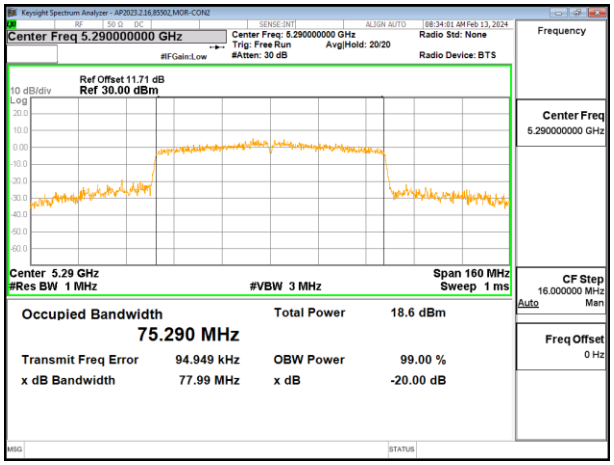
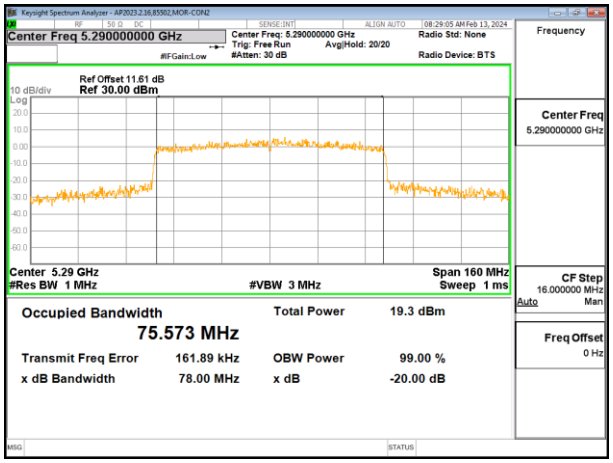
9.4.11. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5290	75.290	75.573



MID CHANNEL CHAIN 0

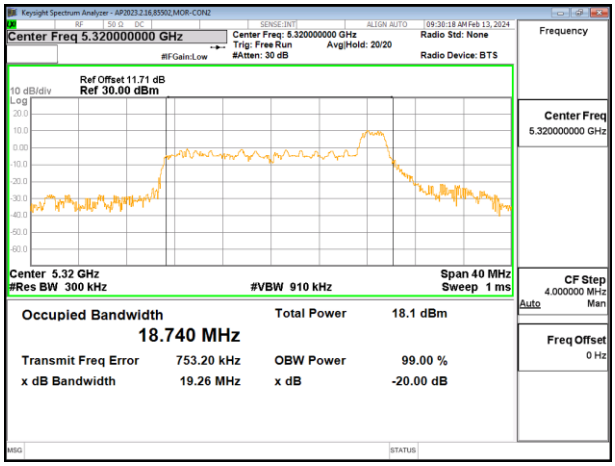


MID CHANNEL CHAIN 1

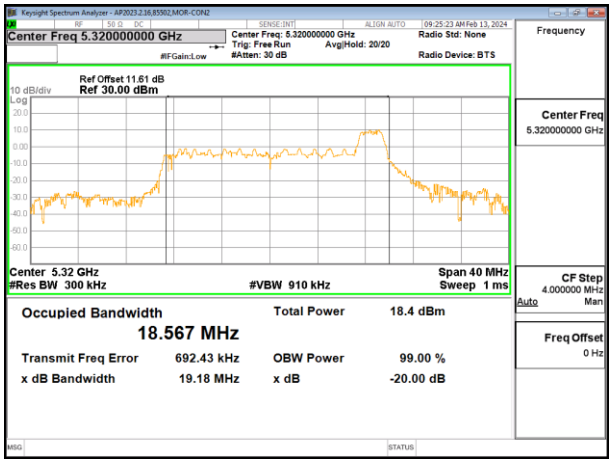
9.4.12. 802.11ax HE20 MODE 2TX IN THE 5.3GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5260	18.681	18.470
Mid	5300	17.080	17.128
High	5320	18.740	18.567



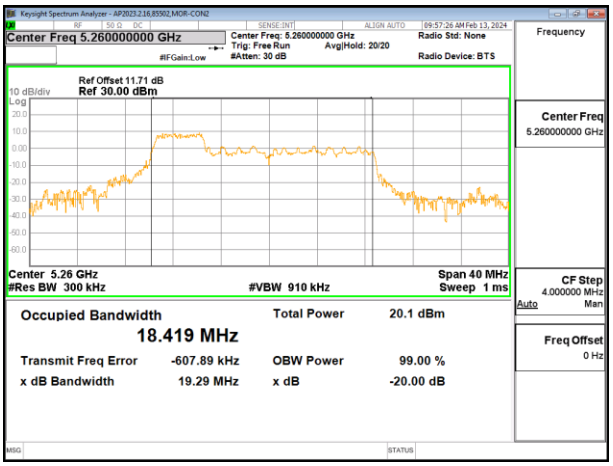
HIGH CHANNEL CHAIN 0



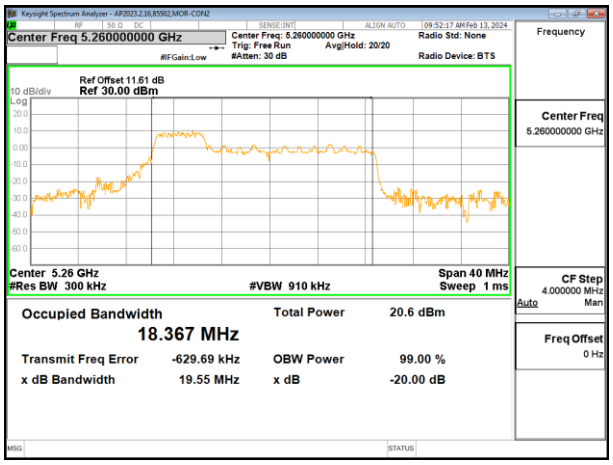
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5260	18.419	18.367
Mid	5300	17.175	17.107
High	5320	18.389	18.340



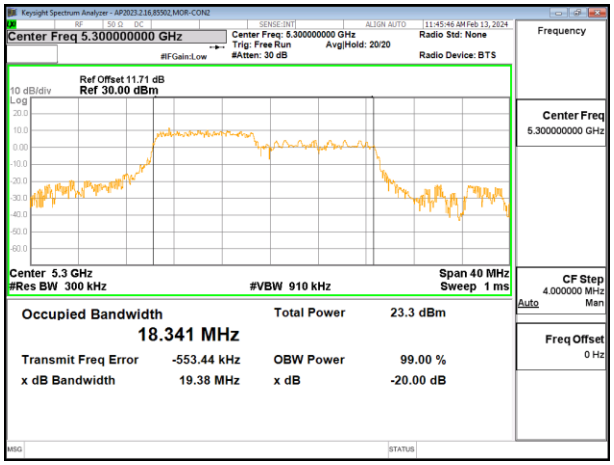
LOW CHANNEL CHAIN 0



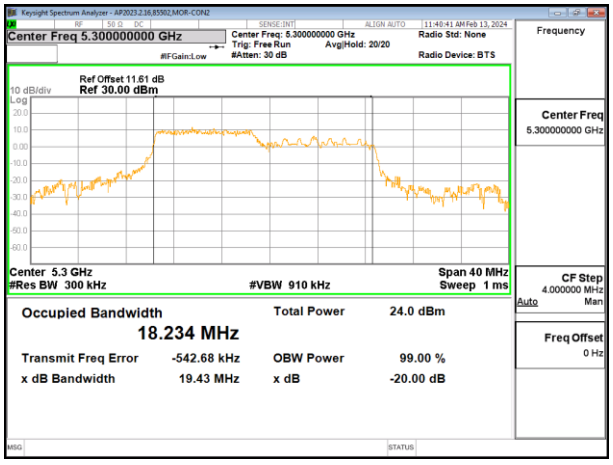
LOW CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5260	18.281	18.237
Mid	5300	18.341	18.234
High	5320	18.332	18.328



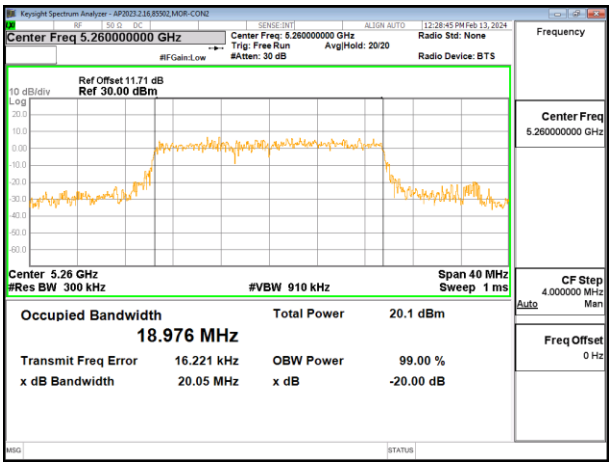
MID CHANNEL CHAIN 0



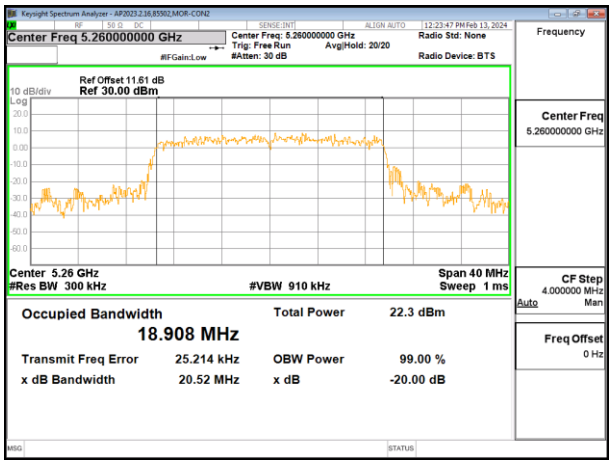
MID CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5260	18.976	18.908
Mid	5300	18.972	18.953
High	5320	18.898	18.913



