Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.775000000 GHz
Center Freq: 5.775000000 GHz
Trig: Free Run
Avg|Hold:>500/500
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 2.5 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.77676 GHz
8.8039 dBm
Center Freq
5.775000000 GHz
Center 5.775 GHz
#Res BW 1.6 MHz
#VBW 5 MHz
Span 160 MHz
Sweep 1 ms
CF Step
16.000000 MHz
Auto
Man
Occupied Bandwidth
75.652 MHz
Total Power
22.3 dBm
Transmit Freq Error
346.69 kHz
OBW Power
99.00 %
x dB Bandwidth
90.82 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

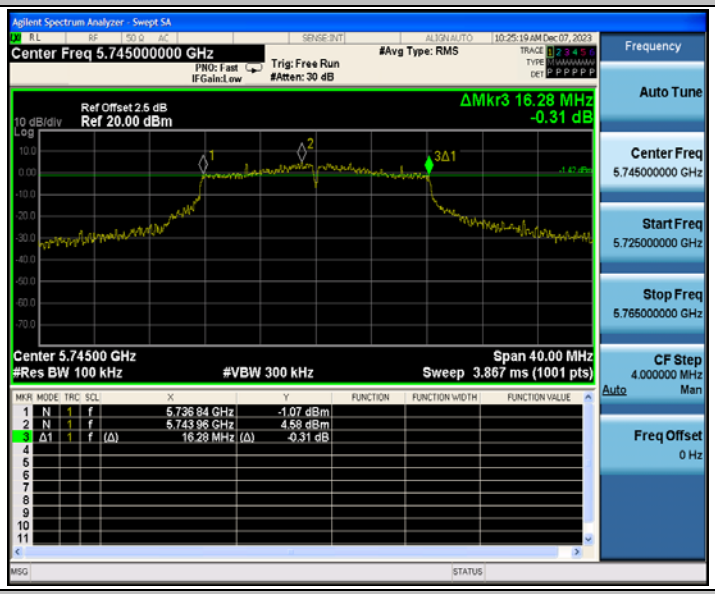
Appendix A3: Min emission bandwidth

Test Result

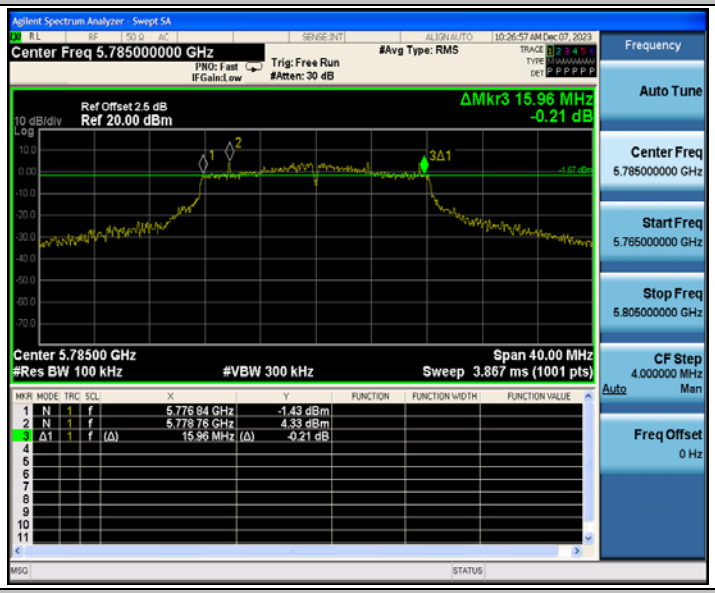
Test Mode	Channel	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit[MHz]	Verdict
802.11a	5745	16.280	5736.840	5753.120	>0.5	PASS
	5785	15.960	5776.840	5792.800	>0.5	PASS
	5825	16.240	5816.880	5833.120	>0.5	PASS
802.11n(HT20)	5745	16.920	5736.840	5753.760	>0.5	PASS
	5785	16.680	5776.440	5793.120	>0.5	PASS
	5825	15.000	5817.480	5832.480	>0.5	PASS
802.11n(HT40)	5755	35.920	5737.160	5773.080	>0.5	PASS
	5795	36.000	5776.840	5812.840	>0.5	PASS
802.11ac(VHT20)	5745	16.000	5737.400	5753.400	>0.5	PASS
	5785	15.360	5777.400	5792.760	>0.5	PASS
	5825	16.800	5816.600	5833.400	>0.5	PASS
802.11ac(VHT40)	5755	35.200	5737.400	5772.600	>0.5	PASS
	5795	35.120	5777.400	5812.520	>0.5	PASS
802.11ac(VHT80)	5775	75.200	5737.400	5812.600	>0.5	PASS

