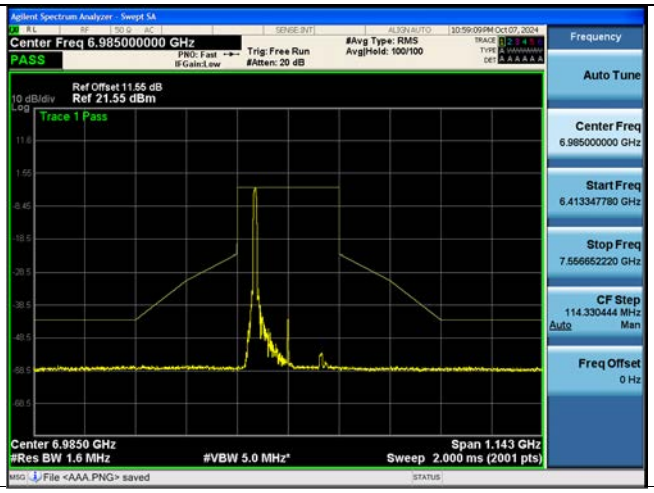
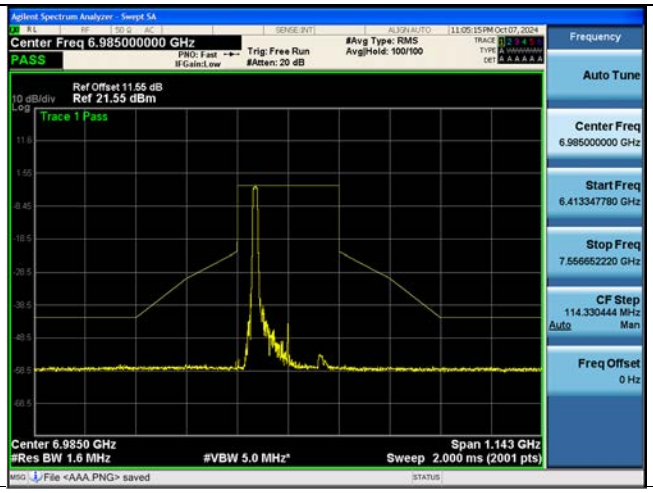
802.11be EHT160M Ch.207(6985 MHz) 52T+26T RU70

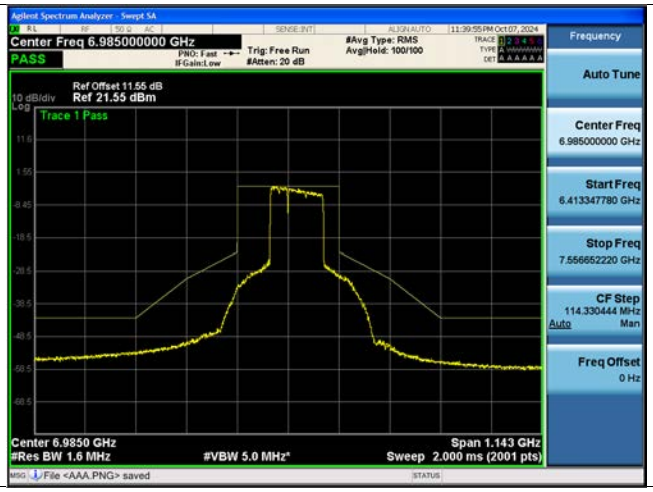


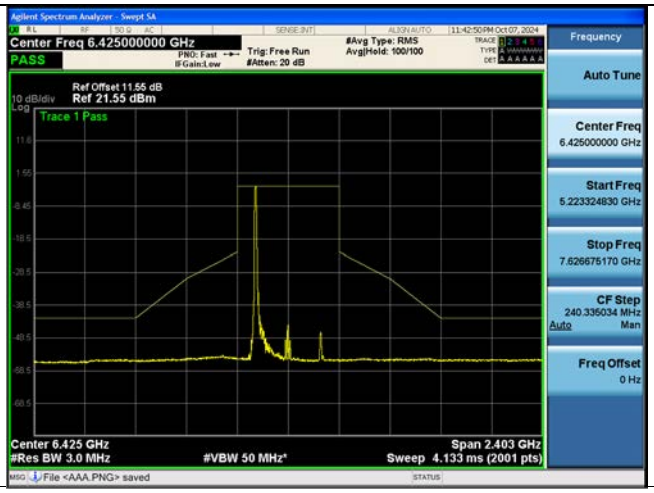
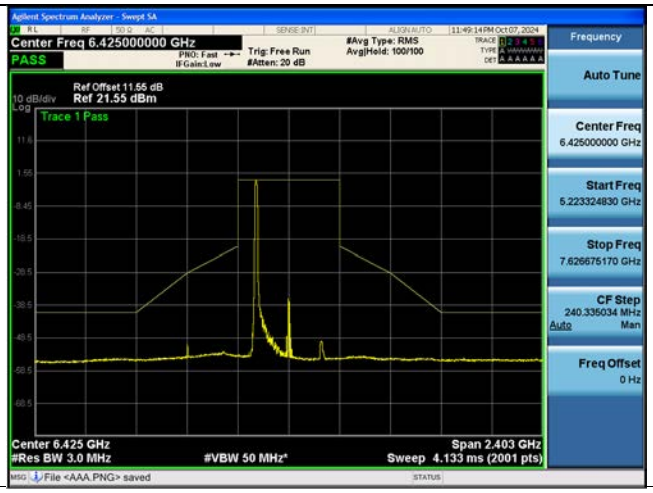
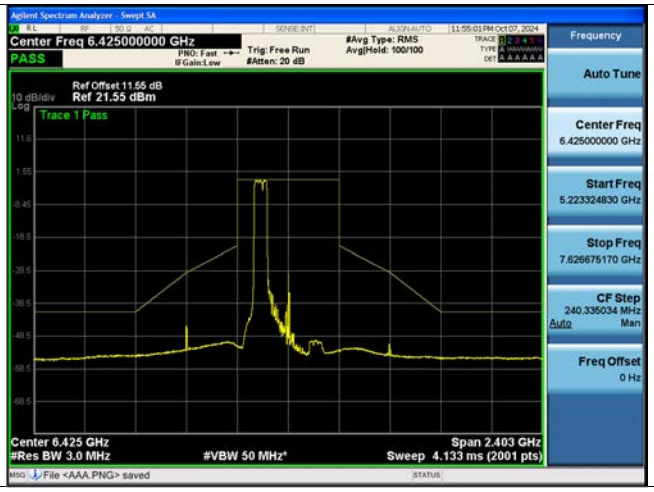
802.11be EHT160M Ch.207(6985 MHz) 106T+26T RU82



802.11be EHT160M Ch.207(6985 MHz) 484T+242T RU93

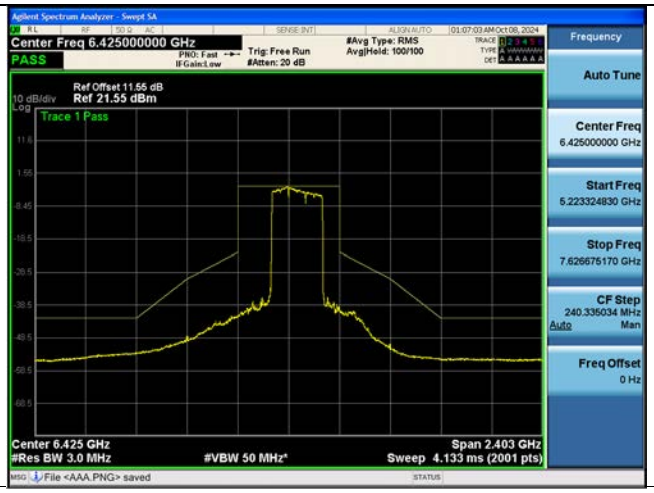
Bandwidth EHT160M, Ch. 207(6985 MHz) 996T+484T RU94



Bandwidth 320M, Ch. 95(6425 MHz) 52T+26T RU70	Bandwidth 320M, Ch. 95(6425 MHz) 106T+26T RU82
	
Bandwidth 320M, Ch. 95(6425 MHz) 484T+242T RU93	Bandwidth 320M, Ch. 95(6425 MHz) 996T+484T RU1095
	

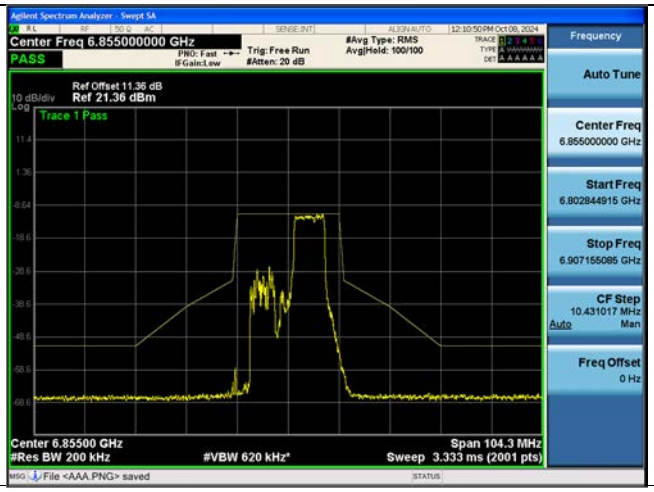
Bandwidth 320M, Ch. 95(6425 MHz) 2x996T+484T RU10102

Bandwidth 320M, Ch. 95(6425 MHz) 3x996T RU104

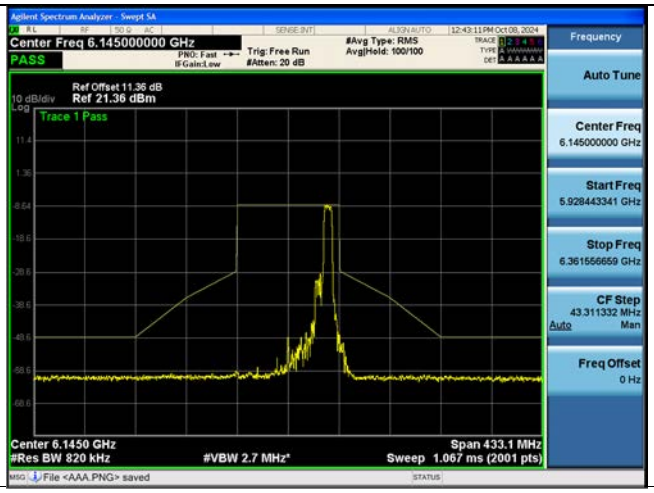


Bandwidth 320M, Ch. 95(6425 MHz) 3x996T+484T RU105

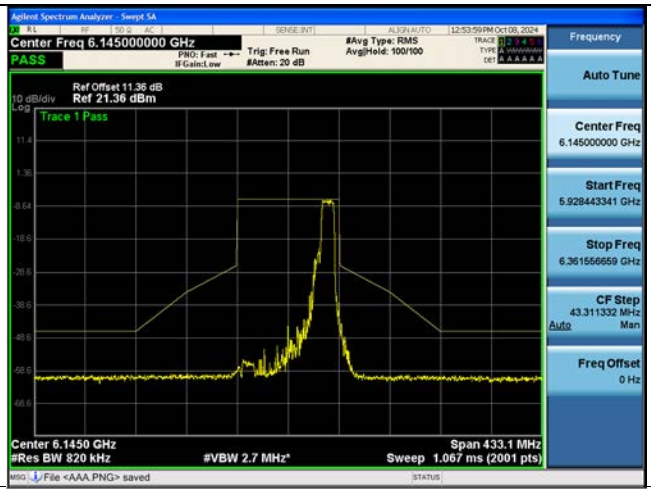
[Ant.2]

802.11be EHT20M Ch.181(6855 MHz) 52T+26T RU72	802.11be EHT20M Ch.181(6855 MHz) 106T+26T RU83
	
802.11be EHT40M Ch.227(7085 MHz) 52T+26T RU75	802.11be EHT40M Ch.227(7085 MHz) 106T+26T RU85
	

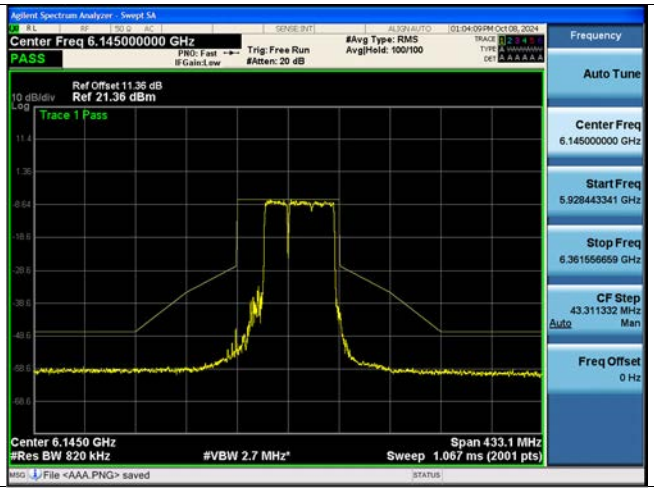
802.11be EHT80M Ch.39(6145 MHz) 52T+26T RU81



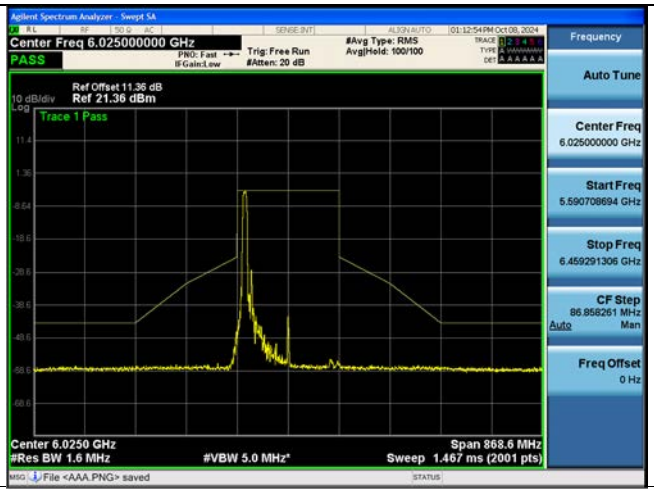
802.11be EHT80M Ch.39(6145 MHz) 106T+26T RU89



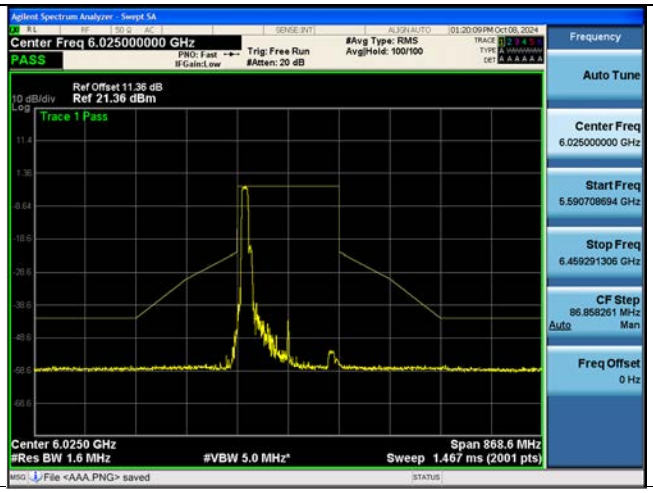
802.11be EHT80M Ch.39(6145 MHz) 484T+242T RU90



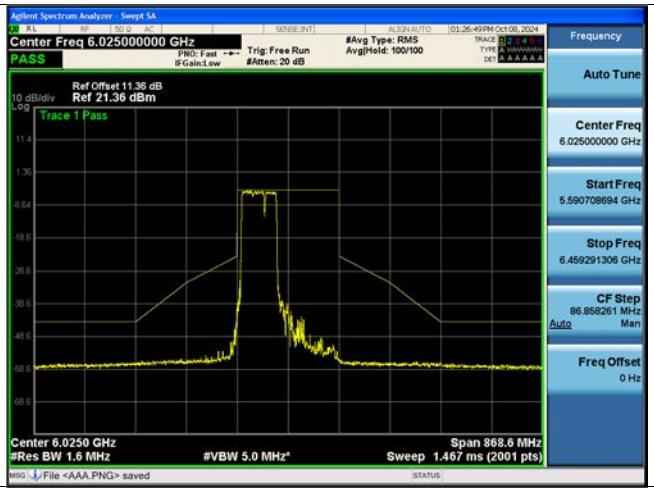
802.11be EHT160M Ch.15(6025 MHz) 52T+26T RU70



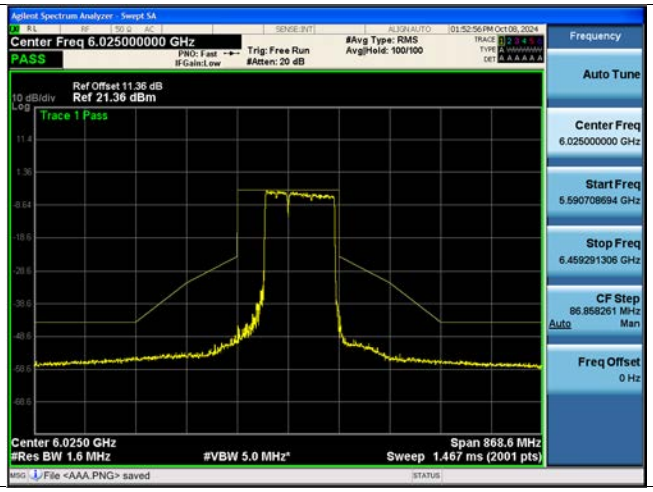
802.11be EHT160M Ch.15(6025 MHz) 106T+26T RU82