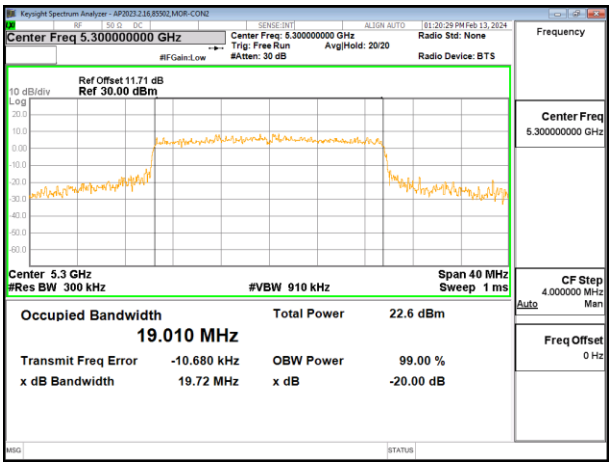
LOW CHANNEL CHAIN 0



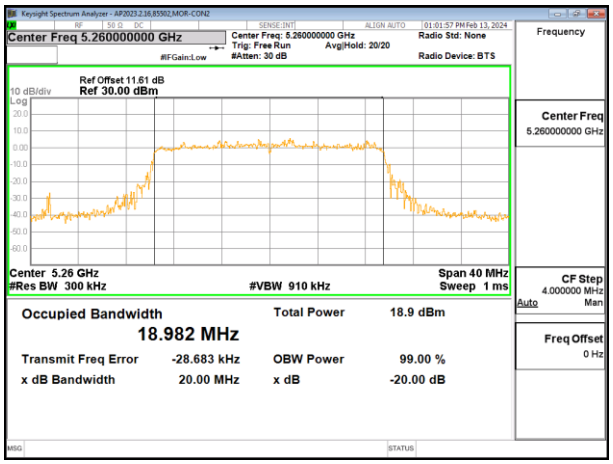
LOW CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD OFDMA MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5260	18.989	18.982
Mid	5300	19.010	18.962
High	5320	18.947	18.996



MID CHANNEL CHAIN 0

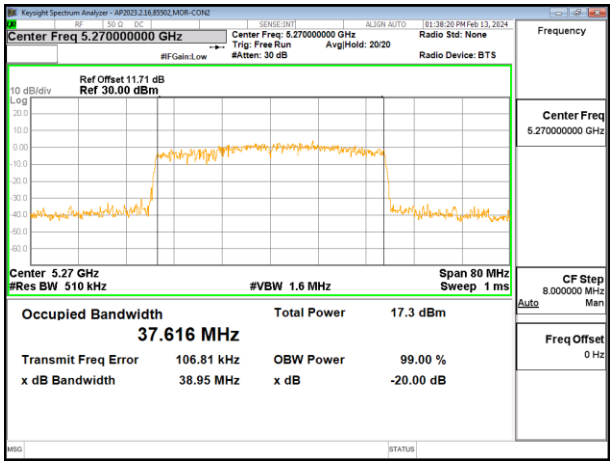


MID CHANNEL CHAIN 1

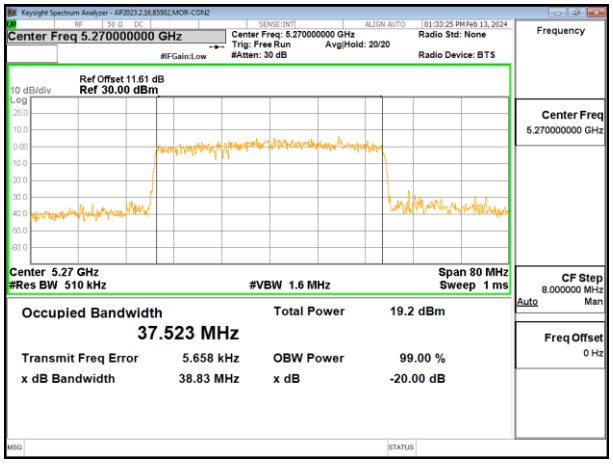
9.4.13. 802.11ax HE40 MODE 2TX IN THE 5.3GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5270	37.616	37.523
High	5310	37.387	37.511



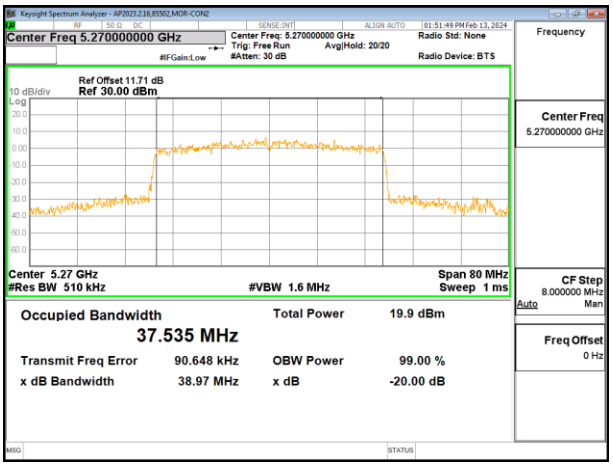
LOW CHANNEL CHAIN 0



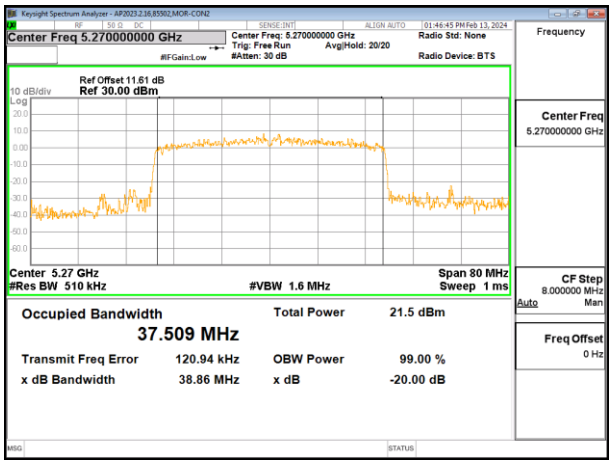
LOW CHANNEL CHAIN 1

2TX CHAIN 1 + CHAIN 2 CDD OFDMA MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5270	37.535	37.509
High	5310	37.396	37.519



LOW CHANNEL CHAIN 0

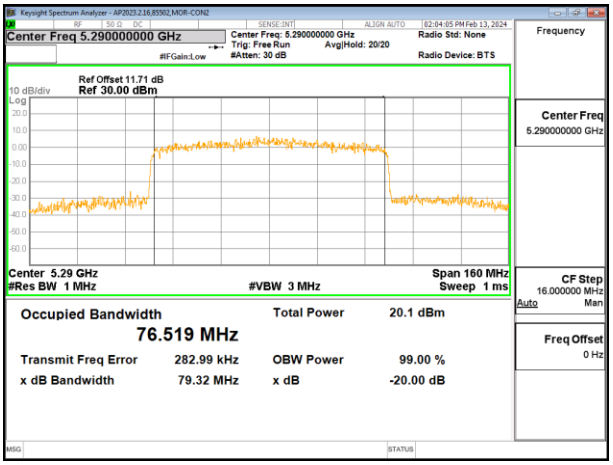


LOW CHANNEL CHAIN 1

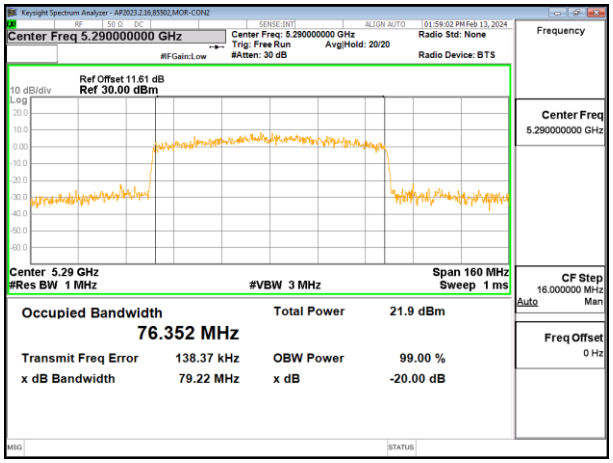
9.4.14. 802.11ax HE80 MODE 2TX IN THE 5.3GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5290	76.519	76.352