Test Graphs

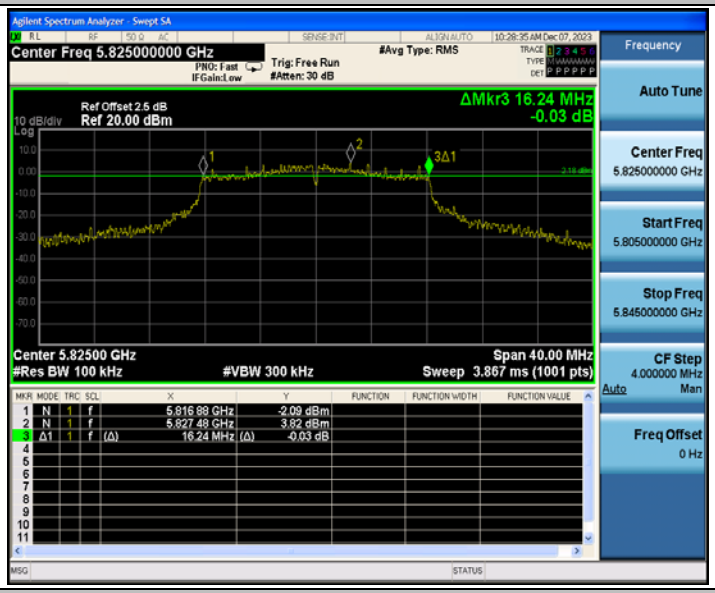
802.11a_5745



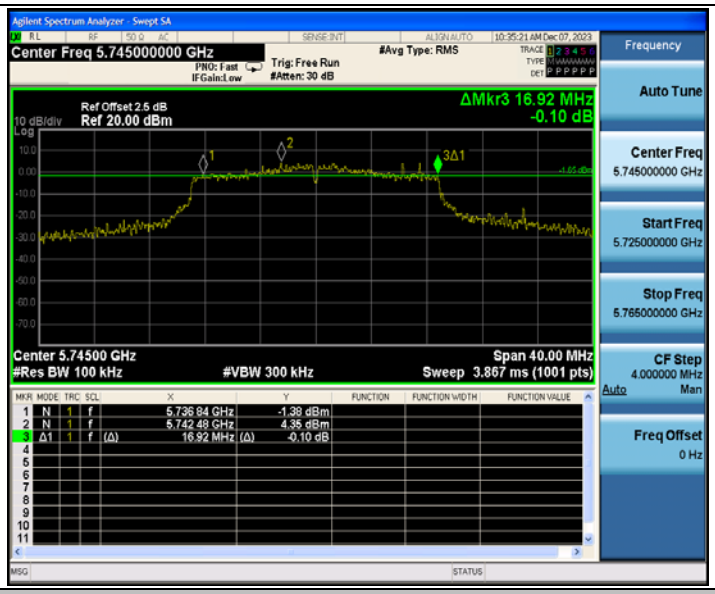
802.11a_5785



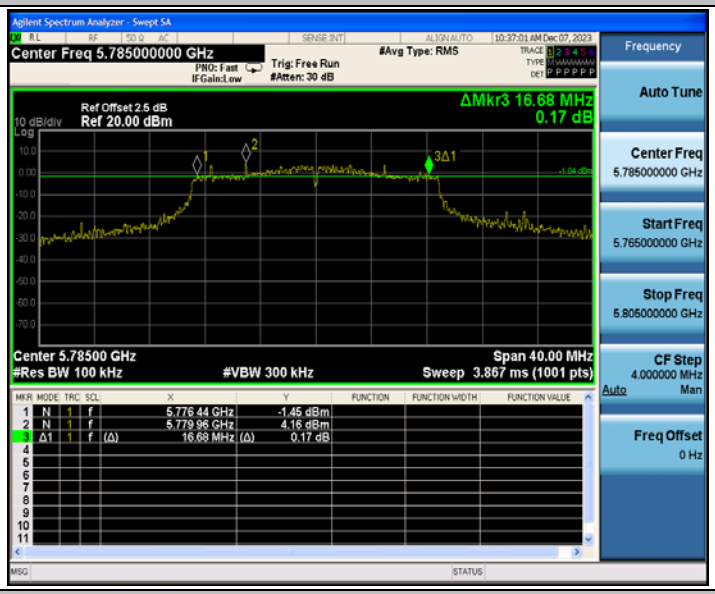
802.11a_5825



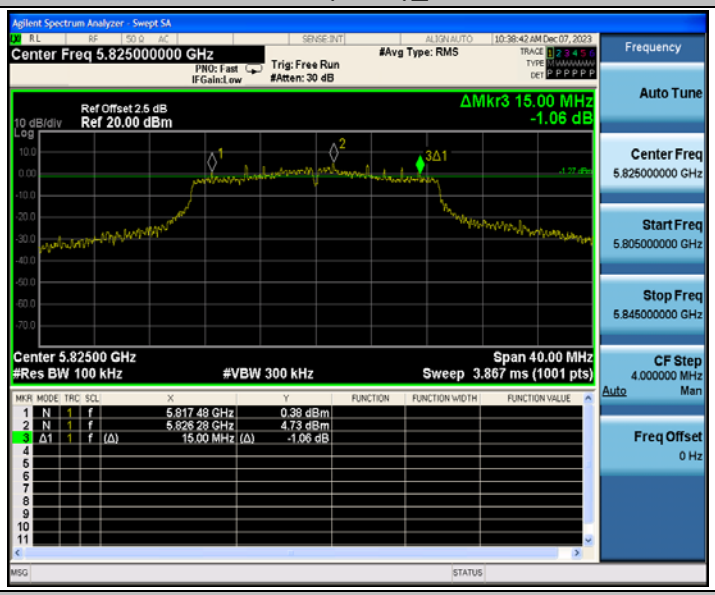
802.11n(HT20)_5745



802.11n(HT20)_5785



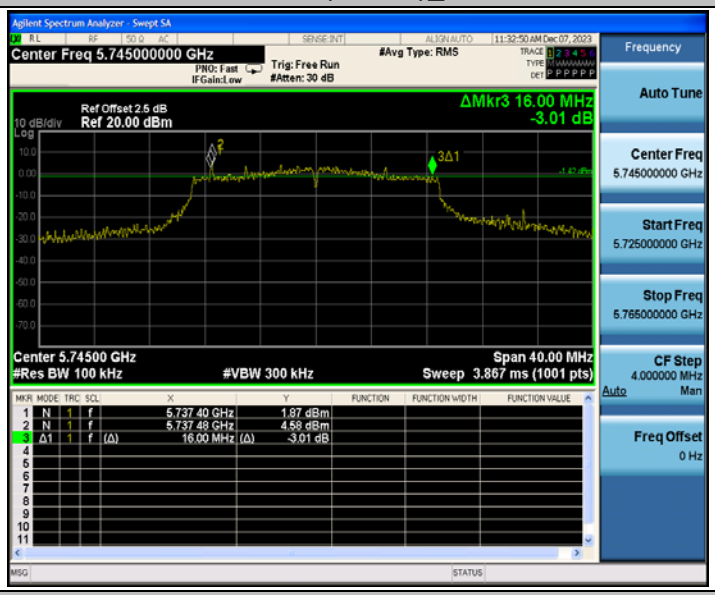
802.11n(HT20)_5825



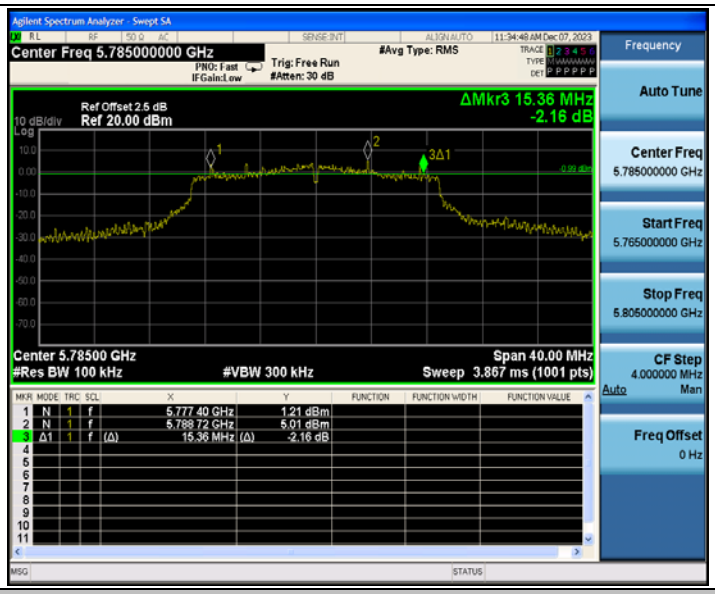
802.11n(HT40)_5755

802.11n(HT40)_5795

802.11ac(VHT20)_5745

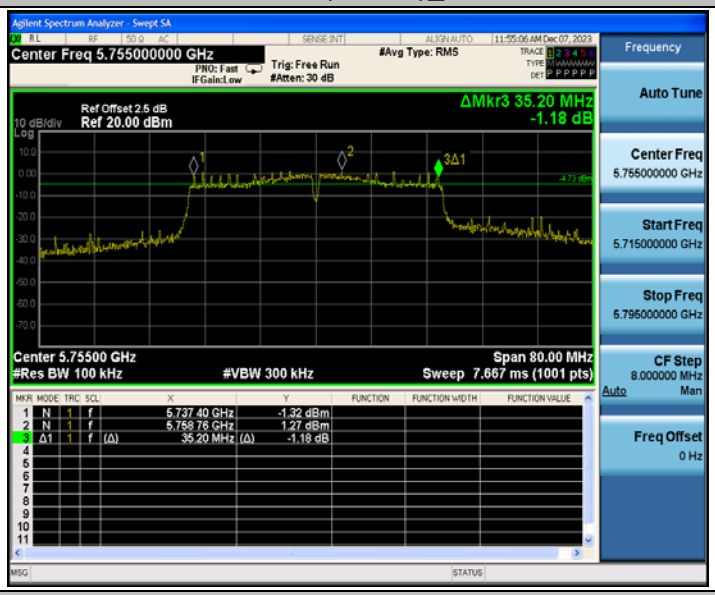


802.11ac(VHT20)_5785



802.11ac(VHT20)_5825

802.11ac(VHT40)_5755



802.11ac(VHT40)_5795

802.11ac(VHT80)_5775

Appendix B: Maximum conducted output power

Test Result

Test Mode	Channel	Result[dBm]	Limit[dBm]	Verdict
802.11a	5180	15.98	<=24	PASS
	5200	16.10	<=24	PASS
	5240	15.85	<=24	PASS
	5745	15.98	<=30	PASS
	5785	15.79	<=30	PASS
	5825	15.52	<=30	PASS
802.11n(HT20)	5180	15.91	<=24	PASS
	5200	15.78	<=24	PASS
	5240	15.70	<=24	PASS
	5745	15.82	<=30	PASS
	5785	15.89	<=30	PASS
	5825	15.41	<=30	PASS
802.11n(HT40)	5190	16.17	<=24	PASS
	5230	16.16	<=24	PASS
	5755	14.64	<=30	PASS
	5795	14.04	<=30	PASS
802.11ac(VHT20)	5180	16.54	<=24	PASS
	5200	16.16	<=24	PASS
	5240	16.14	<=24	PASS
	5745	16.32	<=30	PASS
	5785	16.25	<=30	PASS
	5825	15.78	<=30	PASS
802.11ac(VHT40)	5190	16.29	<=24	PASS
	5230	16.42	<=24	PASS
	5755	15.36	<=30	PASS
	5795	15.46	<=30	PASS
802.11ac(VHT80)	5210	14.38	<=24	PASS
	5775	13.51	<=30	PASS

Note: Test results increased RF cable loss by 2.5dB.

