

TEST REPORT

Report Number: R15500557-E3

Applicant : Sonos
301 Coromar Dr
Goleta, CA 93117 USA

MODEL : S51

FCC ID : SBVRM051

IC : 5373A-RM051

EUT Description : Wireless Amplifier

Test Standard(s) : FCC 47 CFR Part 15 Subpart E
ISED RSS-247 Issue 4
ISED RSS-GEN Issue 5 +A1+A2

Date Of Issue:
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-11-17	Initial Issue	B. Kiewra
V2	2026-01-28	Revised 802.11n HT40 power in 5.6Band	B. Kiewra
V3	2026-02-24	Revised 5.6 Band channels in Section 6.2	B. Kiewra

TABLE OF CONTENTS

REPORT REVISION HISTORY	2
TABLE OF CONTENTS	3
1. ATTESTATION OF TEST RESULTS	7
2. TEST RESULT SUMMARY	8
3. TEST METHODOLOGY	8
4. FACILITIES AND ACCREDITATION	8
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	9
5.1. METROLOGICAL TRACEABILITY	9
5.2. DECISION RULES.....	9
5.3. MEASUREMENT UNCERTAINTY.....	9
5.4. SAMPLE CALCULATION	9
6. EQUIPMENT UNDER TEST	10
6.1. EUT DESCRIPTION	10
6.2. MAXIMUM OUTPUT POWER.....	10
6.3. DESCRIPTION OF AVAILABLE ANTENNAS	11
6.4. SOFTWARE AND FIRMWARE.....	11
6.5. WORST-CASE CONFIGURATION AND MODE.....	11
6.6. DESCRIPTION OF TEST SETUP.....	12
7. MEASUREMENT METHOD.....	13
8. TEST AND MEASUREMENT EQUIPMENT	14
9. ANTENNA PORT TEST RESULTS	17
9.1. ON TIME AND DUTY CYCLE.....	17
9.2. 26 dB BANDWIDTH.....	18
9.2.1. 802.11a MODE IN THE 5.2 GHz BAND.....	18
9.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND	19
9.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND	20
9.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND	21
9.2.5. 802.11ax HE20 MODE IN THE 5.2 GHz BAND	22
9.2.6. 802.11ax HE40 MODE IN THE 5.2 GHz BAND	25
9.2.7. 802.11ax HE80 MODE IN THE 5.2 GHz BAND	26
9.2.8. 802.11a MODE IN THE 5.3 GHz BAND.....	27
9.2.9. 802.11n HT20 MODE IN THE 5.3 GHz BAND	28
9.2.10. 802.11n HT40 MODE IN THE 5.3 GHz BAND.....	29
9.2.11. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND.....	30
9.2.12. 802.11ax HE20 MODE IN THE 5.3GHz BAND.....	31

9.2.13.	802.11ax HE40 MODE IN THE 5.3GHz BAND.....	34
9.2.14.	802.11ax HE80 MODE IN THE 5.3GHz BAND.....	35
9.2.15.	802.11a MODE IN THE 5.6 GHz BAND	36
9.2.16.	802.11n HT20 MODE IN THE 5.6 GHz BAND.....	37
9.2.17.	802.11n HT40 MODE IN THE 5.6 GHz BAND.....	38
9.2.18.	802.11ac VHT80 MODE IN THE 5.6 GHz BAND.....	39
9.2.19.	802.11ax HE20 MODE IN THE 5.6 GHz BAND.....	40
9.2.20.	802.11ax HE40 MODE IN THE 5.6 GHz BAND.....	43
9.2.21.	802.11ax HE80 MODE IN THE 5.6 GHz BAND.....	44
9.3.	6 dB BANDWIDTH.....	45
9.3.1.	802.11a MODE IN THE 5.8 GHz BAND.....	45
9.3.2.	802.11n HT20 MODE IN THE 5.8 GHz BAND	46
9.3.3.	802.11n HT40 MODE IN THE 5.8 GHz BAND	47
9.3.4.	802.11ac VHT80 MODE IN THE 5.8 GHz BAND	47
9.3.5.	802.11ax HE20 MODE IN THE 5.8 GHz BAND	48
9.3.6.	802.11ax HE40 MODE IN THE 5.8 GHz BAND	51
9.3.7.	802.11ax HE80 MODE IN THE 5.8 GHz BAND	52
9.4.	99% BANDWIDTH.....	53
9.4.1.	802.11a MODE IN THE 5.2 GHz BAND.....	53
9.4.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND	54
9.4.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND	55
9.4.4.	802.11ac VHT80 MODE IN THE 5.2 GHz BAND	55
9.4.5.	802.11ax HE20 MODE IN THE 5.2 GHz BAND	56
9.4.6.	802.11ax HE40 MODE IN THE 5.2 GHz BAND	59
9.4.7.	802.11ax HE80 MODE IN THE 5.2 GHz BAND	60
9.4.8.	802.11a MODE IN THE 5.3 GHz BAND.....	61
9.4.9.	802.11n HT20 MODE IN THE 5.3 GHz BAND	62
9.4.10.	802.11n HT40 MODE IN THE 5.3 GHz BAND.....	63
9.4.11.	802.11ac VHT80 MODE IN THE 5.3 GHz BAND.....	63
9.4.12.	802.11ax HE20 MODE IN THE 5.3GHz BAND.....	64
9.4.13.	802.11ax HE40 MODE IN THE 5.3GHz BAND.....	67
9.4.14.	802.11ax HE80 MODE IN THE 5.3GHz BAND.....	68
9.4.15.	802.11a MODE IN THE 5.6 GHz BAND	69
9.4.16.	802.11n HT20 MODE IN THE 5.6 GHz BAND.....	70
9.4.17.	802.11n HT40 MODE IN THE 5.6 GHz BAND.....	71
9.4.18.	802.11ac VHT80 MODE IN THE 5.6 GHz BAND.....	72
9.4.19.	802.11ax HE20 MODE IN THE 5.6 GHz BAND.....	73
9.4.20.	802.11ax HE40 MODE IN THE 5.6 GHz BAND.....	76
9.4.21.	802.11ax HE80 MODE IN THE 5.6 GHz BAND.....	77
9.4.22.	802.11a MODE IN THE 5.8 GHz BAND	78
9.4.23.	802.11n HT20 MODE IN THE 5.8 GHz BAND.....	79
9.4.24.	802.11n HT40 MODE IN THE 5.8 GHz BAND.....	80
9.4.25.	802.11ac VHT80 MODE IN THE 5.8 GHz BAND.....	81
9.4.26.	802.11ax HE20 MODE IN THE 5.8 GHz BAND.....	82
9.4.27.	802.11ax HE40 MODE IN THE 5.8 GHz BAND.....	85
9.4.28.	802.11ax HE80 MODE IN THE 5.8 GHz BAND.....	86
9.5.	OUTPUT POWER AND PSD.....	87
9.5.1.	802.11a MODE IN THE 5.2 GHz BAND (FCC+IC).....	89
9.5.2.	802.11n HT20 MODE IN THE 5.2 GHz BAND (FCC+IC).....	90
9.5.3.	802.11n HT40 MODE IN THE 5.2 GHz BAND (FCC+IC).....	91
9.5.4.	802.11ac VHT80 MODE IN THE 5.2 GHz BAND (FCC+IC).....	92

9.5.5.	802.11ax HE20 MODE IN THE 5.2 GHz BAND (FCC+IC).....	93
9.5.6.	802.11ax HE40 MODE IN THE 5.2 GHz BAND (FCC+IC).....	98
9.5.7.	802.11ax HE80 MODE IN THE 5.2 GHz BAND (FCC+IC).....	100
9.5.8.	802.11a MODE IN THE 5.3 GHz BAND (FCC+IC).....	103
9.5.9.	802.11n HT20 MODE IN THE 5.3 GHz BAND (FCC+IC).....	104
9.5.10.	802.11n HT40 MODE IN THE 5.3 GHz BAND (FCC+IC)	105
9.5.11.	802.11ac VHT80 MODE IN THE 5.3 GHz BAND (FCC+IC)	106
9.5.12.	802.11ax HE20 MODE IN THE 5.3 GHz BAND (FCC+IC).....	107
9.5.13.	802.11ax HE40 MODE IN THE 5.3 GHz BAND (FCC+IC).....	112
9.5.14.	802.11ax HE80 MODE IN THE 5.3 GHz BAND (FCC+IC).....	114
9.5.15.	802.11a MODE IN THE 5.6 GHz BAND (FCC+IC)	116
9.5.16.	802.11n HT20 MODE IN THE 5.6 GHz BAND (FCC+IC)	117
9.5.17.	802.11n HT40 MODE IN THE 5.6 GHz BAND (FCC+IC)	118
9.5.18.	802.11ac VHT80 MODE IN THE 5.6 GHz BAND (FCC+IC)	119
9.5.19.	802.11ax HE20 MODE IN THE 5.6 GHz BAND (FCC+IC).....	120
9.5.20.	802.11ax HE40 MODE IN THE 5.6 GHz BAND (FCC+IC).....	125
9.5.21.	802.11ax HE80 MODE IN THE 5.6 GHz BAND (FCC+IC).....	127
9.5.22.	802.11a MODE IN THE 5.8 GHz BAND (FCC+IC)	129
9.5.23.	802.11n HT20 MODE IN THE 5.8 GHz BAND (FCC+IC)	130
9.5.24.	802.11n HT40 MODE IN THE 5.8 GHz BAND (FCC+IC)	131
9.5.25.	802.11ac VHT80 MODE IN THE 5.8 GHz BAND (FCC+IC)	132
9.5.26.	802.11ax HE20 MODE IN THE 5.8 GHz BAND (FCC+IC).....	133
9.5.27.	802.11ax HE40 MODE IN THE 5.8 GHz BAND (FCC+IC).....	138
9.5.28.	802.11ax HE80 MODE IN THE 5.8 GHz BAND (FCC+IC).....	140
10.	RADIATED TEST RESULTS	142
10.1.	TRANSMITTER 1-18GHz.....	144
10.1.1.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND.....	144
10.1.2.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND	152
10.1.3.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND	154
10.1.4.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.2 GHz BAND	156
10.1.5.	TX ABOVE 1 GHz 802.11ax HE20 26T MODE IN THE 5.2 GHz BAND	158
10.1.6.	TX ABOVE 1 GHz 802.11ax HE20 52T MODE IN THE 5.2 GHz BAND	160
10.1.7.	TX ABOVE 1 GHz 802.11ax HE20 106T MODE IN THE 5.2 GHz BAND	162
10.1.8.	TX ABOVE 1 GHz 802.11ax HE20 242T MODE IN THE 5.2 GHz BAND	164
10.1.9.	TX ABOVE 1 GHz 802.11ax HE20 SU MODE IN THE 5.2 GHz BAND	166
10.1.10.	TX ABOVE 1 GHz 802.11ax HE40 484T MODE IN THE 5.2 GHz BAND	168
10.1.11.	TX ABOVE 1 GHz 802.11ax HE40 SU MODE IN THE 5.2 GHz BAND	170
10.1.12.	TX ABOVE 1 GHz 802.11ax HE80 996T MODE IN THE 5.2 GHz BAND	176
10.1.13.	TX ABOVE 1 GHz 802.11ax HE80 SU MODE IN THE 5.2 GHz BAND	178
10.1.14.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND.....	180
10.1.15.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND	188
10.1.16.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND	190
10.1.17.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.3 GHz BAND	196
10.1.18.	TX ABOVE 1 GHz 802.11ax HE20 26T MODE IN THE 5.3 GHz BAND	198
10.1.19.	TX ABOVE 1 GHz 802.11ax HE20 52T MODE IN THE 5.3 GHz BAND	200
10.1.20.	TX ABOVE 1 GHz 802.11ax HE20 106T MODE IN THE 5.3 GHz BAND	202
10.1.21.	TX ABOVE 1 GHz 802.11ax HE20 242T MODE IN THE 5.3 GHz BAND	210
10.1.22.	TX ABOVE 1 GHz 802.11ax HE20 SU MODE IN THE 5.3 GHz BAND	216
10.1.23.	TX ABOVE 1 GHz 802.11ax HE40 484T MODE IN THE 5.3 GHz BAND	224
10.1.24.	TX ABOVE 1 GHz 802.11ax HE40 SU MODE IN THE 5.3 GHz BAND	226
10.1.25.	TX ABOVE 1 GHz 802.11ax HE80 996T MODE IN THE 5.3 GHz BAND	229

10.1.26.	TX ABOVE 1 GHz 802.11ax HE80 SU MODE IN THE 5.3 GHz BAND	231
10.1.27.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND	233
10.1.28.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND	237
10.1.29.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.6 GHz BAND	241
10.1.30.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.6 GHz BAND	247
10.1.31.	TX ABOVE 1 GHz 802.11ax HE20 26T MODE IN THE 5.6 GHz BAND	257
10.1.32.	TX ABOVE 1 GHz 802.11ax HE20 52T MODE IN THE 5.6 GHz BAND	261
10.1.33.	TX ABOVE 1 GHz 802.11ax HE20 106T MODE IN THE 5.6 GHz BAND	265
10.1.34.	TX ABOVE 1 GHz 802.11ax HE20 242T MODE IN THE 5.6 GHz BAND	269
10.1.35.	TX ABOVE 1 GHz 802.11ax HE20 SU MODE IN THE 5.6 GHz BAND	279
10.1.36.	TX ABOVE 1 GHz 802.11ax HE40 484T MODE IN THE 5.6 GHz BAND	286
10.1.37.	TX ABOVE 1 GHz 802.11ax HE40 SU MODE IN THE 5.6 GHz BAND	292
10.1.38.	TX ABOVE 1 GHz 802.11ax HE80 996T MODE IN THE 5.6 GHz BAND	298
10.1.39.	TX ABOVE 1 GHz 802.11ax HE80 SU MODE IN THE 5.6 GHz BAND	304
10.1.40.	TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND	310
10.1.41.	TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND	320
10.1.42.	TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND	324
10.1.43.	TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.8 GHz BAND	333
10.1.44.	TX ABOVE 1 GHz 802.11ax HE20 26T MODE IN THE 5.8 GHz BAND	339
10.1.45.	TX ABOVE 1 GHz 802.11ax HE20 52T MODE IN THE 5.8 GHz BAND	349
10.1.46.	TX ABOVE 1 GHz 802.11ax HE20 106T MODE IN THE 5.8 GHz BAND	355
10.1.47.	TX ABOVE 1 GHz 802.11ax HE20 242T MODE IN THE 5.8 GHz BAND	361
10.1.48.	TX ABOVE 1 GHz 802.11ax HE20 SU MODE IN THE 5.8 GHz BAND	365
10.1.49.	TX ABOVE 1 GHz 802.11ax HE40 484T MODE IN THE 5.8 GHz BAND	375
10.1.50.	TX ABOVE 1 GHz 802.11ax HE40 SU MODE IN THE 5.8 GHz BAND	379
10.1.51.	TX ABOVE 1 GHz 802.11ax HE80 996T MODE IN THE 5.8 GHz BAND	383
10.1.52.	TX ABOVE 1 GHz 802.11ax HE80 SU MODE IN THE 5.8 GHz BAND	387
10.2.	TRANSMITTER WORST CASE	391
10.2.1.	SPURIOUS BELOW 30MHz	391
10.2.2.	SPURIOUS 30-1000MHz	393
10.2.3.	SPURIOUS 18-26 GHz	395
10.2.4.	SPURIOUS 26-40 GHz	397
10.3.	SIMULTANEOUS TRANSMISSION	399
10.3.1.	BLE 2Mbps 2402MHz and 802.11ax HE 20 SU 5825MHz	399
10.3.2.	BLE 2Mbps 2480MHz and 802.11n HT40 5795MHz	401
11.	AC POWER LINE CONDUCTED EMISSIONS	403
11.1.	AC POWER LINE NORM	404
12.	SETUP PHOTOS	406
	END OF TEST REPORT	406

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sonos
301 Coromar Dr
Goleta, CA 93117 USA

EUT DESCRIPTION: Wireless Amplifier

MODEL: S51

BRAND: Sonos

SERIAL NUMBER: 00E5813A1A36, 00E585a5CA27

SAMPLE RECEIPT DATE: 2025-09-22

DATE TESTED: 2025-09-23 to 2025-11-14

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Refer to Section 2
ISED RSS-247 Issue 4	Refer to Section 2
ISED RSS-GEN Issue 5+A1+A2	Refer to Section 2

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the sample tested, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to ensure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

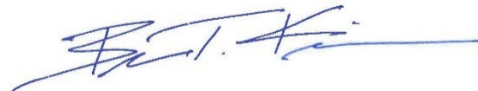
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2. TEST RESULT SUMMARY

This report contains data/info provided by the customer which can impact the validity of results. UL LLC is only responsible for the validity of results after the integration of the data provided by the customer.