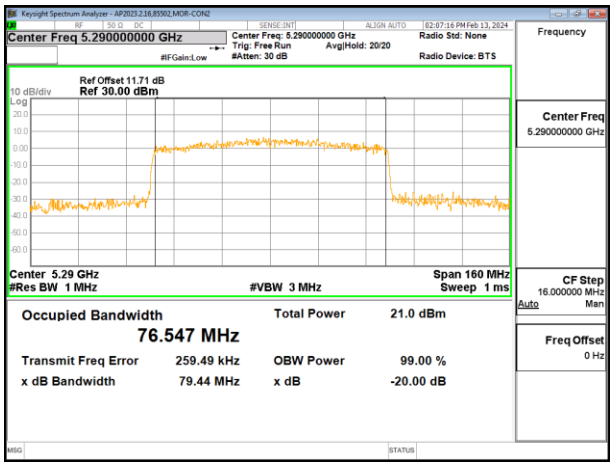
MID CHANNEL CHAIN 0



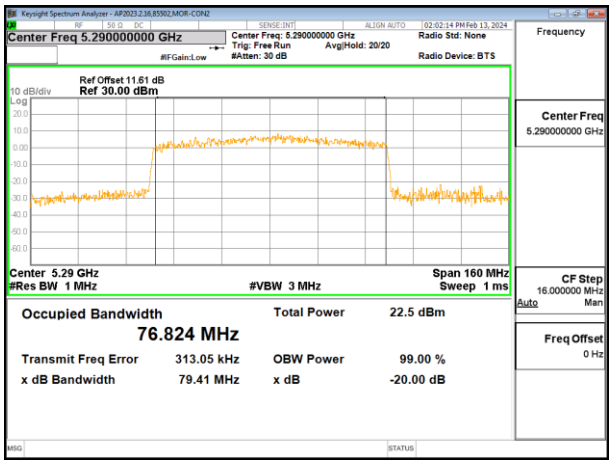
MID CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD OFDMA MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5290	76.547	76.824



MID CHANNEL CHAIN 0

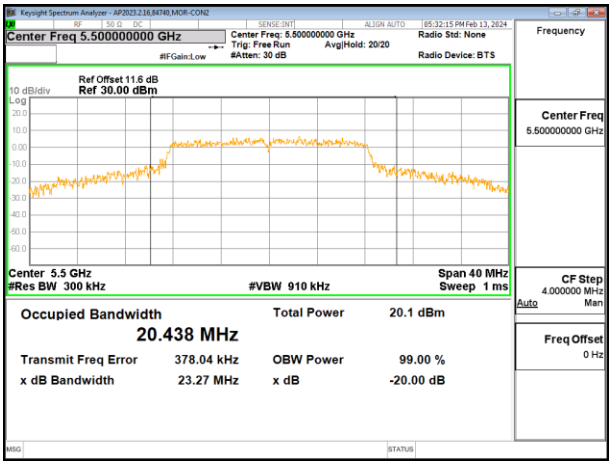


MID CHANNEL CHAIN 1

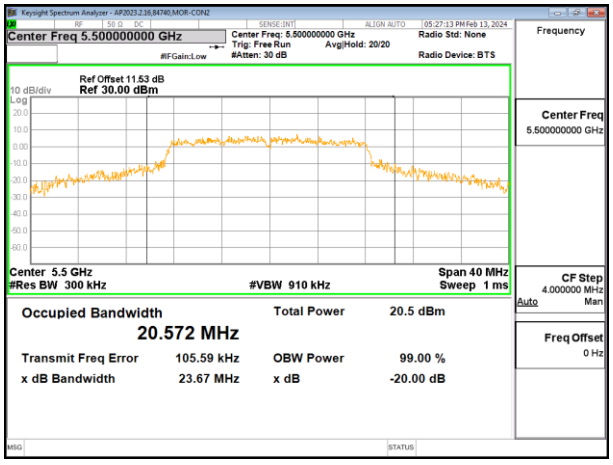
9.4.15. 802.11a MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	20.438	20.572
Mid	5580	17.147	18.500
High	5700	17.540	17.880



LOW CHANNEL CHAIN 0

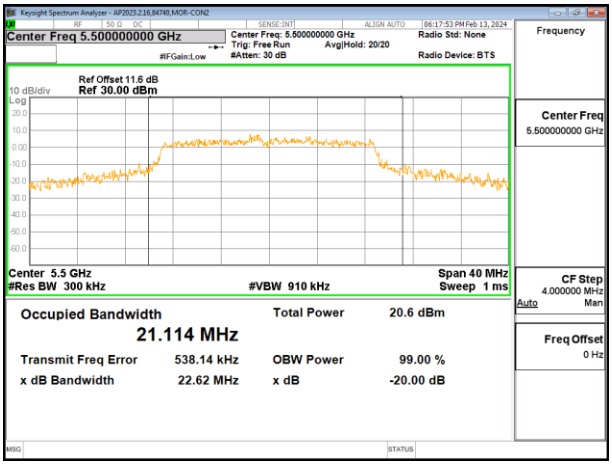


LOW CHANNEL CHAIN 1

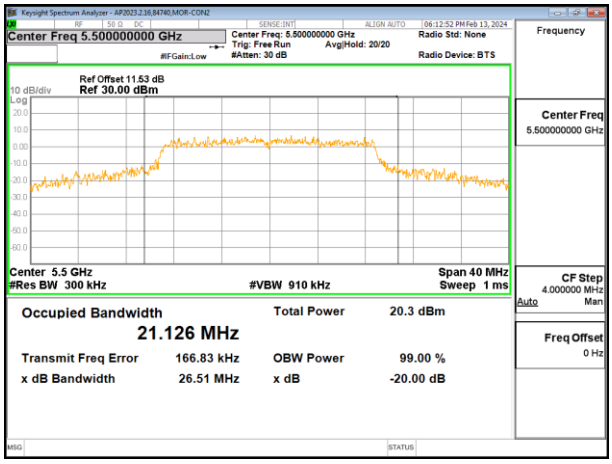
9.4.16. 802.11n HT20 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	21.114	21.126
Mid	5580	18.087	18.474
High	5700	18.325	19.004



LOW CHANNEL CHAIN 0

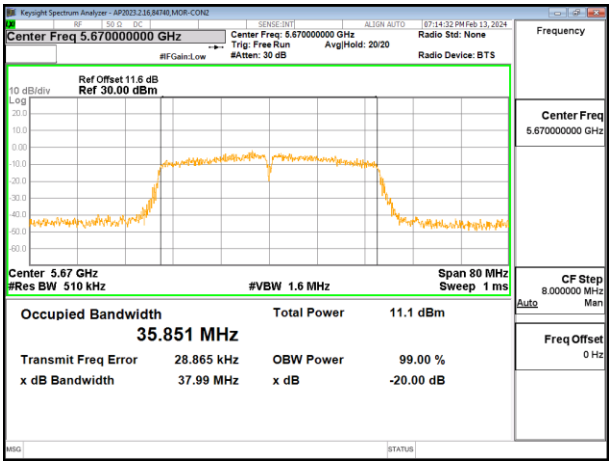


LOW CHANNEL CHAIN 1

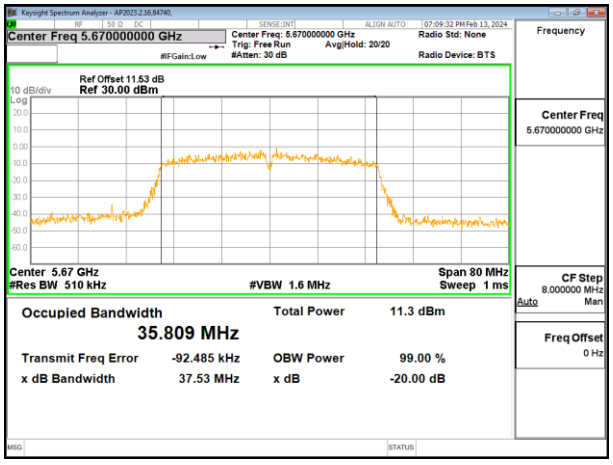
9.4.17. 802.11n HT40 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5510	35.799	35.787
Mid	5550	35.801	35.792
High	5670	35.851	35.809



HIGH CHANNEL CHAIN 0

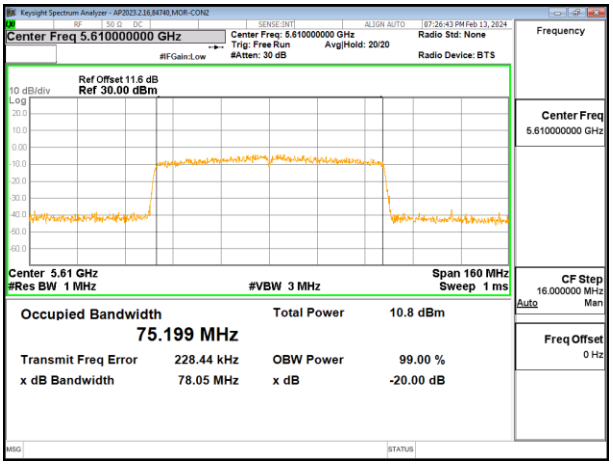


HIGH CHANNEL CHAIN 1

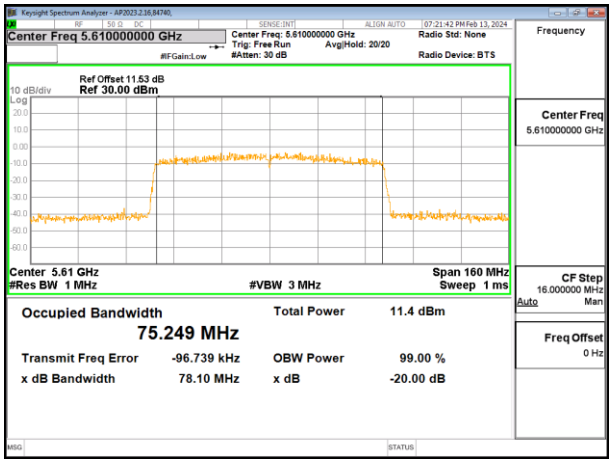
9.4.18. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5530	75.014	75.225
High	5610	75.199	75.249