Appendix C: Maximum power spectral density

Test Result

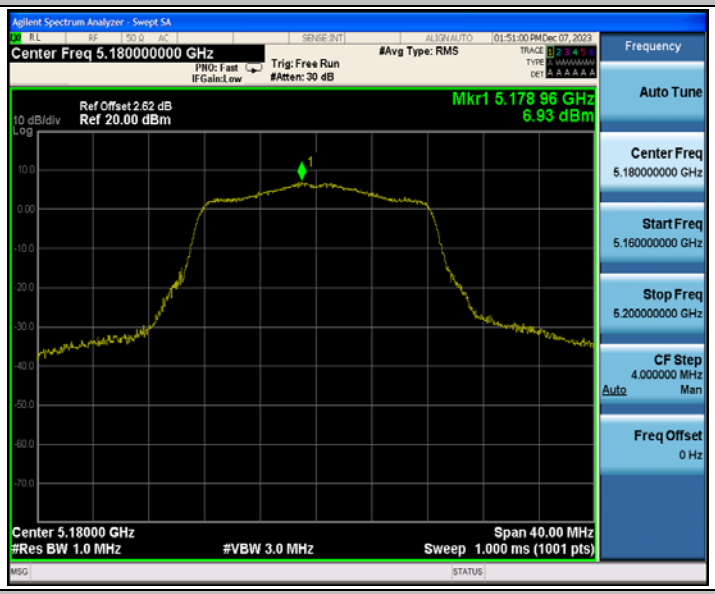
Test Mode	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
802.11a	5180	6.93	<=11	PASS
	5200	6.69	<=11	PASS
	5240	6.47	<=11	PASS
	5745	3.89	<=30	PASS
	5785	4.03	<=30	PASS
	5825	3.72	<=30	PASS
802.11n(HT20)	5180	6.57	<=11	PASS
	5200	6.26	<=11	PASS
	5240	6.09	<=11	PASS
	5745	4.06	<=30	PASS
	5785	3.95	<=30	PASS
	5825	3.33	<=30	PASS
802.11n(HT40)	5190	4.06	<=11	PASS
	5230	3.60	<=11	PASS
	5755	1.10	<=30	PASS
	5795	1.35	<=30	PASS
802.11ac(VHT20)	5180	7.03	<=11	PASS
	5200	6.43	<=11	PASS
	5240	6.81	<=11	PASS
	5745	4.27	<=30	PASS
	5785	4.17	<=30	PASS
	5825	3.34	<=30	PASS
802.11ac(VHT40)	5190	3.89	<=11	PASS
	5230	4.28	<=11	PASS
	5755	0.35	<=30	PASS
	5795	0.28	<=30	PASS
802.11ac(VHT80)	5210	-0.52	<=11	PASS
	5775	-4.82	<=30	PASS

Note：1. The Result and Limit Unit is dBm/500 kHz in the band 5.725 - 5.85 GHz.

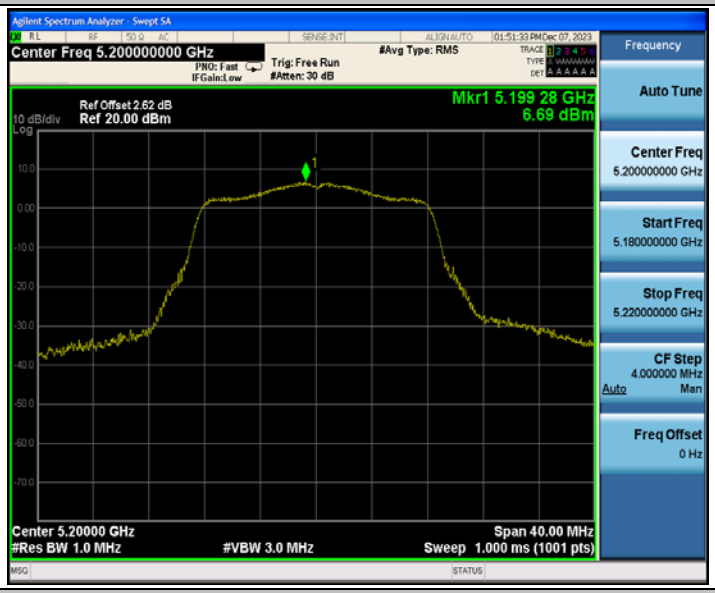
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

