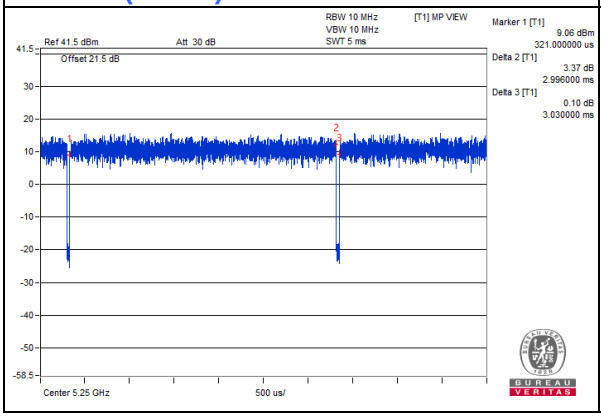
802.11ax (HE40)



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.

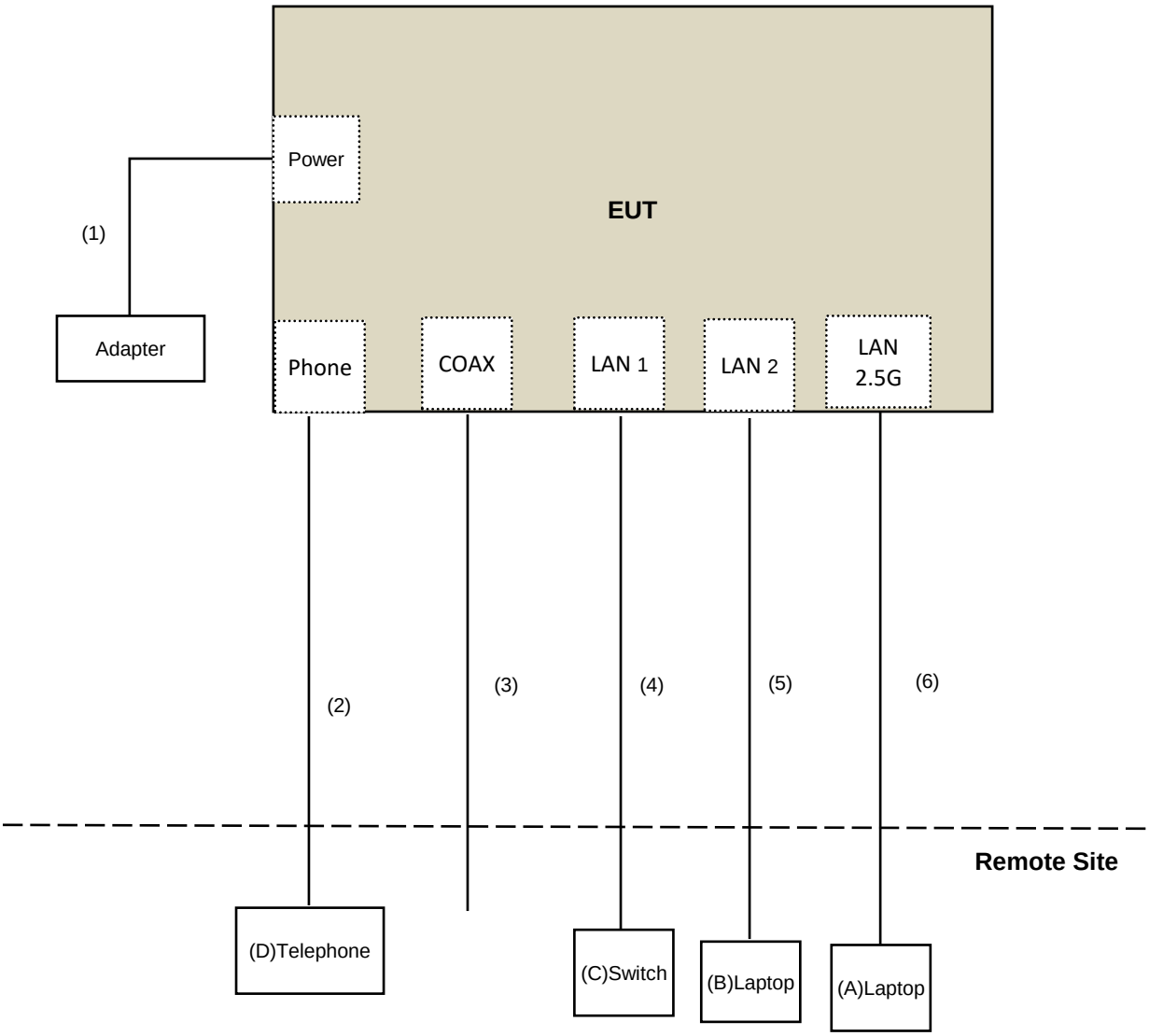
ID	Product	Brand	Model No.	Serial No	FCC ID	Remarks
A.	Laptop	DELL	E6420	482T3R1	FCC DoC	Provided by Lab
B.	Laptop	DELL	E5430	GM1SKV1	FCC DoC	Provided by Lab
C.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab
D.	Telephone	Romeo	TE-812	97280903	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.5m).

ID	Descriptions (Cables)	Qty	Length (m)	Shielding (Yes/No)	Cores (Number)	Remarks
1	DC Cable	1	1.5	No	0	Supplied by client
2	RJ-11 Cable	1	10	No	0	Provided by Lab
3	Coaxial Cable	1	10	Yes	0	Provided by Lab
4	RJ-45 Cable	1	10	No	0	Provided by Lab
5	RJ-45 Cable	1	10	No	0	Provided by Lab
6	RJ-45 Cable	1	10	No	0	Provided by Lab

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
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

For Bandedge Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESR7	102026	Apr. 22, 2020	Apr. 21, 2021
Spectrum Analyzer Keysight	N9030B	MY57141948	May 22, 2020	May 21, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980509	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-1500	180503	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-2000	180501	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-6000	180506	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
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
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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. 5.
3. Tested Date: Jan. 05, 2021

For Radiated Emission Test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESR7	102026	Apr. 22, 2020	Apr. 21, 2021
Spectrum Analyzer Keysight	N9030B	MY57141948	May 22, 2020	May 21, 2021
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	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980538	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB9168	9168-0842	Nov. 03, 2020	Nov. 02, 2021
RF Cable	8D	966-5-1	Apr. 29, 2020	Apr. 28, 2021
RF Cable	8D	966-5-2	Apr. 29, 2020	Apr. 28, 2021
RF Cable	8D	966-5-3	Apr. 29, 2020	Apr. 28, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980509	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-1500	180503	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-2000	180501	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCI	EMC104-SM-SM-6000	180506	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	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. 5.
3. Tested Date: Jan. 18 to 30, 2021

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 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 14, 2021	Jan. 13, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 06, 2020	June 05, 2021
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: Feb. 02, 2021

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:

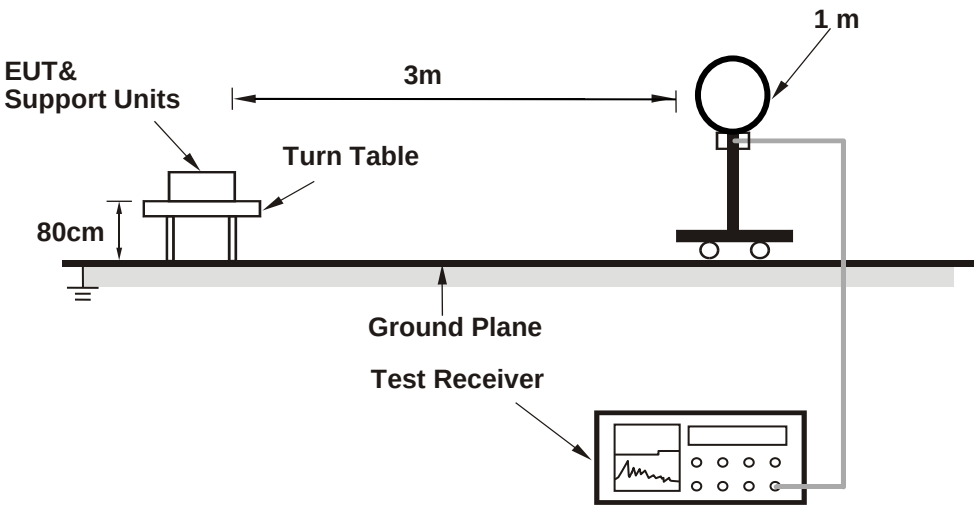
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

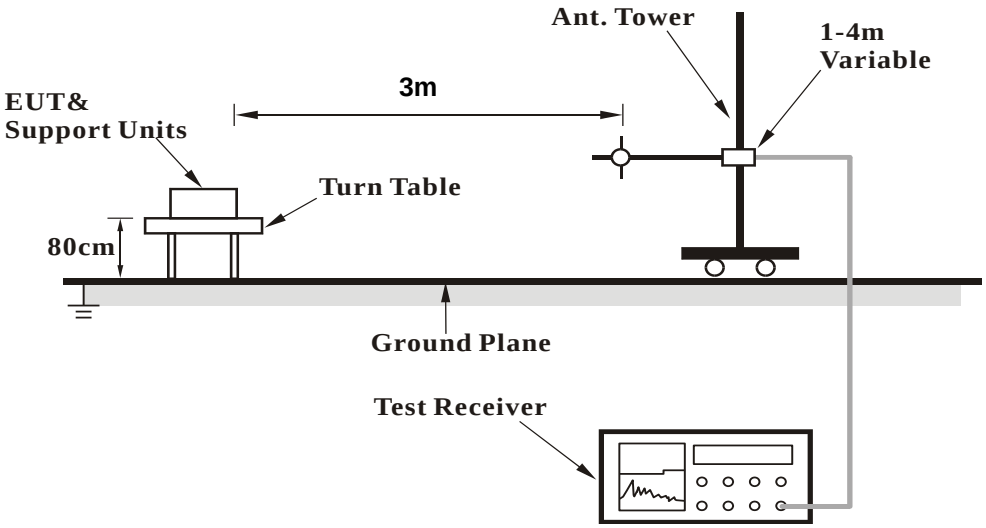
No deviation.

4.1.5 Test Setup

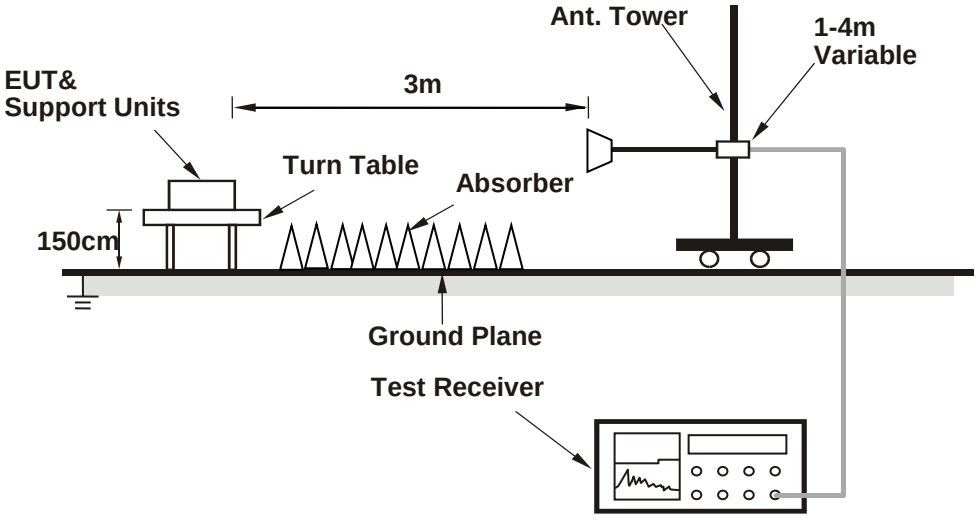
For Radiated emission below 30MHz



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 (CM4642342_MM.rtf) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	5148.86	57.7 PK	74.0	-16.3	1.64 H	346	55.7	2.0
2	5148.86	46.9 AV	54.0	-7.1	1.64 H	346	44.9	2.0
3	*5260.00	123.1 PK			1.64 H	346	121.5	1.6
4	*5260.00	112.3 AV			1.64 H	346	110.7	1.6
5	#10520.00	57.1 PK	68.2	-11.1	1.16 H	267	45.5	11.6
6	15780.00	61.4 PK	74.0	-12.6	1.63 H	48	50.6	10.8
7	15780.00	45.3 AV	54.0	-8.7	1.63 H	48	34.5	10.8
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	5101.85	56.3 PK	74.0	-17.7	1.70 V	7	54.2	2.1
2	5101.85	44.8 AV	54.0	-9.2	1.70 V	7	42.7	2.1
3	*5260.00	121.7 PK			1.70 V	7	120.1	1.6
4	*5260.00	111.9 AV			1.70 V	7	110.3	1.6
5	#10520.00	59.4 PK	68.2	-8.8	1.64 V	155	47.8	11.6
6	15780.00	55.3 PK	74.0	-18.7	1.44 V	278	44.5	10.8
7	15780.00	40.9 AV	54.0	-13.1	1.44 V	278	30.1	10.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	122.6 PK			1.73 H	346	121.2	1.4
2	*5300.00	112.6 AV			1.73 H	346	111.2	1.4
3	5350.00	71.1 PK	74.0	-2.9	1.73 H	346	69.5	1.6
4	5350.00	51.8 AV	54.0	-2.2	1.73 H	346	50.2	1.6
5	10600.00	51.8 PK	74.0	-22.2	1.15 H	248	39.7	12.1
6	10600.00	39.9 AV	54.0	-14.1	1.15 H	248	27.8	12.1
7	15900.00	62.4 PK	74.0	-11.6	1.60 H	284	51.3	11.1
8	15900.00	42.3 AV	54.0	-11.7	1.60 H	284	31.2	11.1
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	*5300.00	121.0 PK			1.54 V	357	119.6	1.4
2	*5300.00	111.2 AV			1.54 V	357	109.8	1.4
3	5350.00	64.7 PK	74.0	-9.3	1.54 V	357	63.1	1.6
4	5350.00	47.8 AV	54.0	-6.2	1.54 V	357	46.2	1.6
5	10600.00	59.6 PK	74.0	-14.4	1.70 V	148	47.5	12.1
6	10600.00	42.2 AV	54.0	-11.8	1.70 V	148	30.1	12.1
7	15900.00	55.5 PK	74.0	-18.5	1.49 V	264	44.4	11.1
8	15900.00	41.1 AV	54.0	-12.9	1.49 V	264	30.0	11.1

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	120.4 PK			1.67 H	341	118.8	1.6
2	*5320.00	110.1 AV			1.67 H	341	108.5	1.6
3	5350.32	69.1 PK	74.0	-4.9	1.67 H	341	67.5	1.6
4	5350.32	53.1 AV	54.0	-0.9	1.67 H	341	51.5	1.6
5	10640.00	51.4 PK	74.0	-22.6	1.19 H	254	39.3	12.1
6	10640.00	39.6 AV	54.0	-14.4	1.19 H	254	27.5	12.1
7	15960.00	61.4 PK	74.0	-12.6	1.59 H	275	50.1	11.3
8	15960.00	42.1 AV	54.0	-11.9	1.59 H	275	30.8	11.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	119.3 PK			1.61 V	8	117.7	1.6
2	*5320.00	109.4 AV			1.61 V	8	107.8	1.6
3	5355.24	67.5 PK	74.0	-6.5	1.61 V	8	65.8	1.7
4	5355.24	50.0 AV	54.0	-4.0	1.61 V	8	48.3	1.7
5	10640.00	60.0 PK	74.0	-14.0	1.69 V	136	47.9	12.1
6	10640.00	42.5 AV	54.0	-11.5	1.69 V	136	30.4	12.1
7	15960.00	55.8 PK	74.0	-18.2	1.50 V	278	44.5	11.3
8	15960.00	41.6 AV	54.0	-12.4	1.50 V	278	30.3	11.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5458.54	63.5 PK	74.0	-10.5	3.18 H	344	61.7	1.8
2	5458.54	45.9 AV	54.0	-8.1	3.18 H	344	44.1	1.8
3	#5466.41	67.3 PK	68.2	-0.9	3.18 H	344	65.5	1.8
4	*5500.00	118.7 PK			3.18 H	344	116.8	1.9
5	*5500.00	108.7 AV			3.18 H	344	106.8	1.9
6	11000.00	51.0 PK	74.0	-23.0	1.19 H	263	38.4	12.6
7	11000.00	39.3 AV	54.0	-14.7	1.19 H	263	26.7	12.6
8	#16500.00	63.4 PK	68.2	-4.8	1.61 H	266	49.7	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	5456.91	57.4 PK	74.0	-16.6	1.56 V	325	55.6	1.8
2	5456.91	44.4 AV	54.0	-9.6	1.56 V	325	42.6	1.8
3	#5465.95	66.9 PK	68.2	-1.3	1.56 V	325	65.1	1.8
4	*5500.00	117.9 PK			1.56 V	325	116.0	1.9
5	*5500.00	107.8 AV			1.56 V	325	105.9	1.9
6	11000.00	60.0 PK	74.0	-14.0	1.70 V	122	47.4	12.6
7	11000.00	42.2 AV	54.0	-11.8	1.70 V	122	29.6	12.6
8	#16500.00	55.4 PK	68.2	-12.8	1.47 V	275	41.7	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	3.11 H	334	55.4	1.8
2	5460.00	45.6 AV	54.0	-8.4	3.11 H	334	43.8	1.8
3	#5470.00	58.6 PK	68.2	-9.6	3.11 H	334	56.7	1.9
4	*5580.00	123.2 PK			3.11 H	334	121.3	1.9
5	*5580.00	113.1 AV			3.11 H	334	111.2	1.9
6	11160.00	57.1 PK	74.0	-16.9	1.24 H	266	45.1	12.0
7	11160.00	45.4 AV	54.0	-8.6	1.24 H	266	33.4	12.0
8	#16740.00	64.2 PK	68.2	-4.0	1.30 H	272	49.2	15.0
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	55.1 PK	74.0	-18.9	2.48 V	321	53.3	1.8
2	5460.00	43.2 AV	54.0	-10.8	2.48 V	321	41.4	1.8
3	#5470.00	56.9 PK	68.2	-11.3	2.48 V	321	55.0	1.9
4	*5580.00	120.2 PK			2.48 V	321	118.3	1.9
5	*5580.00	110.0 AV			2.48 V	321	108.1	1.9
6	11160.00	59.8 PK	74.0	-14.2	1.65 V	135	47.8	12.0
7	11160.00	42.4 AV	54.0	-11.6	1.65 V	135	30.4	12.0
8	#16740.00	55.0 PK	68.2	-13.2	1.47 V	285	40.0	15.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.2 PK			1.40 H	141	114.4	1.8
2	*5700.00	105.9 AV			1.40 H	141	104.1	1.8
3	#5725.00	67.3 PK	68.2	-0.9	1.40 H	141	65.3	2.0
4	11400.00	56.7 PK	74.0	-17.3	1.19 H	268	43.4	13.3
5	11400.00	45.1 AV	54.0	-8.9	1.19 H	268	31.8	13.3
6	#17100.00	63.8 PK	68.2	-4.4	1.26 H	262	47.1	16.7
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	*5700.00	115.4 PK			1.29 V	320	113.6	1.8
2	*5700.00	105.3 AV			1.29 V	320	103.5	1.8
3	#5725.00	66.8 PK	68.2	-1.4	1.29 V	320	64.8	2.0
4	11400.00	60.1 PK	74.0	-13.9	1.68 V	148	46.8	13.3
5	11400.00	42.1 AV	54.0	-11.9	1.68 V	148	28.8	13.3
6	#17100.00	55.0 PK	68.2	-13.2	1.47 V	299	38.3	16.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.4 PK	74.0	-16.6	2.08 H	351	55.6	1.8
2	5460.00	44.2 AV	54.0	-9.8	2.08 H	351	42.4	1.8
3	#5470.00	57.6 PK	68.2	-10.6	2.08 H	351	55.7	1.9
4	*5720.00	121.9 PK			2.08 H	351	119.9	2.0
5	*5720.00	111.5 AV			2.08 H	351	109.5	2.0
6	#5850.00	58.4 PK	68.2	-9.8	2.08 H	351	56.0	2.4
7	11440.00	56.4 PK	74.0	-17.6	2.35 H	229	43.3	13.1
8	11440.00	45.1 AV	54.0	-8.9	2.35 H	229	32.0	13.1
9	#17160.00	66.5 PK	68.2	-1.7	1.75 H	135	50.2	16.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.7 PK	74.0	-19.3	2.13 V	329	52.9	1.8
2	5460.00	41.9 AV	54.0	-12.1	2.13 V	329	40.1	1.8
3	#5470.00	55.7 PK	68.2	-12.5	2.13 V	329	53.8	1.9
4	*5720.00	120.8 PK			2.13 V	329	118.8	2.0
5	*5720.00	111.2 AV			2.13 V	329	109.2	2.0
6	#5850.00	57.2 PK	68.2	-11.0	2.13 V	329	54.8	2.4
7	11440.00	59.8 PK	74.0	-14.2	1.65 V	155	46.7	13.1
8	11440.00	42.9 AV	54.0	-11.1	1.65 V	155	29.8	13.1
9	#17160.00	55.4 PK	68.2	-12.8	1.43 V	309	39.1	16.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5148.62	58.4 PK	74.0	-15.6	1.71 H	346	56.4	2.0
2	5148.62	47.2 AV	54.0	-6.8	1.71 H	346	45.2	2.0
3	*5260.00	122.8 PK			1.71 H	346	121.2	1.6
4	*5260.00	110.9 AV			1.71 H	346	109.3	1.6
5	#10520.00	54.4 PK	68.2	-13.8	2.32 H	225	42.8	11.6
6	15780.00	59.7 PK	74.0	-14.3	1.72 H	128	48.9	10.8
7	15780.00	40.7 AV	54.0	-13.3	1.72 H	128	29.9	10.8
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	5133.77	56.5 PK	74.0	-17.5	1.69 V	358	54.5	2.0
2	5133.77	44.9 AV	54.0	-9.1	1.69 V	358	42.9	2.0
3	*5260.00	121.1 PK			1.69 V	358	119.5	1.6
4	*5260.00	109.3 AV			1.69 V	358	107.7	1.6
5	#10520.00	57.3 PK	68.2	-10.9	1.62 V	141	45.7	11.6
6	15780.00	53.6 PK	74.0	-20.4	1.45 V	297	42.8	10.8
7	15780.00	39.7 AV	54.0	-14.3	1.45 V	297	28.9	10.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	122.1 PK			2.00 H	356	120.7	1.4
2	*5300.00	111.2 AV			2.00 H	356	109.8	1.4
3	5350.00	72.4 PK	74.0	-1.6	2.00 H	356	70.8	1.6
4	5350.00	53.2 AV	54.0	-0.8	2.00 H	356	51.6	1.6
5	10600.00	54.8 PK	74.0	-19.2	2.29 H	220	42.7	12.1
6	10600.00	37.7 AV	54.0	-16.3	2.29 H	220	25.6	12.1
7	15900.00	59.5 PK	74.0	-14.5	1.69 H	140	48.4	11.1
8	15900.00	40.3 AV	54.0	-13.7	1.69 H	140	29.2	11.1
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	*5300.00	121.6 PK			1.49 V	359	120.2	1.4
2	*5300.00	109.6 AV			1.49 V	359	108.2	1.4
3	5350.00	69.6 PK	74.0	-4.4	1.49 V	359	68.0	1.6
4	5350.00	52.1 AV	54.0	-1.9	1.49 V	359	50.5	1.6
5	10600.00	57.7 PK	74.0	-16.3	1.63 V	140	45.6	12.1
6	10600.00	41.1 AV	54.0	-12.9	1.63 V	140	29.0	12.1
7	15900.00	53.5 PK	74.0	-20.5	1.45 V	297	42.4	11.1
8	15900.00	39.3 AV	54.0	-14.7	1.45 V	297	28.2	11.1

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	119.5 PK			1.69 H	351	117.9	1.6
2	*5320.00	107.4 AV			1.69 H	351	105.8	1.6
3	5351.02	69.9 PK	74.0	-4.1	1.69 H	351	68.3	1.6
4	**5351.02**	**53.9 AV**	**54.0**	**-0.1**	**1.69 H**	**351**	**52.3**	**1.6**
5	10640.00	55.1 PK	74.0	-18.9	2.31 H	229	43.0	12.1
6	10640.00	38.0 AV	54.0	-16.0	2.31 H	229	25.9	12.1
7	15960.00	59.9 PK	74.0	-14.1	1.69 H	135	48.6	11.3
8	15960.00	40.6 AV	54.0	-13.4	1.69 H	135	29.3	11.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	117.3 PK			1.39 V	358	115.7	1.6
2	*5320.00	106.0 AV			1.39 V	358	104.4	1.6
3	5351.93	65.2 PK	74.0	-8.8	1.39 V	358	63.6	1.6
4	5351.93	52.2 AV	54.0	-1.8	1.39 V	358	50.6	1.6
5	10640.00	58.4 PK	74.0	-15.6	1.59 V	154	46.3	12.1
6	10640.00	41.5 AV	54.0	-12.5	1.59 V	154	29.4	12.1
7	15960.00	53.1 PK	74.0	-20.9	1.48 V	293	41.8	11.3
8	15960.00	39.1 AV	54.0	-14.9	1.48 V	293	27.8	11.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5458.80	61.0 PK	74.0	-13.0	1.47 H	354	59.2	1.8
2	5458.80	46.3 AV	54.0	-7.7	1.47 H	354	44.5	1.8
3	#5468.37	68.0 PK	68.2	-0.2	1.47 H	354	66.1	1.9
4	*5500.00	117.7 PK			1.47 H	354	115.8	1.9
5	*5500.00	105.6 AV			1.47 H	354	103.7	1.9
6	11000.00	55.8 PK	74.0	-18.2	2.30 H	226	43.2	12.6
7	11000.00	38.4 AV	54.0	-15.6	2.30 H	226	25.8	12.6
8	#16500.00	60.4 PK	68.2	-7.8	1.74 H	146	46.7	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	5458.16	57.3 PK	74.0	-16.7	2.50 V	323	55.5	1.8
2	5458.16	43.3 AV	54.0	-10.7	2.50 V	323	41.5	1.8
3	#5467.91	65.7 PK	68.2	-2.5	2.50 V	323	63.8	1.9
4	*5500.00	114.6 PK			2.50 V	323	112.7	1.9
5	*5500.00	103.9 AV			2.50 V	323	102.0	1.9
6	11000.00	58.1 PK	74.0	-15.9	1.63 V	143	45.5	12.6
7	11000.00	41.1 AV	54.0	-12.9	1.63 V	143	28.5	12.6
8	#16500.00	52.6 PK	68.2	-15.6	1.44 V	297	38.9	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5350.00	57.8 PK	74.0	-16.2	1.70 H	357	56.2	1.6
2	5350.00	45.9 AV	54.0	-8.1	1.70 H	357	44.3	1.6
3	*5580.00	123.4 PK			1.70 H	357	121.5	1.9
4	*5580.00	111.9 AV			1.70 H	357	110.0	1.9
5	11160.00	55.2 PK	74.0	-18.8	2.30 H	233	43.2	12.0
6	11160.00	38.0 AV	54.0	-16.0	2.30 H	233	26.0	12.0
7	#16740.00	61.2 PK	68.2	-7.0	1.76 H	144	46.2	15.0
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	5350.00	55.6 PK	74.0	-18.4	2.48 V	317	54.0	1.6
2	5350.00	42.8 AV	54.0	-11.2	2.48 V	317	41.2	1.6
3	*5580.00	120.6 PK			2.48 V	317	118.7	1.9
4	*5580.00	108.9 AV			2.48 V	317	107.0	1.9
5	11160.00	57.8 PK	74.0	-16.2	1.60 V	131	45.8	12.0
6	11160.00	40.8 AV	54.0	-13.2	1.60 V	131	28.8	12.0
7	#16740.00	52.8 PK	68.2	-15.4	1.48 V	286	37.8	15.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	118.5 PK			1.97 H	351	116.7	1.8
2	*5700.00	105.9 AV			1.97 H	351	104.1	1.8
3	**#5725.00**	**68.1 PK**	**68.2**	**-0.1**	**1.97 H**	**351**	**66.1**	**2.0**
4	11400.00	55.3 PK	74.0	-18.7	2.31 H	227	42.0	13.3
5	11400.00	38.1 AV	54.0	-15.9	2.31 H	227	24.8	13.3
6	#17100.00	62.8 PK	68.2	-5.4	1.73 H	149	46.1	16.7
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	*5700.00	115.1 PK			2.52 V	328	113.3	1.8
2	*5700.00	102.8 AV			2.52 V	328	101.0	1.8
3	#5725.00	64.9 PK	68.2	-3.3	2.52 V	328	62.9	2.0
4	11400.00	58.1 PK	74.0	-15.9	1.65 V	128	44.8	13.3
5	11400.00	41.3 AV	54.0	-12.7	1.65 V	128	28.0	13.3
6	#17100.00	53.1 PK	68.2	-15.1	1.50 V	294	36.4	16.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.5 PK	74.0	-17.5	1.68 H	348	54.7	1.8
2	5460.00	44.0 AV	54.0	-10.0	1.68 H	348	42.2	1.8
3	#5470.00	57.3 PK	68.2	-10.9	1.68 H	348	55.4	1.9
4	*5720.00	124.6 PK			1.68 H	348	122.6	2.0
5	*5720.00	112.3 AV			1.68 H	348	110.3	2.0
6	#5850.00	59.0 PK	68.2	-9.2	1.68 H	348	56.6	2.4
7	11440.00	55.7 PK	74.0	-18.3	2.33 H	214	42.6	13.1
8	11440.00	38.3 AV	54.0	-15.7	2.33 H	214	25.2	13.1
9	#17160.00	63.1 PK	68.2	-5.1	1.71 H	144	46.8	16.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.3 PK	74.0	-19.7	2.49 V	319	52.5	1.8
2	5460.00	41.6 AV	54.0	-12.4	2.49 V	319	39.8	1.8
3	#5470.00	55.0 PK	68.2	-13.2	2.49 V	319	53.1	1.9
4	*5720.00	120.6 PK			2.49 V	319	118.6	2.0
5	*5720.00	108.5 AV			2.49 V	319	106.5	2.0
6	#5850.00	56.2 PK	68.2	-12.0	2.49 V	319	53.8	2.4
7	11440.00	58.1 PK	74.0	-15.9	1.71 V	133	45.0	13.1
8	11440.00	41.0 AV	54.0	-13.0	1.71 V	133	27.9	13.1
9	#17160.00	52.9 PK	68.2	-15.3	1.53 V	307	36.6	16.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.1 PK	74.0	-14.9	1.60 H	352	57.1	2.0
2	5150.00	47.8 AV	54.0	-6.2	1.60 H	352	45.8	2.0
3	*5270.00	120.8 PK			1.60 H	352	119.3	1.5
4	*5270.00	107.5 AV			1.60 H	352	106.0	1.5
5	5356.06	68.4 PK	74.0	-5.6	1.60 H	352	66.7	1.7
6	5356.06	53.1 AV	54.0	-0.9	1.60 H	352	51.4	1.7
7	#10540.00	51.2 PK	68.2	-17.0	2.36 H	216	39.5	11.7
8	15810.00	56.9 PK	74.0	-17.1	1.70 H	135	46.1	10.8
9	15810.00	36.2 AV	54.0	-17.8	1.70 H	135	25.4	10.8
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	5147.35	57.2 PK	74.0	-16.8	1.62 V	358	55.2	2.0
2	5147.35	45.6 AV	54.0	-8.4	1.62 V	358	43.6	2.0
3	*5270.00	116.7 PK			1.62 V	358	115.2	1.5
4	*5270.00	105.0 AV			1.62 V	358	103.5	1.5
5	5354.83	64.0 PK	74.0	-10.0	1.62 V	358	62.3	1.7
6	5354.83	50.5 AV	54.0	-3.5	1.62 V	358	48.8	1.7
7	#10540.00	55.1 PK	68.2	-13.1	1.72 V	141	43.4	11.7
8	15810.00	51.1 PK	74.0	-22.9	1.48 V	320	40.3	10.8
9	15810.00	37.2 AV	54.0	-16.8	1.48 V	320	26.4	10.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	114.3 PK			1.48 H	351	112.8	1.5
2	*5310.00	102.0 AV			1.48 H	351	100.5	1.5
3	5350.32	68.9 PK	74.0	-5.1	1.48 H	351	67.3	1.6
4	5350.32	53.5 AV	54.0	-0.5	1.48 H	351	51.9	1.6
5	10620.00	51.1 PK	74.0	-22.9	2.37 H	216	39.1	12.0
6	10620.00	37.3 AV	54.0	-16.7	2.37 H	216	25.3	12.0
7	15930.00	56.9 PK	74.0	-17.1	1.71 H	139	45.7	11.2
8	15930.00	36.1 AV	54.0	-17.9	1.71 H	139	24.9	11.2
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	*5310.00	115.1 PK			1.86 V	6	113.6	1.5
2	*5310.00	99.6 AV			1.86 V	6	98.1	1.5
3	5350.70	62.4 PK	74.0	-11.6	1.86 V	6	60.8	1.6
4	5350.70	50.4 AV	54.0	-3.6	1.86 V	6	48.8	1.6
5	10620.00	54.9 PK	74.0	-19.1	1.75 V	156	42.9	12.0
6	10620.00	39.0 AV	54.0	-15.0	1.75 V	156	27.0	12.0
7	15930.00	51.7 PK	74.0	-22.3	1.47 V	336	40.5	11.2
8	15930.00	37.7 AV	54.0	-16.3	1.47 V	336	26.5	11.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.6 PK	74.0	-10.4	2.02 H	354	61.8	1.8
2	5460.00	47.7 AV	54.0	-6.3	2.02 H	354	45.9	1.8
3	#5465.80	67.8 PK	68.2	-0.4	2.02 H	354	66.0	1.8
4	*5510.00	113.3 PK			2.02 H	354	111.3	2.0
5	*5510.00	101.0 AV			2.02 H	354	99.0	2.0
6	11020.00	51.0 PK	74.0	-23.0	2.37 H	206	38.6	12.4
7	11020.00	37.4 AV	54.0	-16.6	2.37 H	206	25.0	12.4
8	#16530.00	57.4 PK	68.2	-10.8	1.77 H	130	43.5	13.9
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	5457.59	61.2 PK	74.0	-12.8	2.49 V	323	59.4	1.8
2	5457.59	46.2 AV	54.0	-7.8	2.49 V	323	44.4	1.8
3	#5467.66	63.0 PK	68.2	-5.2	2.49 V	323	61.1	1.9
4	*5510.00	112.4 PK			2.49 V	323	110.4	2.0
5	*5510.00	98.6 AV			2.49 V	323	96.6	2.0
6	11020.00	55.2 PK	74.0	-18.8	1.73 V	169	42.8	12.4
7	11020.00	39.4 AV	54.0	-14.6	1.73 V	169	27.0	12.4
8	#16530.00	52.0 PK	68.2	-16.2	1.49 V	340	38.1	13.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.4 PK	74.0	-10.6	1.83 H	354	61.6	1.8
2	5460.00	47.9 AV	54.0	-6.1	1.83 H	354	46.1	1.8
3	#5470.00	67.8 PK	68.2	-0.4	1.83 H	354	65.9	1.9
4	*5550.00	116.5 PK			1.83 H	354	114.6	1.9
5	*5550.00	104.9 AV			1.83 H	354	103.0	1.9
6	11100.00	51.3 PK	74.0	-22.7	2.32 H	215	39.4	11.9
7	11100.00	37.9 AV	54.0	-16.1	2.32 H	215	26.0	11.9
8	#16650.00	57.0 PK	68.2	-11.2	1.83 H	115	42.2	14.8
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	5460.00	58.8 PK	74.0	-15.2	2.54 V	319	57.0	1.8
2	5460.00	44.9 AV	54.0	-9.1	2.54 V	319	43.1	1.8
3	#5470.00	64.9 PK	68.2	-3.3	2.54 V	319	63.0	1.9
4	*5550.00	114.7 PK			2.54 V	319	112.8	1.9
5	*5550.00	102.4 AV			2.54 V	319	100.5	1.9
6	11100.00	55.4 PK	74.0	-18.6	1.78 V	159	43.5	11.9
7	11100.00	39.4 AV	54.0	-14.6	1.78 V	159	27.5	11.9
8	#16650.00	52.3 PK	68.2	-15.9	1.46 V	330	37.5	14.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	115.3 PK			2.01 H	352	113.3	2.0
2	*5670.00	102.9 AV			2.01 H	352	100.9	2.0
3	#5725.00	67.7 PK	68.2	-0.5	2.01 H	352	65.7	2.0
4	11340.00	51.4 PK	74.0	-22.6	2.37 H	200	38.5	12.9
5	11340.00	37.8 AV	54.0	-16.2	2.37 H	200	24.9	12.9
6	#17010.00	57.3 PK	68.2	-10.9	1.85 H	129	40.7	16.6
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	*5670.00	112.8 PK			2.38 V	333	110.8	2.0
2	*5670.00	99.3 AV			2.38 V	333	97.3	2.0
3	#5725.00	63.6 PK	68.2	-4.6	2.38 V	333	61.6	2.0
4	11340.00	55.0 PK	74.0	-19.0	1.74 V	158	42.1	12.9
5	11340.00	39.0 AV	54.0	-15.0	1.74 V	158	26.1	12.9
6	#17010.00	52.6 PK	68.2	-15.6	1.50 V	327	36.0	16.6