HIGH CHANNEL CHAIN 0

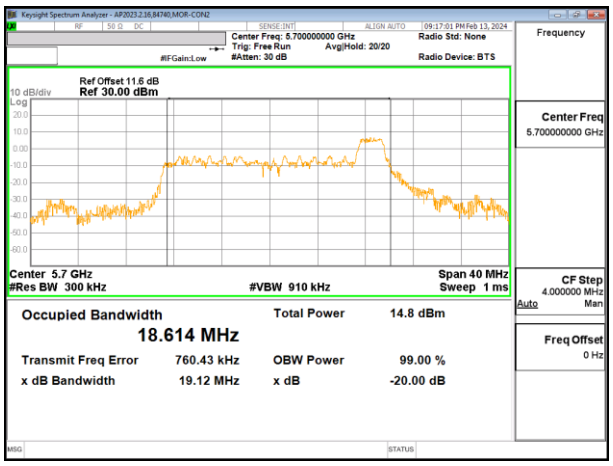


HIGH CHANNEL CHAIN 1

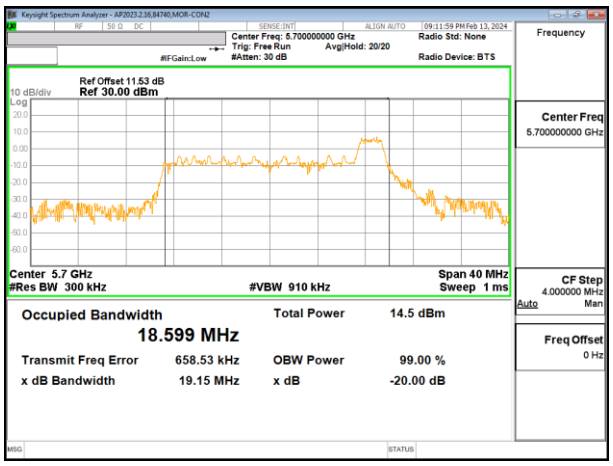
9.4.19. 802.11ax HE20 MODE IN THE 5.6 GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	18.472	18.423
Mid	5580	17.075	17.092
High	5700	18.614	18.599



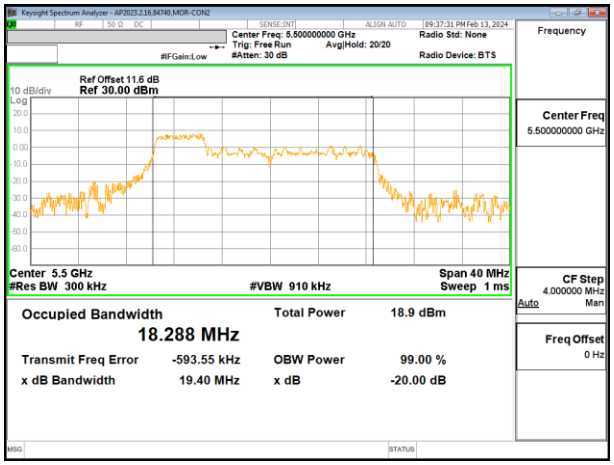
HIGH CHANNEL CHAIN 0



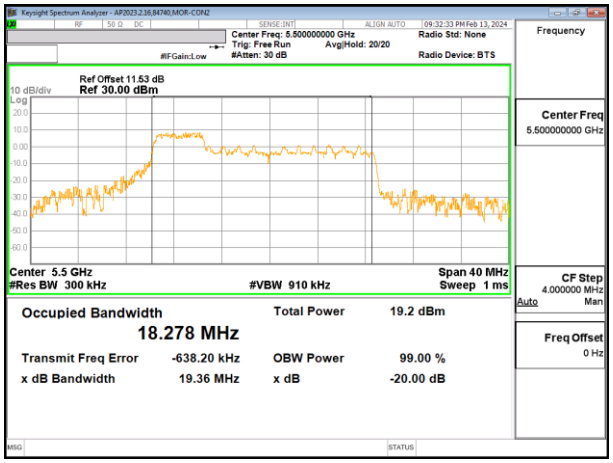
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	18.288	18.278
Mid	5580	17.173	16.992
High	5700	18.004	18.265



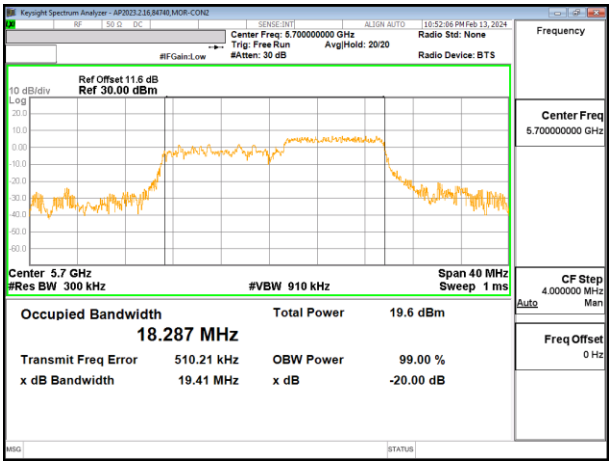
LOW CHANNEL CHAIN 0



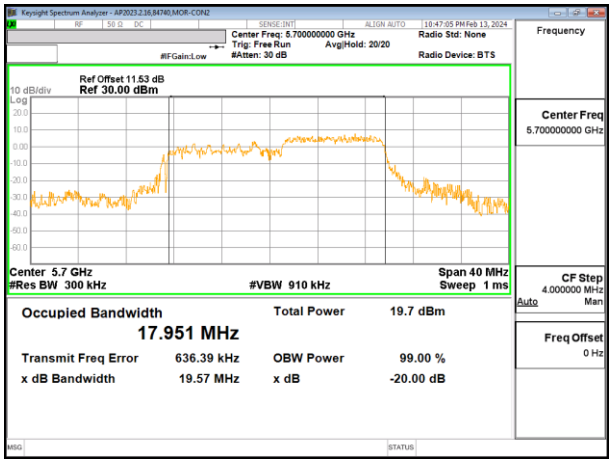
LOW CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	18.277	18.242
Mid	5580	18.261	18.162
High	5700	18.287	17.951



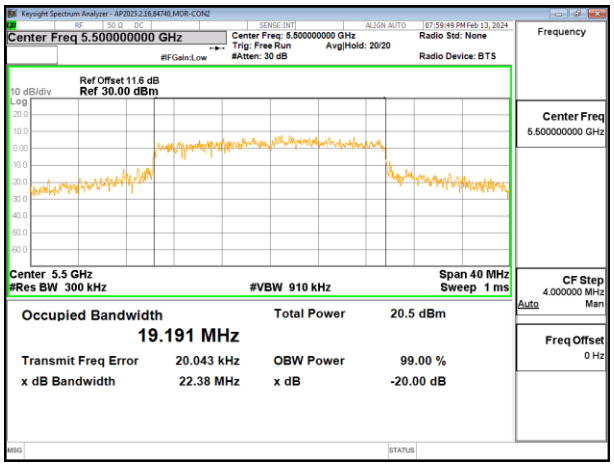
HIGH CHANNEL CHAIN 0



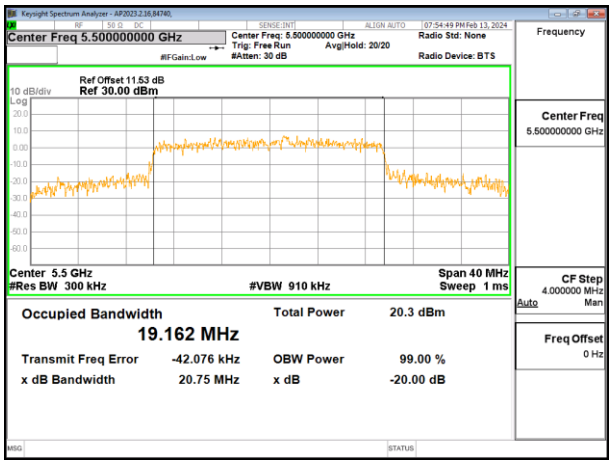
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	19.191	19.162
Mid	5580	19.040	18.997
High	5700	18.920	19.057



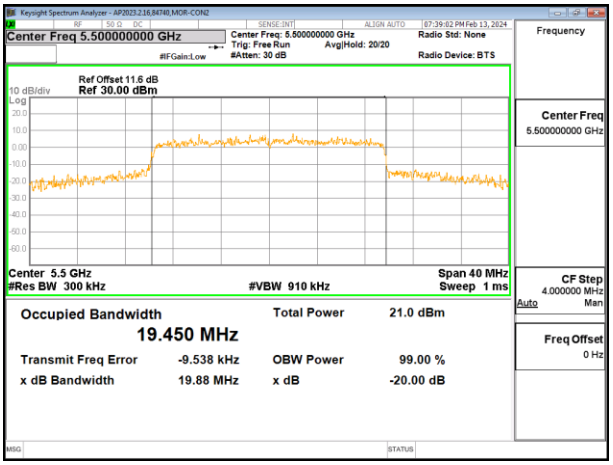
LOW CHANNEL CHAIN 0



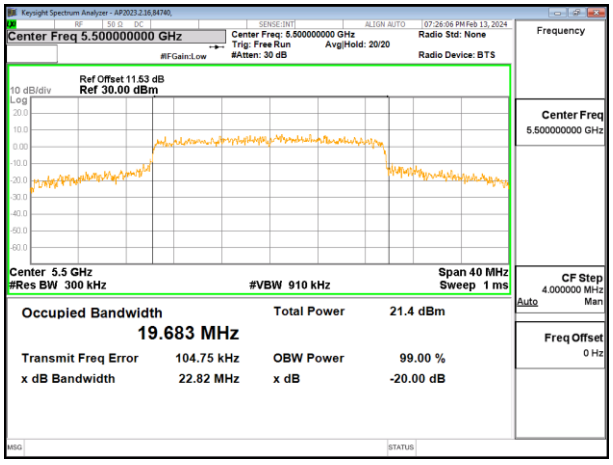
LOW CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5500	19.450	19.683
Mid	5580	19.097	19.250
High	5700	19.057	19.106