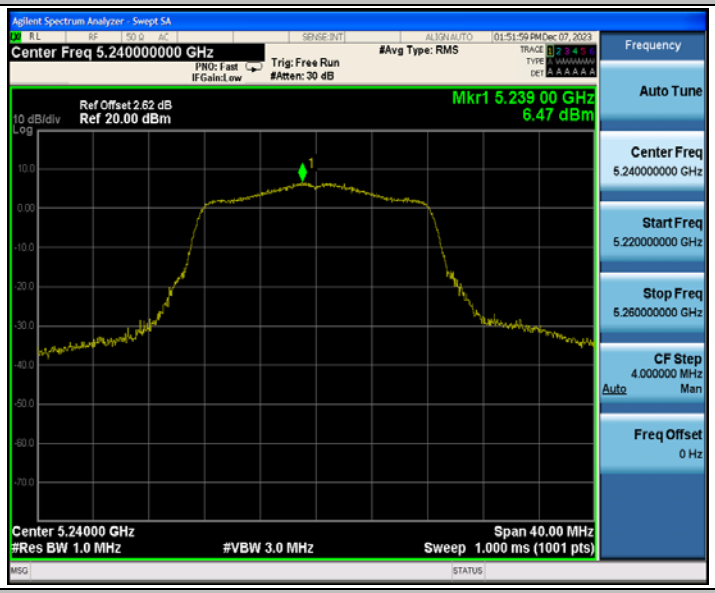
802.11a_5180



802.11a_5200



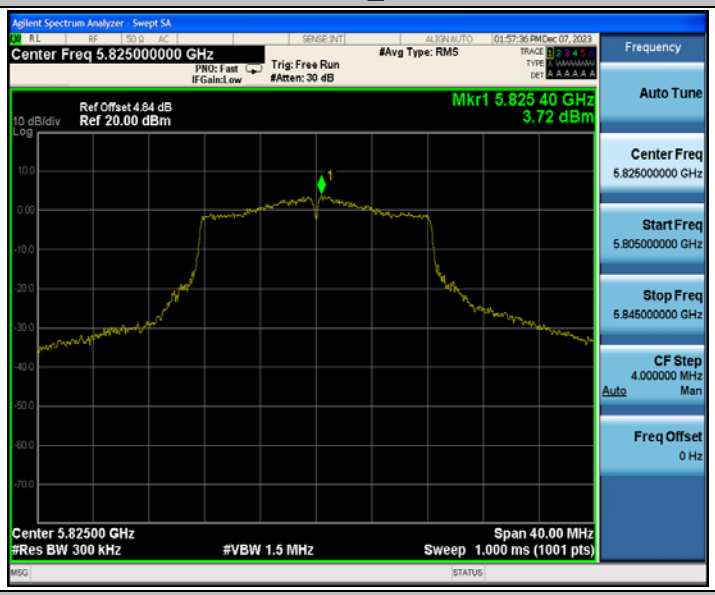
802.11a_5240



802.11a_5745

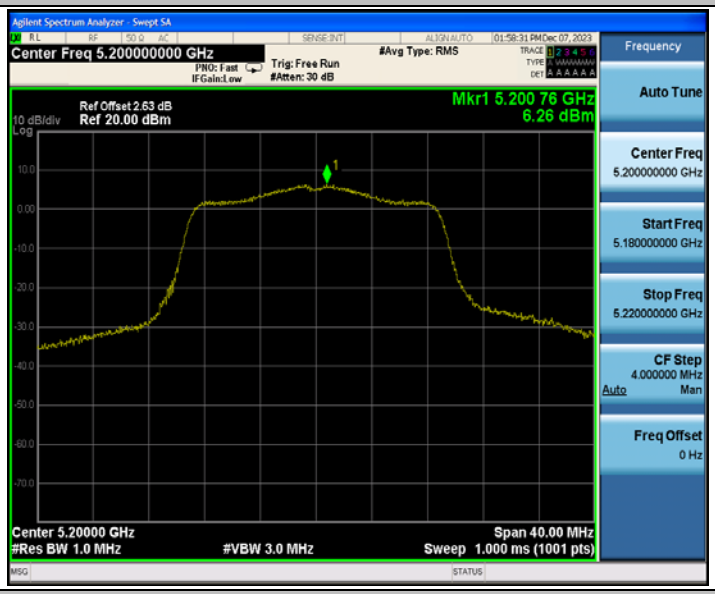
802.11a_5785

802.11a_5825

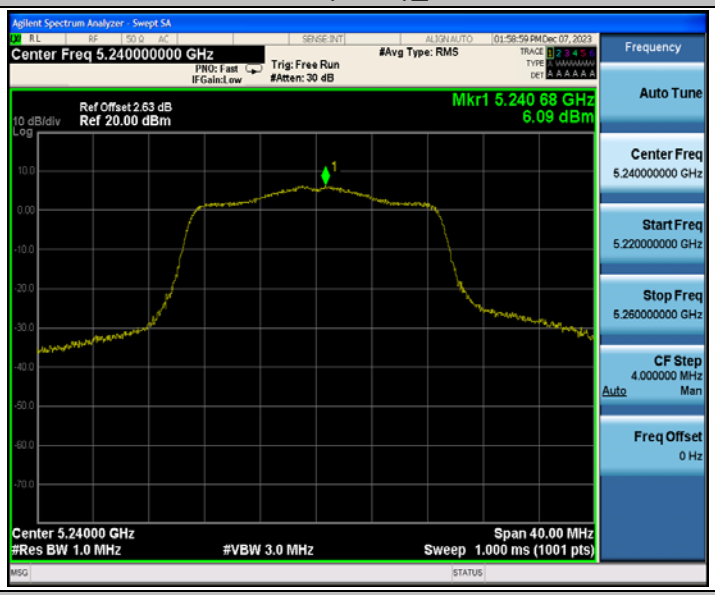


802.11n(HT20)_5180

802.11n(HT20)_5200

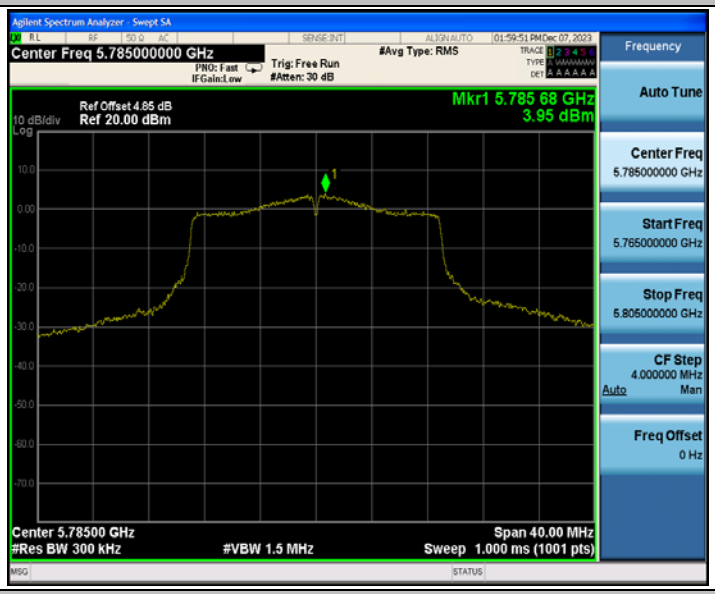


802.11n(HT20)_5240

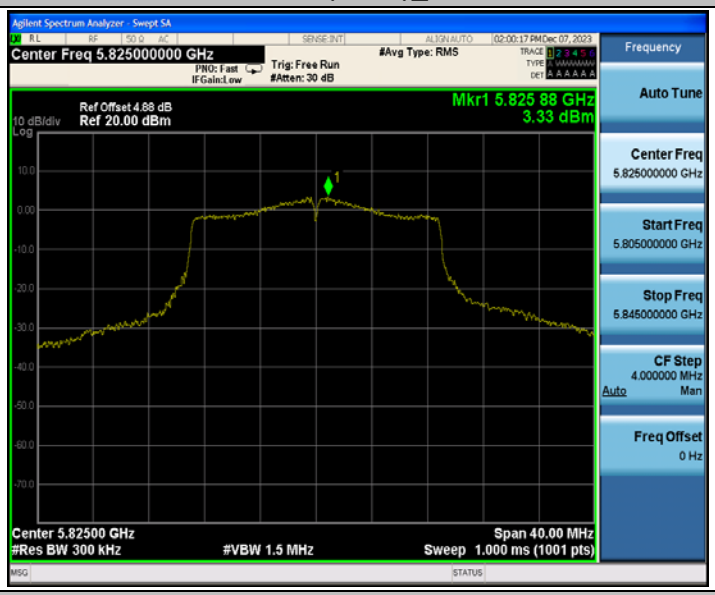


802.11n(HT20)_5745

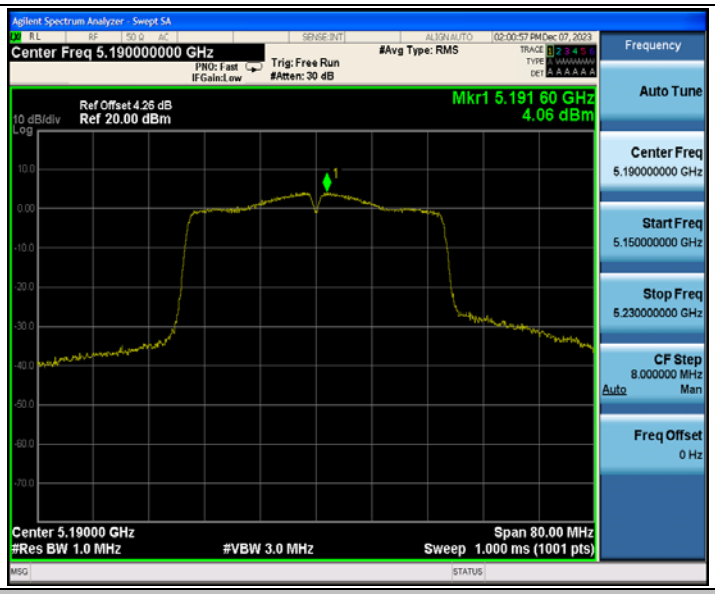
802.11n(HT20)_5785



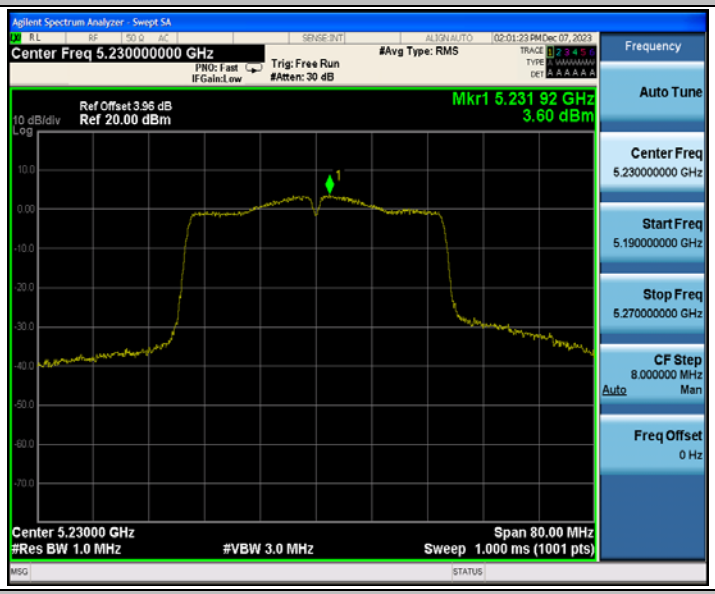
802.11n(HT20)_5825



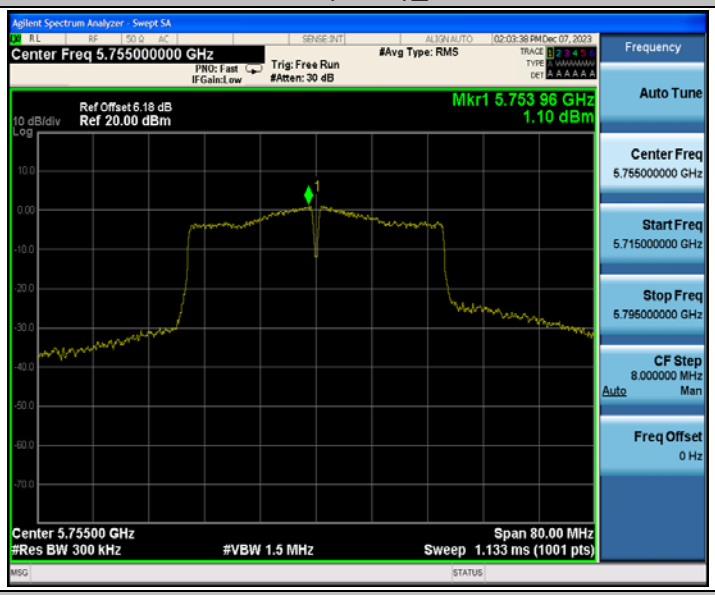
802.11n(HT40)_5190



802.11n(HT40)_5230

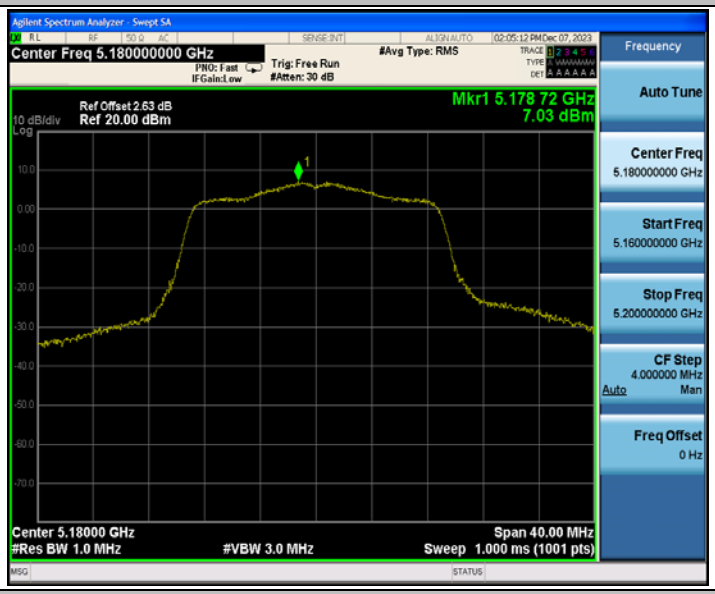


802.11n(HT40)_5755

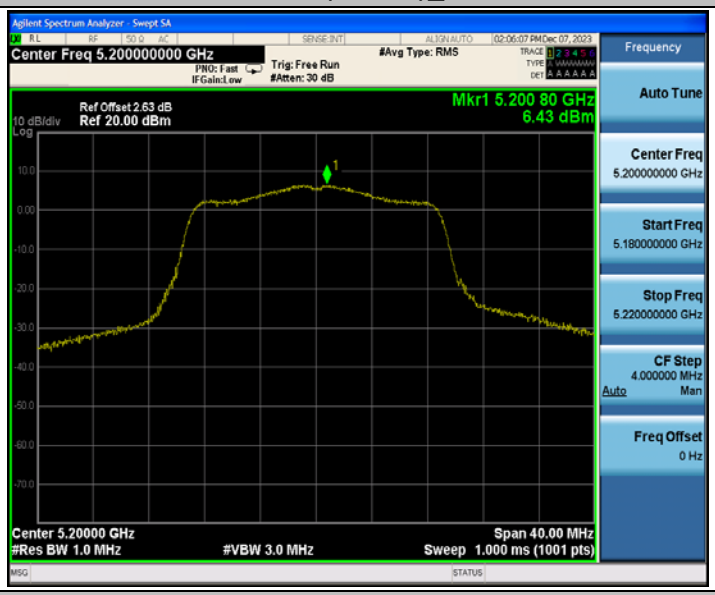


802.11n(HT40)_5795

802.11ac(VHT20)_5180

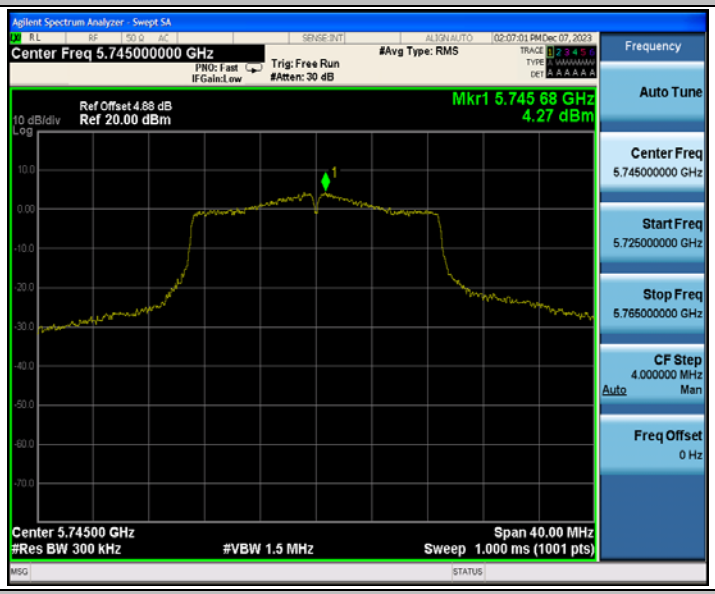


802.11ac(VHT20)_5200

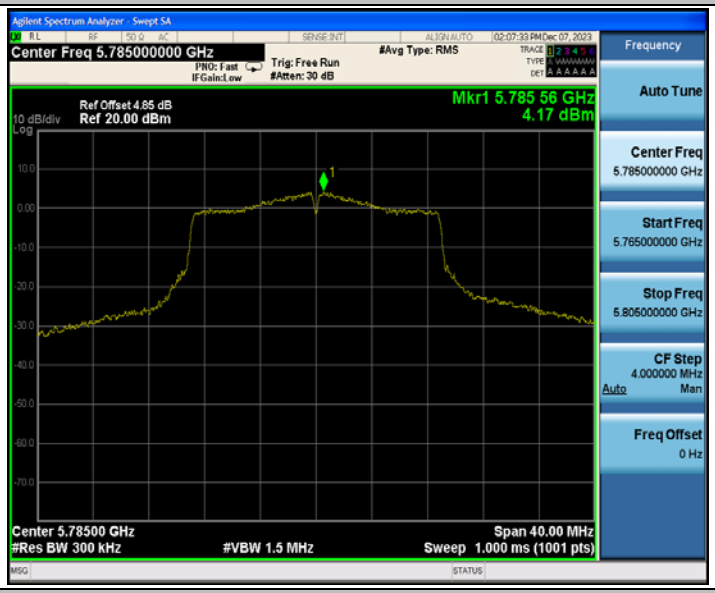


802.11ac(VHT20)_5240

802.11ac(VHT20)_5745



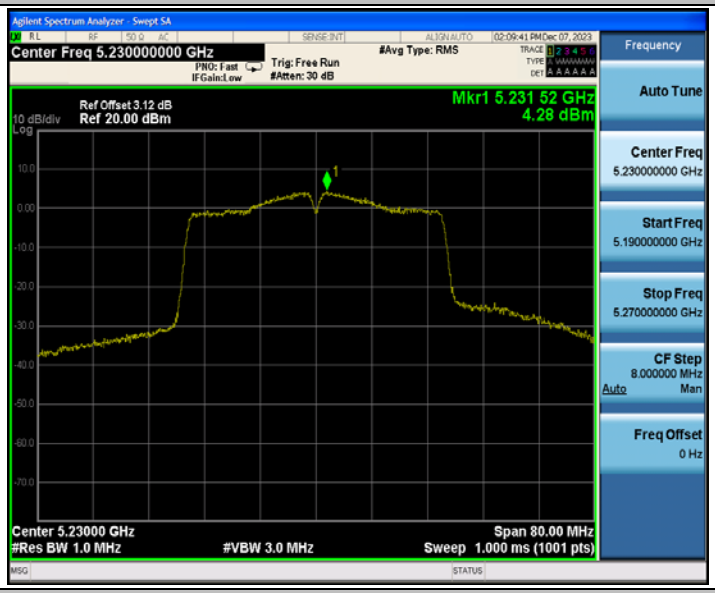
802.11ac(VHT20)_5785



802.11ac(VHT20)_5825

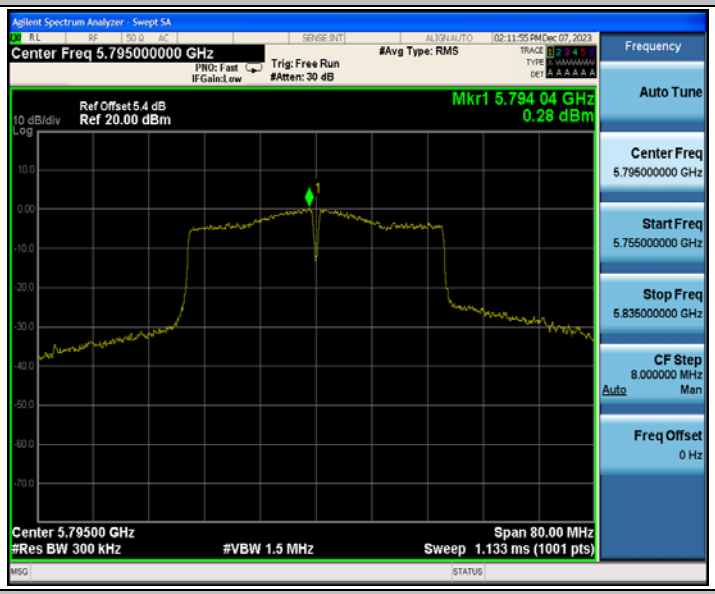
802.11ac(VHT40)_5190

802.11ac(VHT40)_5230



802.11ac(VHT40)_5755

802.11ac(VHT40)_5795



802.11ac(VHT80)_5210

802.11ac(VHT80)_5775

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.775000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
01:47:29 PM Dec 07, 2023
Frequency
Auto Tune
Mkr1 5.777 40 GHz
-4.82 dBm
Ref Offset 5.9 dB
10 dB/div
Ref 20.00 dBm
Log
Center Freq
5.775000000 GHz
Start Freq
5.695000000 GHz
Stop Freq
5.855000000 GHz
CF Step
16.000000 MHz
Auto
Man
Freq Offset
0 Hz
Center 5.77500 GHz
#Res BW 300 kHz
#VBW 1.5 MHz
Span 160.0 MHz
