



Test report No. : 4790224862-US-R1-V0
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Issued date : 2022/9/30
FCC ID : 2AE3B-AEX-QCA98X

RADIO TEST REPORT

Product : PCIE 802.11a/b/g/n/ac 2.4GHz/5GHz DB module

Model Name : AEX-QCA98x0

Series Model : AEX-QCA98X, AEX-QCA9880-NX, AEX-QCA9890-NX,
AEX-QCA9890-NI

FCC ID : 2AE3B-AEX-QCA98X

Test Regulation : FCC 47 CFR Part 15 Subpart E (Section 15.407)

Received Date : 2021/12/14

Test Date : 2022/8/15 ~ 2022/8/30

Issued Date : 2022/9/30

Applicant : VOXMICRO LTD
20955 Pathfinder Rd., STE 100, Diamond Bar, California
91765, USA

Issued By : Underwriters Laboratories Taiwan Co., Ltd.
Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd.,
Zhudong Township, Hsinchu County, Taiwan



The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report are responsible of the test sample(s) provided by the client only and are not to be used to indicate applicability to other similar products.

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Doc No: 17-EM-F0878 / 6.0



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REVISION HISTORY

Original Test Report No.: 4790224862-US-R1-V0

[illegible]

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1. Attestation of Test Results

APPLICANT: VOXMICRO LTD
20955 Pathfinder Rd., STE 100, Diamond Bar, California 91765, USA

MANUFACTURER: VOXMICRO LTD
8F.-3, No.5, Aly. 22, Ln. 513, Rueiguang Rd., Neihu Dist., Taipei City
114, Taiwan

EUT DESCRIPTION: PCIE 802.11a/b/g/n/ac 2.4GHz/5GHz DB module

BRAND: AIRETOS

MODEL: AEX-QCA98x0

SERIES MODEL: AEX-QCA98X, AEX-QCA9880-NX, AEX-QCA9890-NX,
AEX-QCA9890-NI

SAMPLE STAGE: Engineering Verification Test sample

DATE of TESTED: 2022/8/15 ~ 2022/8/30

APPLICABLE STANDARDS

STANDARD	Test Results
FCC 47 CFR PART 15 Subpart E (Section 15.407)	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Prepared By:

Cindy Hsin
Project Handler

Date : 2022/9/30

Approved and Authorized By:

Kent Liu
Senior Laboratory Engineer

Date : 2022/9/30

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2. Summary of Test Results

Summary of Test Results		
FCC Clause	Test Items	Result
15.407(e)	6dB Bandwidth	PASS
15.403(i)	26dB Bandwidth	PASS
2.1049	Occupied Bandwidth	See Note 1
15.407(a)(1/2/3)	Conducted Output Power	PASS
15.407(a)(1/2/3)	Power Spectral Density	PASS
15.407(g)	Frequency Stability	PASS
15.407(b) (1/2/3/4(i/ii)/9)	Radiated Emissions and Band Edge Measurement	PASS
15.407(b)(9)	AC Power Conducted Emission	PASS
15.203	Antenna Requirement	PASS
15.407(h)	Dynamic Frequency Selection & Transmit power control	See Note 2

Note:

1. The Occupied Bandwidth was reference only.
2. The “Dynamic Frequency Selection & Transmit power control measurement” was recorded in Report No.: 4790224862-US-R2-V0

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3. Test Methodology and Reference Procedures

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2, KDB 789033 D02 General UNII Test Procedure New Rules v02r01, KDB414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013 and KDB 662911 D01 Multiple Transmitter Output v02r01.

4. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398.

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5. Measurement Uncertainty

For statement of conformity, accuracy method (Section 8.2.4 and 8.2.5 of ISO Guide 98-4) was applied as decision rule for measurement in this test report.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k=2$.

Measurement	Frequency	Uncertainty
Conducted disturbance at mains terminals ports	150kHz ~ 30MHz	± 2.9 dB
RF Conducted	9 kHz - 40GHz	± 2.4 dB
Radiated disturbance below 30MHz	9 kHz - 30 MHz	± 1.9 dB
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	± 5.8 dB
Radiated disturbance above 1 GHz	1GHz ~ 40GHz	± 4.8 dB

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6. Equipment under Test

6.1. Description of EUT

Product	PCIE 802.11a/b/g/n/ac 2.4GHz/5GHz DB module	
Brand Name	AIRETOS	
Model Name	AEX-QCA98x0	
Series Model	AEX-QCA98X, AEX-QCA9880-NX, AEX-QCA9890-NX, AEX-QCA9890-NI	
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz	
Modulation	256QAM, 64QAM, 16QAM, QPSK, BPSK	
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to MCS23 802.11ac: up to MCS9	
Number of Channel	5180 ~ 5240 MHz	4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)
		2 for 802.11n (HT40), 802.11ac (VHT40)
		1 for 802.11ac (VHT80)
	5260 ~ 5320 MHz	4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)
		2 for 802.11n (HT40), 802.11ac (VHT40)
		1 for 802.11ac (VHT80)
	5500 ~ 5700 MHz	11 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)
		5 for 802.11n (HT40), 802.11ac (VHT40)
		2 for 802.11ac (VHT80)
	5745 ~ 5825 MHz	5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20)
		2 for 802.11n (HT40), 802.11ac (VHT40)
		1 for 802.11ac (VHT80)

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Maximum Output Power	Non-Beamforming mode: 5180 ~ 5240 MHz: 21.24 dBm 5260 ~ 5320 MHz: 21.17 dBm 5500 ~ 5700 MHz: 19.00 dBm 5745 ~ 5825 MHz: 19.09 dBm Beamforming mode: 5180 ~ 5240 MHz: 20.03 dBm 5260 ~ 5320 MHz: 19.97 dBm 5500 ~ 5700 MHz: 18.85 dBm 5745 ~ 5825 MHz: 18.57 dBm
Normal Voltage	3.3Vdc
S/N	E98X
Sample ID	5189932

Note:

1. The models difference table as below:

Model	Difference
AEX-QCA98x0	Market assignment classification for application and grade finish
AEX-QCA98X	
AEX-QCA9880-NX	
AEX-QCA9890-NX	
AEX-QCA9890-NI	

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

Modulation Mode	Tx,Rx Function
802.11a	3TX,3RX
802.11n (HT20)	3TX,3RX
802.11n (HT40)	3TX,3RX
802.11ac (VHT20)	3TX,3RX
802.11ac (VHT40)	3TX,3RX
802.11ac (VHT80)	3TX,3RX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40 / VHT80, therefore investigated worst case to representative mode in test report.

3. The above EUT information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.

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6.2. Channel List

FOR 5180 ~ 5240MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5260 ~ 5320MHz

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

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):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

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FOR 5500 ~ 5700MHz

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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	-	-

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz	-	-

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

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6.3. Test Condition

Test Item	Test Site No.	Environmental Condition	Input Power	Test Date	Tested by
Antenna Port Conducted Measurement	SR4	21~26°C/ 51~65%RH	3.3Vdc	2022/08/15~ 2022/08/30	WaterNil Guan/ Rex Chen
Radiated Spurious Emission	966-2	21~26°C/ 51~65%RH	3.3Vdc	2022/08/15~ 2022/08/30	WaterNil Guan/ Rex Chen
AC power Line Conducted Emission	SR1	21~26°C/ 51~65%RH	3.3Vdc	2022/08/15~ 2022/08/30	Rex Chen

FCC Test Firm Registration Number: 498077

6.4. Description of Available Antennas

Ant. No.	Transmitter Circuit	Brand Name	Model Name	Ant. Type	Maximum Gain (dBi)	Remark
1	Chain (0)+(1) +(2)	ethertronics	M830520	Chip	2.4GHz: 1 5GHz: 2.6	MHF4
2	Chain (0)+(1) +(2)	OXFORDTEC	WAFH-2DBI-15	FPC	2.4GHz: 2.7 5GHz: 2.6	UFL
3	Chain (0)+(1) +(2)	OXFORDTEC	WAND2DBI-SMA	Dipole	2.4GHz: 2 5GHz: 3	RP-SMA
4	Chain (0)+(1) +(2)	OXFORDTEC	WAND5DBI-SMA	Dipole	2.4GHz: 3 5GHz: 5	RP-SMA
5	Chain (0)+(1) +(2)	OXFORDTEC	WAPH2DB4-15	PCB	2.4GHz:2.18 5GHz: 2.69	MHF4

Note: The above antenna information was provided from customer and for more detailed features description, please refer the manufacturer's specification or user's manual.

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6.5. Test Mode Applicability and Tested Channel Detail

- The fundamental of the dipole antenna was investigated in two orthogonal (lay and stand), it was determined that stand mode was worst-case. Therefore, all final radiated testing was performed with the dipole antenna in stand mode.
- The fundamental of the Chip antenna was investigated in three orthogonal axes X-Y/Y-Z/X-Z, it was determined that X-Y plane was worst-case. Therefore, all final radiated testing was performed with the antenna in X-Y plane.
- The fundamental of the FPC antenna was investigated in three orthogonal axes X-Y/Y-Z/X-Z, it was determined that X-Y plane was worst-case. Therefore, all final radiated testing was performed with the antenna in X-Y plane.
- The fundamental of the PCB antenna was investigated in three orthogonal axes X-Y/Y-Z/X-Z, it was determined that Y-Z plane was worst-case. Therefore, all final radiated testing was performed with the antenna in Y-Z plane.
- For Antenna Port Conducted Measurement, this item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.
- For below 1 GHz radiated emission and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
- 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).

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Non-Beamforming mode:

Test Item	Mode	Modulation Technology	Modulation Type	Available Channel	Test Channel	Data Rate
Radiated Emissions (Above 1GHz)	802.11a	5180-5240	OFDM	36 to 48	36, 44, 48	6Mbps
	802.11ac20		OFDM	36 to 48	36, 44, 48	MCS0 Nss1
	802.11ac40			38 to 46	38, 46	MCS0 Nss1
	802.11ac80			42	42	MCS0 Nss1
	802.11a	5260-5320	OFDM	52 to 64	52, 60, 64	6Mbps
	802.11ac20		OFDM	52 to 64	52, 60, 64	MCS0 Nss1
	802.11ac40			54 to 62	54, 62	MCS0 Nss1
	802.11ac80			58	58	MCS0 Nss1
	802.11a	5500-5720	OFDM	100 to 140	100, 116, 140	6Mbps
	802.11ac20		OFDM	100 to 140	100, 116, 140	MCS0 Nss1
	802.11ac40			102 to 134	102, 110, 134	MCS0 Nss1
	802.11ac80			106, 122	106, 122	MCS0 Nss1
	802.11a	5745-5825	OFDM	149 to 165	149, 157, 165	6Mbps
	802.11ac20		OFDM	149 to 165	149, 157, 165	MCS0 Nss1
	802.11ac40			151 to 159	151, 159	MCS0 Nss1
	802.11ac80			155	155	MCS0 Nss1
Radiated Emissions (Below 1GHz)	802.11ac40	5180-5240	OFDM	36 to 46	46	MCS0 Nss1
AC Power Line Conducted Emission	802.11ac40	5180-5240	OFDM	36 to 46	46	MCS0 Nss1
Antenna Port Conducted Measurement	802.11a	5180-5240	OFDM	36 to 48	36, 44, 48	6Mbps
	802.11ac20		OFDM	36 to 48	36, 44, 48	MCS0 Nss1
	802.11ac40			38 to 46	38, 46	MCS0 Nss1
	802.11ac80			42	42	MCS0 Nss1
	802.11a	5260-5320	OFDM	52 to 64	52, 60, 64	6Mbps
	802.11ac20		OFDM	52 to 64	52, 60, 64	MCS0 Nss1
	802.11ac40			54 to 62	54, 62	MCS0 Nss1
	802.11ac80			58	58	MCS0 Nss1
	802.11a	5500-5720	OFDM	100 to 144	100, 116, 140	6Mbps
	802.11ac20		OFDM	100 to 140	100, 116, 140	MCS0 Nss1
	802.11ac40			102 to 134	102, 110, 134	MCS0 Nss1
	802.11ac80			106, 122	106, 122	MCS0 Nss1
	802.11a	5745-5825	OFDM	149 to 165	149, 157, 165	6Mbps
	802.11ac20		OFDM	149 to 165	149, 157, 165	MCS0 Nss1
	802.11ac40			151 to 159	151, 159	MCS0 Nss1
	802.11ac80			155	155	MCS0 Nss1

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Beamforming mode:

Test Item	Mode	Modulation Technology	Modulation Type	Available Channel	Test Channel	Data Rate
Antenna Port Conducted Measurement	802.11ac20	5180-5240	OFDM	36 to 48	36, 44, 48	MCS0 Nss1
	802.11ac40			38 to 46	38, 46	MCS0 Nss1
	802.11ac80			42	42	MCS0 Nss1
	802.11ac20	5260-5320	OFDM	52 to 64	52, 60, 64	MCS0 Nss1
	802.11ac40			54 to 62	54, 62	MCS0 Nss1
	802.11ac80			58	58	MCS0 Nss1
	802.11ac20	5500-5720	OFDM	100 to 140	100, 116, 140	MCS0 Nss1
	802.11ac40			102 to 134	102, 110, 134	MCS0 Nss1
	802.11ac80			106, 122	106, 122	MCS0 Nss1
	802.11ac20	5745-5825	OFDM	149 to 165	149, 157, 165	MCS0 Nss1
	802.11ac40			151 to 159	151, 159	MCS0 Nss1
	802.11ac80			155	155	MCS0 Nss1

*Note : The worse spurious emissions test and maximum output power was found in Non-Beamforming mode. Therefore, Beamforming mode only the test data of the RF output power were recorded in this report.

