

CERTIFICATION TEST REPORT

Report Number. : 12935947-E6V3

Applicant : Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399
USA

Model : 1872

FCC ID : C3K1872

IC ID : 3048A-1872

EUT Description : Portable Computing Device

Test Standard(s) : FCC 47 CFR PART 15 SUBPART E
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5

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REPORT REVISION HISTORY

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V1	8/29/2019	Initial Review	--
V2	9/11/2019	Section 5.2: Table updated Section 5.4 & 8.4: Antenna Gains Updated Section 5.6: Statements updated & added Section 8.3: 99% bandwidth updated Section 8.4: Output power and PSD updated Section 10: Statement added, Setup photos Removed	Henry Lau
V3	9/13/2019	Section 6: Statement updated	Henry Lau

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399
USA

EUT DESCRIPTION: Portable Computing Device

MODEL: 1872

SERIAL NUMBER: 006404792757(Conducted)
013880192757(Conducted)
013885392757(Radiated)
014813492757(Radiated)

DATE TESTED: July 16, 2019 – August 21, 2019 and September 9 – 11, 2019

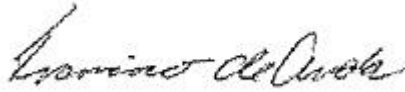
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5	Complies

UL Verification Services Inc. 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 tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure 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.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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 the U.S. government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 14-30, FCC KDB 662911 D01 v02r01, FCC KDB 905462 D02 v02/D03 v01r02/D06 v02, FCC KDB 789033 D02 v02r01, ANSI C63.10-2013, FCC 06-96, RSS-GEN Issue 5, and RSS-247 Issue 2.

The scope of this report covers the 802.11ax modes in the 5.2 & 5.3 GHz band of Model 1872.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street	47658 Kato Rd
☐ Chamber A	☐ Chamber D	☒ Chamber I
☐ Chamber B	☐ Chamber E	☐ Chamber J
☐ Chamber C	☐ Chamber F	☒ Chamber K
	☐ Chamber G	☒ Chamber L
	☐ Chamber H	☐ Chamber M

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code 2324A.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. 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.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB

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

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a Portable Computing Device.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.2 GHz BAND 802.11 ax MODE

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.2 GHz band, 2TX			
5180-5240	802.11ax HE20 SU	16.41	43.75
5180-5240	802.11ax HE20 OFDMA, 242-Tones	16.83	48.19
5190-5230	802.11ax HE40 SU	17.46	55.72
5190-5230	802.11ax HE40 OFDMA, 484-Tones	17.70	58.88
5210	802.11ax HE80 SU	17.30	53.70
5210	802.11ax HE80 OFDMA, 242-Tones	17.61	57.68
5250	802.11ax HE160 SU	16.21	41.78
5250	802.11ax HE160 OFDMA, 484-Tones	17.64	58.08

5.3 GHz BAND 802.11 ax MODE

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.3 GHz band, 2TX			
5260-5320	802.11ax HE20 SU	20.75	118.85
5260-5320	802.11ax HE20 OFDMA, 242-Tones	20.87	122.18
5270-5310	802.11ax HE40 SU	18.45	69.98
5270-5310	802.11ax HE40 OFDMA, 242-Tones	20.45	110.92
5290	802.11ax HE80 SU	18.61	72.61
5290	802.11ax HE80 OFDMA, 242-Tones	20.26	106.17

5.3. TEST REDUCTIONS CASES

26dB Bandwidth:

- All tones were tested for each bandwidth.
- For HE20 & HE40, each Low, Mid, High RU allocation is tested to their respective Low, Mid and High channel.
- For HE80 & HE160, Low, Mid & High RU allocations were tested.

99% Bandwidth:

- All tones were tested for each bandwidth.
- For HE20 & HE40, each Low, Mid, High RU allocation is tested to their respective Low, Mid and High channel.
- For HE80 & HE160, Low, Mid & High RU allocation were tested.

Output Power and Power Spectral Density

- All tones were tested for each bandwidth.
- For HE20 & HE40, every RU allocation per channel is the same power thus each Low, Mid, High RU allocation is tested to their respective Low, Mid and High channel.
- For HE80 & HE160, Low, Mid & High RU allocations were tested.

Radiated Band Edge:

- All tones and bandwidths were tested.
- The RU allocations closest to the band edge was tested to cover all other RU's.

Radiated Spurious Emissions:

- 26T and 242T at HE20 was investigated. It was determined that 26T at the highest power setting to be worst case thus 26T will be representative of all RU's at all tones at HE20, HE40, HE80, and HE160.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two dual band PIFA antennas, with a maximum gain as below table:

Frequency Band (GHz)	Chain 0	Chain 1
	Antenna Gain (dBi)	Antenna Gain (dBi)
5180-5240	6	3
5260-5320	7.8	3.5
5500-5700	8	4
5745-5825	8.3	4.6

5.5. SOFTWARE AND FIRMWARE

The operating system installed on the EUT is MTEOS 1.652.0.

The Wifi Driver installed on the EUT is version 99.0.43.8.

The test utility software used during testing was version 11.1916.0-09531

5.6. WORST-CASE CONFIGURATION AND MODE

WORST-CASE CONFIGURATION AND MODE FOR FINAL TEST

Please refer to UL Report number: 12935947-E4 for worst case Radiated emissions below 30MHz, below 1GHz, above 18GHz, power line conducted emissions data and simultaneous TX data.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

For all modes, tests were performed with the EUT set at the 2Tx MIMO mode with power setting equal to SISO modes as the worst case scenario thus MIMO is representative of SISO.

The EUT has one intended orientations, X; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11ax HE20mode: MCS0
802.11ax HE40mode: MCS0
802.11ax HE80mode: MCS0
802.11ax HE160mode: MCS0

EUT does not employ CDD for HT, VHT and HE rates. CDD is supported for legacy modes only.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC DC Adapter	Microsoft	1706	0C130J02T8396	DoC
USB Mouse	Microsoft	1113	X821908-002	DoC
USB Type C to Audio Jack	SONY	A1-0231	N/A	DoC
Earphone	SONY	AG1100	N/A	DoC
Earphone	SONY	AG1100	N/A	DoC

I/O CABLES (CONDUCTED TEST)

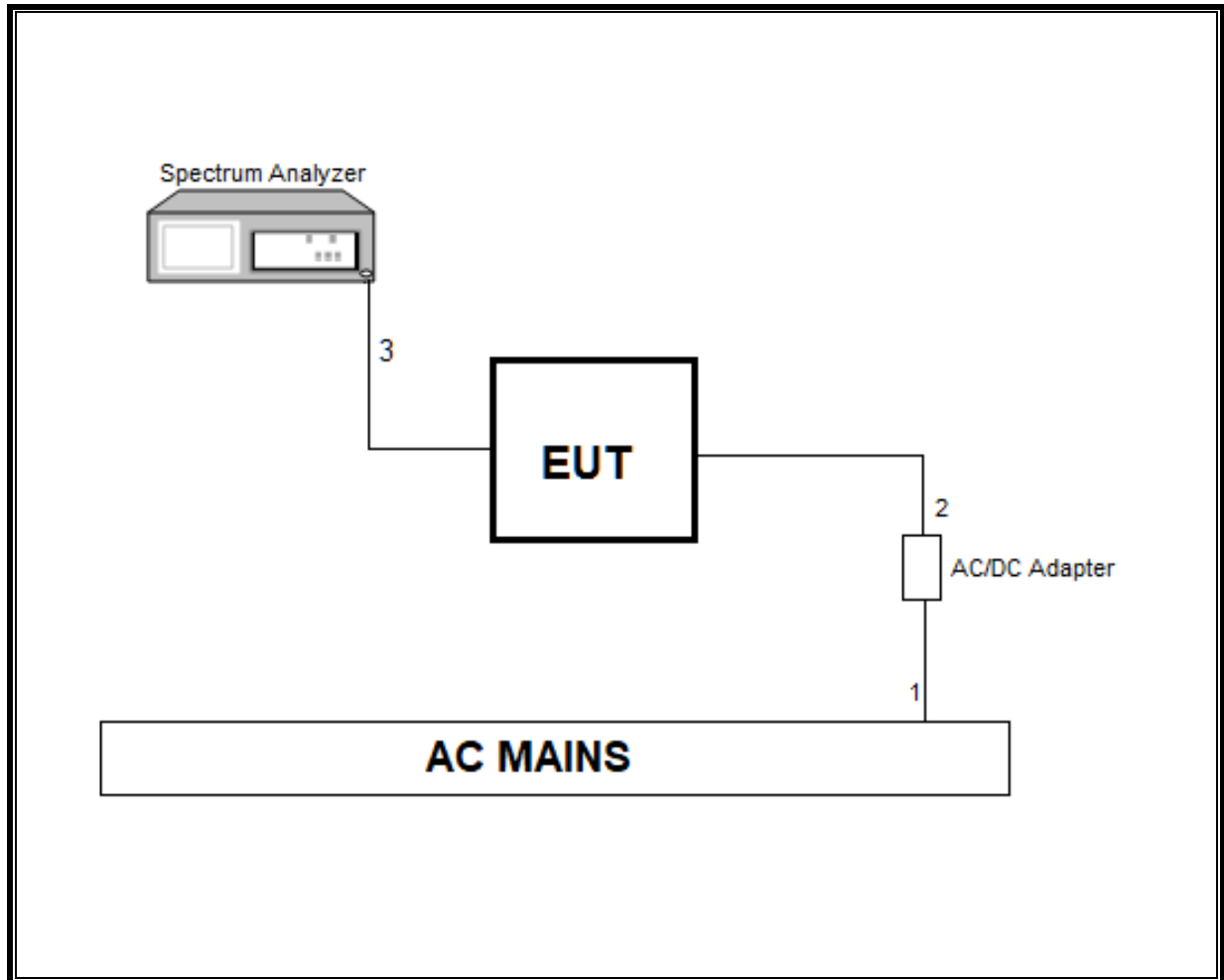
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-Shielded	0.2	to AC/DC Adaptor
2	DC	1	DC	Shielded	1	to Laptop, to EUT
3	Antenna	1	SMA	Un-Shielded	0.2	to Analyzer

I/O CABLES (RADIATED AND CONDUCTED EMISSIONS)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	Type C	Un-shielded	0.2	to AC/DC Adapter
2	DC	1	DC	Shielded	1	to EUT
3	USB	1	Type A	Shielded	1.5	EUT TO Mouse
4	USB	1	Type C	Shielded	0.1	EUT to earphone AUX
5	earphone	1	3.5mm	Un-shielded	1	EUT to earphone

TEST SETUP

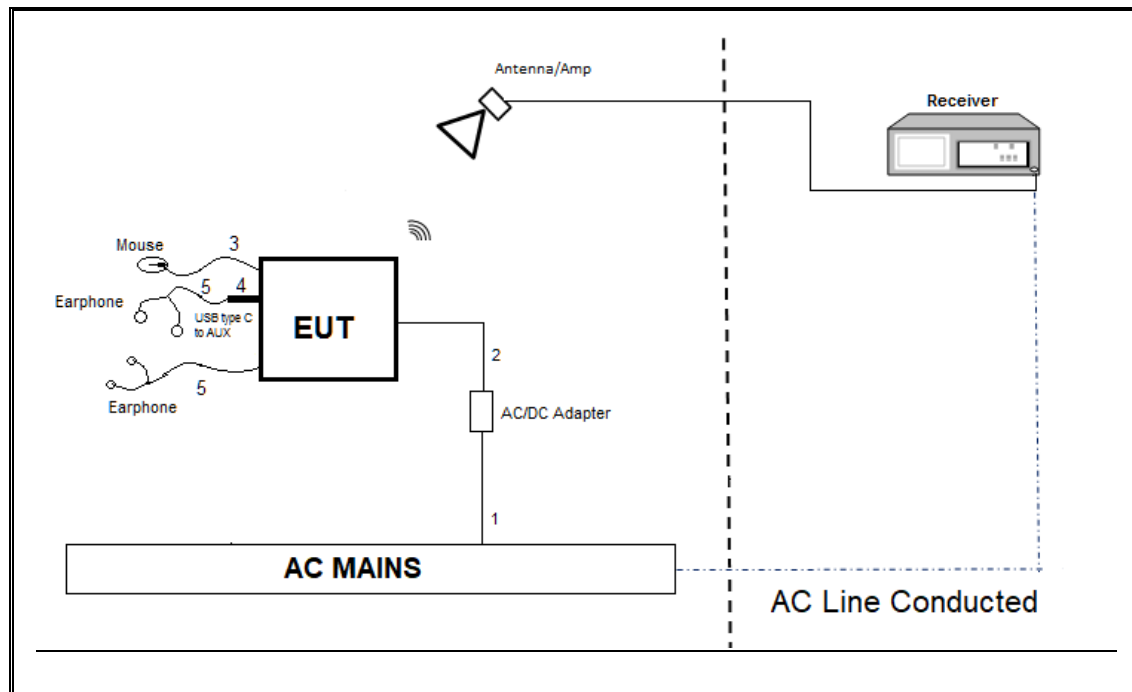
CONDUCTED TEST SETUP DIAGRAM



TEST SETUP

For conducted tests, the test software exercises the radio.

RADIATED AND AC LINE CONDUCTED EMISSIONS SETUP DIAGRAM



TEST SETUP

For radiated tests: EUT is connected to all support equipment. The test software exercises the radio.

6. 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

99% Occupied BW: KDB 789033 D02 v02r01, Section D.

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.

7. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Passive Loop 30Hz to 1MHz	ELETRO METRICS	EM-6871	PRE0179465	05/31/2020	05/31/2019
Antenna, Passive Loop 100kHz to 30MHz	ELETRO METRICS	EM-6872	PRE0179467	05/31/2020	05/31/2019
Amplifier, 9KHz to 1GHz, 32dB	Sonoma Instrument	310	PRE0186650	12/13/2019	12/13/2018
Hybrid Antenna, 30MHz to 3GHz	Sunol Sciences Corp	JB3	PRE0184971	11/13/2019	11/13/2018
Amplifier, 9kHz to 1GHz, 32 dB	Sonoma Instrument	310	PRE0180175	06/29/2020	06/29/2019
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T120	07/10/2020	07/10/2019
Amplifier, 1 to18GHz	MITEQ	AFS42-00101800-25-S-42	T1568	06/18/2020	06/18/2019
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T862	06/05/2020	06/05/2019
Amplifier, 1 to18GHz	MITEQ	AFS42-00101800-25-S-42	PRE018078	08/01/2019	08/01/2018
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	PRE0182188	08/29/2019	08/29/2018
Rf Amplifier, 18-26.5GHz, 60dB gain	Ampical	AMP18G26.5-60	PRE0181238	05/01/2020	05/01/2019
Antenna, Horn 26 to 40GHz	ARA	MWH-2640	T90	09/11/2019	09/11/2018
Pre-Amp, 26-40GHz	Ampical	AMP26G40-60	PRE0181238	05/01/2020	05/01/2019
Power Meter, P-series single channel	Agilent (Keysight) Technologies	N1911A	T1265	01/29/2020	01/29/2019
Power Sensor, P-series, 50MHz to 18GHz, Wideband	Agilent (Keysight) Technologies	N1921A	T1227	02/05/2020	02/05/2019
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179367	05/16/2020	05/16/2019
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179372	02/16/2020	02/16/2019
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179367	05/16/2020	05/16/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T917	01/24/2020	01/24/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T908	01/23/2020	01/23/2019
AC Line Conducted					
EMI Receiver	Rohde & Schwarz	ESR	T1436	02/14/2020	02/14/2019
LISN for Conducted Emissions CISPR-16	FCC INC.	FCC LISN 50/250	T1310	01/24/2020	01/24/2019
Test Software List					
Radiated Software	UL	UL EMC	Ver 9.5, June 22, 2018 & Jan 11, 2019		
Antenna Port Software	UL	UL RF	Ver 9.7, May 7, 2019		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015		

NOTES:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.
- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

8. ANTENNA PORT TEST RESULTS FOR 11ax 5.2 & 5.3 GHz Band

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 D01 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

802.11ax HE20

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11ax HE20 OFDMA, SU	3.963	4.008	0.989	98.88%	0.00	0.010
802.11ax HE20 OFDMA, RU size 242T	3.973	4.018	0.989	98.88%	0.00	0.010
802.11ax HE20 OFDMA, RU size 106T	3.983	4.028	0.989	98.88%	0.00	0.010
802.11ax HE20 OFDMA, RU size 52T	3.980	4.030	0.988	98.76%	0.00	0.010
802.11ax HE20 OFDMA, RU size 26T	3.979	4.029	0.988	98.76%	0.00	0.010