Sweep 2.200 ms (1001 pts)

Appendix D: Frequency Stability

Test Result

Voltage							
Test Mode	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20MHz	5180	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-6000.00	-1.158301	20	PASS
		HV	NT	-6000.00	-1.158301	20	PASS
	5200	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-10000.00	-1.923077	20	PASS
		HV	NT	-12000.00	-2.307692	20	PASS
	5240	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-15000.00	-2.862595	20	PASS
		HV	NT	-15000.00	-2.862595	20	PASS
	5745	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-17000.00	-2.959095	20	PASS
		HV	NT	-18000.00	-3.133159	20	PASS
	5785	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-18000.00	-3.111495	20	PASS
		HV	NT	-19000.00	-3.284356	20	PASS
	5825	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-19000.00	-3.261803	20	PASS
		HV	NT	-19000.00	-3.261803	20	PASS
40MHz	5190	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-17000.00	-3.275530	20	PASS
		HV	NT	-16000.00	-3.082852	20	PASS
	5230	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-16000.00	-3.059273	20	PASS
		HV	NT	-16000.00	-3.059273	20	PASS
	5755	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-18000.00	-3.127715	20	PASS
		HV	NT	-18000.00	-3.127715	20	PASS
	5795	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-19000.00	-3.278689	20	PASS
		HV	NT	-19000.00	-3.278689	20	PASS
80MHz	5210	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-16000.00	-3.071017	20	PASS
		HV	NT	-17000.00	-3.262956	20	PASS
	5775	NV	NT	0.00	0.000000	20	PASS
		LV	NT	-18000.00	-3.116883	20	PASS
		HV	NT	-18000.00	-3.116883	20	PASS

Temperature							