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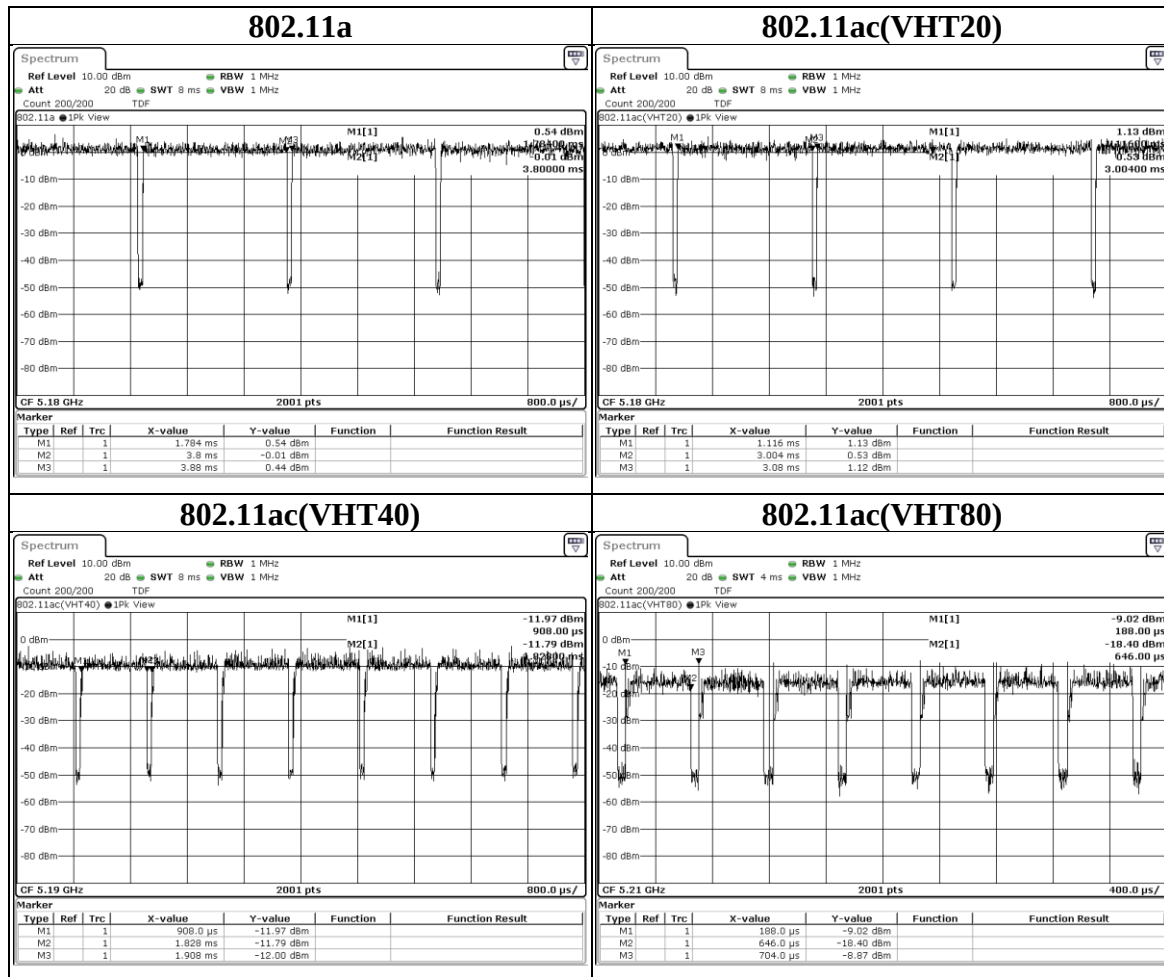
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6.6. Duty cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle	Duty Factor (dB)	VBW Set (above 1GHz)
802.11a	2.016	2.096	0.9618	0.17	510Hz
802.11ac(VHT20)	1.888	1.964	0.9613	0.17	1kHz
802.11ac(VHT40)	0.920	1.000	0.9200	0.36	2kHz
802.11ac(VHT80)	0.458	0.516	0.8876	0.52	3kHz





7. Test Equipment

Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070827	2021/11/9	2022/11/8
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	2021/12/10	2022/12/9
Loop Antenna	ETS lindgren	6502	00213440	2021/12/23	2022/12/22
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	774 & AT-N0538	2022/2/8	2023/2/7
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	2021/12/13	2022/12/12
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	2021/12/17	2022/12/16
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	2022/6/7	2023/6/6
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	2022/2/16	2023/2/15
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	2022/5/17	2023/5/16
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-4 & 170425-2	2021/12/3	2022/12/2
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	2021/12/3	2022/12/2

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Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	2021/10/29	2022/10/28
USB Power Sensor	Anritsu	MA24408A	12031	2022/3/23	2023/3/22
Temperature & Humidity Test Chamber	GIANT FORCE	GTH-150-40-CP-AR	MAA1701-010	2022/3/11	2023/3/10
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	2021/11/15	2022/11/14
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	2021/8/30	2022/8/29
				2022/8/29	2023/8/28
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	2021/8/26	2022/8/25
				2022/8/30	2023/8/29
Cables	TITAN	CFD200	T0732ACFD20 020A300-2	2022/4/9	2023/4/8

UL Software		
Description	Name	Version
Radiated measurement	e3	6.191211 (V6)
Conducted measurement	RF-Conducted-FCC 15407	ver 1.1
AC power Line Conducted Emission	EZ EMC	UL-3A1.2

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8. Description of Test Setup

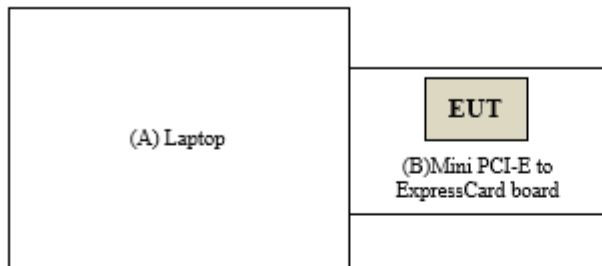
Support Equipment

ID	Equipment	Brand Name	Model Name	S/N	Remark
A	Laptop	Lenovo	T460	PC0FWU5Y	Provide by lab
B	Mini PCI-E to ExpressCard board	PHIYO TECH	ExpressCard Extender	19	Provide by lab

Test Setup

Controlled using a bespoke application (ART2-GUI / Version 2.3) on a test Notebook.
The application was used to enable a continuous transmission mode and to select the test channels, data rates, modulation schemes and power setting as required.

Setup Diagram for Test



Under Table

Remote Site

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9. Test Results

9.1. 6dB Bandwidth

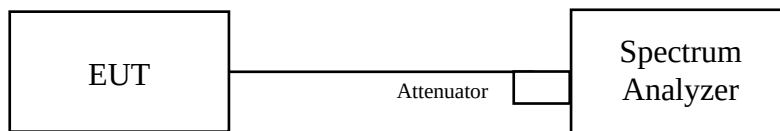
Requirements

The minimum 6 dB bandwidth shall be at least 500 kHz.

Test procedure

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

Test Setup



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

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Test Data

Mode	CH	Freq (MHz)	6dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11a	149	5745	15.449	15.698	15.137	0.5	PASS
	157	5785	15.676	16.352	16.354	0.5	PASS
	165	5825	15.718	16.344	15.709	0.5	PASS