802.11ax HE40

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11ax HE40 OFDMA, SU	3.966	4.020	0.987	98.66%	0.00	0.010
802.11ax HE40 OFDMA, RU size 484T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE40 OFDMA, RU size 242T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE40 OFDMA, RU size 106T	3.976	4.020	0.989	98.91%	0.00	0.010
802.11ax HE40 OFDMA, RU size 52T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE40 OFDMA, RU size 26T	3.976	4.020	0.989	98.91%	0.00	0.010

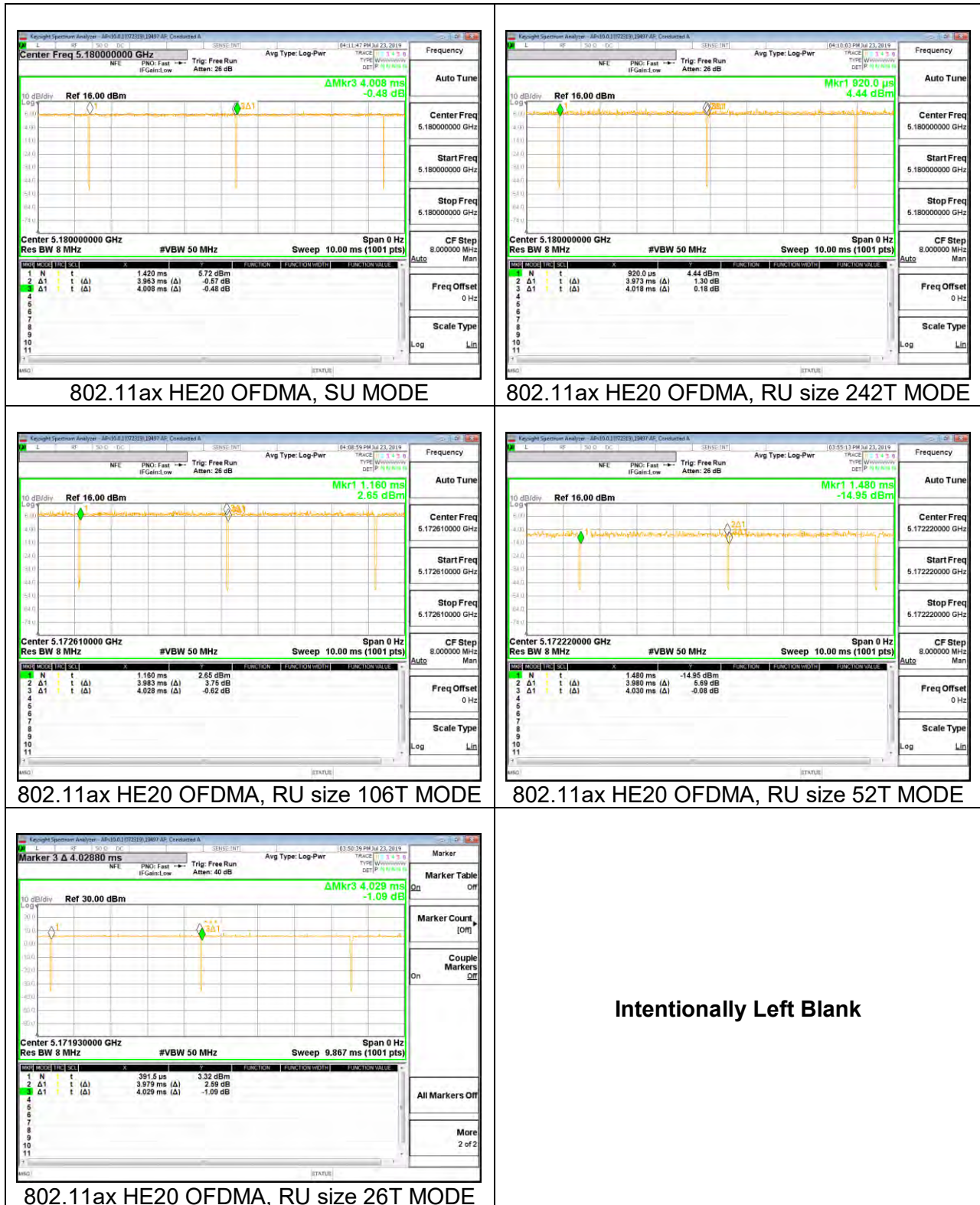
802.11ax HE80

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11ax HE80 OFDMA, SU	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 996T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 484T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 242T	3.966	4.020	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 106T	3.976	4.030	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 52T	3.966	4.020	0.987	98.66%	0.00	0.010
802.11ax HE80 OFDMA, RU size 26T	3.966	4.020	0.987	98.66%	0.00	0.010

802.11ax HE160

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11ax HE160 OFDMA, SU	2.279	2.324	0.981	98.06%	0.00	0.010
802.11ax HE160 OFDMA, RU size 2x996T	3.985	4.029	0.989	98.91%	0.00	0.010
802.11ax HE160 OFDMA, RU size 996T	3.975	4.020	0.989	98.88%	0.00	0.010
802.11ax HE160 OFDMA, RU size 484T	3.985	4.029	0.989	98.91%	0.00	0.010
802.11ax HE160 OFDMA, RU size 242T	3.975	4.029	0.987	98.66%	0.00	0.010
802.11ax HE160 OFDMA, RU size 106T	3.975	4.020	0.989	98.88%	0.00	0.010
802.11ax HE160 OFDMA, RU size 52T	3.975	4.020	0.989	98.88%	0.00	0.010
802.11ax HE160 OFDMA, RU size 26T	3.975	4.029	0.987	98.66%	0.00	0.010

DUTY CYCLE PLOTS





802.11ax HE40 OFDMA, SU MODE



802.11ax HE40 OFDMA, RU size 484T MODE



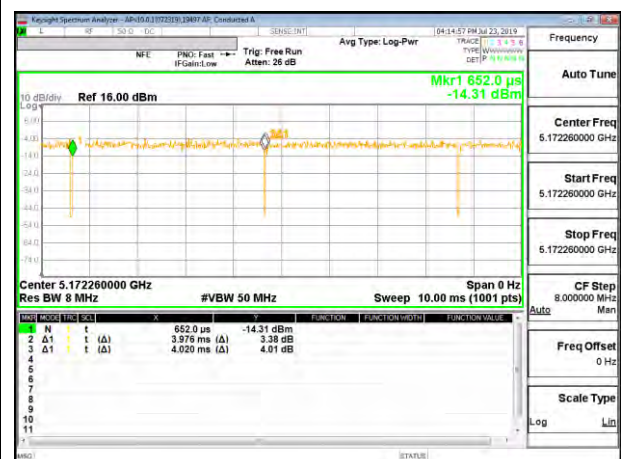
802.11ax HE40 OFDMA, RU size 242T MODE



802.11ax HE40 OFDMA, RU size 106T MODE



802.11ax HE40 OFDMA, RU size 52T MODE



802.11ax HE40 OFDMA, RU size 26T MODE



802.11ax HE80 OFDMA, SU MODE



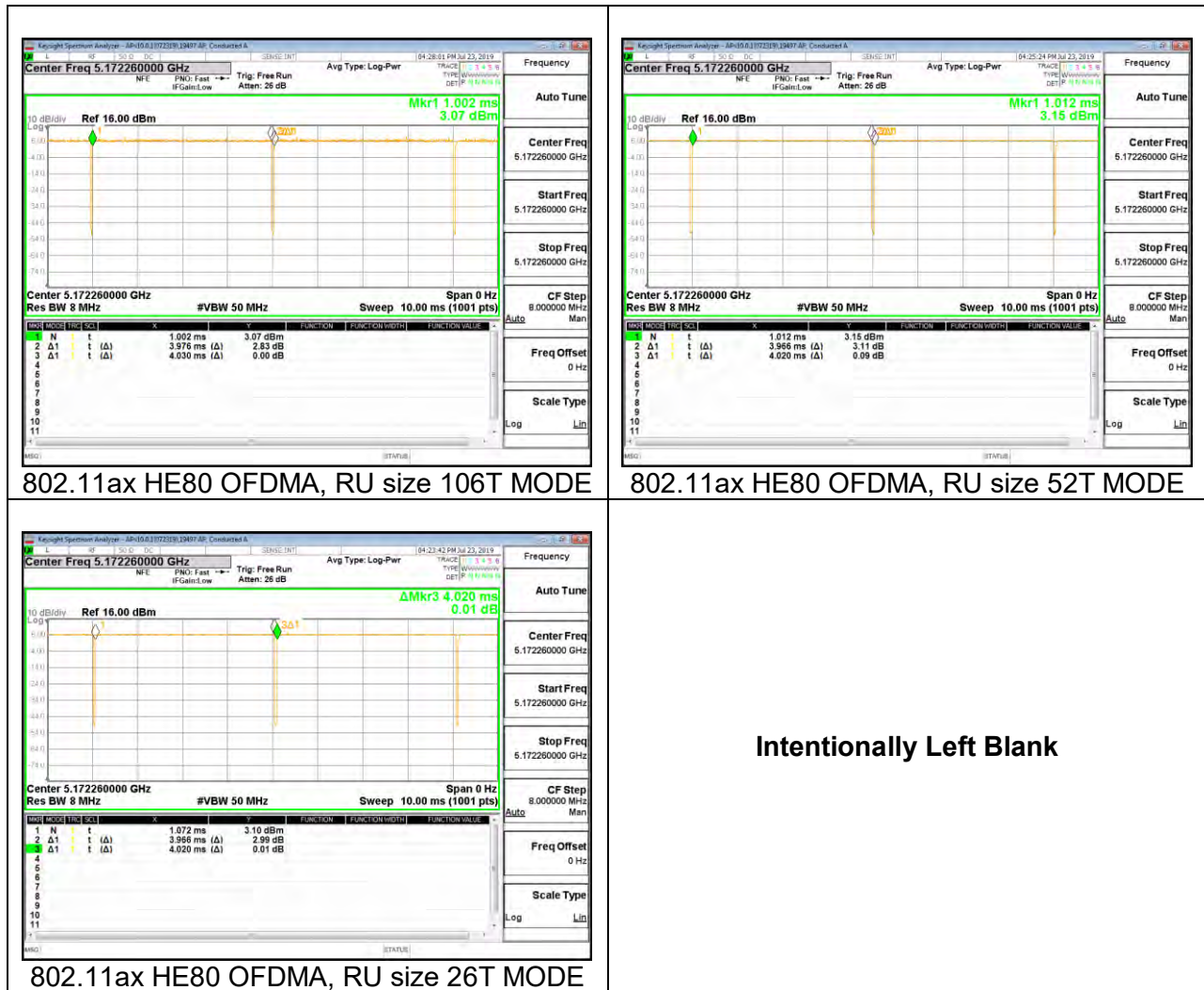
802.11ax HE80 OFDMA, RU size 996T MODE



802.11ax HE80 OFDMA, RU size 484T MODE

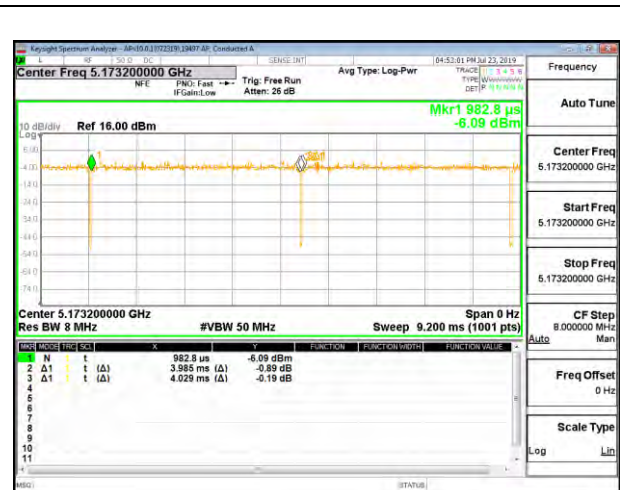


802.11ax HE80 OFDMA, RU size 242T MODE





802.11ax HE160 OFDMA, SU MODE



802.11ax HE160 OFDMA, RU size 2x996T MODE



802.11ax HE160 OFDMA, RU size 996T MODE



802.11ax HE160 OFDMA, RU size 484T MODE



8.2. 26 dB BANDWIDTH

LIMITS

None; for reporting purposes only.

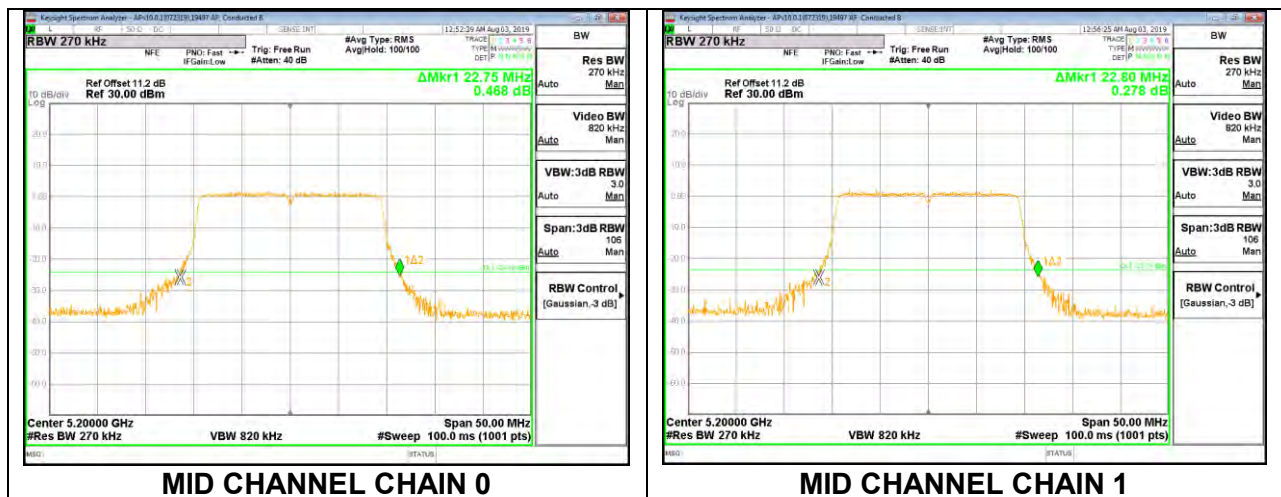
RESULTS

8.2.1. 802.11ax HE20 MODE IN THE 5.2 GHz BAND

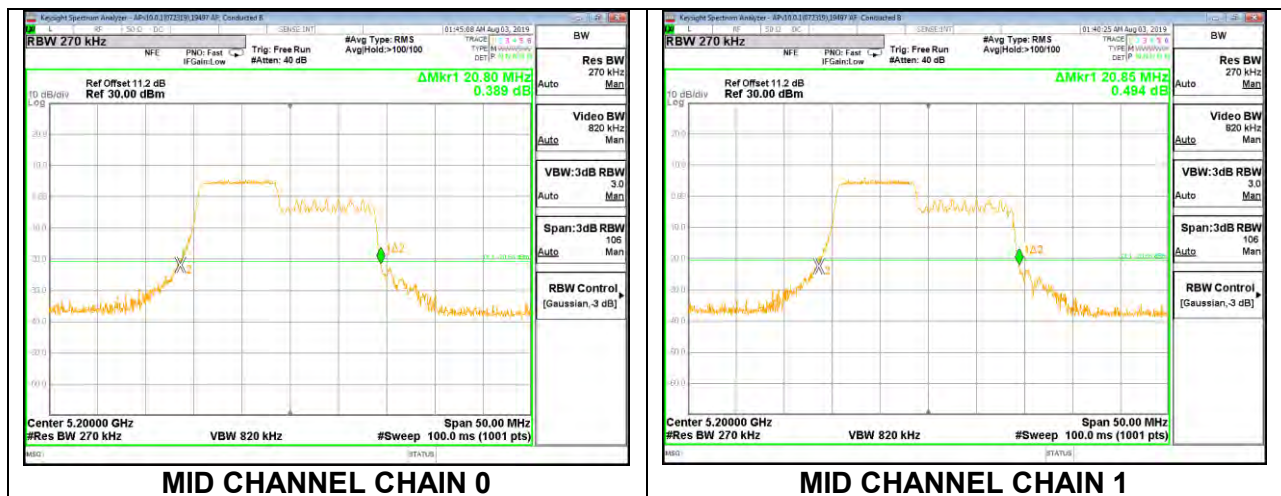
2TX Chain 0 + Chain 1 OFDMA MODE

RU Size (Tones)	RU Index	Channel	Frequency (MHz)	26 dB Bandwidth Chain 0 (MHz)	26 dB Bandwidth Chain 1 (MHz)
242T	61	Low	5180	22.95	24.50
		Mid	5200	22.75	22.80
		High	5240	23.00	22.65
106T	53	Low	5180	22.10	22.00
		Mid	5200	20.80	20.85
	54	High	5240	21.55	21.60
52T	37	Low	5180	21.40	21.40
	38	Mid	5200	18.50	18.65
	40	High	5240	21.00	20.40
26T	0	Low	5180	20.60	20.15
	4	Mid	5200	18.30	18.25
	8	High	5240	20.60	20.20