Below is a list of the data/info provided by the customer:

- 1) Antenna gain and type (see section 6.3)
- 2) Worst-case data rates (see section 6.5)

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment	See Comment	Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 12.2.
See Comment	RSS-GEN 6.7	26dB BW/99% OBW	Reporting purposes only	Per ANSI C63.10 Sections 6.9.2 and 6.9.3
15.407 (e)	RSS-247 7.3.4.2	6 dB BW	Compliant	None
15.407 (a) (1-3), (h) (1)	RSS-247 7.3.1.2, 7.3.2.2, 7.3.3.2, 7.3.4.3	Output Power		
15.407 (a) (1-3)	RSS-247 7.3.1.2, 7.3.2.2, 7.3.3.2, 7.3.4.3	PSD		
15.209, 15.205, 15.407 (b)	RSS-GEN 8.9, 8.10, RSS-247 7.3.1.3, 7.3.2.3, 7.3.3.3, 7.3.4.4	Radiated Emissions		
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with;

- FCC 47 CFR Part 2
- FCC 47 CFR Part 15
- FCC KDB 662911 D01 v02r01
- FCC KDB 789033 D02 v02r01
- FCC KDB 414788 D01 Radiated Test Site v01r01
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- RSS-GEN Issue 5 + A1 + A2
- RSS-247 Issue 4

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building: 12 Laboratory Dr Durham, NC 27713, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{Lab}
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Mains Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Wireless Amplifier that transmits BLE, 2.4GHz WLAN, and 5GHz WLAN. This report covers testing on 5GHz WLAN.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.2GHz Band, 2Tx			
5180-5240	802.11a	14.87	30.69
5180-5240	802.11n HT20	15.28	33.73
5190-5230	802.11n HT40	12.88	19.41
5210	802.11ac VHT80	14.18	26.18
5180-5240	802.11ax HE20	15.05	31.99
5190-5230	802.11ax HE40	16.46	44.26
5210	802.11ax HE80	15.57	36.06
5.3GHz Band, 2Tx			
5260-5320	802.11a	13.64	23.12
5260-5320	802.11n HT20	13.66	23.23
5270-5310	802.11n HT40	16.55	45.19
5290	802.11ac VHT80	14.32	27.04
5260-5320	802.11ax HE20	14.78	30.06
5270-5310	802.11ax HE40	16.59	45.60
5290	802.11ax HE80	14.66	29.24

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.6GHz Band, 2Tx			
5500-5700	802.11a	17.74	59.43
5500-5700	802.11n HT20	17.12	51.52
5510-5670	802.11n HT40	18.06	63.90
5530-5610	802.11ac VHT80	20.64	115.88
5500-5700	802.11ax HE20	18.88	77.27
5510-5670	802.11ax HE40	18.93	78.16
5530-5610	802.11ax HE80	19.92	98.17
5.8GHz Band, 2Tx			
5745-5825	802.11a	19.70	93.33
5745-5825	802.11n HT20	22.64	183.65
5755-5795	802.11n HT40	22.70	186.21
5775	802.11ac VHT80	21.82	152.05
5745-5825	802.11ax HE20	22.87	193.64
5755-5795	802.11ax HE40	23.02	200.45
5775	802.11ax HE80	19.83	96.16

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes four antennas for diversity. Chain 0 connects to ANT 1 and ANT 2, while Chain 1 connects to ANT 3 and ANT 4. According to the manufacturer, the combination of ANT 2 and ANT 4 represents the worst-case scenario in terms of antenna gain, as detailed below.

Mode	Type	Declared Correlated Gain (dBi)	Declared Uncorrelated Gain (dBi)
UNII-1	Triband Monopole	6.0	2.3
UNII-2a		5.5	1.6
UNII-2c		5.4	1.6
UNII-3		5.8	2.0

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 91.0-45210-diag-pallas-rel-202505220206.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emissions were performed with the EUT set to transmit at the channel with highest pre-tuned output power as worst-case scenario.

Band edge and radiated spurious emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle (spurious emissions only) and high channels. Radiated spurious emissions performed on the modes with the highest power and PSD.

The EUT is intended to operate in only one orientation, therefore, all final radiated testing was performed with the EUT in this intended orientation of operation.

All testing performed in 2TX mode (NSS=1), where power per chain is equivalent to the 1Tx power on each chain. Based on preliminary testing, this allows 2TX testing to cover all 1Tx testing.

Worst-case data rates as provided by the client were:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0
802.11ac VHT80 mode: MCS0
802.11ax HE20mode: MCS0 (Nss = 1)
802.11ax HE40mode: MCS0 (Nss = 1)
802.11ax HE80mode: MCS0 (Nss = 1)

Note: Where appropriate only representative plots are included to reduce report size.

With the exception of power, all conducted testing was performed at highest pre-tuned mid channel power per mode.

Additional radiated spurious emissions scans were added where harmonics necessitated power tuning.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	T14s	PC2E1WMJ	NA
Laptop	Lenovo	T450s	PC06YXZG	NA
Speakers	Scosche	HD4004SD	PEA12112	NA

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Mains	1	Hardwired	Non-shielded	<3m	Mains
2	Ethernet	1	Ethernet	Non-Shielded	>3m	Connected to ENET switch
3	USB C	1	USB C	Non-Shielded	<3m	Connected to laptop
4	RCA	3	RCA-3.5mm	Non-Shielded	<3m	Connected to laptop
5	Speaker	8	Proprietary	Non-Shielded	<3m	Connected to speaker

TEST SETUP

The EUT is connected to a test laptop during the tests.

SETUP DIAGRAM

Please refer to R15500557-EP1 for setup diagrams

7. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 789033 D02 v02r01, Section B.

6 dB Emission BW: KDB 789033 D02 v02r01, Section C.2

26 dB Emission BW: KDB 789033 D02 v02r01, Section C.1

Conducted Output Power: KDB 789033 D02 v02r01, Section E.3.b (Method PM-G)

Power Spectral Density: KDB 789033 D02 v02r01, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, and G.5.

AC Power Line Conducted Emissions: ANSI C63.10-2020, Section 6.2.

Radiated Spurious Emissions: ANSI C63.10-2020 Section 6.3 to 6.6

8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
1-18 GHz					
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-04-09	2026-04-09
18-40 GHz					
91186	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2024-05-16	2026-05-16
91187	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2024-05-17	2026-05-17
Gain-Loss Chains					
207640	Gain-loss string: 1-18GHz	Various	Various	2025-06-13	2026-06-13
225795	Gain-loss string: 18-40GHz	Various	Various	2025-06-13	2026-06-13
Receiver & Software					
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-04-21	2026-04-21
90411	Spectrum Analyzer	Keysight	N9030A	2025-07-30	2026-07-30
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241204	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
1-18 GHz					
88761	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-10-05	2025-10-05
Gain-Loss Chains					
91977	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
Receiver & Software					
206496	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-07-29	2026-07-29
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
239540	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05

Note: All equipment was within calibration at time of test.

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-10-02	2025-10-31
30-1000 MHz					
90629	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-30	2026-01-30
1-18 GHz					
135143	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-02-07	2026-02-07
Gain-Loss Chains					
91974	Gain-loss string: 0.009-30MHz	Various	Various	2025-05-31	2026-05-31
91976	Gain-loss string: 25-1000MHz	Various	Various	2025-05-31	2026-05-31
91979	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-05-12	2026-05-12
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
241205	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
90410	Spectrum Analyzer MY54410168	Keysight Technologies	N9030A	2025-07-10	2026-07-10
211055	Real-Time Peak Power Sensor 50MHz to 8GHz 12002	Boonton	RTP5000	2025-07-30	2026-07-30
211056	Real-Time Peak Power Sensor 50MHz to 8GHz 12001	Boonton	RTP5000	2025-07-30	2026-07-30
248881	Environmental Meter 240303668	Control Company	06-662-4	2024-04-10	2026-04-10
226566	2.92mm Coaxial 10dB Attenuator 40GHz	Fairview Microwave	SA4014-10	2025-08-30	2026-08-30
SOFTEMI	Antenna Port Software	UL	Version 2024.2.23		
Power Software	Boonton Power Analyzer	Boonton	Version 3.0.13.0		

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2025-04-17	2026-04-17
179892	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2026-08-05
91432	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2025-07-30	2026-07-30
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2025-07-30	2026-07-30
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2025-07-30	2026-07-30
694826	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

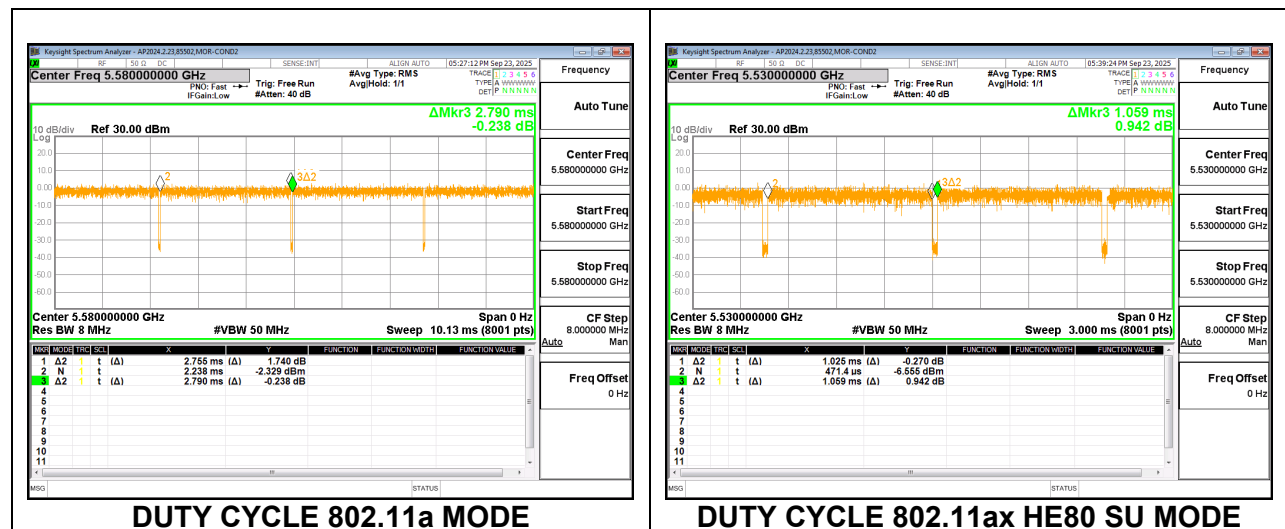
LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 D01 Zero-Span Spectrum Analyzer Method.

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Voltage AV DCCF (dB)	RMS AV DCCF (dB)
802.11a CDD	2.755	2.790	0.987	98.75	0.00	0.00
802.11n HT20 CDD	5.082	5.117	0.993	99.32	0.00	0.00
802.11n HT40 CDD	2.467	2.503	0.986	98.56	0.00	0.00
802.11ac VHT80 CDD	1.163	1.199	0.970	97.00	0.26	0.13
802.11ax EHT20 26T	0.580	0.615	0.943	94.28	0.51	0.26
802.11ax EHT20 52T	0.493	0.532	0.928	92.80	0.65	0.32
802.11ax EHT20 106T	0.436	0.472	0.924	92.43	0.68	0.34
802.11ax EHT20 242T	0.376	0.412	0.913	91.25	0.79	0.40
802.11ax EHT20 SU	4.097	4.133	0.991	99.13	0.00	0.00
802.11ax EHT40 484T	0.368	0.402	0.914	91.43	0.78	0.39
802.11ax EHT40 SU	2.077	2.114	0.982	98.25	0.00	0.00
802.11ax EHT80 996T	0.344	0.379	0.908	90.76	0.84	0.42
802.11ax EHT80 SU	1.025	1.059	0.968	96.79	0.28	0.14



9.2. 26 dB BANDWIDTH

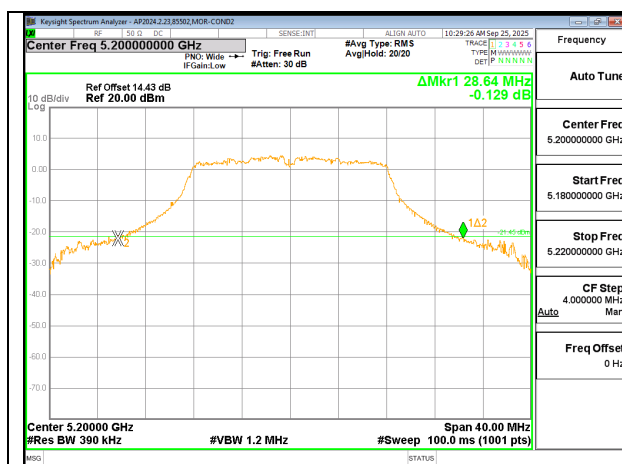
LIMITS

None; for reporting purposes only.

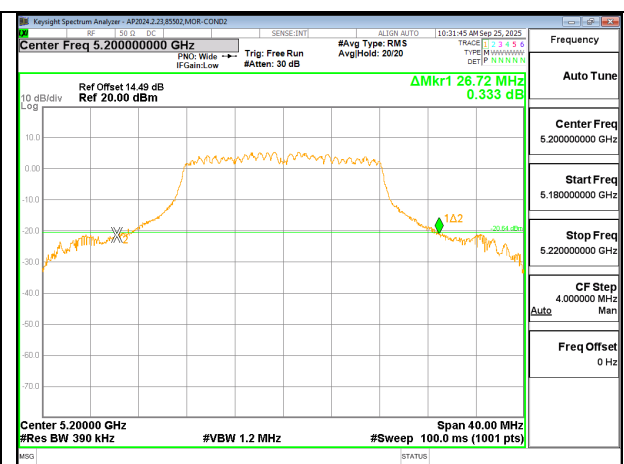
9.2.1. 802.11a MODE IN THE 5.2 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	29.00	25.48
Mid	5200	28.64	26.72
High	5240	27.76	25.32



CHAIN 0

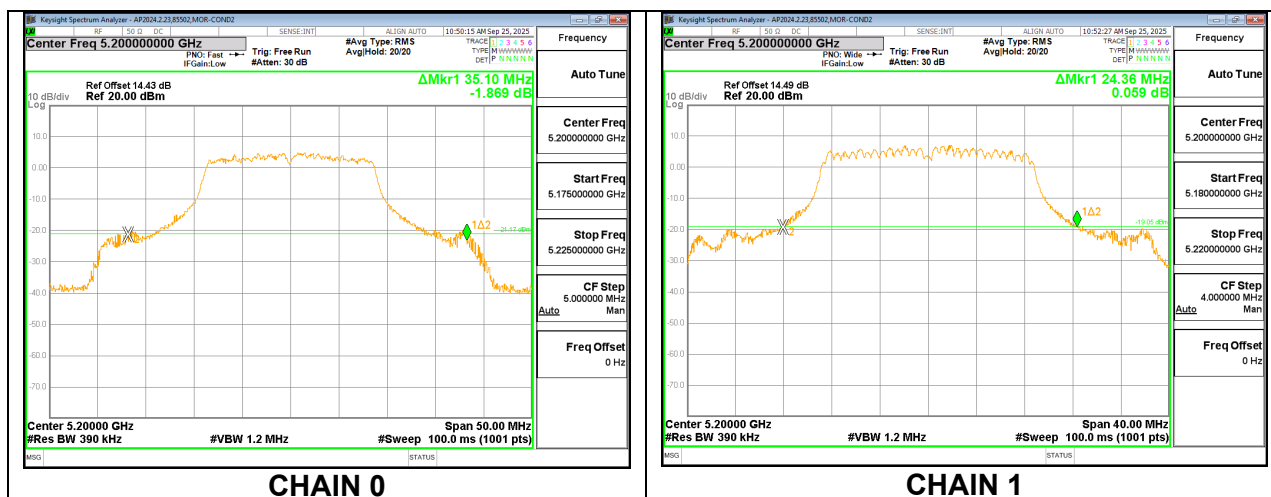


CHAIN 1

9.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

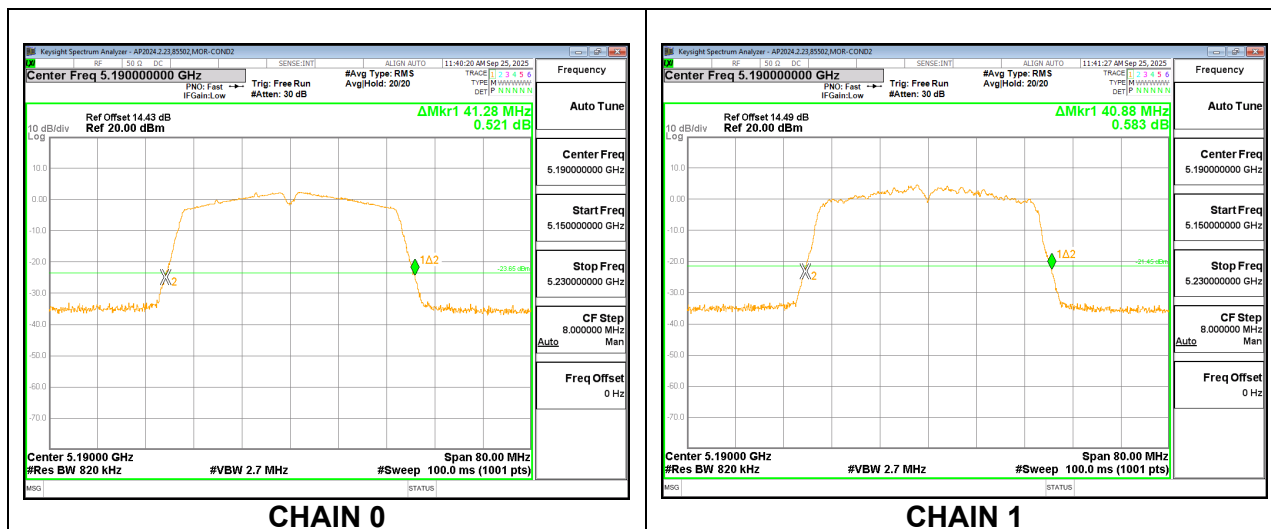
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	34.95	24.36
Mid	5200	35.10	24.36
High	5240	28.68	24.48