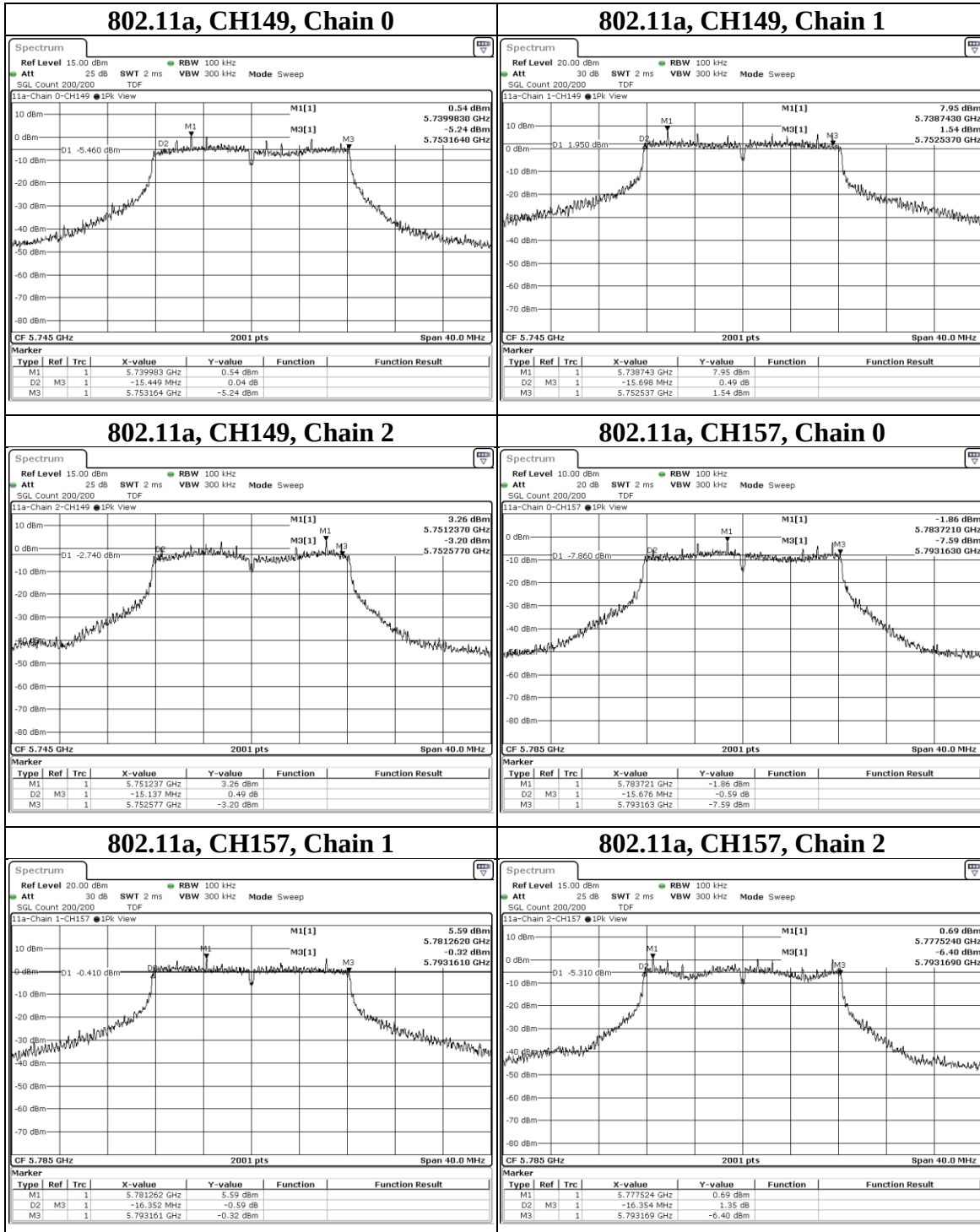
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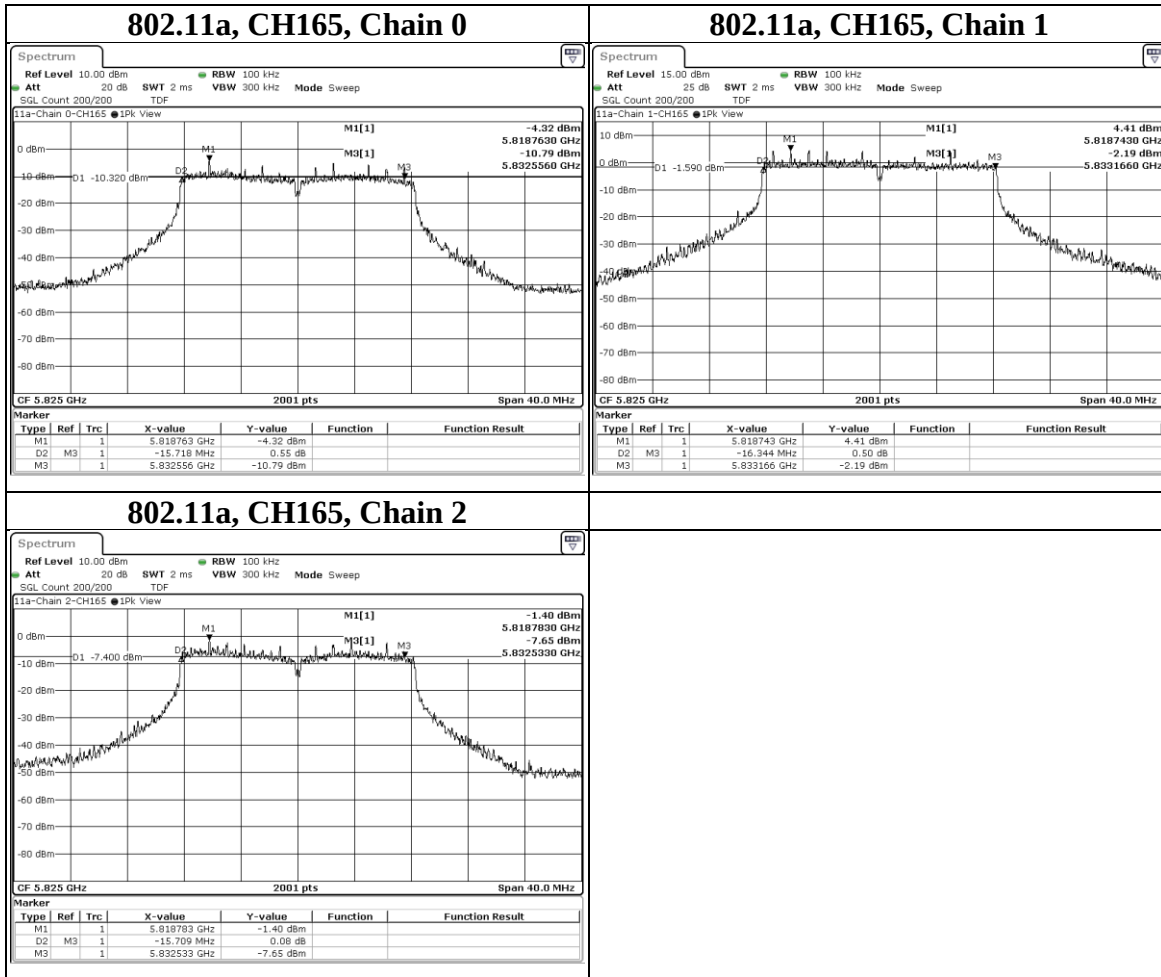
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Mode	CH	Freq (MHz)	6dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT20)	149	5745	16.63	16.681	14.108	0.5	PASS
	157	5785	15.319	16.925	17.589	0.5	PASS
	165	5825	16.7	17.551	16.944	0.5	PASS

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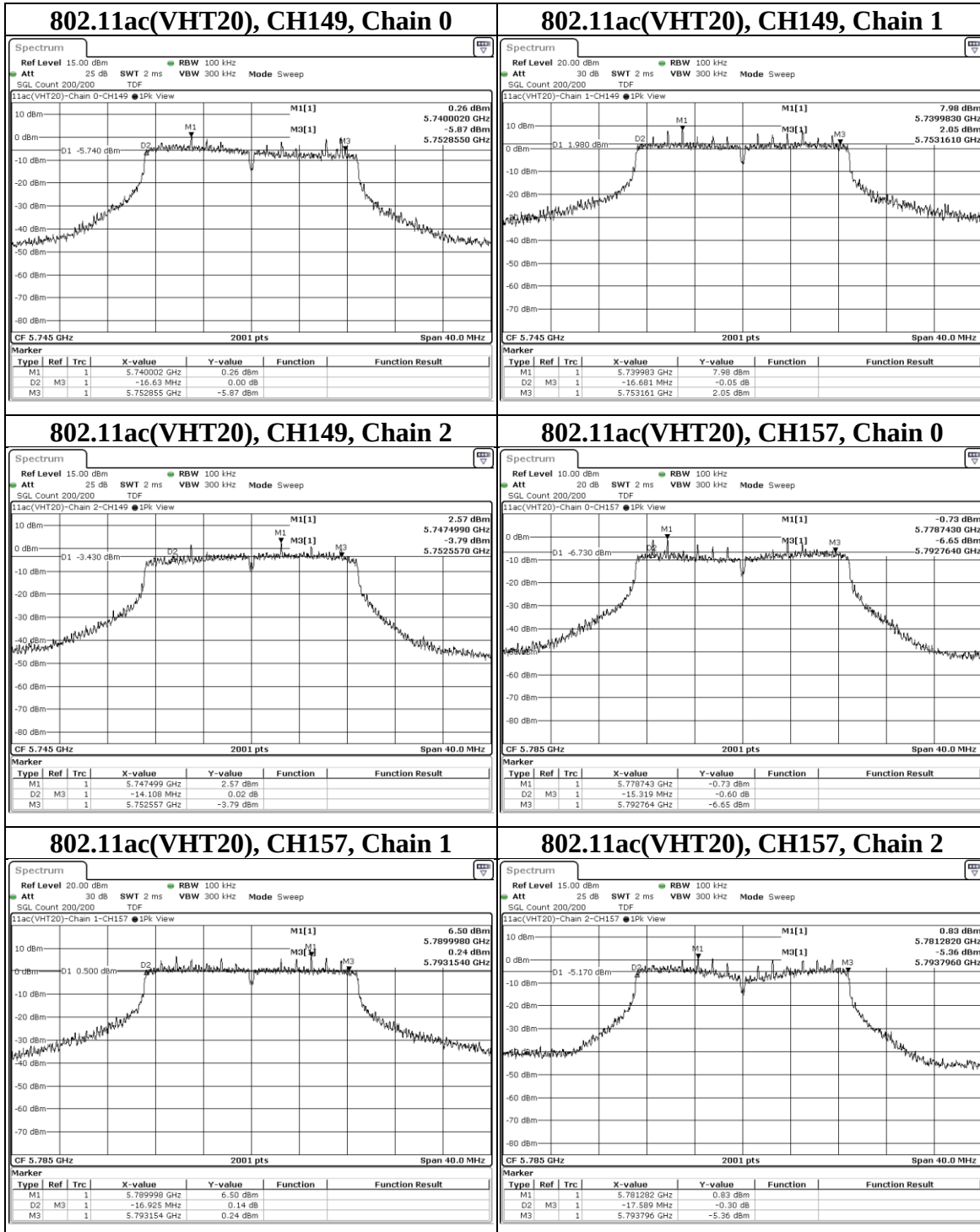
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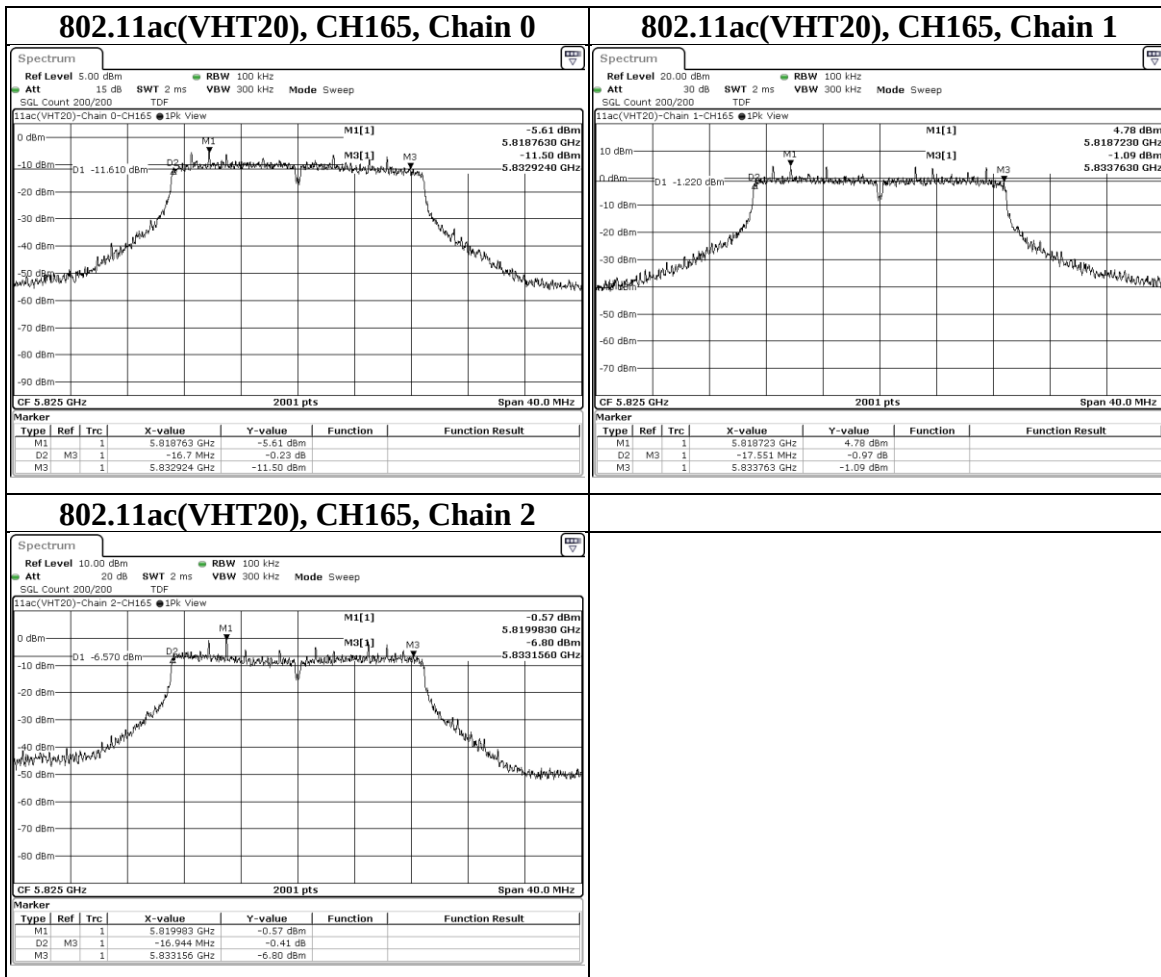
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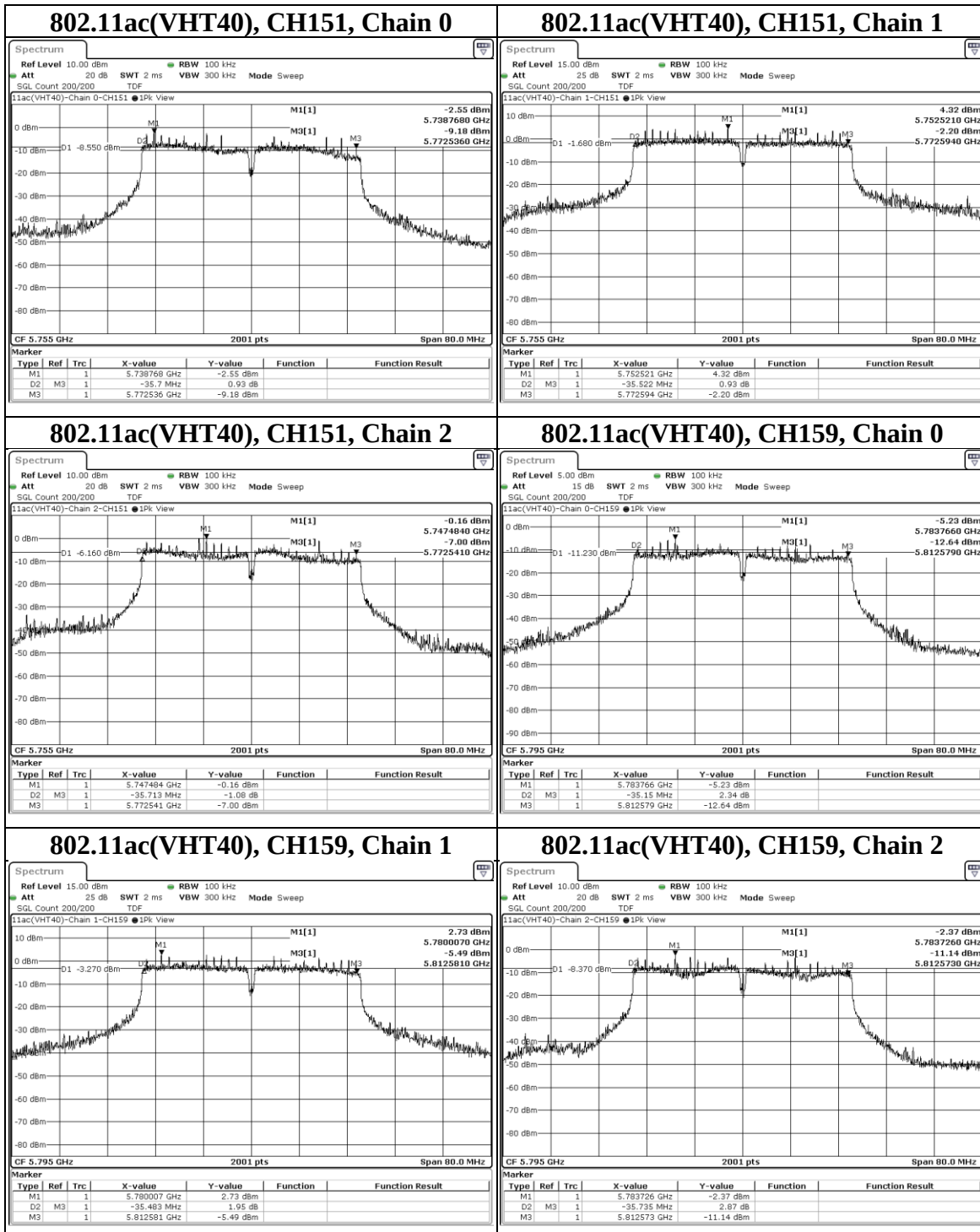
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Mode	CH	Freq (MHz)	6dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT40)	151	5755	35.7	35.522	35.713	0.5	PASS
	159	5795	35.15	35.483	35.735	0.5	PASS