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.9 PK	74.0	-18.1	1.87 H	354	54.1	1.8
2	5460.00	43.7 AV	54.0	-10.3	1.87 H	354	41.9	1.8
3	#5470.00	55.8 PK	68.2	-12.4	1.87 H	354	53.9	1.9
4	*5710.00	119.3 PK			1.87 H	354	117.4	1.9
5	*5710.00	107.9 AV			1.87 H	354	106.0	1.9
6	#5850.00	61.6 PK	68.2	-6.6	1.87 H	354	59.2	2.4
7	11420.00	50.9 PK	74.0	-23.1	2.32 H	197	37.7	13.2
8	11420.00	37.5 AV	54.0	-16.5	2.32 H	197	24.3	13.2
9	#17130.00	57.1 PK	68.2	-11.1	1.85 H	115	40.6	16.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.0 PK	74.0	-20.0	3.28 V	7	52.2	1.8
2	5460.00	41.5 AV	54.0	-12.5	3.28 V	7	39.7	1.8
3	#5470.00	54.8 PK	68.2	-13.4	3.28 V	7	52.9	1.9
4	*5710.00	120.2 PK			3.28 V	7	118.3	1.9
5	*5710.00	105.3 AV			3.28 V	7	103.4	1.9
6	#5850.00	62.1 PK	68.2	-6.1	3.28 V	7	59.7	2.4
7	11420.00	54.4 PK	74.0	-19.6	1.78 V	143	41.2	13.2
8	11420.00	38.6 AV	54.0	-15.4	1.78 V	143	25.4	13.2
9	#17130.00	52.6 PK	68.2	-15.6	1.49 V	336	36.1	16.5

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	56.8 PK	74.0	-17.2	1.79 H	346	54.8	2.0
2	5150.00	46.7 AV	54.0	-7.3	1.79 H	346	44.7	2.0
3	*5290.00	110.8 PK			1.79 H	346	109.3	1.5
4	*5290.00	99.7 AV			1.79 H	346	98.2	1.5
5	5353.03	68.2 PK	74.0	-5.8	1.79 H	346	66.6	1.6
6	5353.03	53.5 AV	54.0	-0.5	1.79 H	346	51.9	1.6
7	#10580.00	49.2 PK	68.2	-19.0	2.31 H	210	37.3	11.9
8	15870.00	53.6 PK	74.0	-20.4	1.79 H	123	42.6	11.0
9	15870.00	35.2 AV	54.0	-18.8	1.79 H	123	24.2	11.0
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	5147.38	57.2 PK	74.0	-16.8	1.92 V	8	55.2	2.0
2	5147.38	45.8 AV	54.0	-8.2	1.92 V	8	43.8	2.0
3	*5290.00	109.8 PK			1.92 V	8	108.3	1.5
4	*5290.00	98.7 AV			1.92 V	8	97.2	1.5
5	5355.24	69.8 PK	74.0	-4.2	1.92 V	8	68.1	1.7
6	5355.24	53.4 AV	54.0	-0.6	1.92 V	8	51.7	1.7
7	#10580.00	52.7 PK	68.2	-15.5	1.81 V	145	40.8	11.9
8	15870.00	50.8 PK	74.0	-23.2	1.49 V	337	39.8	11.0
9	15870.00	36.2 AV	54.0	-17.8	1.49 V	337	25.2	11.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	67.2 PK	74.0	-6.8	2.15 H	345	65.4	1.8
2	5460.00	51.5 AV	54.0	-2.5	2.15 H	345	49.7	1.8
3	#5469.93	67.8 PK	68.2	-0.4	2.15 H	345	65.9	1.9
4	*5530.00	109.7 PK			2.15 H	345	107.8	1.9
5	*5530.00	97.9 AV			2.15 H	345	96.0	1.9
6	#5731.25	56.6 PK	68.2	-11.6	2.15 H	345	54.5	2.1
7	11060.00	49.7 PK	74.0	-24.3	2.30 H	197	37.6	12.1
8	11060.00	36.6 AV	54.0	-17.4	2.30 H	197	24.5	12.1
9	#16590.00	53.1 PK	68.2	-15.1	1.79 H	123	38.8	14.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5457.51	63.0 PK	74.0	-11.0	1.95 V	353	61.2	1.8
2	5457.51	48.5 AV	54.0	-5.5	1.95 V	353	46.7	1.8
3	#5465.23	66.2 PK	68.2	-2.0	1.95 V	353	64.4	1.8
4	*5530.00	108.2 PK			1.95 V	353	106.3	1.9
5	*5530.00	97.1 AV			1.95 V	353	95.2	1.9
6	#5728.31	54.5 PK	68.2	-13.7	1.95 V	353	52.4	2.1
7	11060.00	52.8 PK	74.0	-21.2	1.80 V	130	40.7	12.1
8	11060.00	37.4 AV	54.0	-16.6	1.80 V	130	25.3	12.1
9	#16590.00	50.9 PK	68.2	-17.3	1.54 V	322	36.6	14.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	112.8 PK			1.78 H	354	111.0	1.8
2	*5610.00	100.5 AV			1.78 H	354	98.7	1.8
3	#5725.00	67.9 PK	68.2	-0.3	1.78 H	354	65.9	2.0
4	11220.00	49.8 PK	74.0	-24.2	2.29 H	189	37.7	12.1
5	11220.00	36.8 AV	54.0	-17.2	2.29 H	189	24.7	12.1
6	#16830.00	53.4 PK	68.2	-14.8	1.75 H	110	38.1	15.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	111.3 PK			1.95 V	8	109.5	1.8
2	*5610.00	97.7 AV			1.95 V	8	95.9	1.8
3	#5725.00	63.8 PK	68.2	-4.4	1.95 V	8	61.8	2.0
4	11220.00	52.0 PK	74.0	-22.0	1.80 V	128	39.9	12.1
5	11220.00	36.9 AV	54.0	-17.1	1.80 V	128	24.8	12.1
6	#16830.00	50.5 PK	68.2	-17.7	1.55 V	314	35.2	15.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.9 PK	74.0	-17.1	1.95 H	355	55.1	1.8
2	5460.00	44.7 AV	54.0	-9.3	1.95 H	355	42.9	1.8
3	#5470.00	59.3 PK	68.2	-8.9	1.95 H	355	57.4	1.9
4	*5690.00	115.8 PK			1.95 H	355	114.0	1.8
5	*5690.00	103.3 AV			1.95 H	355	101.5	1.8
6	#5850.00	67.7 PK	68.2	-0.5	1.95 H	355	65.3	2.4
7	11380.00	50.2 PK	74.0	-23.8	2.25 H	176	37.1	13.1
8	11380.00	37.3 AV	54.0	-16.7	2.25 H	176	24.2	13.1
9	#17070.00	53.4 PK	68.2	-14.8	1.73 H	112	36.8	16.6
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	56.3 PK	74.0	-17.7	2.66 V	11	54.5	1.8
2	5460.00	42.8 AV	54.0	-11.2	2.66 V	11	41.0	1.8
3	#5470.00	57.4 PK	68.2	-10.8	2.66 V	11	55.5	1.9
4	*5690.00	113.7 PK			2.66 V	11	111.9	1.8
5	*5690.00	101.6 AV			2.66 V	11	99.8	1.8
6	#5850.00	65.0 PK	68.2	-3.2	2.66 V	11	62.6	2.4
7	11380.00	52.2 PK	74.0	-21.8	1.86 V	141	39.1	13.1
8	11380.00	37.4 AV	54.0	-16.6	1.86 V	141	24.3	13.1
9	#17070.00	50.3 PK	68.2	-17.9	1.56 V	304	33.7	16.6

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.

RF Mode	TX 802.11ax (HE160)	Channel	CH 50：5250 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5131.68	66.0 PK	74.0	-8.0	1.76 H	344	64.0	2.0
2	5131.68	53.1 AV	54.0	-0.9	1.76 H	344	51.1	2.0
3	*5250.00	105.3 PK			1.76 H	344	103.7	1.6
4	*5250.00	94.3 AV			1.76 H	344	92.7	1.6
5	5350.90	66.2 PK	74.0	-7.8	1.76 H	344	64.6	1.6
6	5350.90	49.5 AV	54.0	-4.5	1.76 H	344	47.9	1.6
7	#10500.00	48.7 PK	68.2	-19.5	1.76 H	91	37.2	11.5
8	15750.00	57.4 PK	74.0	-16.6	1.60 H	255	46.4	11.0
9	15750.00	37.5 AV	54.0	-16.5	1.60 H	255	26.5	11.0
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	5147.04	60.8 PK	74.0	-13.2	1.93 V	353	58.8	2.0
2	5147.04	51.1 AV	54.0	-2.9	1.93 V	353	49.1	2.0
3	*5250.00	105.6 PK			1.93 V	353	104.0	1.6
4	*5250.00	93.1 AV			1.93 V	353	91.5	1.6
5	5363.06	58.7 PK	74.0	-15.3	1.93 V	353	57.0	1.7
6	5363.06	46.8 AV	54.0	-7.2	1.93 V	353	45.1	1.7
7	#10500.00	50.7 PK	68.2	-17.5	2.81 V	43	39.2	11.5
8	15750.00	55.5 PK	74.0	-18.5	1.71 V	288	44.5	11.0
9	15750.00	36.8 AV	54.0	-17.2	1.71 V	288	25.8	11.0

Remarks:

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

RF Mode	TX 802.11ax (HE160)	Channel	CH 114：5570 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5454.57	71.1 PK	74.0	-2.9	1.96 H	353	69.3	1.8
2	5454.57	51.2 AV	54.0	-2.8	1.96 H	353	49.4	1.8
3	#5461.26	67.5 PK	68.2	-0.7	1.96 H	353	65.7	1.8
4	*5570.00	107.2 PK			1.96 H	353	105.3	1.9
5	*5570.00	96.1 AV			1.96 H	353	94.2	1.9
6	#5776.46	66.3 PK	68.2	-1.9	1.96 H	353	64.1	2.2
7	11140.00	49.8 PK	74.0	-24.2	2.24 H	188	37.9	11.9
8	11140.00	37.0 AV	54.0	-17.0	2.24 H	188	25.1	11.9
9	#16710.00	52.7 PK	68.2	-15.5	1.73 H	126	37.6	15.1
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	5457.12	69.1 PK	74.0	-4.9	1.85 V	320	67.3	1.8
2	5457.12	47.8 AV	54.0	-6.2	1.85 V	320	46.0	1.8
3	#5464.99	63.2 PK	68.2	-5.0	1.85 V	320	61.4	1.8
4	*5570.00	105.0 PK			1.85 V	320	103.1	1.9
5	*5570.00	93.8 AV			1.85 V	320	91.9	1.9
6	#5786.84	63.7 PK	68.2	-4.5	1.85 V	320	61.4	2.3
7	11140.00	51.4 PK	74.0	-22.6	1.91 V	127	39.5	11.9
8	11140.00	36.9 AV	54.0	-17.1	1.91 V	127	25.0	11.9
9	#16710.00	49.2 PK	68.2	-19.0	1.51 V	298	34.1	15.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.

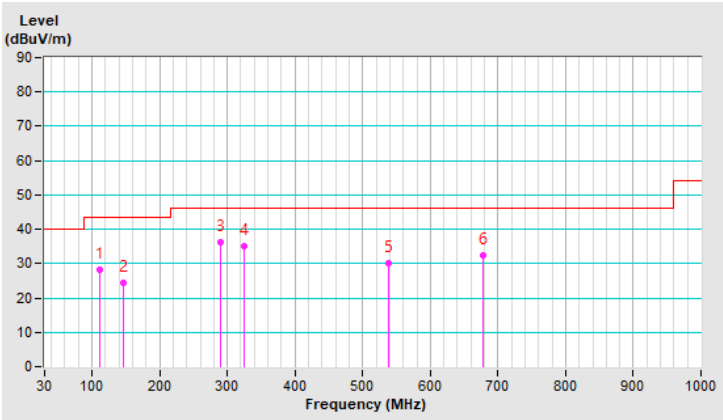
Below 1GHz Data:

RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	110.71	28.1 QP	43.5	-15.4	2.00 H	121	43.9	-15.8
2	147.33	24.5 QP	43.5	-19.0	1.50 H	257	37.1	-12.6
3	290.31	36.3 QP	46.0	-9.7	1.00 H	127	48.6	-12.3
4	325.72	34.9 QP	46.0	-11.1	1.00 H	284	46.3	-11.4
5	537.38	30.2 QP	46.0	-15.8	1.00 H	343	36.9	-6.7
6	678.28	32.2 QP	46.0	-13.8	1.00 H	54	36.3	-4.1

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 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.

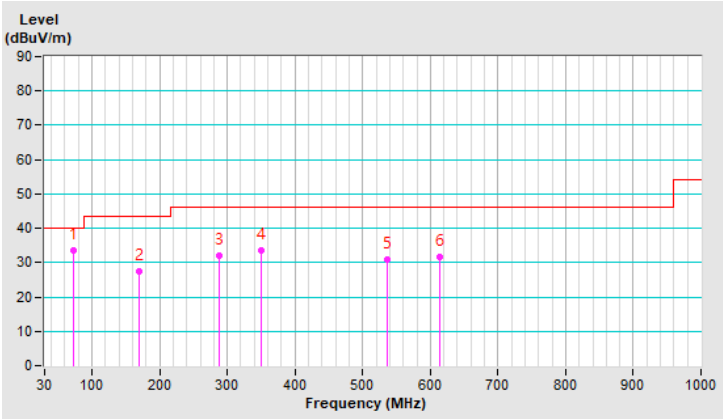


RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	73.17	33.7 QP	40.0	-6.3	1.00 V	360	49.5	-15.8
2	170.51	27.4 QP	43.5	-16.1	1.00 V	360	40.7	-13.3
3	287.16	32.0 QP	46.0	-14.0	1.00 V	339	44.3	-12.3
4	349.97	33.7 QP	46.0	-12.3	1.50 V	209	44.9	-11.2
5	537.09	30.9 QP	46.0	-15.1	1.00 V	38	37.6	-6.7
6	614.11	31.7 QP	46.0	-14.3	1.00 V	77	36.4	-4.7

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 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. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
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: Jan. 30, 2021

4.2.3 Test Procedure

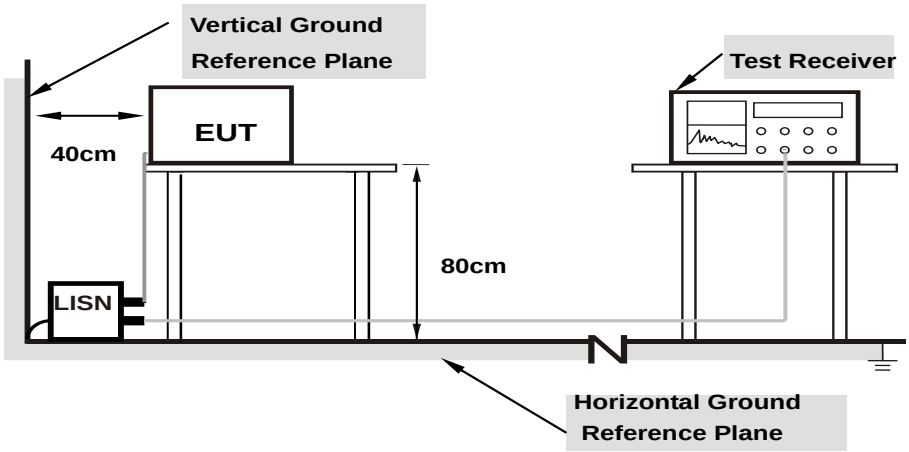
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

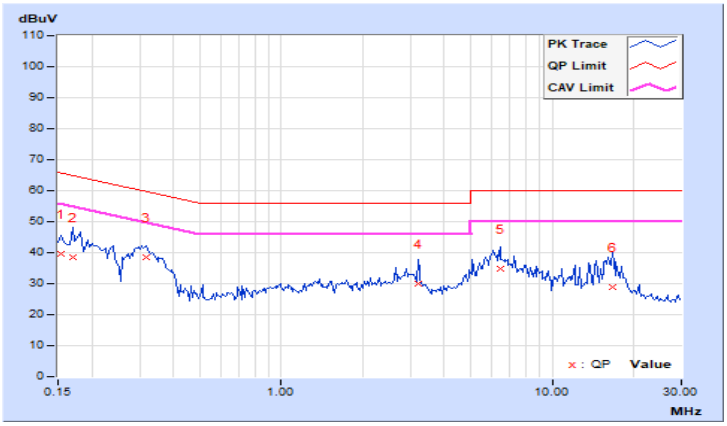
4.2.7 Test Results

RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.96	29.77	21.98	39.73	31.94	65.79	55.79	-26.06	-23.85
2	0.16953	9.97	28.40	19.98	38.37	29.95	64.98	54.98	-26.61	-25.03
3	0.31797	10.01	28.40	18.82	38.41	28.83	59.76	49.76	-21.35	-20.93
4	3.19531	10.22	19.85	10.07	30.07	20.29	56.00	46.00	-25.93	-25.71
5	6.45313	10.46	24.20	18.98	34.66	29.44	60.00	50.00	-25.34	-20.56
6	16.81250	11.23	17.49	11.20	28.72	22.43	60.00	50.00	-31.28	-27.57

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

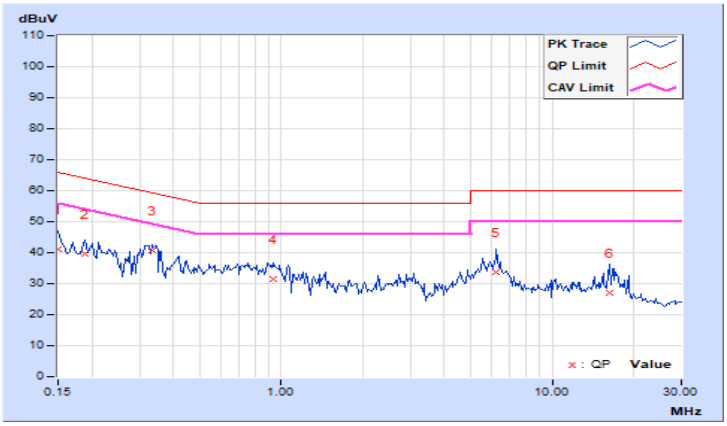


RF Mode	TX 802.11ax (HE80)	Channel	CH 58：5290 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.94	31.05	21.02	40.99	30.96	66.00	56.00	-25.01	-25.04
2	0.18906	9.97	29.78	20.41	39.75	30.38	64.08	54.08	-24.33	-23.70
3	**0.33359**	**10.00**	**30.74**	**22.26**	**40.74**	**32.26**	**59.36**	**49.36**	**-18.62**	**-17.10**
4	0.93125	10.06	21.29	14.50	31.35	24.56	56.00	46.00	-24.65	-21.44
5	6.20313	10.39	23.16	17.53	33.55	27.92	60.00	50.00	-26.45	-22.08
6	16.21484	10.97	16.16	10.51	27.13	21.48	60.00	50.00	-32.87	-28.52

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,

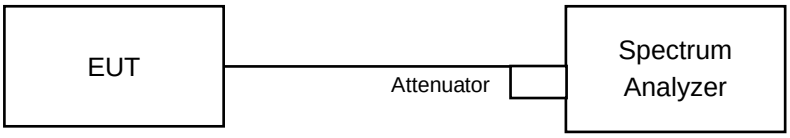
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

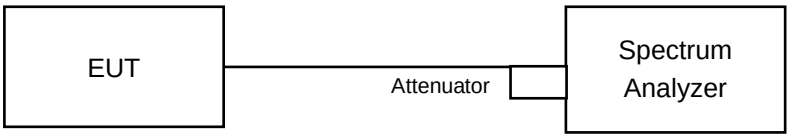
FOR POWER OUTPUT MEASUREMENT

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 channel straddling 5250MHz and 5725MHz:

Follow FCC KDB 789033 UNII test procedure:
Method SA-1

1. Set span to encompass the entire 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. Set trigger to free run (duty cycle ≥ 98 percent)
7. Detector = RMS.
8. Trace average at least 100 traces in power averaging mode
9. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

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 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	14.58	15.04	15.57	15.94	135.946	21.33	24	PASS
60	5300	14.43	14.67	15.69	16.27	136.475	21.35	24	PASS
64	5320	14.42	14.79	15.73	16.18	136.706	21.36	24	PASS
100	5500	15.64	16.27	14.22	15.23	138.775	21.42	24	PASS
116	5580	15.53	16.41	14.48	15.31	141.496	21.51	24	PASS
140	5700	15.33	16.53	14.52	15.11	139.845	21.46	24	PASS
*144 (U-NII-2C Band)	5720	14.56	15.29	13.62	14.17	111.518	20.47	22.99	PASS
*144 (U-NII-3 Band)	5720	8.35	9.16	7.20	8.08	26.755	14.27	30	PASS

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

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	21.66	24.35 > 24
60	5300	21.72	24.36 > 24
64	5320	21.59	24.34 > 24
100	5500	21.64	24.35 > 24
116	5580	21.78	24.38 > 24
140	5700	21.69	24.36 > 24
144 (U-NII-2C Band)	5720	15.83	22.99 < 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	15.38	15.72	15.01	15.72	140.86	21.49	24	PASS
60	5300	15.46	15.55	14.41	15.90	137.559	21.38	24	PASS
64	5320	15.38	15.60	15.41	15.74	143.073	21.56	24	PASS
100	5500	15.40	15.96	14.77	15.81	142.218	21.53	24	PASS
116	5580	15.84	16.01	14.34	15.78	143.282	21.56	24	PASS
140	5700	15.41	16.81	14.61	15.01	143.329	21.56	24	PASS
*144 (U-NII-2C Band)	5720	14.07	15.62	12.97	14.77	111.809	20.48	23.01	PASS
*144 (U-NII-3 Band)	5720	8.81	10.21	7.64	9.38	32.576	15.13	30	PASS

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

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	21.87	24.39 > 24
60	5300	21.85	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.87	24.39 > 24
116	5580	21.86	24.39 > 24
140	5700	21.87	24.39 > 24
144 (U-NII-2C Band)	5720	15.9	23.01 < 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	17.53	17.65	16.79	18.08	226.856	23.56	24	PASS
62	5310	17.32	17.53	16.81	17.87	219.783	23.42	24	PASS
102	5510	17.51	17.66	15.58	17.87	212.084	23.27	24	PASS
110	5550	17.38	18.02	15.88	17.72	215.97	23.34	24	PASS
134	5670	17.40	18.21	16.00	17.68	219.6	23.42	24	PASS
*142 (U-NII-2C Band)	5710	16.87	17.55	15.45	17.20	193.082	22.86	24	PASS
*142 (U-NII-3 Band)	5710	7.08	7.31	5.53	7.22	19.333	12.86	30	PASS

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

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	41.41	27.17 > 24
62	5310	41.48	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	41.39	27.16 > 24
134	5670	41.41	27.17 > 24
142 (U-NII-2C Band)	5710	35.64	26.51 > 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	17.35	18.80	16.92	17.28	232.843	23.67	24	PASS
106	5530	17.33	18.66	16.66	17.08	224.922	23.52	24	PASS
122	5610	17.37	18.57	16.07	17.28	220.435	23.43	24	PASS
*138 (U-NII-2C Band)	5690	17.20	18.19	15.84	17.20	209.25	23.21	24	PASS
*138 (U-NII-3 Band)	5690	3.48	4.26	2.03	3.21	8.585	9.34	30	PASS

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

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	82.13	30.14 > 24
106	5530	82.23	30.15 > 24
122	5610	82.15	30.14 > 24
138 (U-NII-2C Band)	5690	76.18	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	13.97	15.33	13.75	14.82	113.118	20.54	30	Pass
*50 (U-NII-2A Band)	5250	13.65	15.37	14.09	14.68	112.63	20.52	24	Pass
114	5570	17.43	18.38	16.55	17.53	226.01	23.54	24	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
*50 (U-NII-2A Band)	5530	83.62	30.22 > 24
114	5690	167.74	33.24 > 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	15.59	15.97	15.26	15.92	148.419	21.71	24	PASS
60	5300	15.68	15.79	15.69	16.18	153.478	21.86	24	PASS
64	5320	15.64	15.86	15.74	16.08	153.24	21.85	24	PASS
100	5500	15.64	16.18	15.08	16.15	151.56	21.81	24	PASS
116	5580	16.17	16.33	14.56	16.06	153.294	21.86	24	PASS
140	5700	15.69	17.09	14.92	15.29	153.088	21.85	24	PASS
*144 (U-NII-2C Band)	5720	14.40	15.72	13.22	14.86	116.476	20.66	23.01	PASS
*144 (U-NII-3 Band)	5720	9.11	10.32	7.89	9.52	34.017	15.32	30	PASS