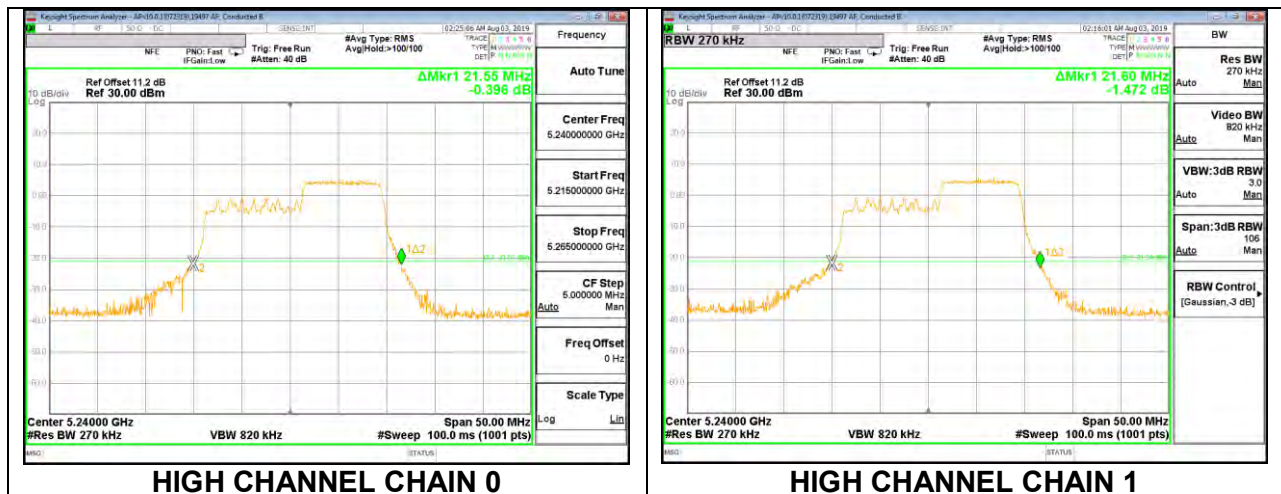
242-Tones, RU Index 61



106-Tones, RU Index 53



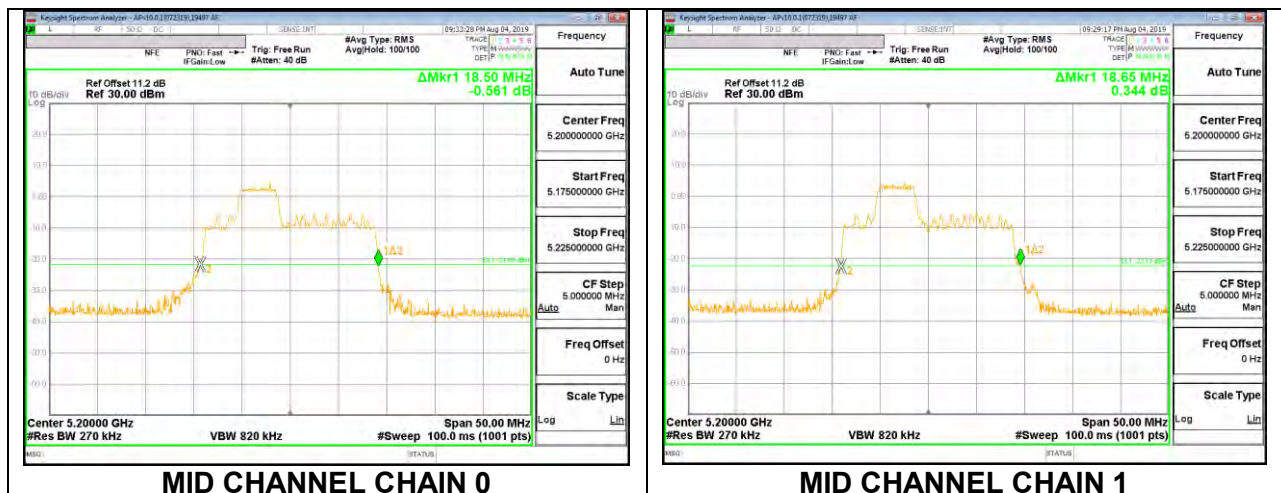
106-Tones, RU Index 54



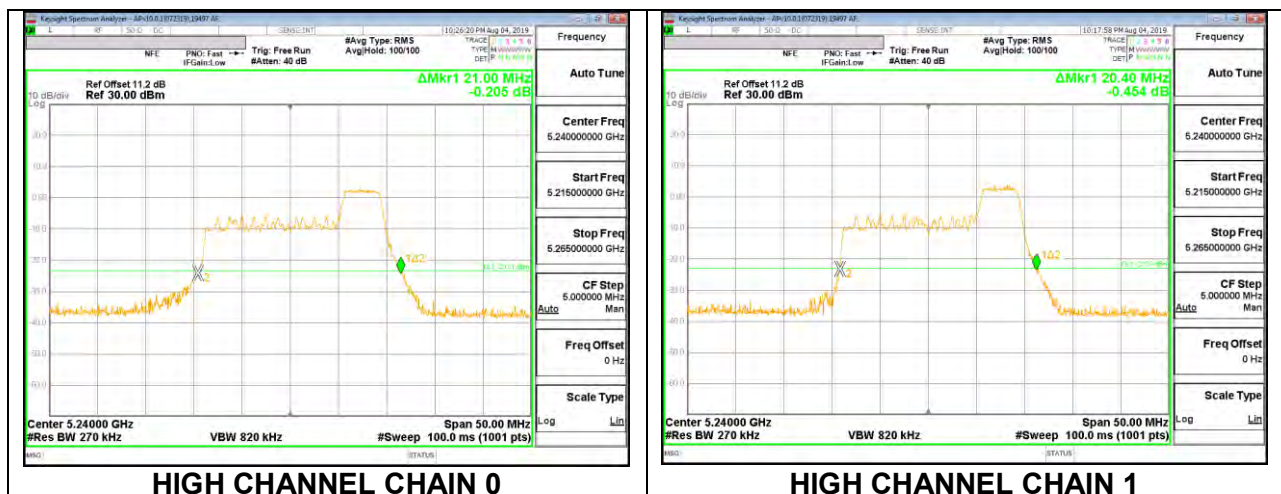
52-Tones, RU Index 37



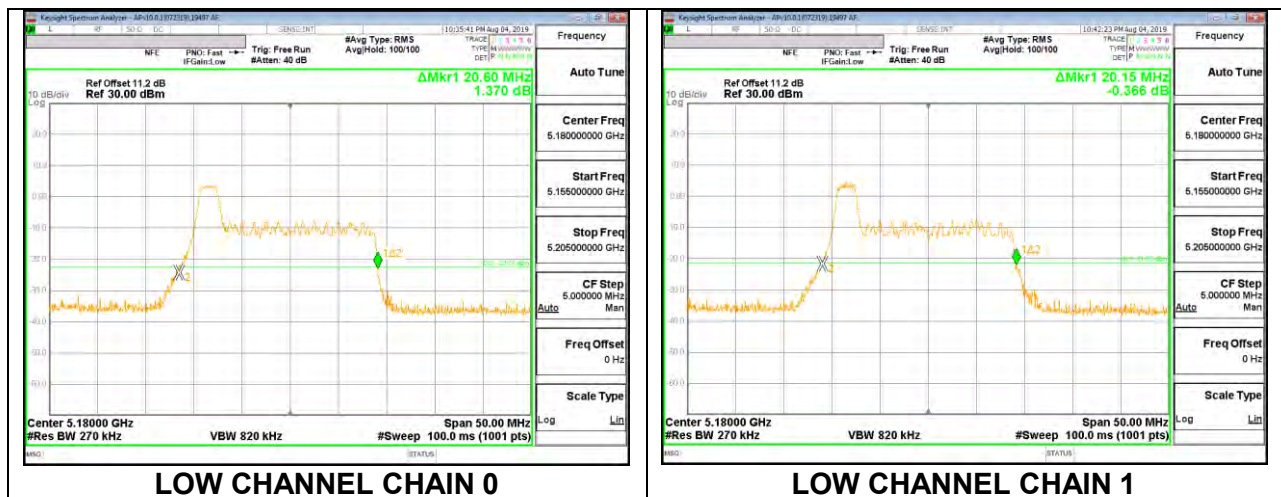
52-Tones, RU Index 38



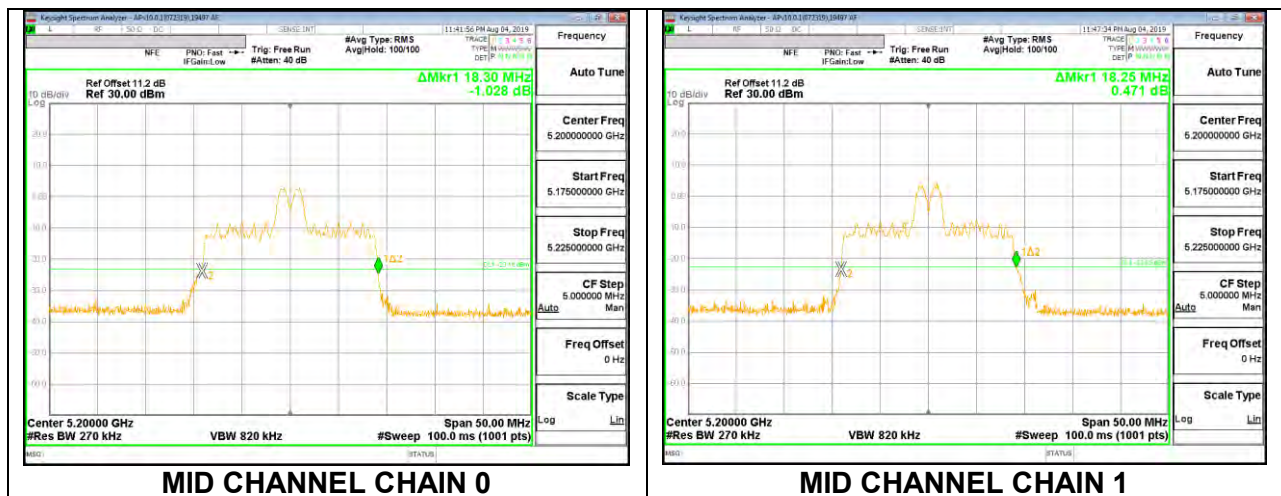
52-Tones, RU Index 40



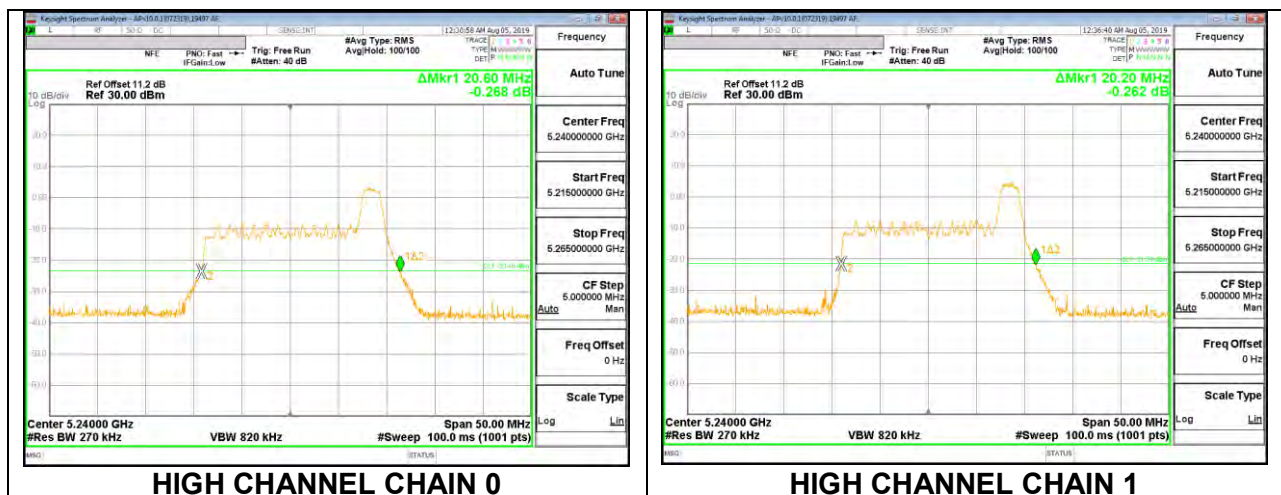
26-Tones, RU Index 0



26-Tones, RU Index 4



26-Tones, RU Index 8

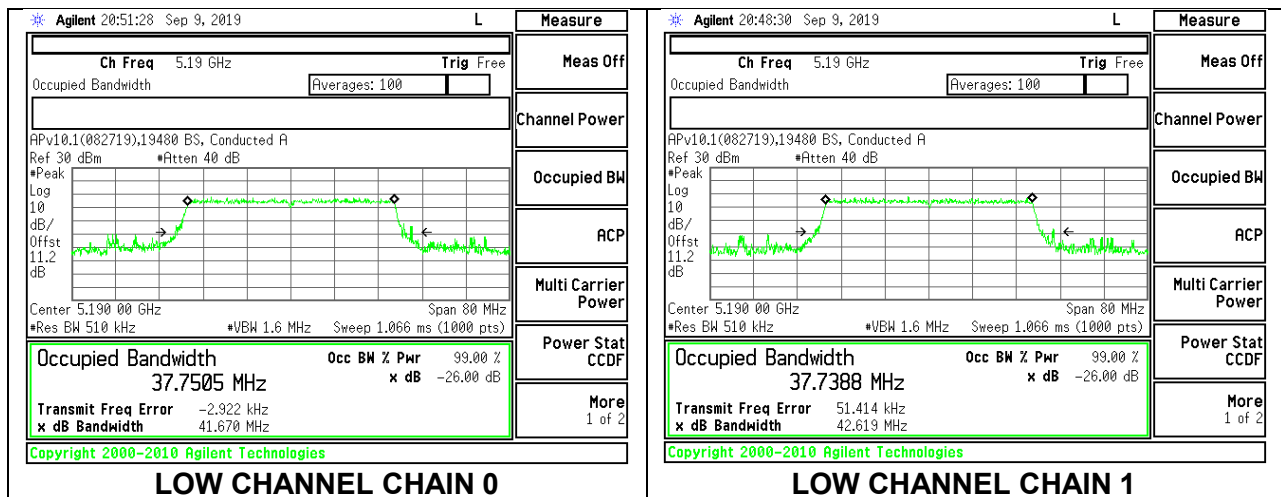


8.2.2. 802.11ax HE40 MODE IN THE 5.2 GHz BAND

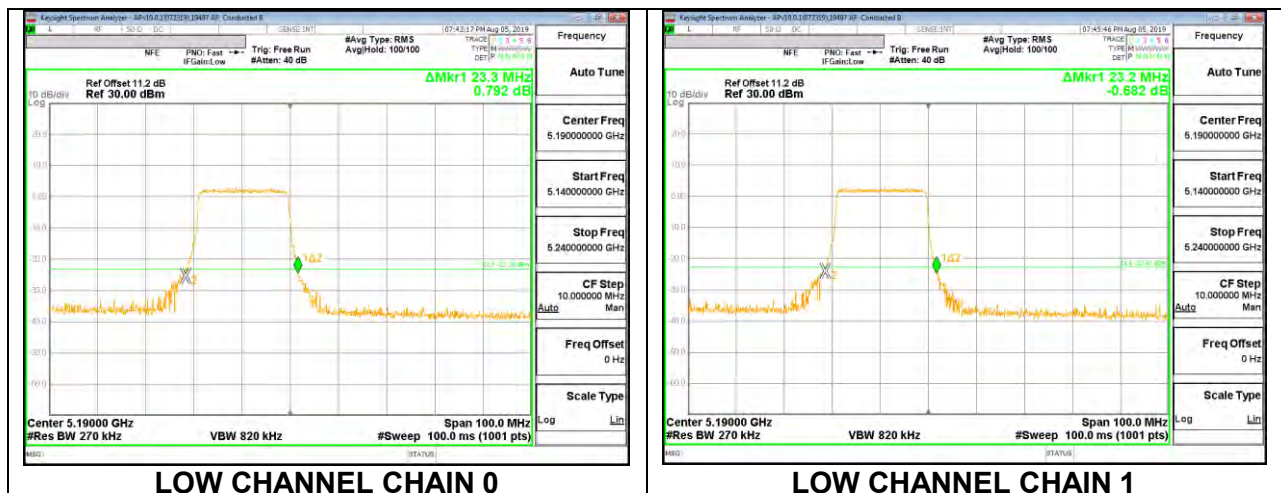
2TX Chain 0 + Chain 1 OFDMA MODE

RU Size (Tones)	RU Index	Channel	Frequency (MHz)	26 dB Bandwidth Chain 0 (MHz)	26 dB Bandwidth Chain 1 (MHz)
484T	65	Low	5190	46.80	46.40
		High	5230	46.50	46.00
242T	61	Low	5190	23.30	23.20
	62	High	5230	22.60	22.90
106T	53	Low	5190	22.90	22.90
	54	Low	5190	22.50	22.80
	56	High	5230	22.00	22.10
52T	37	Low	5190	21.90	21.70
	40	Low	5190	21.90	21.80
	44	High	5230	21.40	21.50
26T	0	Low	5190	20.30	20.00
	8	Low	5190	21.50	21.60
	17	High	5230	20.90	21.40