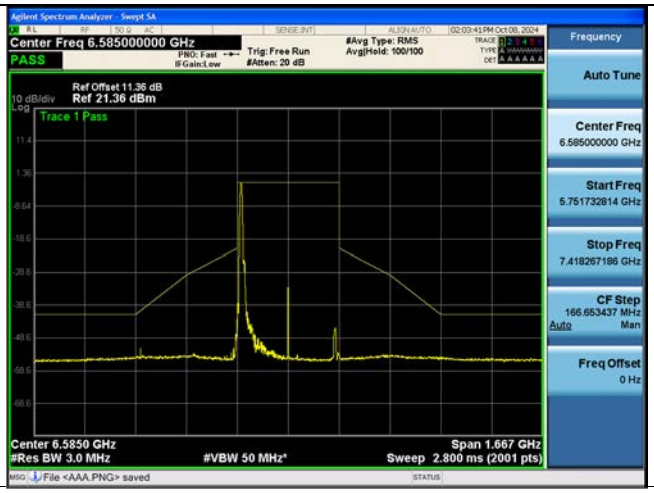
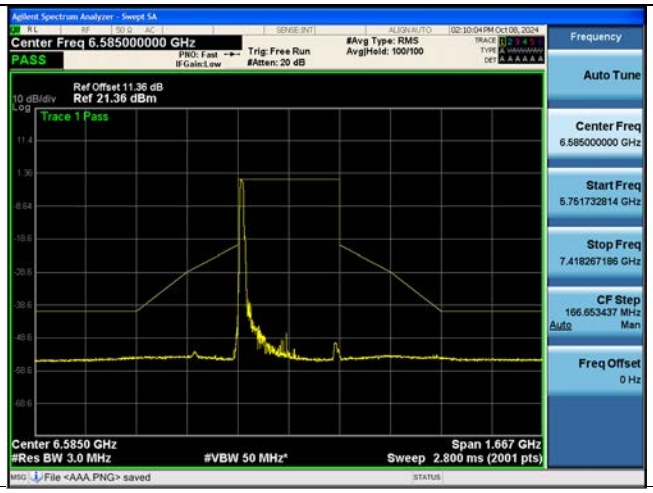
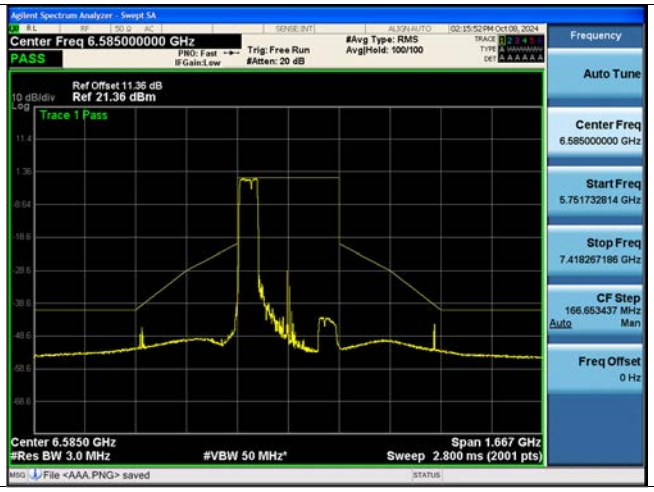


802.11be EHT160M Ch.15(6025 MHz) 484T+242T RU93



802.11be EHT160M Ch.15(6025 MHz) 996T+484T RU94



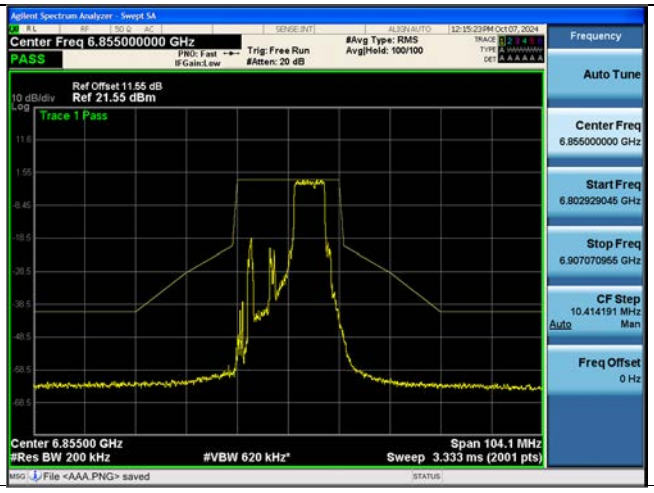
Bandwidth 320M, Ch. 127(6585 MHz) 52T+26T RU70	Bandwidth 320M, Ch. 127(6585 MHz) 106T+26T RU82
	
Bandwidth 320M, Ch. 127(6585 MHz) 484T+242T RU93	Bandwidth 320M, Ch. 127(6585 MHz) 996T+484T RU1095
	

Bandwidth 320M, Ch. 127(6585 MHz) 2x996T+484T RU10102

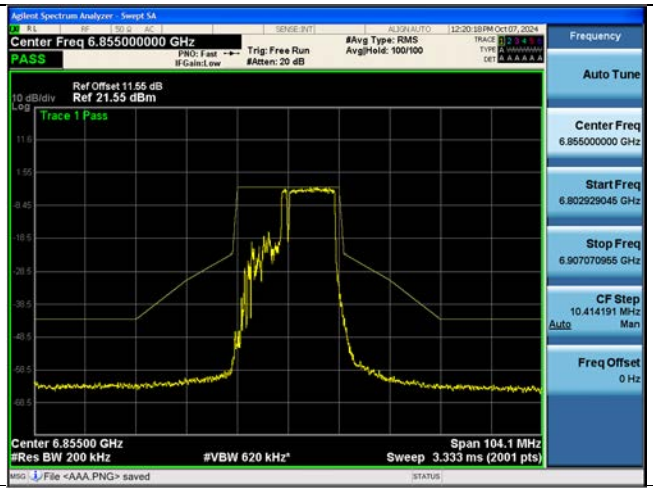
Bandwidth 320M, Ch. 127(6585 MHz) 3x996T RU104

Bandwidth 320M, Ch. 127(6585 MHz) 3x996T+484T RU105

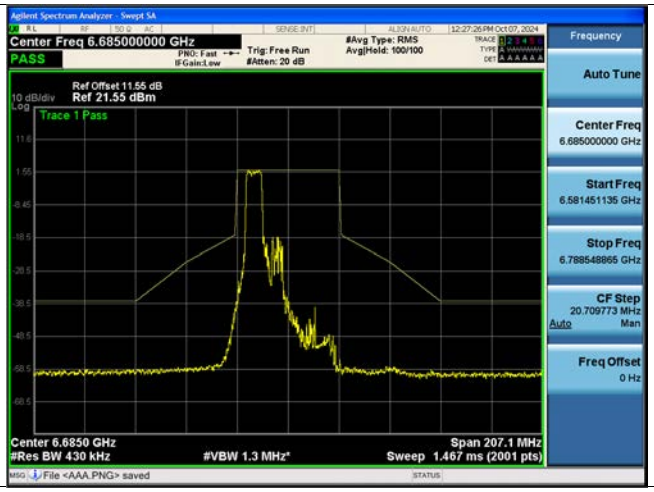
802.11be EHT20M Ch.181(6855 MHz) 52T+26T RU72



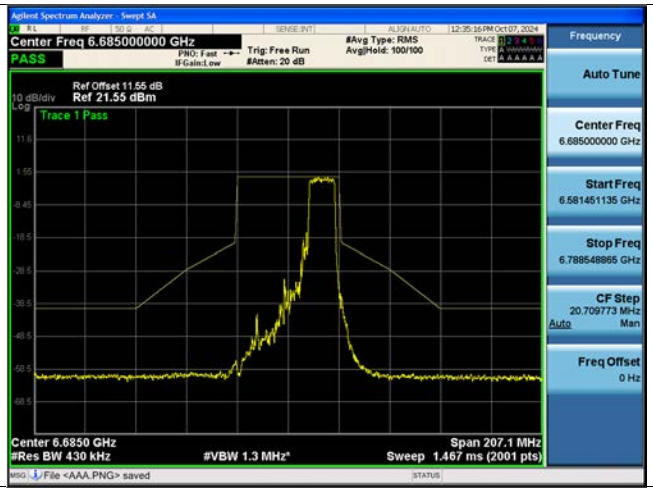
802.11be EHT20M Ch.181(6855 MHz) 106T+26T RU83



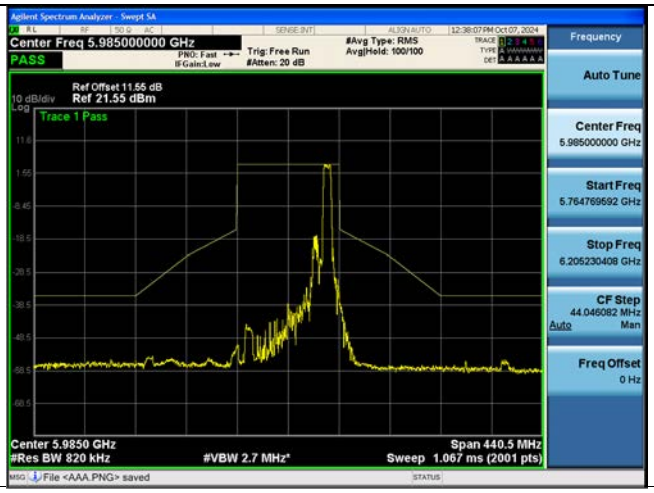
802.11be EHT40M Ch.147(6685 MHz) 52T+26T RU75



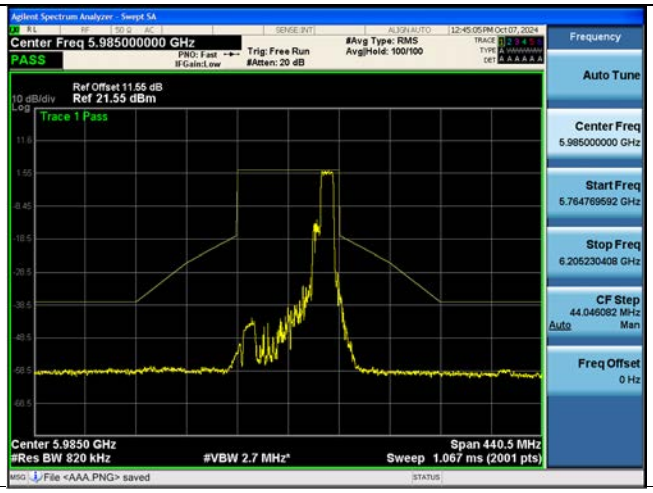
802.11be EHT40M Ch.147(6685 MHz) 106T+26T RU85



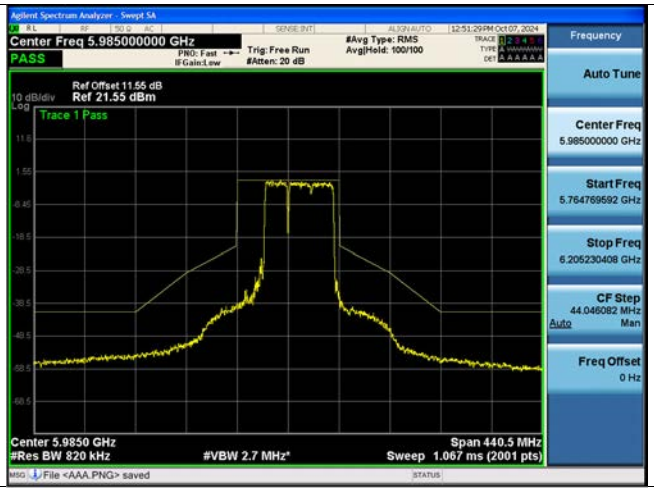
802.11be EHT80M Ch.7(5985 MHz) 52T+26T RU81



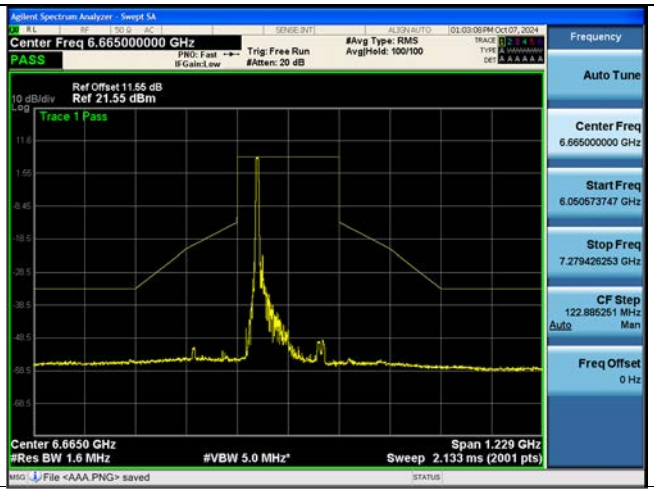
802.11be EHT80M Ch.7(5985 MHz) 106T+26T RU89



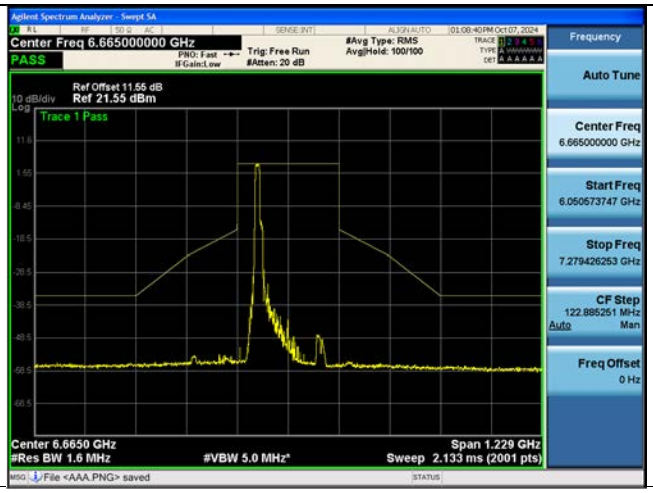
802.11be EHT80M Ch.7(5985 MHz) 484T+242T RU90



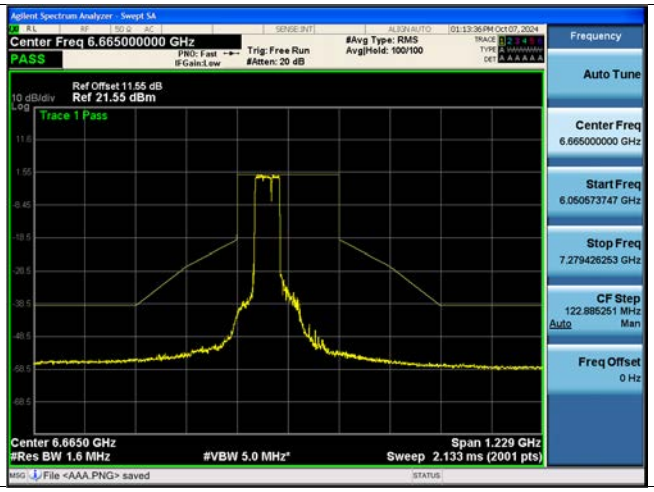
802.11be EHT160M Ch.143(6665 MHz) 52T+26T RU70



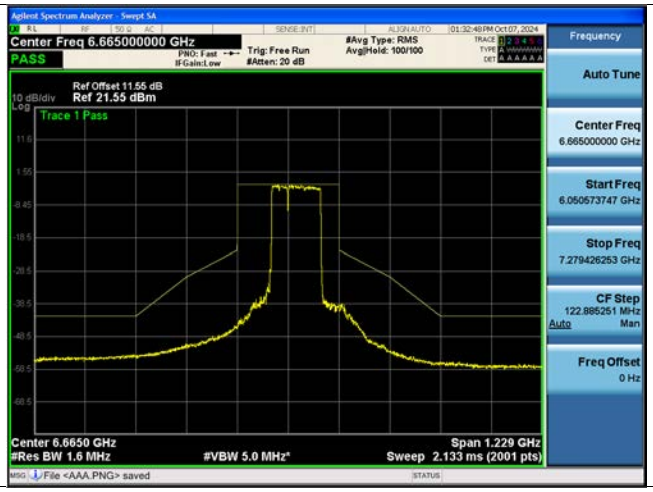
802.11be EHT160M Ch.143(6665 MHz) 106T+26T RU82



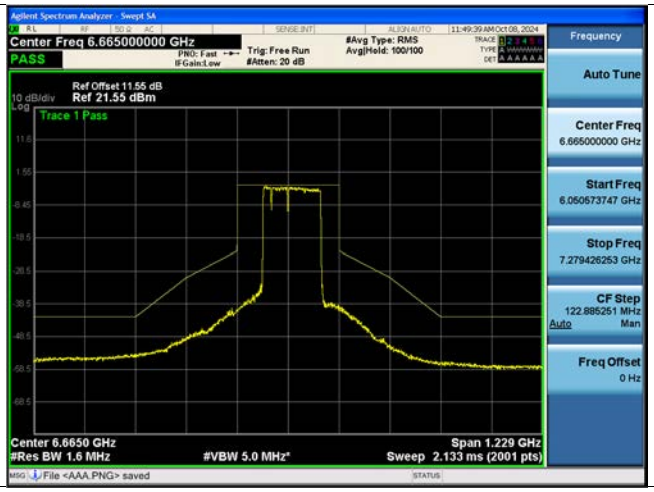
802.11be EHT160M Ch.143(6665 MHz) 484T+242T RU93



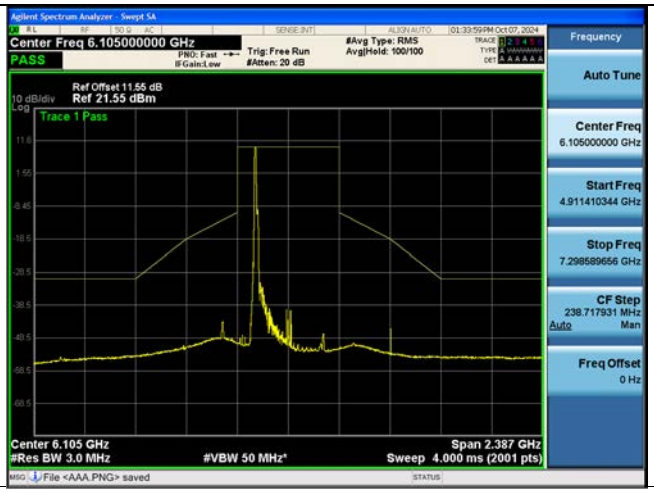
802.11be EHT160M Ch.143(6665 MHz) 996T+484T RU94