9.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

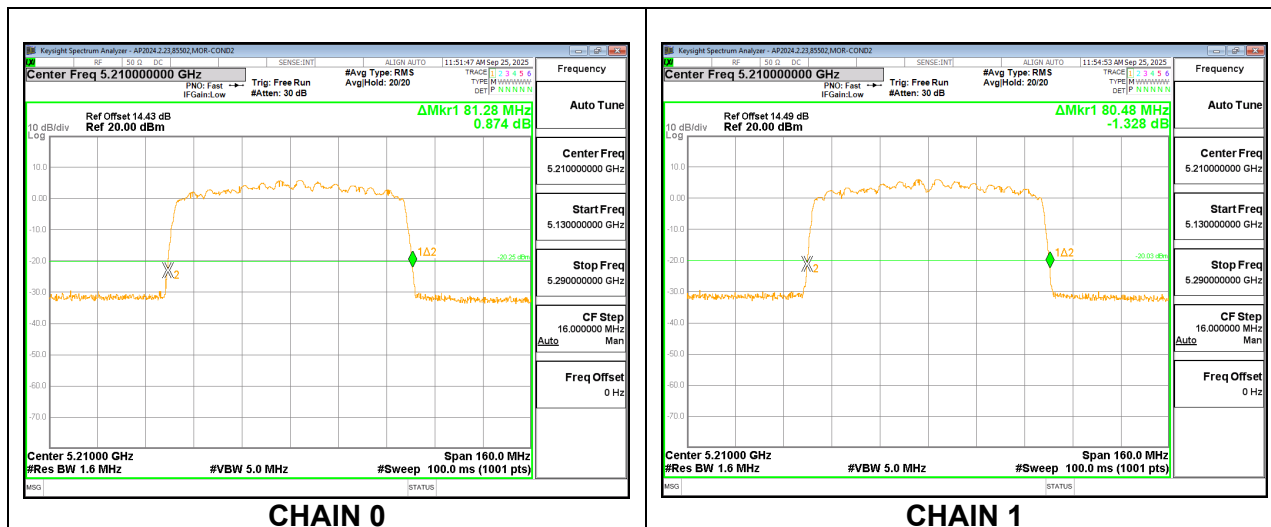
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5190	41.28	40.88
High	5230	41.12	40.88



9.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

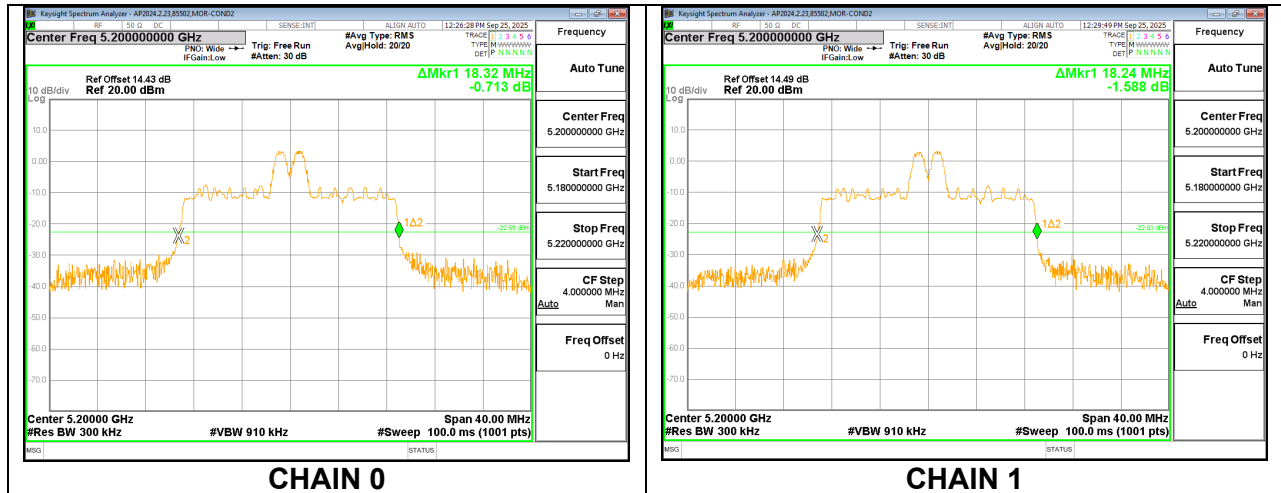
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5210	81.28	80.48



9.2.5. 802.11ax HE20 MODE IN THE 5.2 GHz BAND

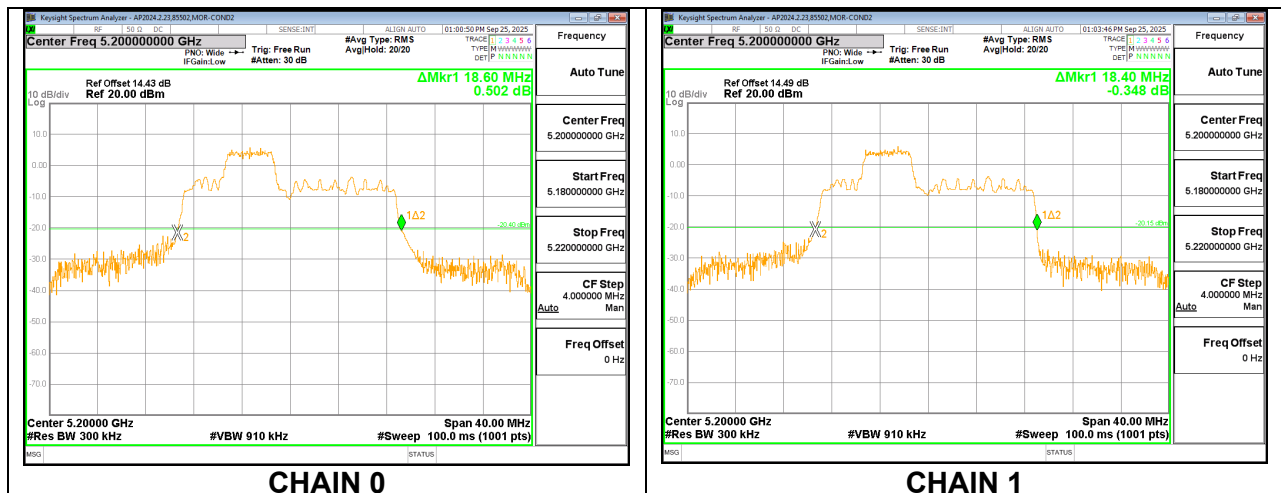
2TX CHAIN 0 + CHAIN 1 CDD MODE: 26T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	20.72	20.60
Mid	5200	18.32	18.24
High	5240	21.04	20.64



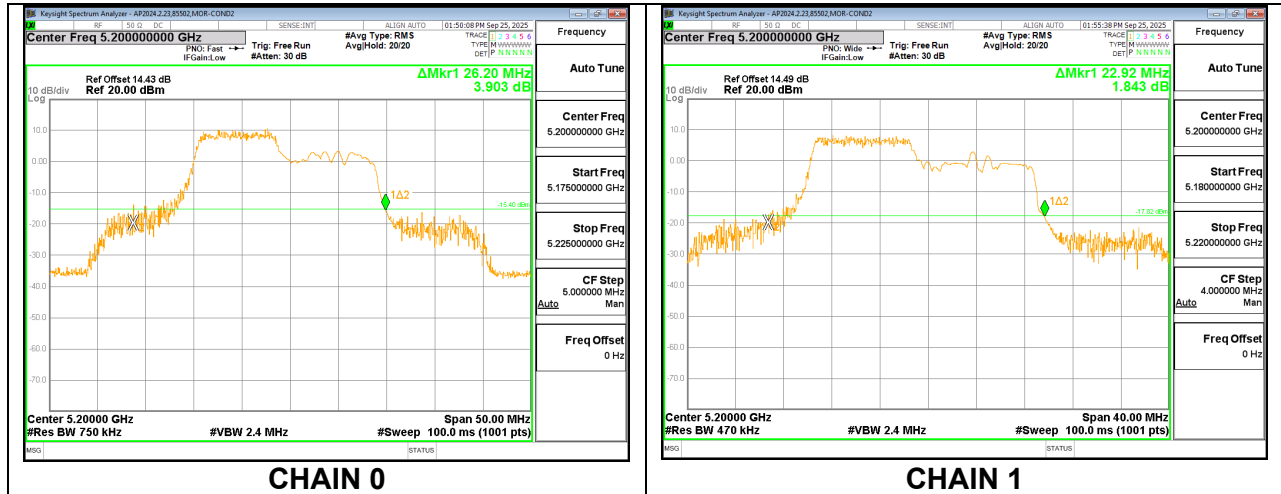
2TX CHAIN 0 + CHAIN 1 CDD MODE: 52T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	20.32	20.64
Mid	5200	18.60	18.40
High	5240	20.84	20.48



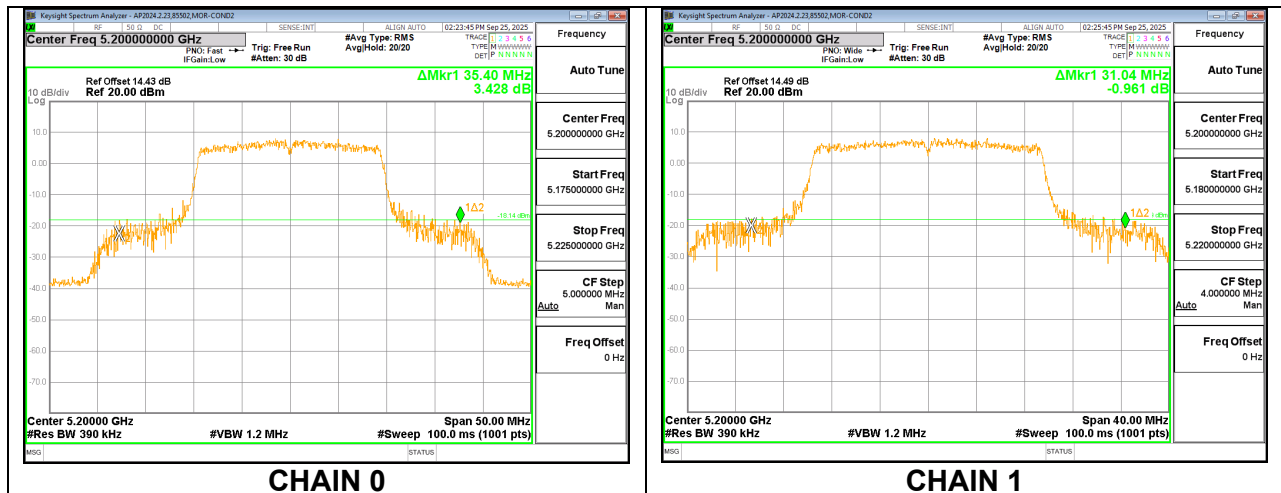
2TX CHAIN 0 + CHAIN 1 CDD MODE: 106T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	24.72	23.40
Mid	5200	26.20	22.92
High	5240	26.30	25.88



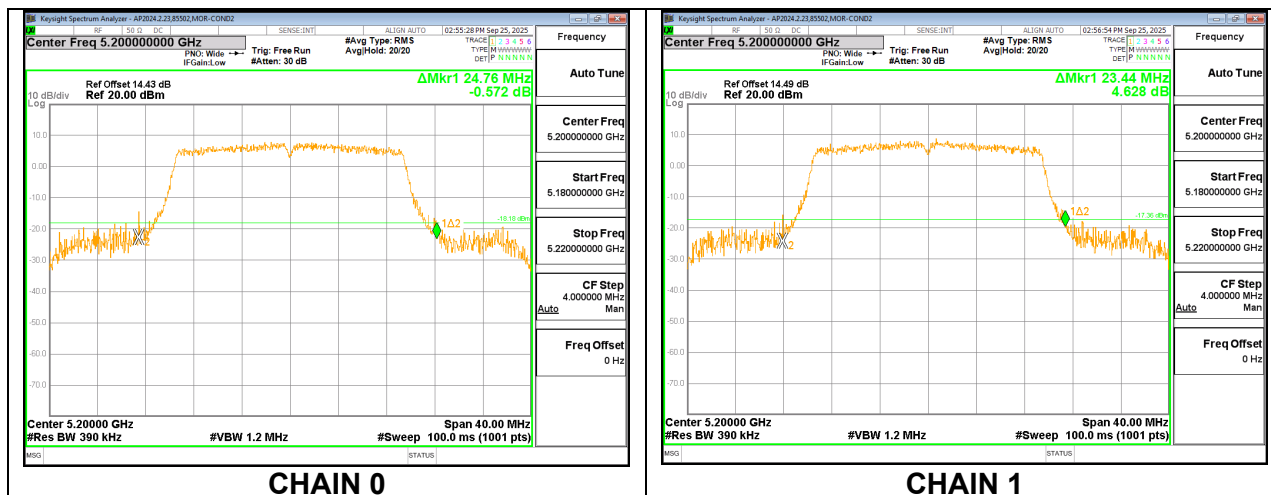
2TX CHAIN 0 + CHAIN 1 CDD MODE: 242T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	30.64	29.24
Mid	5200	35.40	31.04
High	5240	25.72	29.48



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

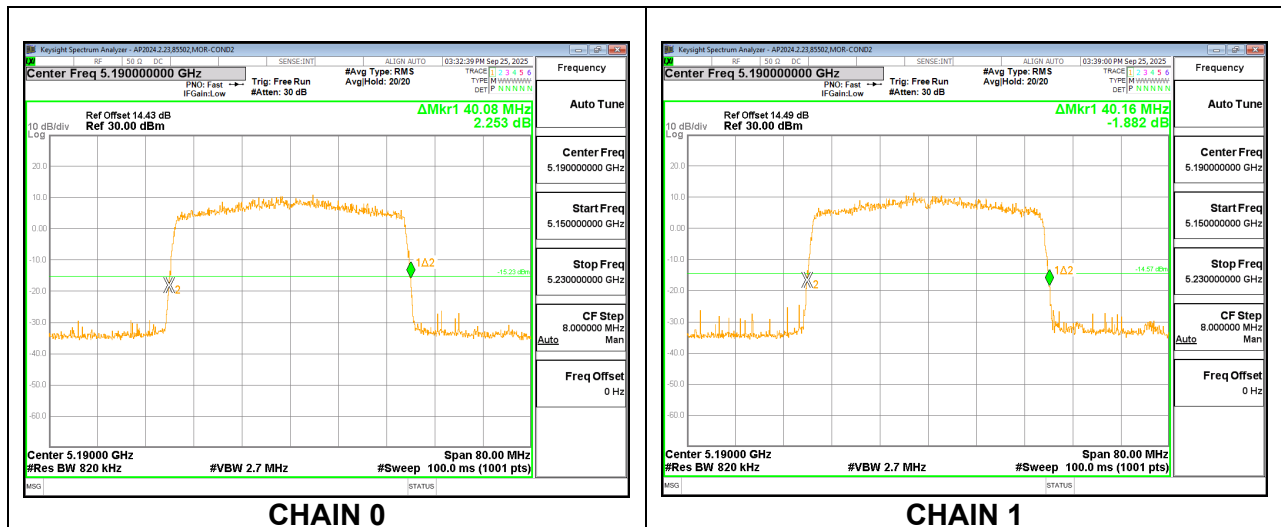
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5180	25.32	24.20
Mid	5200	24.76	23.44
High	5240	24.84	23.60