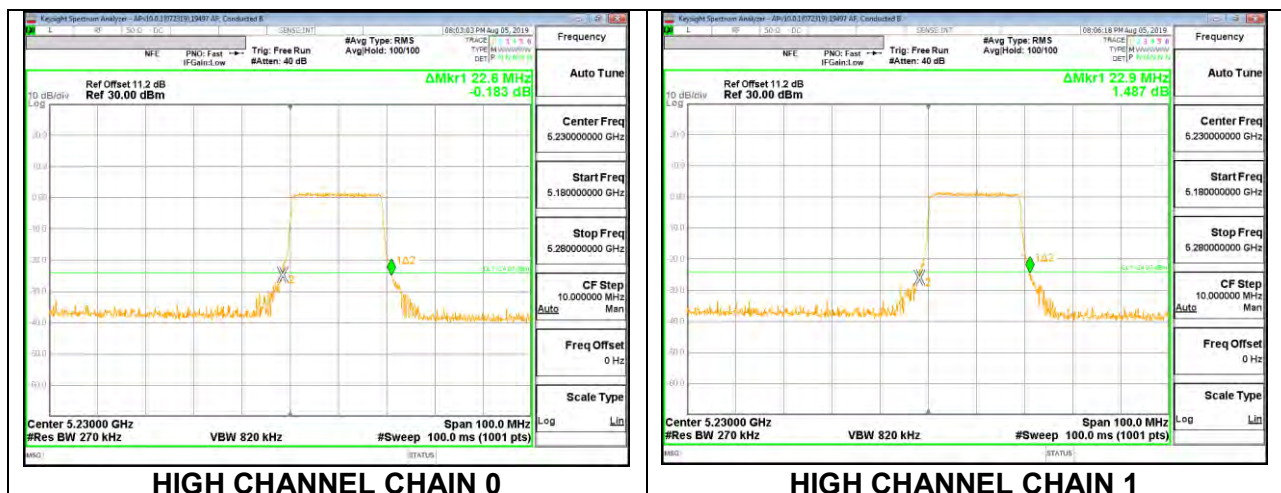
484-Tones, RU Index 65



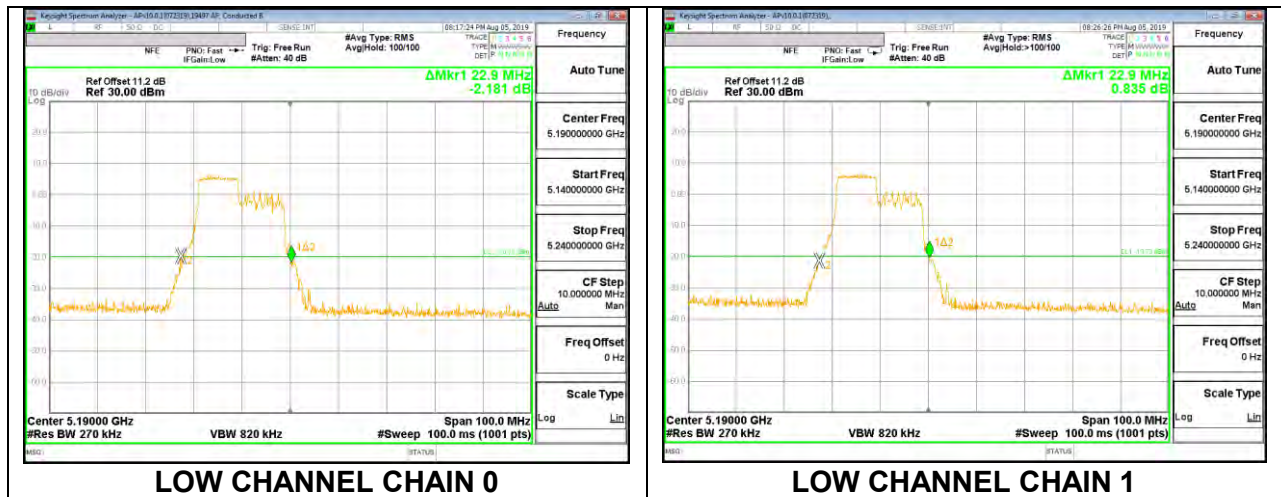
242-Tones, RU Index 61



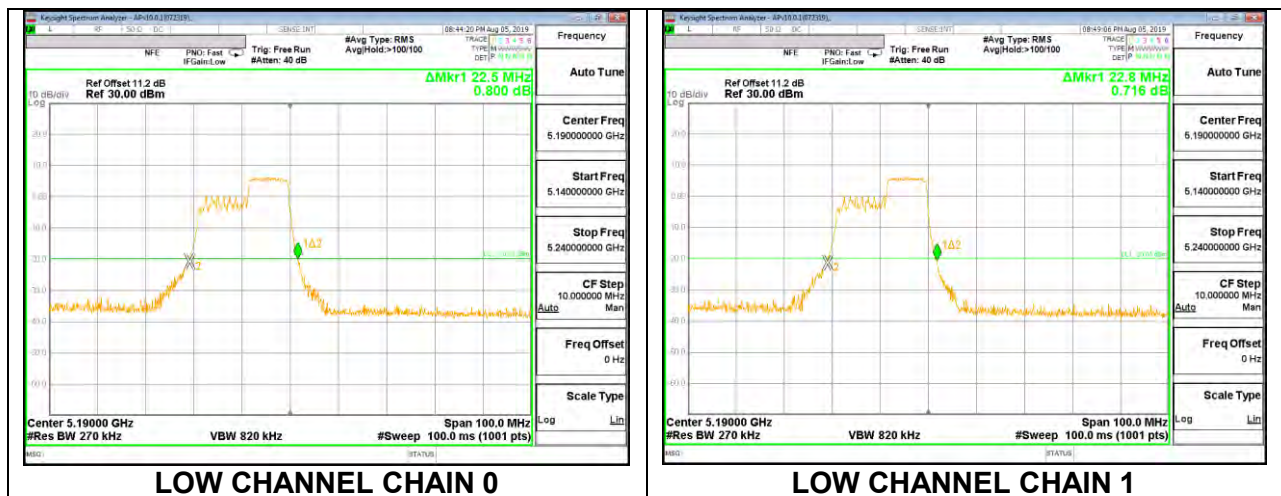
242-Tones, RU Index 62



106-Tones, RU Index 53



106-Tones, RU Index 54



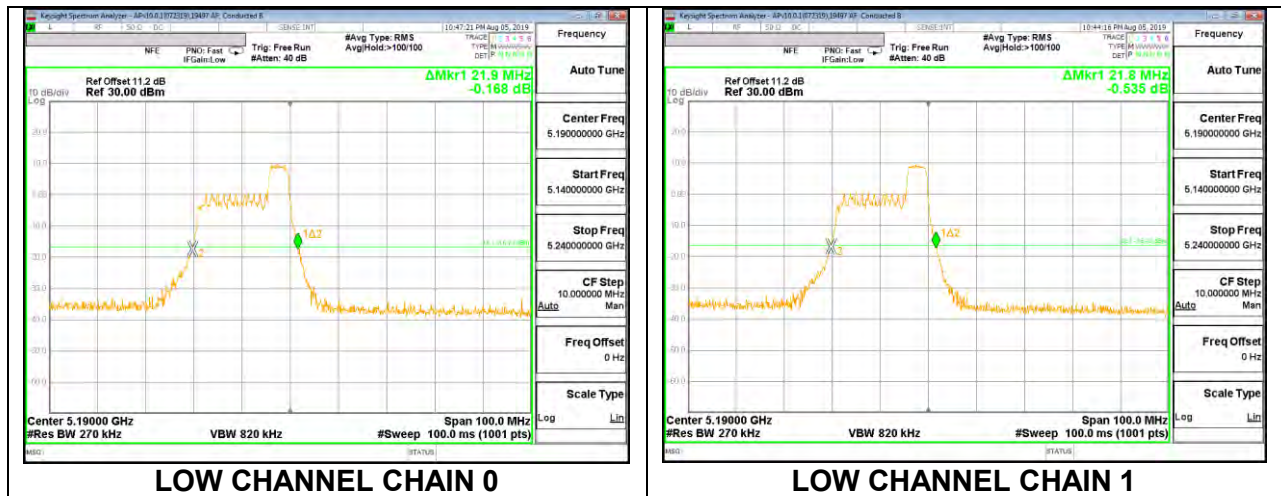
106-Tones, RU Index 56



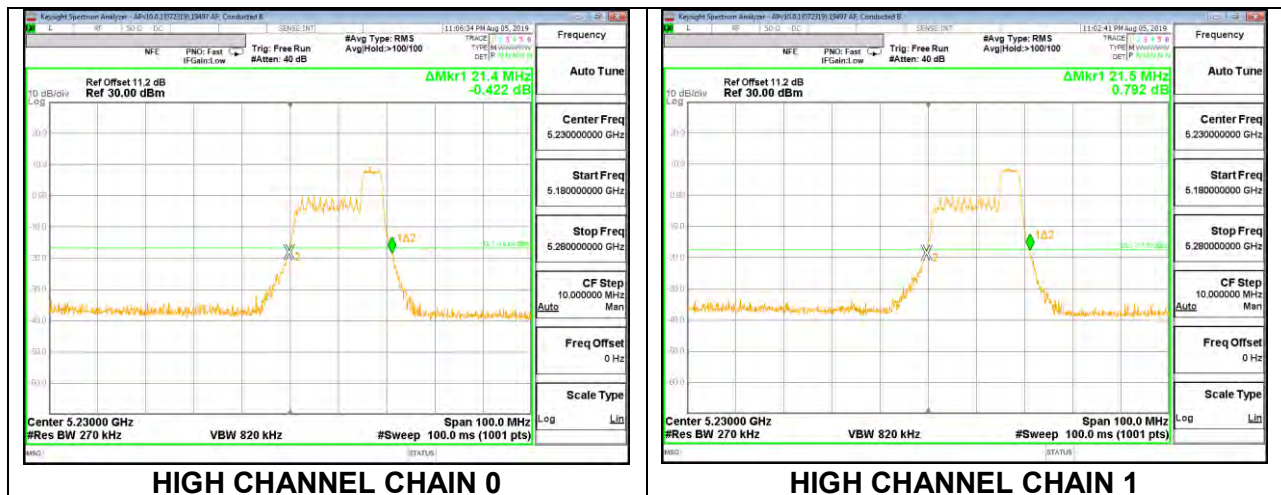
52-Tones, RU Index 37



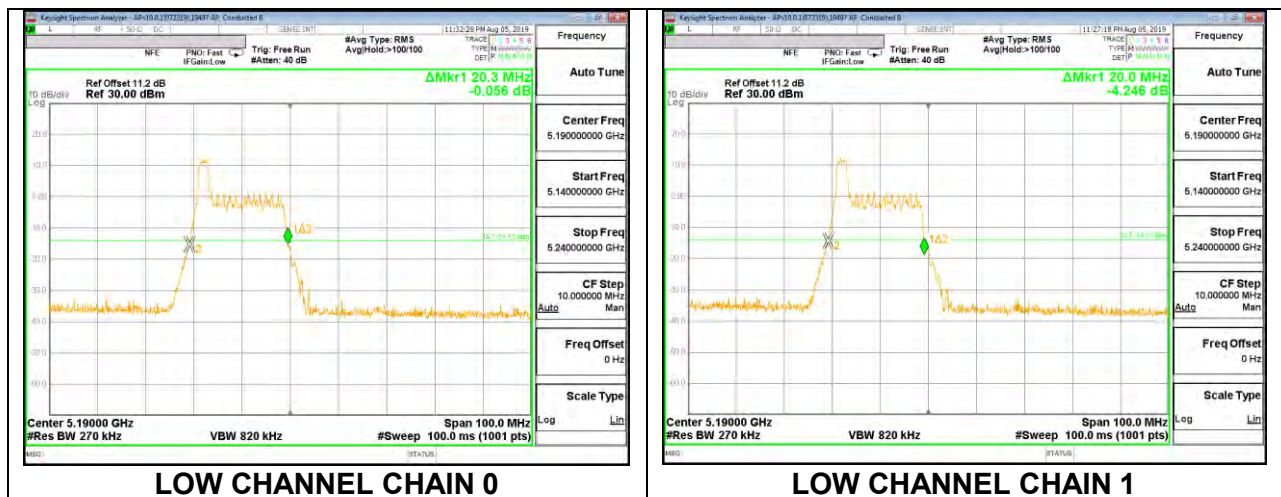
52-Tones, RU Index 40



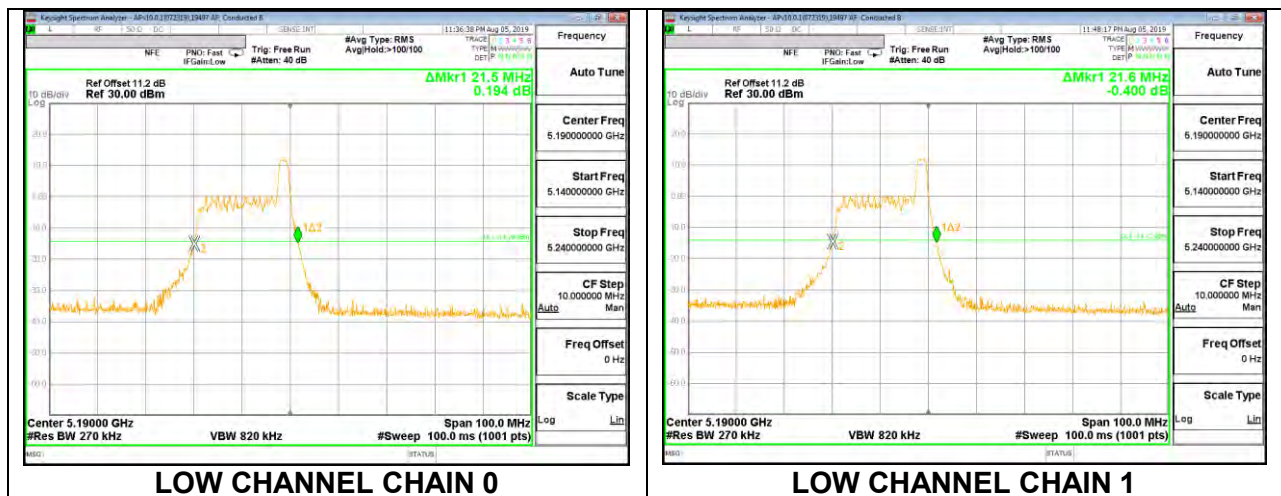
52-Tones, RU Index 44



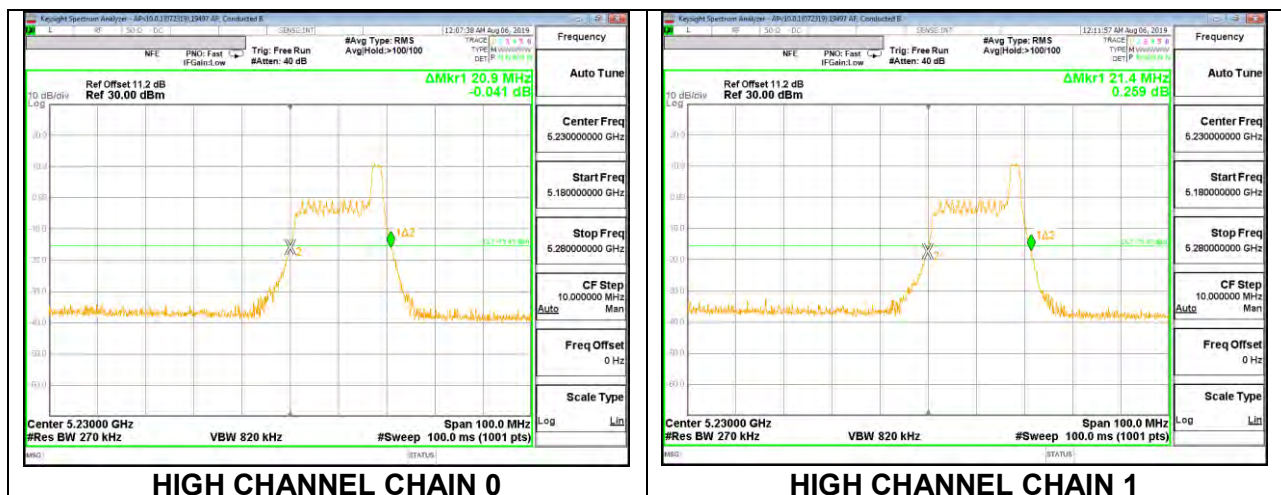
26-Tones, RU Index 0



26-Tones, RU Index 8



26-Tones, RU Index 17

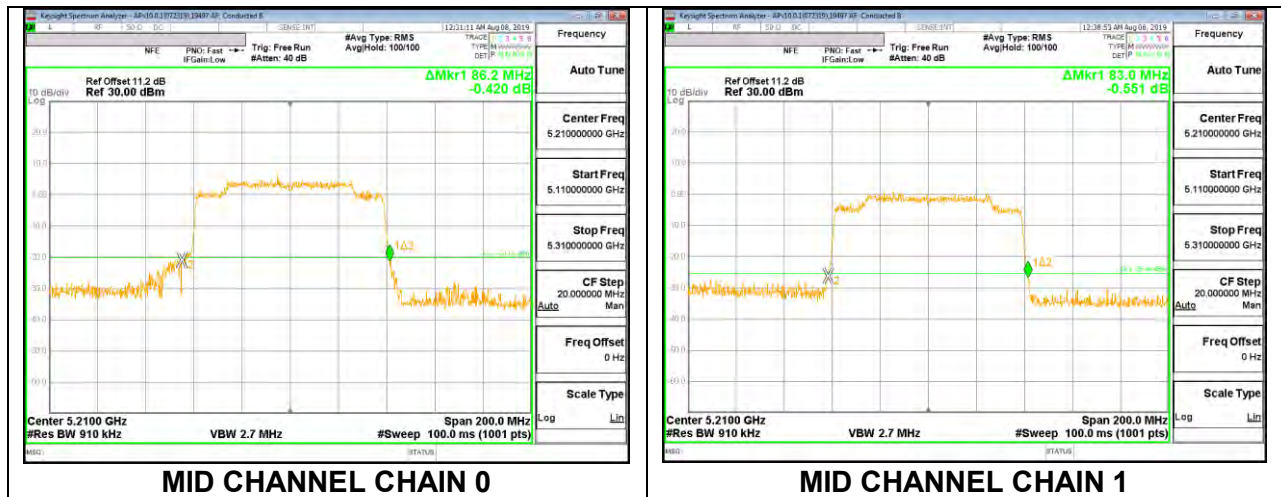


8.2.3. 802.11ax HE80 MODE IN THE 5.2 GHz BAND

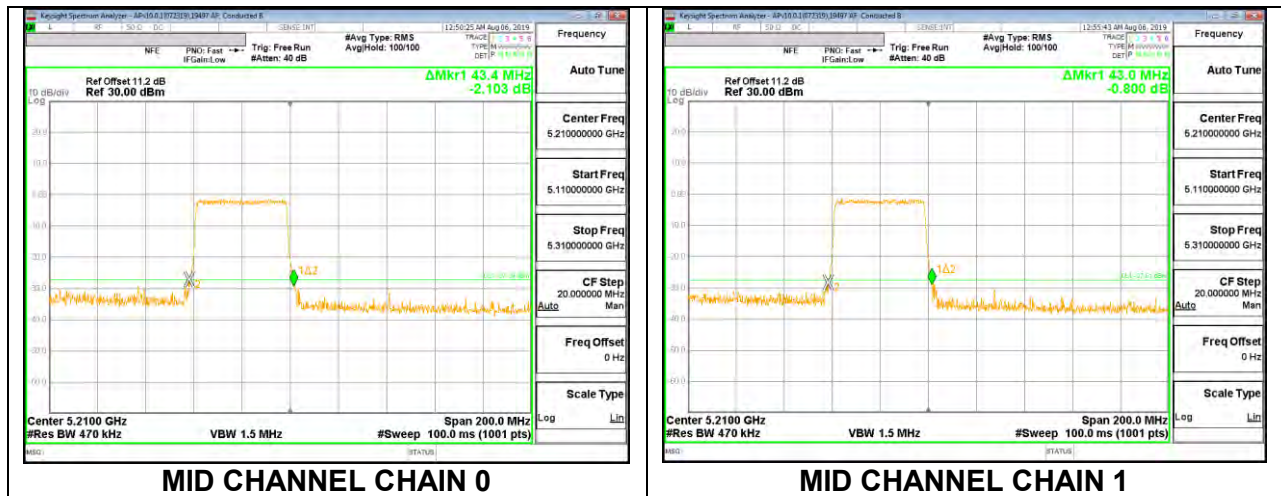
2TX Chain 0 + Chain 1 OFDMA MODE

RU Size (Tones)	RU Index	Channel	Frequency (MHz)	26 dB Bandwidth Chain 0 (MHz)	26 dB Bandwidth Chain 1 (MHz)
996T	67	Mid	5210	86.20	83.00
484T	65	Mid	5210	43.40	43.00
	66	Mid	5210	43.00	42.60
242T	61	Mid	5210	22.80	22.80
	62	Mid	5210	41.80	41.80
	64	Mid	5210	22.80	22.60
106T	53	Mid	5210	23.20	23.60
	56	Mid	5210	21.40	21.40
	60	Mid	5210	21.80	21.60
52T	37	Mid	5210	21.80	22.20
	44	Mid	5210	20.80	21.00
	52	Mid	5210	21.40	21.40
26T	0	Mid	5210	21.20	21.00
	18	Mid	5210	39.00	39.20
	36	Mid	5210	20.80	20.80