LOW CHANNEL CHAIN 0

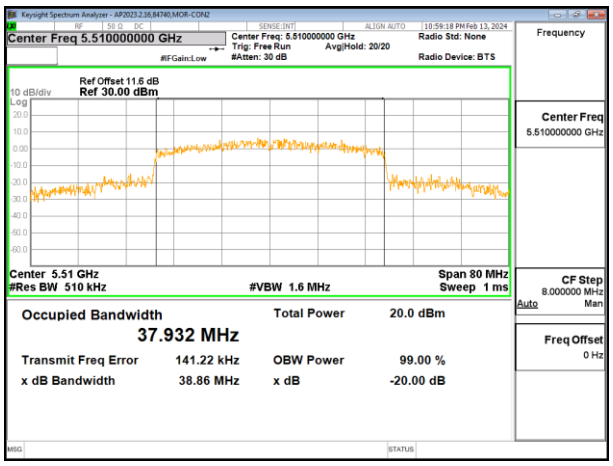


LOW CHANNEL CHAIN 1

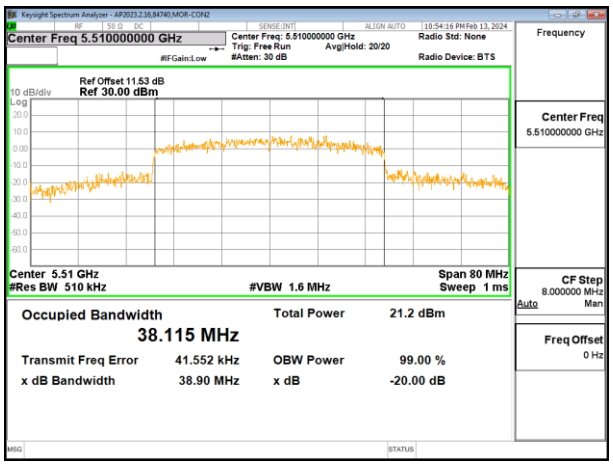
9.4.20. 802.11ax HE40 MODE IN THE 5.6 GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5510	37.932	38.115
Mid	5550	37.571	37.640
High	5670	37.664	37.909



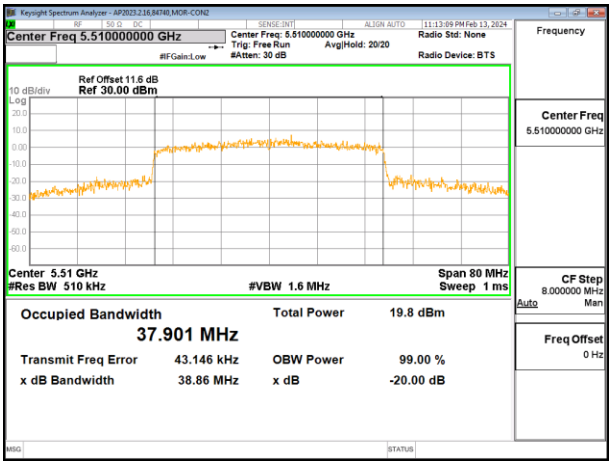
LOW CHANNEL CHAIN 0



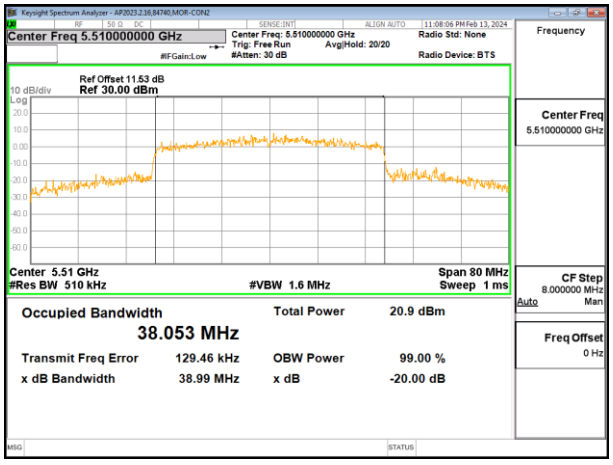
LOW CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5510	37.901	38.053
Mid	5550	37.724	37.965
High	5670	37.761	37.855



LOW CHANNEL CHAIN 0

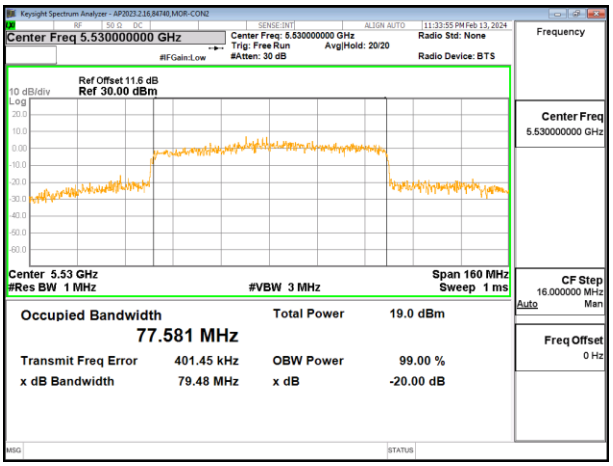


LOW CHANNEL CHAIN 1

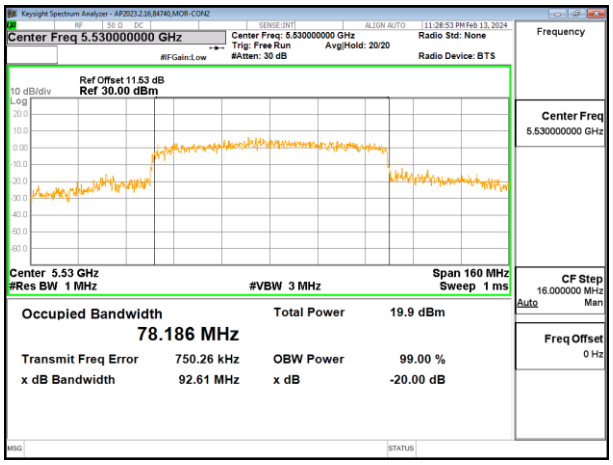
9.4.21. 802.11ax HE80 MODE IN THE 5.6 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE – 996T

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5530	77.581	78.186
High	5610	76.950	76.644



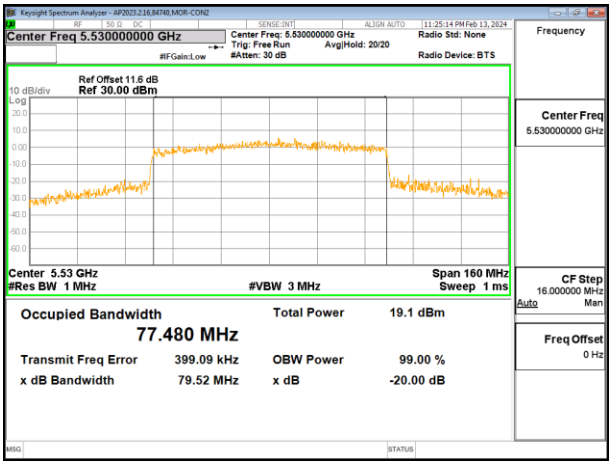
LOW CHANNEL CHAIN 0



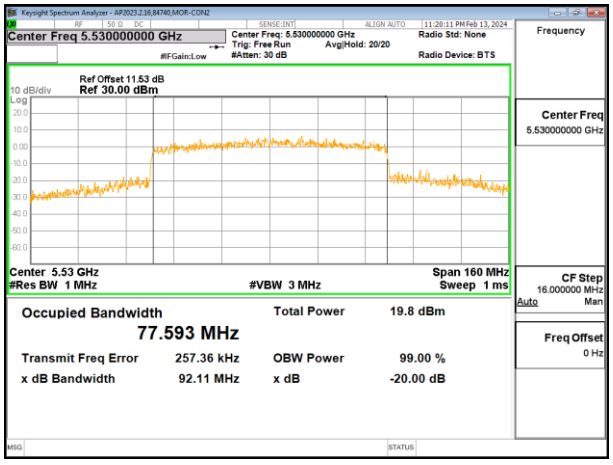
LOW CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE – SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5530	77.480	77.593
High	5610	76.866	76.787