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

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	21.87	24.39 > 24
60	5300	21.85	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.87	24.39 > 24
116	5580	21.86	24.39 > 24
140	5700	21.87	24.39 > 24
144 (U-NII-2C Band)	5720	15.9	23.01 < 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	17.74	17.86	17.01	18.31	238.522	23.78	24	PASS
62	5310	17.54	17.74	17.03	18.11	231.364	23.64	24	PASS
102	5510	17.73	17.88	15.81	18.08	223.044	23.48	24	PASS
110	5550	17.59	18.23	16.11	17.93	226.858	23.56	24	PASS
134	5670	17.65	18.46	16.24	17.92	232.373	23.66	24	PASS
*142 (U-NII-2C Band)	5710	17.10	17.73	15.82	17.57	205.921	23.14	24	PASS
*142 (U-NII-3 Band)	5710	7.16	7.63	5.89	7.58	20.604	13.14	30	PASS

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

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	41.41	27.17 > 24
62	5310	41.48	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	41.39	27.16 > 24
134	5670	41.41	27.17 > 24
142 (U-NII-2C Band)	5710	35.64	26.51 > 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	17.59	19.01	17.16	17.51	245.391	23.90	24	PASS
106	5530	17.54	18.87	16.87	17.31	236.313	23.73	24	PASS
122	5610	17.61	18.81	16.32	17.53	233.188	23.68	24	PASS
*138 (U-NII-2C Band)	5690	17.37	18.42	16.06	17.31	218.27	23.39	24	PASS
*138 (U-NII-3 Band)	5690	3.63	4.34	2.21	3.31	8.829	9.46	30	PASS

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

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	82.13	30.14 > 24
106	5530	82.23	30.15 > 24
122	5610	82.15	30.14 > 24
138 (U-NII-2C Band)	5690	76.18	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	14.06	15.54	13.86	15.03	117.442	20.70	30	Pass
*50 (U-NII-2A Band)	5250	13.74	15.62	14.19	14.88	117.138	20.69	24	Pass
114	5570	17.67	18.61	16.76	17.73	237.806	23.76	24	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
*50 (U-NII-2A Band)	5530	83.62	30.22 > 24
114	5690	167.74	33.24 > 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	15.05	15.43	14.69	15.36	130.703	21.16	21.57	PASS
60	5300	15.14	15.22	15.11	15.62	134.834	21.30	21.57	PASS
64	5320	15.13	15.32	15.18	15.53	135.313	21.31	21.57	PASS
100	5500	15.06	15.62	14.56	15.64	133.758	21.26	21.57	PASS
116	5580	15.63	15.76	14.02	15.49	134.864	21.30	21.57	PASS
140	5700	15.12	16.58	14.37	14.70	134.872	21.30	21.57	PASS
*144 (U-NII-2C Band)	5720	13.95	15.41	12.34	14.22	103.149	20.13	20.58	PASS
*144 (U-NII-3 Band)	5720	8.25	9.52	6.63	8.43	27.206	14.35	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	21.87	24.39 > 24
60	5300	21.85	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.87	24.39 > 24
116	5580	21.86	24.39 > 24
140	5700	21.87	24.39 > 24
144 (U-NII-2C Band)	5720	15.9	23.01 < 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	15.28	15.36	14.53	15.78	134.308	21.28	21.57	PASS
62	5310	15.13	15.40	14.57	15.83	134.182	21.28	21.57	PASS
102	5510	15.49	15.62	13.52	15.84	132.736	21.23	21.57	PASS
110	5550	15.30	15.98	13.85	15.62	134.254	21.28	21.57	PASS
134	5670	15.38	16.07	13.94	15.55	135.638	21.32	21.57	PASS
*142 (U-NII-2C Band)	5710	14.50	15.40	13.45	15.23	118.331	20.73	21.57	PASS
*142 (U-NII-3 Band)	5710	4.25	5.06	3.05	4.55	10.736	10.31	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	41.41	27.17 > 24
62	5310	41.48	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	41.39	27.16 > 24
134	5670	41.41	27.17 > 24
142 (U-NII-2C Band)	5710	35.64	26.51 > 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	15.20	15.18	15.23	15.18	132.378	21.22	21.57	PASS
106	5530	15.13	15.16	15.23	15.23	132.078	21.21	21.57	PASS
122	5610	15.19	15.24	15.26	15.20	133.143	21.24	21.57	PASS
*138 (U-NII-2C Band)	5690	14.91	14.76	14.74	14.78	120.743	20.82	21.57	PASS
*138 (U-NII-3 Band)	5690	0.64	0.32	0.46	0.52	4.474	6.51	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	82.13	30.14 > 24
106	5530	82.23	30.15 > 24
122	5610	82.15	30.14 > 24
138 (U-NII-2C Band)	5690	76.18	29.81 > 24

802.11ac (VHT160)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	12.04	11.94	12.10	12.09	64.026	18.06	27.57	Pass
*50 (U-NII-2A Band)	5250	11.57	11.80	12.28	11.92	61.955	17.92	21.57	Pass
114	5570	15.29	15.25	15.38	15.21	135.007	21.30	21.57	Pass

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

1. For U-NII-2A: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.

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	83.62	30.22 > 24
114	5570	167.74	33.24 > 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	15.29	15.65	14.93	15.60	137.96	21.40	21.57	PASS
60	5300	15.38	15.46	15.36	15.83	142.309	21.53	21.57	PASS
64	5320	15.34	15.53	15.41	15.76	142.349	21.53	21.57	PASS
100	5500	15.29	15.83	14.77	15.85	140.54	21.48	21.57	PASS
116	5580	15.86	16.01	14.24	15.72	142.321	21.53	21.57	PASS
140	5700	15.37	16.79	14.59	14.94	142.151	21.53	21.57	PASS
*144 (U-NII-2C Band)	5720	14.29	15.48	12.74	14.33	108.067	20.34	20.58	PASS
*144 (U-NII-3 Band)	5720	8.92	10.01	7.31	8.90	30.967	14.91	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	21.87	24.39 > 24
60	5300	21.85	24.39 > 24
64	5320	21.91	24.4 > 24
100	5500	21.87	24.39 > 24
116	5580	21.86	24.39 > 24
140	5700	21.87	24.39 > 24
144 (U-NII-2C Band)	5720	15.9	23.01 < 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	15.49	15.58	14.77	16.01	141.435	21.51	21.57	PASS
62	5310	15.37	15.64	14.81	16.07	141.805	21.52	21.57	PASS
102	5510	15.69	15.87	13.77	16.07	139.986	21.46	21.57	PASS
110	5550	15.52	16.19	14.07	15.83	141.046	21.49	21.57	PASS
134	5670	15.60	16.27	14.15	15.80	142.693	21.54	21.57	PASS
*142 (U-NII-2C Band)	5710	14.80	15.56	13.70	15.31	123.579	20.92	21.57	PASS
*142 (U-NII-3 Band)	5710	4.87	5.38	3.76	5.37	12.341	10.91	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	41.41	27.17 > 24
62	5310	41.48	27.17 > 24
102	5510	41.44	27.17 > 24
110	5550	41.39	27.16 > 24
134	5670	41.41	27.17 > 24
142 (U-NII-2C Band)	5710	35.64	26.51 > 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	15.42	15.41	15.44	15.41	139.335	21.44	21.57	PASS
106	5530	15.36	15.37	15.43	15.43	138.619	21.42	21.57	PASS
122	5610	15.41	15.48	15.47	15.45	140.384	21.47	21.57	PASS
*138 (U-NII-2C Band)	5690	15.03	15.01	15.04	15.14	128.112	21.08	21.57	PASS
*138 (U-NII-3 Band)	5690	1.29	0.71	1.33	1.11	5.173	7.14	27.57	PASS

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

1. For U-NII-2A: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
3. For U-NII-3: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4]= 8.43 dBi > 6 dBi, so the power limit shall be reduced to 30-(8.43-6) = 27.57dBm.

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	82.13	30.14 > 24
106	5530	82.23	30.15 > 24
122	5610	82.15	30.14 > 24
138 (U-NII-2C Band)	5690	76.18	29.81 > 24

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1 Band)	5250	12.24	12.09	12.25	12.36	66.937	18.26	27.57	Pass
*50 (U-NII-2A Band)	5250	12.04	11.92	12.64	12.06	65.99	18.19	21.57	Pass
114	5570	15.46	15.50	15.61	15.44	142.023	21.52	21.57	Pass

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

1. For U-NII-2A: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.
2. For U-NII-2C: The directional gain = 10 log[($10^{G0/20}$+ $10^{G1/20}$ + $10^{G2/20}$ +$10^{G3/20}$)^2 / 4] = 8.43dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit- (8.43-6)”.

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

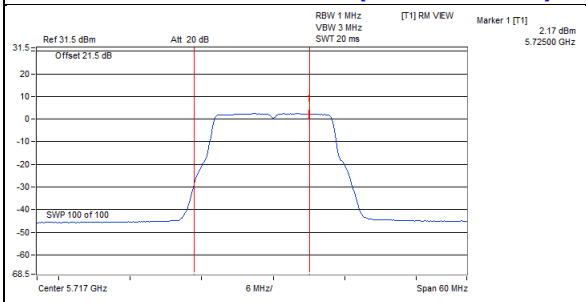
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
50 (U-NII-2A Band)	5250	83.62	30.22 > 24
114	5570	167.74	33.24 > 24

For channel straddling 5725MHz of Power

CDD Mode

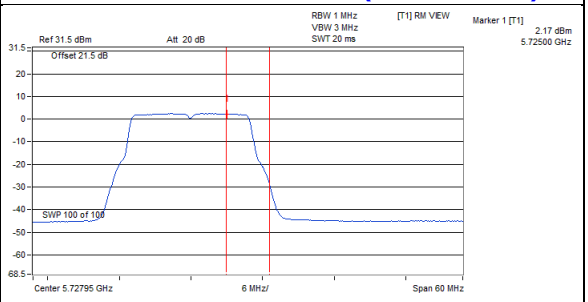
Spectrum Plot Value of Power

802.11a_Chain 0 / CH144 (U-NII-2C Band)



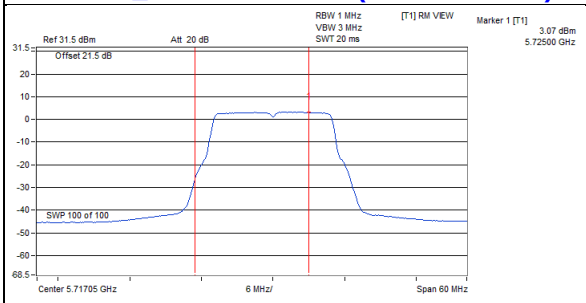
TX Channel Bandwidth 15.99 MHz Power 14.56 dBm

802.11a_Chain 0 / CH144 (U-NII-3 Band)



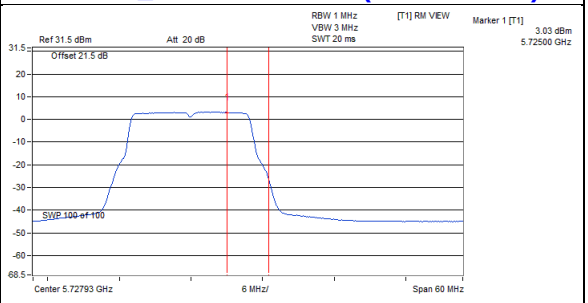
TX Channel Bandwidth 5.9 MHz Power 8.35 dBm

802.11a_Chain 1 / CH144 (U-NII-2C Band)



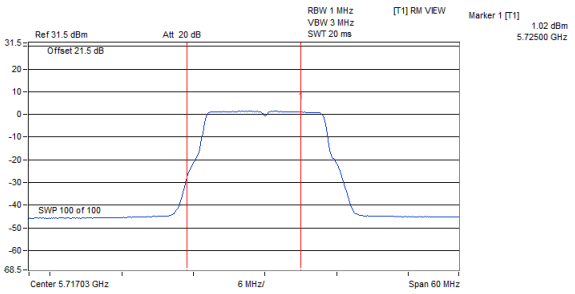
TX Channel Bandwidth 15.89 MHz Power 15.29 dBm

802.11a_Chain 1 / CH144 (U-NII-3 Band)



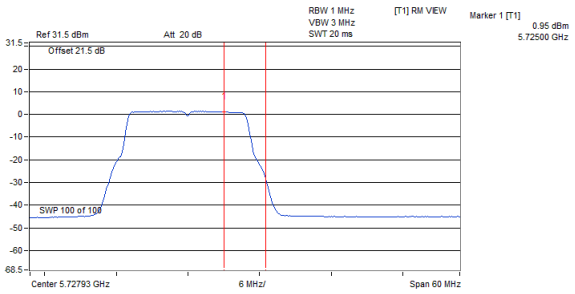
TX Channel Bandwidth 5.86 MHz Power 9.16 dBm

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



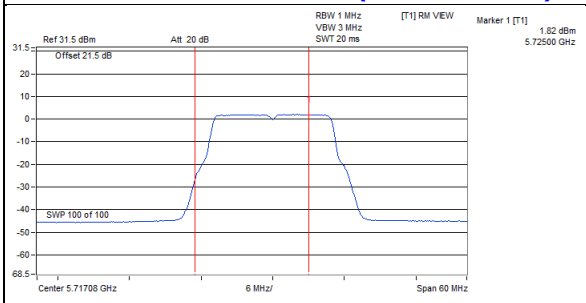
TX Channel Bandwidth 15.93 MHz Power 13.62 dBm

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



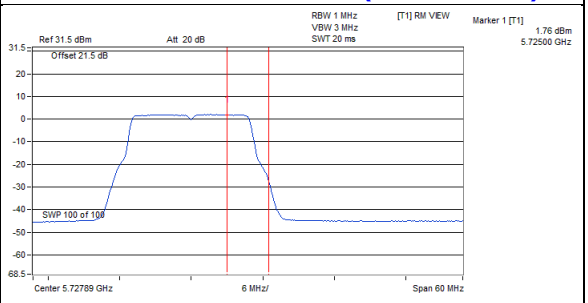
TX Channel Bandwidth 5.87 MHz Power 7.2 dBm

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



TX Channel Bandwidth 15.83 MHz Power 14.17 dBm

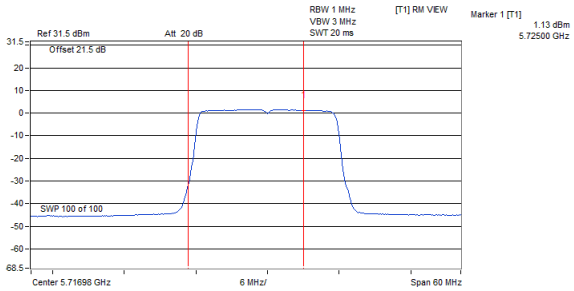
802.11a_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 5.79 MHz Power 8.08 dBm

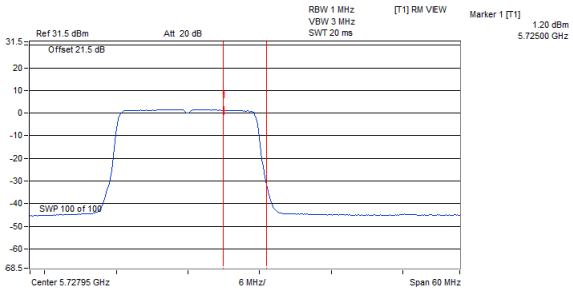
Spectrum Plot Value of Power

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



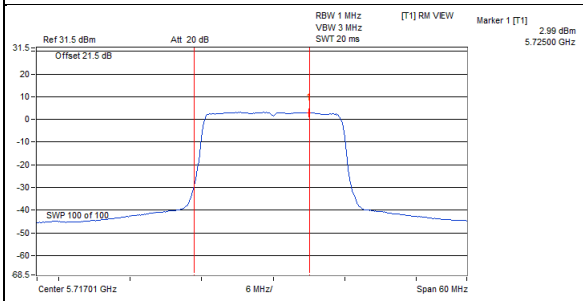
TX Channel Bandwidth 16.04 MHz Power 14.07 dBm

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



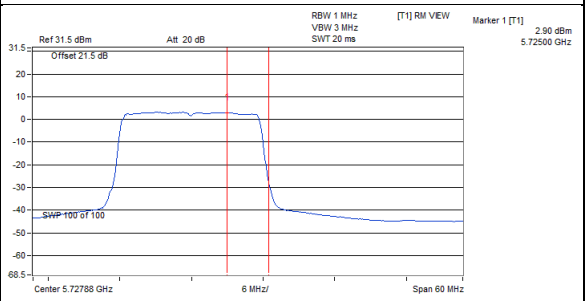
TX Channel Bandwidth 5.9 MHz Power 8.81 dBm

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



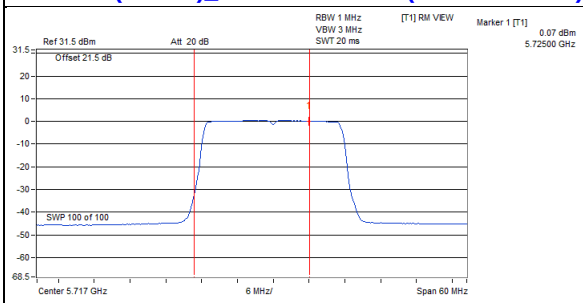
TX Channel Bandwidth 15.97 MHz Power 15.62 dBm

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



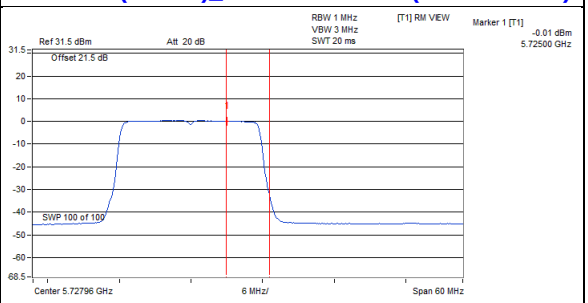
TX Channel Bandwidth 5.77 MHz Power 10.21 dBm

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



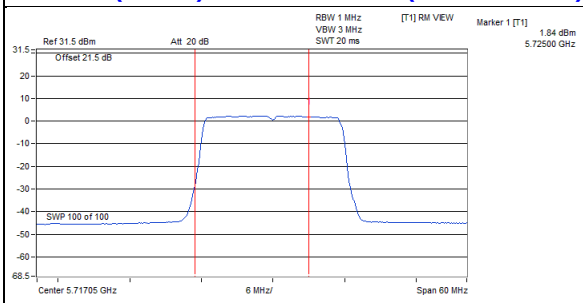
TX Channel Bandwidth 16 MHz Power 12.97 dBm

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



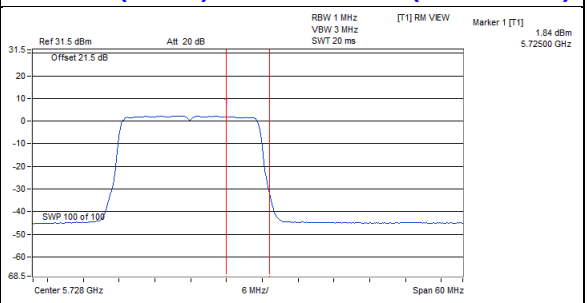
TX Channel Bandwidth 5.93 MHz Power 7.64 dBm

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



TX Channel Bandwidth 15.9 MHz Power 14.77 dBm

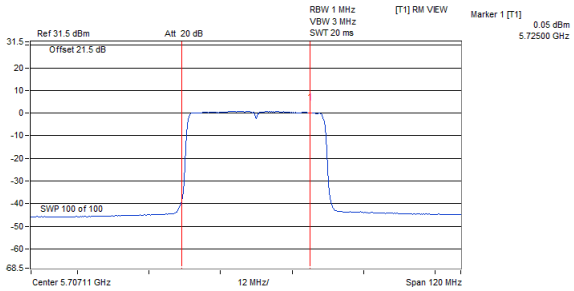
802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 6 MHz Power 9.38 dBm

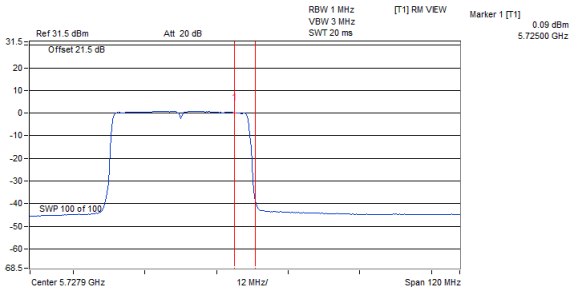
Spectrum Plot Value of Power

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



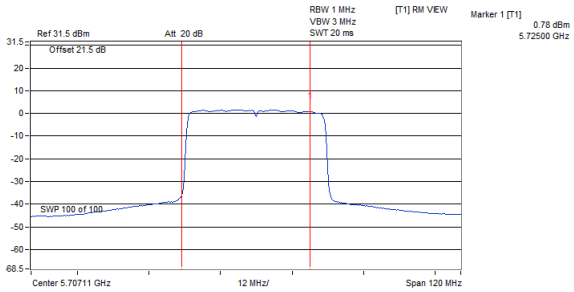
TX Channel Bandwidth 35.78 MHz Power 16.87 dBm

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



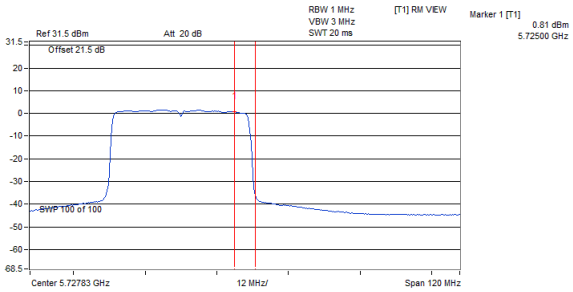
TX Channel Bandwidth 5.81 MHz Power 7.08 dBm

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



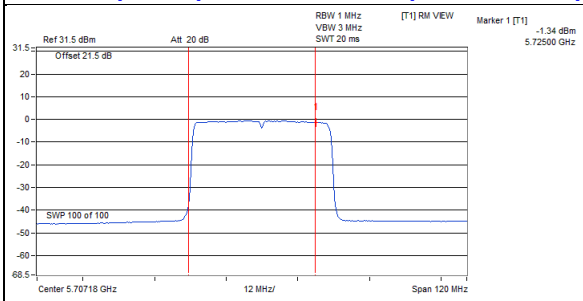
TX Channel Bandwidth 35.78 MHz Power 17.55 dBm

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



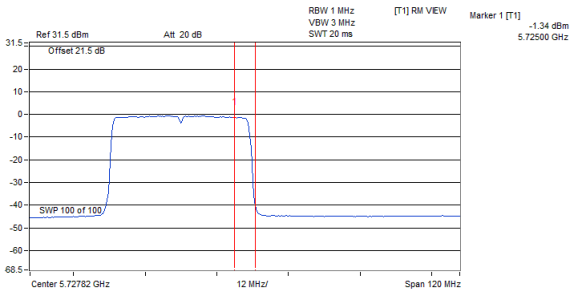
TX Channel Bandwidth 5.66 MHz Power 7.31 dBm

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



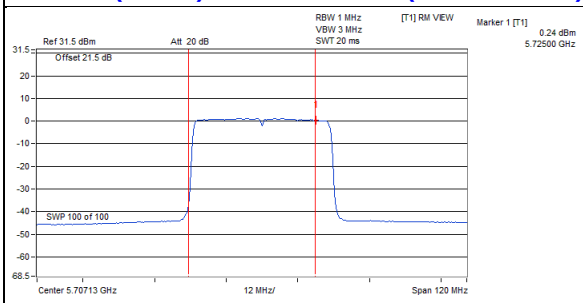
TX Channel Bandwidth 35.64 MHz Power 15.45 dBm

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



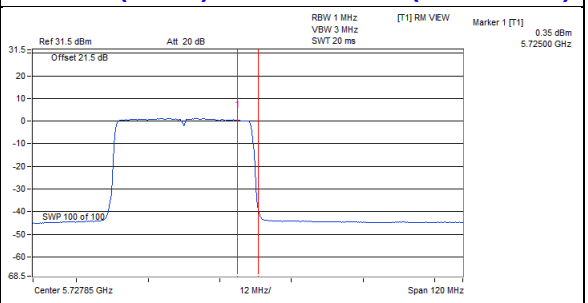
TX Channel Bandwidth 5.65 MHz Power 5.53 dBm

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



TX Channel Bandwidth 35.74 MHz Power 17.2 dBm

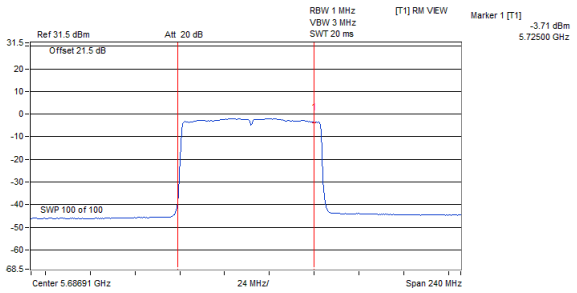
802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 7.22 dBm

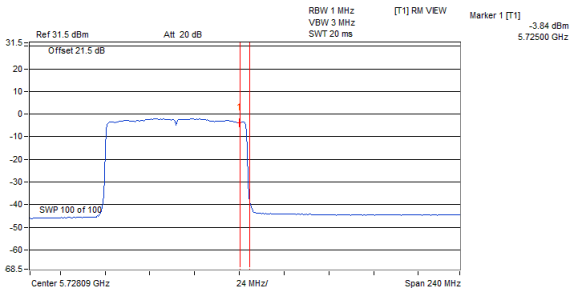
Spectrum Plot Value of Power

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



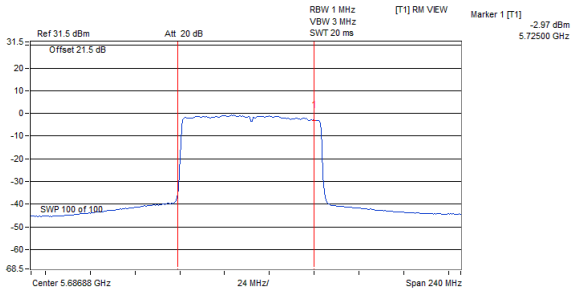
TX Channel Bandwidth 76.18 MHz Power 17.2 dBm

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



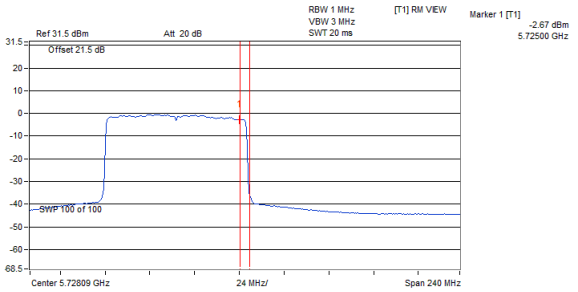
TX Channel Bandwidth 6.19 MHz Power 3.48 dBm

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



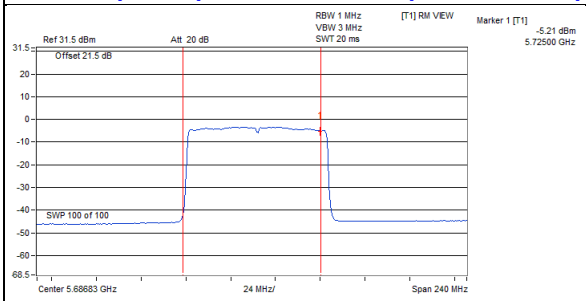
TX Channel Bandwidth 76.24 MHz Power 18.19 dBm

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



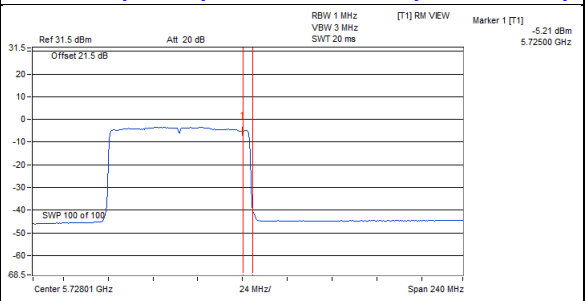
TX Channel Bandwidth 6.19 MHz Power 4.26 dBm

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



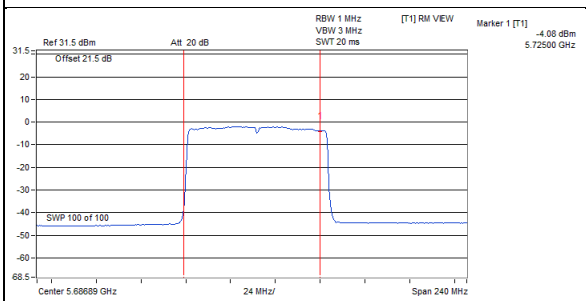
TX Channel Bandwidth 76.33 MHz Power 15.84 dBm

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



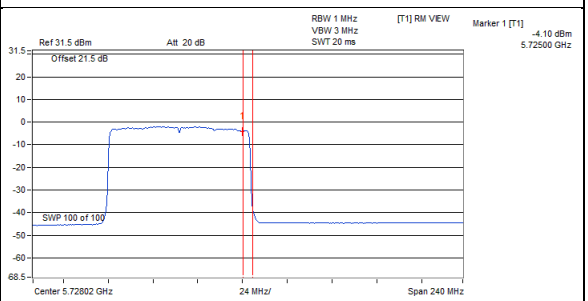
TX Channel Bandwidth 6.02 MHz Power 2.03 dBm

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



TX Channel Bandwidth 76.22 MHz Power 17.2 dBm

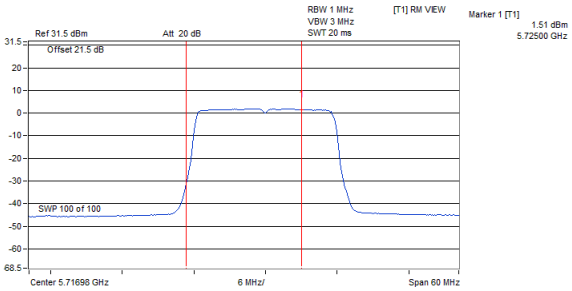
802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.04 MHz Power 3.21 dBm