9.2.6. 802.11ax HE40 MODE IN THE 5.2 GHz BAND

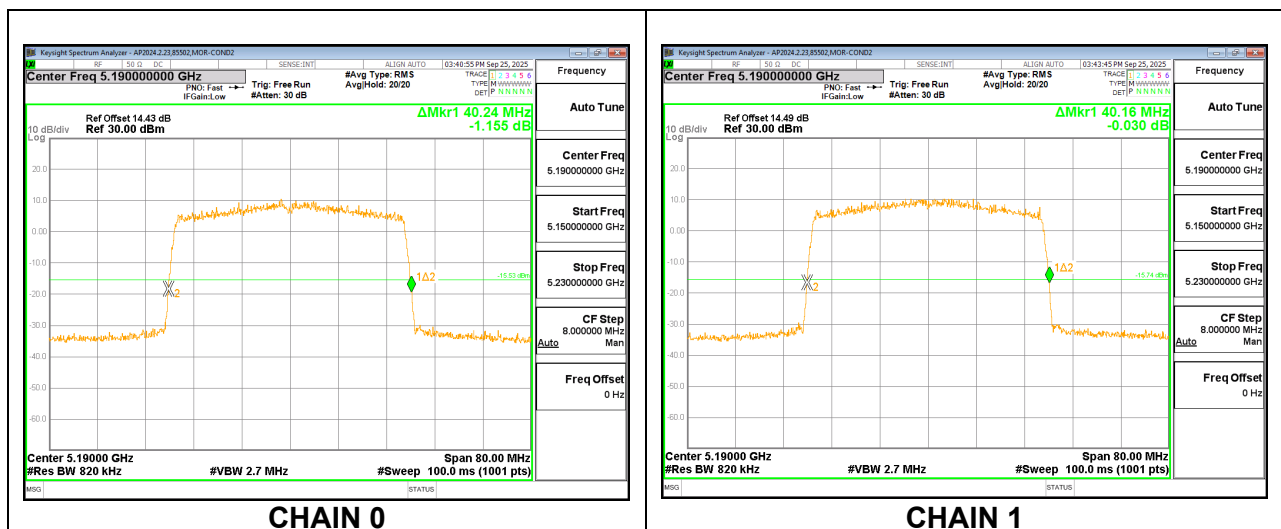
2TX CHAIN 0 + CHAIN 1 CDD MODE: 484T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5190	40.08	40.16
High	5230	40.08	40.08



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

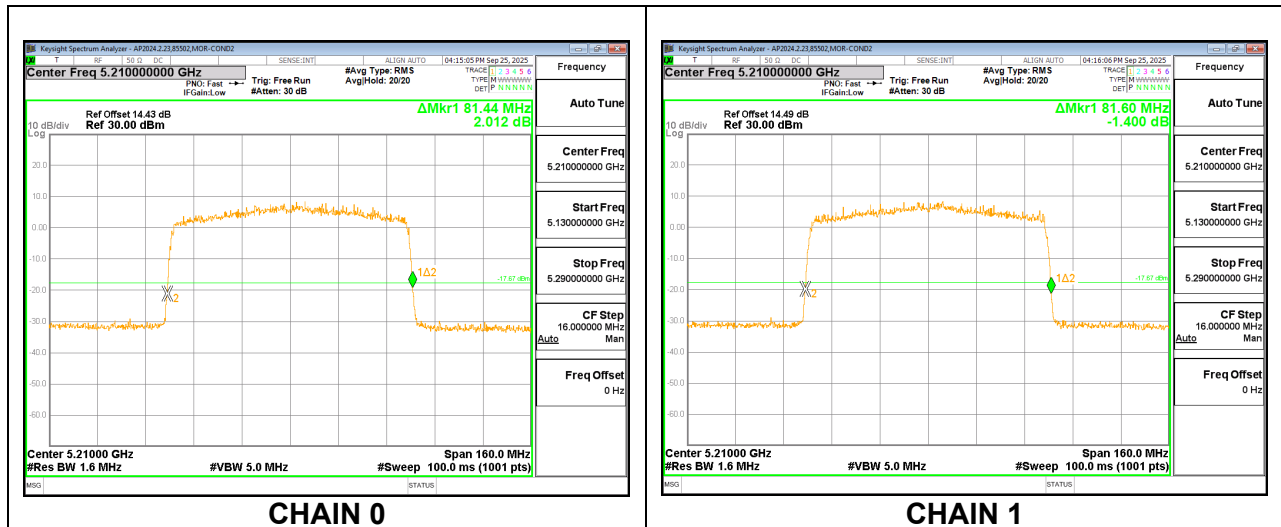
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5190	40.24	40.16
High	5230	40.24	40.16



9.2.7. 802.11ax HE80 MODE IN THE 5.2 GHz BAND

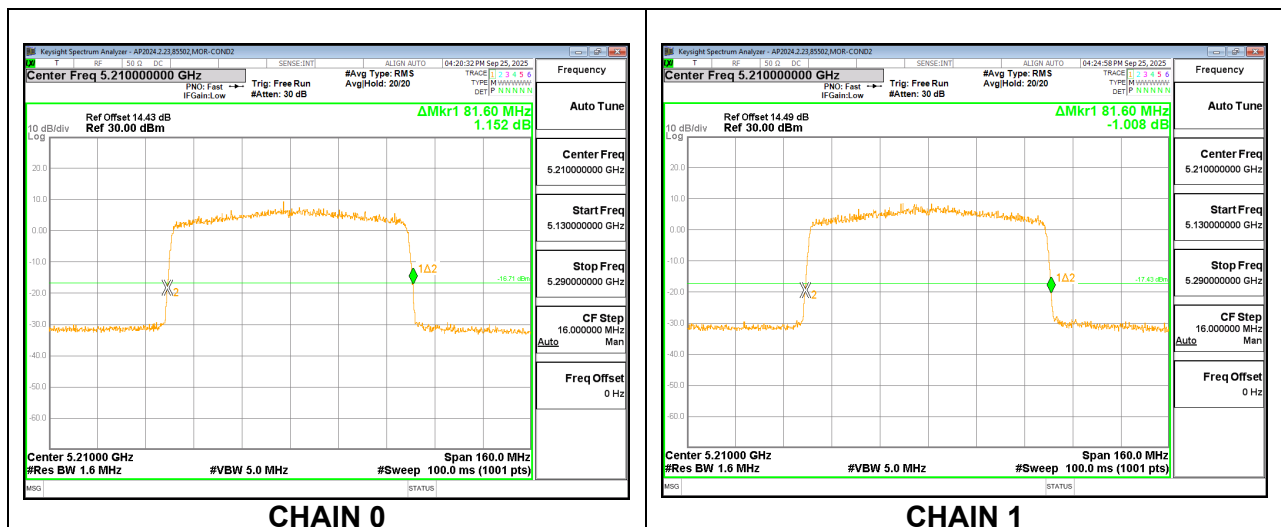
2TX CHAIN 0 + CHAIN 1 CDD MODE: 996T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5210	81.44	81.60



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

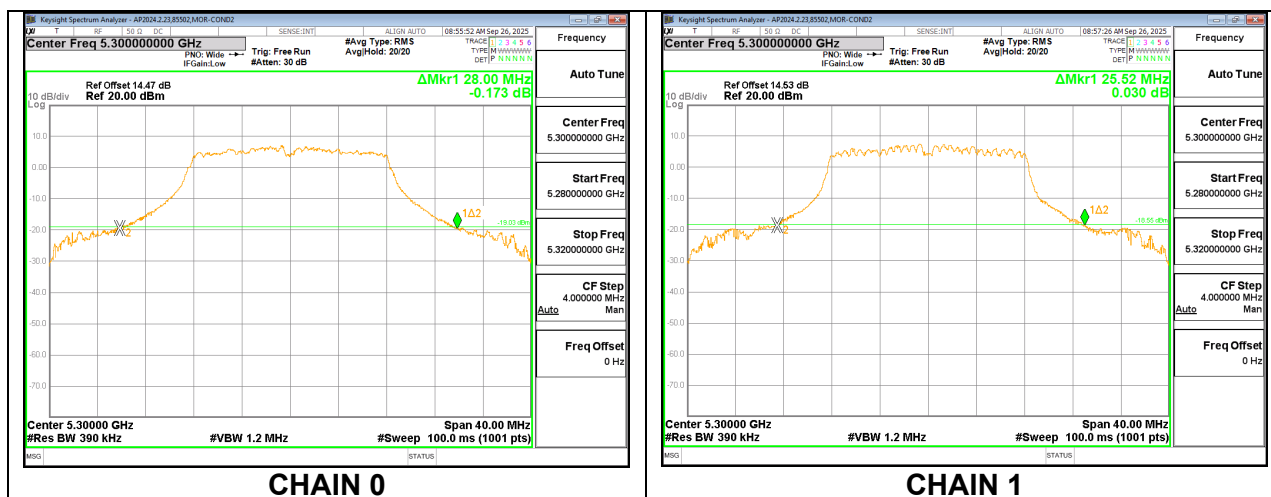
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5210	81.60	81.60



9.2.8. 802.11a MODE IN THE 5.3 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

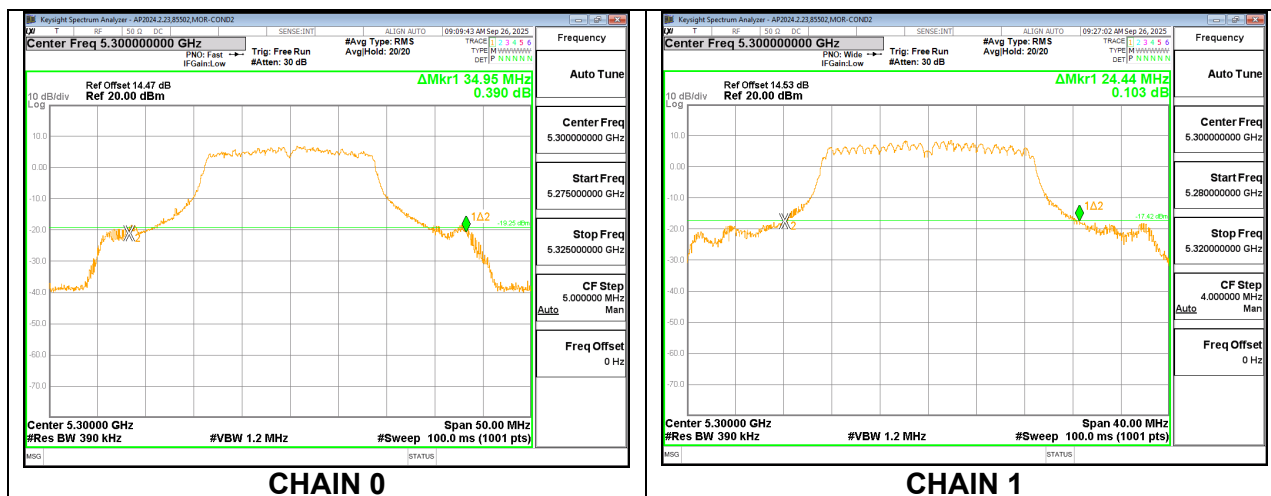
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	28.24	25.56
Mid	5300	28.00	25.52
High	5320	28.44	25.68



9.2.9. 802.11n HT20 MODE IN THE 5.3 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

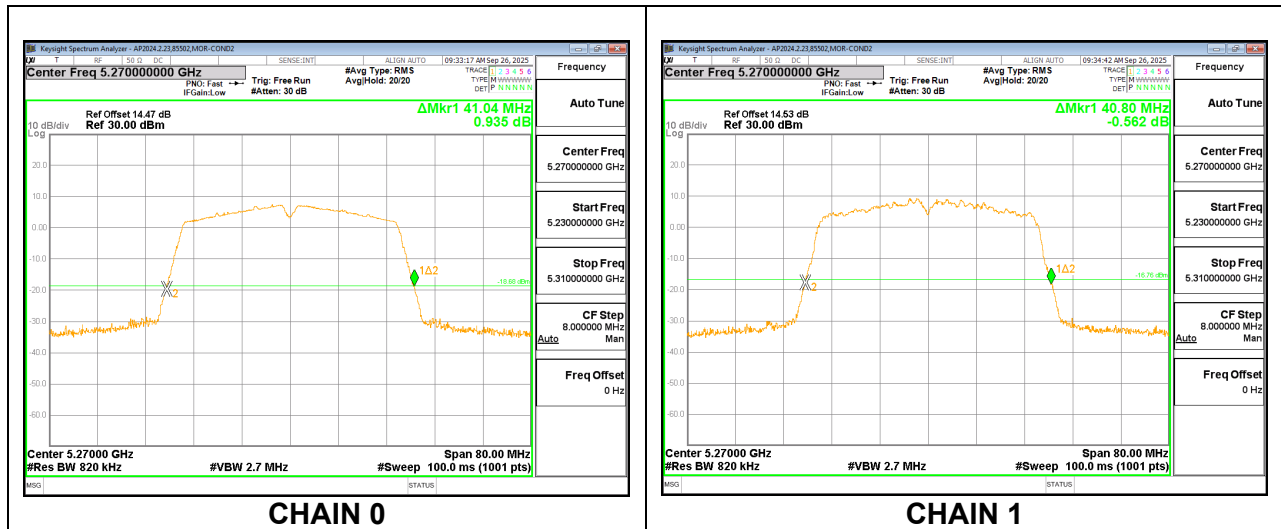
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	29.00	24.32
Mid	5300	34.95	24.44
High	5320	35.15	24.32



9.2.10. 802.11n HT40 MODE IN THE 5.3 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

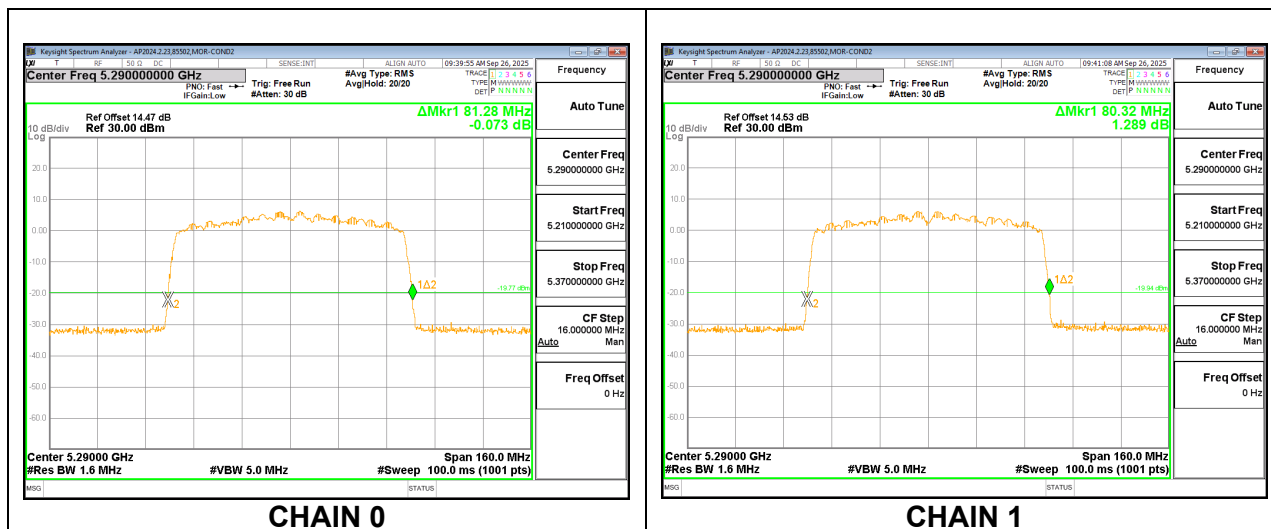
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5270	41.04	40.80
High	5310	41.12	40.56