LOW CHANNEL CHAIN 0

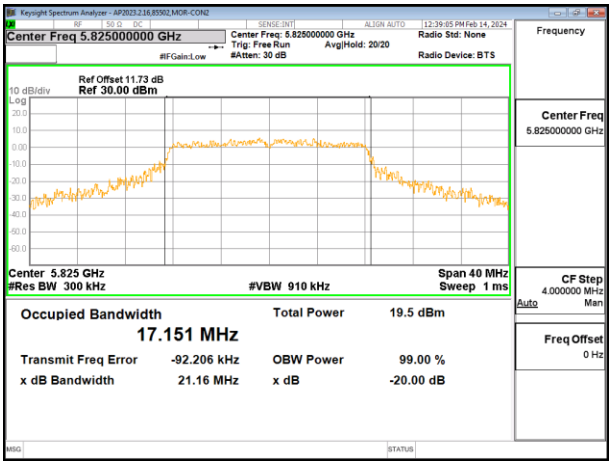


LOW CHANNEL CHAIN 1

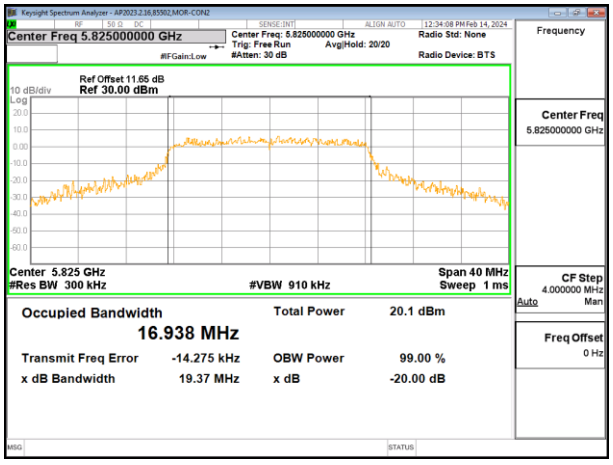
9.4.22. 802.11a MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	17.054	16.986
Mid	5785	17.092	16.819
High	5825	17.151	16.938



HIGH CHANNEL CHAIN 0

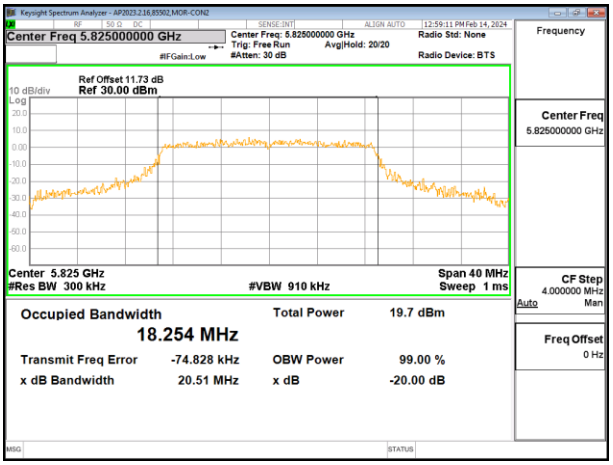


HIGH CHANNEL CHAIN 1

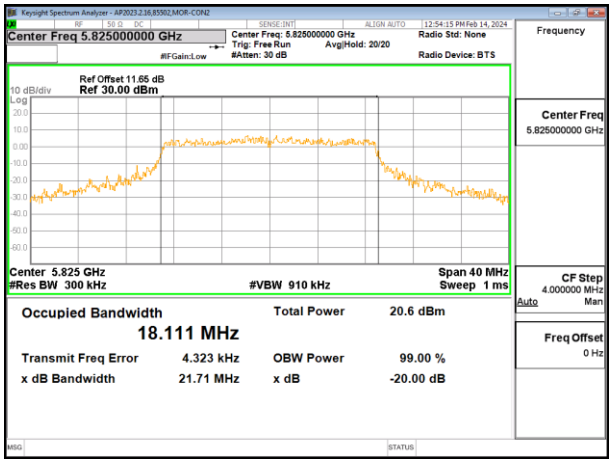
9.4.23. 802.11n HT20 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	18.104	18.034
Mid	5785	18.104	18.041
High	5825	18.254	18.111



HIGH CHANNEL CHAIN 0

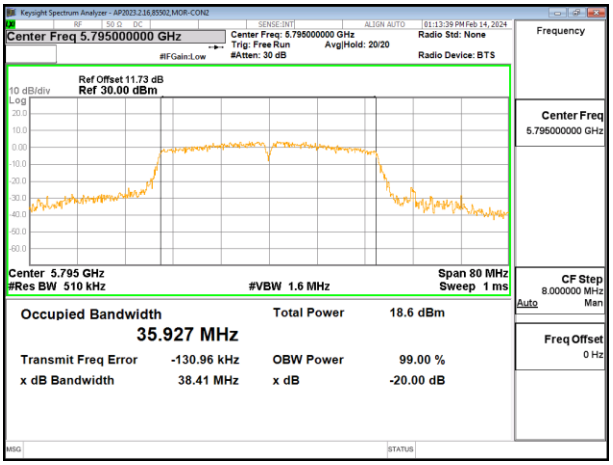


HIGH CHANNEL CHAIN 1

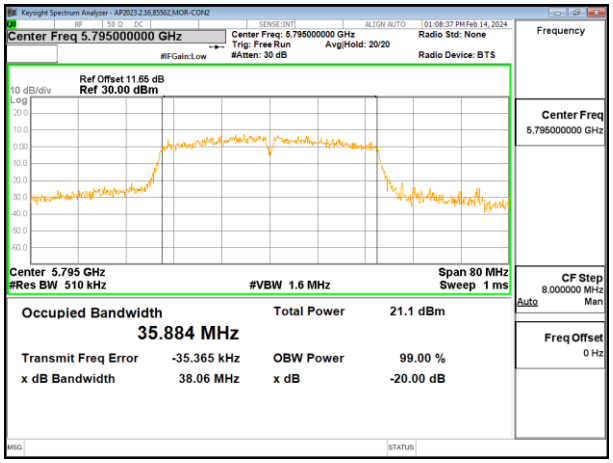
9.4.24. 802.11n HT40 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5755	35.721	35.768
High	5795	35.927	35.884



HIGH CHANNEL CHAIN 0

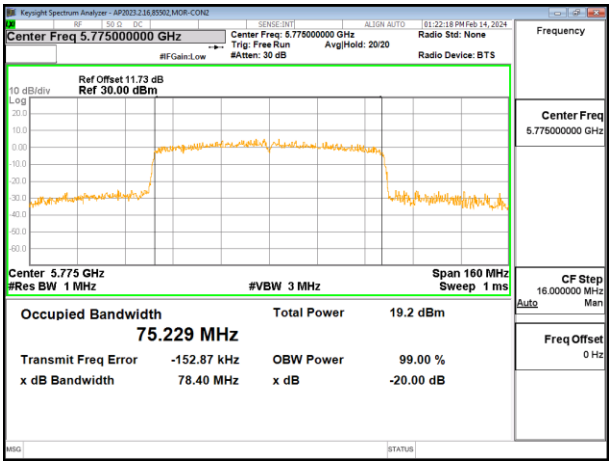


HIGH CHANNEL CHAIN 1

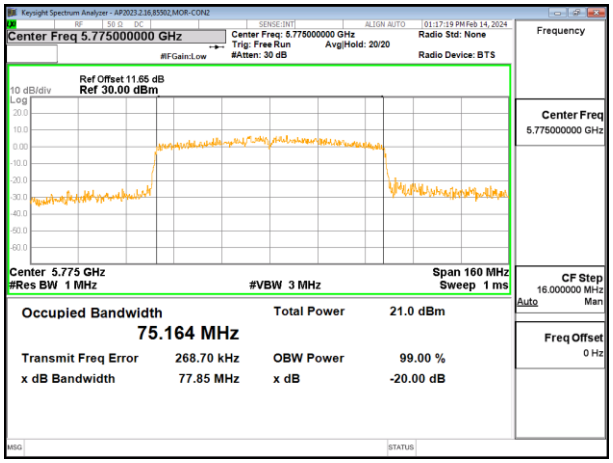
9.4.25. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

2TX CHAIN 0 + CHAIN 1 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5775	75.229	75.164



MID CHANNEL CHAIN 0

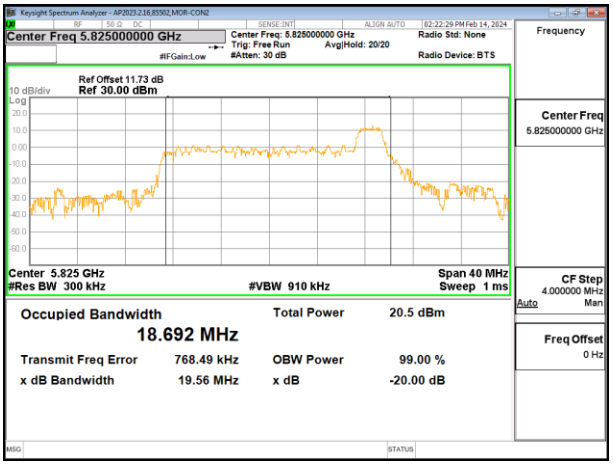


MID CHANNEL CHAIN 1

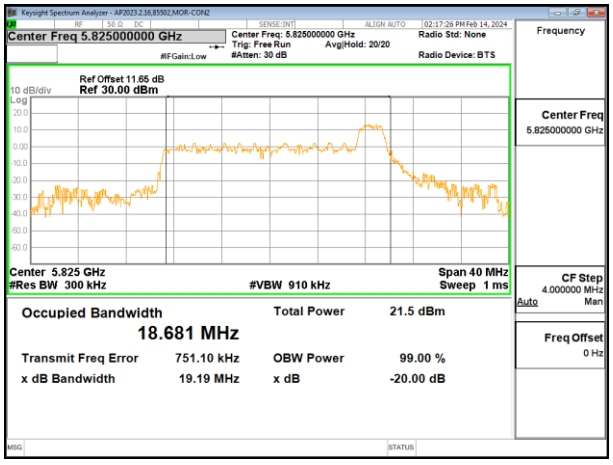
9.4.26. 802.11ax HE20 MODE IN THE 5.8 GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	18.497	18.632
Mid	5785	17.004	17.076
High	5825	18.692	18.681