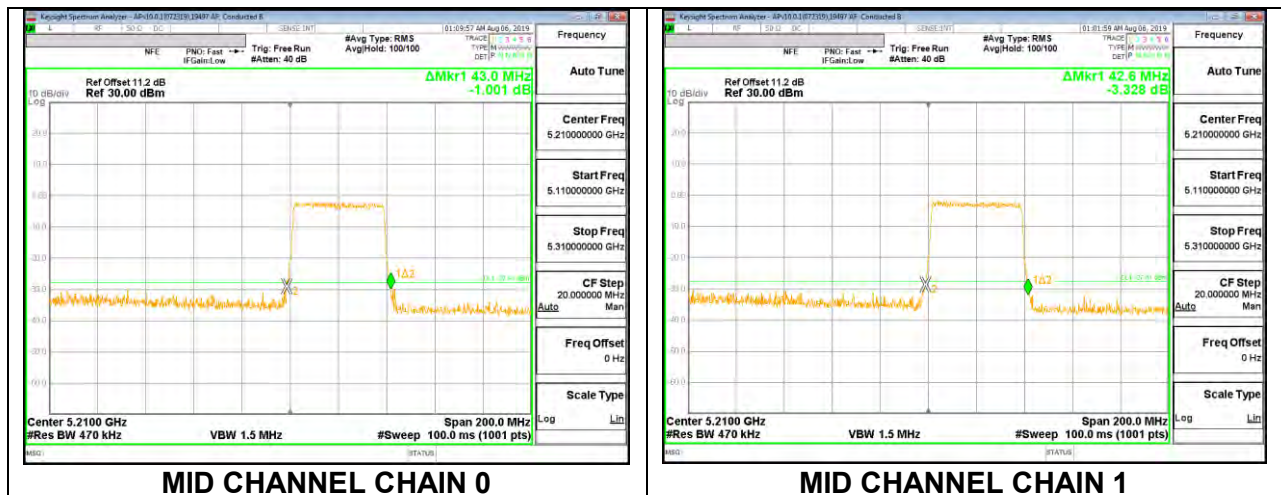
996-Tones, RU Index 67



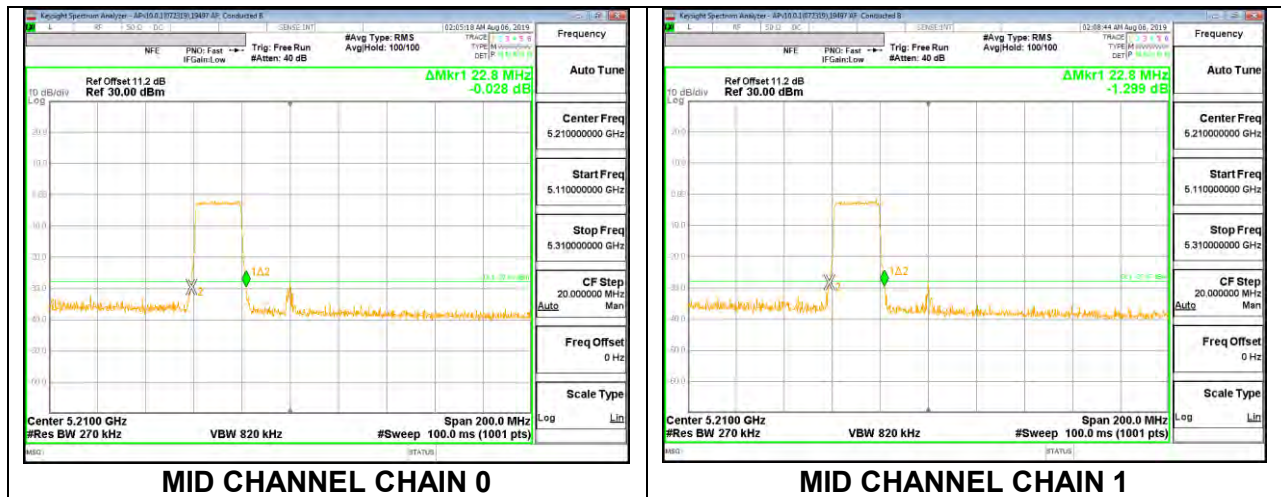
484-Tones, RU Index 65



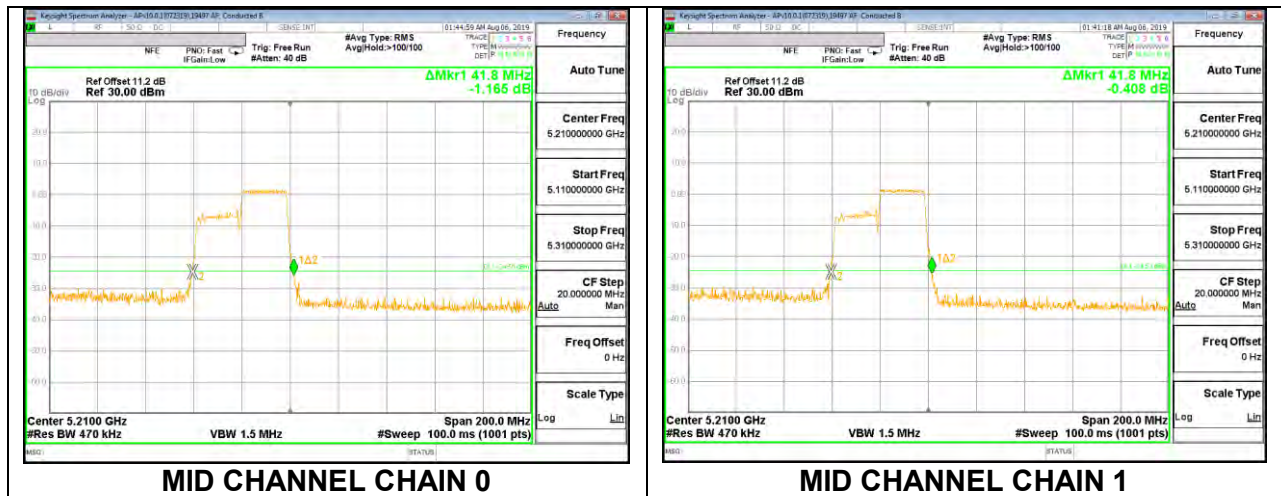
484-Tones, RU Index 66



242-Tones, RU Index 61



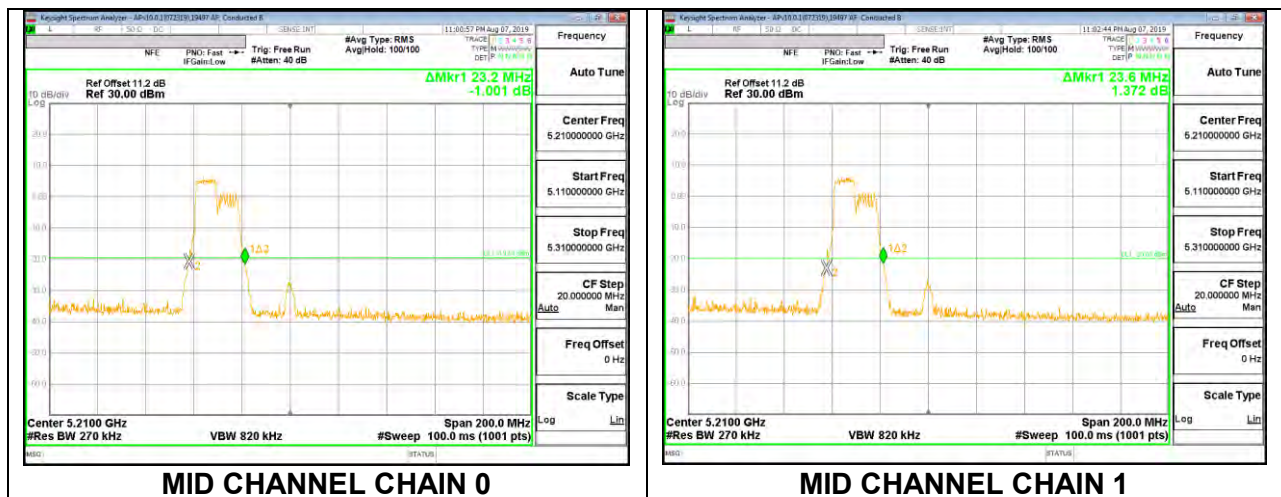
242-Tones, RU Index 62



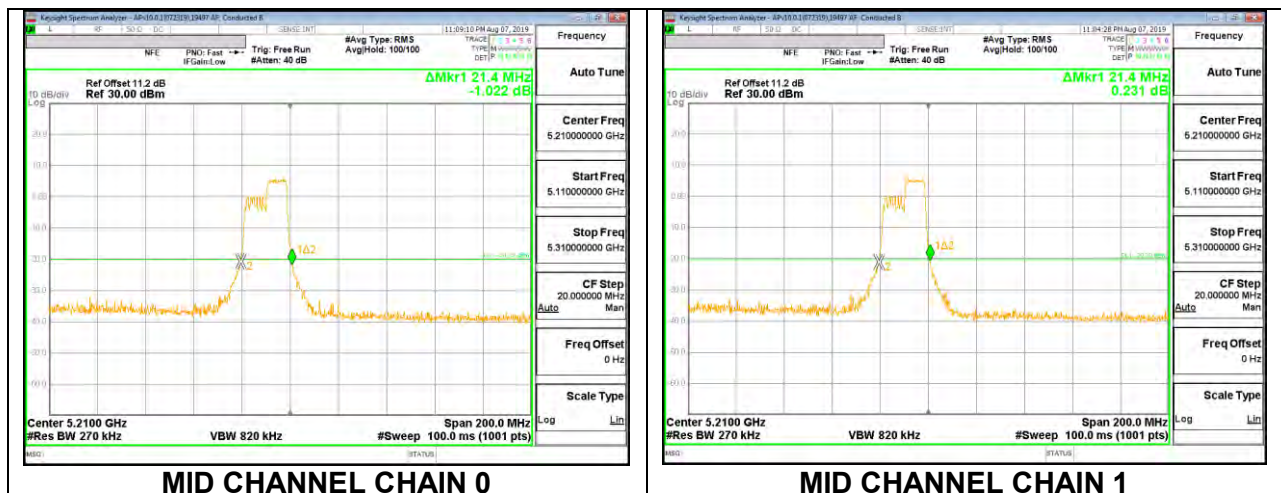
242-Tones, RU Index 64



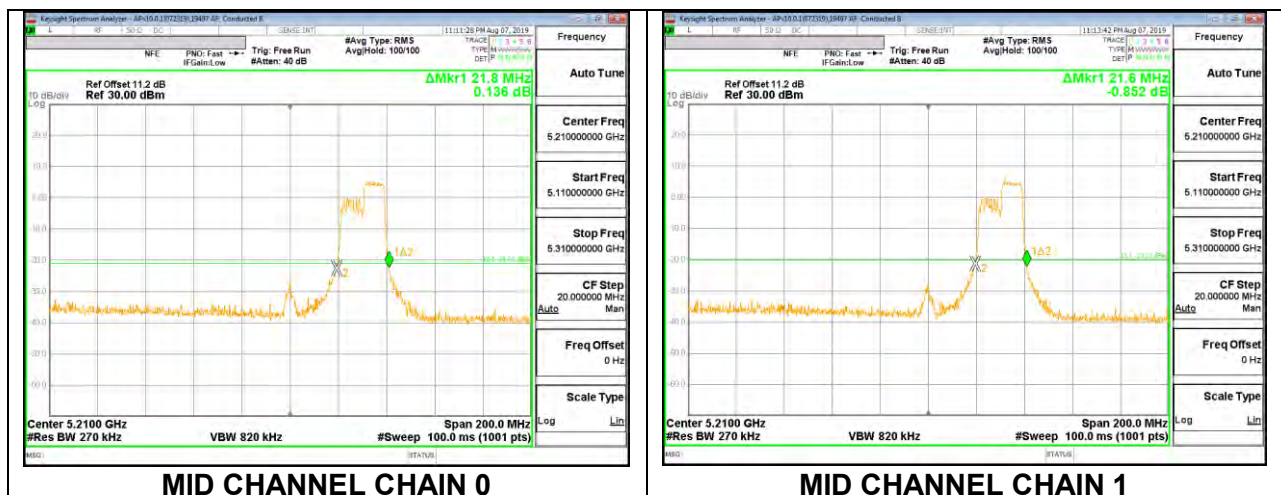
106-Tones, RU Index 53



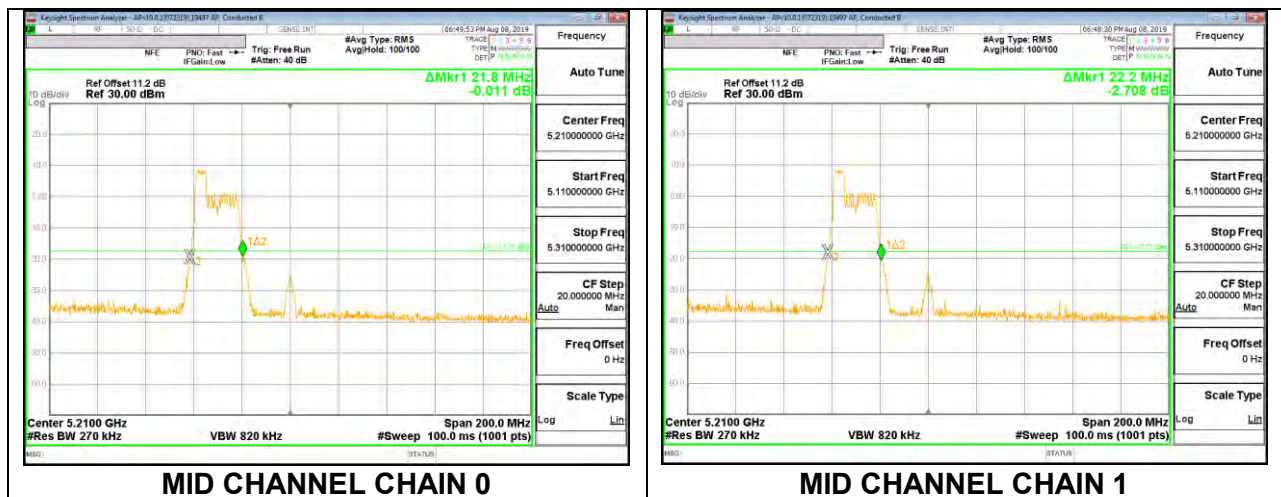
106-Tones, RU Index 56



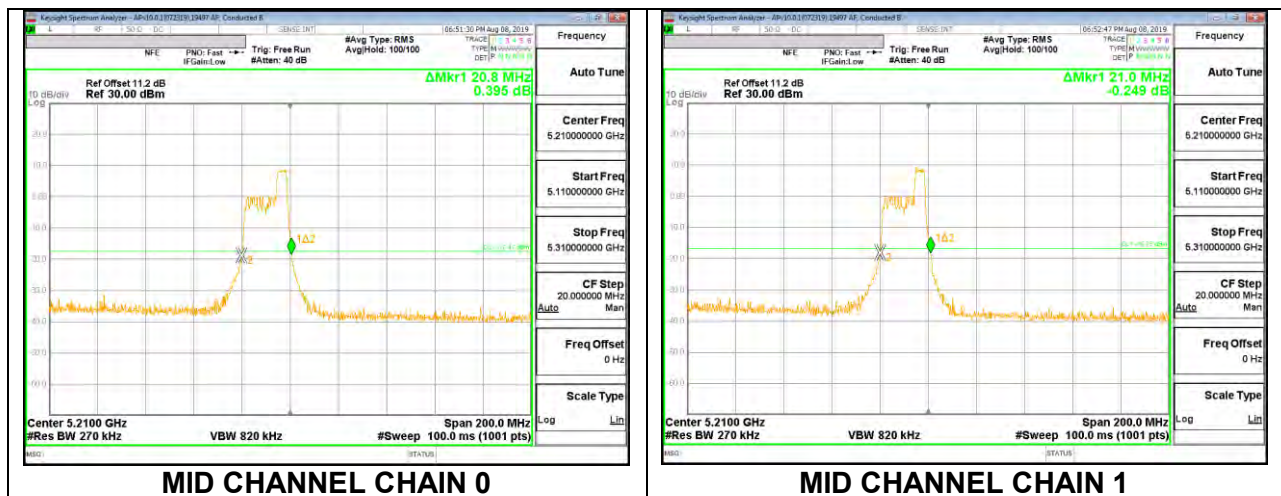
106-Tones, RU Index 60



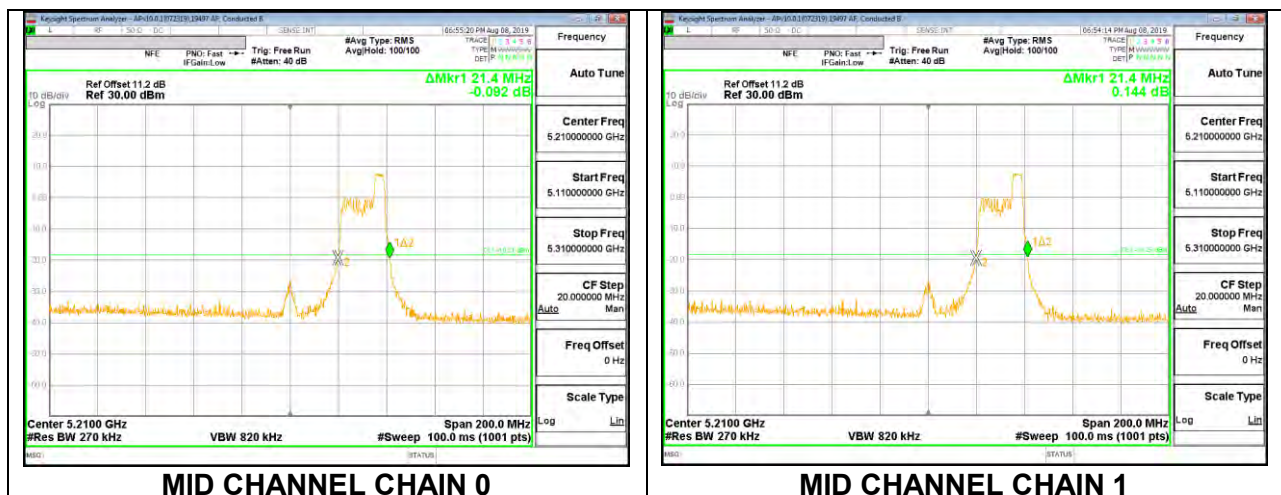
52-Tones, RU Index 37



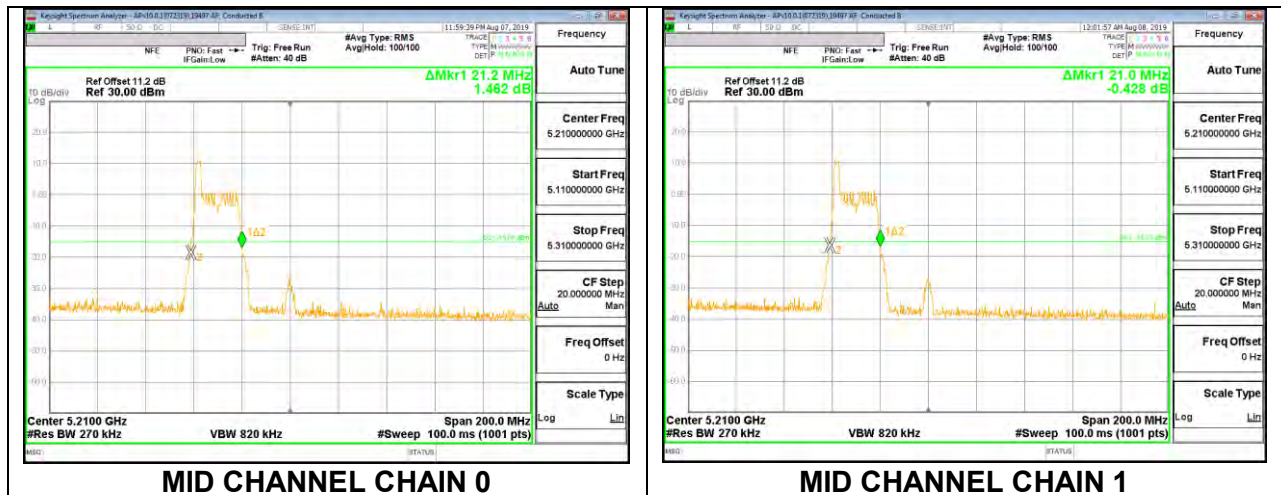
52-Tones, RU Index 44



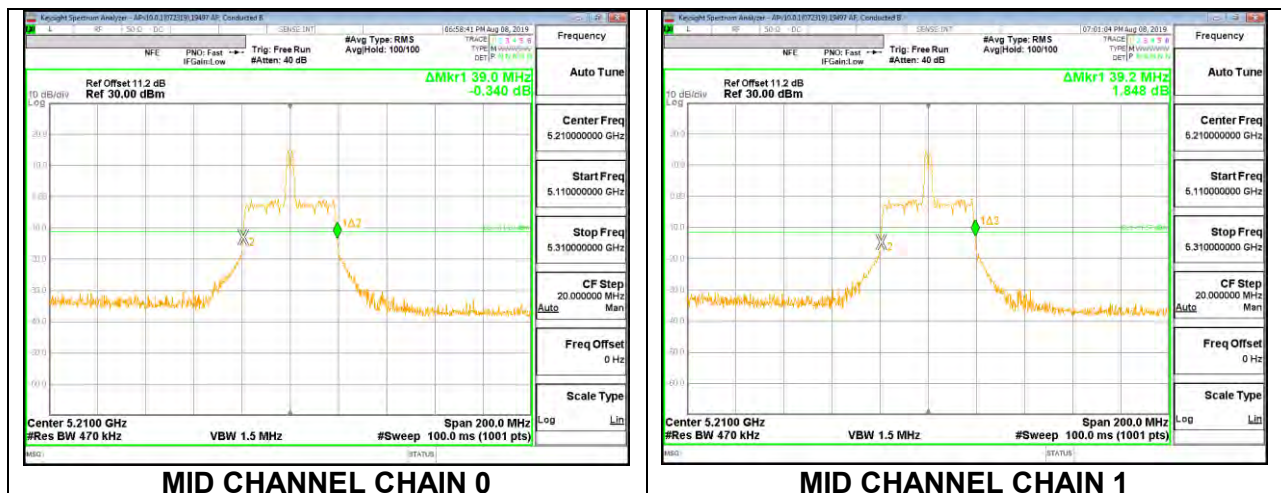