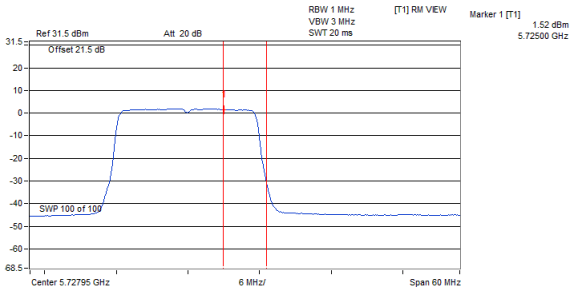
Spectrum Plot Value of Power

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



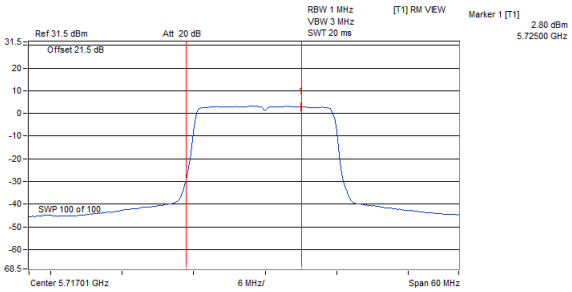
TX Channel Bandwidth 16.04 MHz Power 14.4 dBm

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



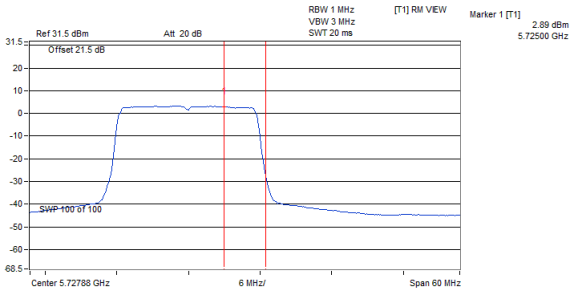
TX Channel Bandwidth 5.9 MHz Power 9.11 dBm

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



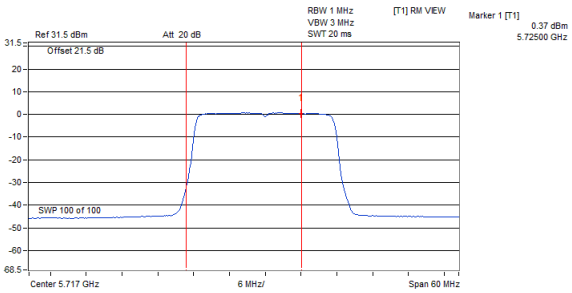
TX Channel Bandwidth 15.97 MHz Power 15.72 dBm

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



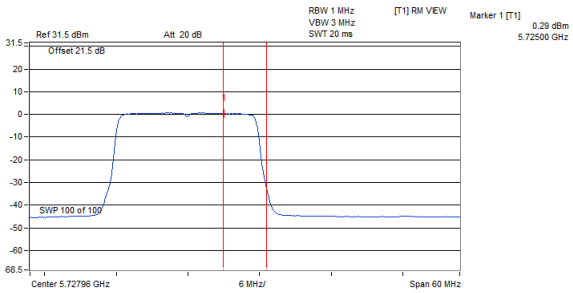
TX Channel Bandwidth 5.77 MHz Power 10.32 dBm

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



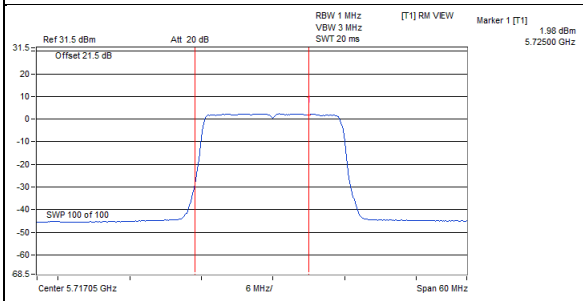
TX Channel Bandwidth 16 MHz Power 13.22 dBm

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



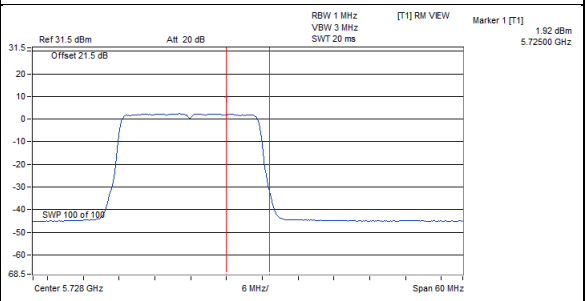
TX Channel Bandwidth 5.93 MHz Power 7.89 dBm

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



TX Channel Bandwidth 15.9 MHz Power 14.86 dBm

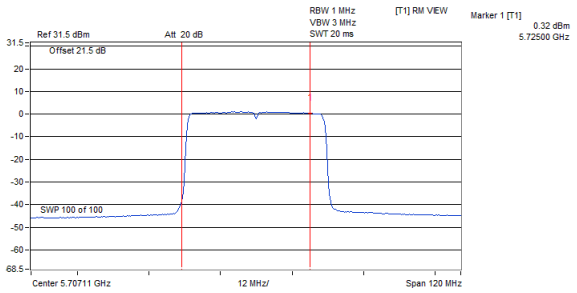
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 6 MHz Power 9.52 dBm

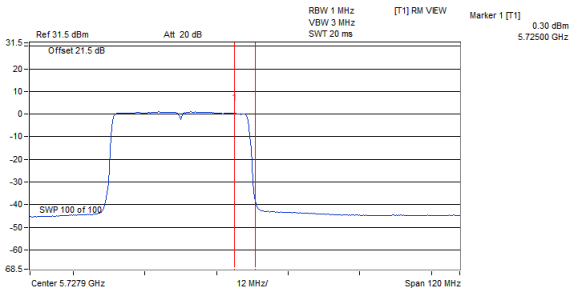
Spectrum Plot Value of Power

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



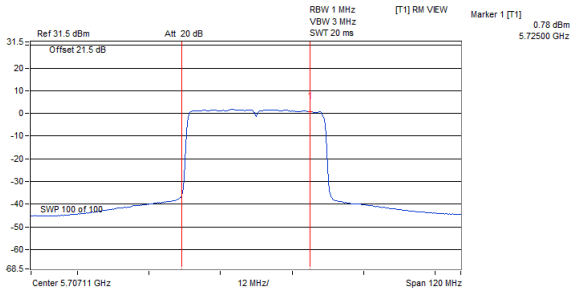
TX Channel Bandwidth 35.78 MHz Power 17.1 dBm

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



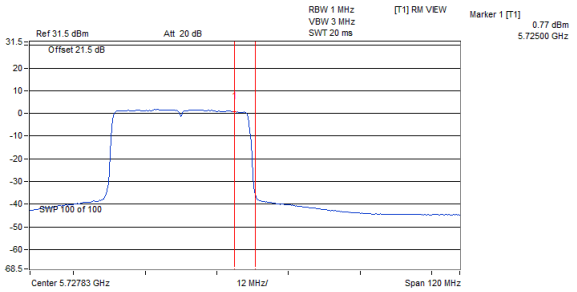
TX Channel Bandwidth 5.81 MHz Power 7.16 dBm

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



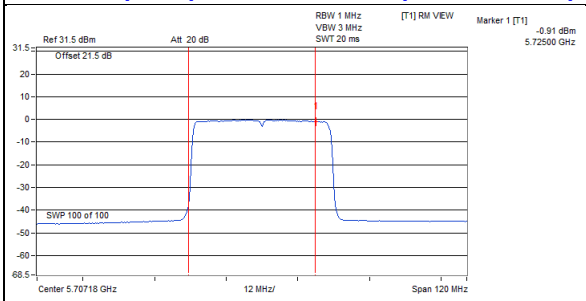
TX Channel Bandwidth 35.78 MHz Power 17.73 dBm

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



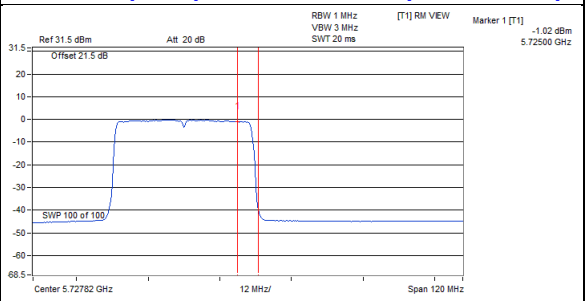
TX Channel Bandwidth 5.66 MHz Power 7.63 dBm

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



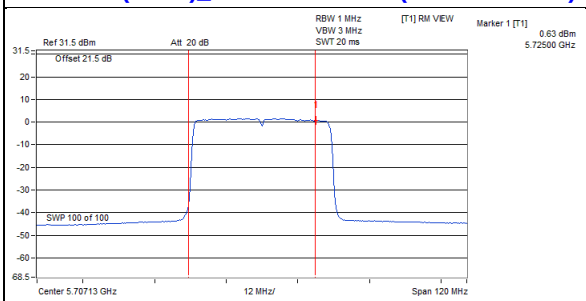
TX Channel Bandwidth 35.64 MHz Power 15.82 dBm

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



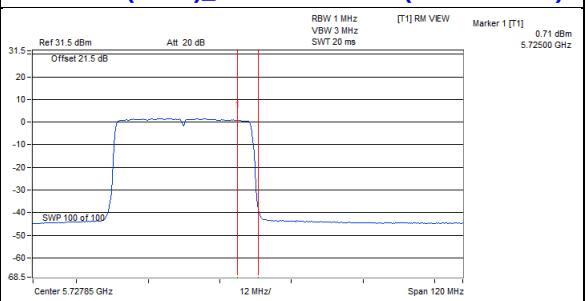
TX Channel Bandwidth 5.65 MHz Power 5.89 dBm

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



TX Channel Bandwidth 35.74 MHz Power 17.57 dBm

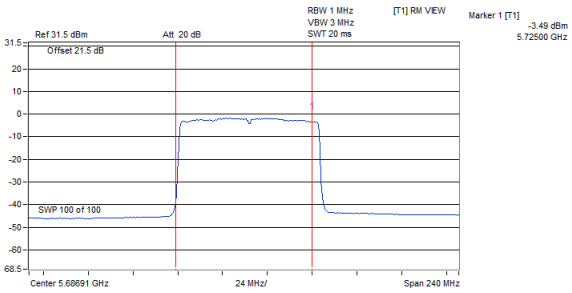
802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 7.58 dBm

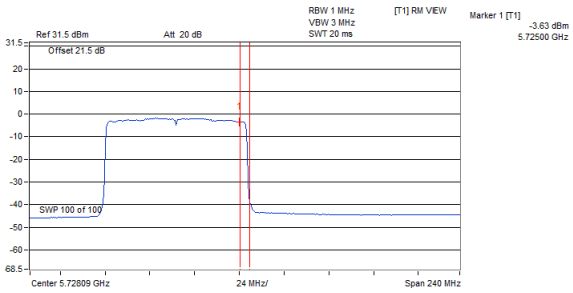
Spectrum Plot Value of Power

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



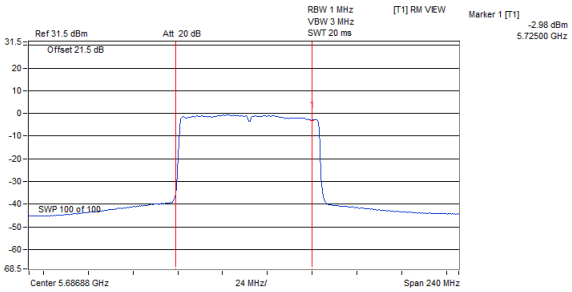
TX Channel Bandwidth 76.18 MHz Power 17.37 dBm

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



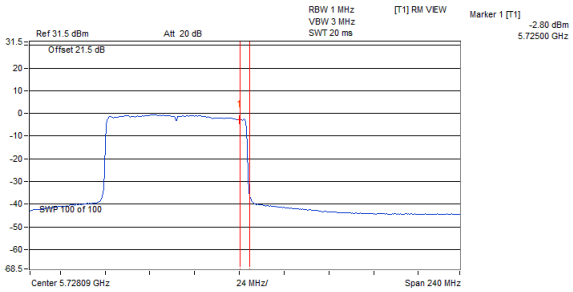
TX Channel Bandwidth 6.19 MHz Power 3.63 dBm

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



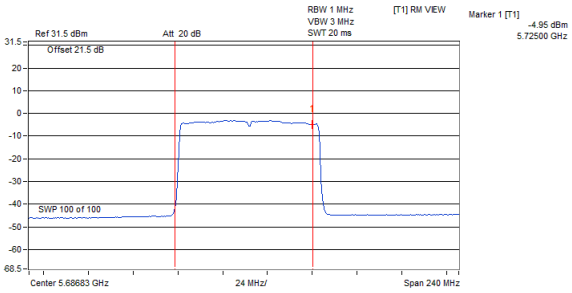
TX Channel Bandwidth 76.24 MHz Power 18.42 dBm

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



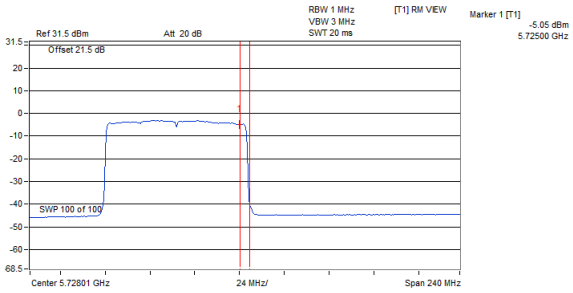
TX Channel Bandwidth 6.19 MHz Power 4.34 dBm

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



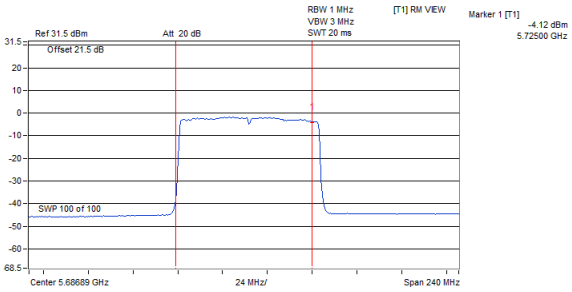
TX Channel Bandwidth 76.33 MHz Power 16.06 dBm

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



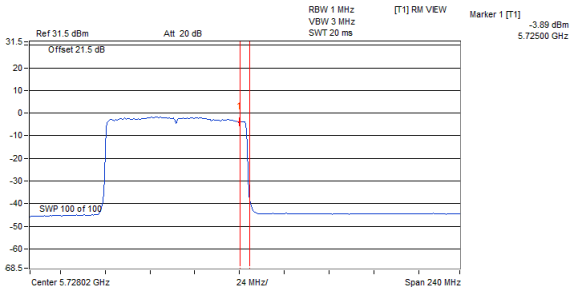
TX Channel Bandwidth 6.02 MHz Power 2.21 dBm

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



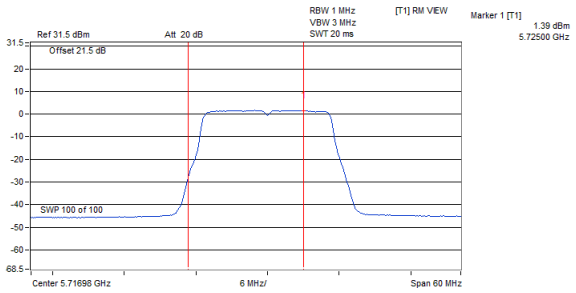
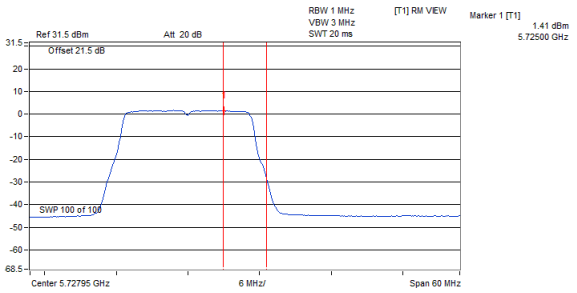
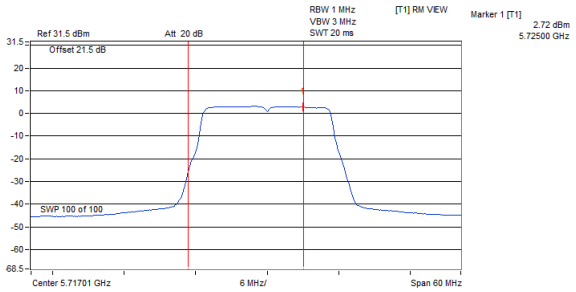
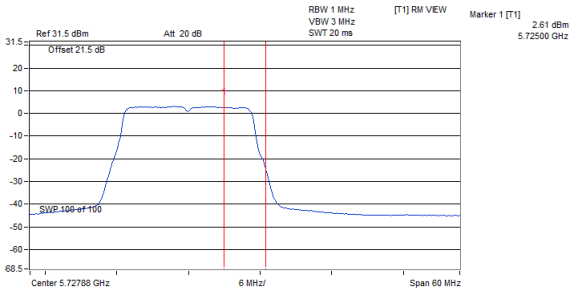
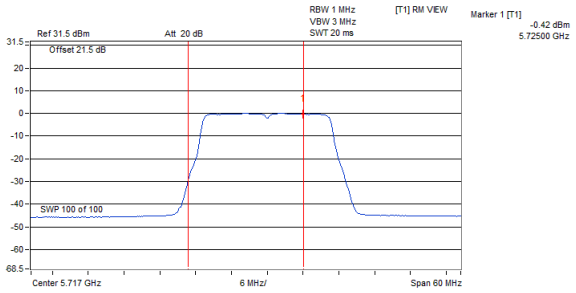
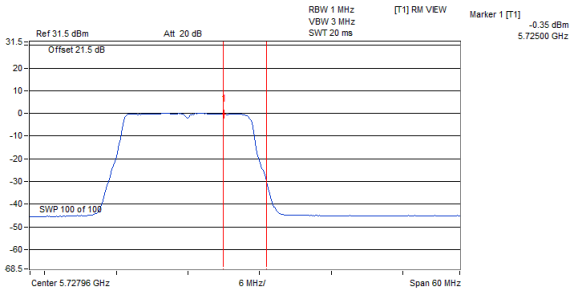
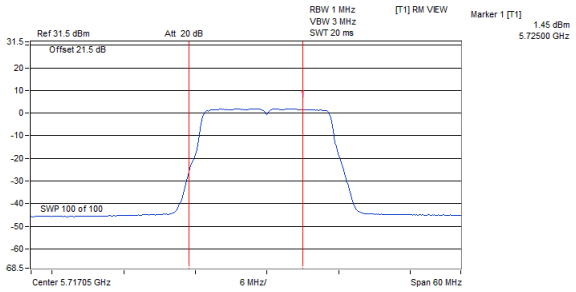
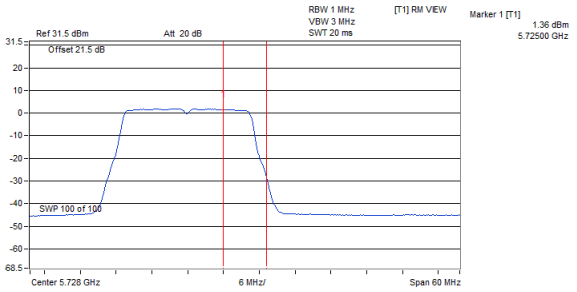
TX Channel Bandwidth 76.22 MHz Power 17.31 dBm

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



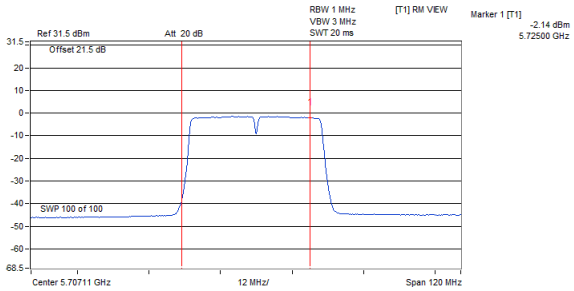
TX Channel Bandwidth 6.04 MHz Power 3.31 dBm

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 16.04 MHz Power 13.95 dBm	TX Channel Bandwidth 5.9 MHz Power 8.25 dBm
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)**
	
TX Channel Bandwidth 15.97 MHz Power 15.41 dBm	TX Channel Bandwidth 5.77 MHz Power 9.52 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 MHz Power 12.34 dBm	TX Channel Bandwidth 5.93 MHz Power 6.63 dBm
802.11ac (VHT20)_Chain 3 / CH144 (U-NII-2C Band)	**802.11ac (VHT20)_Chain 3 / CH144 (U-NII-3 Band)**
	
TX Channel Bandwidth 15.9 MHz Power 14.22 dBm	TX Channel Bandwidth 6 MHz Power 8.43 dBm

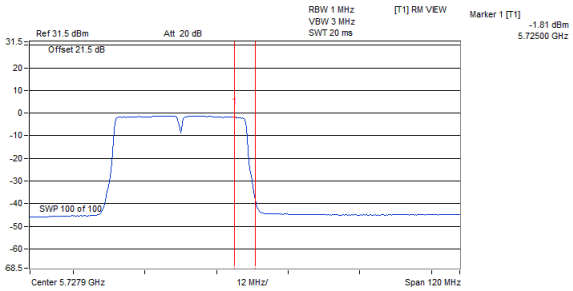
Spectrum Plot Value of Power

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



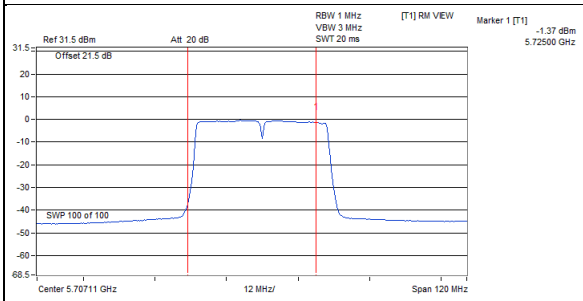
TX Channel Bandwidth 35.78 MHz Power 14.5 dBm

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



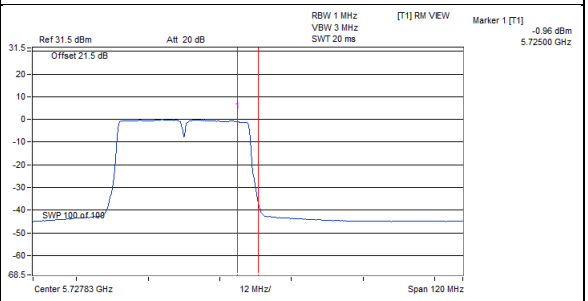
TX Channel Bandwidth 5.81 MHz Power 4.25 dBm

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



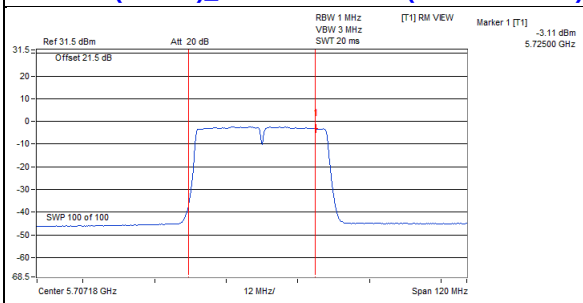
TX Channel Bandwidth 35.78 MHz Power 15.4 dBm

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



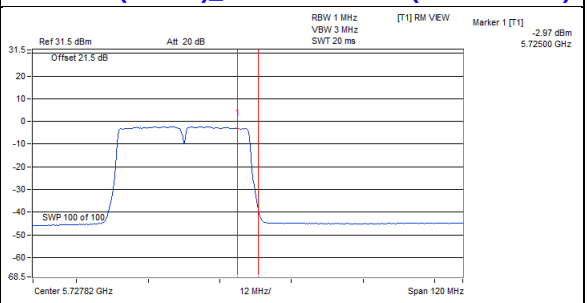
TX Channel Bandwidth 5.66 MHz Power 5.06 dBm

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



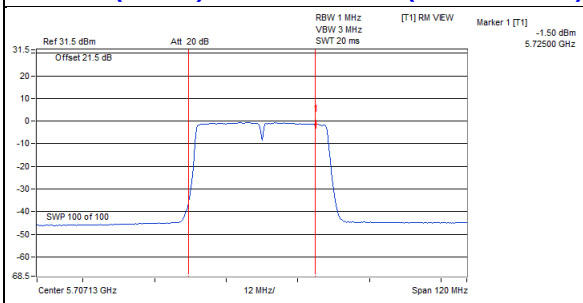
TX Channel Bandwidth 35.64 MHz Power 13.45 dBm

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



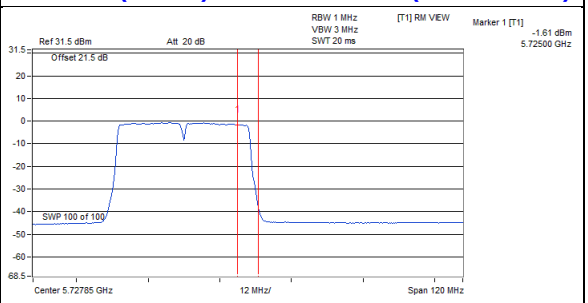
TX Channel Bandwidth 5.65 MHz Power 3.05 dBm

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



TX Channel Bandwidth 35.74 MHz Power 15.23 dBm

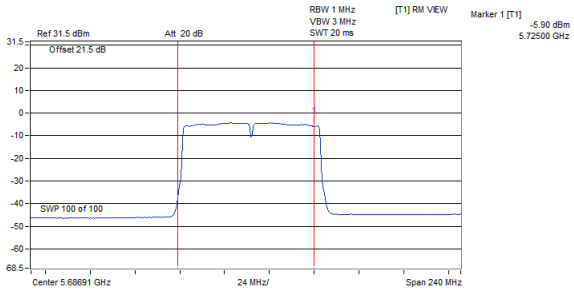
802.11ac (VHT40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 4.55 dBm

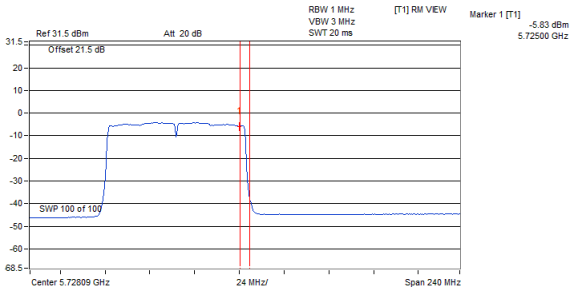
Spectrum Plot Value of Power

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



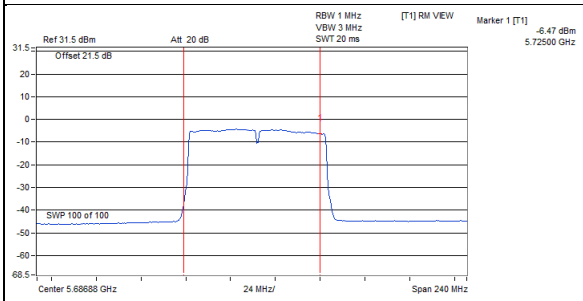
TX Channel Bandwidth 76.18 MHz Power 14.91 dBm

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



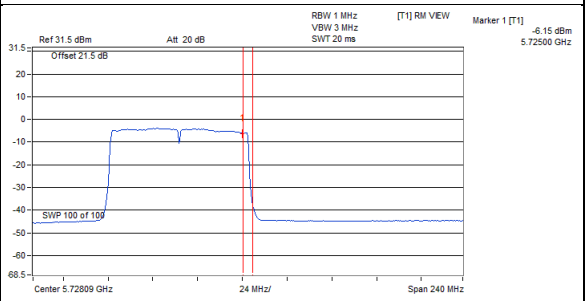
TX Channel Bandwidth 6.19 MHz Power 0.64 dBm

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



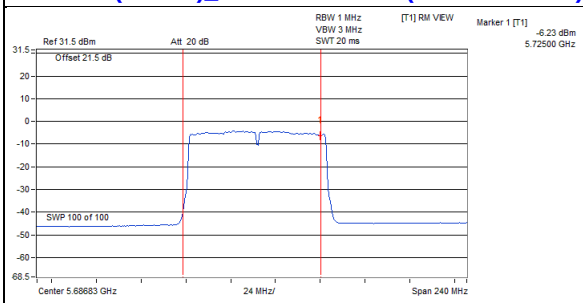
TX Channel Bandwidth 76.24 MHz Power 14.76 dBm

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



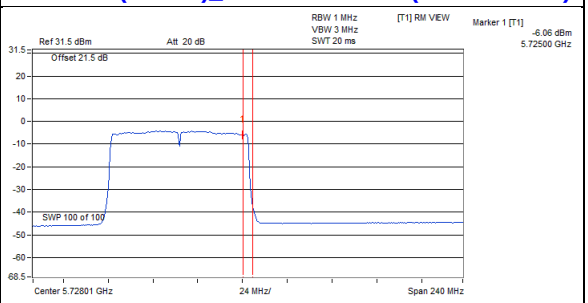
TX Channel Bandwidth 6.19 MHz Power 0.32 dBm

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



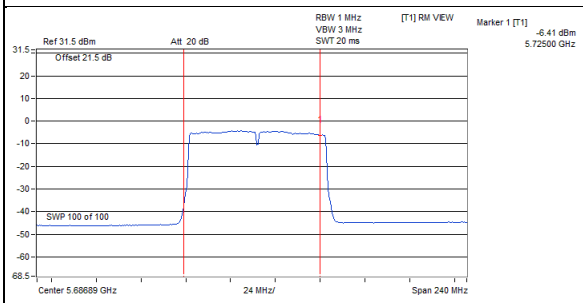
TX Channel Bandwidth 76.33 MHz Power 14.74 dBm

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



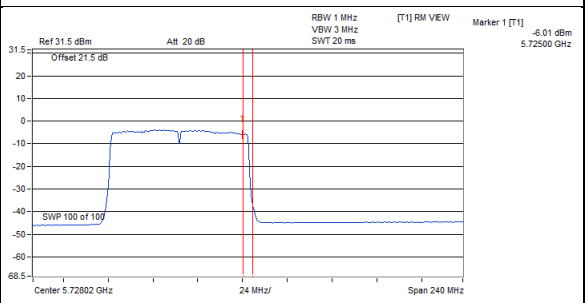
TX Channel Bandwidth 6.02 MHz Power 0.46 dBm

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



TX Channel Bandwidth 76.22 MHz Power 14.78 dBm

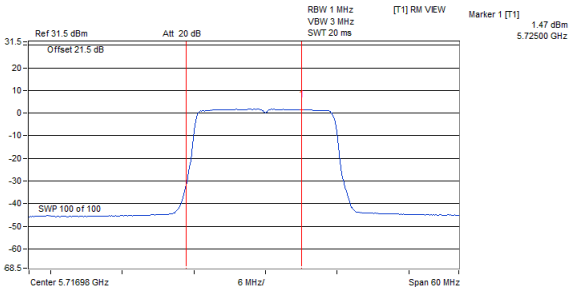
802.11ac (VHT80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.04 MHz Power 0.52 dBm