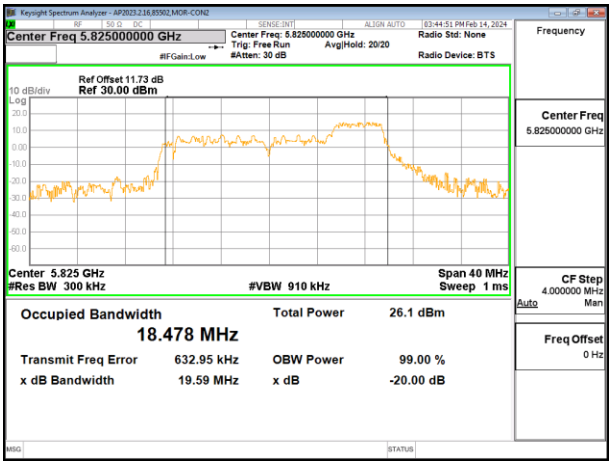
HIGH CHANNEL CHAIN 0



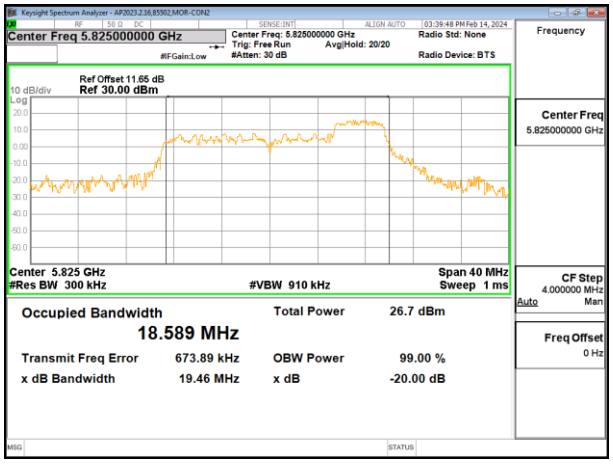
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	18.371	18.297
Mid	5785	17.105	17.086
High	5825	18.478	18.589



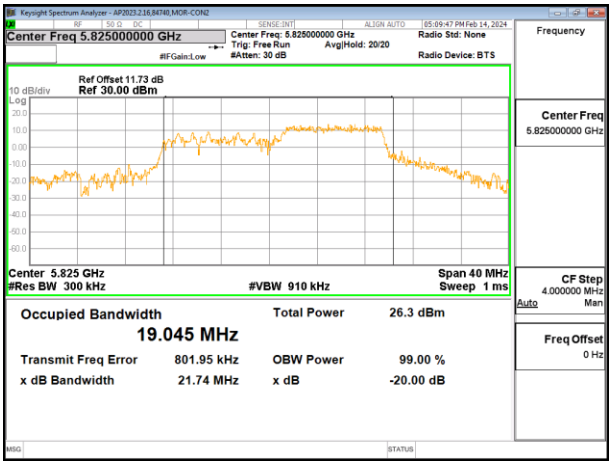
HIGH CHANNEL CHAIN 0



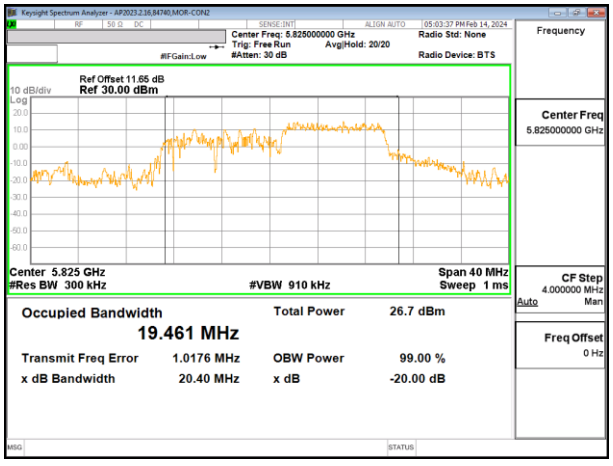
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	18.574	18.209
Mid	5785	19.031	19.185
High	5825	19.045	19.461



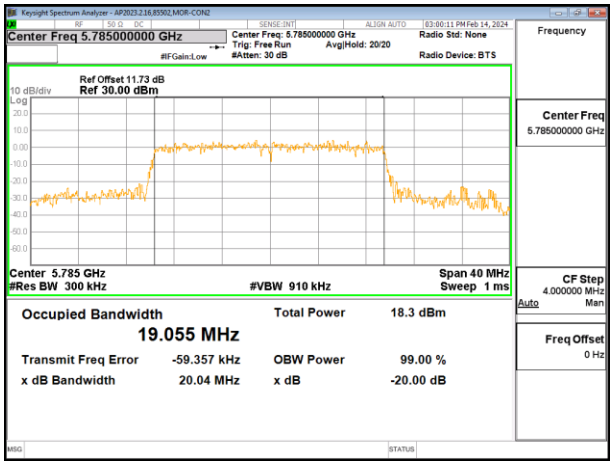
HIGH CHANNEL CHAIN 0



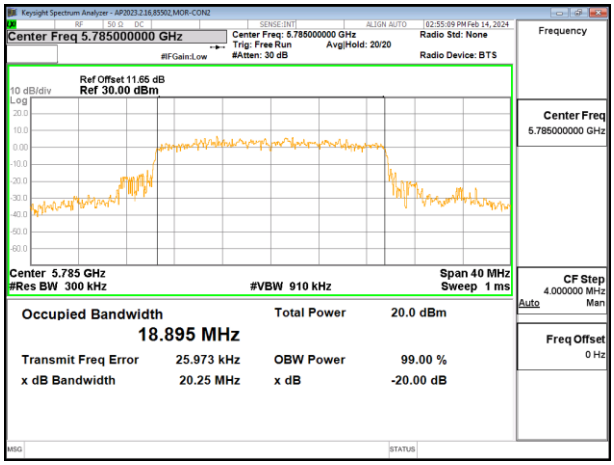
HIGH CHANNEL CHAIN 1

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	18.875	18.911
Mid	5785	19.055	18.895
High	5825	18.949	19.000



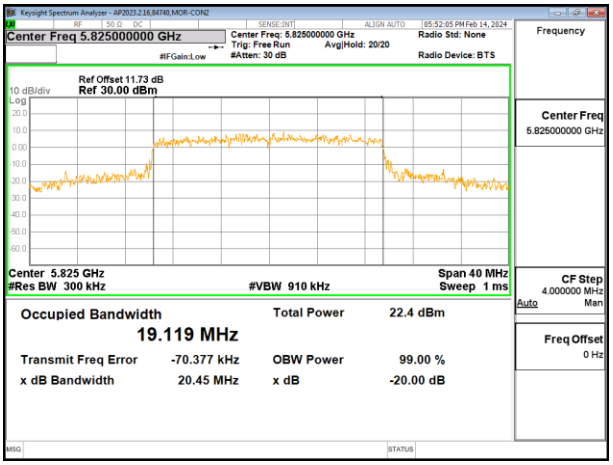
MID CHANNEL CHAIN 0



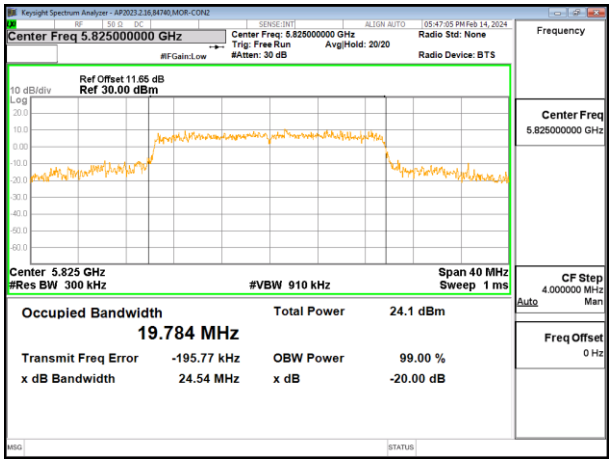
MID CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5745	19.093	19.041
Mid	5785	19.051	19.096
High	5825	19.119	19.784



HIGH CHANNEL CHAIN 0

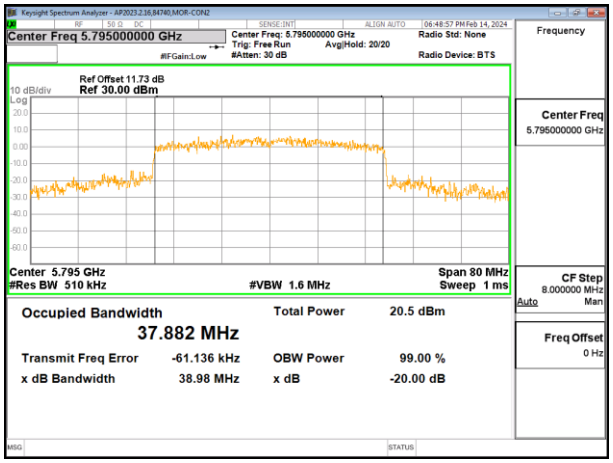


HIGH CHANNEL CHAIN 1

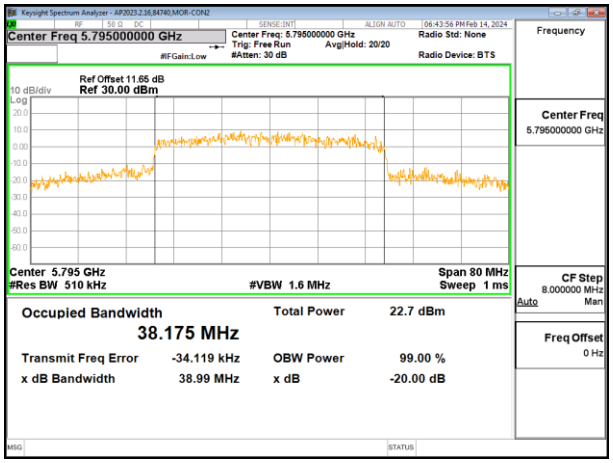
9.4.27. 802.11ax HE40 MODE IN THE 5.8 GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5755	37.658	37.695
High	5795	37.882	38.175