52-Tones, RU Index 52



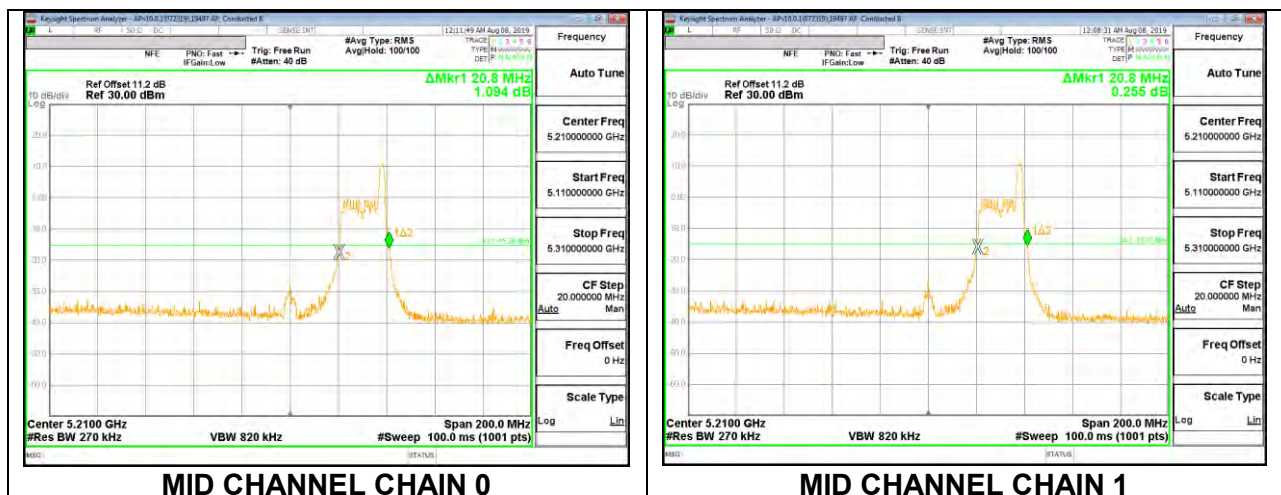
26-Tones, RU Index 0



26-Tones, RU Index 18



26-Tones, RU Index 36

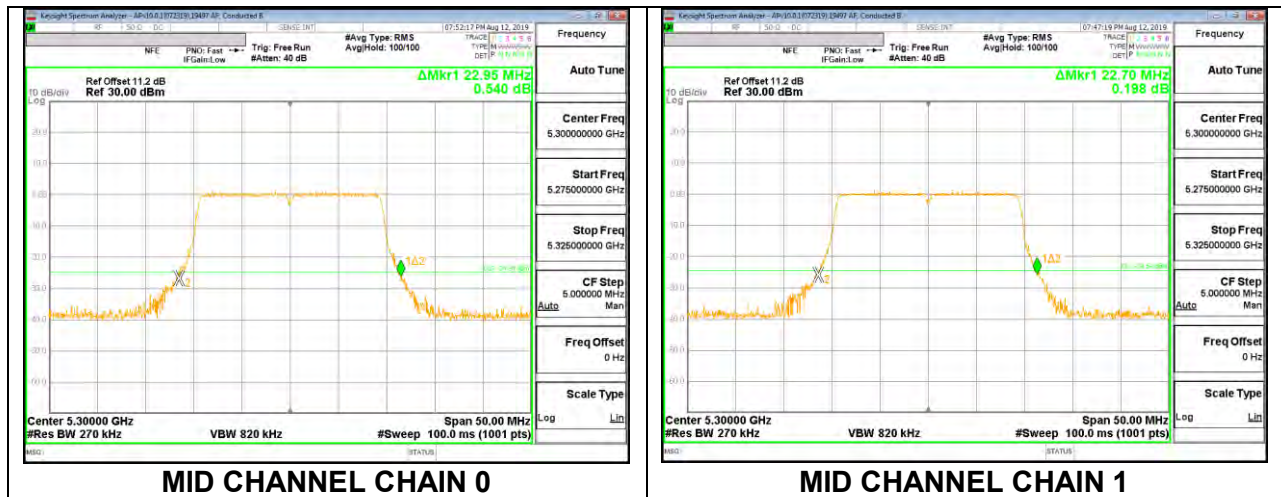


8.2.4. 802.11ax HE20 MODE IN THE 5.3 GHz BAND

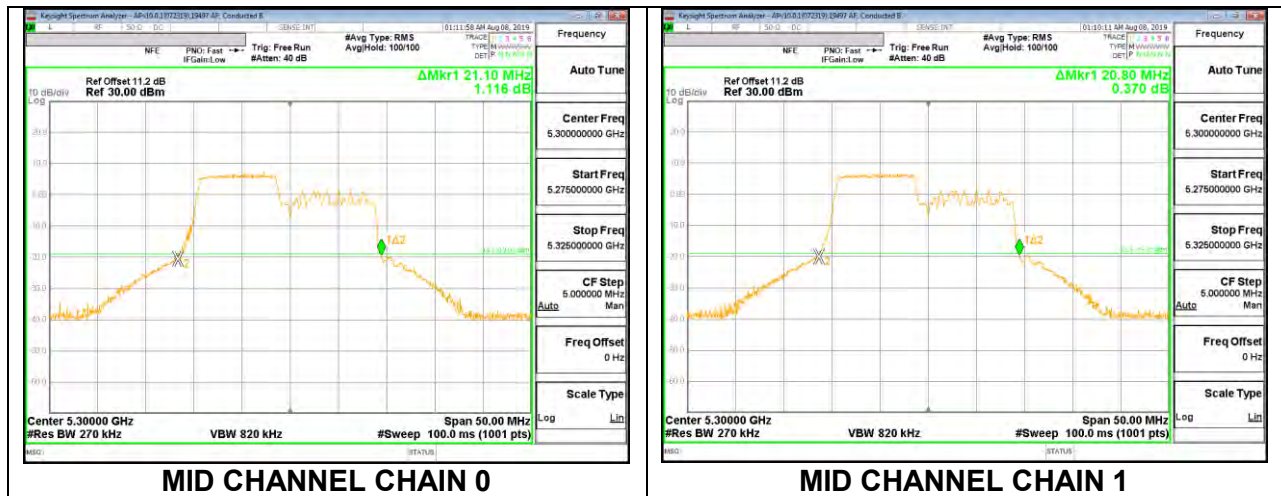
2TX Chain 0 + Chain 1 OFDMA MODE

RU Size (Tones)	RU Index	Channel	Frequency (MHz)	26 dB Bandwidth Chain 0 (MHz)	26 dB Bandwidth Chain 1 (MHz)
242T	61	Low	5260	22.95	23.00
		Mid	5300	22.95	22.70
		High	5320	22.95	23.00
106T	53	Low	5260	20.85	21.10
		Mid	5300	21.10	20.80
	54	High	5320	23.90	23.90
52T	37	Low	5260	20.45	20.70
	38	Mid	5300	18.85	18.75
	40	High	5320	22.10	22.40
26T	0	Low	5260	20.25	20.25
	4	Mid	5300	18.40	18.40
	8	High	5320	20.95	21.05