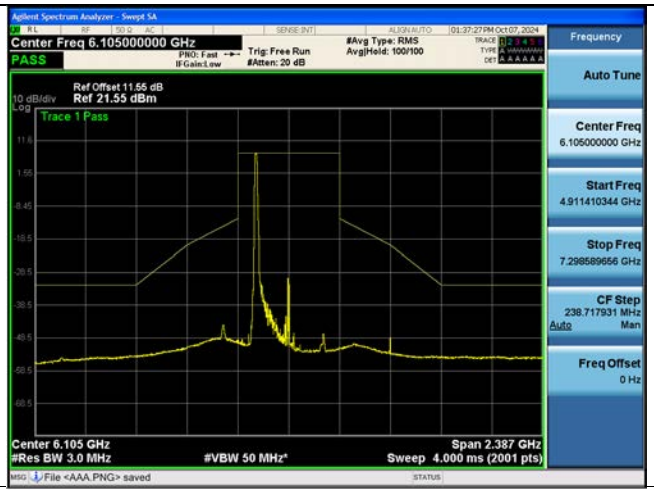
802.11be EHT160M Ch.143(6665 MHz) 996T+484T+242T RU96



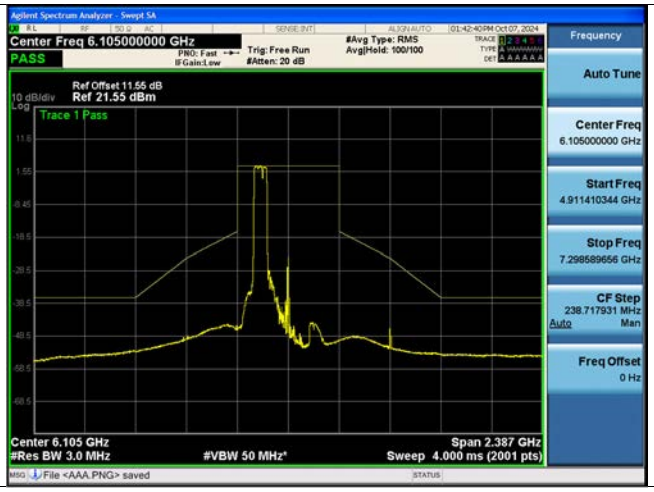
Bandwidth 320M, Ch. 31(6105 MHz) 52T+26T RU70



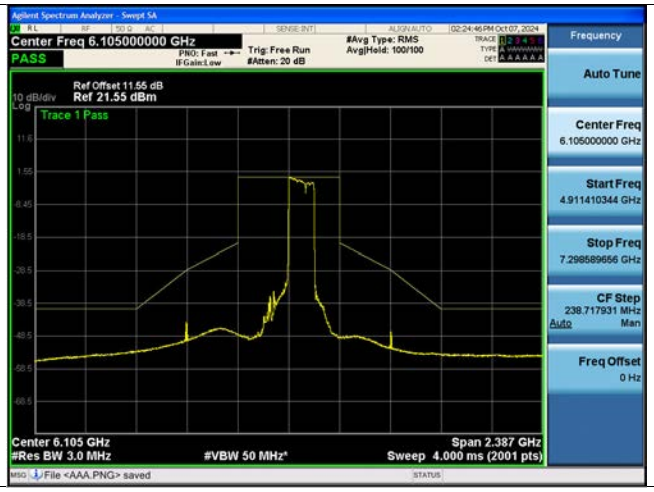
Bandwidth 320M, Ch. 31(6105 MHz) 106T+26T RU82



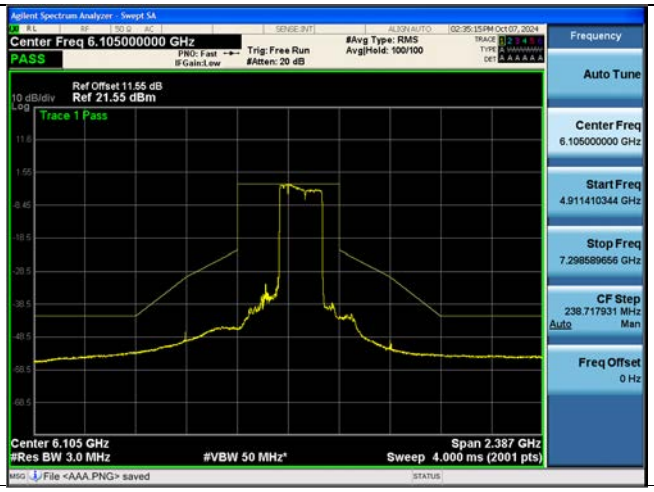
Bandwidth 320M, Ch. 31(6105 MHz) 484T+242T RU93



Bandwidth 320M, Ch. 31(6105 MHz) 996T+484T RU1095



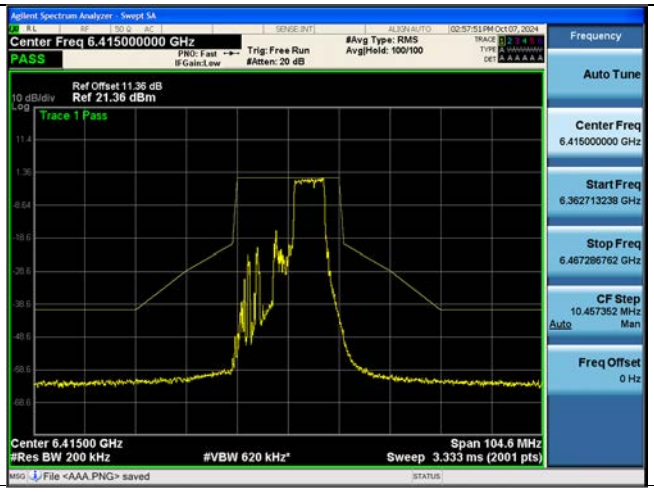
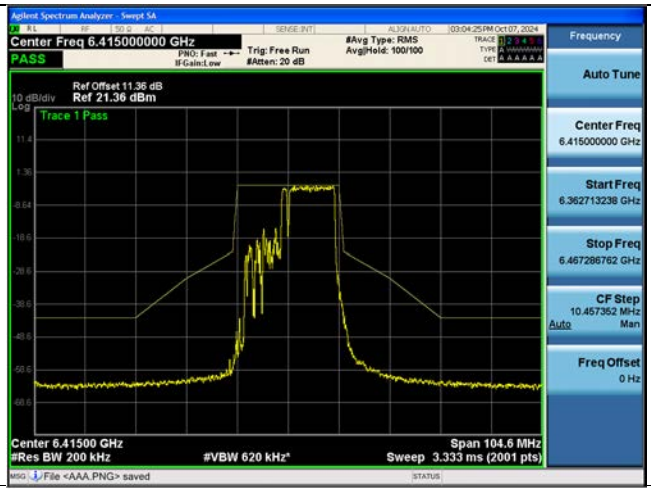
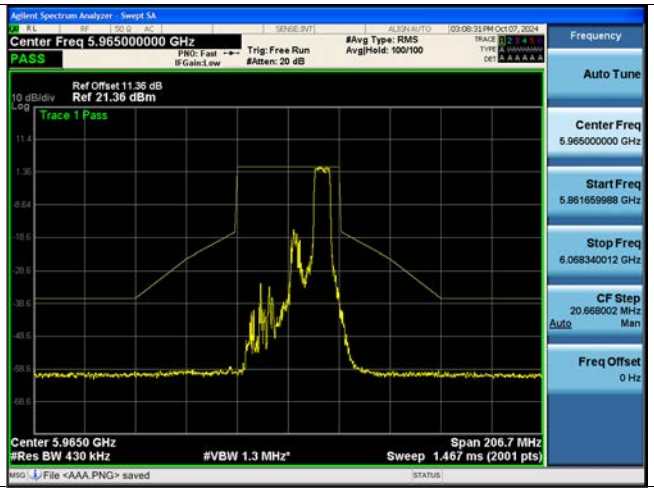
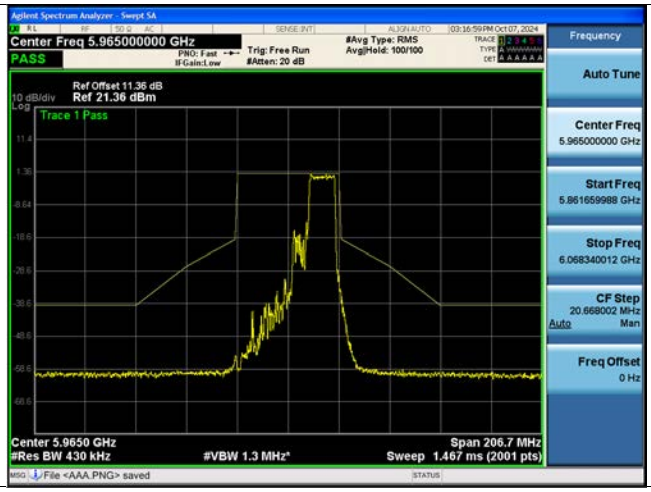
Bandwidth 320M, Ch. 31(6105 MHz) 2x996T+484T RU10102



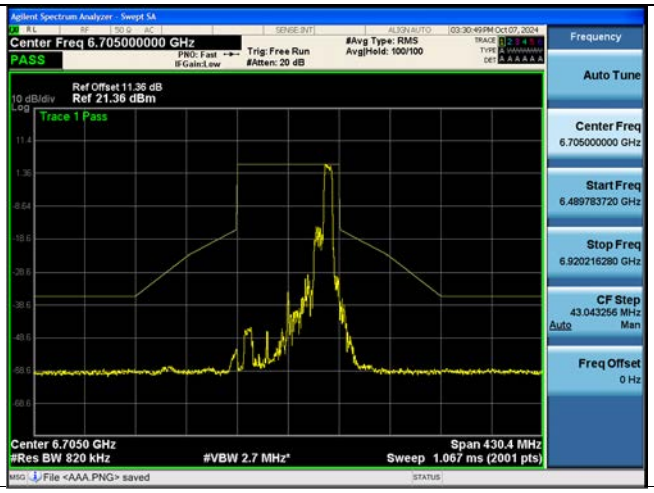
Bandwidth 320M, Ch. 31(6105 MHz) 3x996T RU104

Bandwidth 320M, Ch. 31(6105 MHz) 3x996T+484T RU105

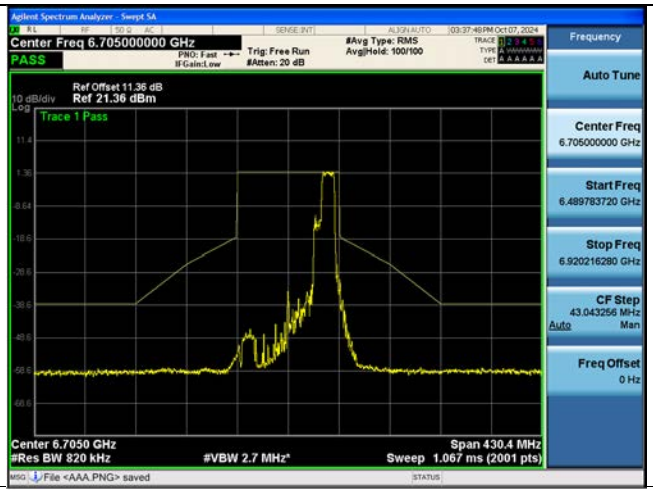
[Ant.2]

802.11be EHT20M Ch.93(6415 MHz) 52T+26T RU72	802.11be EHT20M Ch.93(6415 MHz) 106T+26T RU83
	
802.11be EHT40M Ch.3(5965 MHz) 52T+26T RU75	802.11be EHT40M Ch.3(5965 MHz) 106T+26T RU85
	

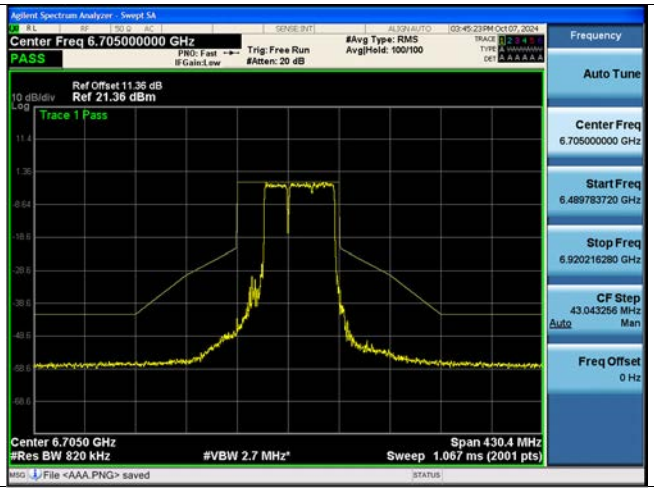
802.11be EHT80M Ch.151(6705 MHz) 52T+26T RU81



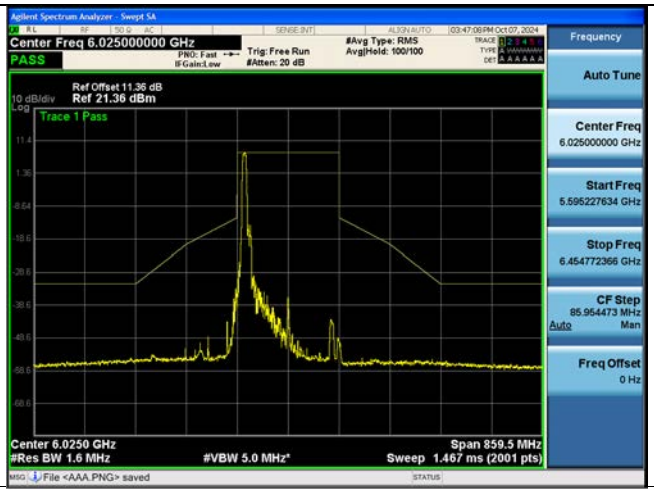
802.11be EHT80M Ch.151(6705 MHz) 106T+26T RU89



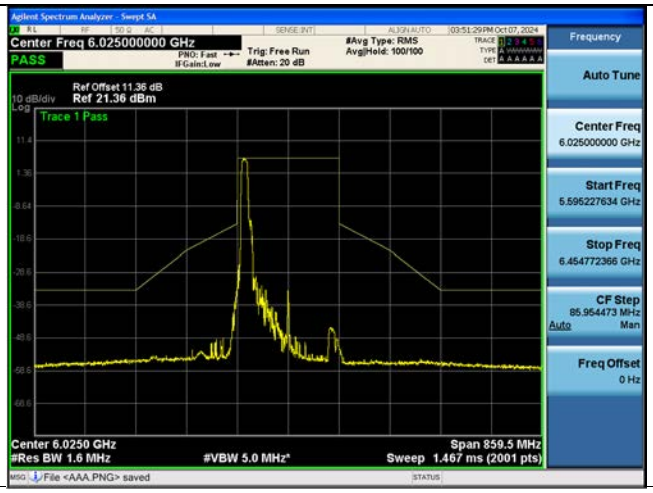
802.11be EHT80M Ch.151(6705 MHz) 484T+242T RU90



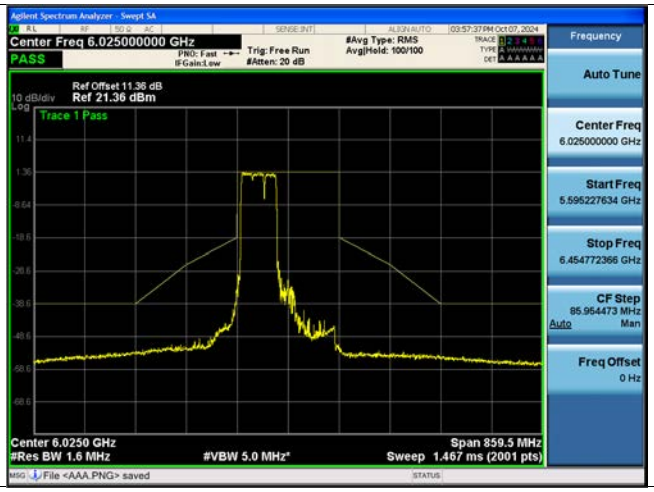
802.11be EHT160M Ch.15(6025 MHz) 52T+26T RU70



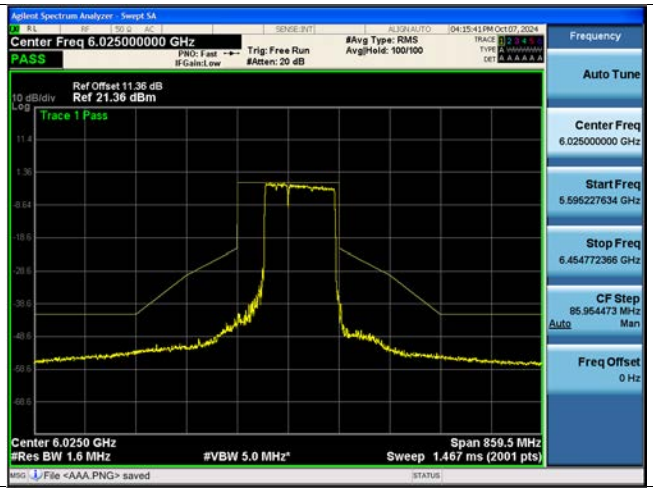
802.11be EHT160M Ch.15(6025 MHz) 106T+26T RU82