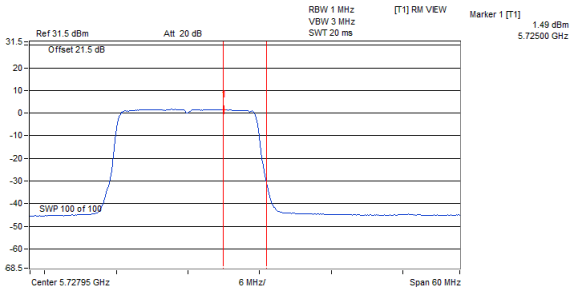
Spectrum Plot Value of Power

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



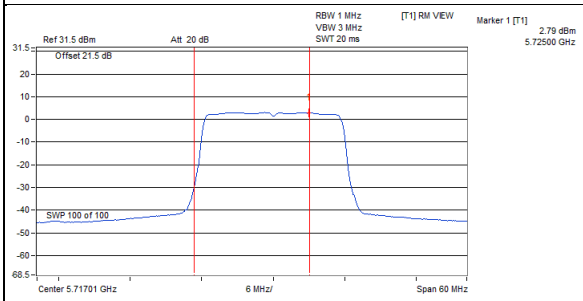
TX Channel Bandwidth 16.04 MHz Power 14.29 dBm

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



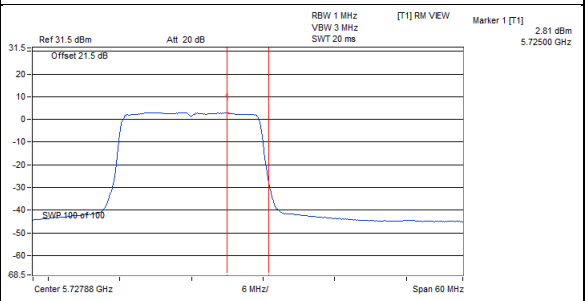
TX Channel Bandwidth 5.9 MHz Power 8.92 dBm

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



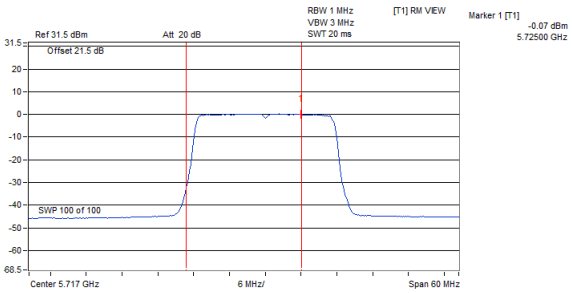
TX Channel Bandwidth 15.97 MHz Power 15.48 dBm

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



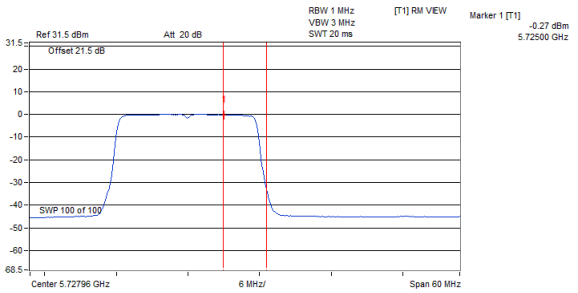
TX Channel Bandwidth 5.77 MHz Power 10.01 dBm

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



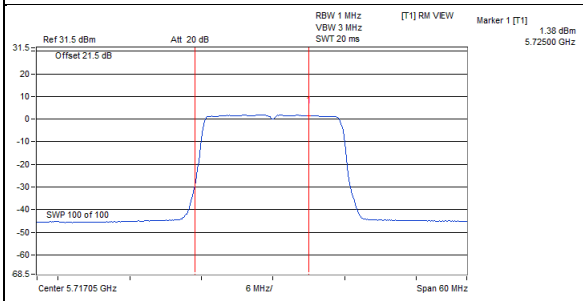
TX Channel Bandwidth 16 MHz Power 12.74 dBm

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



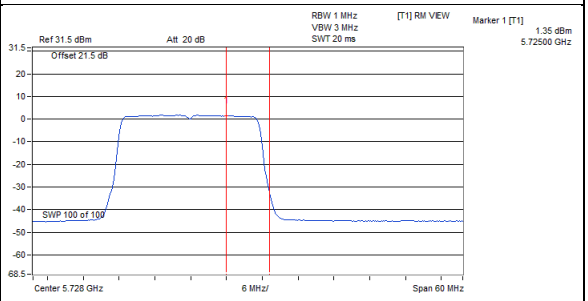
TX Channel Bandwidth 5.93 MHz Power 7.31 dBm

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



TX Channel Bandwidth 15.9 MHz Power 14.33 dBm

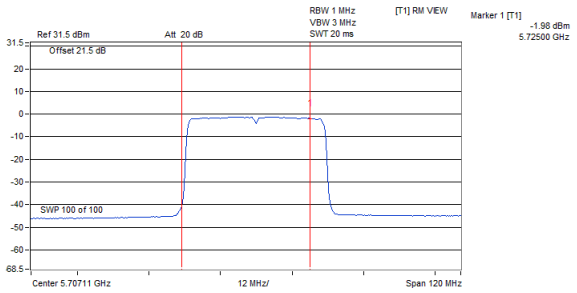
802.11ax (HE20)_Chain 3 / CH144 (U-NII-3 Band)



TX Channel Bandwidth 6 MHz Power 8.9 dBm

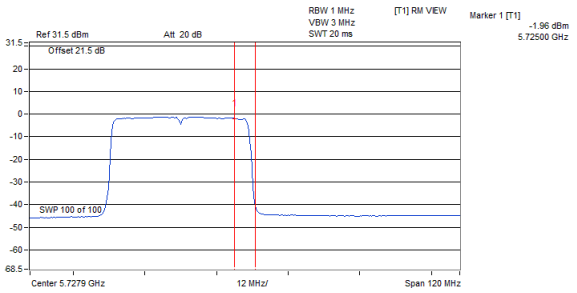
Spectrum Plot Value of Power

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



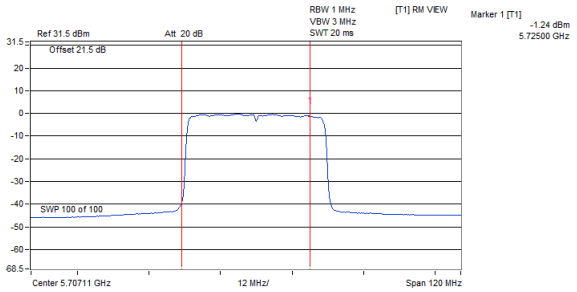
TX Channel Bandwidth 35.78 MHz Power 14.8 dBm

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



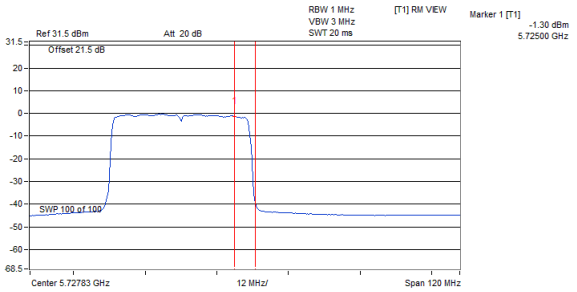
TX Channel Bandwidth 5.81 MHz Power 4.87 dBm

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



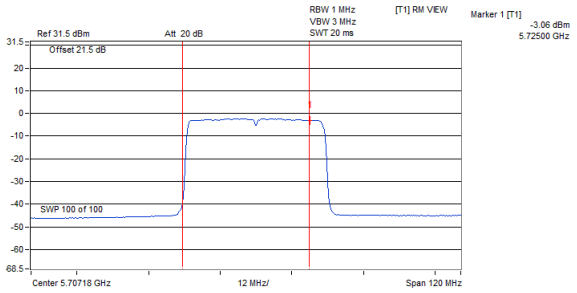
TX Channel Bandwidth 35.78 MHz Power 15.56 dBm

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



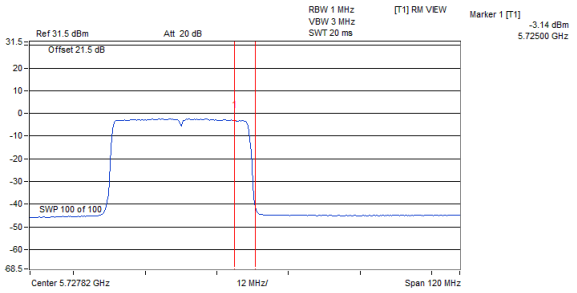
TX Channel Bandwidth 5.66 MHz Power 5.38 dBm

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



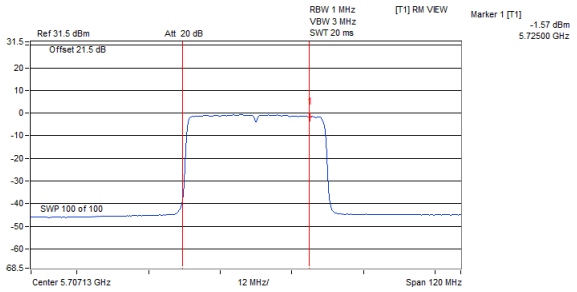
TX Channel Bandwidth 35.64 MHz Power 13.7 dBm

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



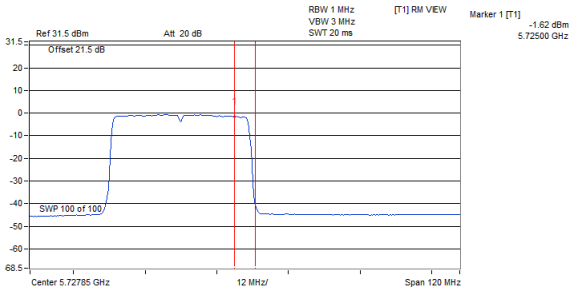
TX Channel Bandwidth 5.65 MHz Power 3.76 dBm

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



TX Channel Bandwidth 35.74 MHz Power 15.31 dBm

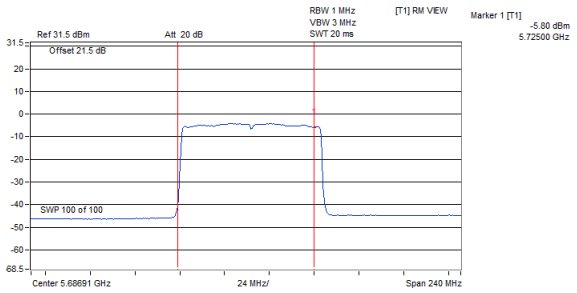
802.11ax (HE40)_Chain 3 / CH142 (U-NII-3 Band)



TX Channel Bandwidth 5.71 MHz Power 5.37 dBm

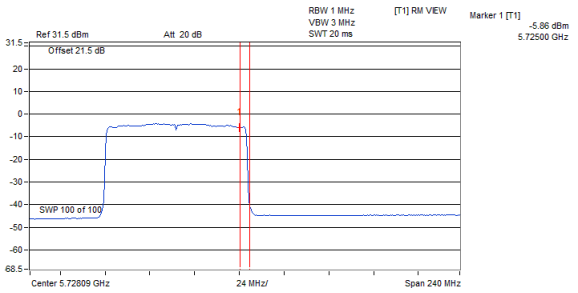
Spectrum Plot Value of Power

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



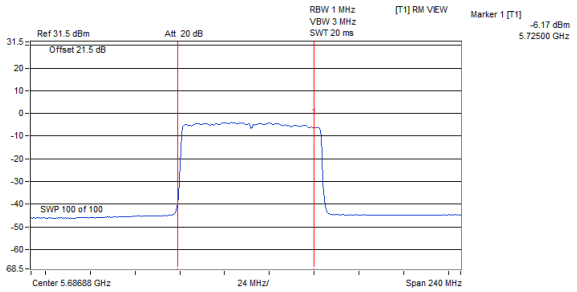
TX Channel Bandwidth 76.18 MHz Power 15.03 dBm

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



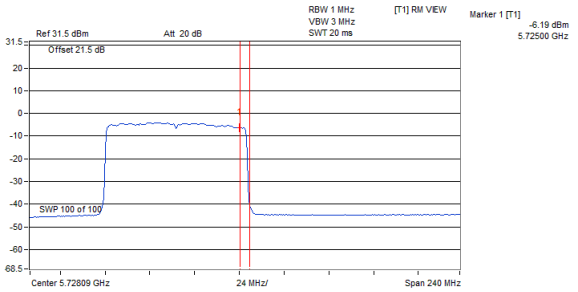
TX Channel Bandwidth 6.19 MHz Power 1.29 dBm

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



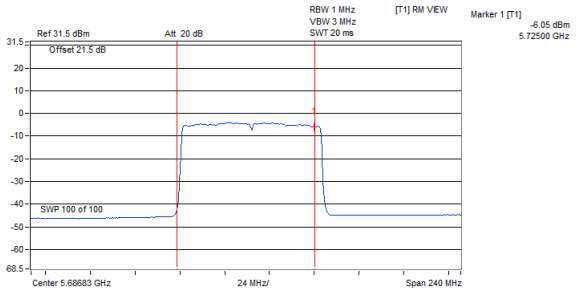
TX Channel Bandwidth 76.24 MHz Power 15.01 dBm

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



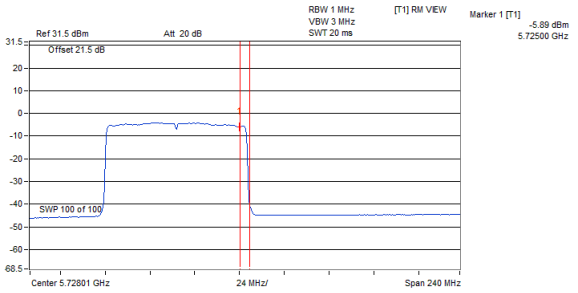
TX Channel Bandwidth 6.19 MHz Power 0.71 dBm

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



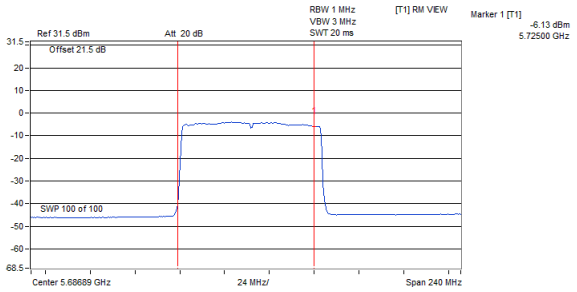
TX Channel Bandwidth 76.33 MHz Power 15.04 dBm

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



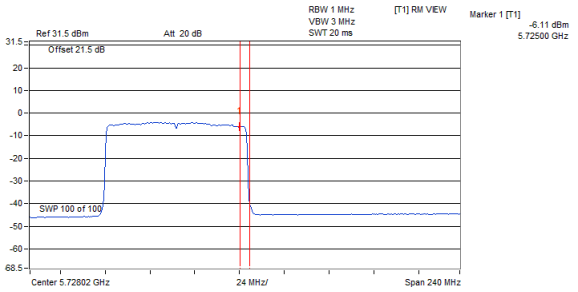
TX Channel Bandwidth 6.02 MHz Power 1.33 dBm

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



TX Channel Bandwidth 76.22 MHz Power 15.14 dBm

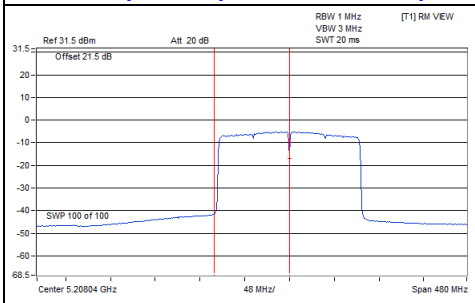
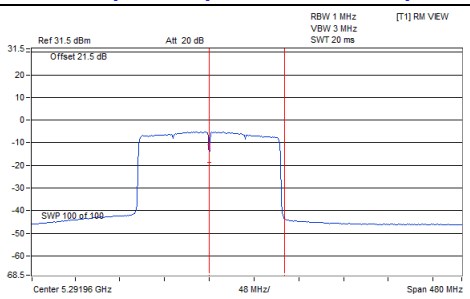
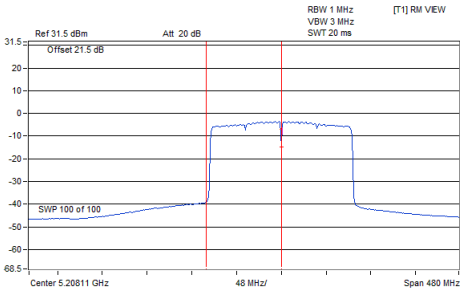
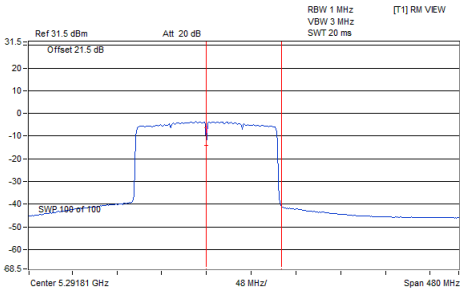
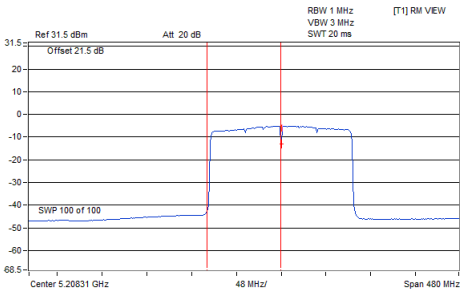
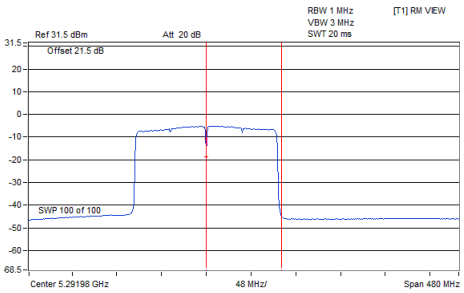
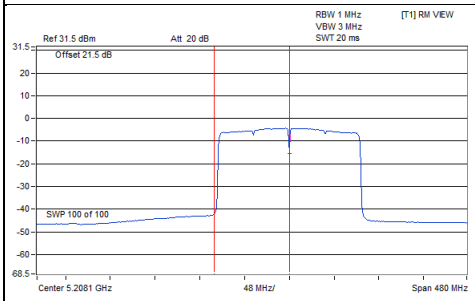
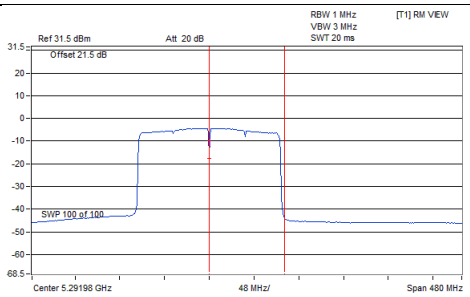
802.11ax (HE80)_Chain 3 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.04 MHz Power 1.11 dBm

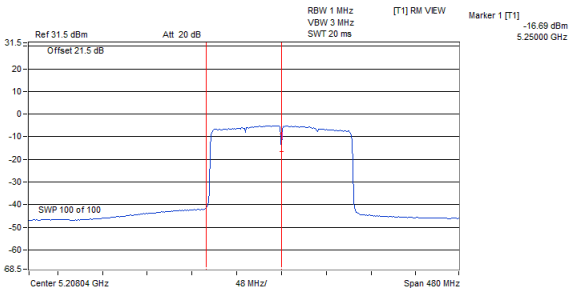
For channel straddling 5250MHz of Power

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 83.91 MHz Power 13.97 dBm	TX Channel Bandwidth 83.93 MHz Power 13.65 dBm
802.11ac (VHT160)_Chain 1 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 1 / CH50 (U-NII-2A Band)**
	
TX Channel Bandwidth 83.77 MHz Power 15.33 dBm	TX Channel Bandwidth 83.62 MHz Power 15.37 dBm
802.11ac (VHT160)_Chain 2 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 2 / CH50 (U-NII-2A Band)**
	
TX Channel Bandwidth 83.37 MHz Power 13.75 dBm	TX Channel Bandwidth 83.96 MHz Power 14.09 dBm
802.11ac (VHT160)_Chain 3 / CH50 (U-NII-1 Band)	**802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)**
	
TX Channel Bandwidth 83.79 MHz Power 14.82 dBm	TX Channel Bandwidth 83.97 MHz Power 14.68 dBm

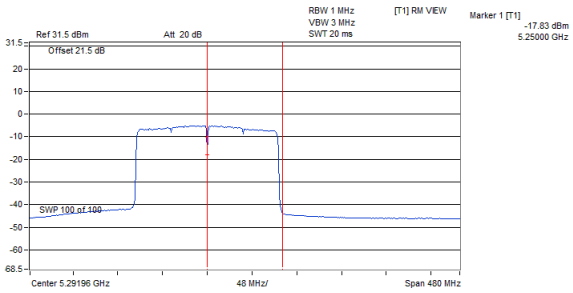
Spectrum Plot Value of Power

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



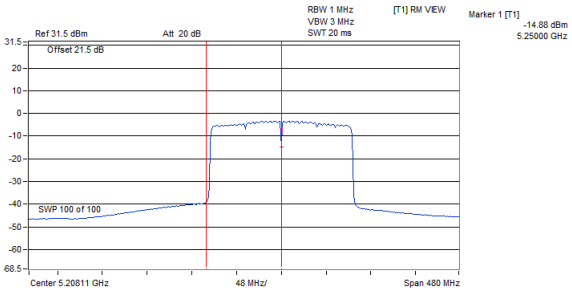
TX Channel Bandwidth 83.91 MHz Power 14.06 dBm

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



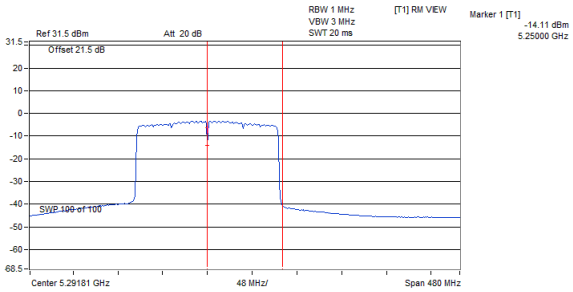
TX Channel Bandwidth 83.93 MHz Power 13.74 dBm

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



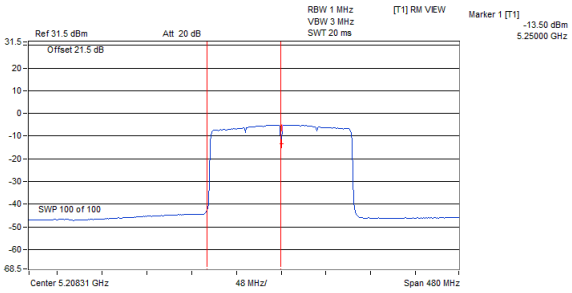
TX Channel Bandwidth 83.77 MHz Power 15.54 dBm

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



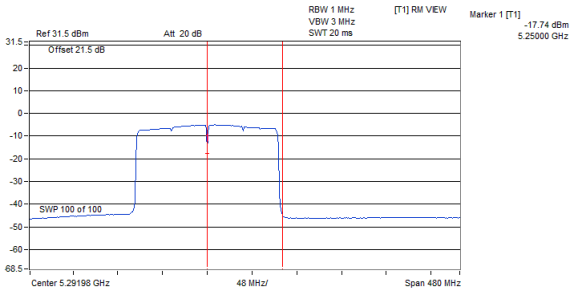
TX Channel Bandwidth 83.62 MHz Power 15.62 dBm

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



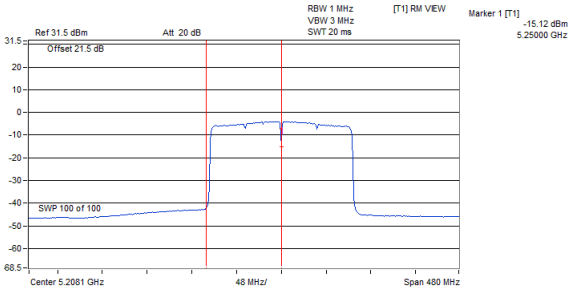
TX Channel Bandwidth 83.37 MHz Power 13.86 dBm

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



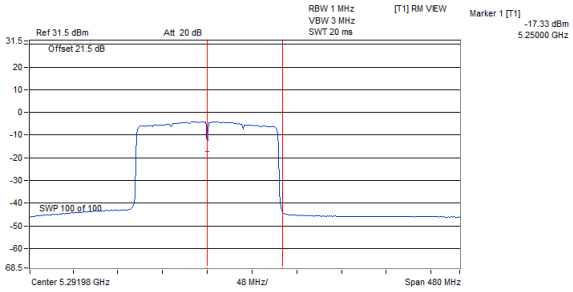
TX Channel Bandwidth 83.96 MHz Power 14.19 dBm

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



TX Channel Bandwidth 83.79 MHz Power 15.03 dBm

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

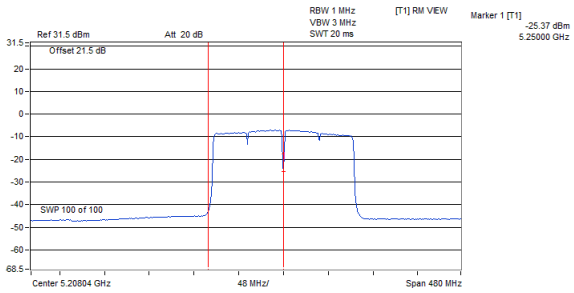


TX Channel Bandwidth 83.97 MHz Power 14.88 dBm

Beamforming Mode

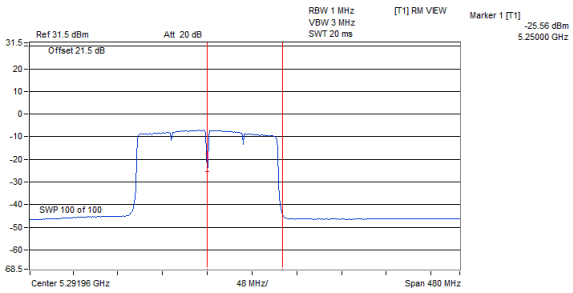
Spectrum Plot Value of Power

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



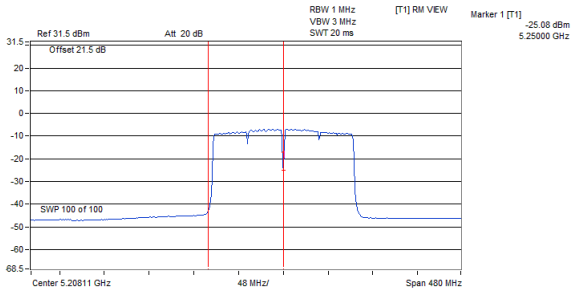
TX Channel Bandwidth 83.91 MHz Power 12.04 dBm

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



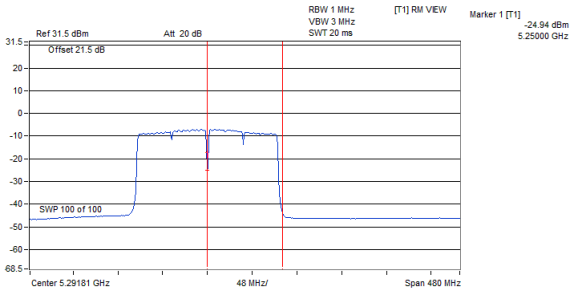
TX Channel Bandwidth 83.93 MHz Power 11.57 dBm

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



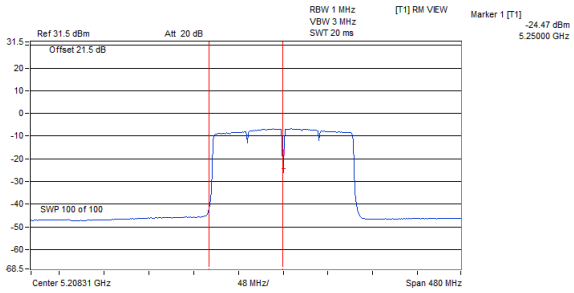
TX Channel Bandwidth 83.77 MHz Power 11.94 dBm

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



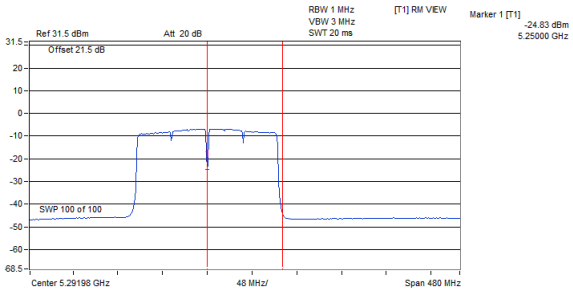
TX Channel Bandwidth 83.62 MHz Power 11.8 dBm

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



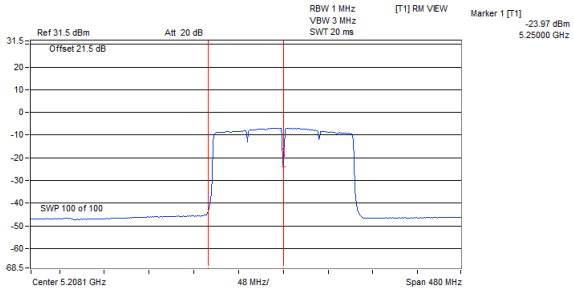
TX Channel Bandwidth 83.37 MHz Power 12.1 dBm

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



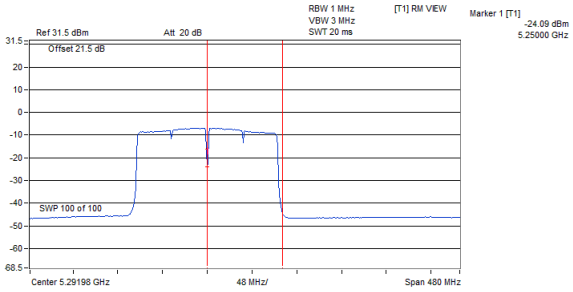
TX Channel Bandwidth 83.96 MHz Power 12.28 dBm

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



TX Channel Bandwidth 83.79 MHz Power 12.09 dBm

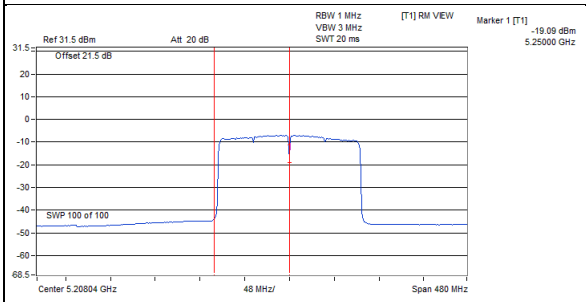
802.11ac (VHT160)_Chain 3 / CH50 (U-NII-2A Band)