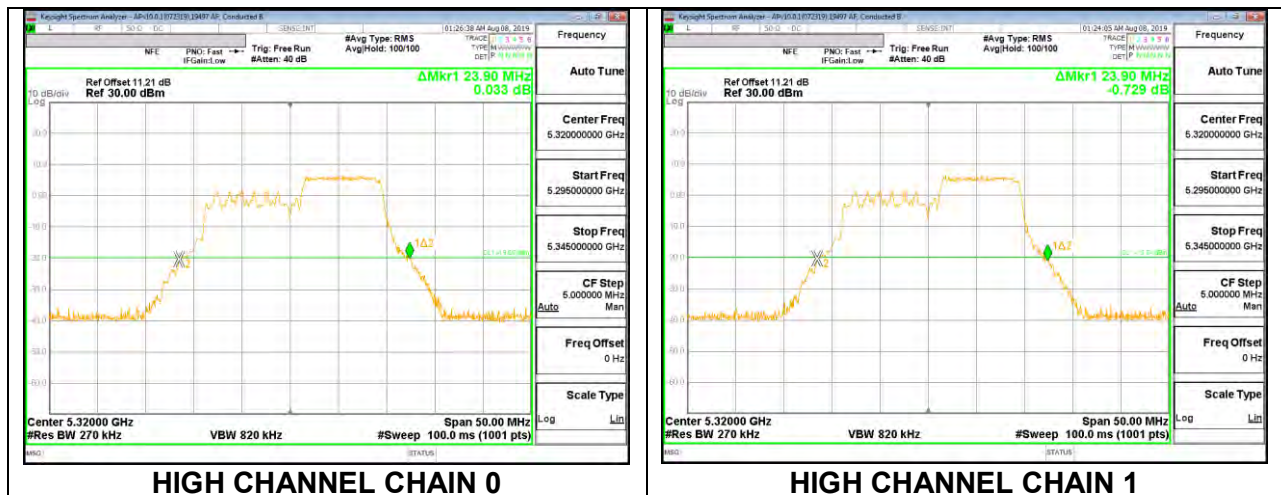
242-Tones, RU Index 61



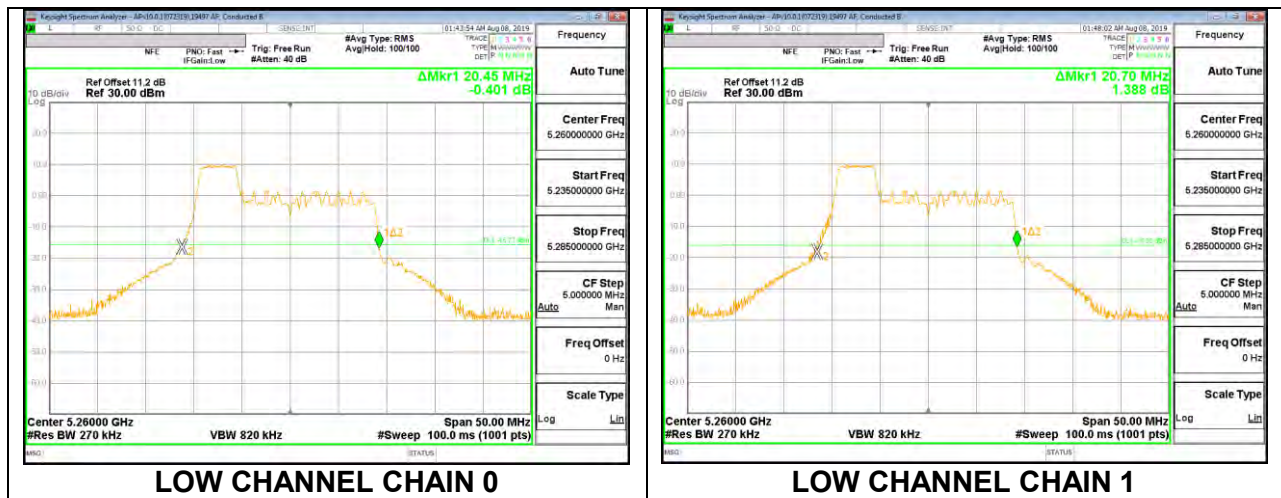
106-Tones, RU Index 53



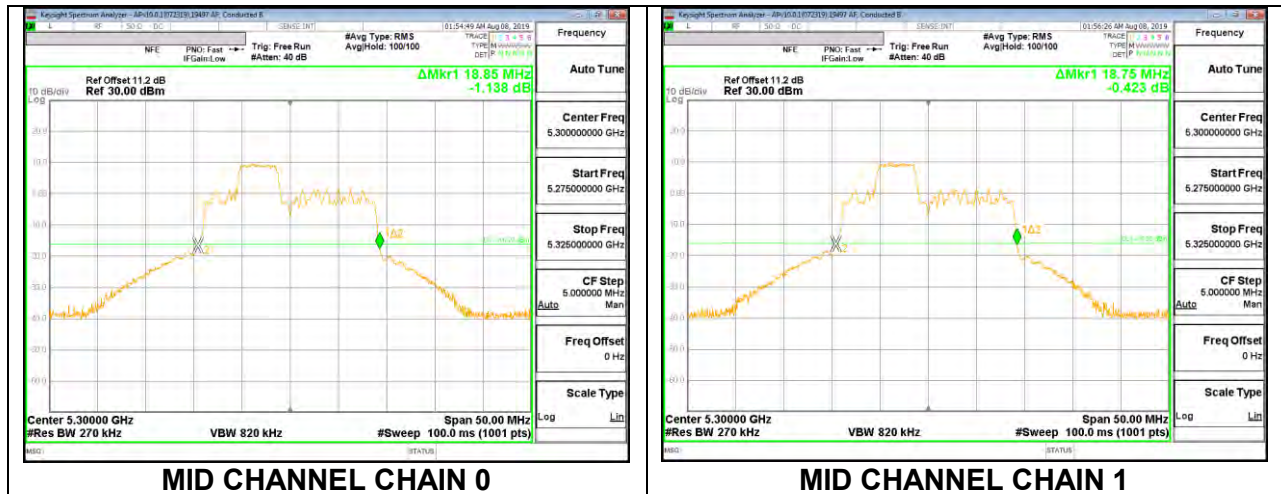
106-Tones, RU Index 54



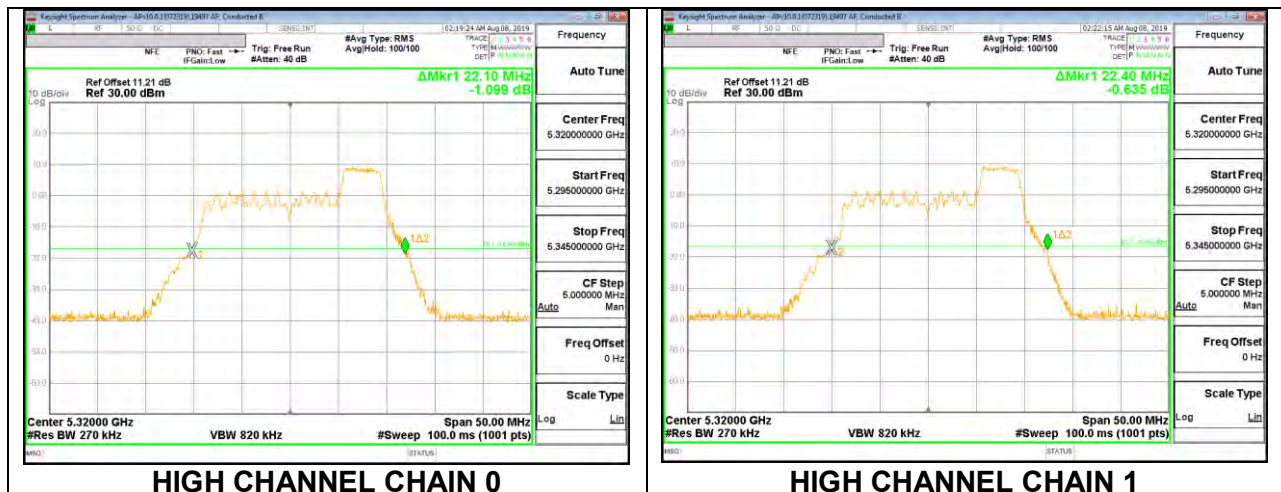
52-Tones, RU Index 37



52-Tones, RU Index 38



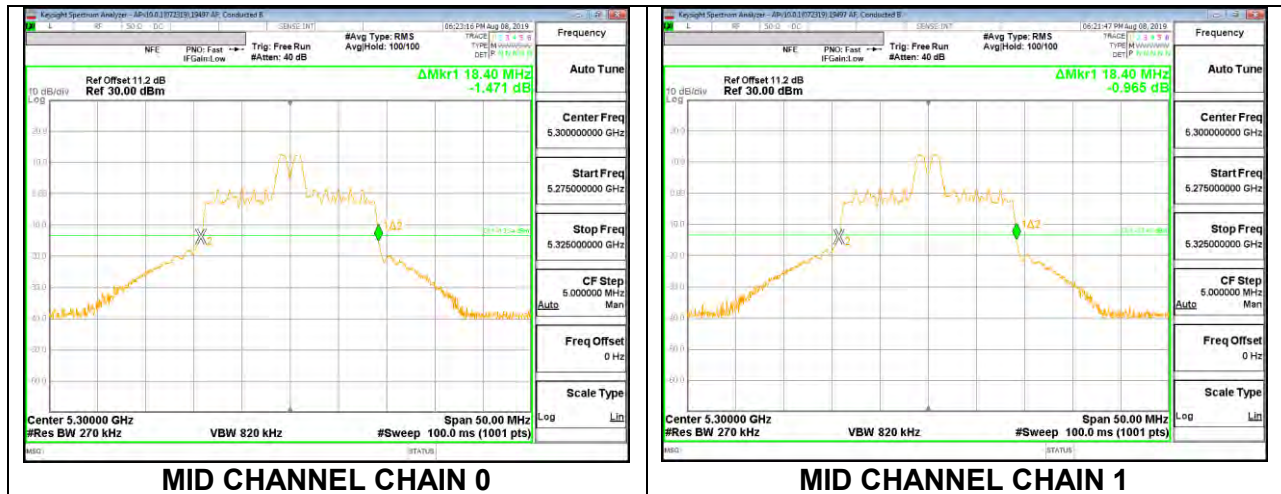
52-Tones, RU Index 40



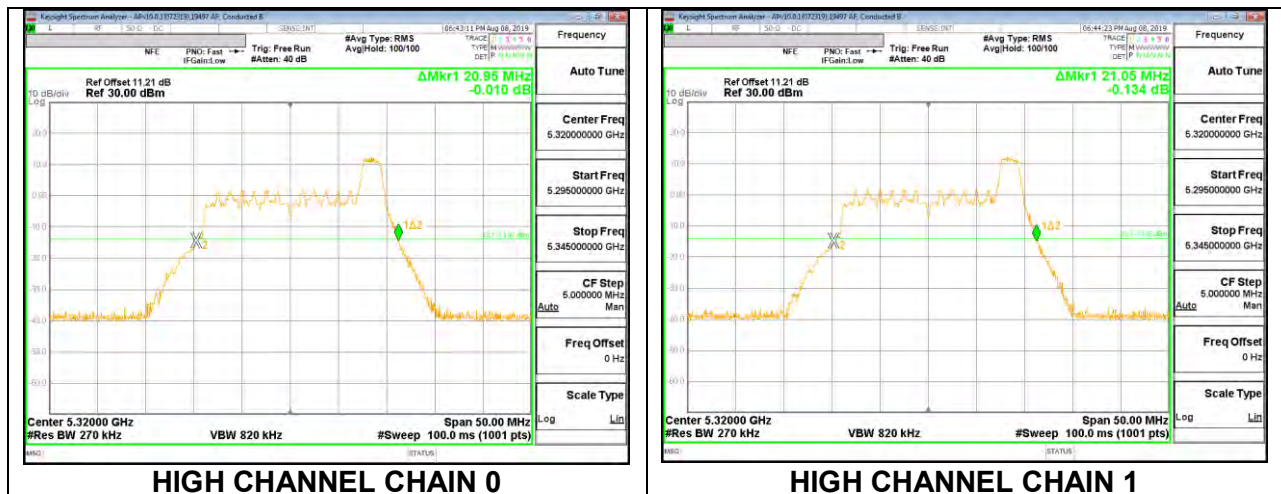
26-Tones, RU Index 0



26-Tones, RU Index 4



26-Tones, RU Index 8

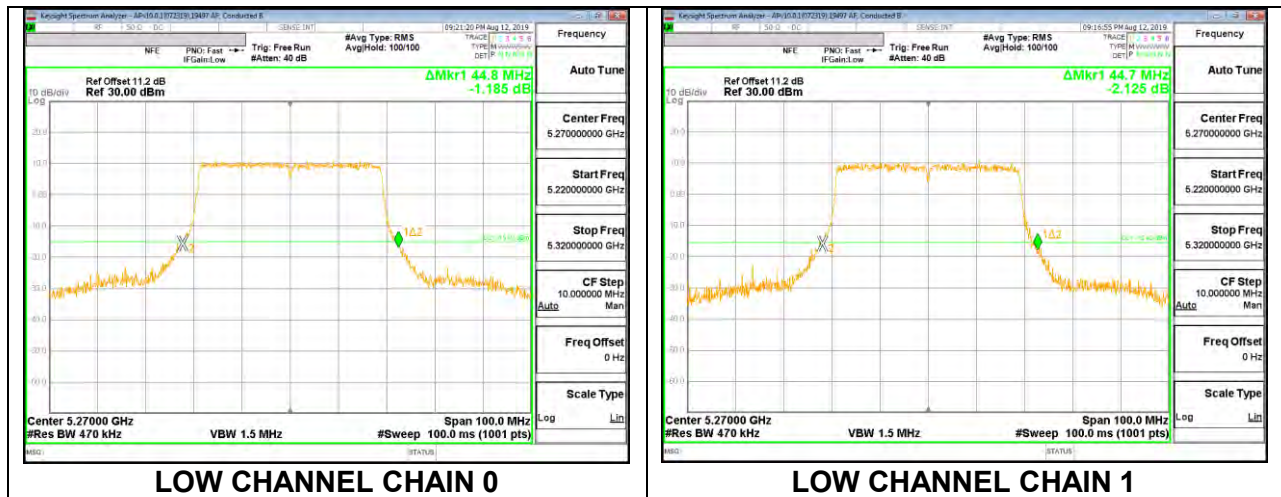


8.2.5. 802.11ax HE40 MODE IN THE 5.3 GHZ BAND

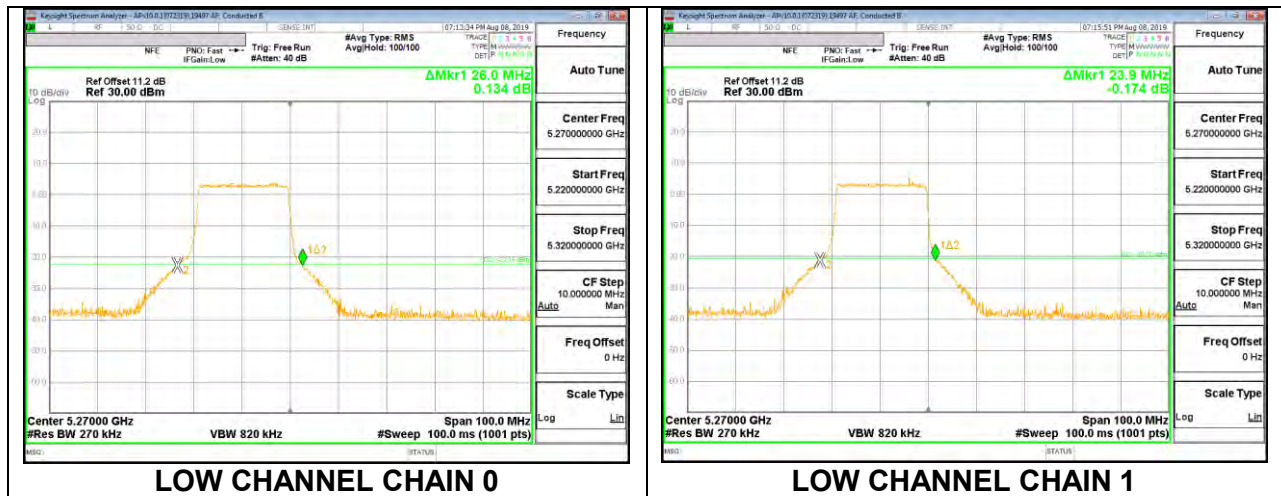
2TX Chain 0 + Chain 1 OFDMA MODE

RU Size (Tones)	RU Index	Channel	Frequency (MHz)	26 dB Bandwidth Chain 0 (MHz)	26 dB Bandwidth Chain 1 (MHz)
484T	65	Low	5270	44.80	44.70
		High	5310	45.30	46.10
242T	61	Low	5270	26.00	23.90
	62	High	5310	26.20	25.90
106T	53	Low	5270	21.30	21.40
	54	Low	5270	22.60	22.50
	56	High	5310	22.40	22.70
52T	37	Low	5270	21.20	21.00
	40	Low	5270	22.00	21.90
	44	High	5310	21.60	21.50
26T	0	Low	5270	20.10	20.10
	8	Low	5270	21.40	21.50
	17	High	5310	21.00	20.90