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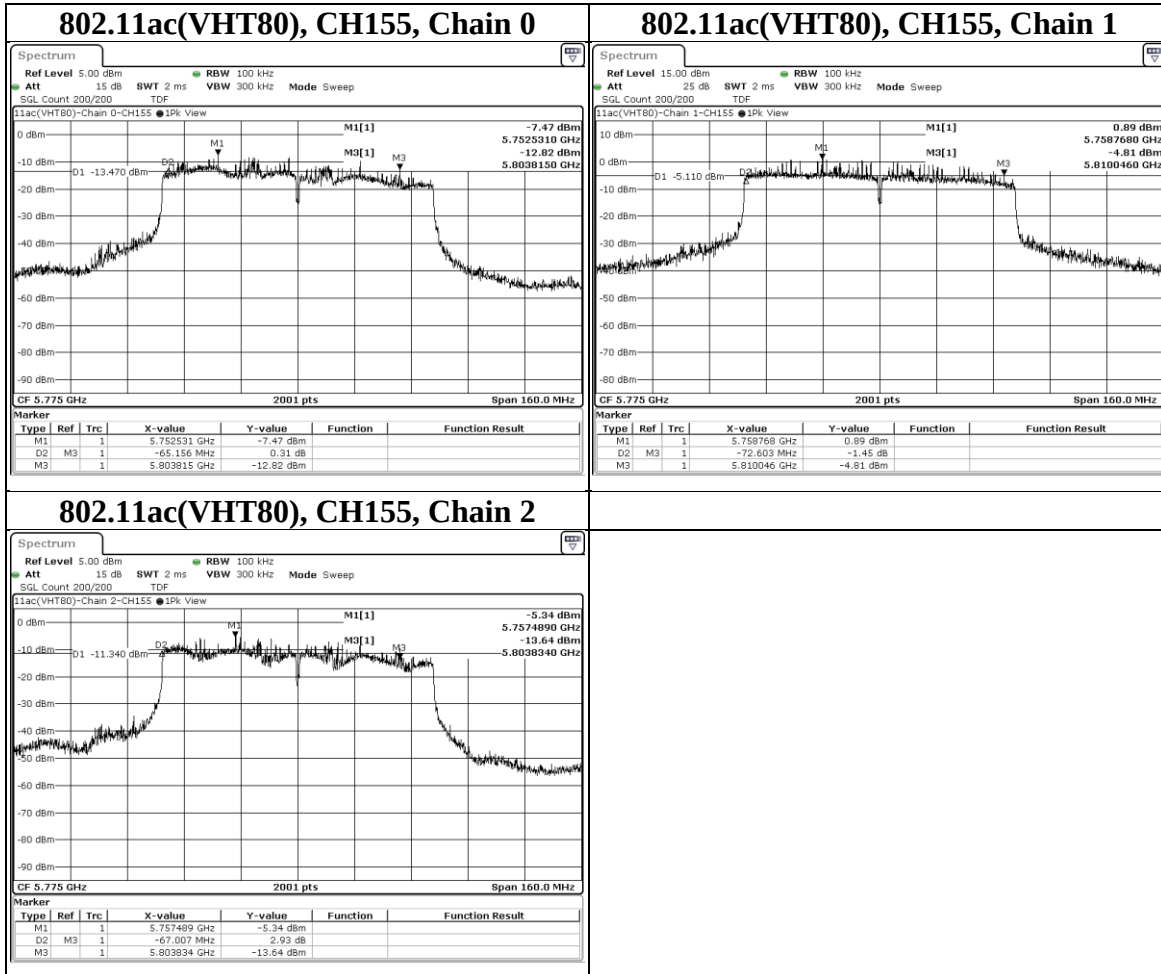
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Mode	CH	Freq (MHz)	6dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT80)	155	5775	65.156	72.603	67.007	0.5	PASS



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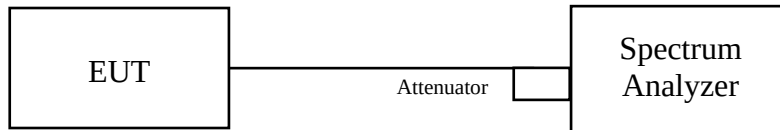


9.2. 26dB Bandwidth

Test procedure

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- 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%.

Test Setup



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

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Test Data

Mode	CH	Freq (MHz)	26dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11a	36	5180	20.468	20.879	20.848	N/A	PASS
	44	5220	21.062	20.307	22.995	N/A	PASS
	48	5240	22.21	19.91	22.712	N/A	PASS
	52	5260	21.186	21.617	23.091	N/A	PASS
	60	5300	21.41	19.742	21.32	N/A	PASS
	64	5320	20.839	20.161	21.274	N/A	PASS
	100	5500	20.736	19.771	22.012	N/A	PASS
	116	5580	20.76	20.086	20.431	N/A	PASS
	140	5700	19.992	20.16	20.407	N/A	PASS