9.2.11. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

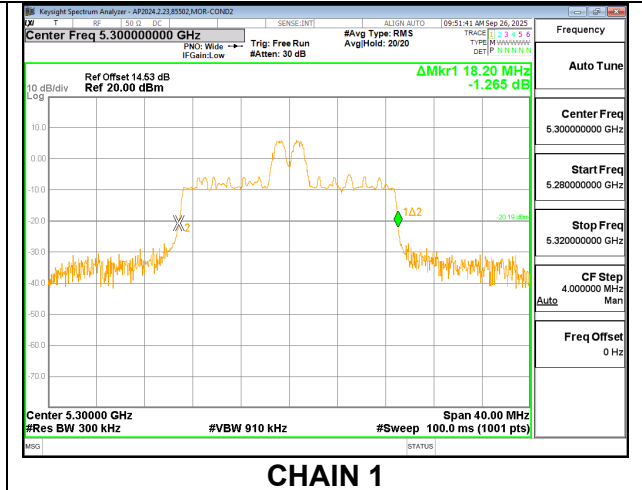
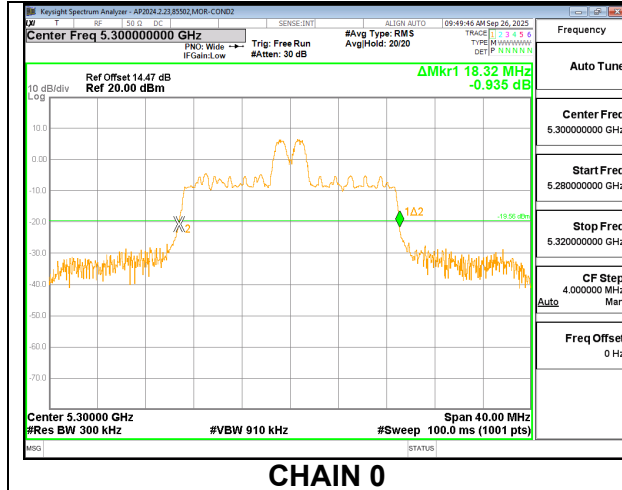
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5290	81.28	80.32



9.2.12. 802.11ax HE20 MODE IN THE 5.3GHz BAND

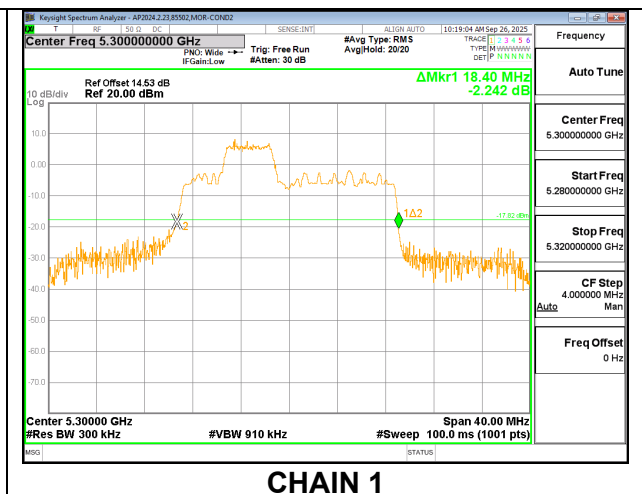
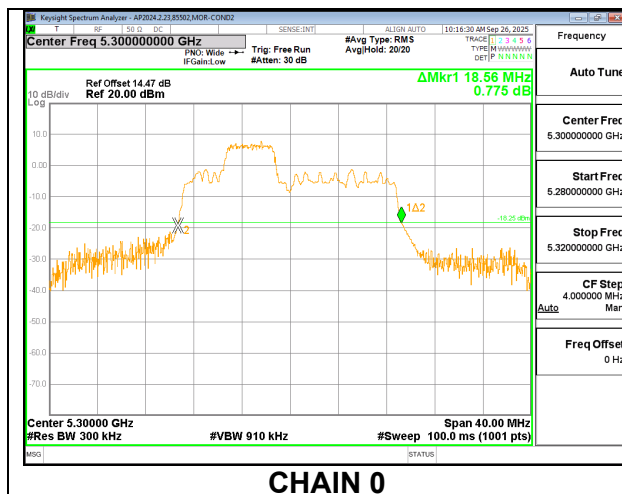
2TX CHAIN 0 + CHAIN 1 CDD MODE: 26T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	20.56	20.64
Mid	5300	18.32	18.20
High	5320	21.20	20.68



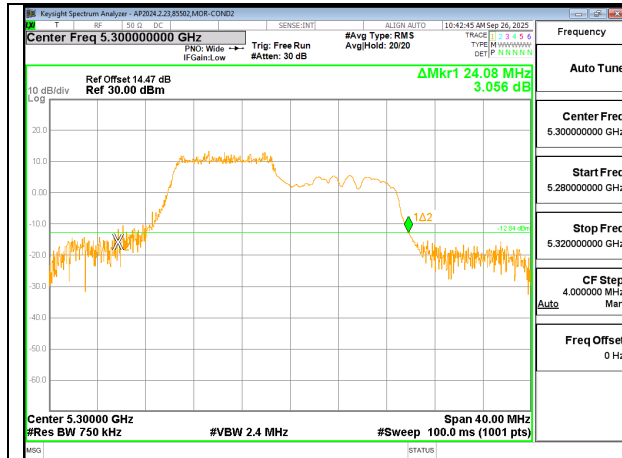
2TX CHAIN 0 + CHAIN 1 CDD MODE: 52T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	20.56	20.48
Mid	5300	18.56	18.40
High	5320	20.92	21.24

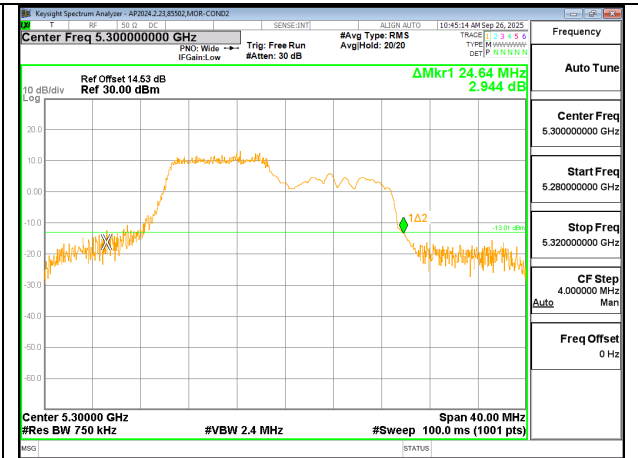


2TX CHAIN 0 + CHAIN 1 CDD MODE: 106T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	23.48	23.80
Mid	5300	24.08	24.64
High	5320	25.28	23.96



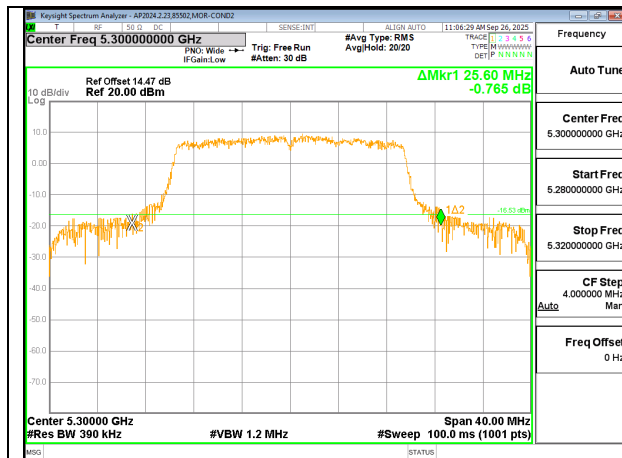
CHAIN 0



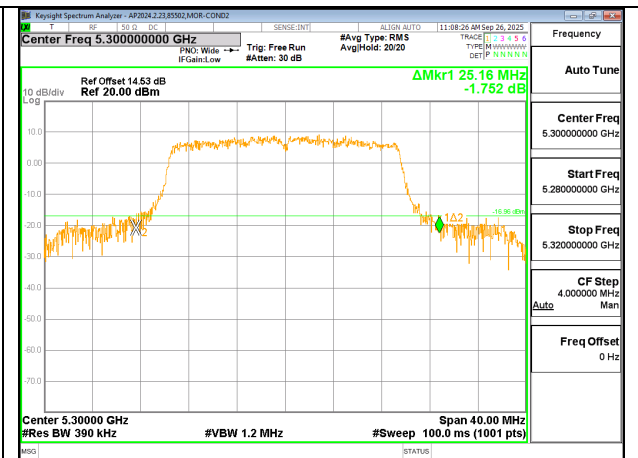
CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: 242T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	24.96	27.72
Mid	5300	25.60	25.16
High	5320	27.56	27.96



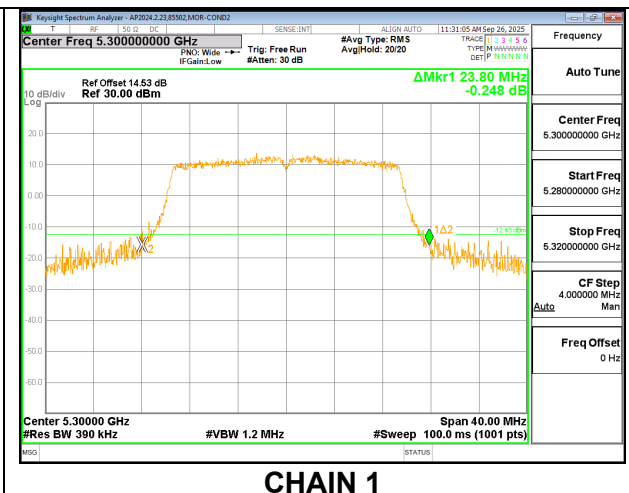
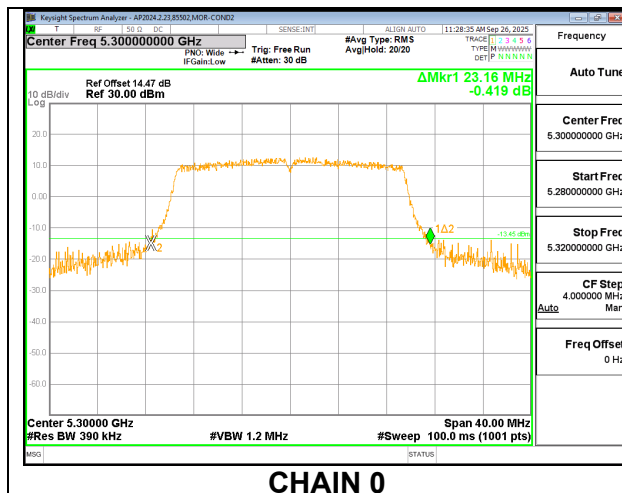
CHAIN 0



CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

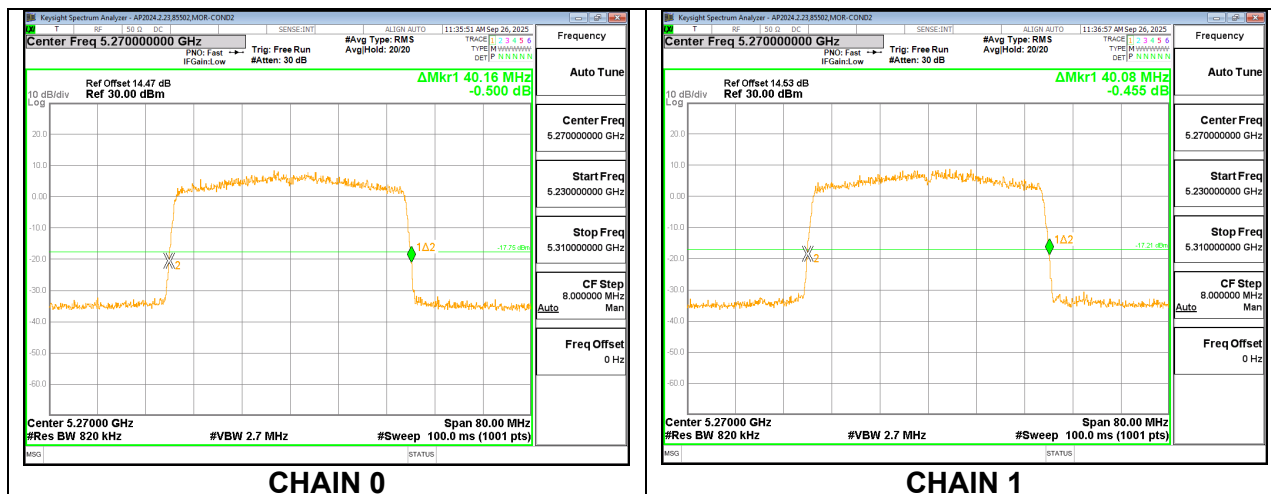
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5260	27.72	27.96
Mid	5300	23.16	23.80
High	5320	26.08	23.52



9.2.13. 802.11ax HE40 MODE IN THE 5.3GHz BAND

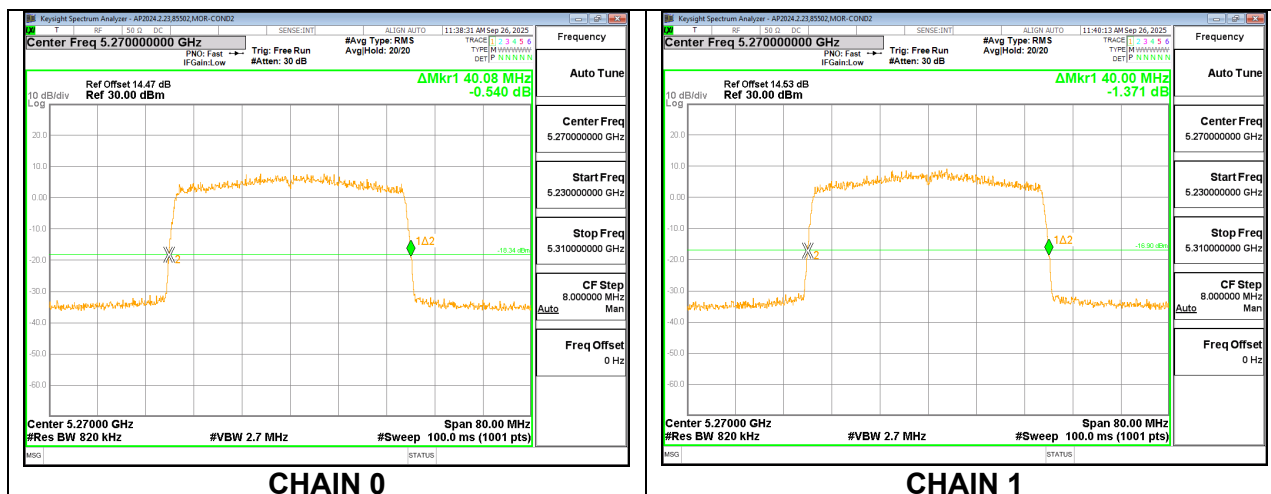
2TX CHAIN 0 + CHAIN 1 CDD MODE: 484T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5270	40.16	40.08
High	5310	40.00	40.00



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

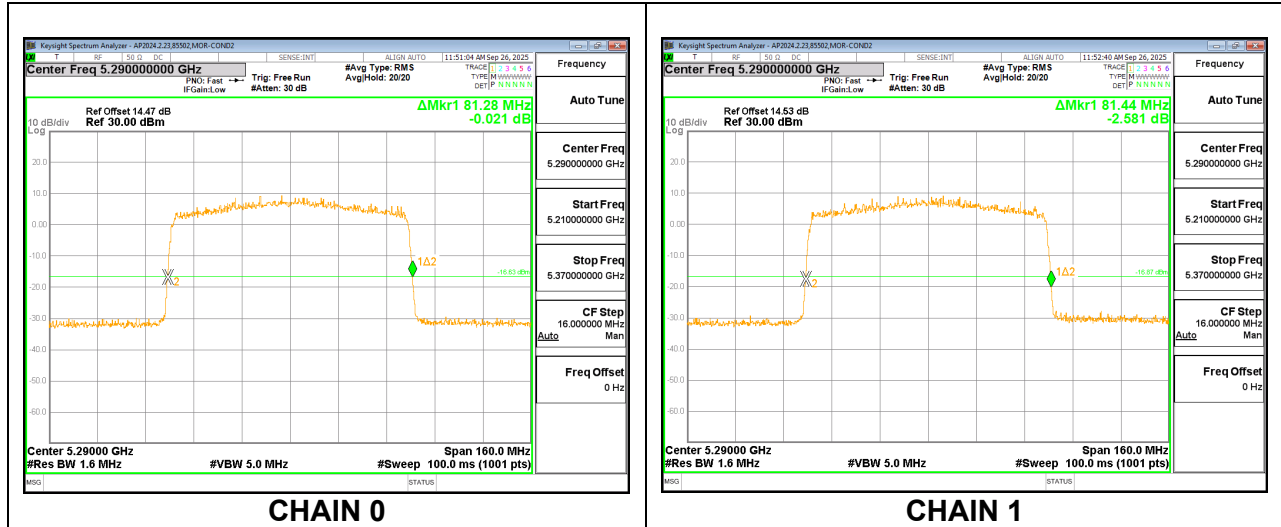
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5270	40.08	40.00
High	5310	40.16	39.92