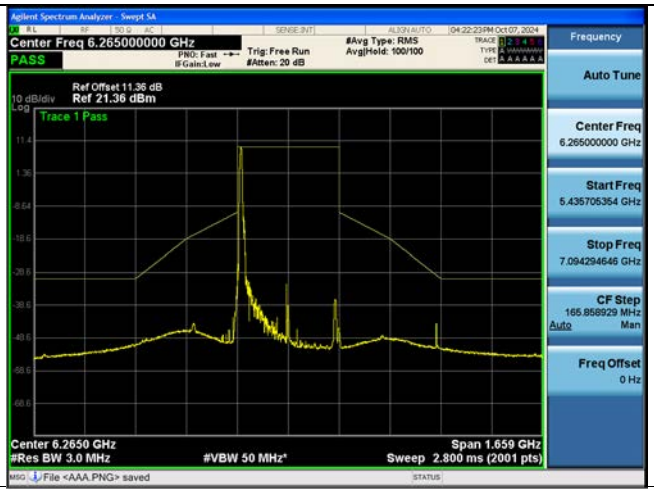
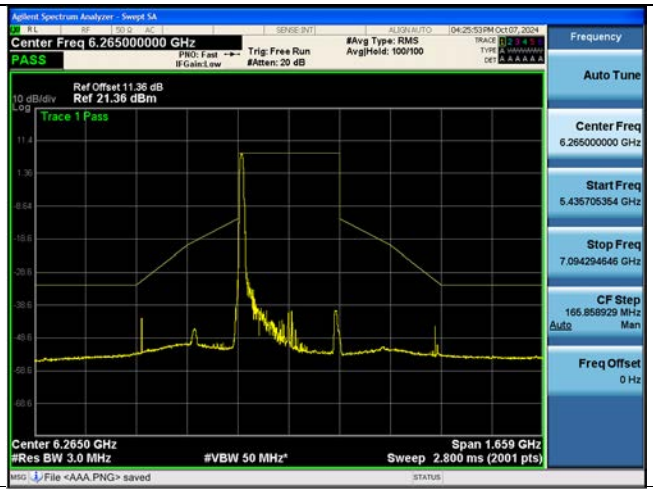
802.11be EHT160M Ch.15(6025 MHz) 484T+242T RU93



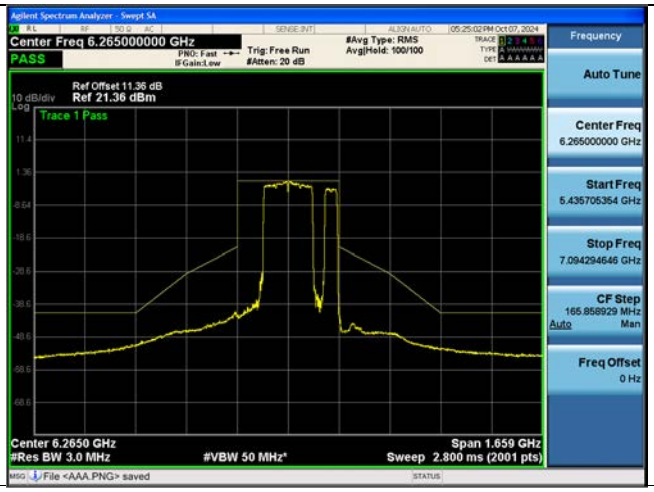
802.11be EHT160M Ch.15(6025 MHz) 996T+484T RU94



802.11be EHT160M Ch.15(6025 MHz) 996T+484T+242T RU96

Bandwidth 320M, Ch. 63(6265 MHz)52T+26T RU70	Bandwidth 320M, Ch. 63(6265 MHz) 106T+26T RU82
	
Bandwidth 320M, Ch. 63(6265 MHz) 484T+242T RU93	Bandwidth 320M, Ch. 63(6265 MHz) 996T+484T RU1095
	

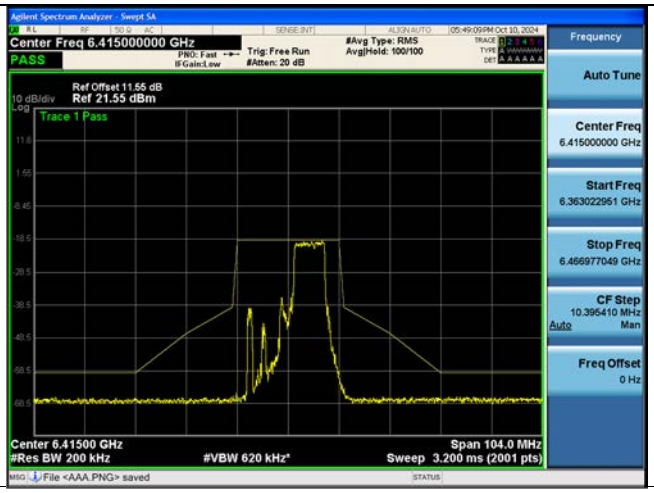
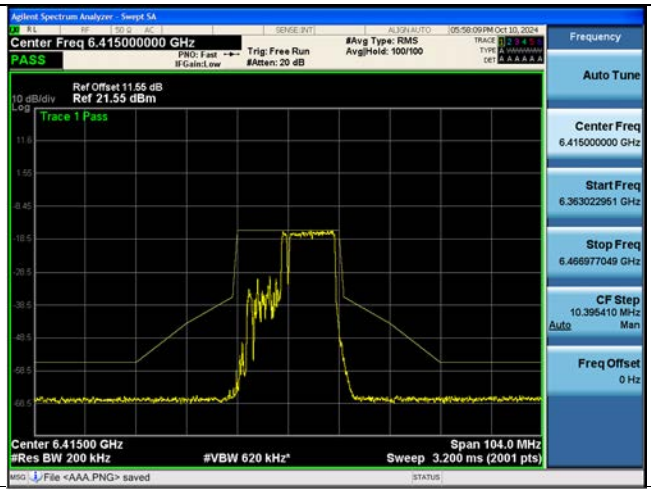
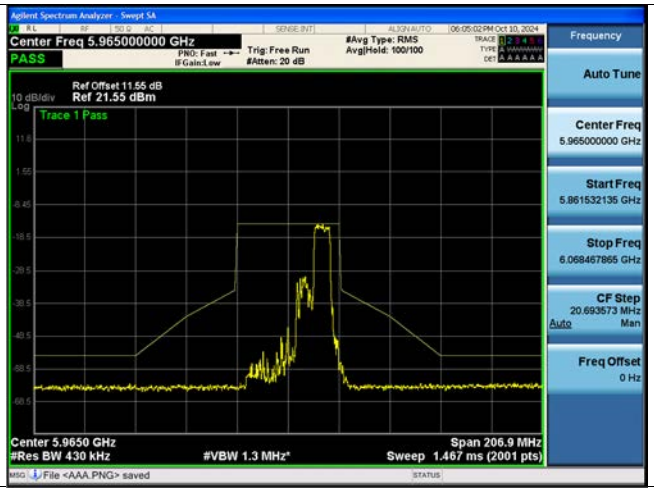
Bandwidth 320M, Ch. 63(6265 MHz) 2x996T+484T RU10102



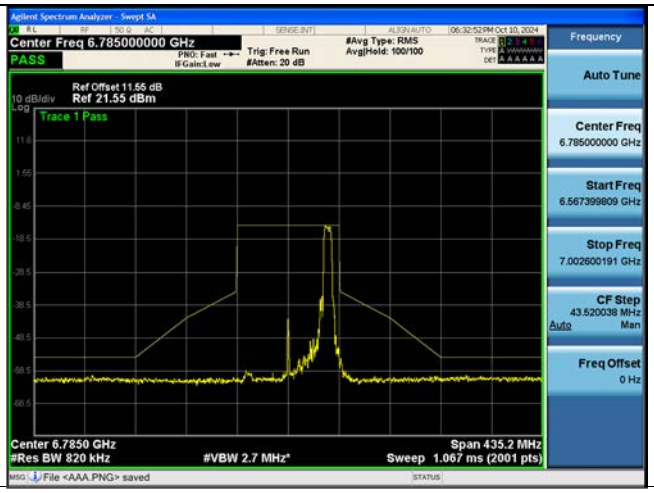
Bandwidth 320M, Ch. 63(6265 MHz) 3x996T RU104

Bandwidth 320M, Ch. 63(6265 MHz) 3x996T+484T RU105

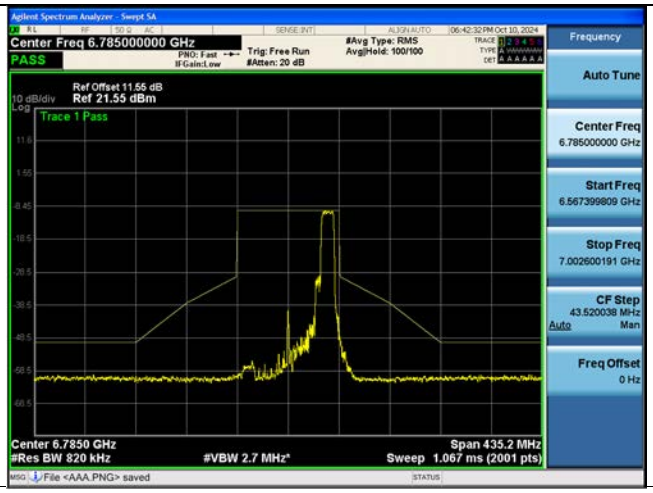
[Very Low Power Device]
[Ant.1]

802.11be EHT20M Ch.93(6415 MHz) 52T+26T RU72	802.11be EHT20M Ch.93(6415 MHz) 106T+26T RU83
	
802.11be EHT40M Ch.3(5965 MHz) 52T+26T RU75	802.11be EHT40M Ch.3(5965 MHz) 106T+26T RU85
	

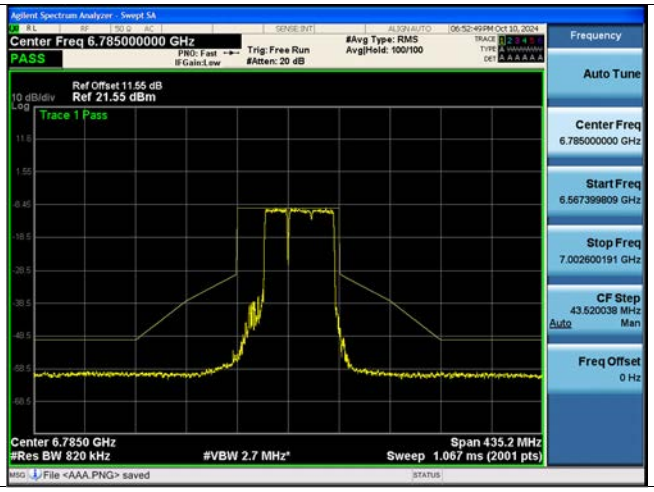
802.11be EHT80M Ch.167(6785 MHz) 52T+26T RU81



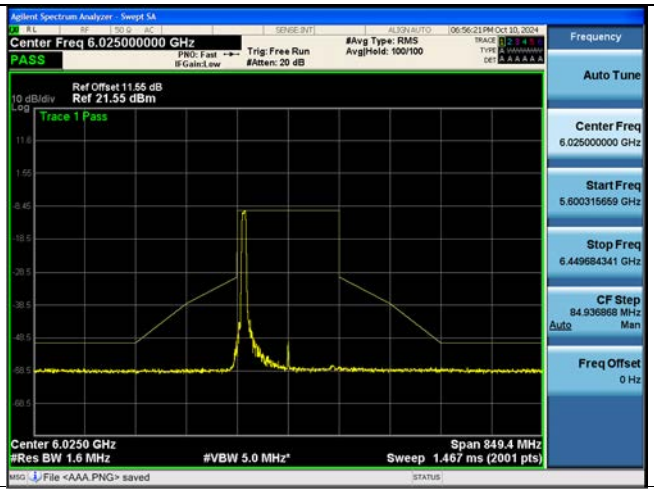
802.11be EHT80M Ch.167(6785 MHz) 106T+26T RU89



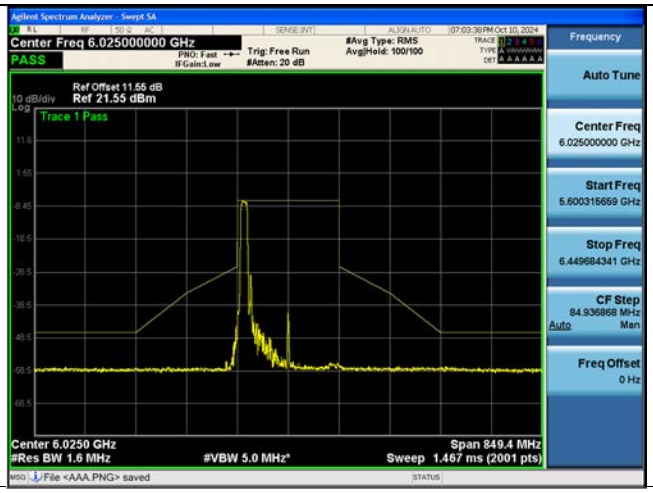
802.11be EHT80M Ch.167(6785 MHz) 484T+242T RU90



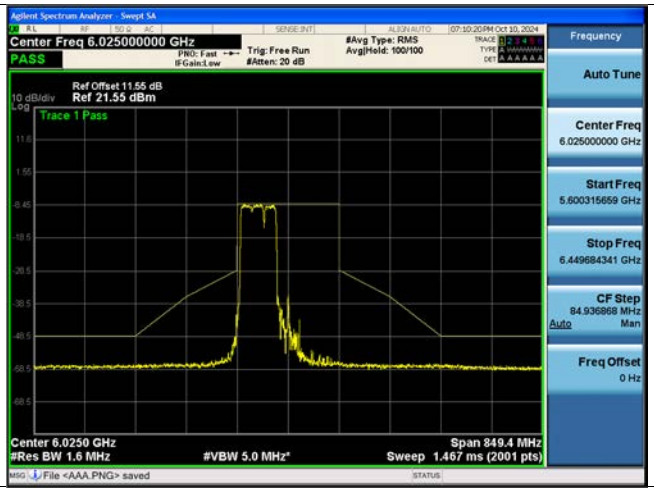
802.11be EHT160M Ch.15(6025 MHz) 52T+26T RU70



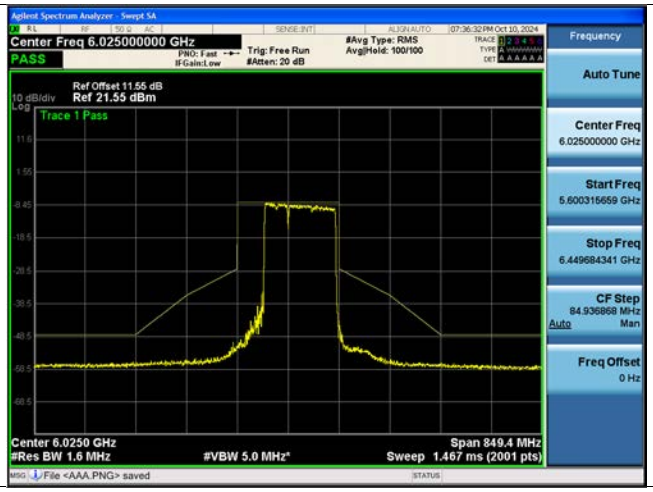
802.11be EHT160M Ch.15(6025 MHz) 106T+26T RU82

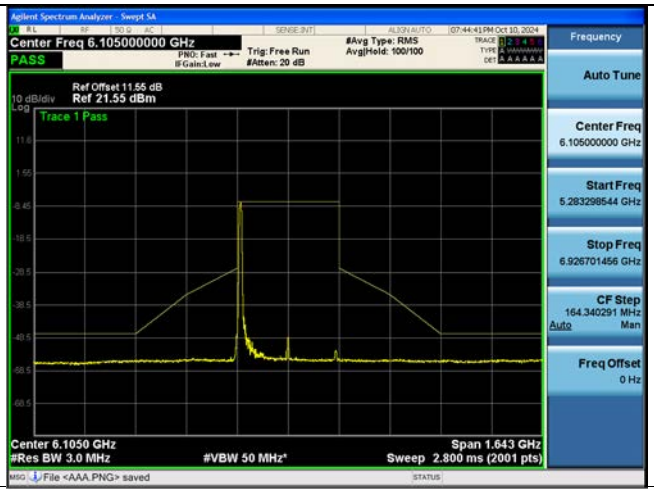
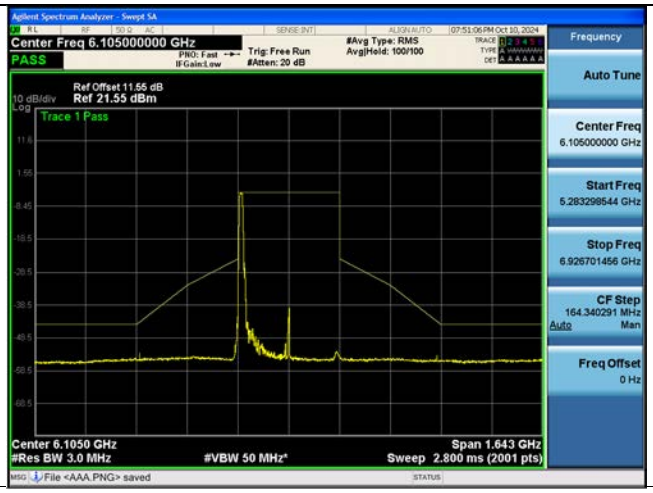
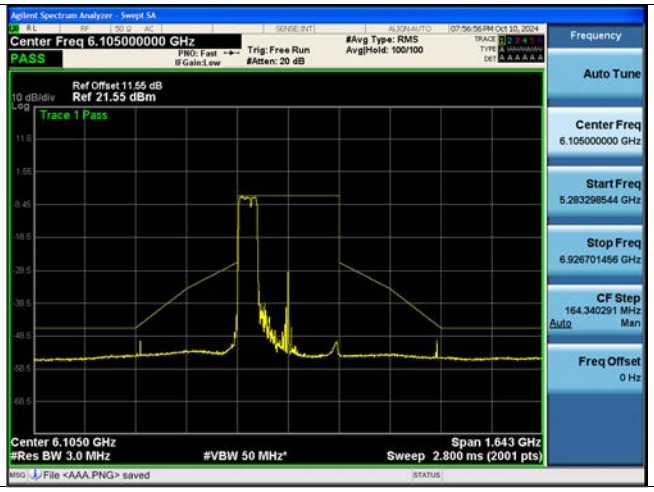