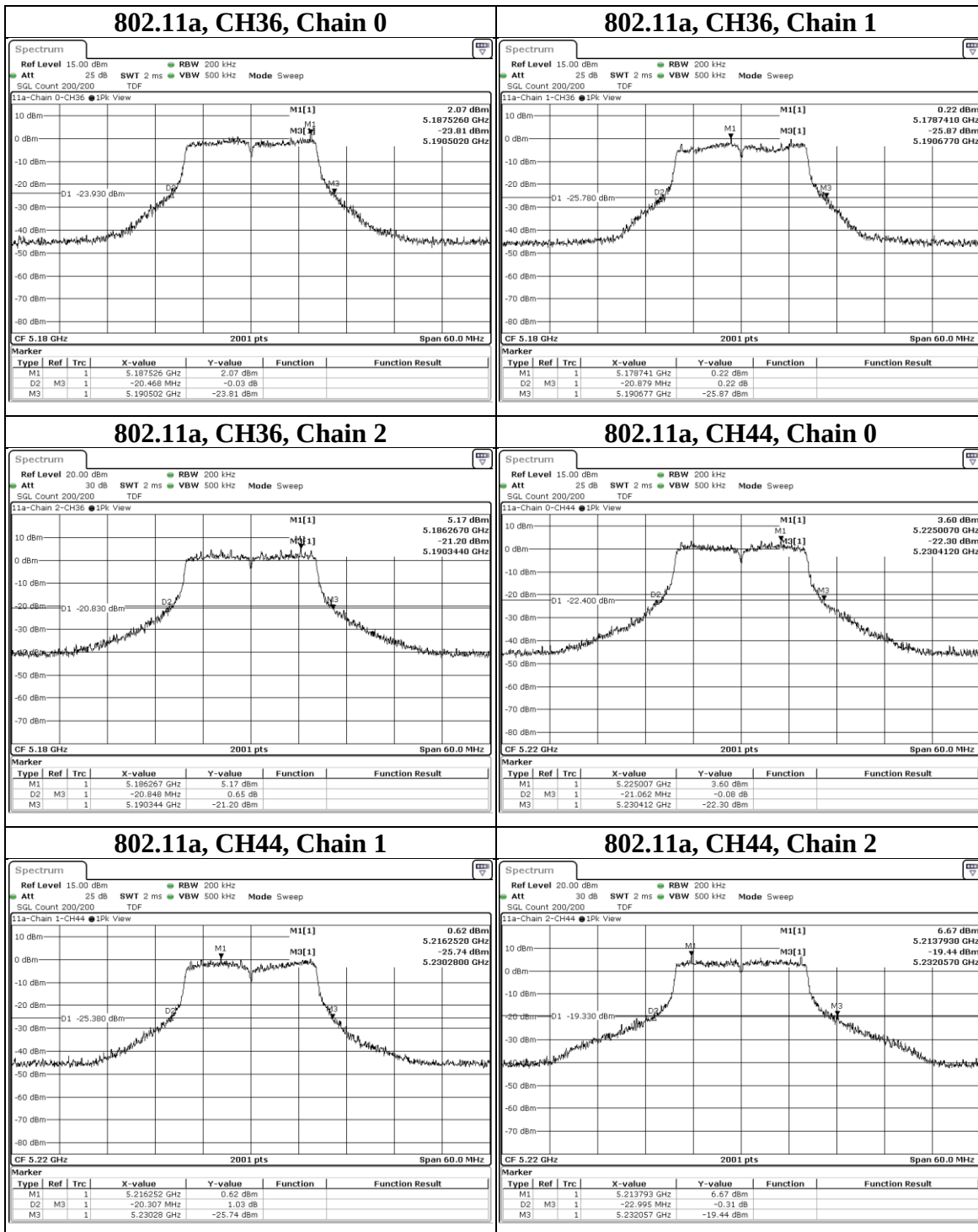
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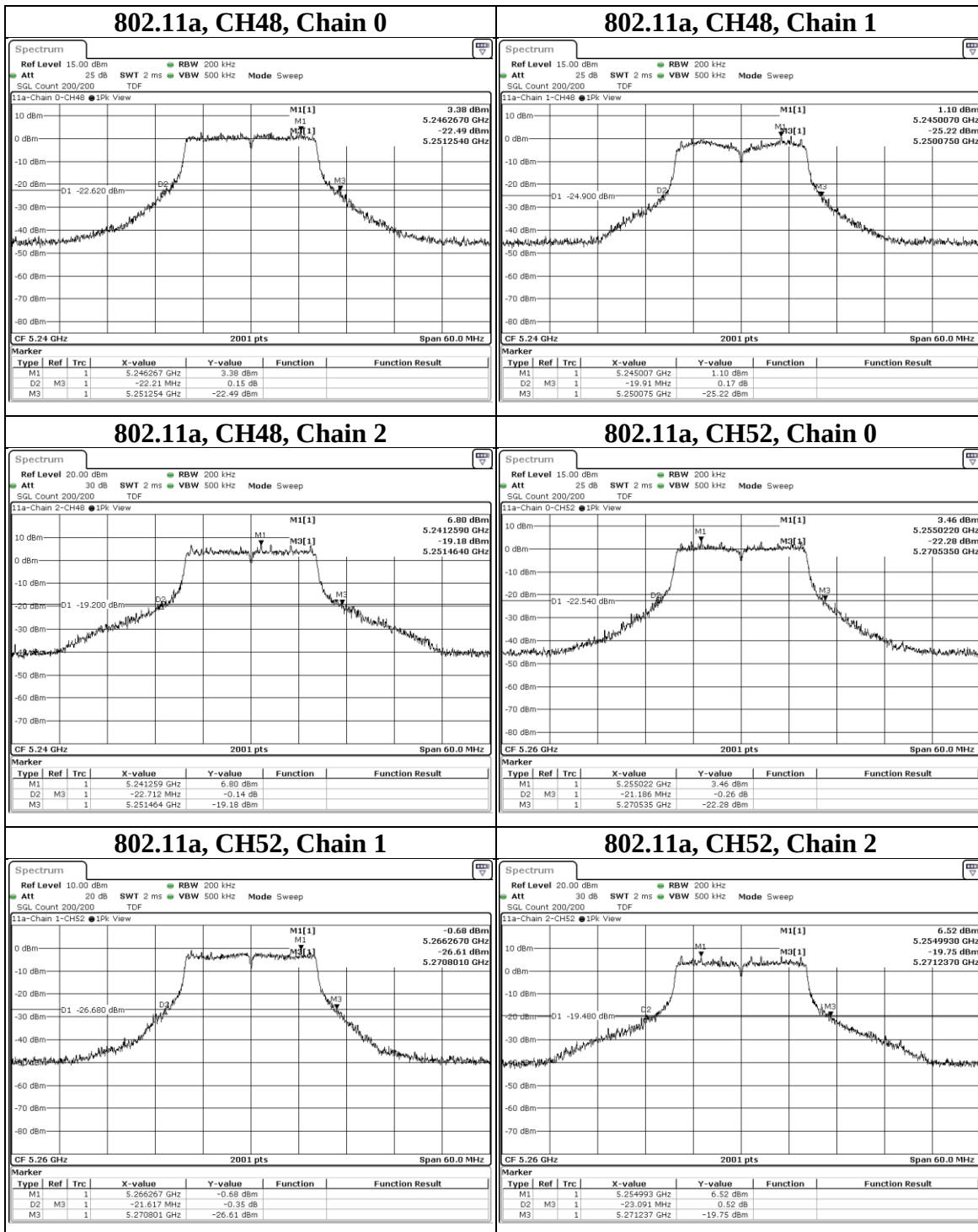
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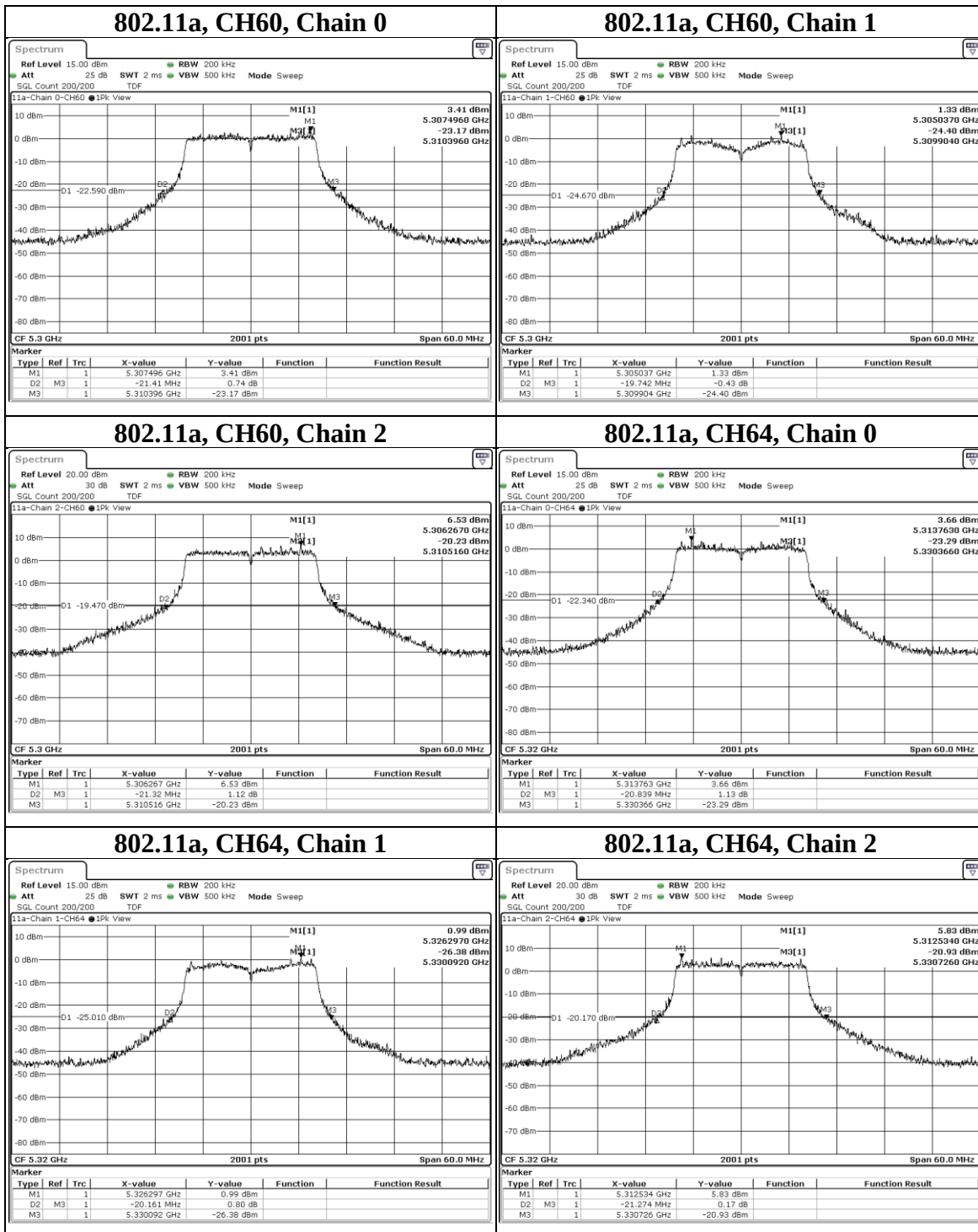
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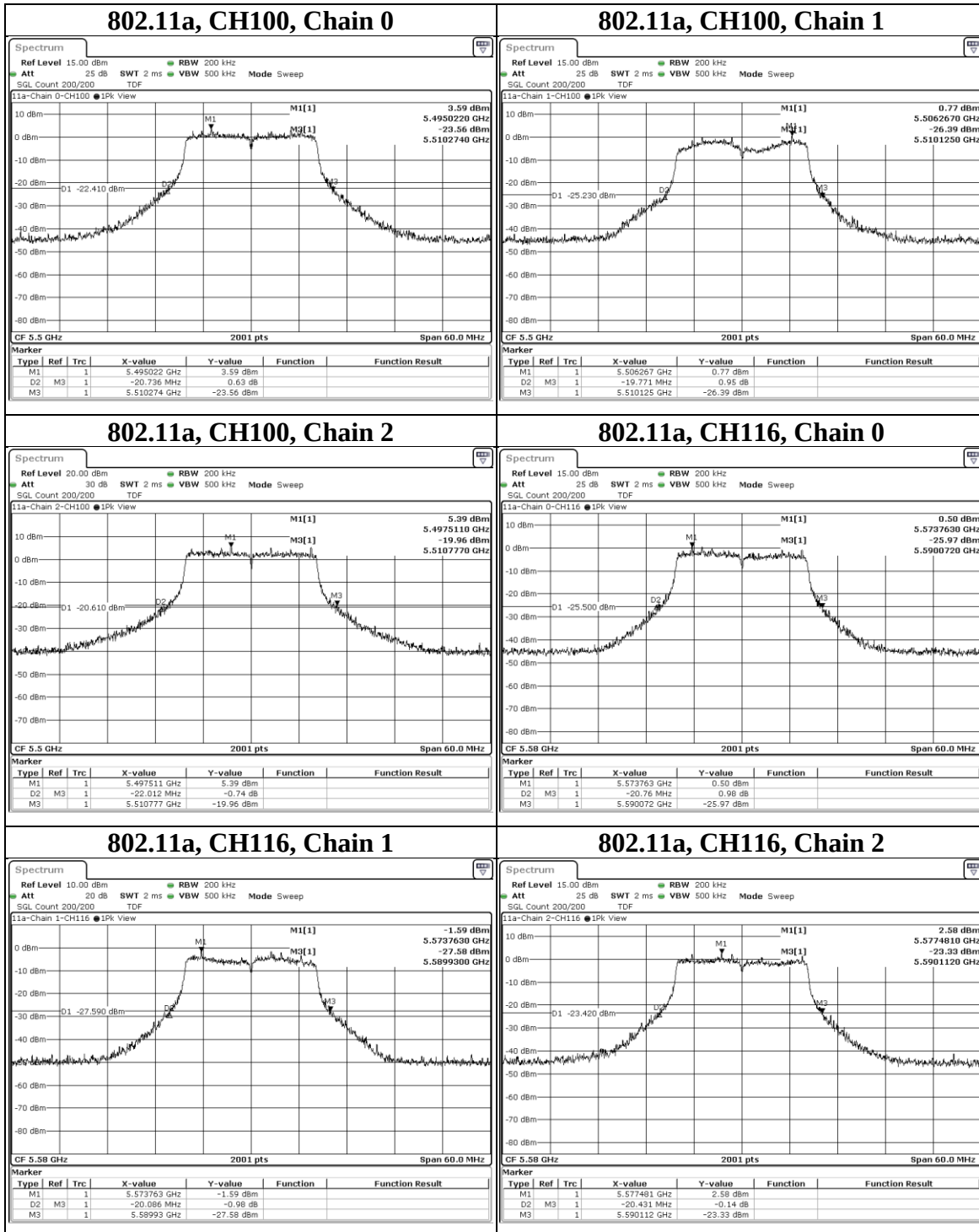
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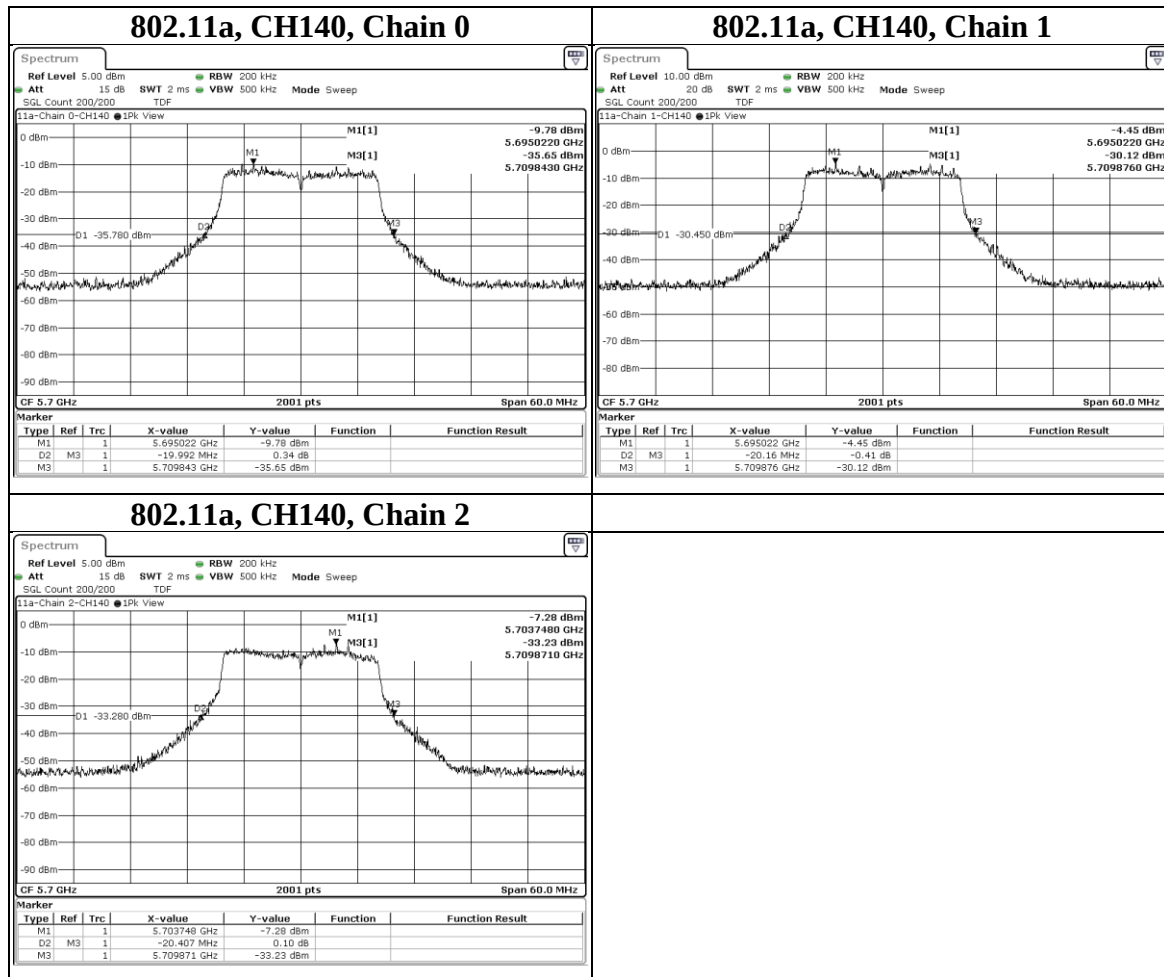
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Mode	CH	Freq (MHz)	26dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT20)	36	5180	21.528	20.641	23.412	N/A	PASS
	44	5220	22.161	21.014	23.325	N/A	PASS
	48	5240	21.817	20.933	22.853	N/A	PASS
	52	5260	21.741	22.217	23.892	N/A	PASS
	60	5300	21.58	22.476	22.327	N/A	PASS
	64	5320	21.895	20.632	23.135	N/A	PASS
	100	5500	21.472	21.402	22.918	N/A	PASS
	116	5580	21.673	21.435	21.508	N/A	PASS
	140	5700	21.439	21.29	21.027	N/A	PASS