9.2.14. 802.11ax HE80 MODE IN THE 5.3GHz BAND

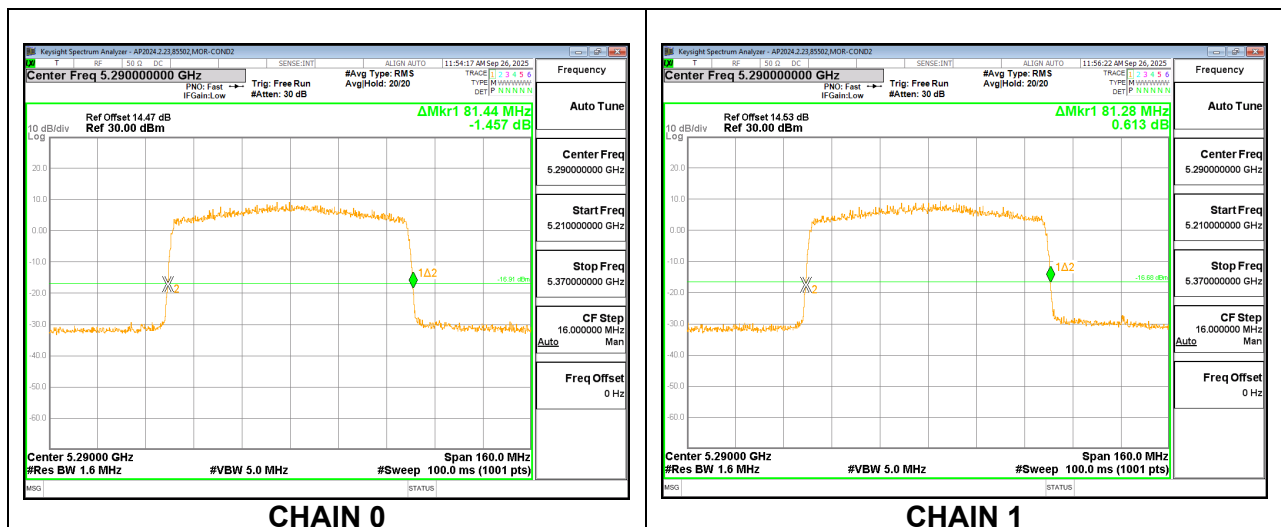
2TX CHAIN 0 + CHAIN 1 CDD MODE: 996T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5290	81.28	81.44



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

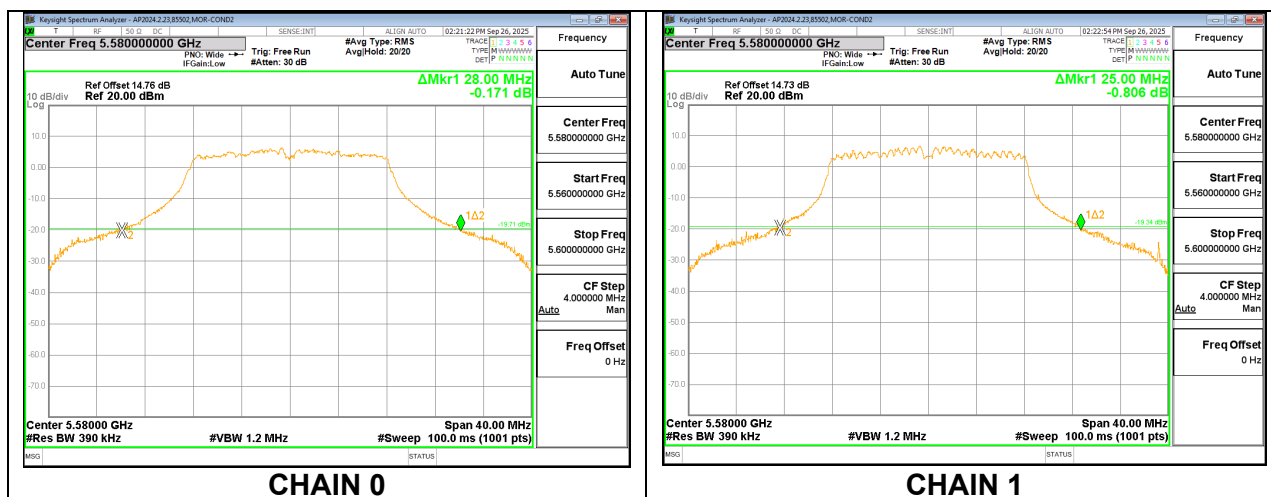
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Mid	5290	81.44	81.28



9.2.15. 802.11a MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

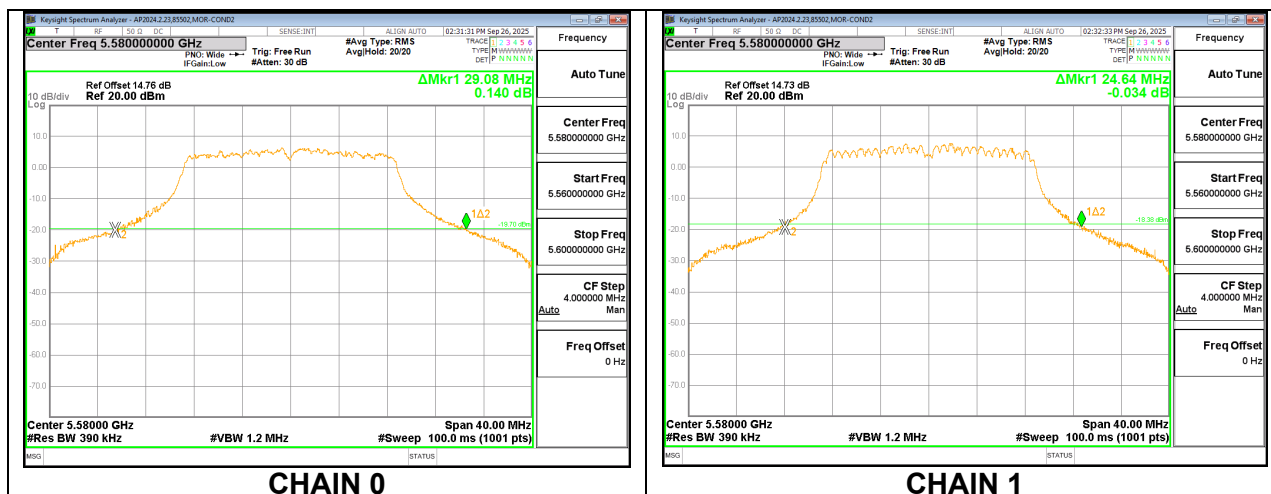
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	27.84	25.52
Mid	5580	28.00	25.00
High	5700	28.04	26.08



9.2.16. 802.11n HT20 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

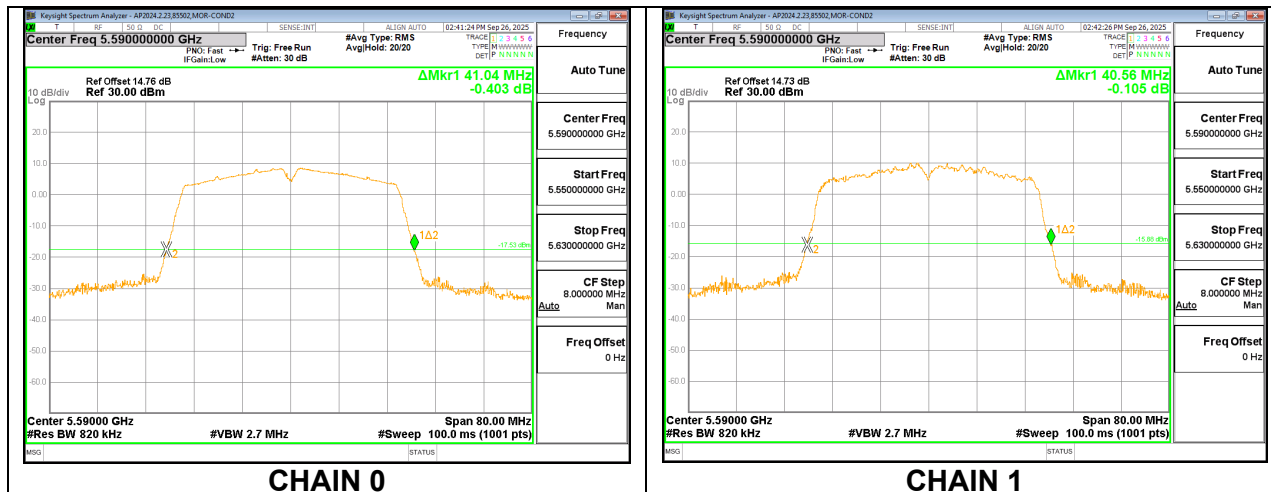
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	34.90	24.56
Mid	5580	29.08	24.64
High	5700	35.15	25.28



9.2.17. 802.11n HT40 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

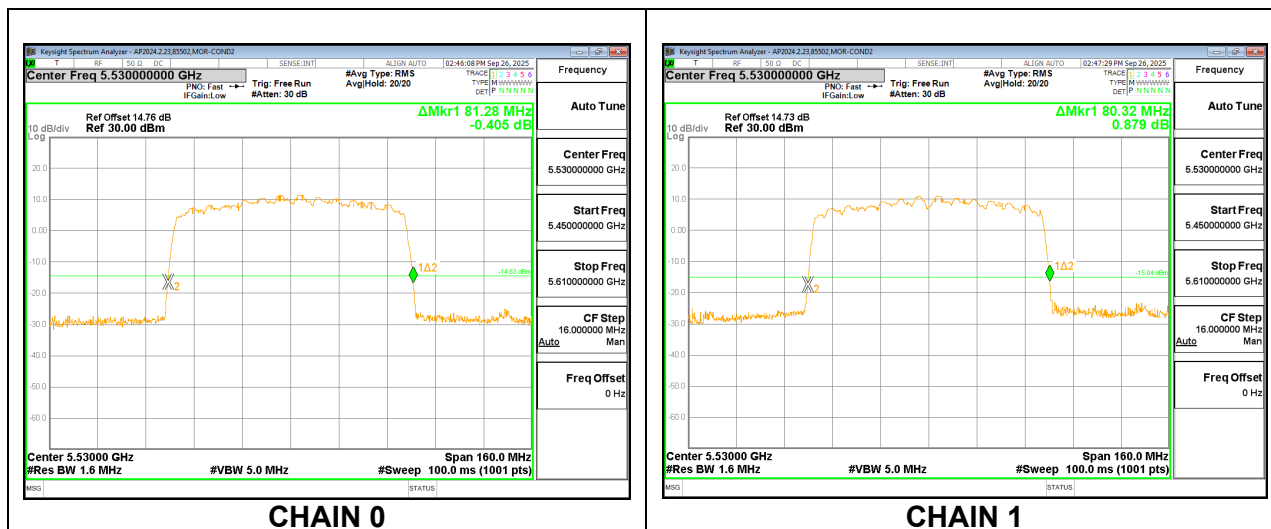
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5510	41.28	40.72
Middle	5590	41.04	40.56
High	5670	41.12	40.64



9.2.18. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

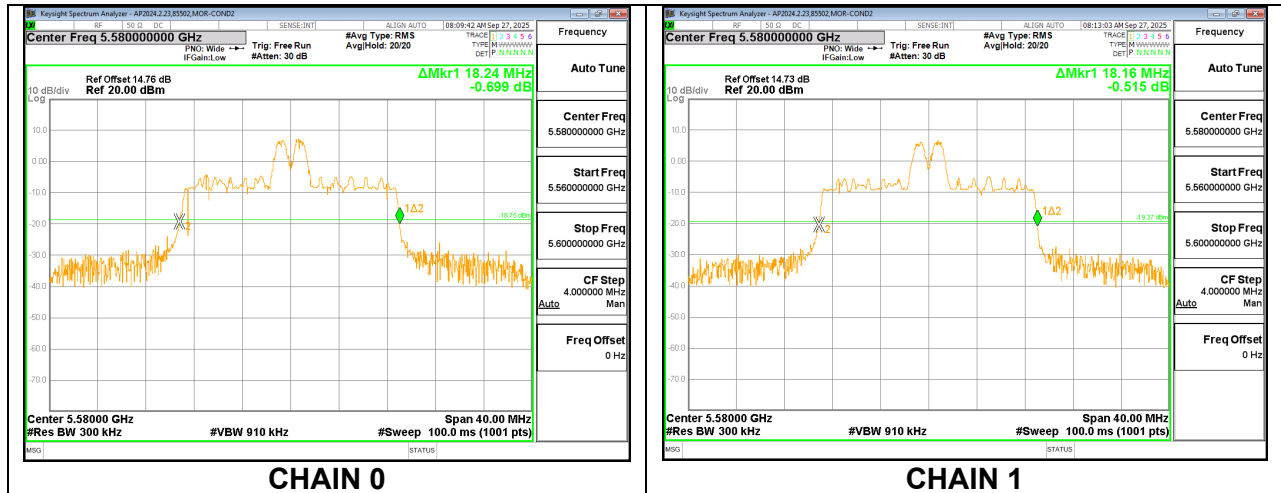
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5530	81.28	80.32
High	5610	81.12	80.32



9.2.19. 802.11ax HE20 MODE IN THE 5.6 GHz BAND

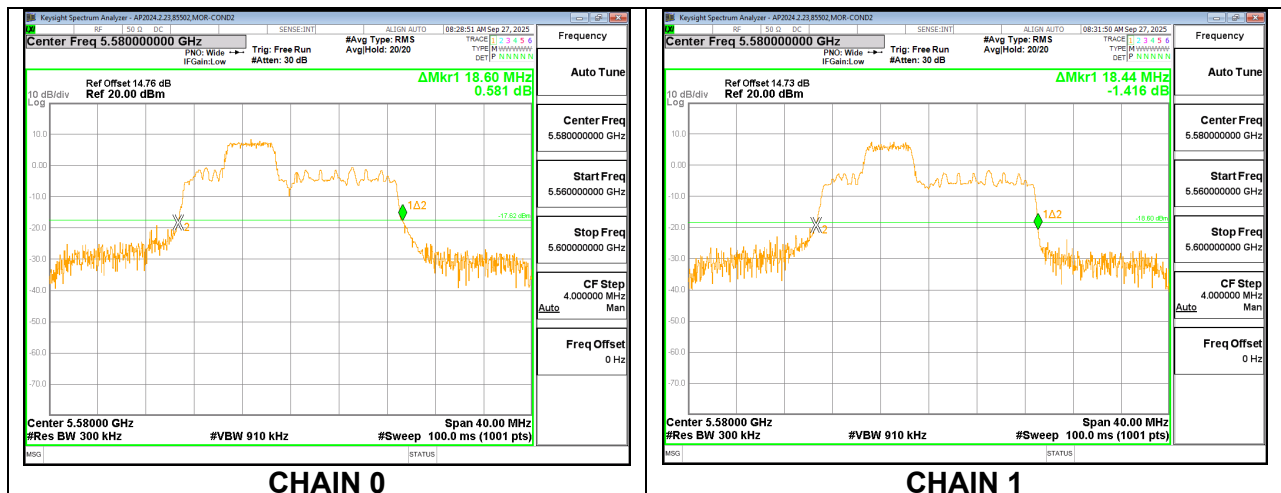
2TX CHAIN 0 + CHAIN 1 CDD MODE: 26T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	20.76	20.72
Mid	5580	18.24	18.16
High	5700	20.60	20.44