Test Mode	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20MHz	5180	NV	0	-6000.00	-1.158301	20	PASS
		NV	10	-6000.00	-1.158301	20	PASS
		NV	20	-7000.00	-1.351351	20	PASS
		NV	30	-7000.00	-1.351351	20	PASS
		NV	40	-7000.00	-1.351351	20	PASS
		NV	45	-8000.00	-1.544402	20	PASS
	5200	NV	0	-12000.00	-2.307692	20	PASS
		NV	10	-13000.00	-2.500000	20	PASS
		NV	20	-13000.00	-2.500000	20	PASS
		NV	30	-13000.00	-2.500000	20	PASS
		NV	40	-13000.00	-2.500000	20	PASS
		NV	45	-14000.00	-2.692308	20	PASS
	5240	NV	0	-15000.00	-2.862595	20	PASS
		NV	10	-15000.00	-2.862595	20	PASS
		NV	20	-15000.00	-2.862595	20	PASS
		NV	30	-15000.00	-2.862595	20	PASS
		NV	40	-16000.00	-3.053435	20	PASS
		NV	45	-16000.00	-3.053435	20	PASS
	5745	NV	0	-18000.00	-3.133159	20	PASS
		NV	10	-18000.00	-3.133159	20	PASS
		NV	20	-18000.00	-3.133159	20	PASS
		NV	30	-18000.00	-3.133159	20	PASS
		NV	40	-18000.00	-3.133159	20	PASS
		NV	45	-18000.00	-3.133159	20	PASS
	5785	NV	0	-19000.00	-3.284356	20	PASS
		NV	10	-19000.00	-3.284356	20	PASS
		NV	20	-19000.00	-3.284356	20	PASS
		NV	30	-19000.00	-3.284356	20	PASS
		NV	40	-18000.00	-3.111495	20	PASS
		NV	45	-17000.00	-2.938634	20	PASS
	5825	NV	0	-19000.00	-3.261803	20	PASS
		NV	10	-19000.00	-3.261803	20	PASS
		NV	20	-19000.00	-3.261803	20	PASS
		NV	30	-19000.00	-3.261803	20	PASS
		NV	40	-19000.00	-3.261803	20	PASS
		NV	45	-19000.00	-3.261803	20	PASS
40MHz	5190	NV	0	-16000.00	-3.082852	20	PASS
		NV	10	-17000.00	-3.275530	20	PASS
		NV	20	-17000.00	-3.275530	20	PASS
		NV	30	-17000.00	-3.275530	20	PASS
		NV	40	-17000.00	-3.275530	20	PASS
		NV	45	-16000.00	-3.082852	20	PASS
	5230	NV	0	-16000.00	-3.059273	20	PASS