802.11be EHT160M Ch.15(6025 MHz) 484T+242T RU93



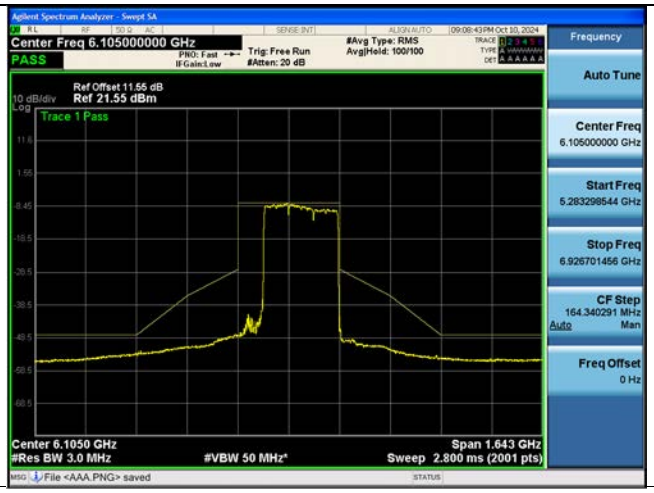
802.11be EHT160M Ch.15(6025 MHz) 996T+484T RU94



Bandwidth 320M, Ch. 31(6105 MHz) 52T+26T RU70	Bandwidth 320M, Ch. 31(6105 MHz) 106T+26T RU82
	
Bandwidth 320M, Ch. 31(6105 MHz) 484T+242T RU93	Bandwidth 320M, Ch. 31(6105 MHz) 996T+484T RU1095
	

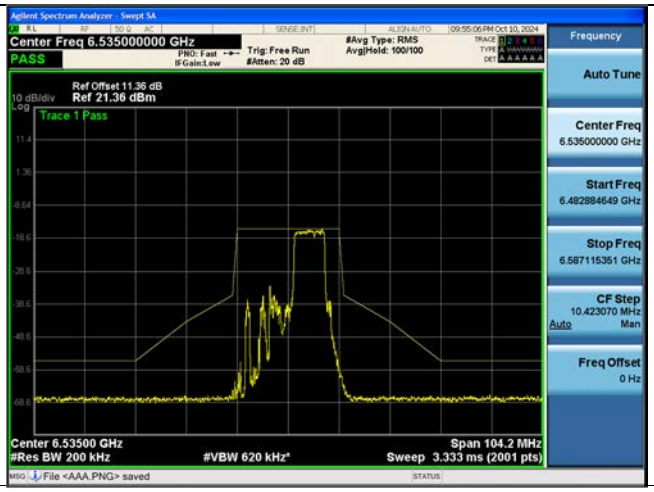
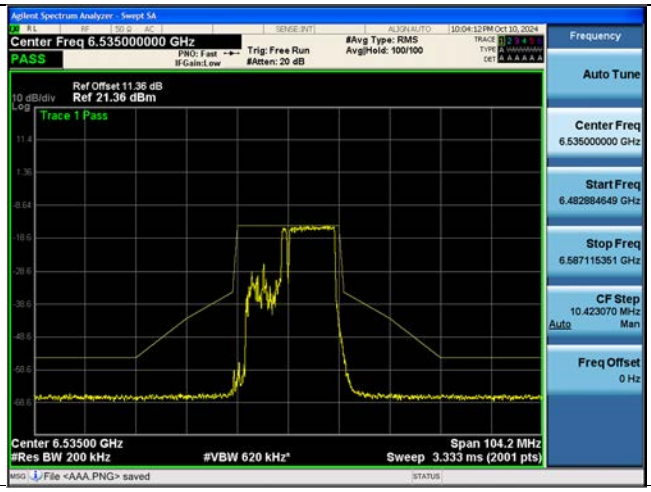
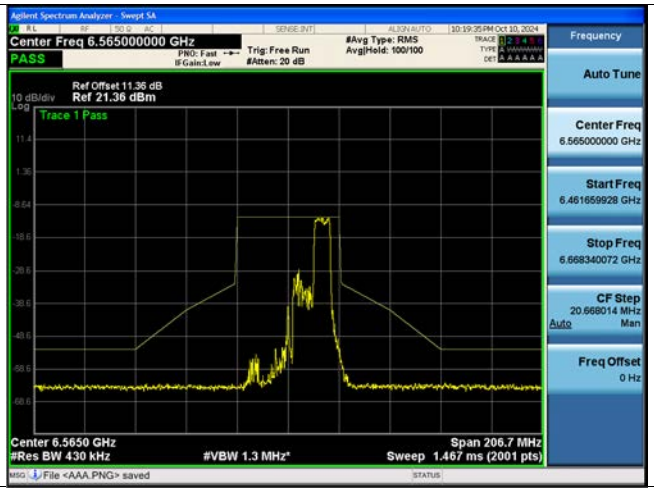
Bandwidth 320M, Ch. 31(6105 MHz) 2x996T+484T RU10102

Bandwidth 320M, Ch. 31(6105 MHz) 3x996T RU104

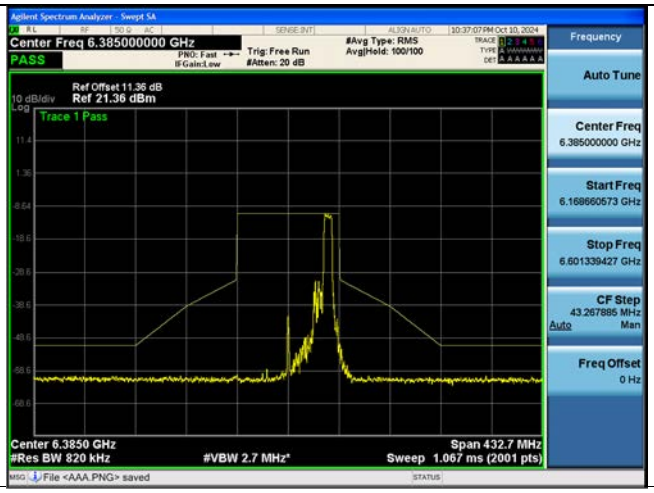


Bandwidth 320M, Ch. 31(6105 MHz) 3x996T+484T RU105

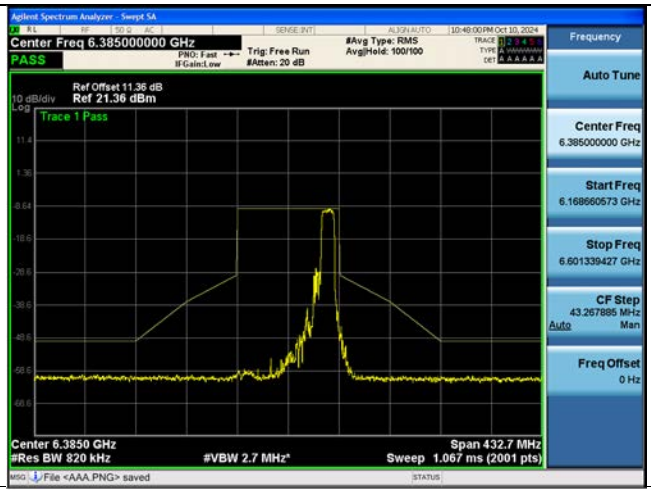
[Ant.2]

802.11be EHT20M Ch.117(6535 MHz) 52T+26T RU72	802.11be EHT20M Ch.117(6535 MHz) 106T+26T RU83
	
802.11be EHT40M Ch.123(6565 MHz) 52T+26T RU75	802.11be EHT40M Ch.123(6565 MHz) 106T+26T RU85
	

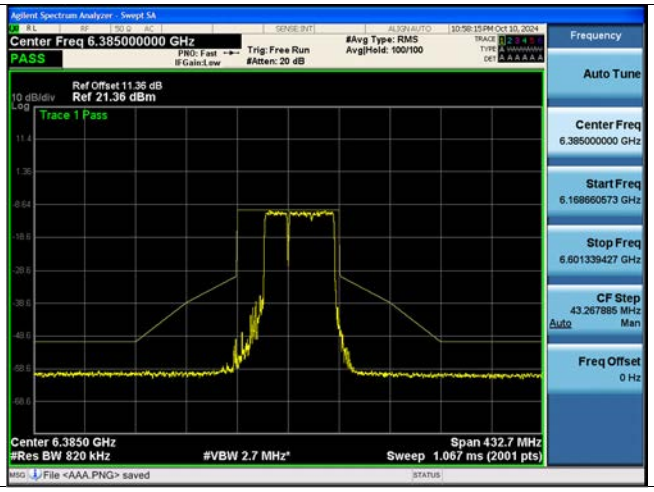
802.11be EHT80M Ch.87(6385 MHz) 52T+26T RU81



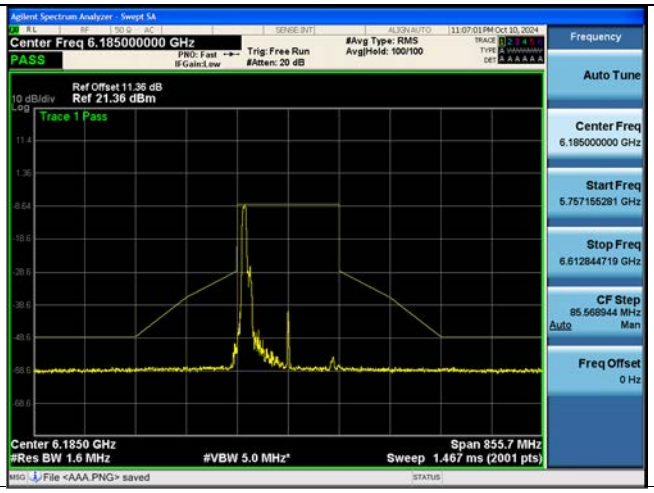
802.11be EHT80M Ch.87(6385 MHz) 106T+26T RU89



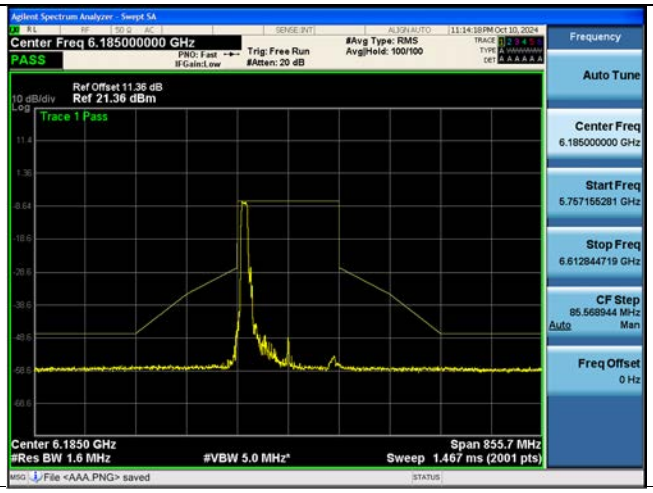
802.11be EHT80M Ch.87(6385 MHz) 484T+242T RU90



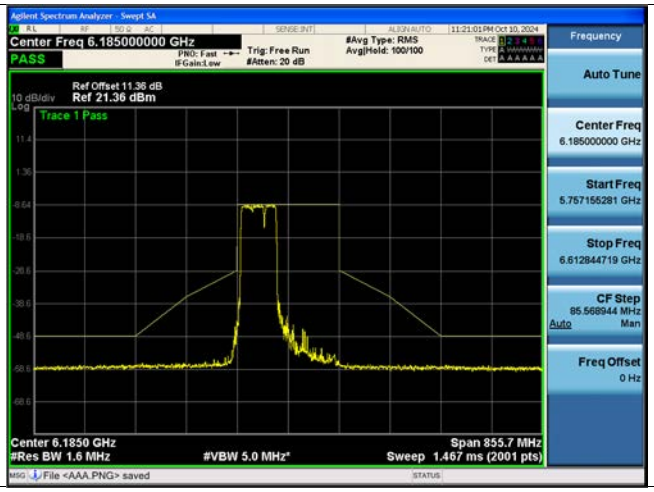
802.11be EHT160M Ch.47(6185 MHz) 52T+26T RU70



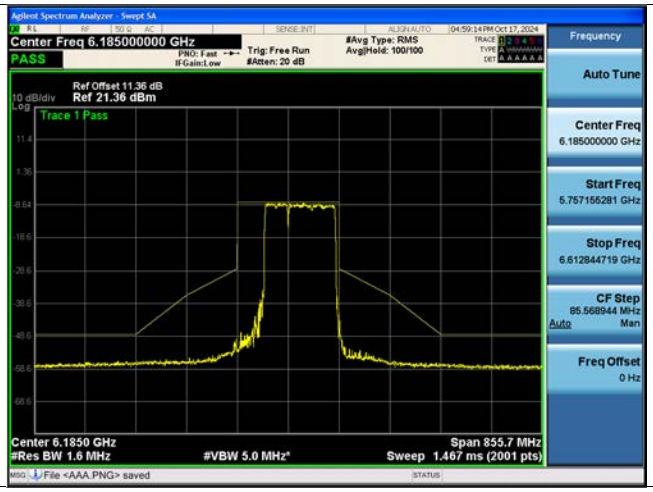
802.11be EHT160M Ch.47(6185 MHz) 106T+26T RU82



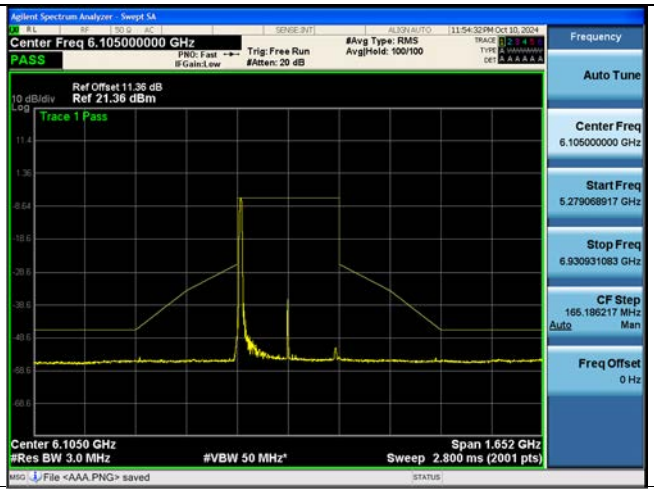
802.11be EHT160M Ch.47(6185 MHz) 484T+242T RU93



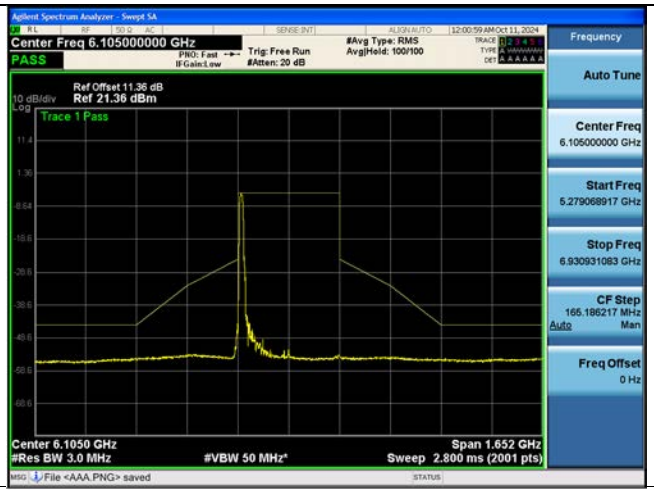
802.11be EHT160M Ch.47(6185 MHz) 996T+484T RU94



Bandwidth 320M, Ch. 31(6105 MHz) 52T+26T RU70



Bandwidth 320M, Ch. 31(6105 MHz) 106T+26T RU82



Bandwidth 320M, Ch. 31(6105 MHz) 484T+242T RU93

Bandwidth 320M, Ch. 31(6105 MHz) 996T+484T RU1095

Bandwidth 320M, Ch. 31(6105 MHz) 2x996T+484T RU10102

Bandwidth 320M, Ch. 31(6105 MHz) 3x996T RU104

Bandwidth 320M, Ch. 31(6105 MHz) 3x996T+484T RU105

10.6 Contention Based Protocol

Note:

1. In order to simplify the report, Only worst case for each band have been inserted.
2. The worst case antenna gain(Minimum Gain) is selected from the table.
3. The lowest gain according to the incumbent frequency is applied.
4. The antenna gain between frequencies was calculated linearly.
5. Bandwidth Reduction was used for incumbent avoidance.
6. This device only punctures to optimize network performance and never to avoid licensed incumbents.