TX Channel Bandwidth 83.97 MHz Power 11.92 dBm

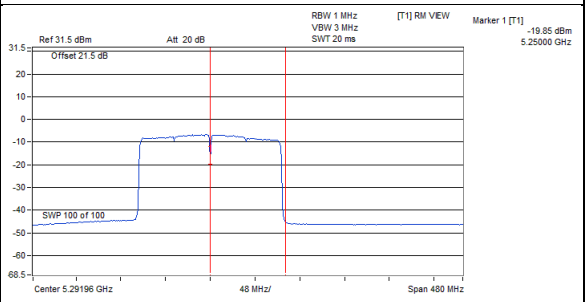
Spectrum Plot Value of Power

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



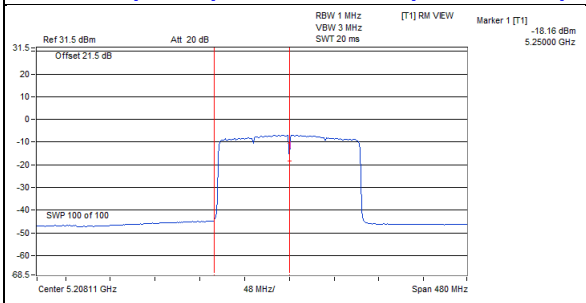
TX Channel Bandwidth 83.91 MHz Power 12.24 dBm

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



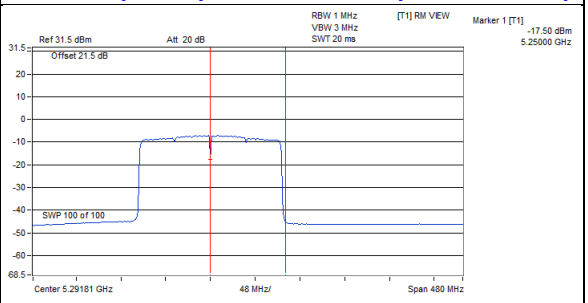
TX Channel Bandwidth 83.93 MHz Power 12.04 dBm

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



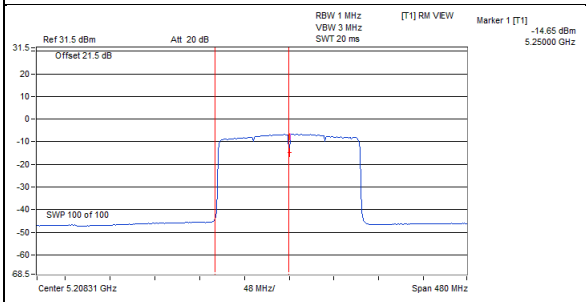
TX Channel Bandwidth 83.77 MHz Power 12.09 dBm

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



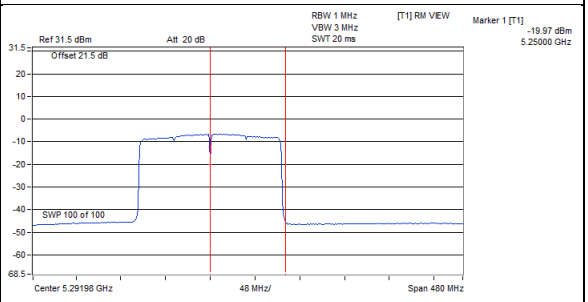
TX Channel Bandwidth 83.62 MHz Power 11.92 dBm

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



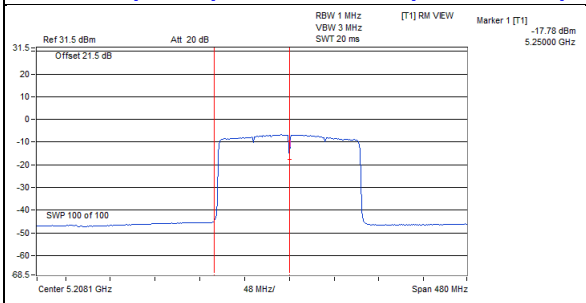
TX Channel Bandwidth 83.37 MHz Power 12.25 dBm

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



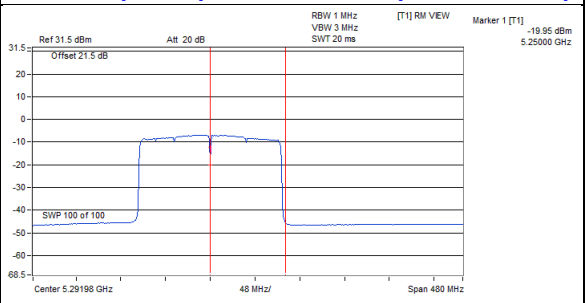
TX Channel Bandwidth 83.96 MHz Power 12.64 dBm

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



TX Channel Bandwidth 83.79 MHz Power 12.36 dBm

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



TX Channel Bandwidth 83.97 MHz Power 12.06 dBm

CDD Mode

26dB OCCUPIED BANDWIDTH

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.77	21.77	21.8	21.66
60	5300	21.72	21.83	21.76	21.74
64	5320	21.86	21.81	21.87	21.59
100	5500	21.64	21.93	21.85	21.75
116	5580	21.8	21.9	21.82	21.78
140	5700	21.85	21.78	21.78	21.69
144 (U-NII-2C Band)	5720	15.99	15.89	15.93	15.83

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.92	21.92	21.87	21.87
60	5300	21.88	21.85	21.98	21.91
64	5320	22.01	21.97	22.04	21.91
100	5500	21.95	21.94	22.02	21.87
116	5580	21.98	21.86	22.1	21.9
140	5700	21.95	21.93	22.01	21.87
144 (U-NII-2C Band)	5720	16.04	15.97	16	15.9

802.11ax (HE40)

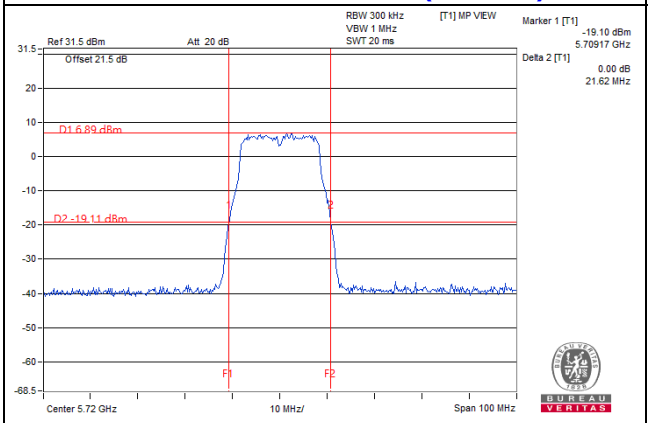
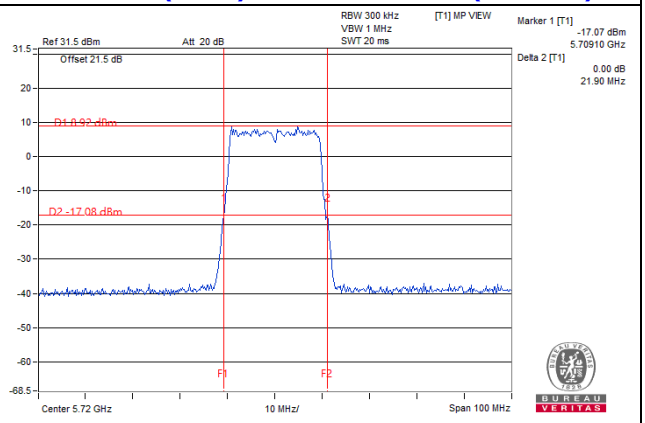
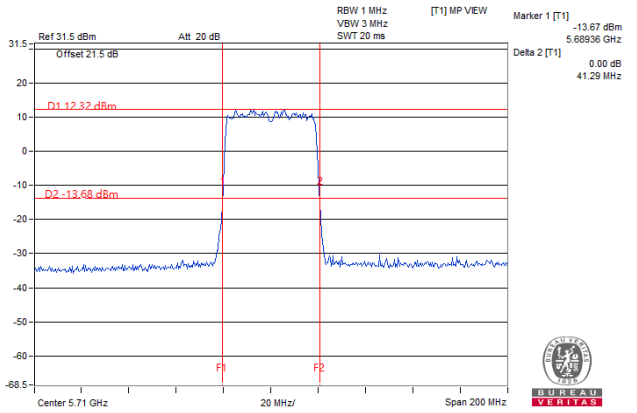
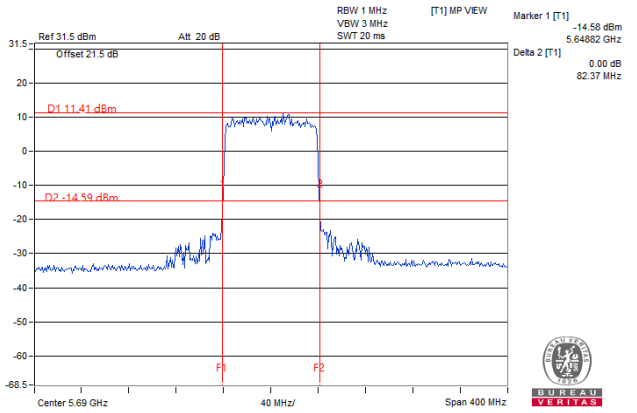
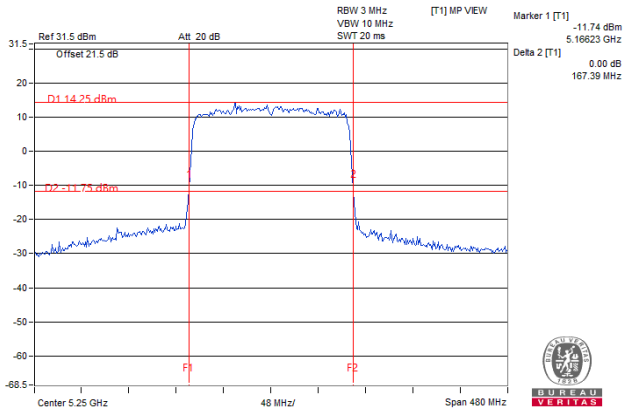
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
54	5270	41.6	41.7	41.58	41.41
62	5310	41.56	41.76	41.57	41.48
102	5510	41.59	41.67	41.44	41.53
110	5550	41.61	41.6	41.4	41.39
134	5670	41.54	41.79	41.47	41.41
142 (U-NII-2C Band)	5710	35.78	35.78	35.64	35.74

802.11ax (HE80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
58	5290	82.42	82.13	82.65	82.49
106	5530	82.55	82.23	82.41	82.44
122	5610	82.6	82.36	82.15	82.29
138 (U-NII-2C Band)	5690	76.18	76.24	76.33	76.22

802.11ax (HE160)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
50 (U-NII-2A Band)	5250	83.93	83.62	83.96	83.97
114	5570	168.79	168	167.74	168.19

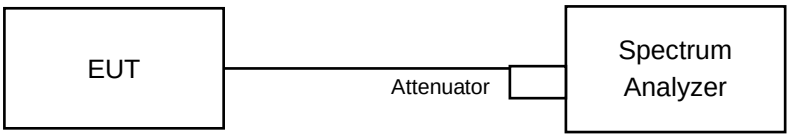
Spectrum Plot of Worst Value	
802.11a_Chain 3 / CH144 (U-NII-2C)	**802.11ax (HE20)_Chain 3 / CH144 (U-NII-2C)**
	
802.11ax (HE40)_Chain 2 / CH142 (U-NII-2C)	**802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C)**
	
802.11ax (HE160)_Chain 1 / CH50 (U-NII-2A)	
	

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)

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	17.16	16.92	16.92
60	5300	17.04	17.16	16.92	16.92
64	5320	17.04	17.04	16.92	16.92
100	5500	17.04	17.04	16.92	16.92
116	5580	17.04	17.04	16.92	16.92
140	5700	17.04	17.04	16.92	16.92
144 (U-NII-2C Band)	5720	13.52	13.52	13.52	13.52
144 (U-NII-3 Band)	5720	3.52	3.52	3.4	3.4

802.11ax (HE20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.32	19.08	19.2	19.08
60	5300	19.08	19.08	19.2	19.08
64	5320	19.08	19.08	19.2	19.08
100	5500	19.2	19.2	19.2	19.08
116	5580	19.2	19.08	19.2	19.08
140	5700	19.2	19.2	19.2	19.08
144 (U-NII-2C Band)	5720	14.72	14.6	14.72	14.6
144 (U-NII-3 Band)	5720	4.48	4.48	4.48	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	37.68	37.92
62	5310	37.68	37.68	37.68	37.92
102	5510	37.92	37.68	37.68	38.16
110	5550	37.92	37.68	37.68	37.68
134	5670	37.92	37.92	37.92	37.68
142 (U-NII-2C Band)	5710	34.2	33.96	34.2	34.2
142 (U-NII-3 Band)	5710	3.72	3.96	3.72	3.72

802.11ax (HE80)

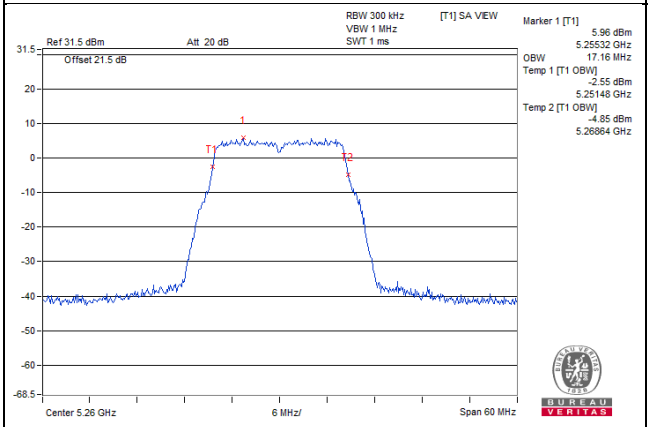
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	76.8	77.28	77.28
106	5530	77.28	77.28	77.76	77.28
122	5610	77.28	77.28	77.28	77.28
138 (U-NII-2C Band)	5690	73.4	73.88	73.4	73.88
138 (U-NII-3 Band)	5690	3.4	3.4	3.4	3.4

802.11ax (HE160)

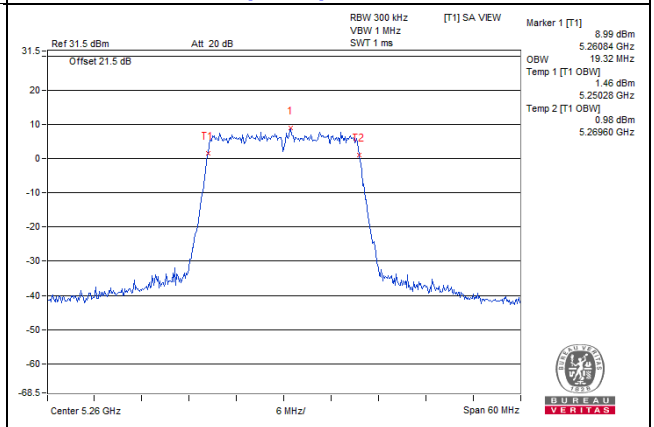
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1 Band)	5250	77.76	77.76	77.76	77.76
50 (U-NII-2A Band)	5250	77.76	77.76	77.76	77.76
114	5570	155.52	155.52	156.48	155.52

Spectrum Plot of Max. Value

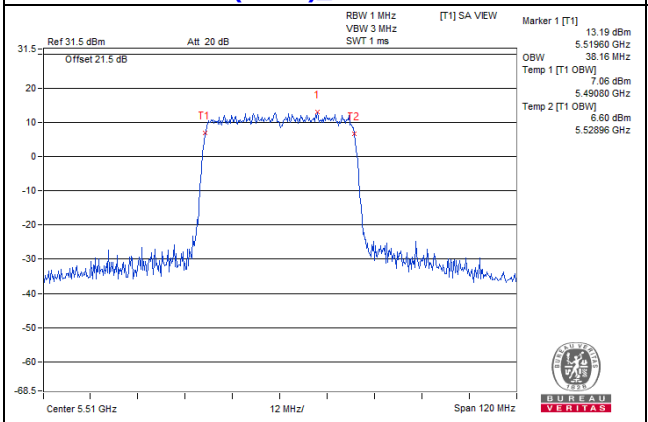
802.11a_Chain 1 / CH52



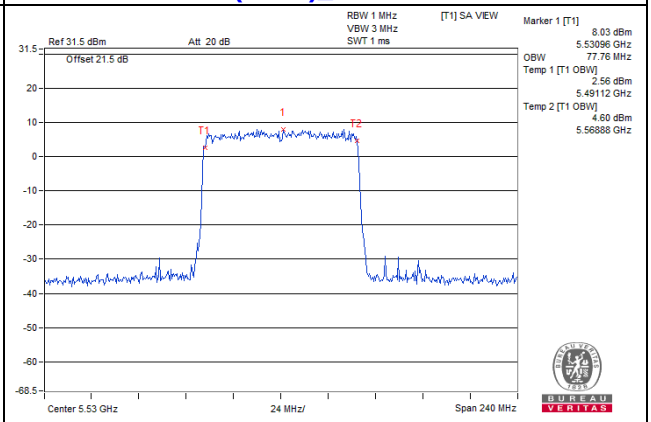
802.11ax (HE20)_Chain 0 / CH52



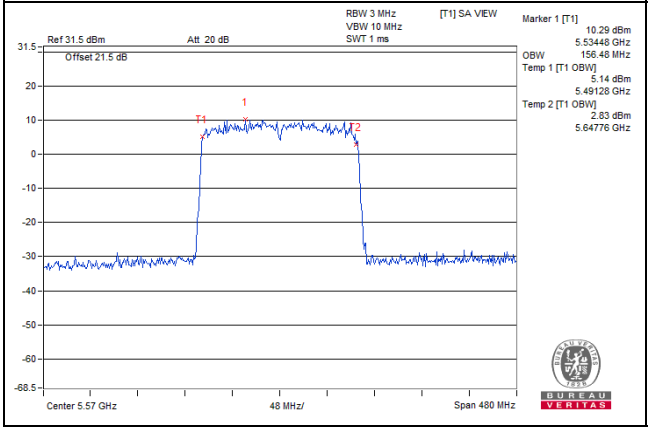
802.11ax (HE40)_Chain 3 / CH102



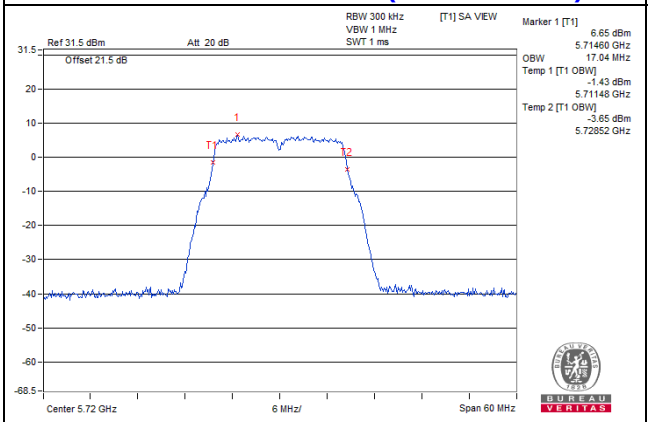
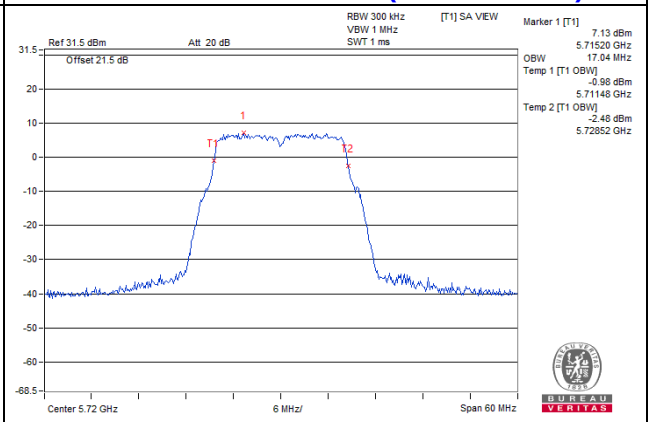
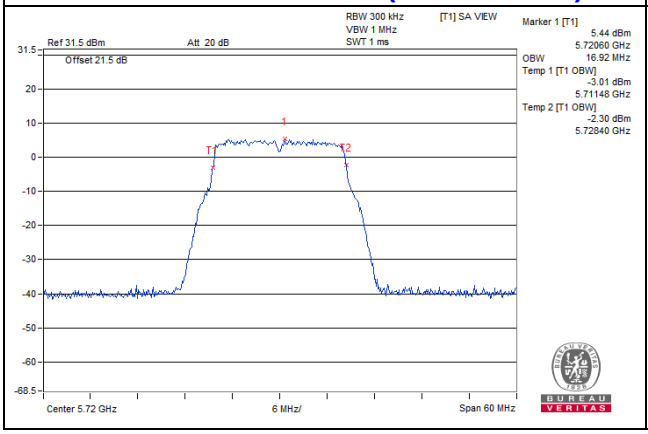
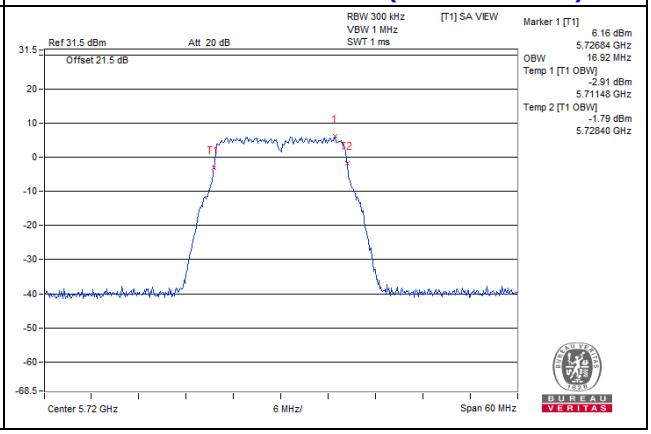
802.11ax (HE80)_Chain 2 / CH106

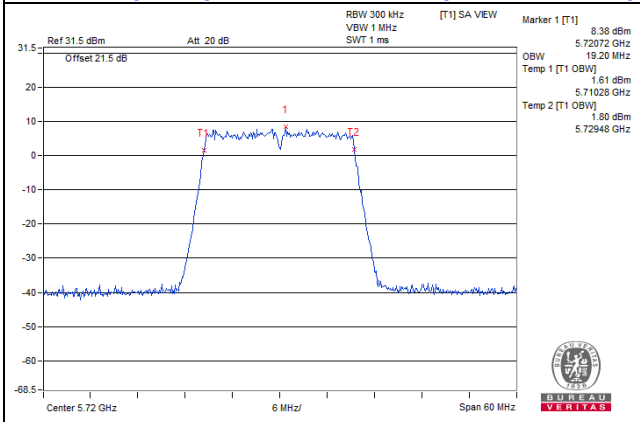
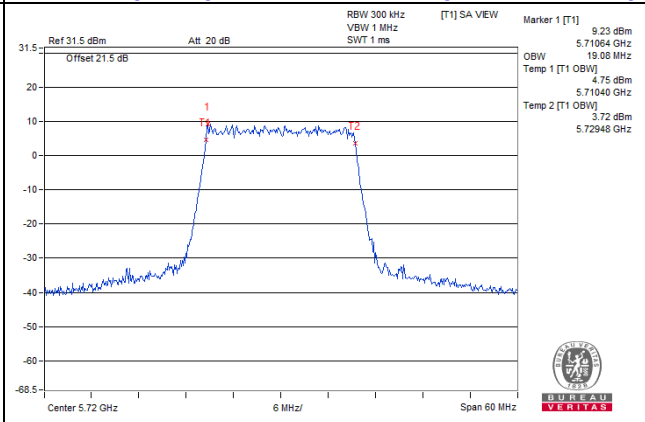
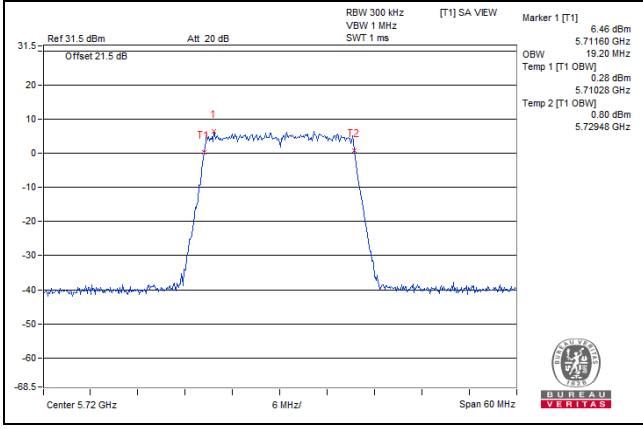
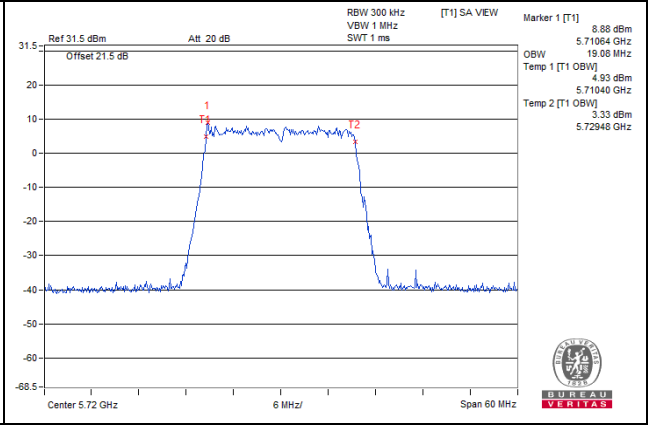


802.11ax (HE160)_Chain 2 / CH114



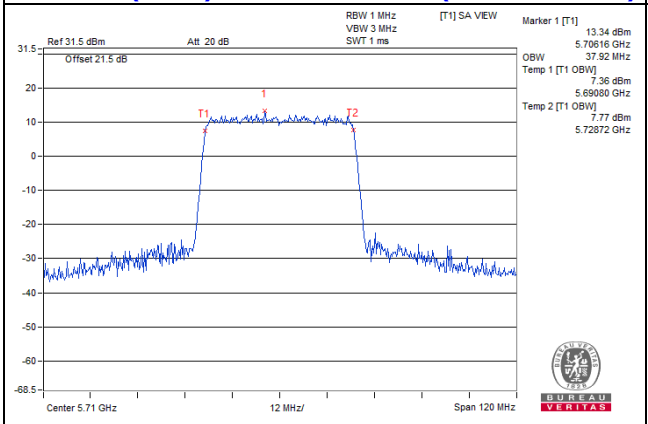
For channel straddling 5725MHz of OCP99 BW

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)**
	

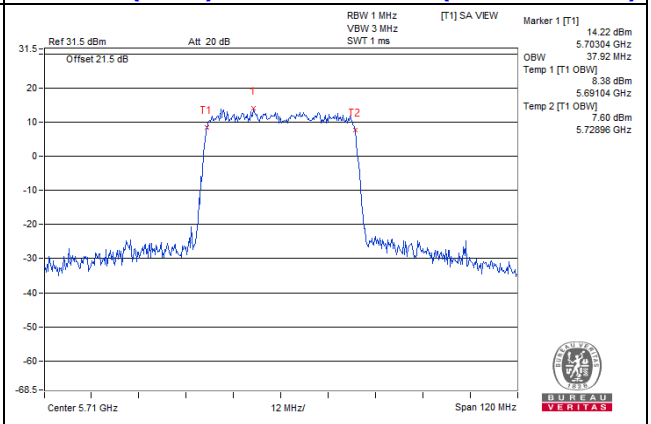
Spectrum Plot Value of OCP99 BW	
802.11ax (HE20) / Chain0 : CH144 (U-NII-2C Band)	**802.11ax (HE20) / Chain1 : CH144 (U-NII-2C Band)**
	
802.11ax (HE20) / Chain2 : CH144 (U-NII-2C Band)	**802.11ax (HE20) / Chain3 : CH144 (U-NII-2C Band)**
	

Spectrum Plot Value of OCP99 BW

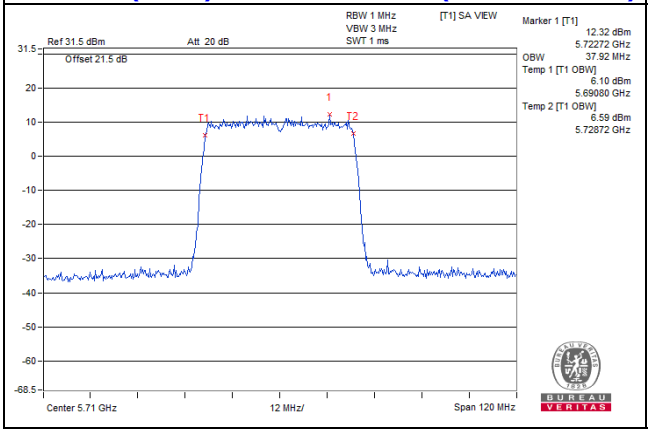
802.11ax (HE40) / Chain0 : CH142 (U-NII-2C Band)



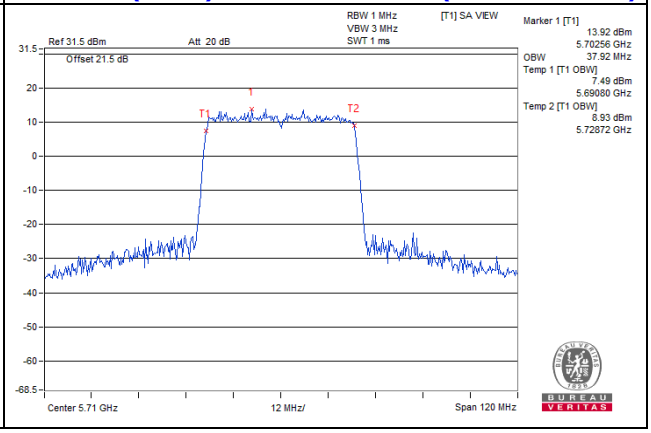
802.11ax (HE40) / Chain1 : CH142 (U-NII-2C Band)