		NV	10	-16000.00	-3.059273	20	PASS
		NV	20	-16000.00	-3.059273	20	PASS
		NV	30	-16000.00	-3.059273	20	PASS
		NV	40	-16000.00	-3.059273	20	PASS
		NV	45	-16000.00	-3.059273	20	PASS
	5755	NV	0	-18000.00	-3.127715	20	PASS
		NV	10	-18000.00	-3.127715	20	PASS
		NV	20	-18000.00	-3.127715	20	PASS
		NV	30	-18000.00	-3.127715	20	PASS
		NV	40	-18000.00	-3.127715	20	PASS
		NV	45	-18000.00	-3.127715	20	PASS
	5795	NV	0	-19000.00	-3.278689	20	PASS
		NV	10	-19000.00	-3.278689	20	PASS
		NV	20	-19000.00	-3.278689	20	PASS
		NV	30	-19000.00	-3.278689	20	PASS
		NV	40	-19000.00	-3.278689	20	PASS
		NV	45	-19000.00	-3.278689	20	PASS
80MHz	5210	NV	0	-17000.00	-3.262956	20	PASS
		NV	10	-17000.00	-3.262956	20	PASS
		NV	20	-16000.00	-3.071017	20	PASS
		NV	30	-17000.00	-3.262956	20	PASS
		NV	40	-17000.00	-3.262956	20	PASS
		NV	45	-16000.00	-3.071017	20	PASS
	5775	NV	0	-19000.00	-3.290043	20	PASS
		NV	10	-19000.00	-3.290043	20	PASS
		NV	20	-18000.00	-3.116883	20	PASS
		NV	30	-18000.00	-3.116883	20	PASS
		NV	40	-18000.00	-3.116883	20	PASS
		NV	45	-18000.00	-3.116883	20	PASS

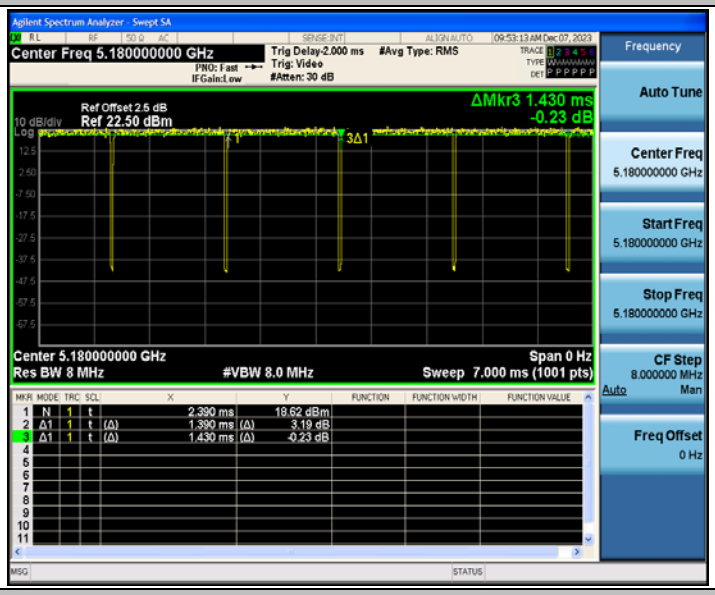
Appendix E: Duty Cycle

Test Result

Test Mode	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Cycle Factor	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
802.11a	5180	1.39	1.43	97.20	0.12	0.719	1
	5200	1.40	1.44	97.22	0.12	0.714	1
	5240	1.40	1.44	97.22	0.12	0.714	1
	5745	1.39	1.44	96.53	0.15	0.719	1
	5785	1.39	1.43	97.20	0.12	0.719	1
	5825	1.39	1.43	97.20	0.12	0.719	1
802.11n(HT20)	5180	1.31	1.35	97.04	0.13	0.763	1
	5200	1.31	1.35	97.04	0.13	0.763	1
	5240	1.30	1.34	97.01	0.13	0.769	1
	5745	1.30	1.34	97.01	0.13	0.769	1
	5785	1.31	1.35	97.04	0.13	0.763	1
	5825	1.30	1.35	96.30	0.16	0.769	1
802.11n(HT40)	5190	0.65	0.69	94.20	0.26	1.538	2
	5230	0.64	0.69	92.75	0.33	1.563	2
	5755	0.65	0.69	94.20	0.26	1.538	2
	5795	0.65	0.69	94.20	0.26	1.538	2
802.11ac(VHT20)	5180	1.31	1.35	97.04	0.13	0.763	1
	5200	1.32	1.36	97.06	0.13	0.758	1
	5240	1.31	1.35	97.04	0.13	0.763	1
	5745	1.31	1.36	96.32	0.16	0.763	1
	5785	1.31	1.35	97.04	0.13	0.763	1
	5825	1.31	1.36	96.32	0.16	0.763	1
802.11ac(VHT40)	5190	0.65	0.75	86.67	0.62	1.538	2
	5230	0.65	0.75	86.67	0.62	1.538	2
	5755	0.66	0.76	86.84	0.61	1.515	2
	5795	0.65	0.76	85.53	0.68	1.538	2
802.11ac(VHT80)	5210	0.32	0.42	76.19	1.18	3.125	5
	5775	0.32	0.42	76.19	1.18	3.125	5

Test Graphs

802.11a_5180



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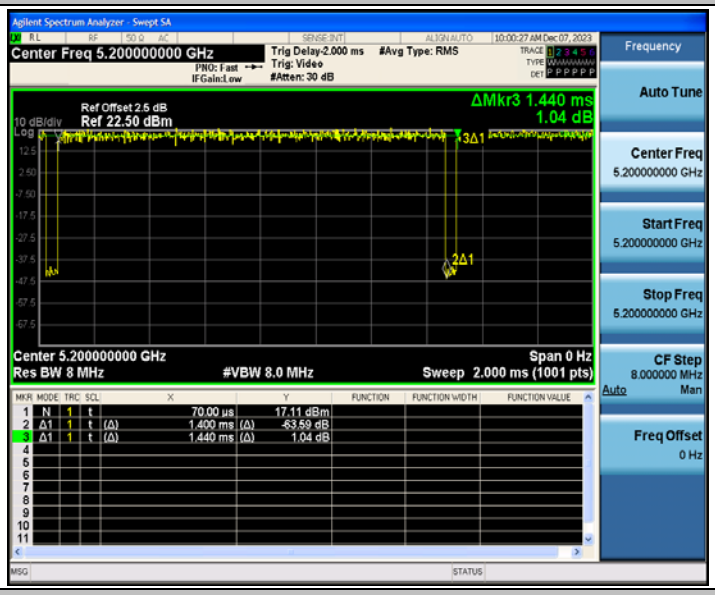

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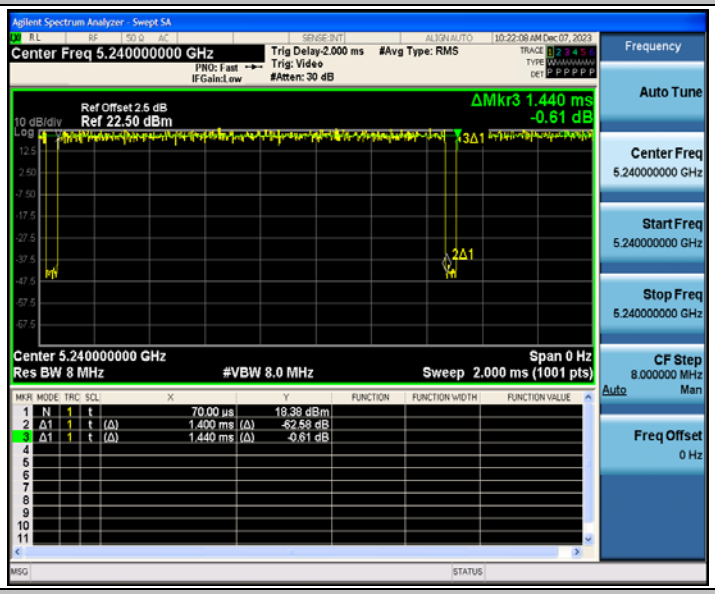