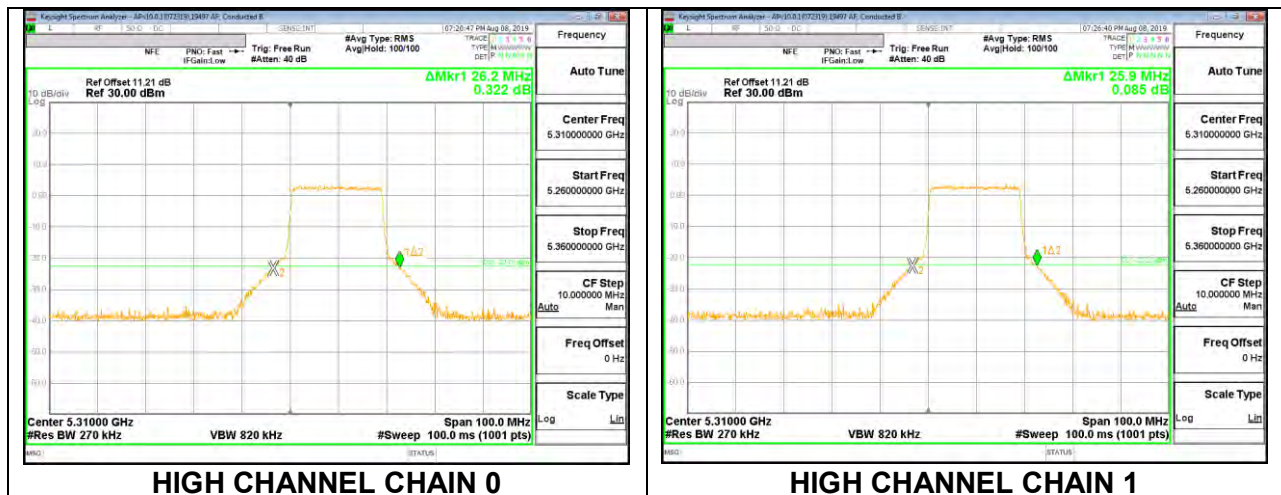
484-Tones, RU Index 65



242-Tones, RU Index 61



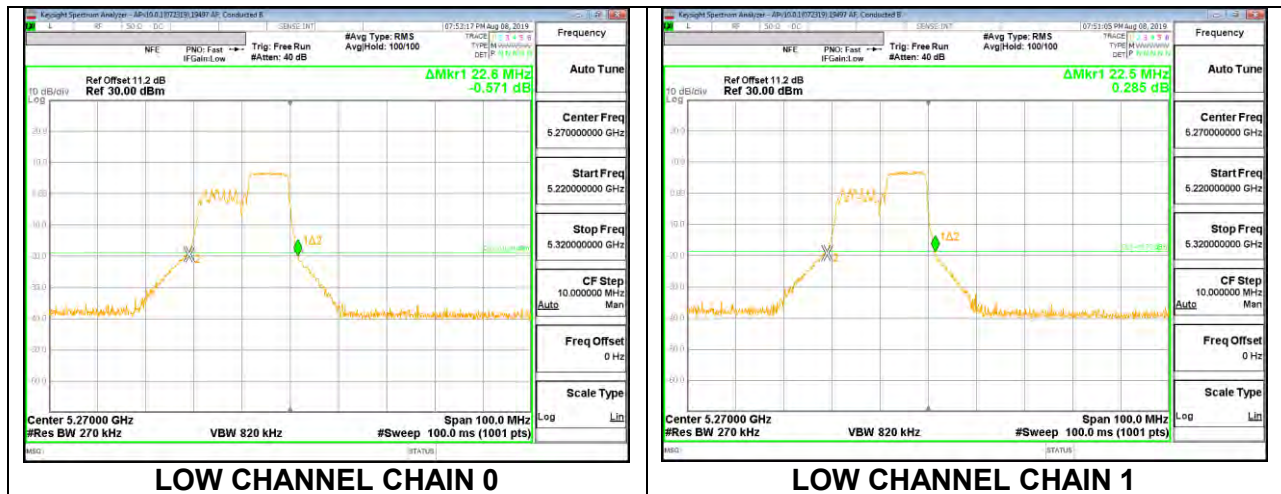
242-Tones, RU Index 62



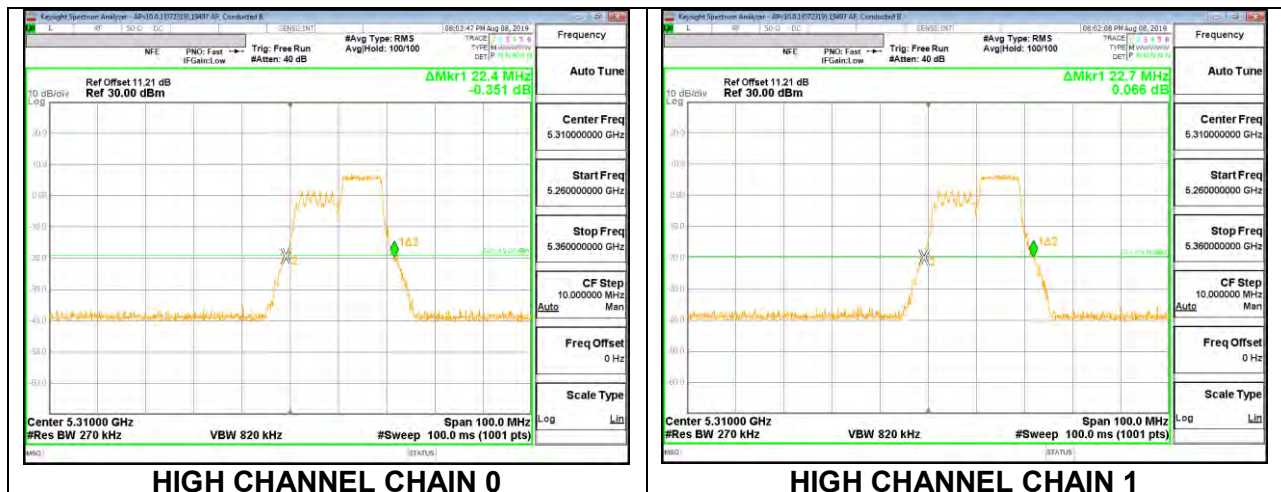
106-Tones, RU Index 53



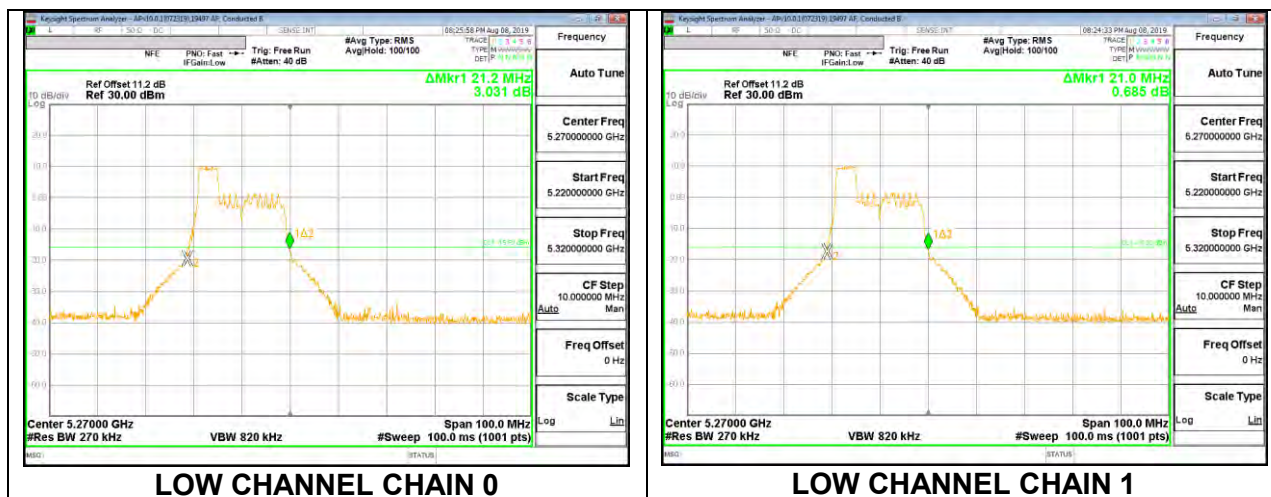
106-Tones, RU Index 54



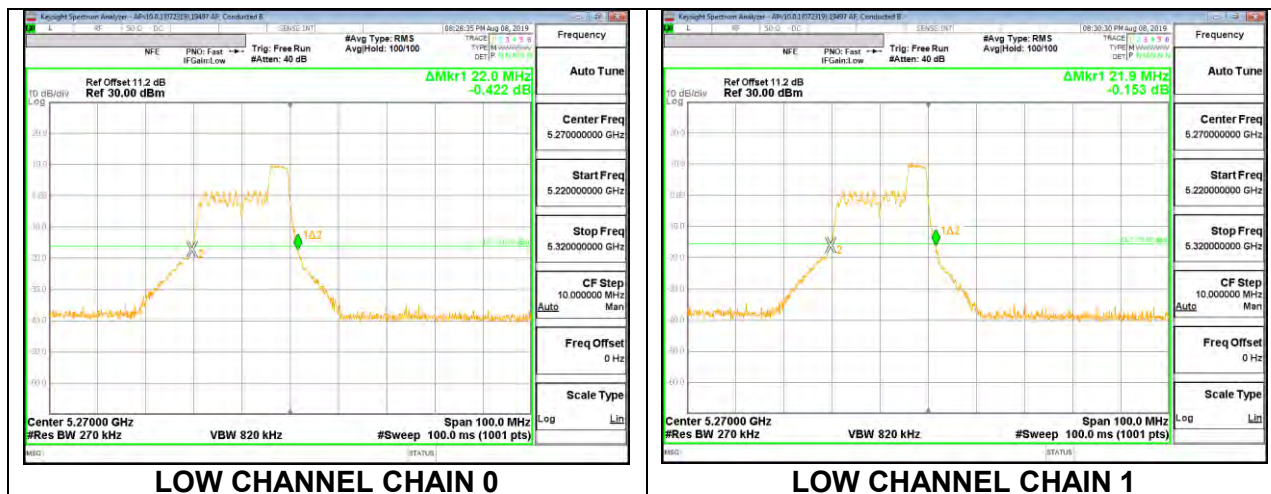
106-Tones, RU Index 56



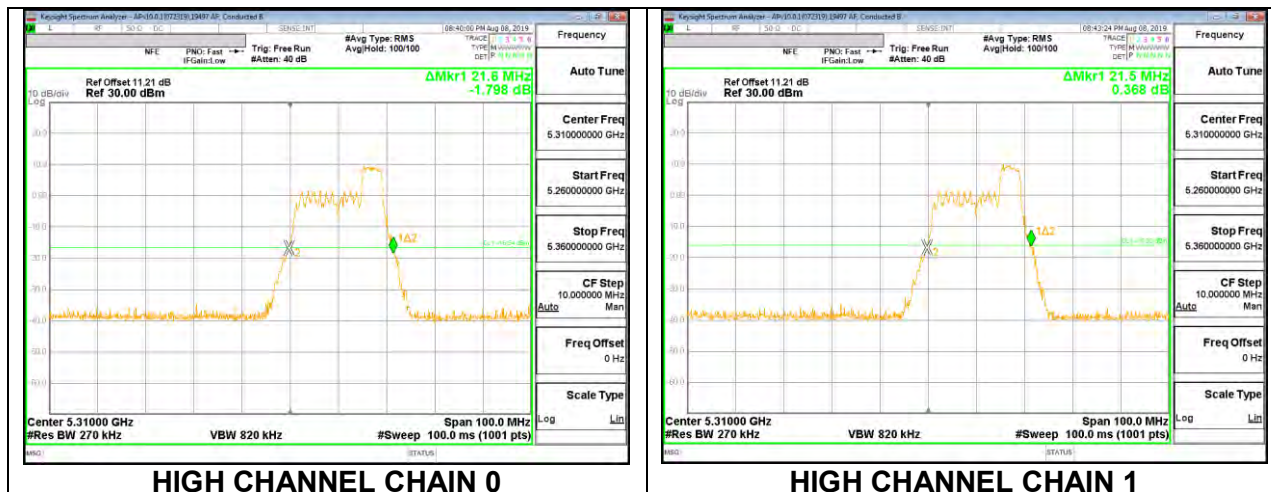
52-Tones, RU Index 37



52-Tones, RU Index 40



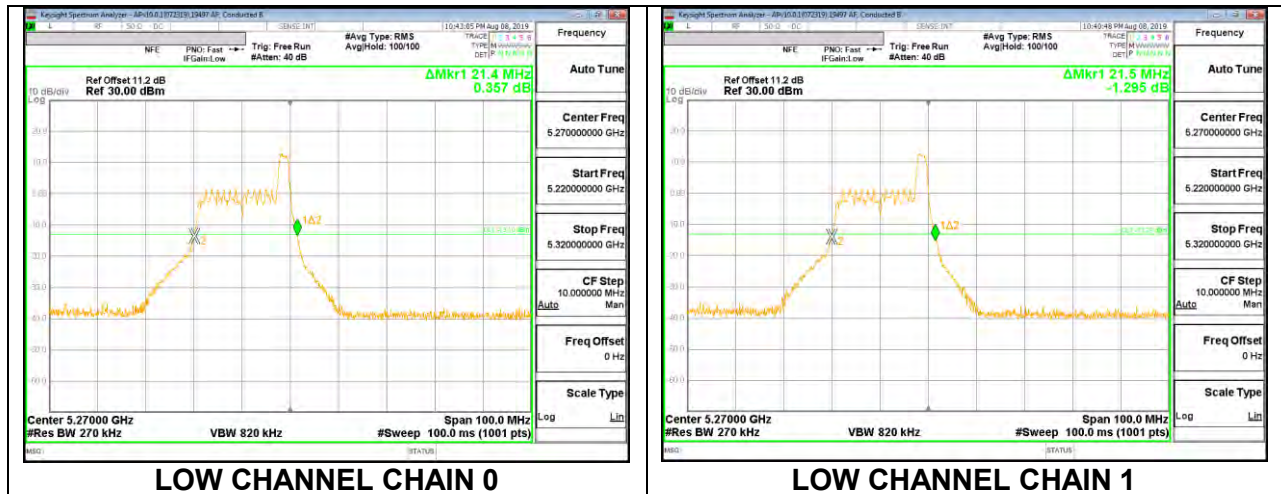
52-Tones, RU Index 44



26-Tones, RU Index 0



26-Tones, RU Index 8



26-Tones, RU Index 17