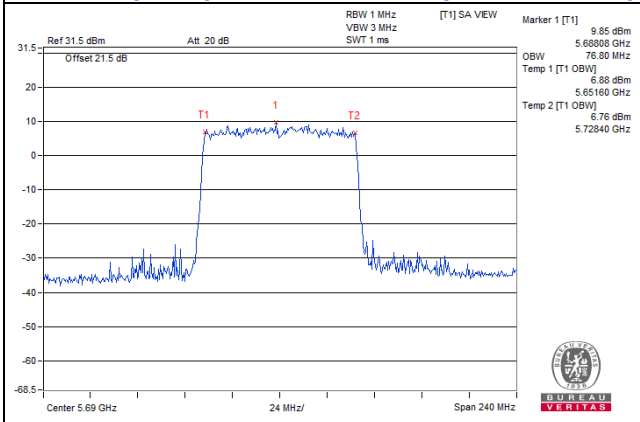
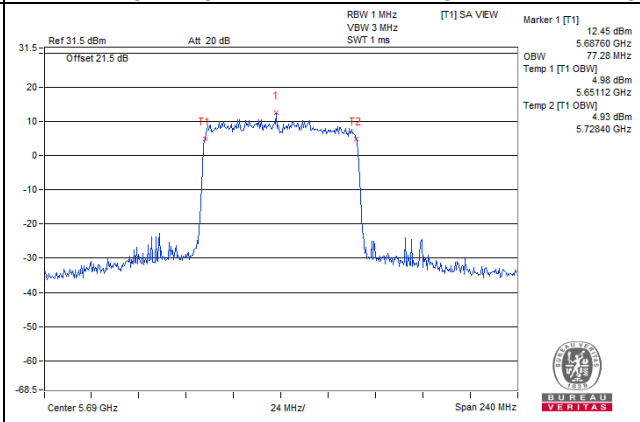
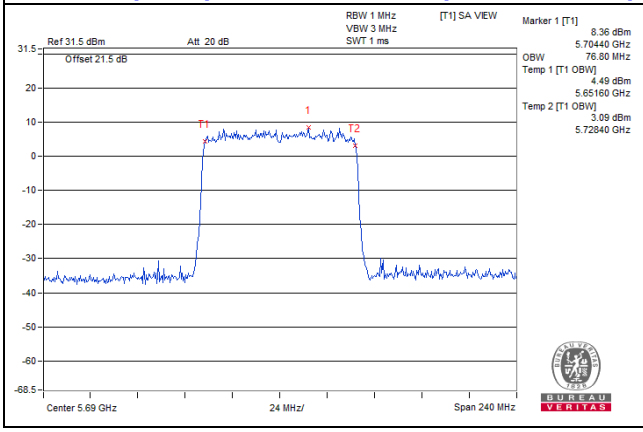
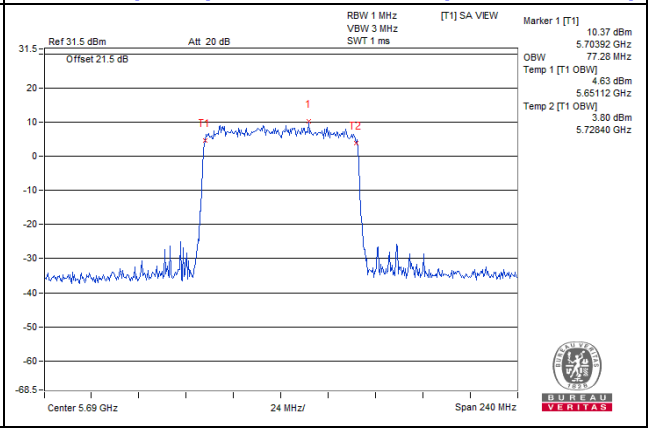


802.11ax (HE40) / Chain2 : CH142 (U-NII-2C Band)



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:

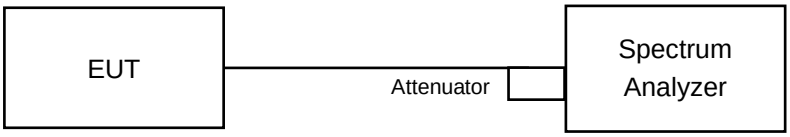
For CH144 (U-NII-2C) = 5725MHz - Temp 1
For CH142 (U-NII-2C) = 5725MHz - Temp 1
For CH138 (U-NII-2C) = 5725MHz - Temp 1
For CH144 (U-NII-3) = Temp 2 - 5725MHz
For CH142 (U-NII-3) = Temp 2 - 5725MHz
For CH138 (U-NII-3) = Temp 2 - 5725MHz

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 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 (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

CDD Mode

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	1.70	1.47	2.11	2.40	7.96	8.57	PASS
60	5300	1.40	1.22	2.01	3.36	8.10	8.57	PASS
64	5320	1.46	1.49	2.60	3.35	8.32	8.57	PASS
100	5500	2.76	2.79	1.13	2.13	8.27	8.57	PASS
116	5580	2.58	3.31	1.19	2.26	8.42	8.57	PASS
140	5700	2.45	3.31	1.25	2.04	8.35	8.57	PASS
144 (U-NII-2C Band)	5720	2.33	3.38	1.40	1.97	8.35	8.57	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: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.
3. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	1.95	1.63	1.70	2.15	7.88	8.57	PASS
60	5300	1.80	2.14	1.81	2.23	8.02	8.57	PASS
64	5320	1.91	2.12	1.69	2.23	8.01	8.57	PASS
100	5500	2.08	2.49	1.25	2.30	8.08	8.57	PASS
116	5580	2.20	2.09	0.83	2.62	8.00	8.57	PASS
140	5700	2.01	3.36	1.10	1.65	8.13	8.57	PASS
144 (U-NII-2C Band)	5720	1.83	3.25	0.56	2.28	8.11	8.57	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: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.
3. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
54	5270	0.64	1.43	0.47	1.77	7.13	8.57	PASS
62	5310	0.83	1.21	0.44	1.60	7.06	8.57	PASS
102	5510	1.27	1.35	-0.72	1.54	6.97	8.57	PASS
110	5550	0.91	1.87	-0.66	1.53	7.04	8.57	PASS
134	5670	0.91	1.81	-0.37	1.56	7.08	8.57	PASS
142 (U-NII-2C Band)	5710	0.95	1.67	-0.47	1.57	7.03	8.57	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: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.
3. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
58	5290	-1.75	-0.33	-2.21	-2.13	4.49	8.57	PASS
106	5530	-1.98	-0.61	-2.58	-2.20	4.24	8.57	PASS
122	5610	-1.84	-0.36	-2.76	-1.85	4.41	8.57	PASS
138 (U-NII-2C Band)	5690	-1.85	-0.59	-3.26	-1.64	4.29	8.57	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: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.
3. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+ 10^{G1/20} + 10^{G2/20} +10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.

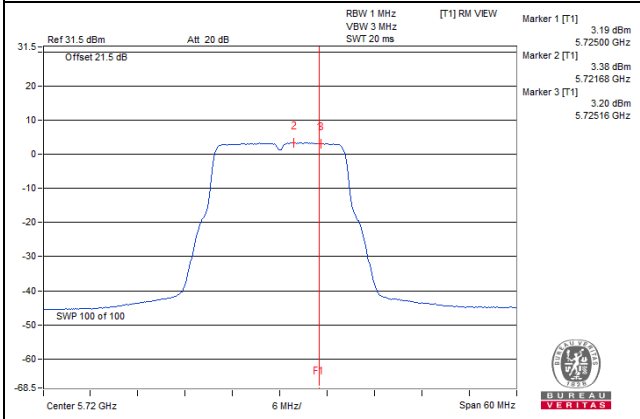
802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				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	-5.30	-3.22	-5.34	-4.15	1.61	14.57	PASS
50 (U-NII-2A Band)	5250	-5.34	-3.19	-5.00	-4.18	1.67	8.57	PASS
114	5570	-4.47	-3.44	-5.48	-4.43	1.63	8.57	PASS

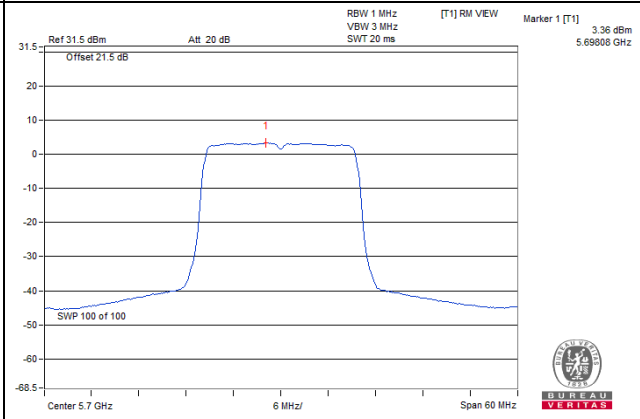
Note:
1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 17-(8.43-6) = 14.57 dBm.
2. For U-NII-2A: The directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.
3. For U-NII-2C: The directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] = 8.43 dBi > 6dBi, so the power density limit shall be reduced to 11-(8.43-6) = 8.57 dBm.

Spectrum Plot of Worst Value

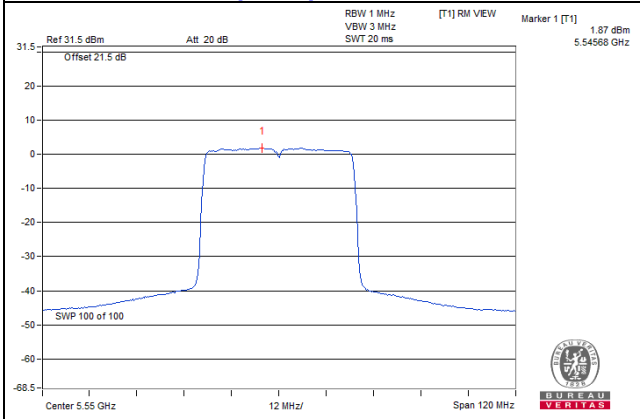
802.11a_Chain 1 / CH144_U-NII-2C



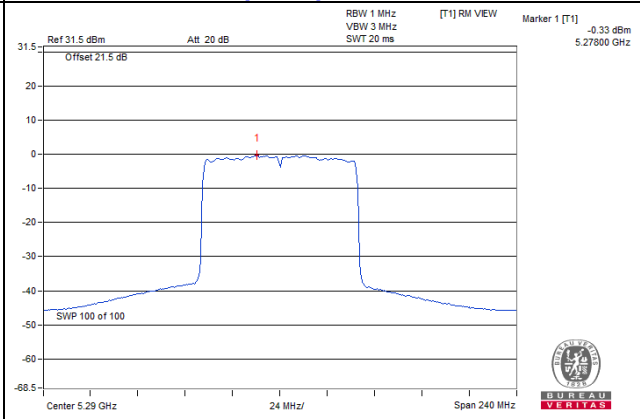
802.11ax (HE20)_Chain 1 / CH140



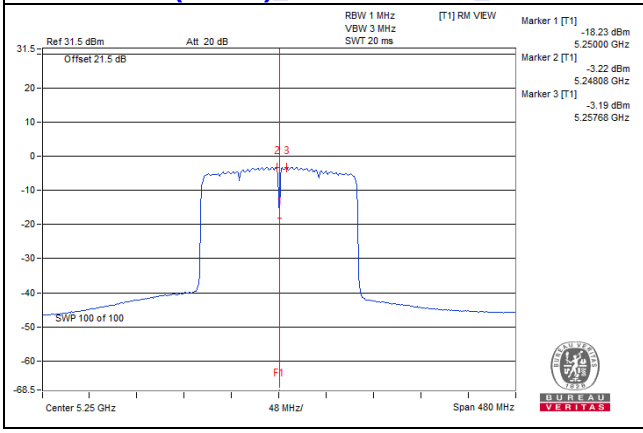
802.11ax (HE40)_Chain 1 / CH110



802.11ax (HE80)_Chain 1 / CH58



802.11ax (HE160)_Chain 1 / CH50_U-NII-2A



For U-NII-3:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (mW/300 kHz)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-6.08	-5.10	-7.41	-6.58	0.957	-0.19	2.03	27.57	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] =8.43 dBi > 6dBi, so the power density limit shall be reduced to 30-(8.43-6) =27.57 dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (mW/300 kHz)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-7.53	-6.34	-8.76	-7.12	0.736	-1.33	0.89	27.57	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] =8.43 dBi > 6dBi, so the power density limit shall be reduced to 30-(8.43-6) =27.57 dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (mW/300 kHz)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
142 (U-NII-3 Band)	5710	-8.87	-8.58	-10.27	-8.48	0.50427	-2.97	-0.75	27.57	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] =8.43 dBi > 6dBi, so the power density limit shall be reduced to 30-(8.43-6) =27.57 dBm.

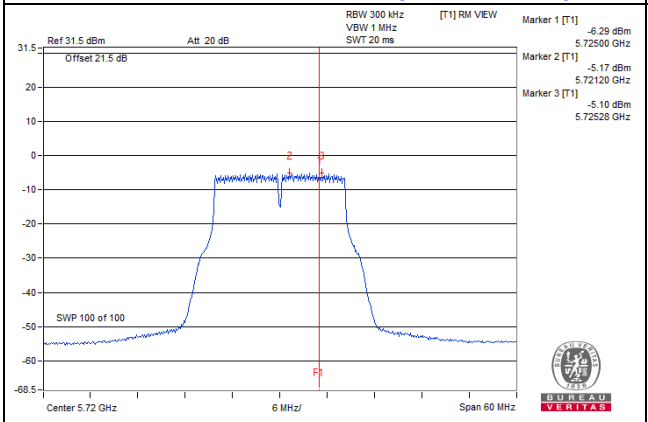
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (mW/300 kHz)	Total PSD (dBm/300 kHz)	Total PSD (dBm/500 kHz)	PSD Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
138 (U-NII-3 Band)	5690	-12.53	-12.05	-13.82	-12.80	0.2122	-6.73	-4.51	27.57	PASS

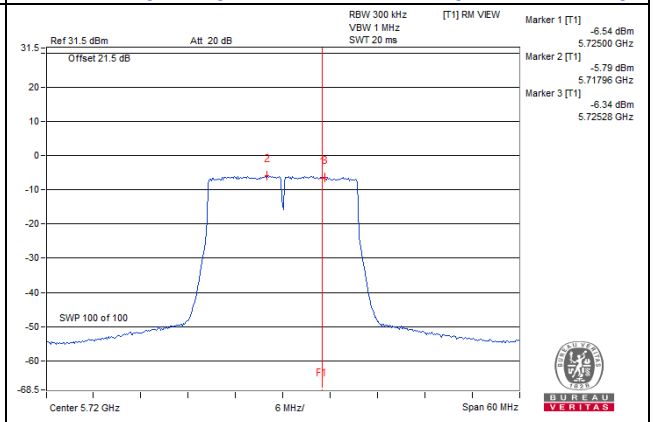
Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = 10 log[$(10^{G0/20}+10^{G1/20}+10^{G2/20}+10^{G3/20})^2$ / 4] =8.43 dBi > 6dBi, so the power density limit shall be reduced to 30-(8.43-6) =27.57 dBm.

Spectrum Plot of Worst Value

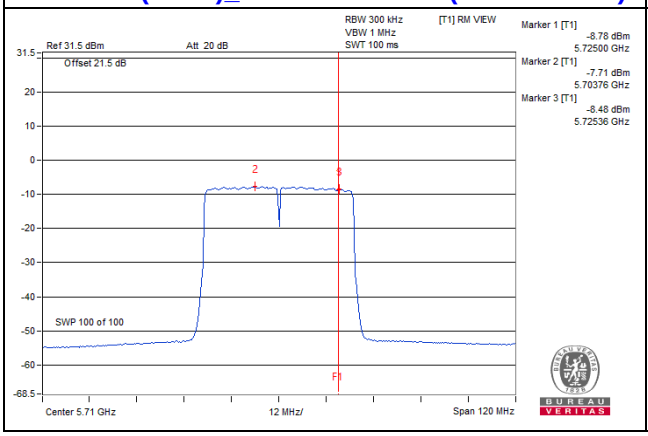
802.11a_Chain 1 / CH144 (U-NII-3 Band)



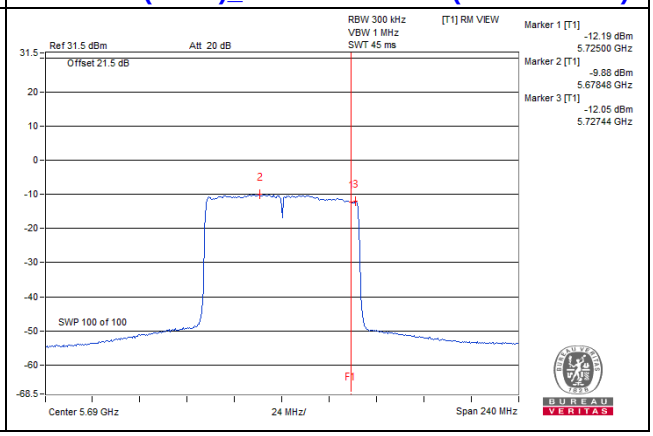
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



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



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

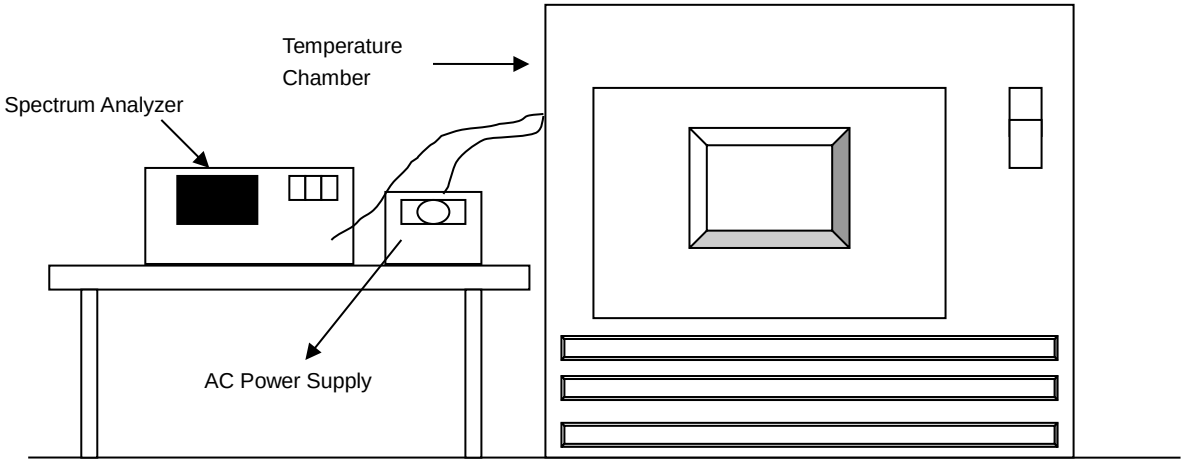


4.6 Frequency Stability Measurement

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	5260.0011	PASS	5260.0033	PASS	5260.0037	PASS	5260.0007	PASS
30	120	5260.0135	PASS	5260.0125	PASS	5260.0143	PASS	5260.0118	PASS
20	120	5259.9951	PASS	5259.995	PASS	5259.9941	PASS	5259.9961	PASS
10	120	5259.9905	PASS	5259.9918	PASS	5259.993	PASS	5259.9923	PASS
0	120	5259.9749	PASS	5259.9779	PASS	5259.9737	PASS	5259.9757	PASS

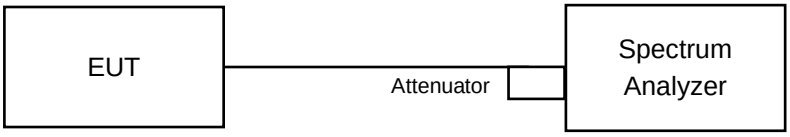
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5259.9947	PASS	5259.996	PASS	5259.9944	PASS	5259.9953	PASS
	120	5259.9951	PASS	5259.995	PASS	5259.9941	PASS	5259.9961	PASS
	102	5259.9945	PASS	5259.9958	PASS	5259.994	PASS	5259.9956	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 specific channel frequency.

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	3.17	3.17	3.17	3.17	0.5	Pass

802.11ax (HE20)

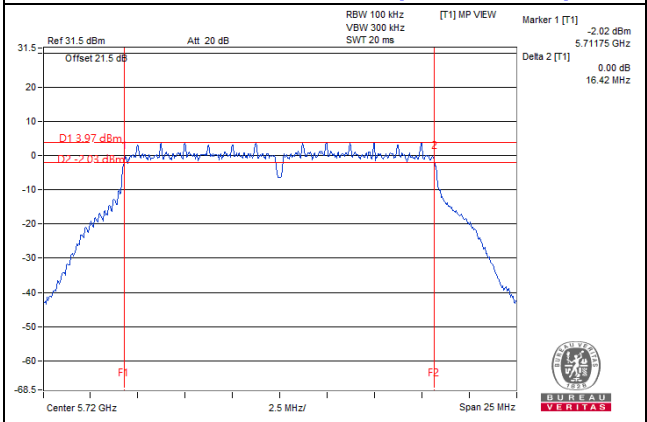
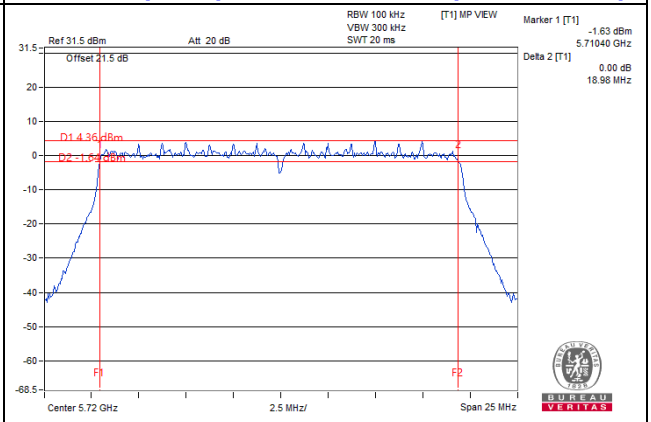
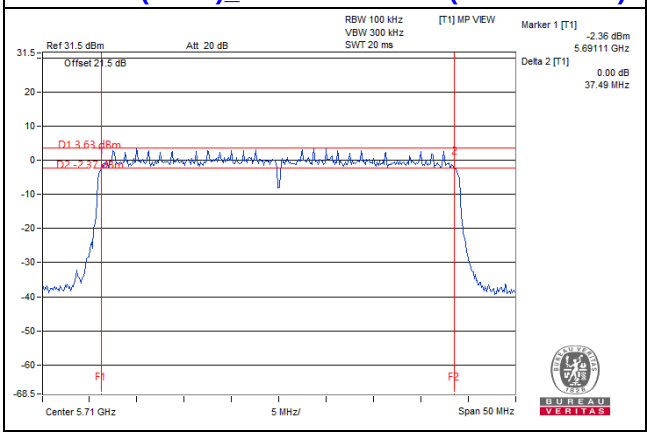
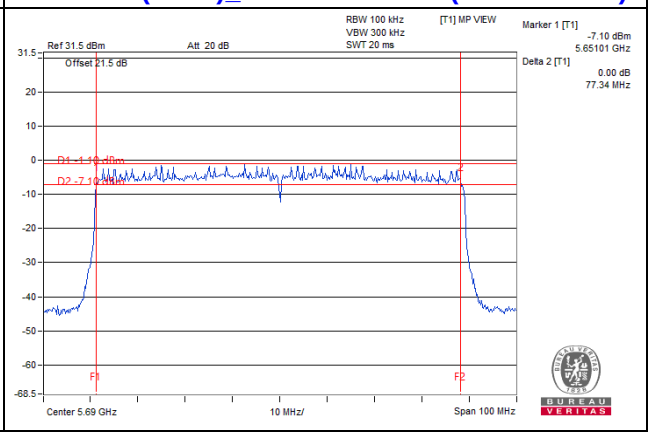
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3 Band)	5720	4.47	4.44	4.5	4.38	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
142 (U-NII-3 Band)	5710	3.91	3.6	3.76	3.69	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	3.67	3.37	3.35	3.58	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 1 / CH142 (U-NII-3 Band)	**802.11ax (HE80)_Chain 2 / CH138 (U-NII-3 Band)**
	

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

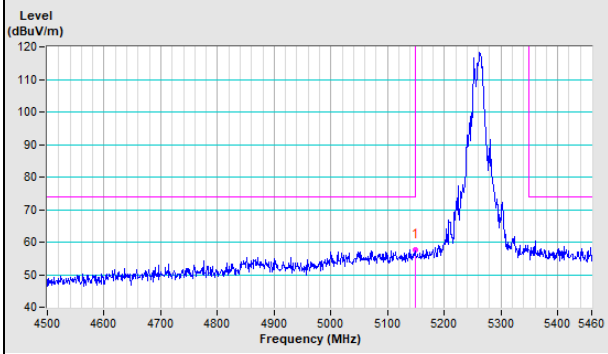
5 Pictures of Test Arrangements

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

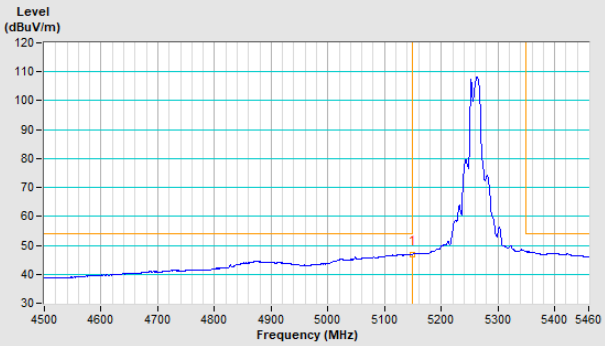
Annex A - Band-Edge Measurement (For U-NII-2A, U-NII-2C band)

802.11a Channel 52

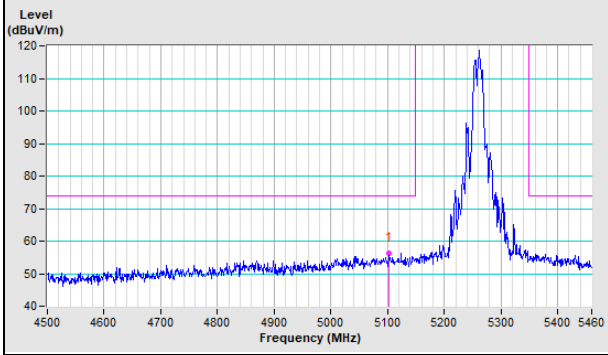
Horizontal (Peak)



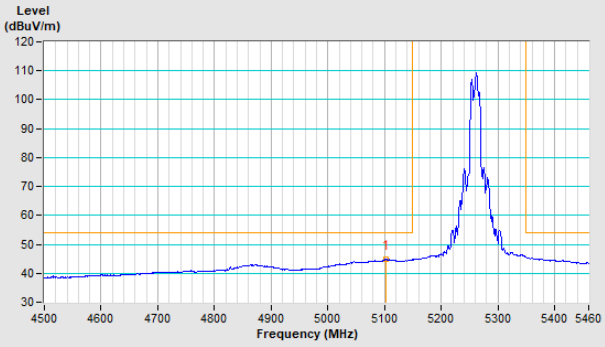
Horizontal (Average)



Vertical (Peak)

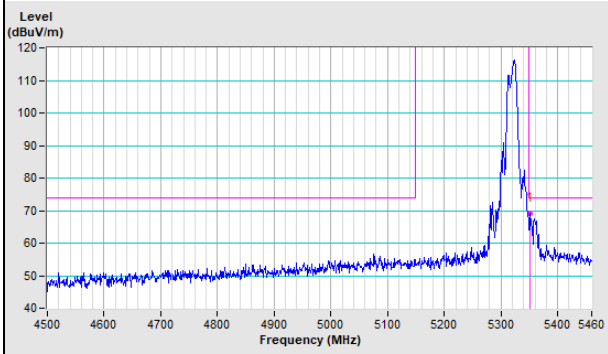


Vertical (Average)

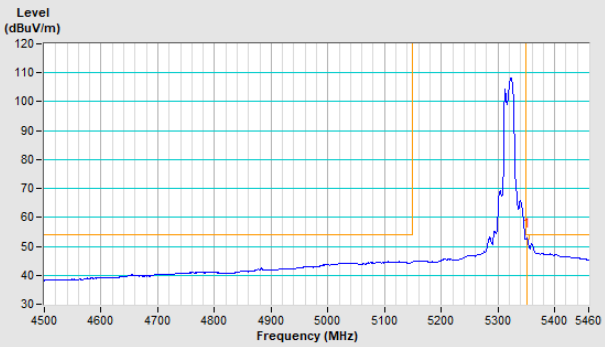


802.11a Channel 64

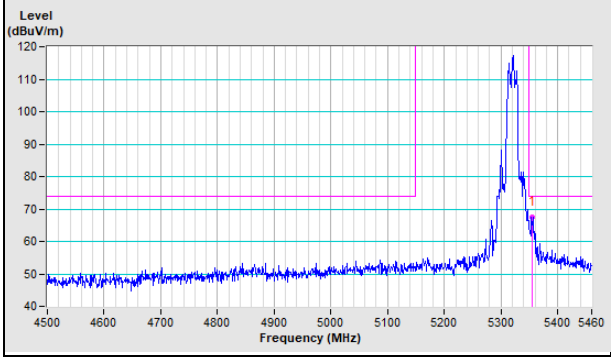
Horizontal (Peak)



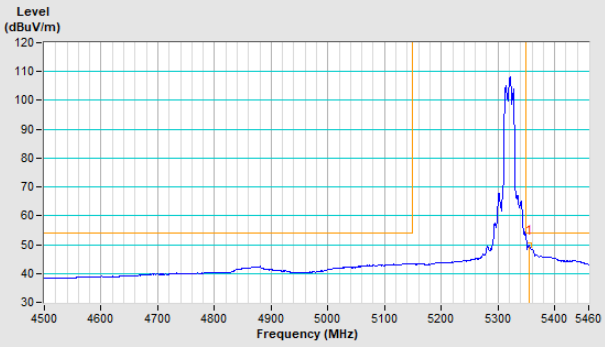
Horizontal (Average)



Vertical (Peak)

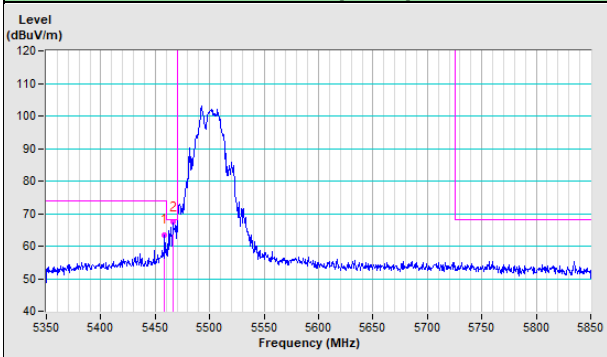


Vertical (Average)