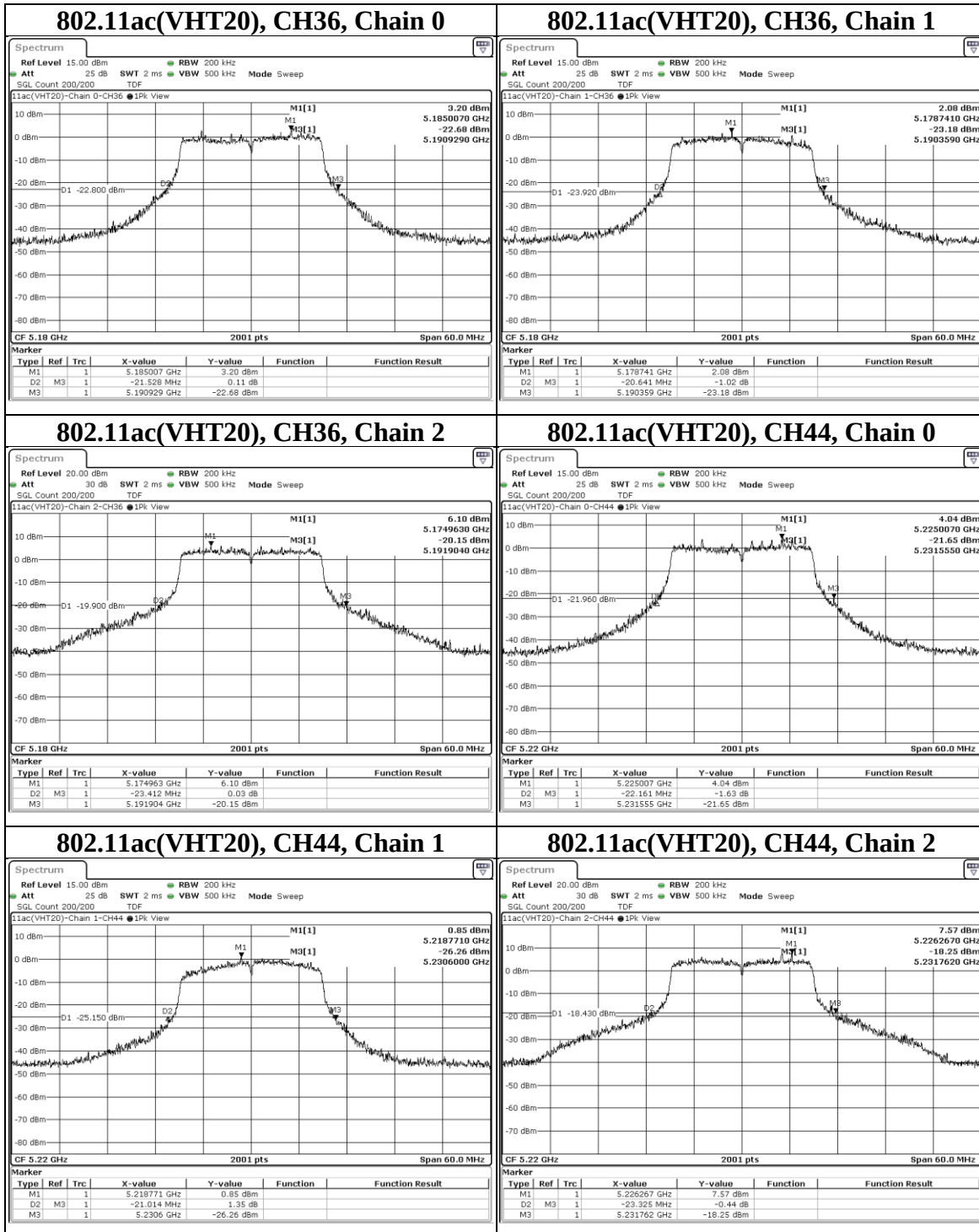
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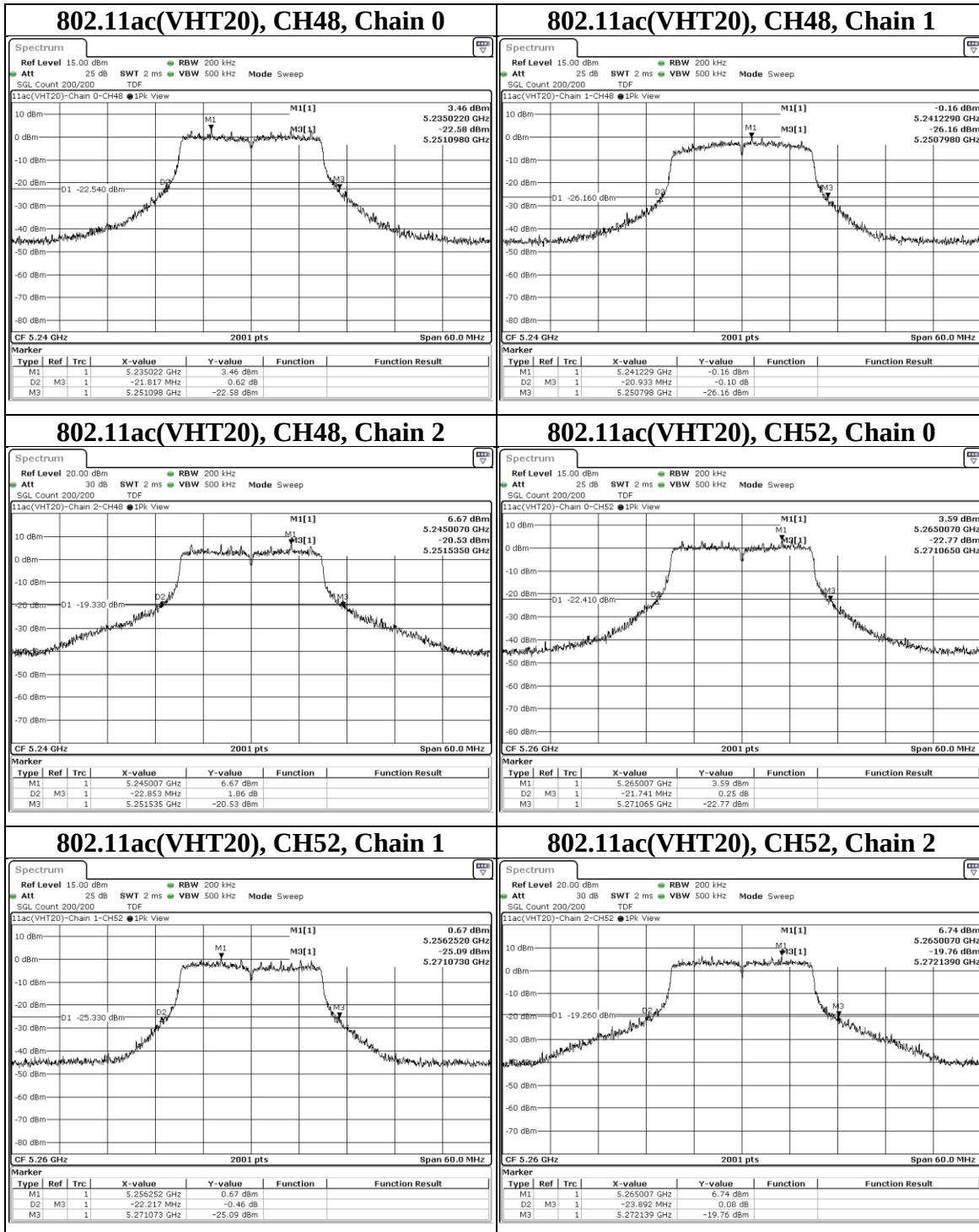
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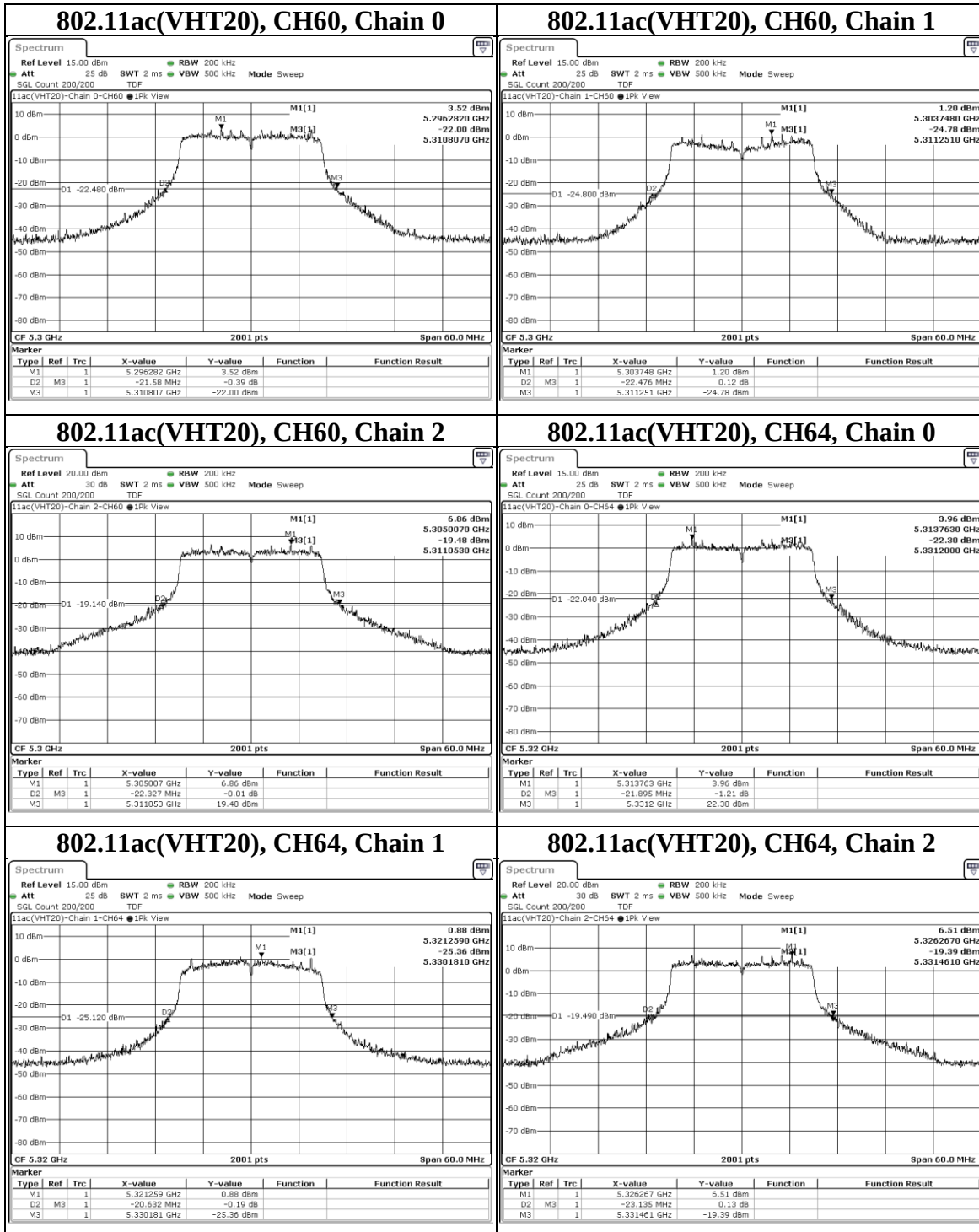
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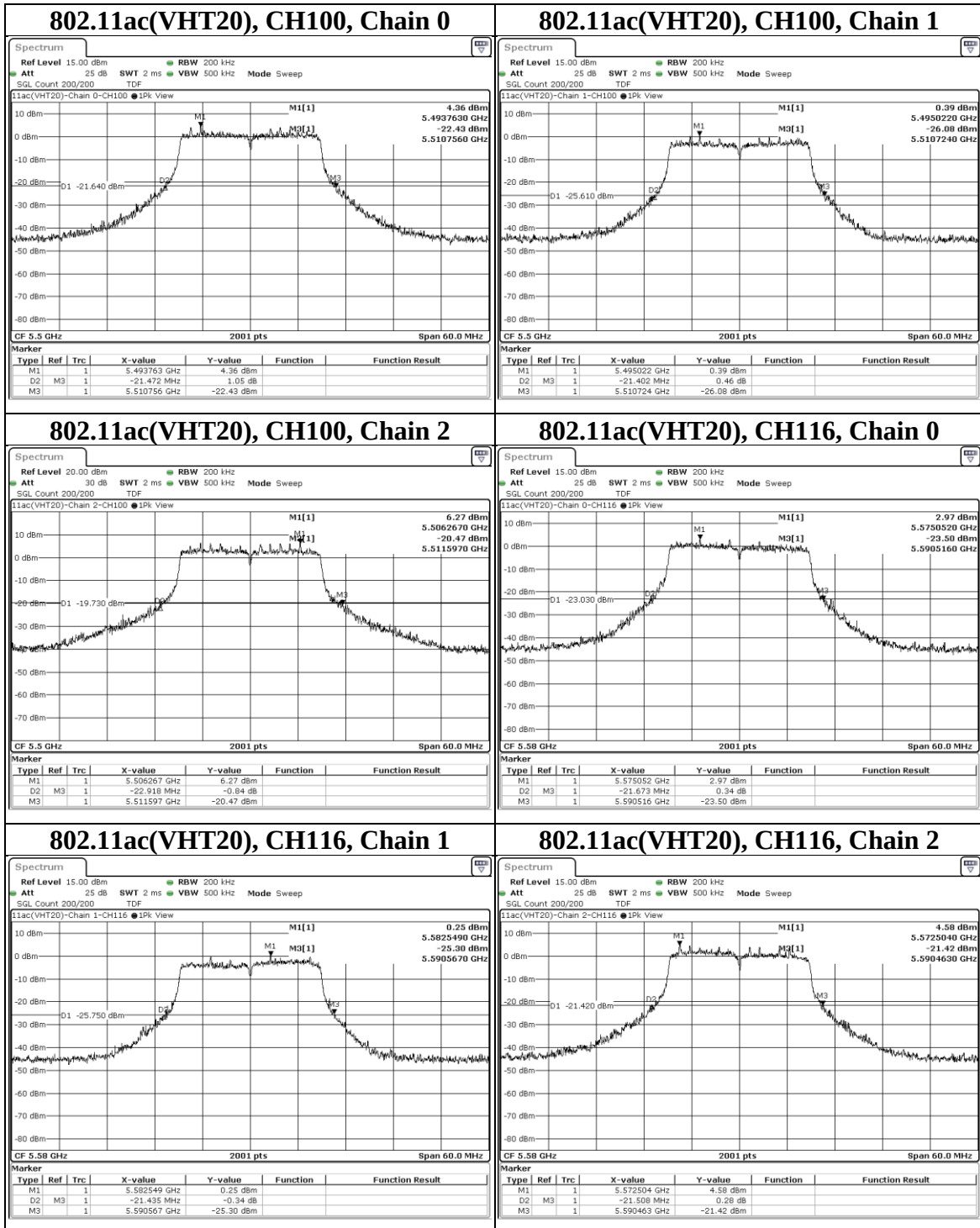
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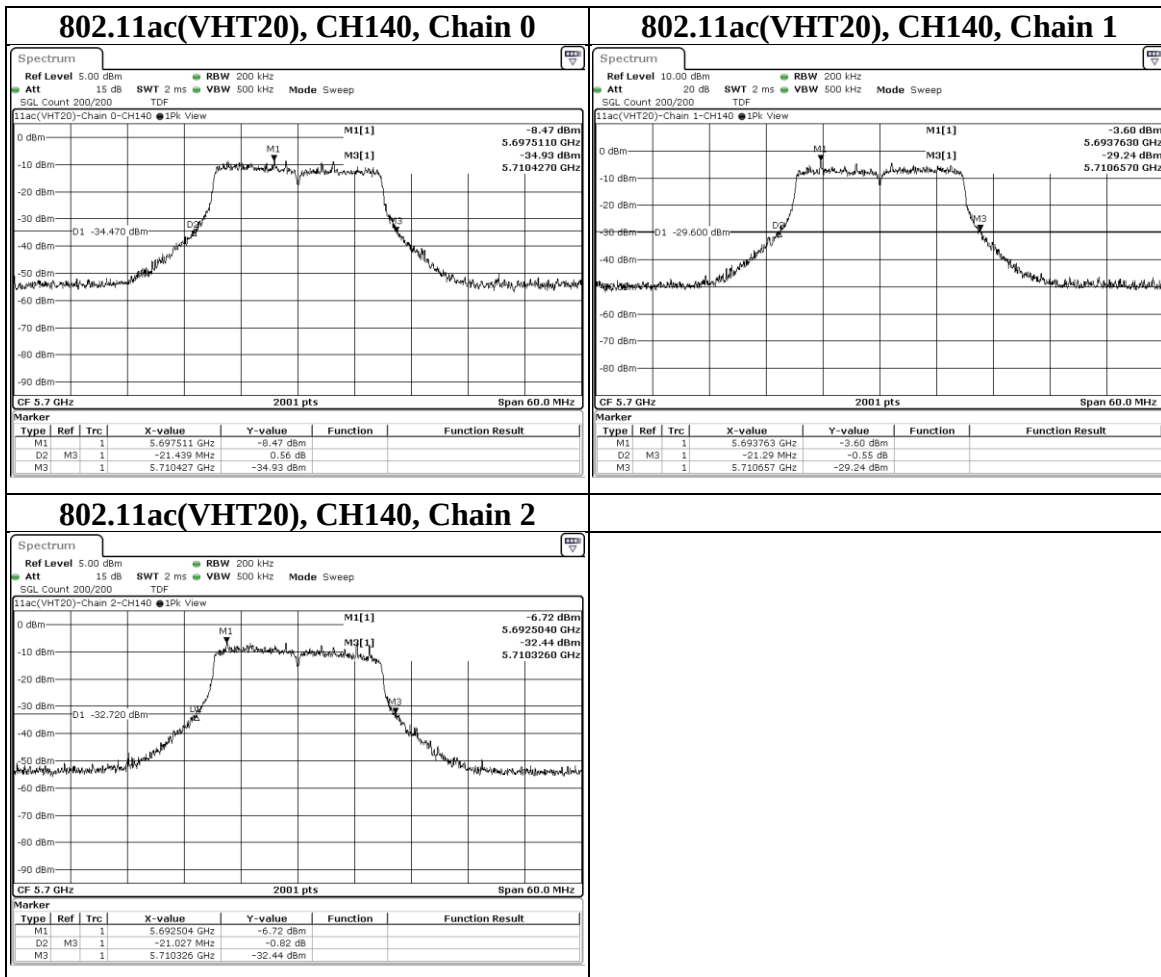
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Mode	CH	Freq (MHz)	26dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT40)	38	5190	45.457	45.818	44.872	N/A	PASS
	46	5230	49.853	44.168	52.395	N/A	PASS
	54	5270	46.878	46.386	51.205	N/A	PASS
	62	5310	45.158	47.966	65.155	N/A	PASS
	102	5510	45.342	43.815	44.034	N/A	PASS
	110	5550	44.334	43.097	44.246	N/A	PASS
	134	5670	44.086	43.693	43.827	N/A	PASS