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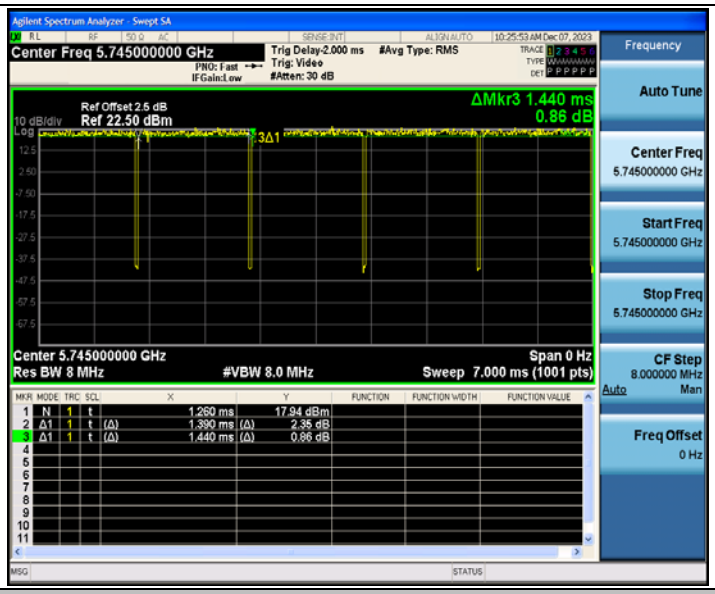

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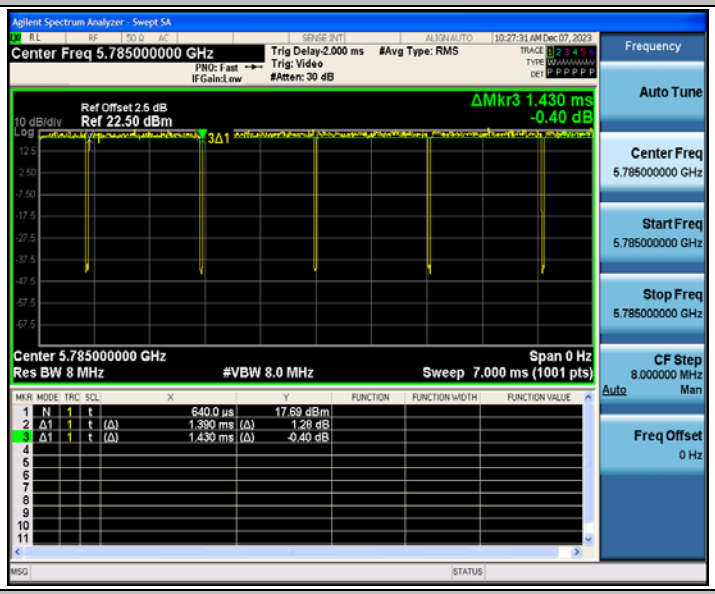

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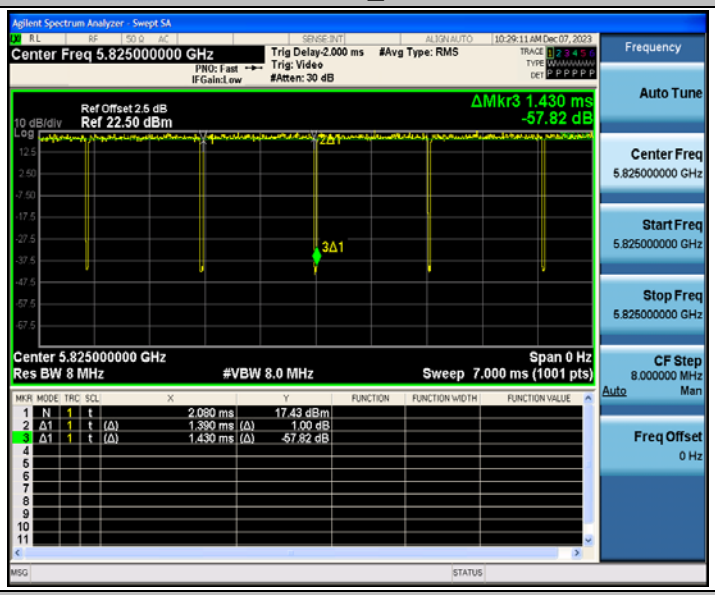

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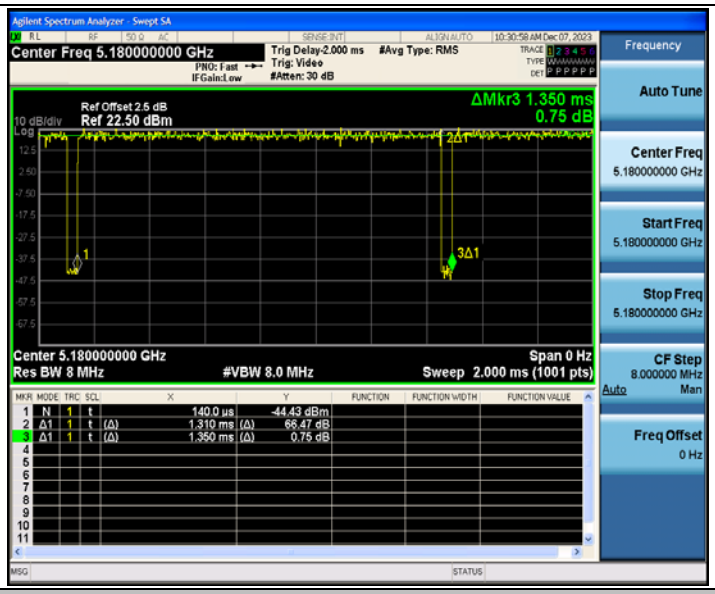

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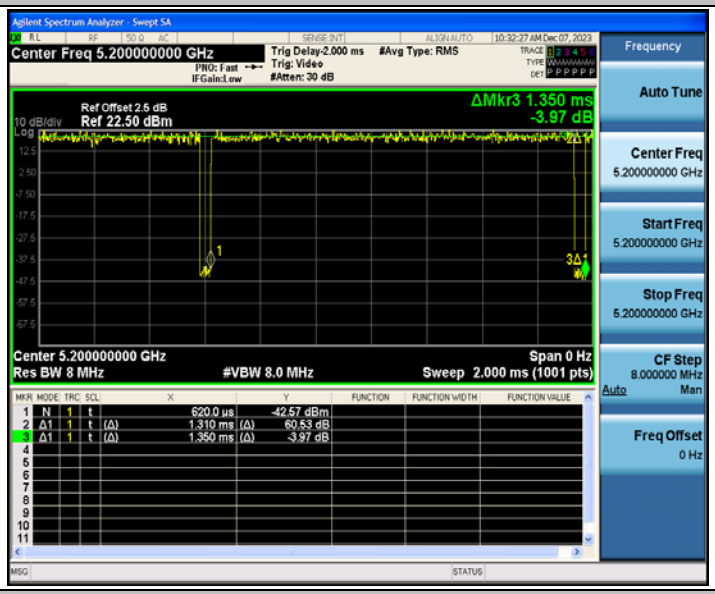

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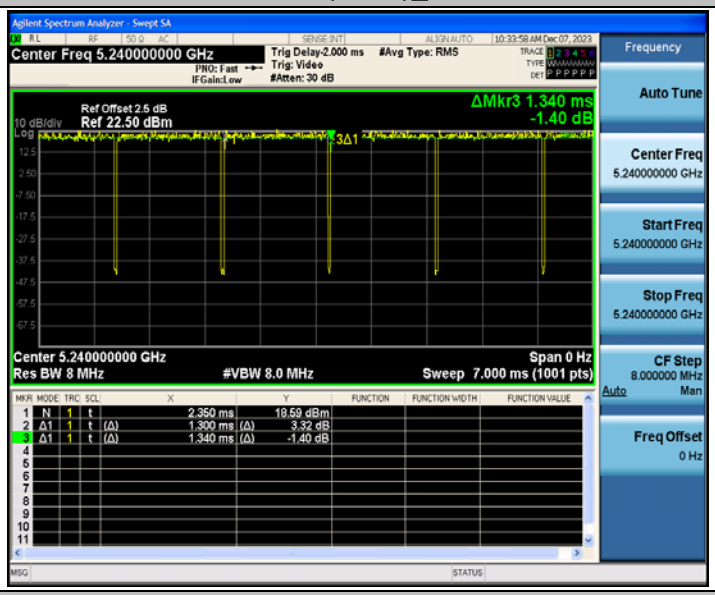

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