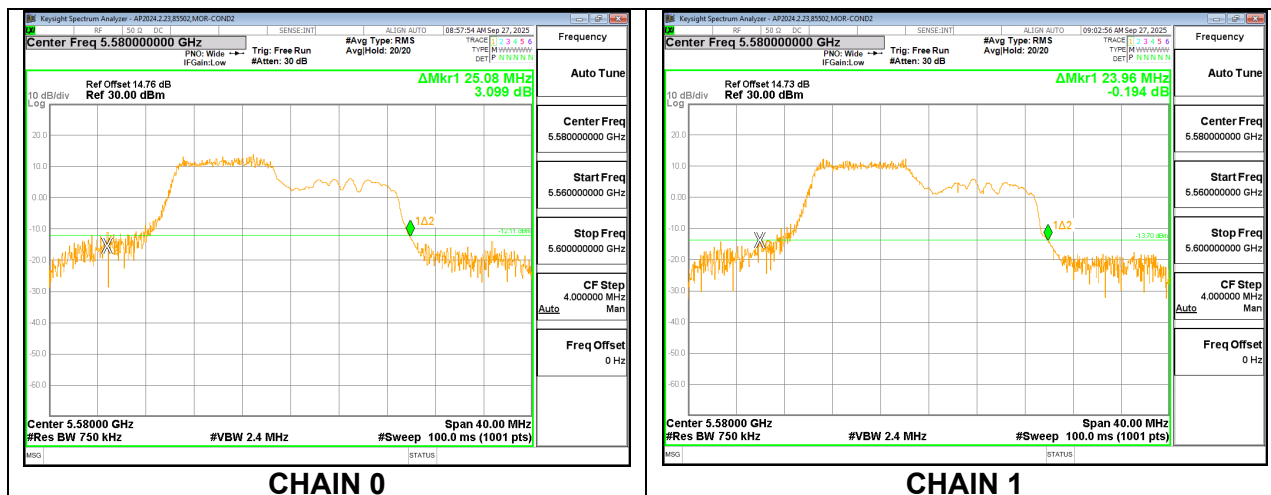
2TX CHAIN 0 + CHAIN 1 CDD MODE: 52T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	20.76	20.52
Mid	5580	18.60	18.44
High	5700	21.36	21.40



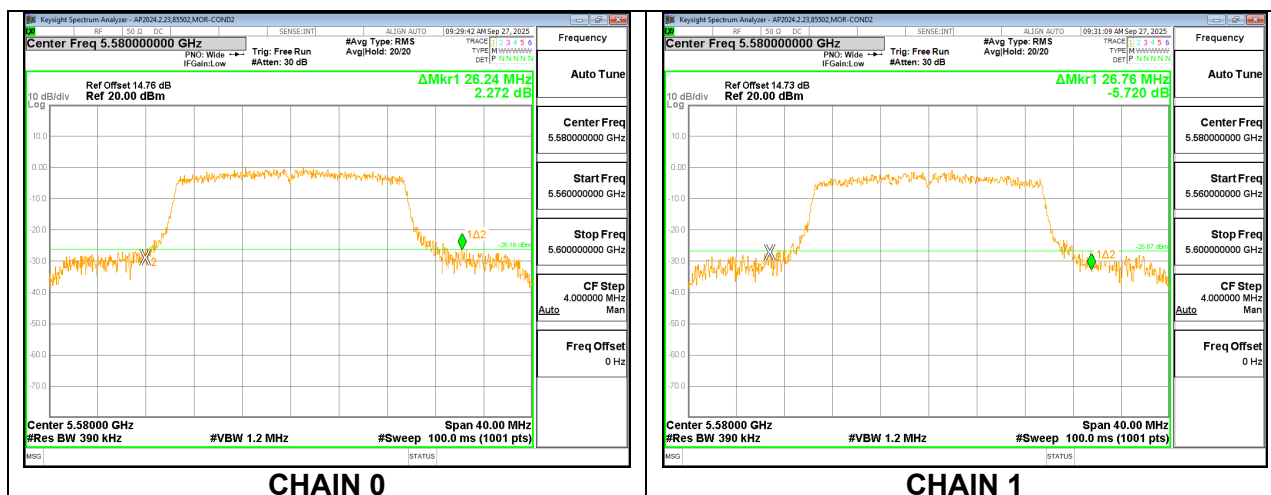
2TX CHAIN 0 + CHAIN 1 CDD MODE: 106T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	25.16	25.28
Mid	5580	25.08	23.96
High	5700	24.68	23.80



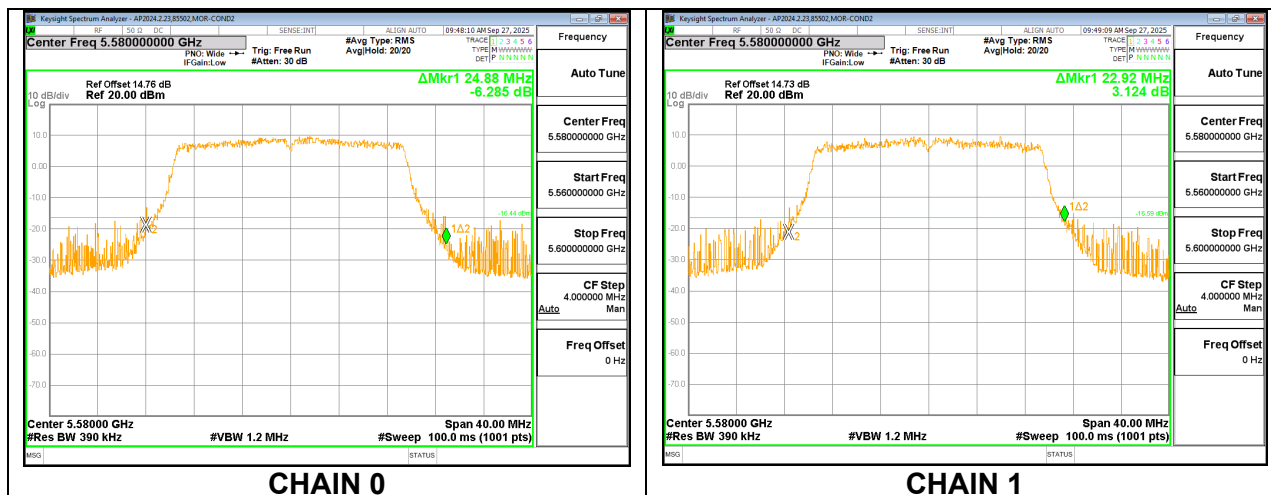
2TX CHAIN 0 + CHAIN 1 CDD MODE: 242T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	28.68	27.80
Mid	5580	26.24	26.76
High	5700	26.88	24.24



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

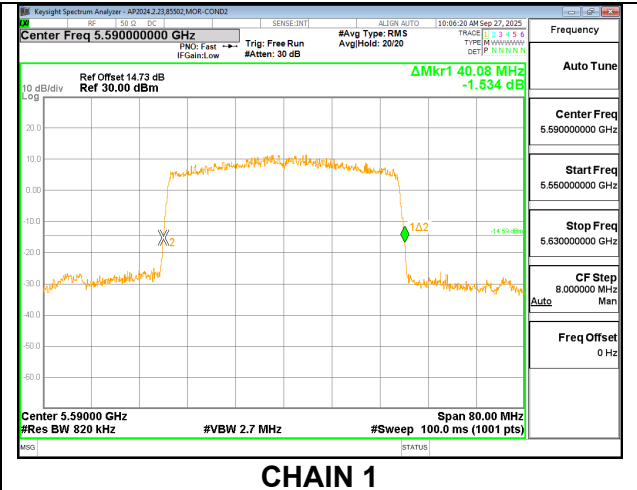
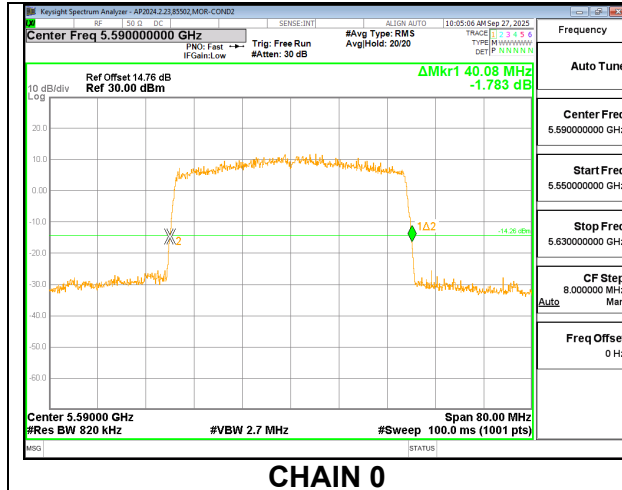
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5500	26.44	23.84
Mid	5580	24.88	22.92
High	5700	24.96	24.72



9.2.20. 802.11ax HE40 MODE IN THE 5.6 GHz BAND

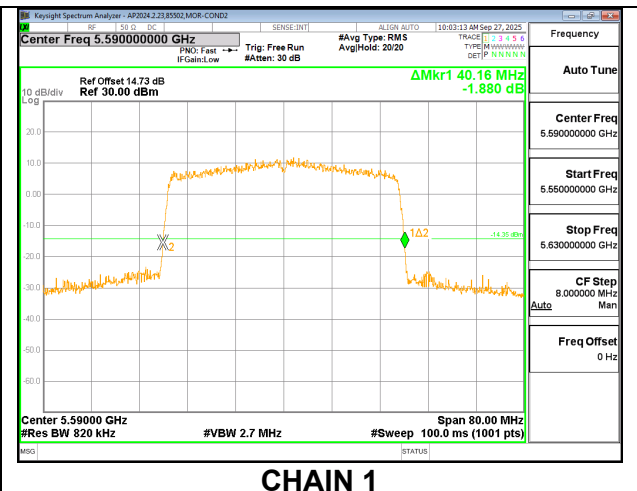
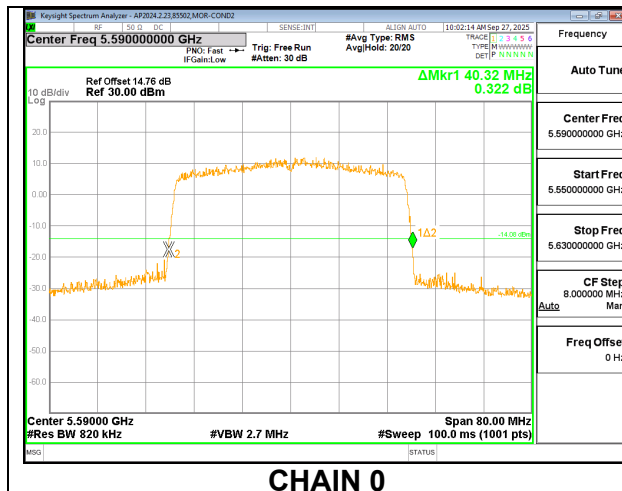
2TX CHAIN 0 + CHAIN 1 CDD MODE: 484T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5510	40.00	40.08
Middle	5590	40.08	40.08
High	5670	40.08	40.08



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

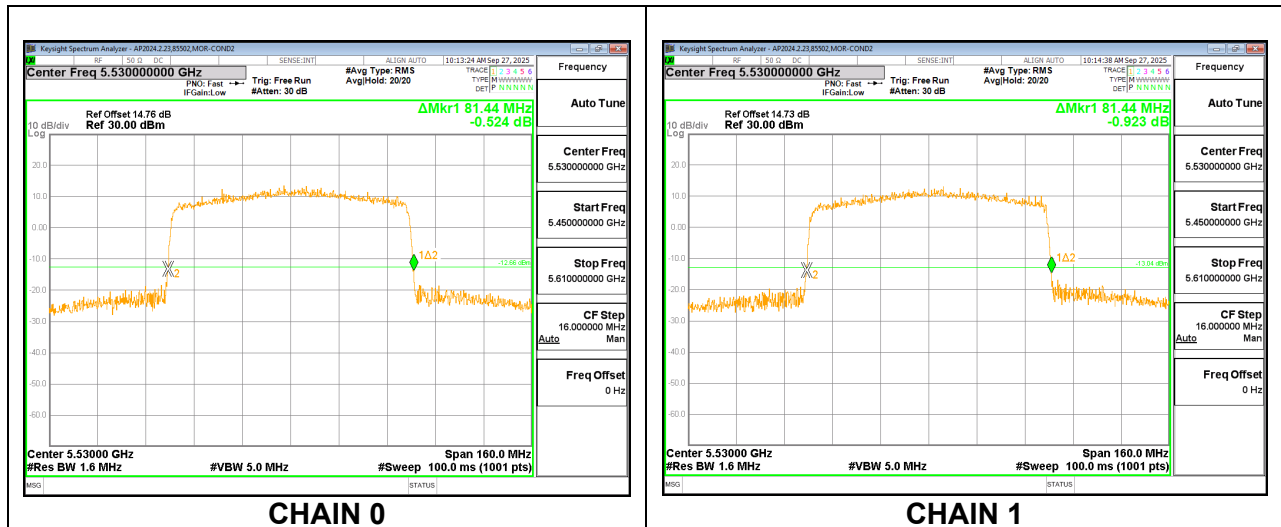
Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5510	40.16	40.16
Middle	5590	40.32	40.16
High	5670	40.16	40.16



9.2.21. 802.11ax HE80 MODE IN THE 5.6 GHz BAND

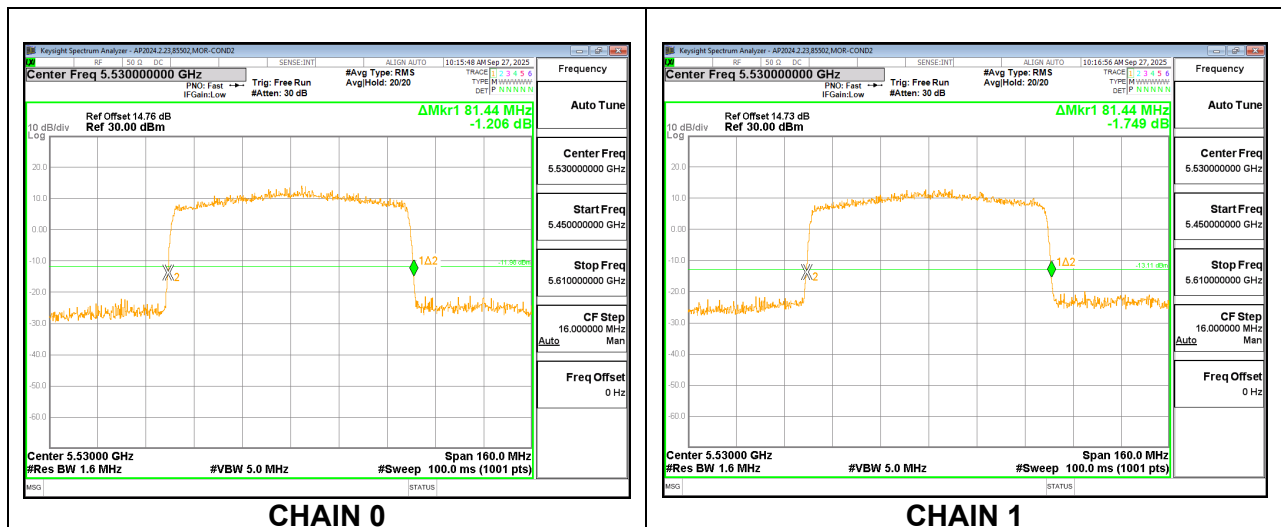
2TX CHAIN 0 + CHAIN 1 CDD MODE: 996T

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5530	81.44	81.44
High	5610	81.28	81.44



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	26dB BW Chain 0 (MHz)	26dB BW Chain 1 (MHz)
Low	5530	81.44	81.44
High	5610	81.60	81.44



9.3. 6 dB BANDWIDTH

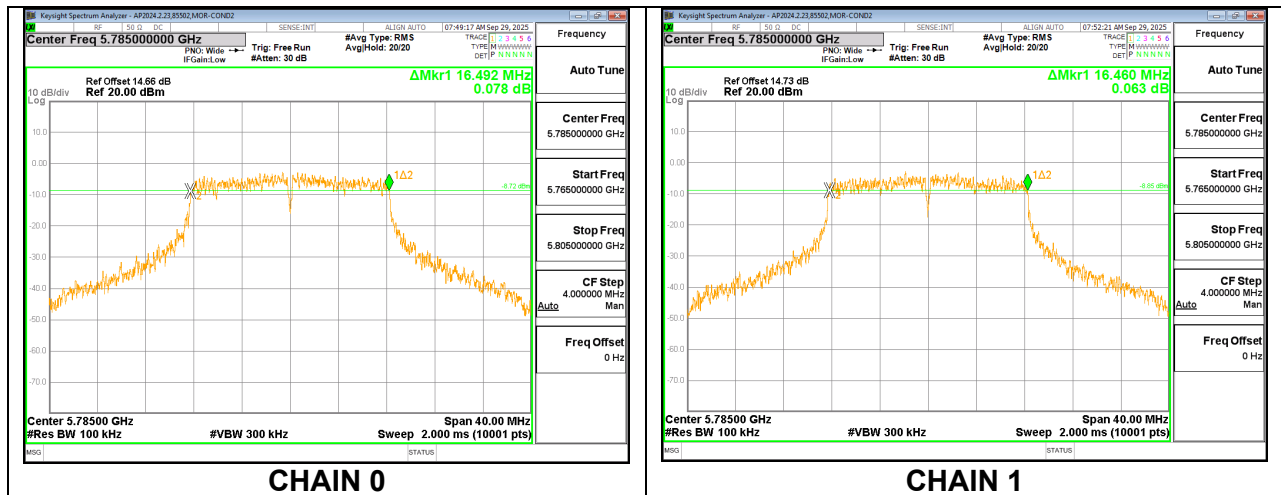
LIMITS

FCC §15.407 (e)
The minimum 6 dB bandwidth shall be at least 500 kHz.