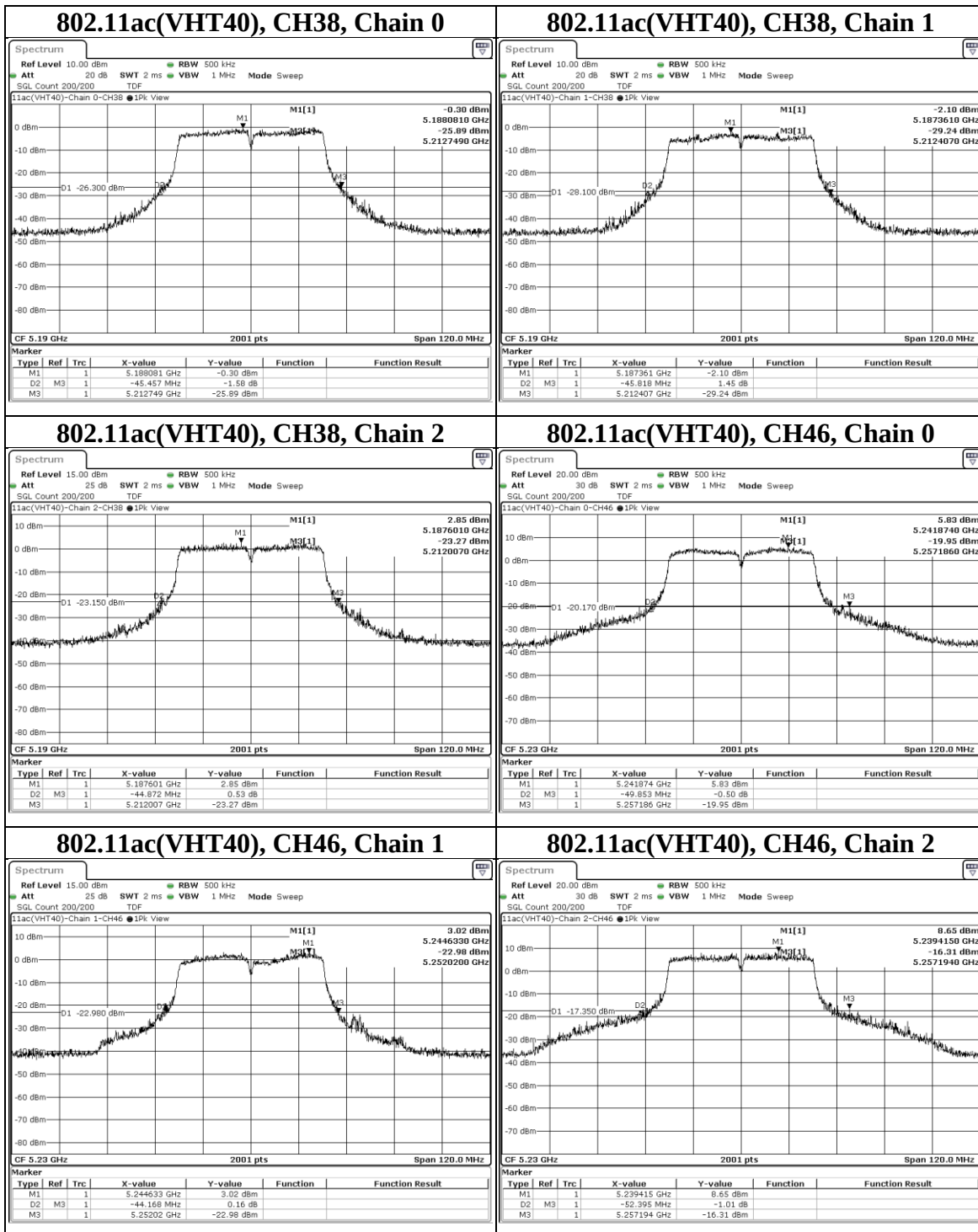
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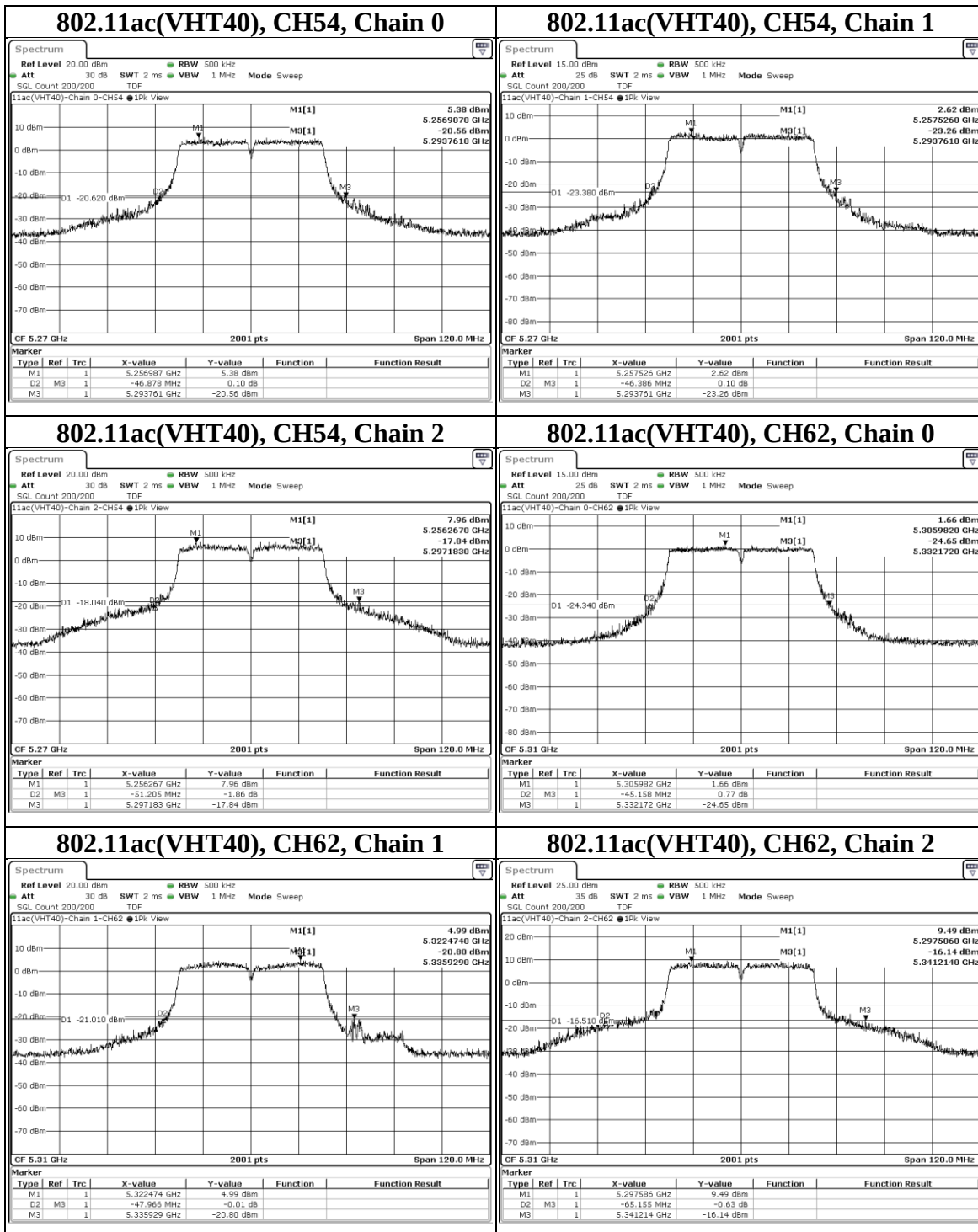
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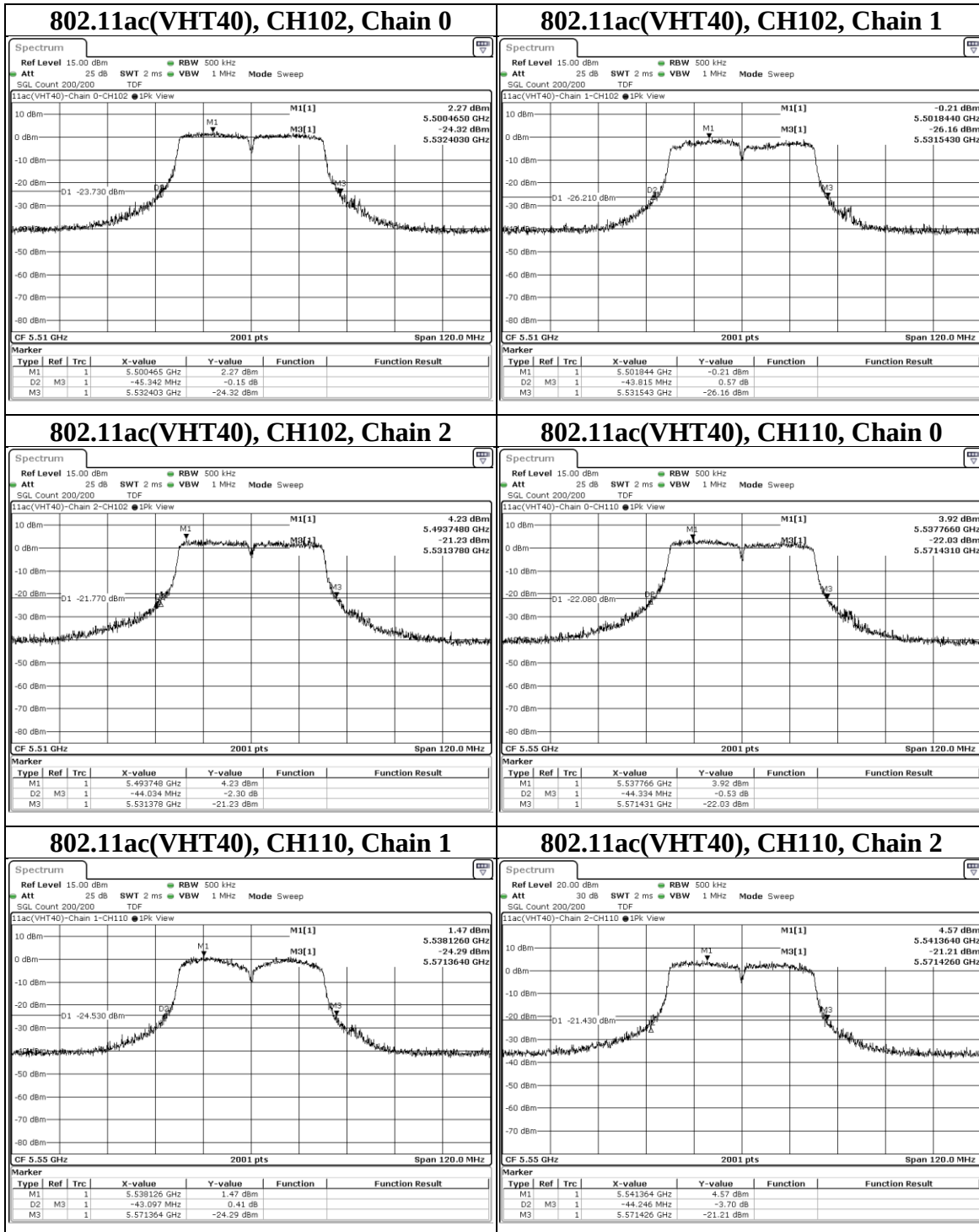
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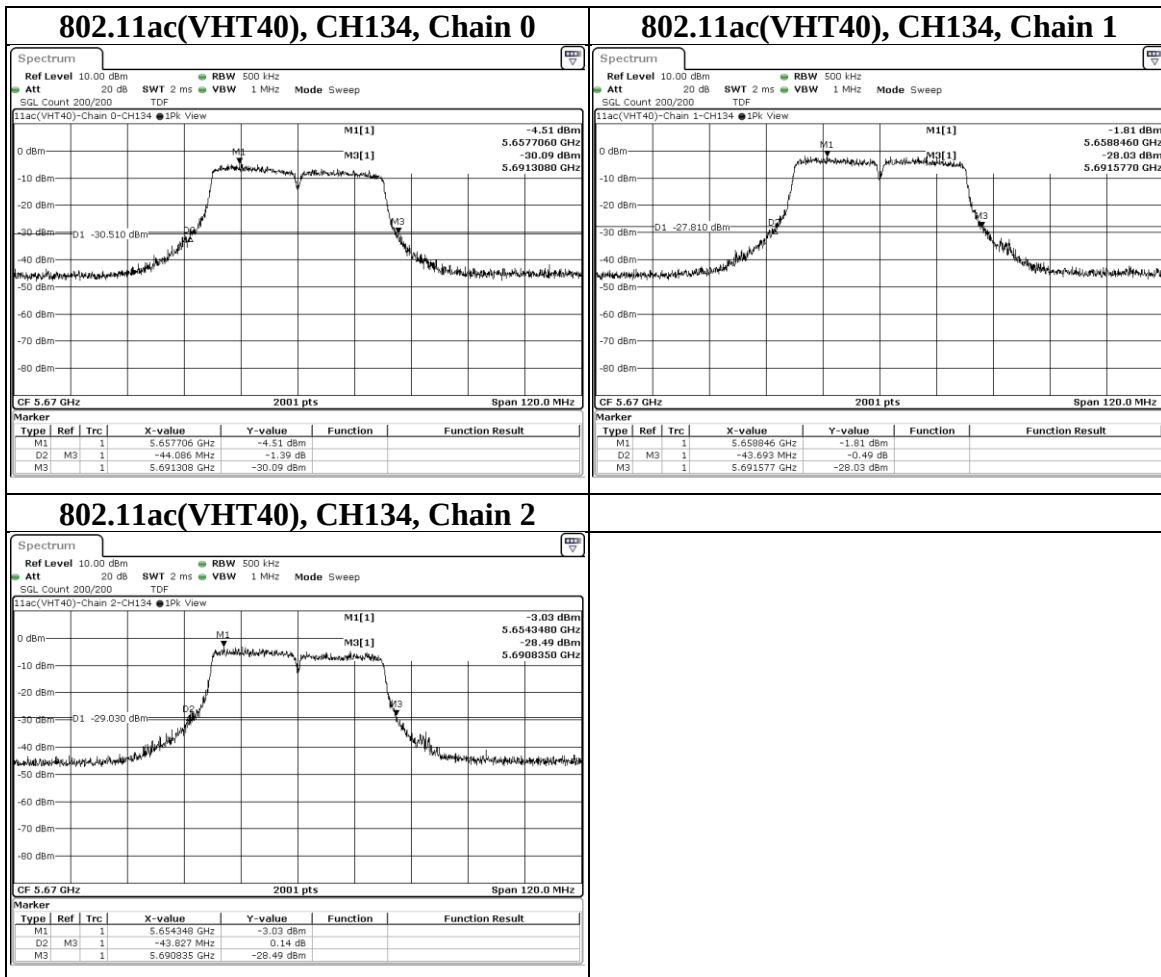








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Mode	CH	Freq (MHz)	26dB BW (MHz)			Limit (MHz)	Result
			Chain 0	Chain 1	Chain 2		
802.11ac(VHT80)	42	5210	86.744	84.213	87.32	N/A	PASS
	58	5290	86.222	85.124	87.008	N/A	PASS
	106	5530	85.6	85.339	84.393	N/A	PASS
	122	5610	87.679	85.557	84.606	N/A	PASS

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