Band	Ant Minimum Gain (dBi)
UNII-5	6135 MHz: -5.66 6110 MHz: -5.66 6265 MHz: -7.09 6420 MHz: -7.27
UNII-6	6455 MHz: -7.27 6270 MHz: -6.28 6425 MHz: -7.27 6580 MHz: -6.54
UNII-7	6615 MHz: -7.26 6430 MHz: -7.27 6585 MHz: -7.26 6740 MHz: -7.60
UNII-8	6935 MHz:-6.48 6750 MHz:-7.60 6905 MHz:-6.48 7060 MHz:-5.63

- Contention-based Protocol Detection Value

Band	BW	Channel No.	Incumbent Freq (MHz)	injected Power [dBm]	Antenna Gain [dBi]	Adjusted Power [dBm]	Detection Limit [dBm]	Margin [dB]	EUT TX Status
UNII 5	EHT20	37	6135	-73.47	-5.66	-67.81	-62.00	5.81	Ceased
				-74.55	-5.66	-68.89	-62.00	6.89	Minimal
				-75.15	-5.66	-69.49	-62.00	7.49	Normal
	EHT320	31	6110	-70.93	-5.66	-65.27	-62.00	3.27	Ceased
				-72.26	-5.66	-66.60	-62.00	4.60	Minimal
				-73.54	-5.66	-67.88	-62.00	5.88	Normal
			6265	-70.65	-7.09	-63.56	-62.00	1.56	Ceased
				-71.94	-7.09	-64.85	-62.00	2.85	Minimal
				-73.23	-7.09	-66.14	-62.00	4.14	Normal
			6420	-69.56	-7.27	-62.29	-62.00	0.29	Ceased
				-70.51	-7.27	-63.24	-62.00	1.24	Minimal
				-71.69	-7.27	-64.42	-62.00	2.42	Normal
UNII 6	EHT20	101	6455	-70.18	-7.27	-62.91	-62.00	0.91	Ceased
				-71.62	-7.27	-64.35	-62.00	2.35	Minimal
				-72.45	-7.27	-65.18	-62.00	3.18	Normal
	EHT320	95	6270	-69.50	-6.28	-63.22	-62.00	1.22	Ceased
				-70.66	-6.28	-64.38	-62.00	2.38	Minimal
				-72.15	-6.28	-65.87	-62.00	3.87	Normal
			6425	-71.26	-7.27	-63.99	-62.00	1.99	Ceased
				-71.74	-7.27	-64.47	-62.00	2.47	Minimal
				-73.18	-7.27	-65.91	-62.00	3.91	Normal
			6580	-69.58	-6.54	-63.04	-62.00	1.04	Ceased
				-70.25	-6.54	-63.71	-62.00	1.71	Minimal
				-71.84	-6.54	-65.30	-62.00	3.30	Normal
UNII 7	EHT20	133	6615	-71.41	-7.26	-64.15	-62.00	2.15	Ceased
				-72.19	-7.26	-64.93	-62.00	2.93	Minimal
				-73.58	-7.26	-66.32	-62.00	4.32	Normal
	EHT320	127	6430	-70.12	-7.27	-62.85	-62.00	0.85	Ceased
				-71.36	-7.27	-64.09	-62.00	2.09	Minimal
				-72.11	-7.27	-64.84	-62.00	2.84	Normal
			6585	-72.03	-7.26	-64.77	-62.00	2.77	Ceased
				-73.13	-7.26	-65.87	-62.00	3.87	Minimal
				-74.95	-7.26	-67.69	-62.00	5.69	Normal
			6740	-70.21	-7.60	-62.61	-62.00	0.61	Ceased

Band	BW	Channel No.	Incumbent Freq (MHz)	injected Power [dBm]	Antenna Gain [dBi]	Adjusted Power [dBm]	Detection Limit [dBm]	Margin [dB]	EUT TX Status
				-71.31	-7.60	-63.71	-62.00	1.71	Minimal
				-72.18	-7.60	-64.58	-62.00	2.58	Normal
UNII 8	EHT20	197	6935	-71.53	-6.48	-65.05	-62.00	3.05	Ceased
				-72.46	-7.60	-65.98	-62.00	3.98	Minimal
				-73.31	-7.60	-66.83	-62.00	4.83	Normal
	EHT320	191	6750	-70.18	-7.60	-62.58	-62.00	0.58	Ceased
				-70.68	-7.60	-63.08	-62.00	1.08	Minimal
				-71.01	-7.60	-63.41	-62.00	1.41	Normal
			6905	-71.45	-6.48	-64.97	-62.00	2.97	Ceased
				-72.67	-6.48	-66.19	-62.00	4.19	Minimal
				-73.94	-6.48	-67.46	-62.00	5.46	Normal
			7060	-68.29	-5.63	-62.66	-62.00	0.66	Ceased
				-68.94	-5.63	-63.31	-62.00	1.31	Minimal
				-69.46	-5.63	-63.83	-62.00	1.83	Normal

Note:

1. KDB 987594 D02, contention based protocol was tested using an AWGN signal with a bandwidth of 10MHz.
   The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission, marker indicates the point at which the AWGN signal is introduced.
2. Injected Power(dBm) = Actual power of AWGN injected into the antenna port(dBm) + Path Loss(dB)
3. Adjusted Power(dBm) = Injected Power(dBm) – Antenna Gain(dBi)
4. In order to simplify the report, attached were only the worst-case plots.

- Detection probability evaluation table Result

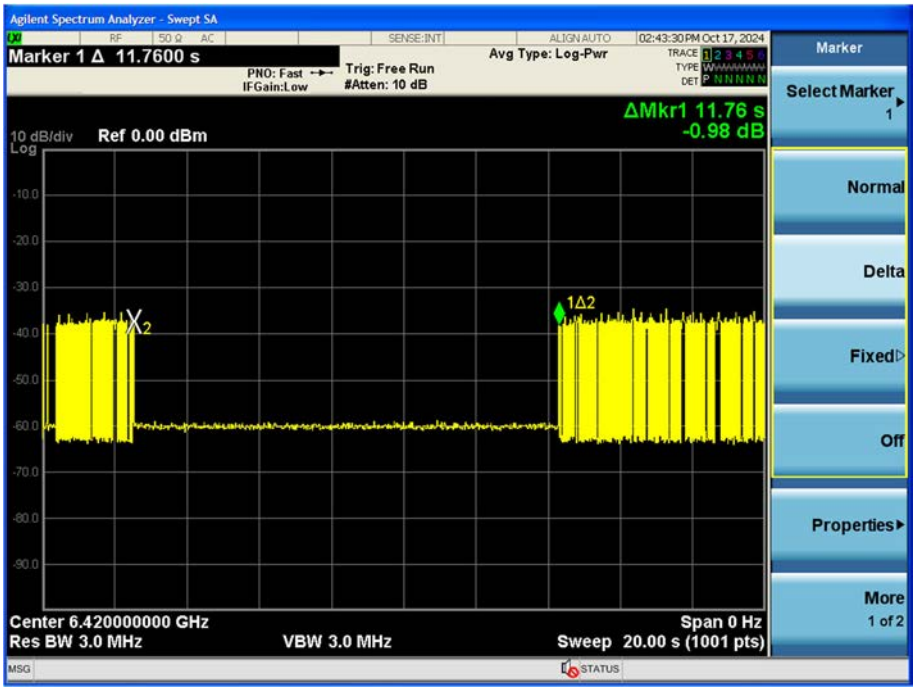
Band	BW	Channel No.	Center Frequency (MHz)	Incumbent Frequency (MHz)	Adjusted Power [dBm]	1	2	3	4	5	6	7	8	9	10	AWGN Detection Probability (%)	Limit Probability (%)
UNII 5	EHT20	37	6135	6135	-67.81	o	o	o	o	o	o	o	o	o	o	100	90
	EHT320	31	6265	6110	-65.27	o	o	o	o	o	o	o	o	o	o	100	90
				6265	-63.56	o	o	o	o	o	o	o	o	o	o	100	90
				6420	-62.29	o	o	o	o	o	o	o	o	o	o	100	90
UNII 6	EHT20	101	6455	6455	-62.91	o	o	o	o	o	o	o	o	o	o	100	90
	EHT320	95	6425	6270	-63.22	o	o	o	o	o	o	o	o	o	o	100	90
				6425	-63.99	o	o	o	o	o	o	o	o	o	o	100	90
				6580	-63.04	o	o	o	o	o	o	o	o	o	o	100	90
UNII 7	EHT20	133	6615	6615	-64.15	o	o	o	o	o	o	o	o	o	o	100	90
	EHT320	127	6585	6430	-62.85	o	o	o	o	o	o	o	o	o	o	100	90
				6585	-64.77	o	o	o	o	o	o	o	o	o	o	100	90
				6740	-62.61	o	o	o	o	o	o	o	o	o	o	100	90
UNII 8	EHT20	197	6935	6935	-65.05	o	o	o	o	o	o	o	o	o	o	100	90
	EHT320	191	6905	6750	-62.58	o	o	o	o	o	o	o	o	o	o	100	90
				6905	-64.97	o	o	o	o	o	o	o	o	o	o	100	90
				7060	-62.66	o	o	o	o	o	o	o	o	o	o	100	90

▣ Test Plots(Contention Based Protocol)

Incumbent Detection Result

UNII 5

802.11be EHT320 Ch.31(6420 MHz) Incumbent signal (Ceased)



Note :

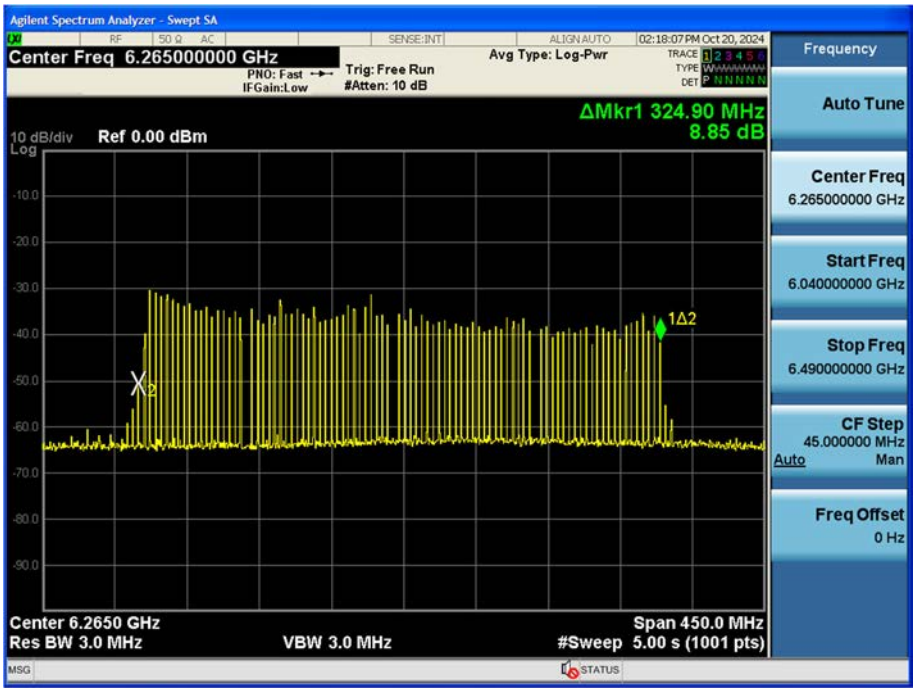
Marker 2 : AWGN Signal On

Marker 1△2 : AWGN signal Off (limit > 10s)

802.11be EHT320 Ch.31(6420 MHz) Detection Level

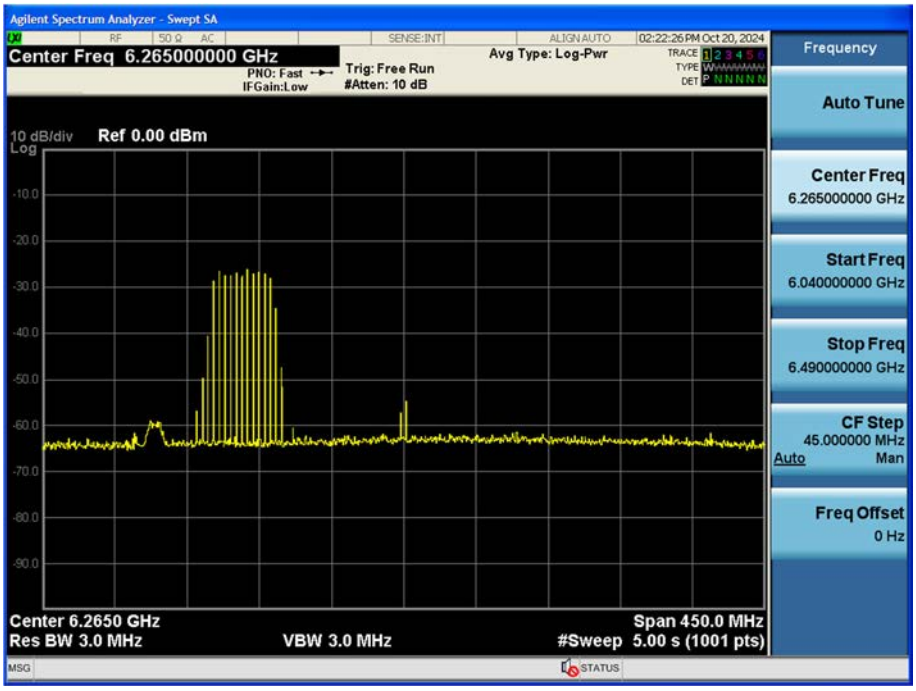
Bandwidth reduction plot (AWGN injected at low end)

6265 MHz (Not injected)



: A 10 MHz AWGN signal (centered at 6110 MHz) is injected.

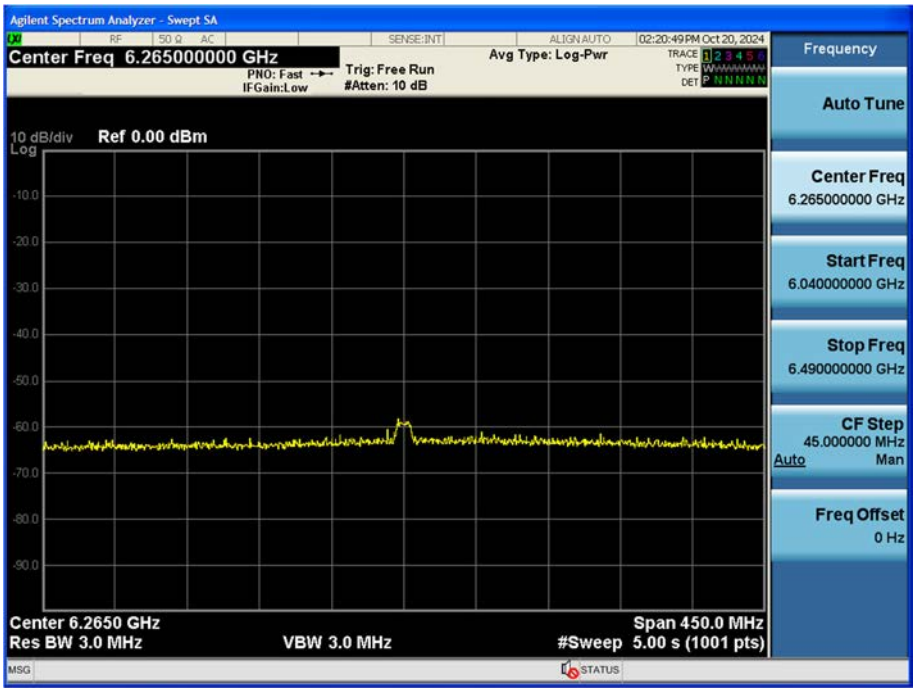
The channel reduces to an 40 MHz channel centered around 6225 MHz.



Bandwidth reduction plot (AWGN injected at center)

: A 10 MHz AWGN signal (centered at 6265 MHz) is injected.

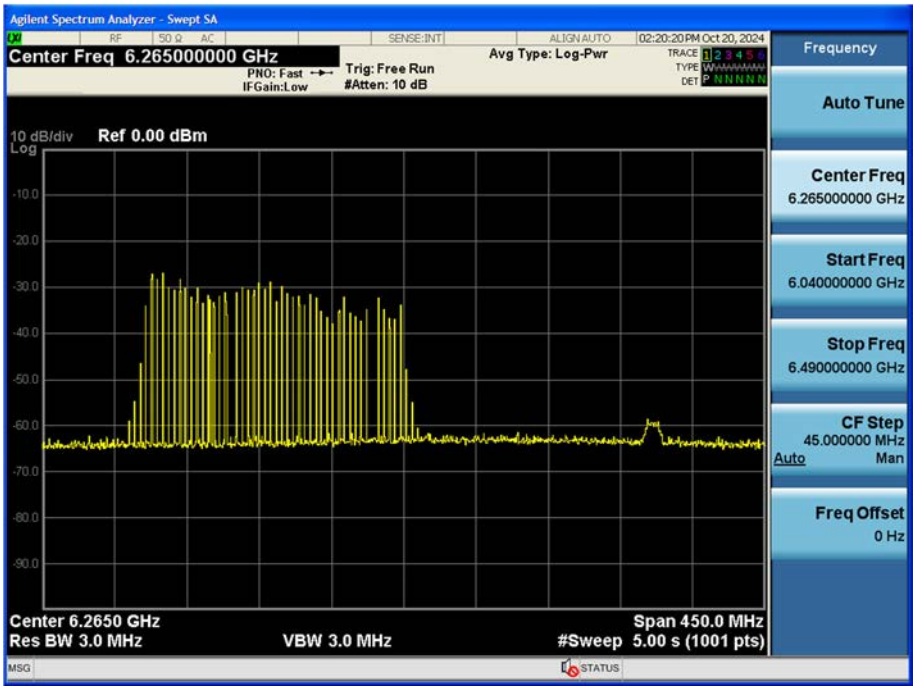
The channel completely ceases operation.



Bandwidth reduction plot (AWGN injected at high end)

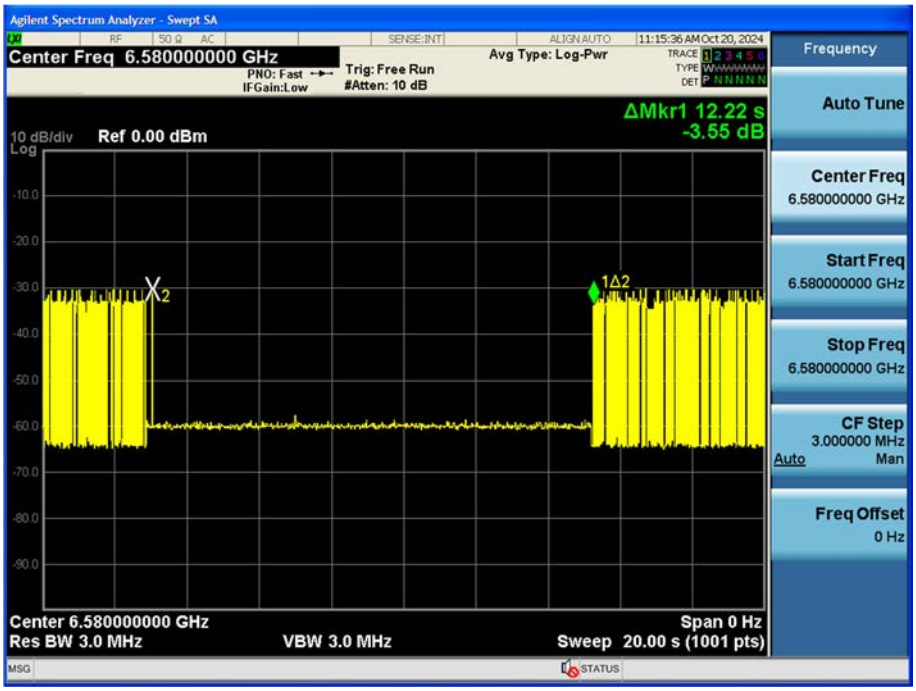
: A 10 MHz AWGN signal (centered at 6420 MHz) is injected.