9.3.1. 802.11a MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

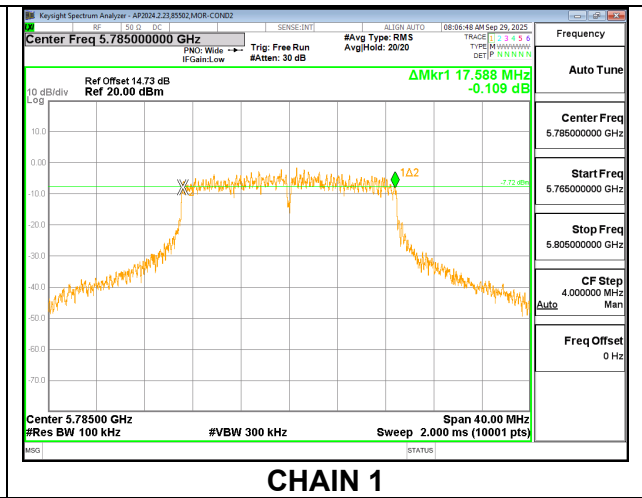
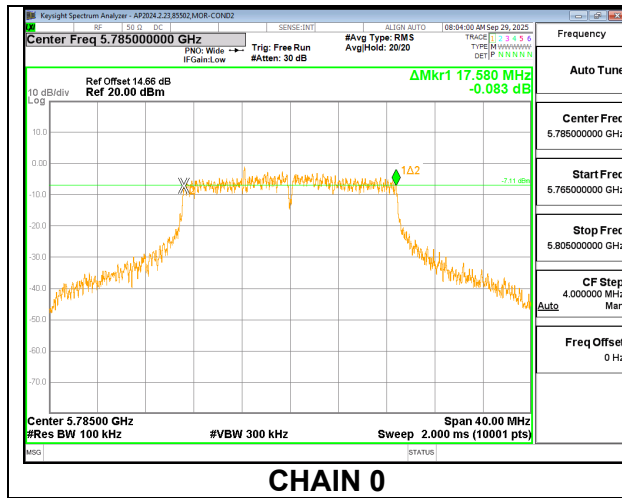
Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	16.364	16.304	0.500
Mid	5785	16.492	16.460	0.500
High	5825	16.516	16.480	0.500



9.3.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

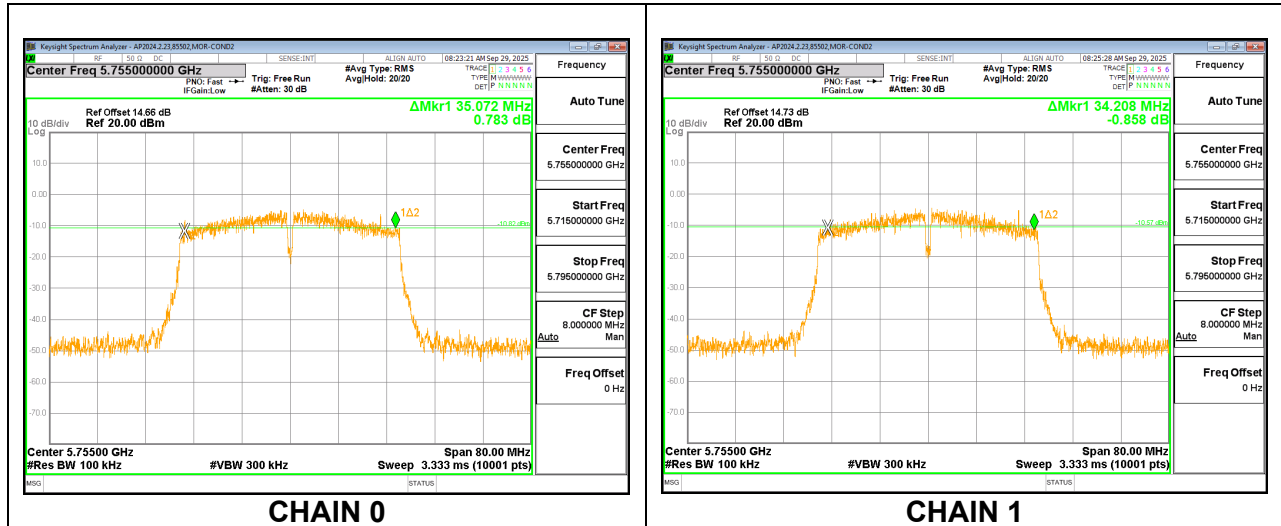
Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.660	17.636	0.500
Mid	5785	17.580	17.588	0.500
High	5825	17.512	17.612	0.500



9.3.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

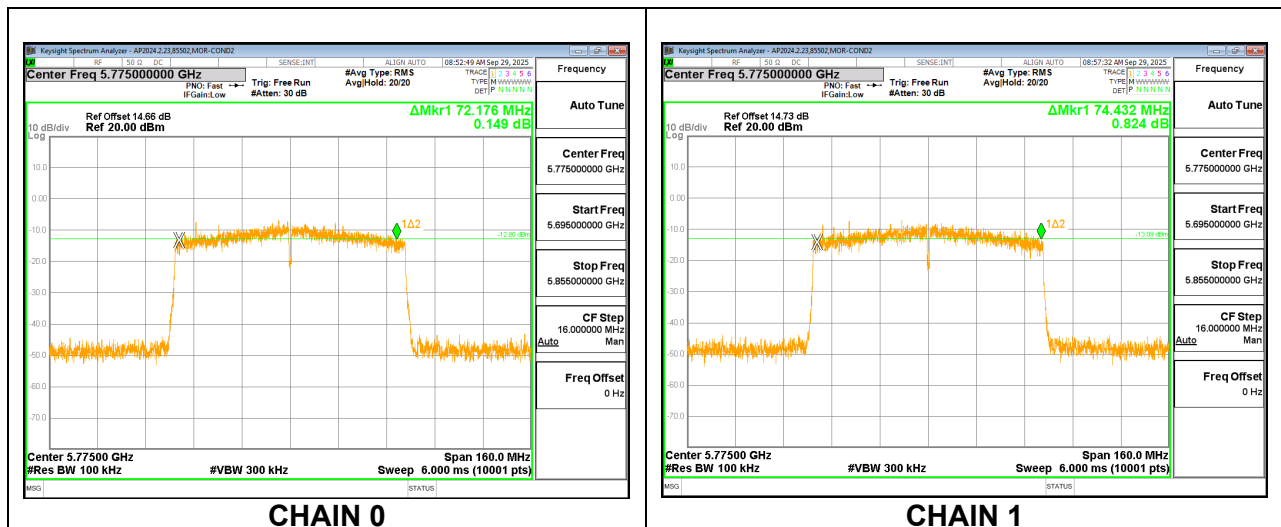
Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	35.072	34.208	0.500
High	5795	35.256	35.328	0.500



9.3.4. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

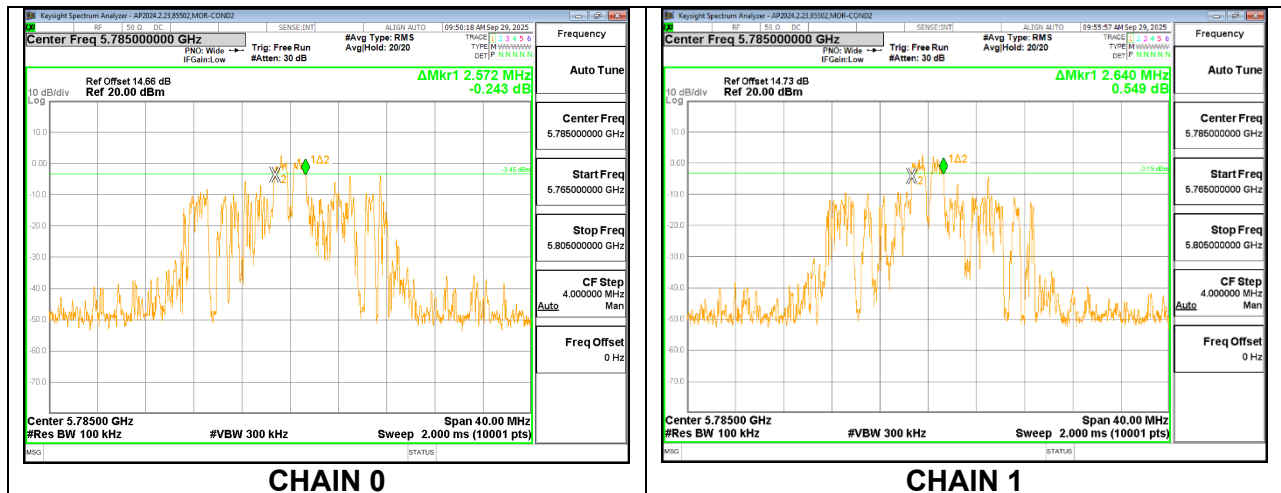
Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Mid	5775	72.176	74.432	0.500



9.3.5. 802.11ax HE20 MODE IN THE 5.8 GHz BAND

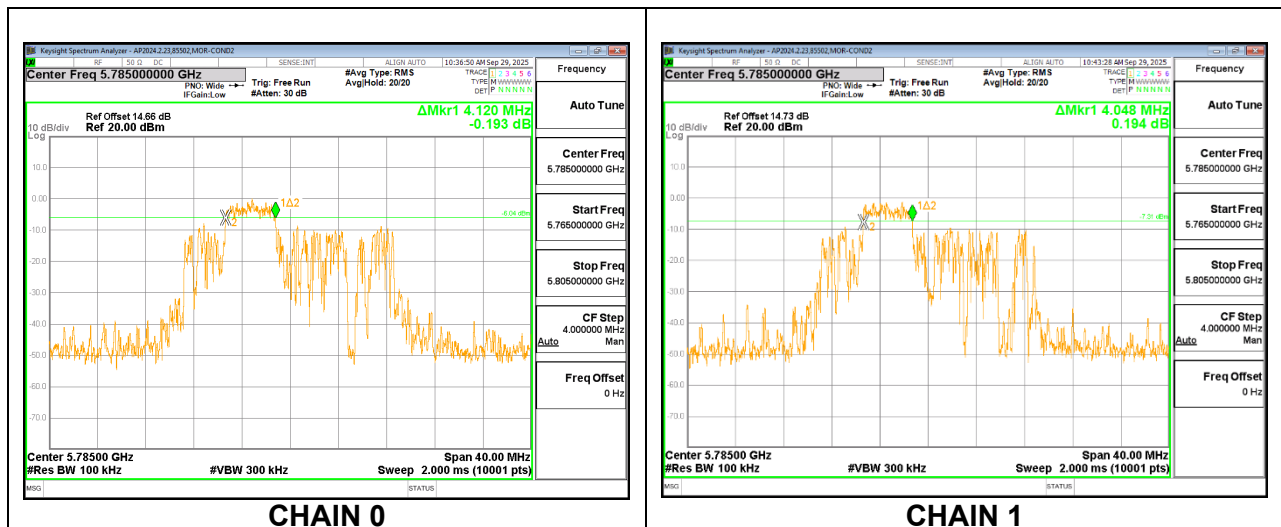
2TX CHAIN 0 + CHAIN 1 CDD MODE: 26T

Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	2.056	2.04	0.500
Mid	5785	2.572	2.64	0.500
High	5825	2.052	1.996	0.500



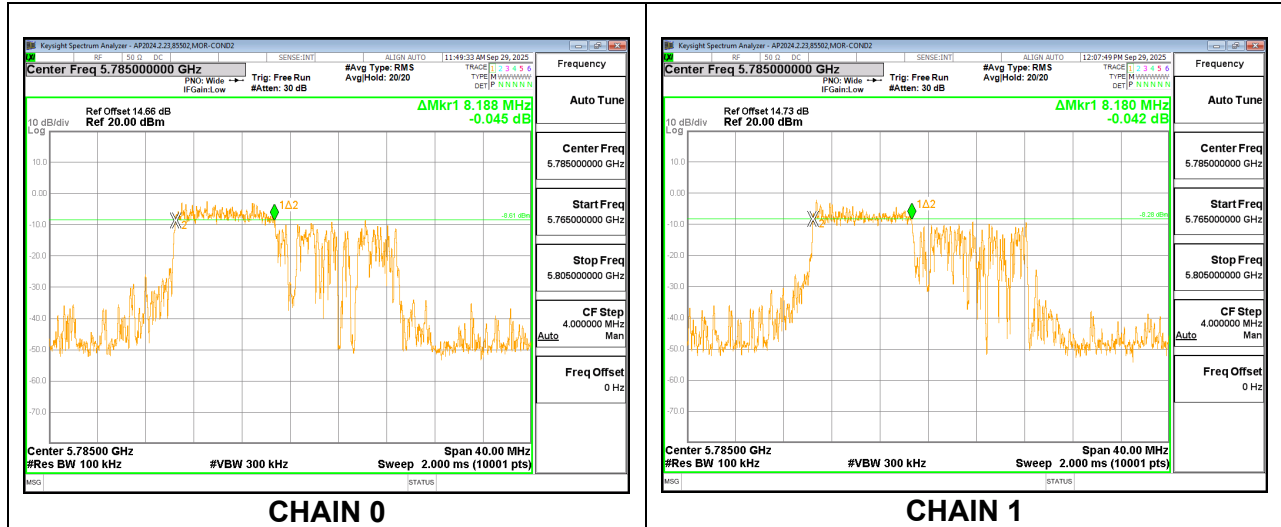
2TX CHAIN 0 + CHAIN 1 CDD MODE: 52T

Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	4.016	3.996	0.500
Mid	5785	4.120	4.048	0.500
High	5825	4.040	4.008	0.500



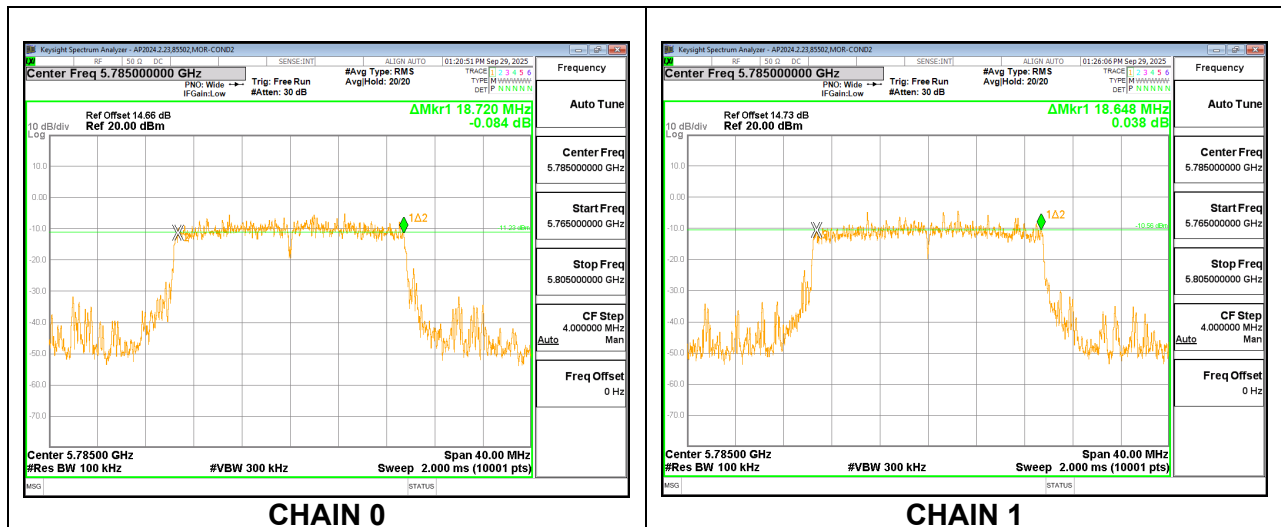
2TX CHAIN 0 + CHAIN 1 CDD MODE: 106T

Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	8.336	7.988	0.500
Mid	5785	8.188	8.180	0.500
High	5825	8.304	8.148	0.500



2TX CHAIN 0 + CHAIN 1 CDD MODE: 242T

Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	18.820	18.464	0.500
Mid	5785	18.720	18.648	0.500
High	5825	18.096	17.992	0.500



2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	6dB BW Chain 0 (MHz)	6dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	18.800	18.948	0.500
Mid	5785	19.084	18.928	0.500
High	5825	19.036	18.840	0.500