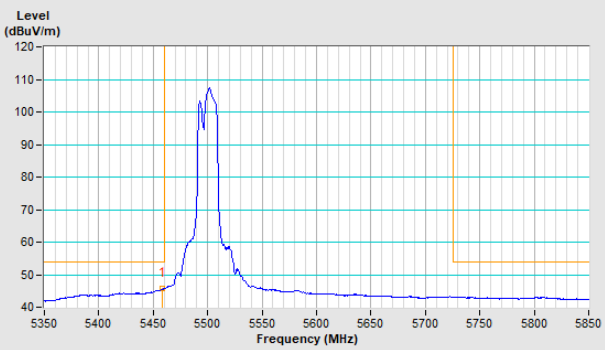


802.11a Channel 100

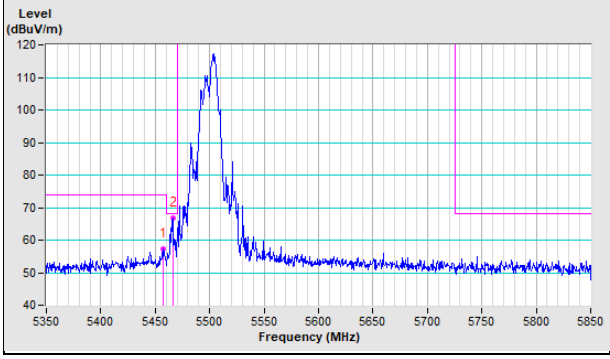
Horizontal (Peak)



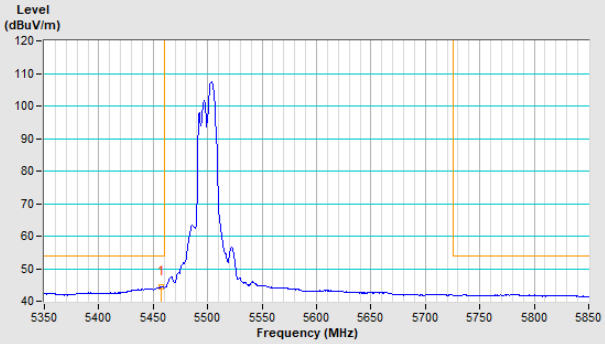
Horizontal (Average)



Vertical (Peak)

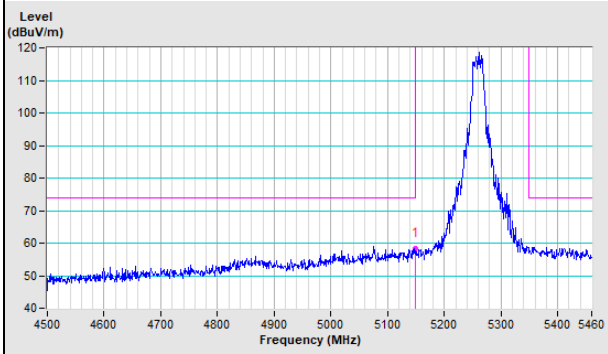


Vertical (Average)

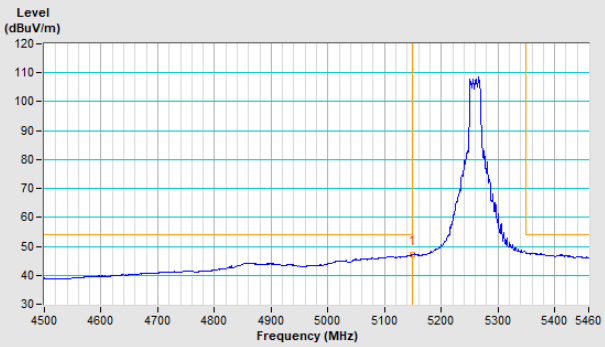


802.11ax (HE20) Channel 52

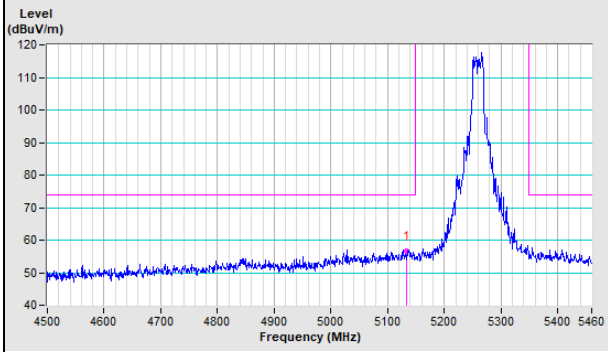
Horizontal (Peak)



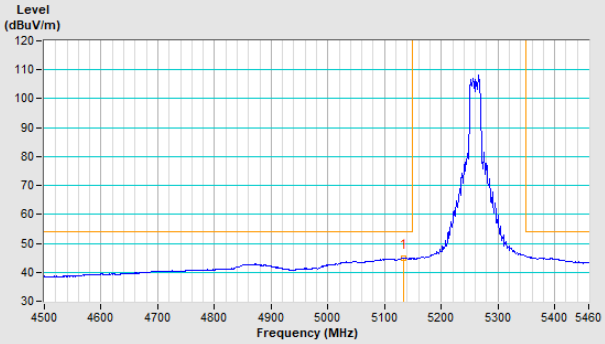
Horizontal (Average)



Vertical (Peak)

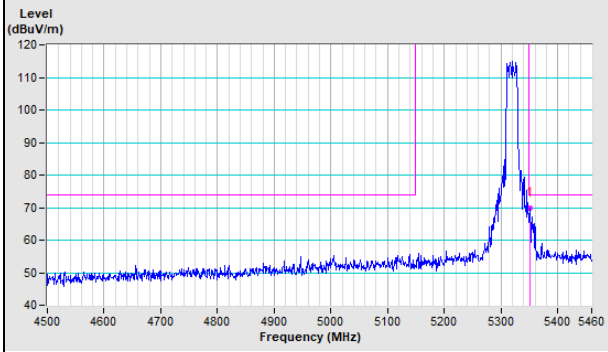


Vertical (Average)

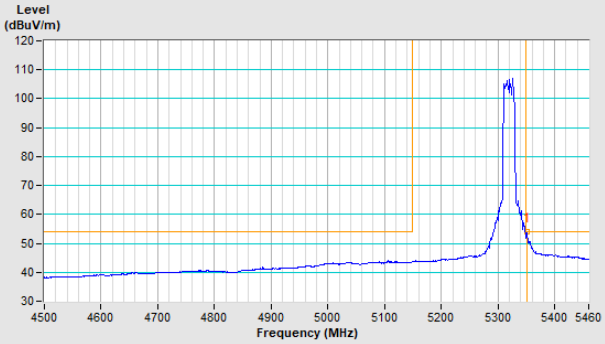


802.11ax (HE20) Channel 64

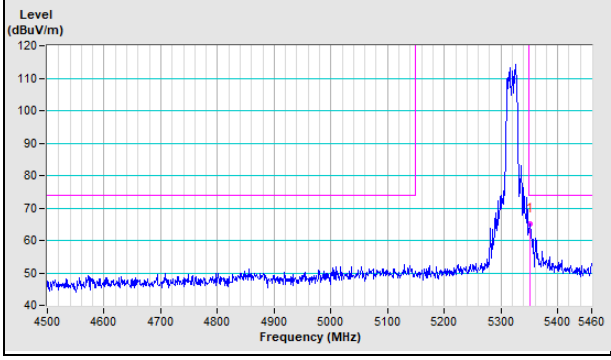
Horizontal (Peak)



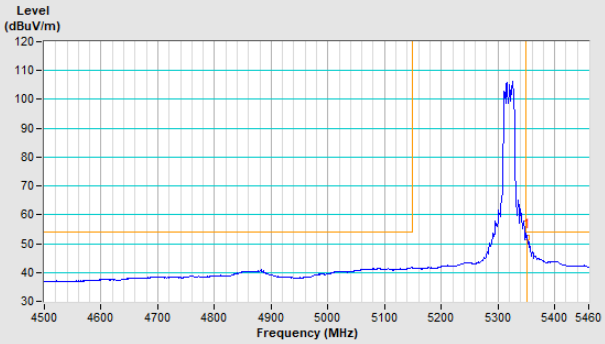
Horizontal (Average)

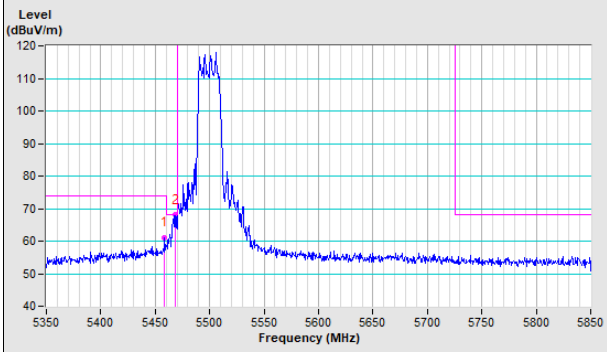
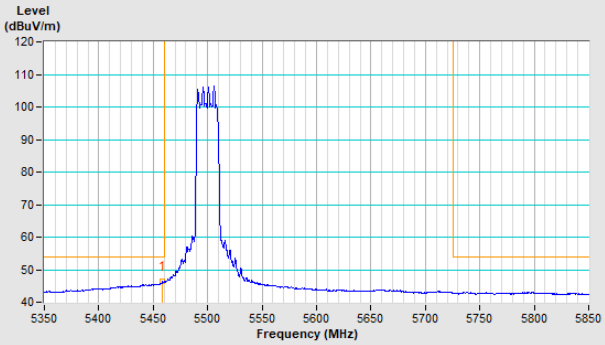
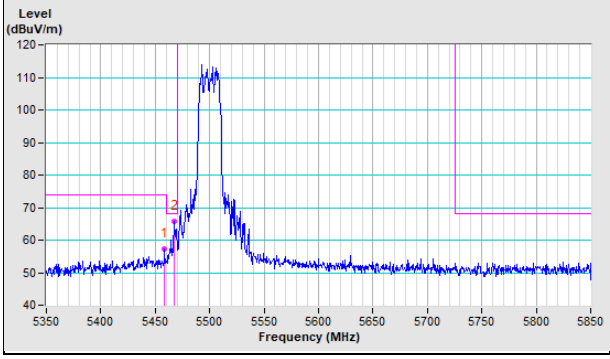
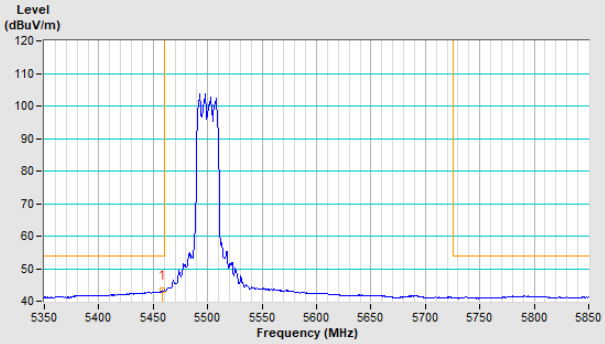


Vertical (Peak)



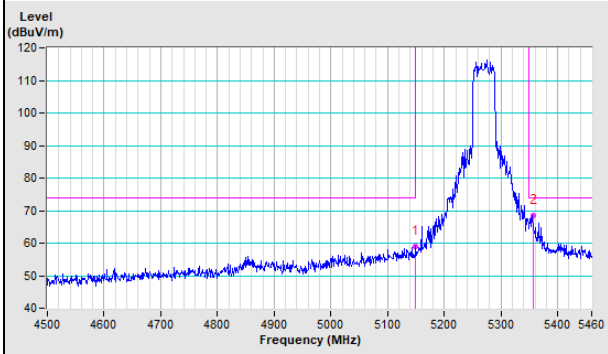
Vertical (Average)



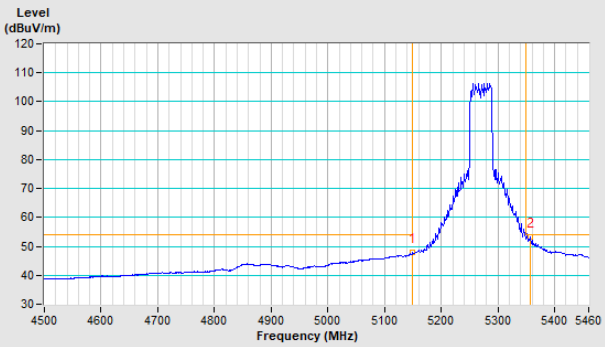
802.11ax (HE20) Channel 100	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

802.11ax (HE40) Channel 54

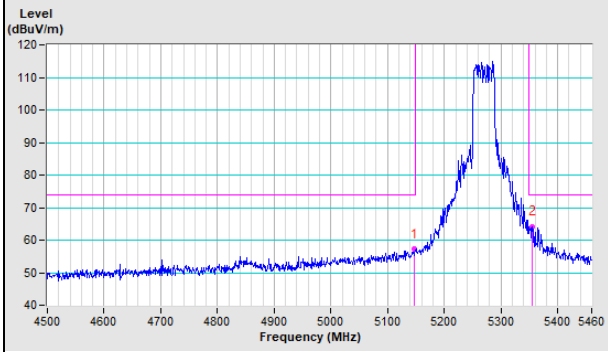
Horizontal (Peak)



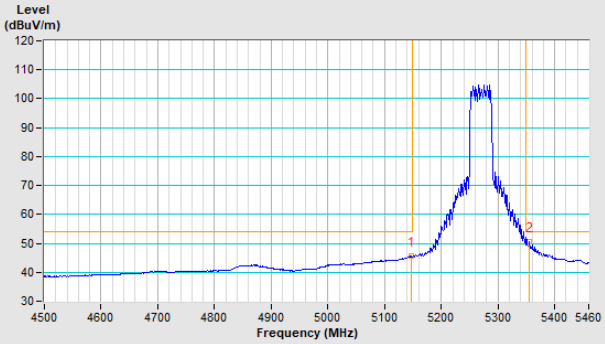
Horizontal (Average)



Vertical (Peak)

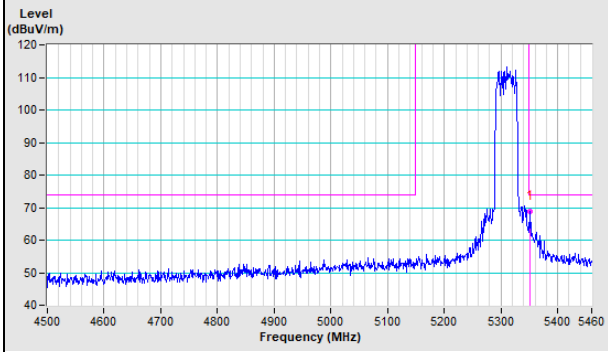


Vertical (Average)

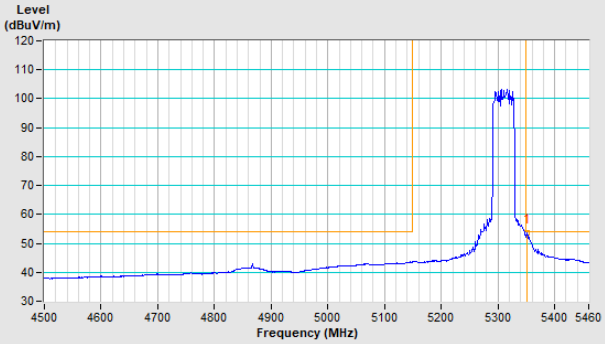


802.11ax (HE40) Channel 62

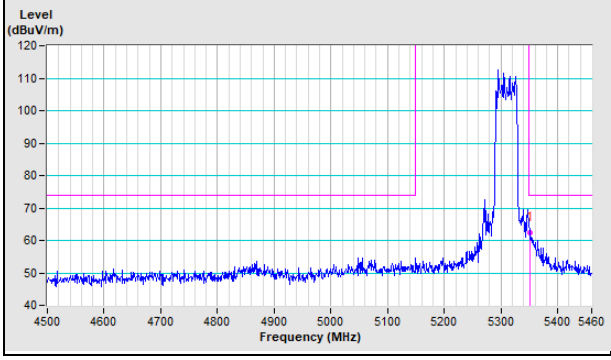
Horizontal (Peak)



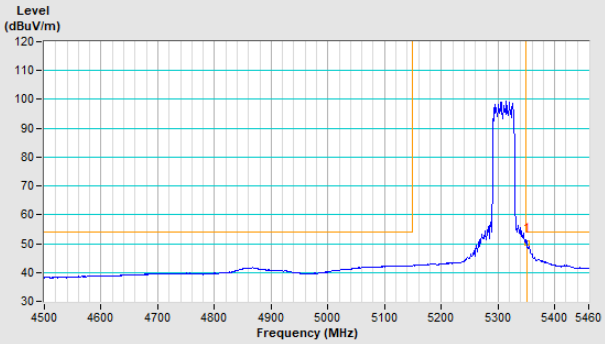
Horizontal (Average)



Vertical (Peak)

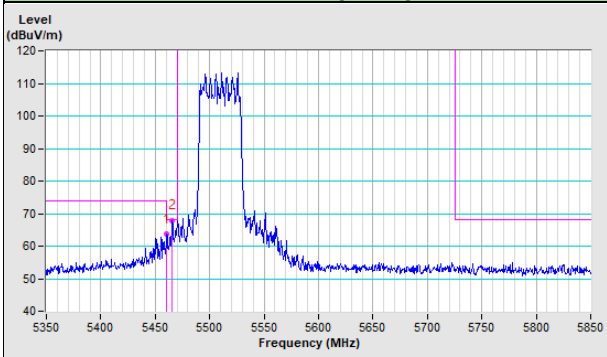


Vertical (Average)

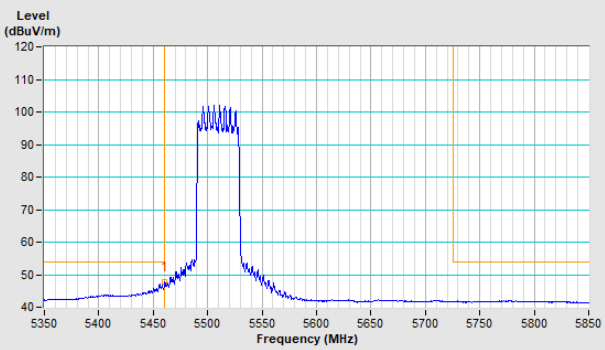


802.11ax (HE40) Channel 102

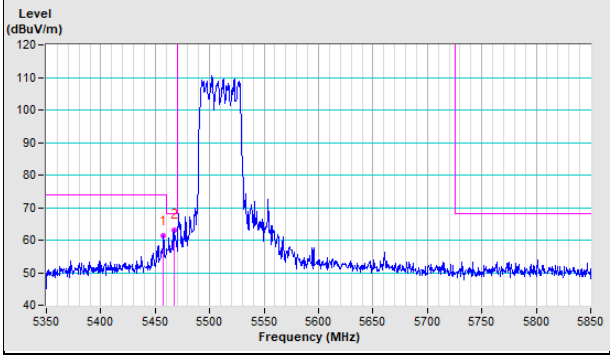
Horizontal (Peak)



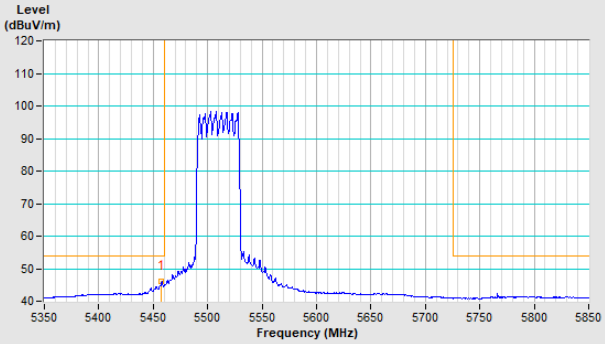
Horizontal (Average)



Vertical (Peak)

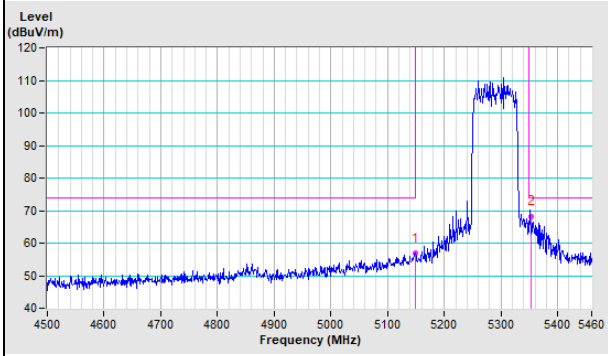


Vertical (Average)

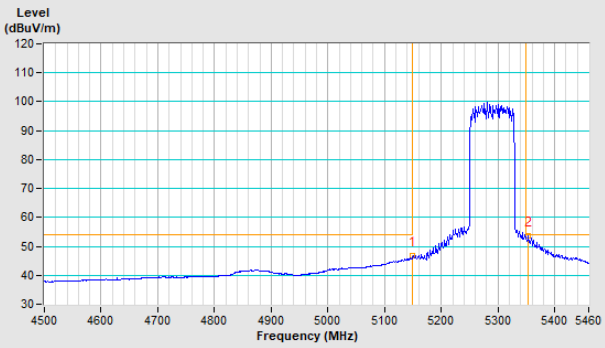


802.11ax (HE80) Channel 58

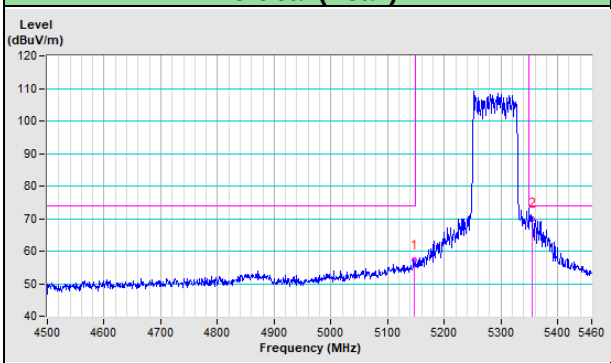
Horizontal (Peak)



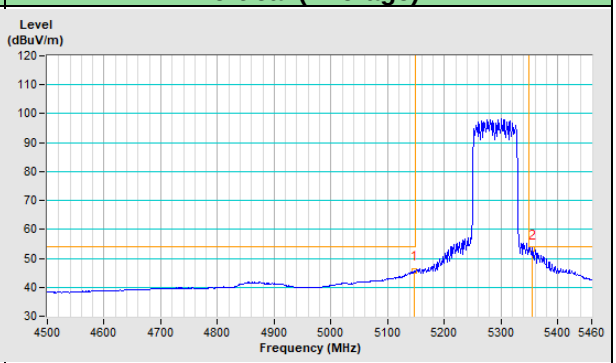
Horizontal (Average)



Vertical (Peak)

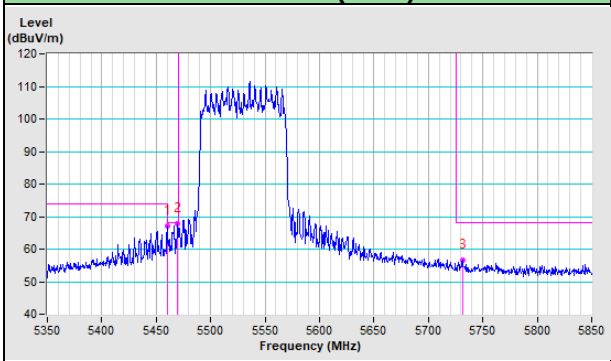


Vertical (Average)

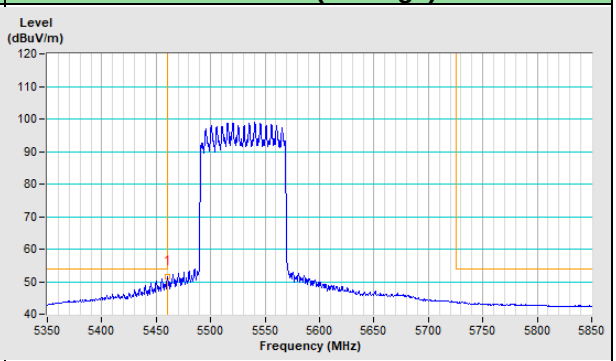


802.11ax (HE80) Channel 106

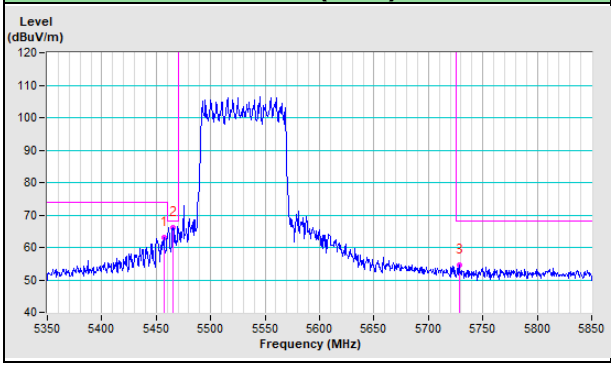
Horizontal (Peak)



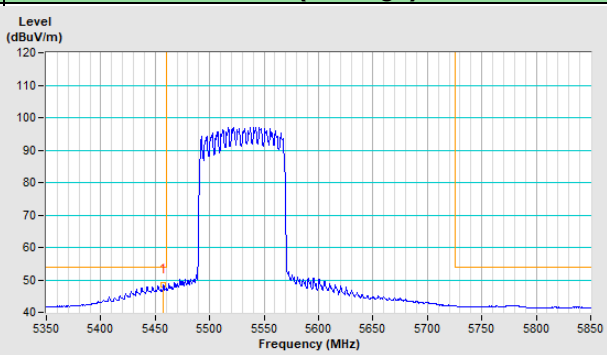
Horizontal (Average)



Vertical (Peak)

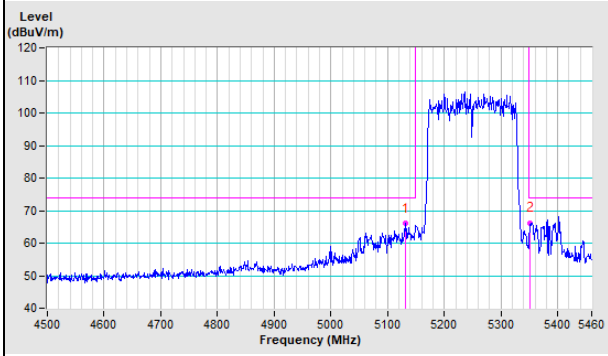


Vertical (Average)

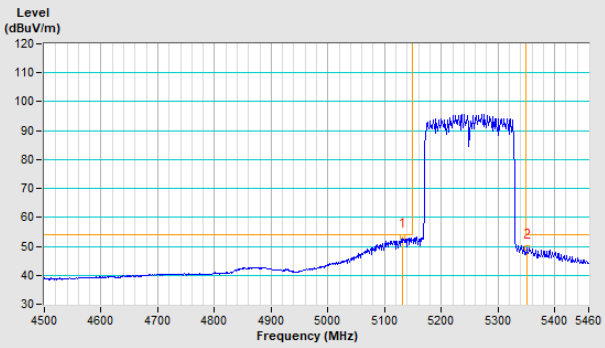


802.11ax (HE160) Channel 50

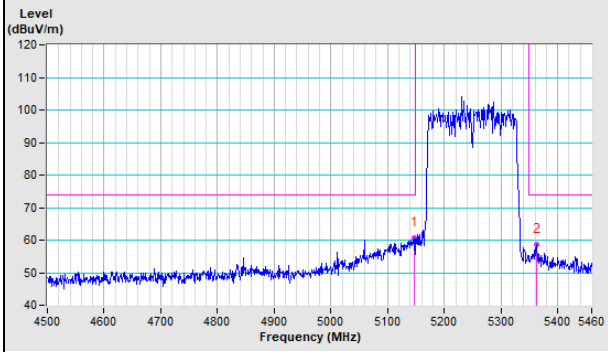
Horizontal (Peak)



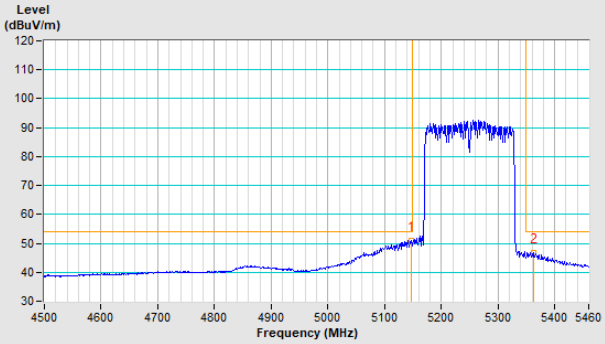
Horizontal (Average)



Vertical (Peak)

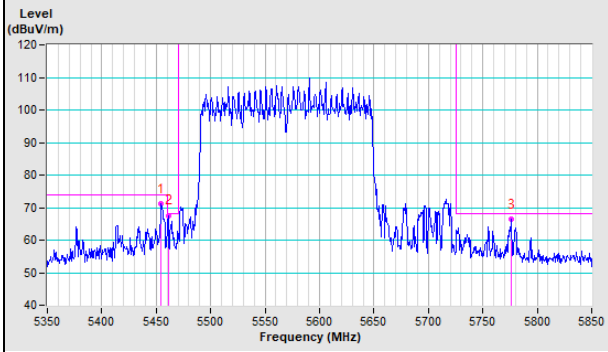


Vertical (Average)

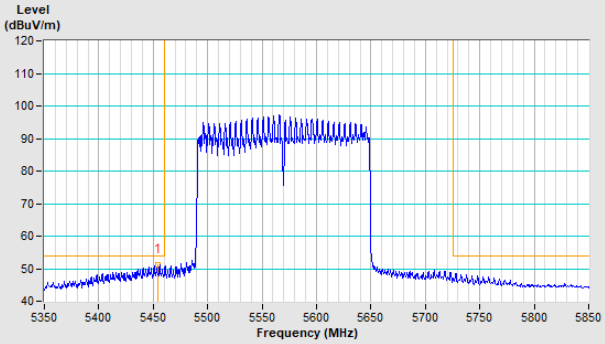


802.11ax (HE160) Channel 114

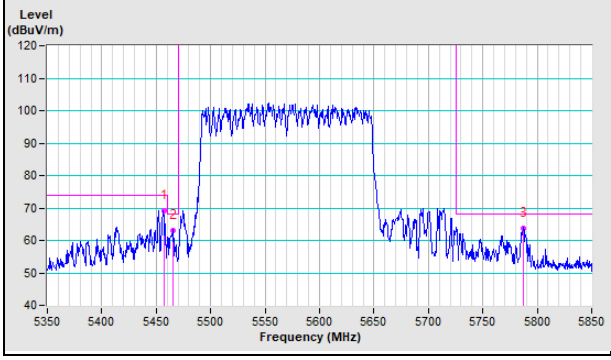
Horizontal (Peak)



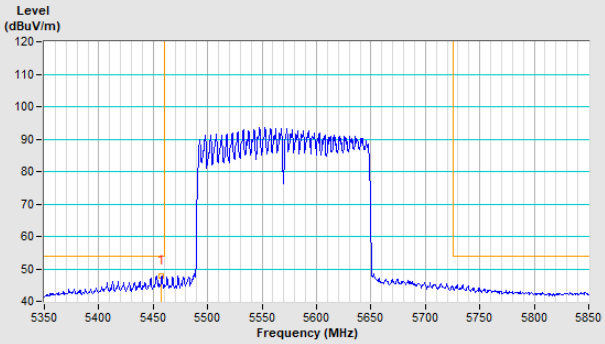
Horizontal (Average)



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.

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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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