The channel reduces to a 160 MHz channel centered around 6145 MHz.



UNII 6

802.11be EHT320 Ch.95(6580 MHz) Incumbent signal (Ceased)



Note :

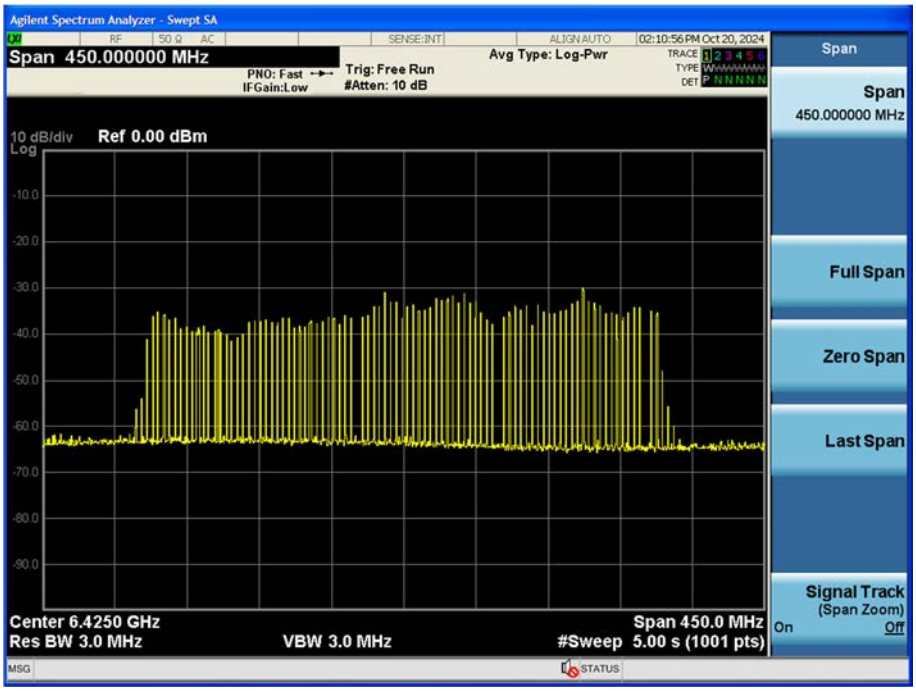
Marker 2 : AWGN Signal On

Marker 1△2 : AWGN signal Off (limit > 10s)

802.11be EHT320 Ch.95(6580 MHz) Detection Level

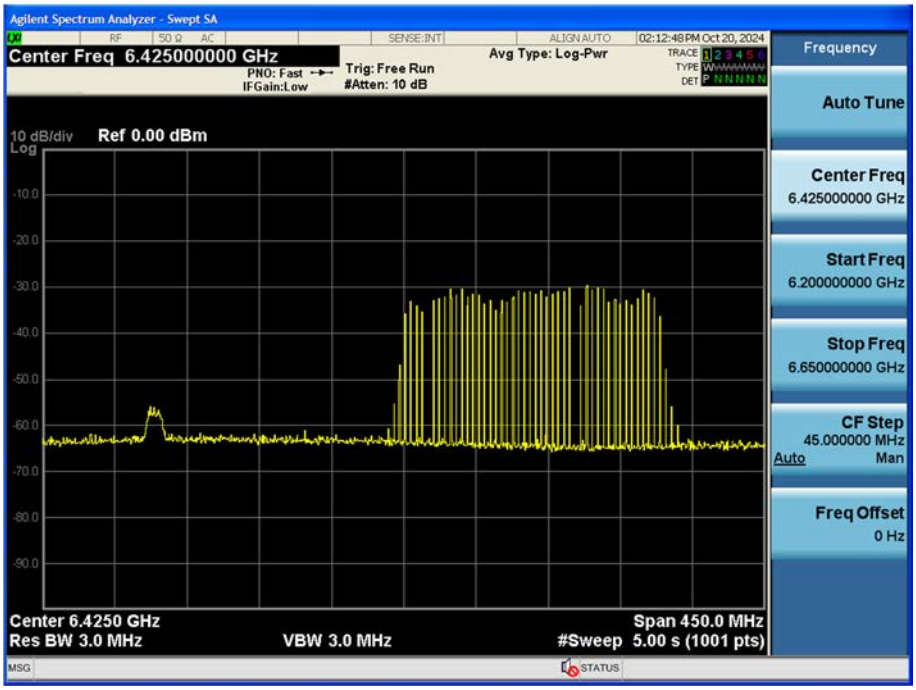
Bandwidth reduction plot (AWGN injected at low end)

6425 MHz(Not injected)



: A 10 MHz AWGN signal (centered at 6270 MHz) is injected.

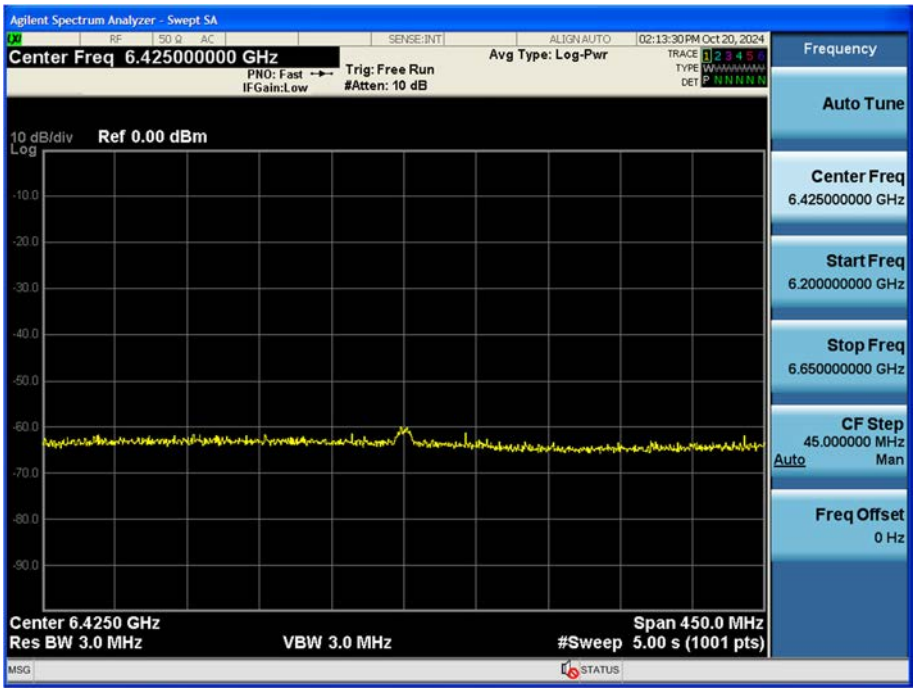
The channel reduces to an 160 MHz channel centered around 6545 MHz.



Bandwidth reduction plot (AWGN injected at center)

: A 10 MHz AWGN signal (centered at 6425 MHz) is injected.

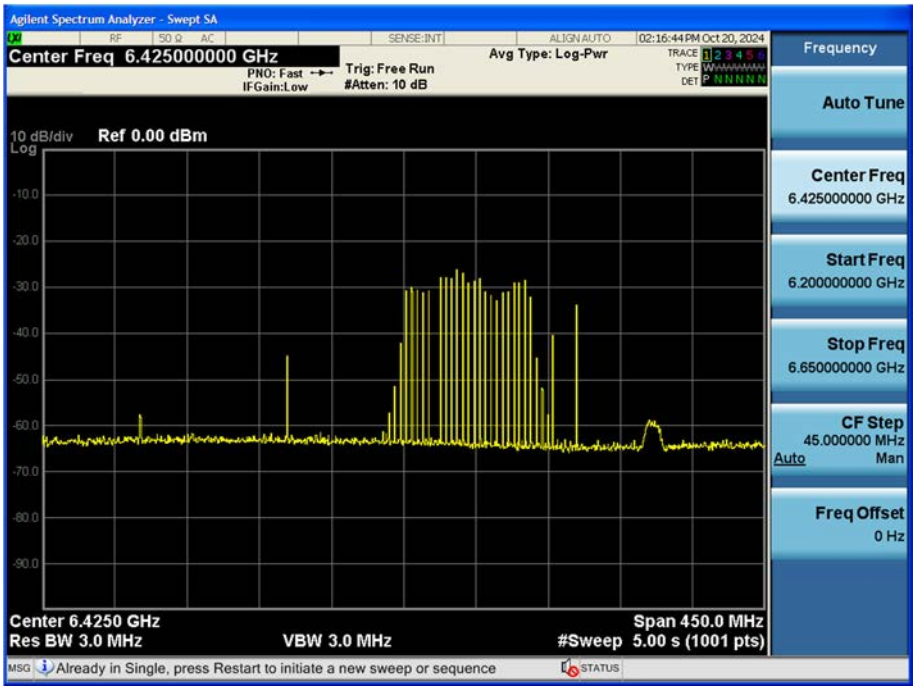
The channel completely ceases operation.



Bandwidth reduction plot (AWGN injected at high end)

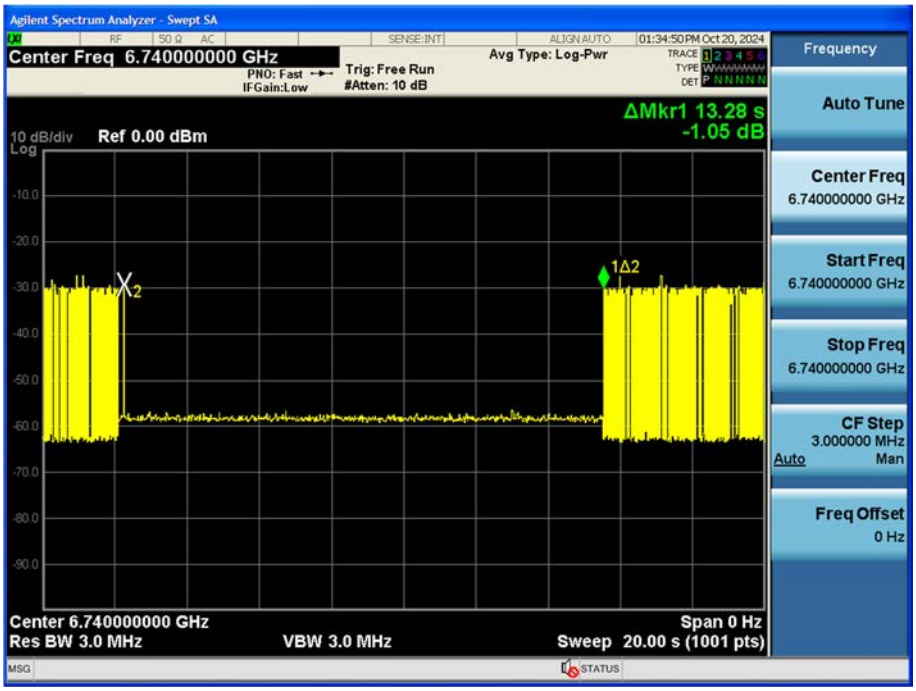
: A 10 MHz AWGN signal (centered at 6580 MHz) is injected.

The channel reduces to a 80 MHz channel centered around 6465 MHz.



UNII 7

802.11be EHT320 Ch.127(6740 MHz) Incumbent signal (Ceased)



Note :

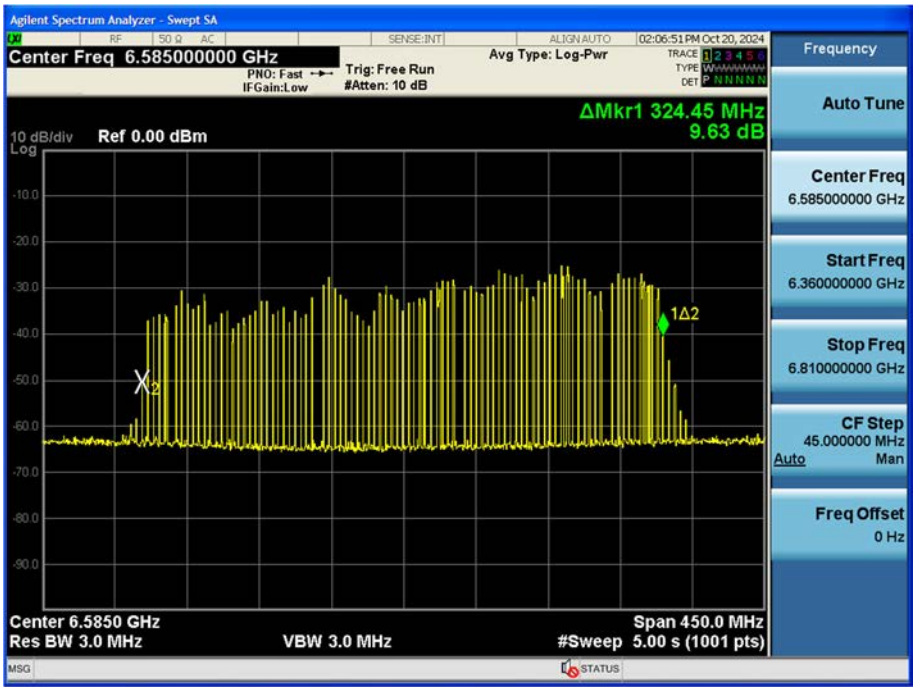
Marker 2 : AWGN Signal On

Marker 1△2 : AWGN signal Off (limit > 10s)

802.11be EHT320 Ch.127(6740 MHz) Detection Level

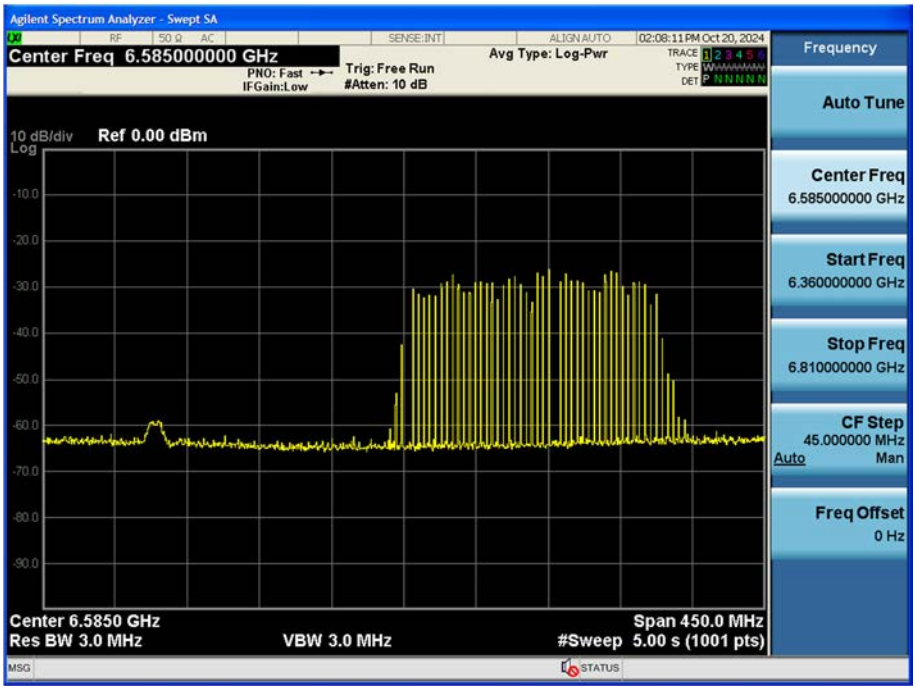
Bandwidth reduction plot (AWGN injected at low end)

6585 MHz(Not injected)



: A 10 MHz AWGN signal (centered at 6430 MHz) is injected.

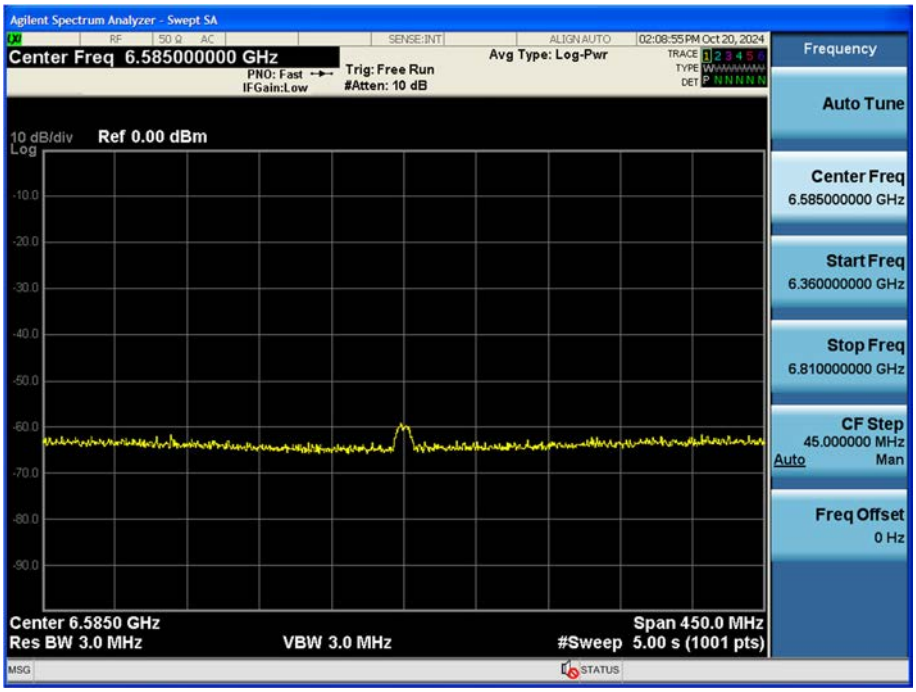
The channel reduces to an 160 MHz channel centered around 6705 MHz.