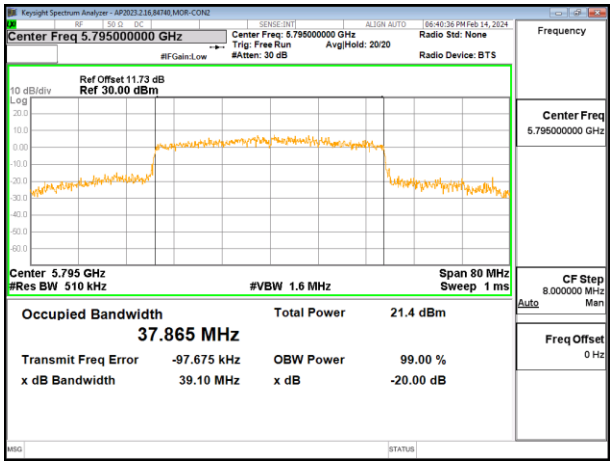
HIGH CHANNEL CHAIN 0



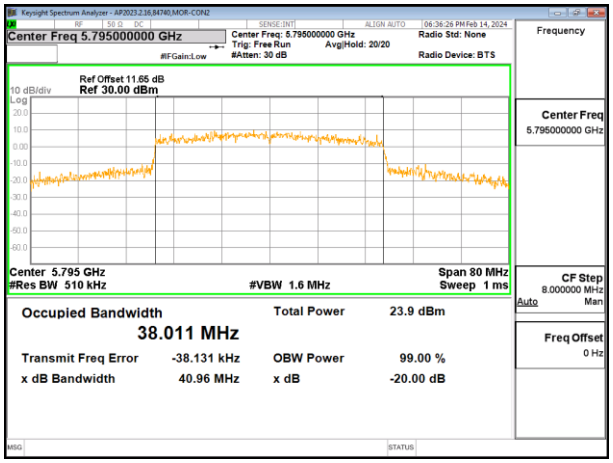
HIGH CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Low	5755	37.607	37.829
High	5795	37.865	38.011



HIGH CHANNEL CHAIN 0

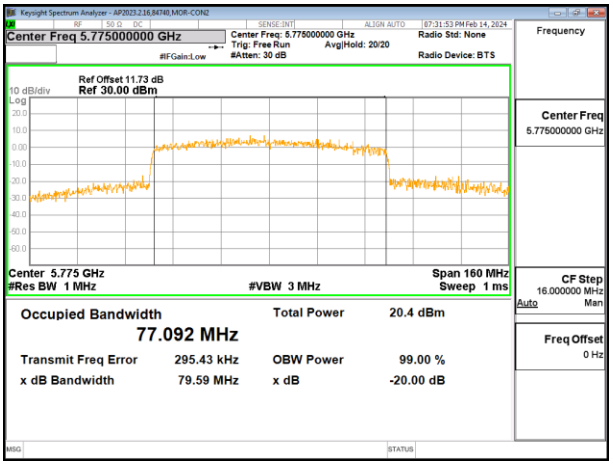


HIGH CHANNEL CHAIN 1

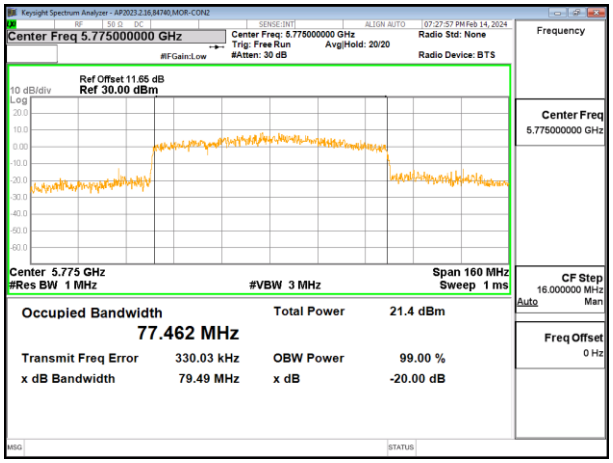
9.4.28. 802.11ax HE80 MODE IN THE 5.8 GHz BAND

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

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5775	77.092	77.462



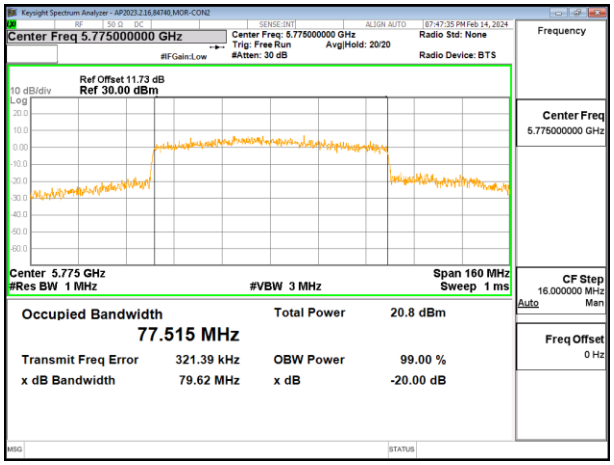
MID CHANNEL CHAIN 0



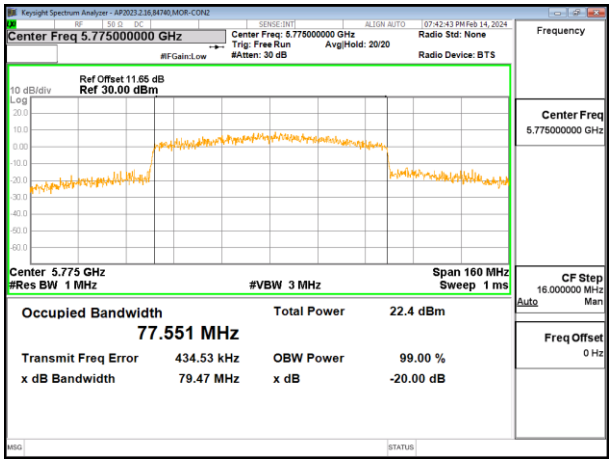
MID CHANNEL CHAIN 1

2TX CHAIN 0 + CHAIN 1 CDD MODE: SU

Channel	Frequency (MHz)	99% Bandwidth CHAIN 0 (MHz)	99% Bandwidth CHAIN 1 (MHz)
Mid	5775	77.515	77.551



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

9.5. OUTPUT POWER AND PSD

LIMITS

FCC §15.407

Band 5.15–5.25 GHz

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Bands 5.25-5.35 GHz and 5.47-5.725 GHz

The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Band 5.725-5.85 GHz

The maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

RSS-247

Band 5.15-5.25 GHz
The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Band 5.25-5.35 GHz
The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Bands 5.47-5.6 GHz and 5.65-5.725 GHz
The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Band 5.725-5.85 GHz
The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3.b (Method PM-G) was used.

The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband average power sensor. Gated average output power was read directly from power meter.

DIRECTIONAL ANTENNA GAINS

2 TX DIRECTIONAL ANTENNA GAIN

Tx chains are uncorrelated for power and correlated for PSD.The directional gains are as follows:

Mode	Declared Uncorrelated Gain (dBi)	Declared Correlated Gain (dBi)
UNII-1	3.2	6.1
UNII-2a	3.9	6.8
UNII-2c	5.0	7.8
UNII-3	4.7	7.5

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12 Laboratory Drive, Research Triangle Park, NC 27709; USA TEL:(919)549-1400

9.5.1. 802.11a MODE IN THE 5.2 GHz BAND (FCC+IC)

2TX CHAIN 0 + CHAIN 1 CDD MODE

Test Engineer:	85502, 84740
Test Date:	2024/02/12

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5180	16.8210	3.20	6.10
Mid	5200	16.8090	3.20	6.10
High	5240	16.8100	3.20	6.10

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED EIRP Limit (dBm)	Max ISED Power (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED eirp PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5180	24.00	22.26	19.06	19.06	10.90	10.00	3.90
Mid	5200	24.00	22.26	19.06	19.06	10.90	10.00	3.90
High	5240	24.00	22.26	19.06	19.06	10.90	10.00	3.90

Duty Cycle CF (dB)	0.94	**Included in Calculations of Corr'd PSD**

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5180	10.54	11.46	14.03	19.06	-5.02
Mid	5200	10.63	11.46	14.08	19.06	-4.98
High	5240	10.08	11.36	13.78	19.06	-5.28

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5180	-0.84	-0.60	3.23	3.90	-0.67
Mid	5200	-1.23	-0.60	3.04	3.90	-0.86
High	5240	-1.09	-0.83	3.00	3.90	-0.90