Bandwidth reduction plot (AWGN injected at center)

: A 10 MHz AWGN signal (centered at 6585 MHz) is injected.

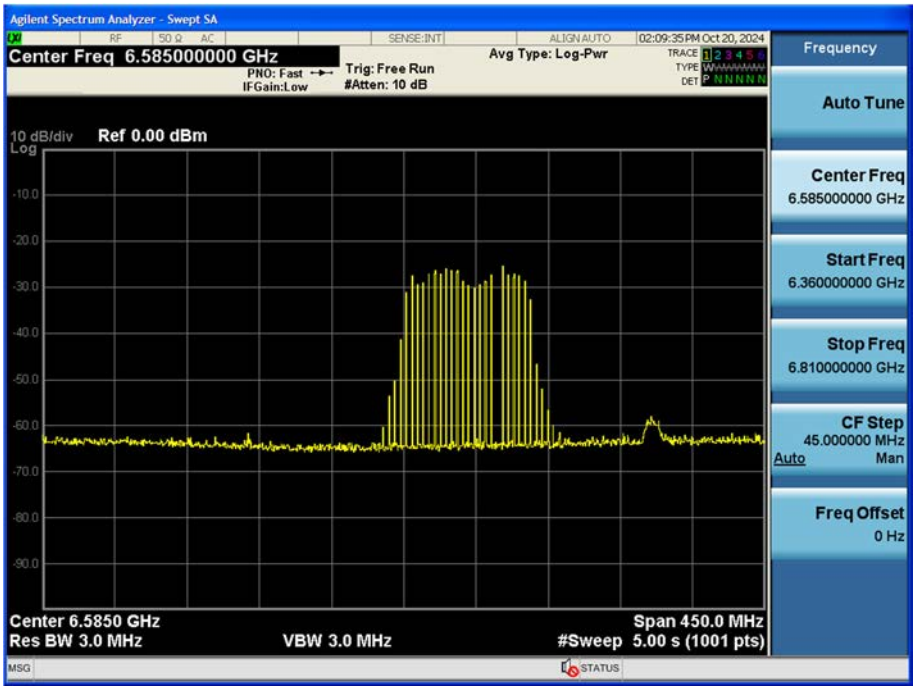
The channel completely ceases operation.



Bandwidth reduction plot (AWGN injected at high end)

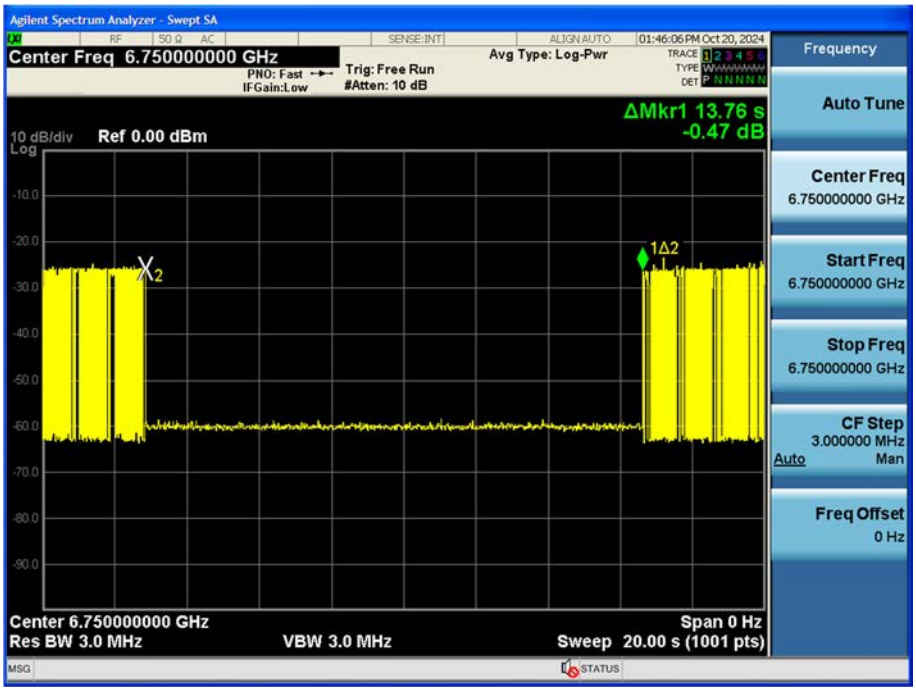
: A 10 MHz AWGN signal (centered at 6740 MHz) is injected.

The channel reduces to a 80 MHz channel centered around 6625 MHz.



UNII 8

802.11be EHT320 Ch.191(6750 MHz) Incumbent signal (Ceased)



Note :

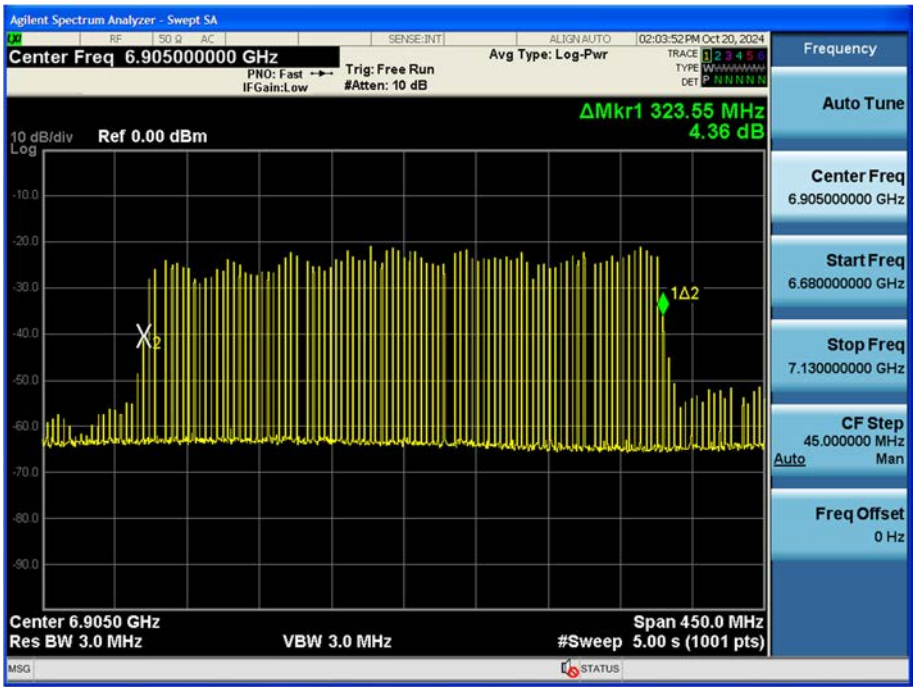
Marker 2 : AWGN Signal On

Marker 1△2 : AWGN signal Off (limit > 10s)

802.11be EHT320 Ch.191(6750 MHz) Detection Level

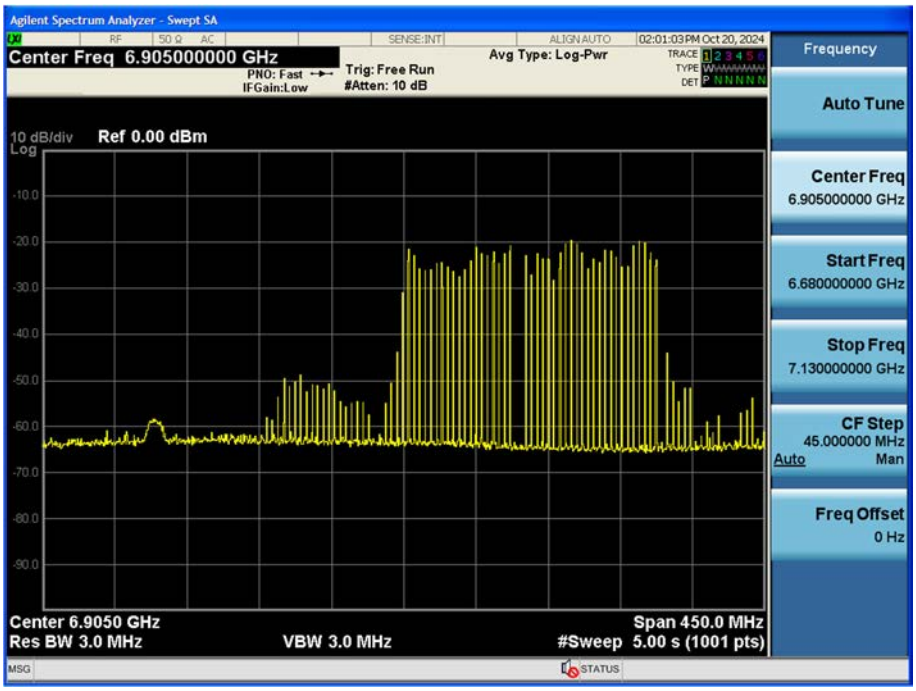
Bandwidth reduction plot (AWGN injected at low end)

6905 MHz(Not injected)



: A 10 MHz AWGN signal (centered at 6750 MHz) is injected.

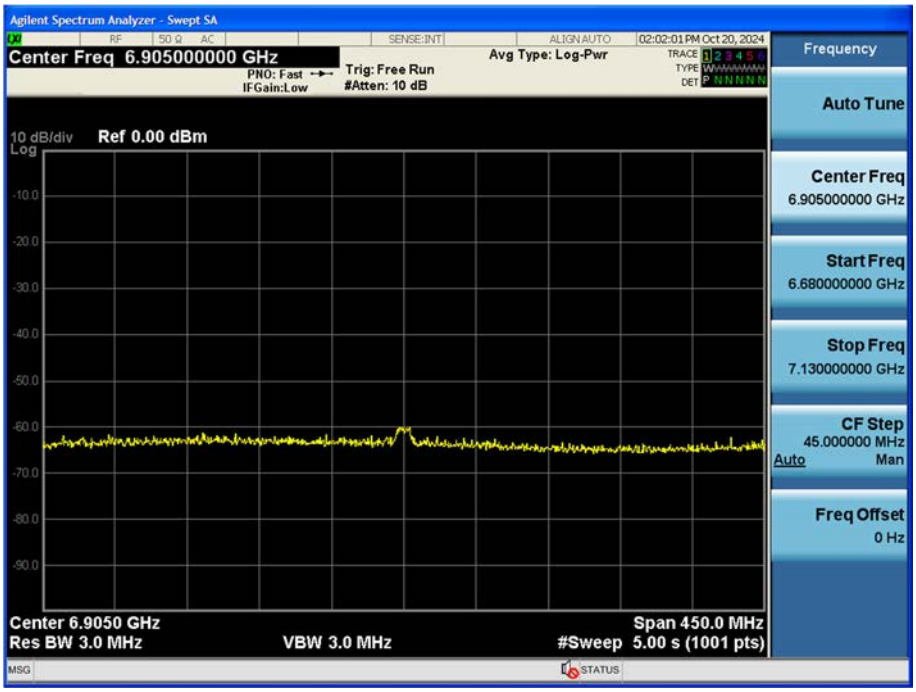
The channel reduces to an 160 MHz channel centered around 7025 MHz.



Bandwidth reduction plot (AWGN injected at center)

: A 10 MHz AWGN signal (centered at 6905 MHz) is injected.

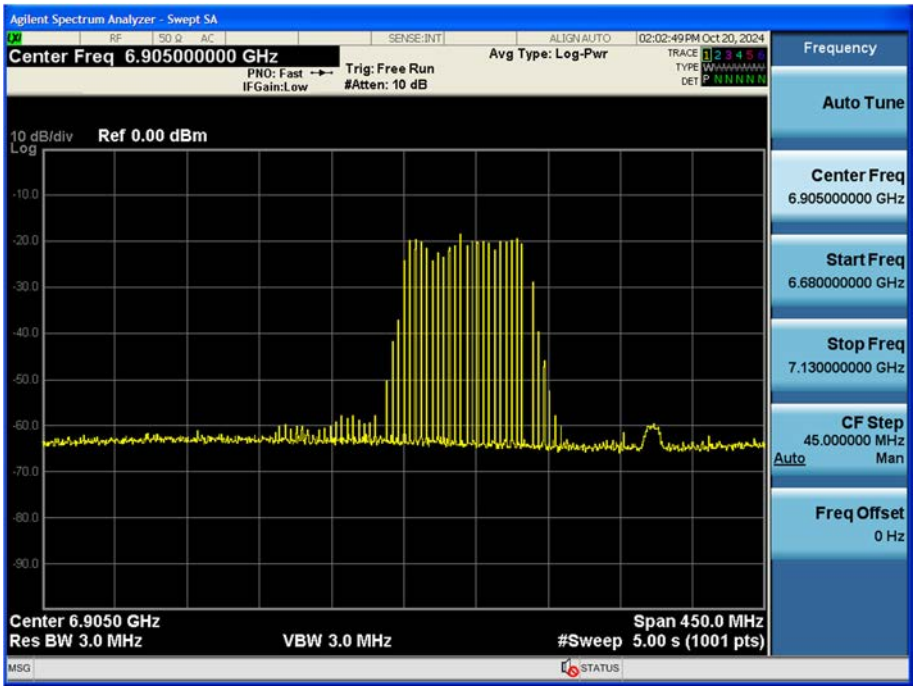
The channel completely ceases operation.



Bandwidth reduction plot (AWGN injected at high end)

: A 10 MHz AWGN signal (centered at 7060 MHz) is injected.

The channel reduces to a 80 MHz channel centered around 6945 MHz.



10.7 Dual Client Test, Demonstration of Proper Power Adjustment based on Associated AP

Note:

1. The EUT is a Dual Client Device
2. The test was executed with the SP AP and LPI AP (CMX500) authorized to transmit up to 30dBm (SP AP) and 24dBm(LPI AP).
3. The EUT was connected via a conducted connection to the spectrum analyzer. Simultaneously, the EUT was able to see and establish a conducted connection with the standard power access point and Low Power Indoor access point. (CMX500)

Ch.5 5975 MHz

Authorized EIRP for AP [dBm]	Dual Client ANT1 [dBm]	Dual Client ANT2 [dBm]	ANT1 gain [dBi]	ANT2 gain [dBi]	Dual Client MIMO Summed Conducted Power [dBm]	Directional Antenna Gain [dBi]	Dual Client MIMO EIRP [dBm]	Limit [dBm]	Margin [dB]
30(SP)	14.12	14.05	-4.39	-5.57	17.10	-1.95	15.15	30	14.85
24(LPI)	8.21	8.02	-4.39	-5.57	11.13	-1.95	9.18	24	14.82

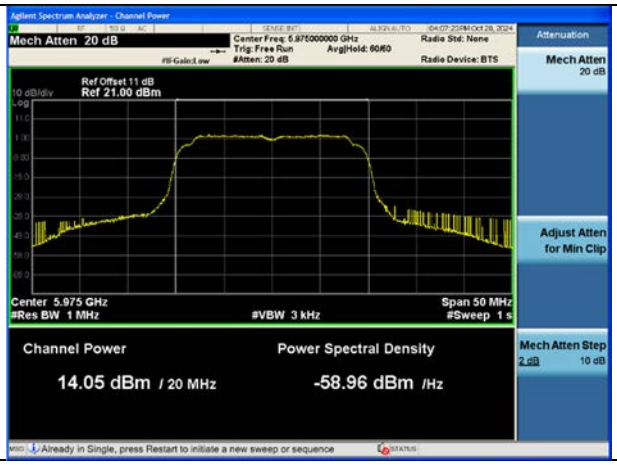
Ch.133 6615 MHz

Authorized EIRP for AP [dBm]	Dual Client ANT1 [dBm]	Dual Client ANT2 [dBm]	ANT1 gain [dBi]	ANT2 gain [dBi]	Dual Client MIMO Summed Conducted Power [dBm]	Directional Antenna Gain [dBi]	Dual Client MIMO EIRP [dBm]	Limit [dBm]	Margin [dB]
30(SP)	13.38	14.58	-7.26	-5.87	17.03	-3.53	13.50	30	16.50
24(LPI)	9.21	9.40	-7.26	-5.87	12.32	-3.53	8.79	24	15.21

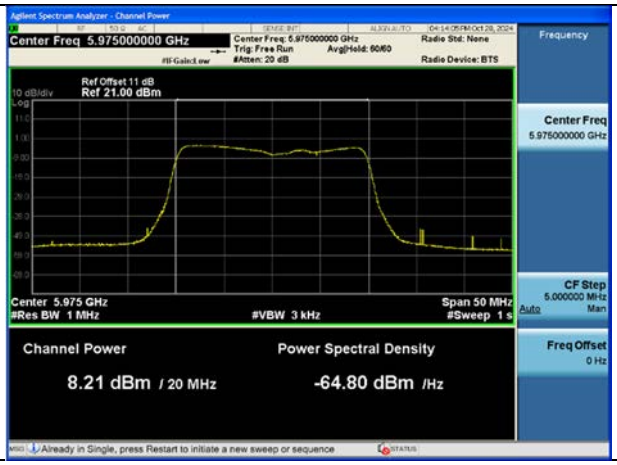
▣ Test Plots

CH.5 5975 MHz

SP AP Client Conducted Power (EIRP Authorization Power = 30 dBm)

ANT. 1	ANT. 2
	

LPI AP Client Conducted Power (EIRP Authorization Power = 24 dBm)

ANT. 1	ANT. 2
	

CH.133 6615 MHz

SP AP Client Conducted Power (EIRP Authorization Power = 30 dBm)	
ANT. 1	**ANT. 2**
	

LPI AP Client Conducted Power (EIRP Authorization Power = 24 dBm)	
ANT. 1	**ANT. 2**