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Appendix for 5G WIFI

Applicant: Fanvil Technology Co., LTD.

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China**

Product Name: Prime Business Phone

Model: V64

FCC ID: 2APPZ-V64

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Appendix A1: Emission Bandwidth

Test Result

Test Mode	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
802.11a	5180	23.560	5169.040	5192.600	PASS
	5200	24.960	5188.640	5213.600	PASS
	5240	26.600	5226.960	5253.560	PASS
	5745	26.840	5730.520	5757.360	PASS
	5785	25.320	5772.000	5797.320	PASS
	5825	24.040	5812.680	5836.720	PASS
802.11n(HT20)	5180	27.280	5167.040	5194.320	PASS
	5200	26.360	5188.680	5215.040	PASS
	5240	28.600	5225.480	5254.080	PASS
	5745	23.000	5733.600	5756.600	PASS
	5785	23.240	5773.680	5796.920	PASS
	5825	23.960	5813.080	5837.040	PASS
802.11n(HT40)	5190	48.560	5170.240	5218.800	PASS
	5230	58.480	5207.200	5265.680	PASS
	5755	43.280	5733.960	5777.240	PASS
	5795	53.360	5773.960	5827.320	PASS
802.11ac(VHT20)	5180	24.280	5168.920	5193.200	PASS
	5200	26.840	5188.640	5215.480	PASS
	5240	24.800	5227.760	5252.560	PASS
	5745	27.640	5730.520	5758.160	PASS
	5785	23.000	5772.680	5795.680	PASS
	5825	24.480	5812.760	5837.240	PASS
802.11ac(VHT40)	5190	39.760	5170.240	5210.000	PASS
	5230	40.000	5209.840	5249.840	PASS
	5755	39.120	5735.160	5774.280	PASS
	5795	40.160	5774.920	5815.080	PASS
802.11ac(VHT80)	5210	93.440	5170.000	5263.440	PASS
	5775	88.480	5735.000	5823.480	PASS

Test Graphs

802.11a_5180



802.11a_5200



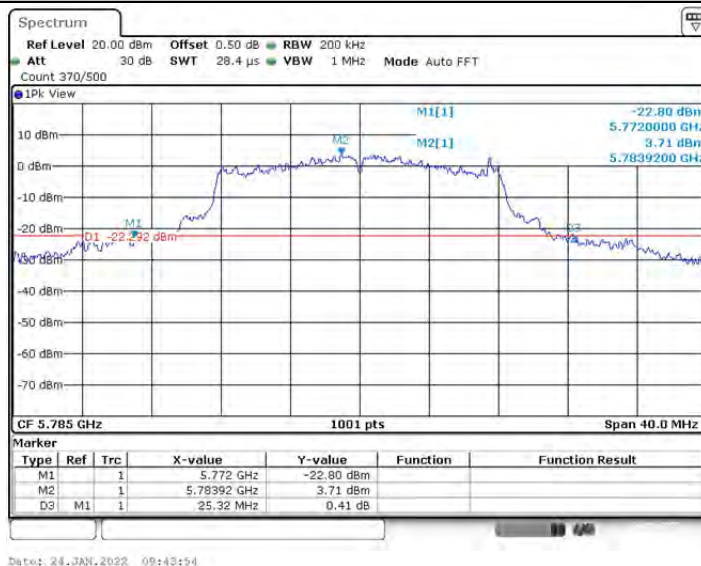
802.11a_5240



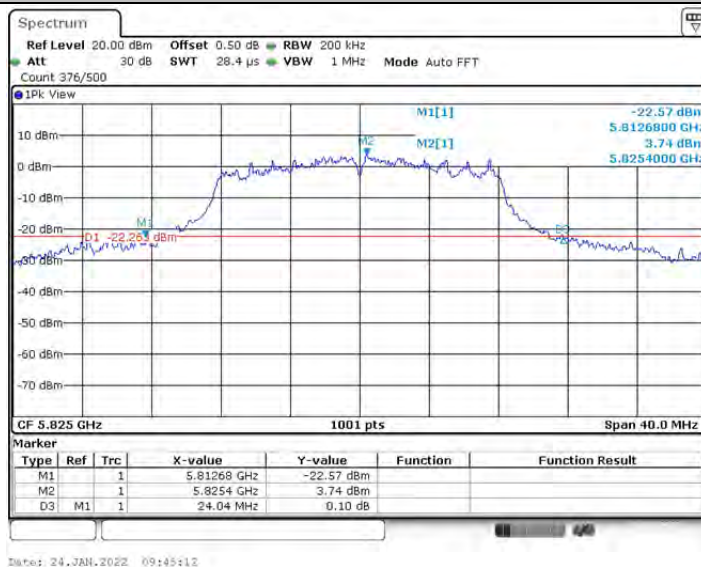
802.11a_5745



802.11a_5785



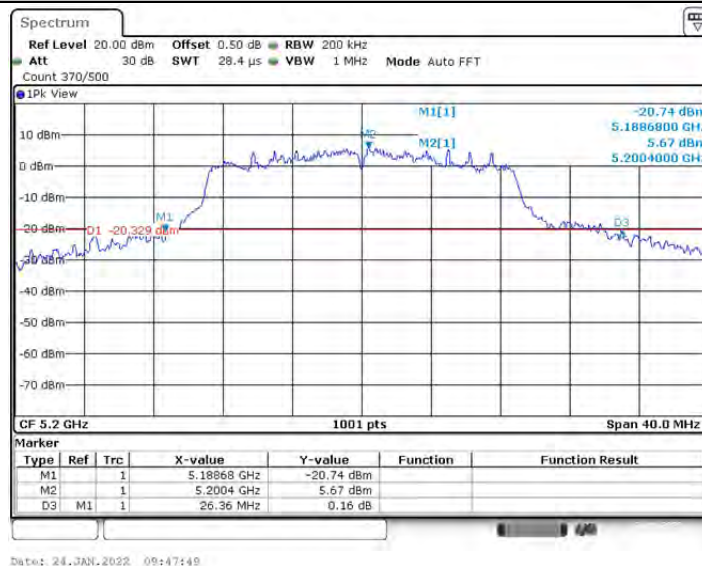
802.11a_5825



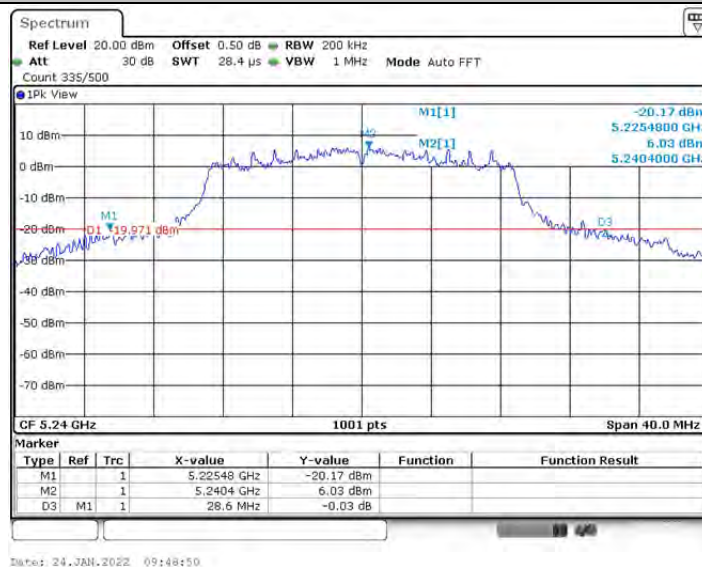
802.11n(HT20)_5180



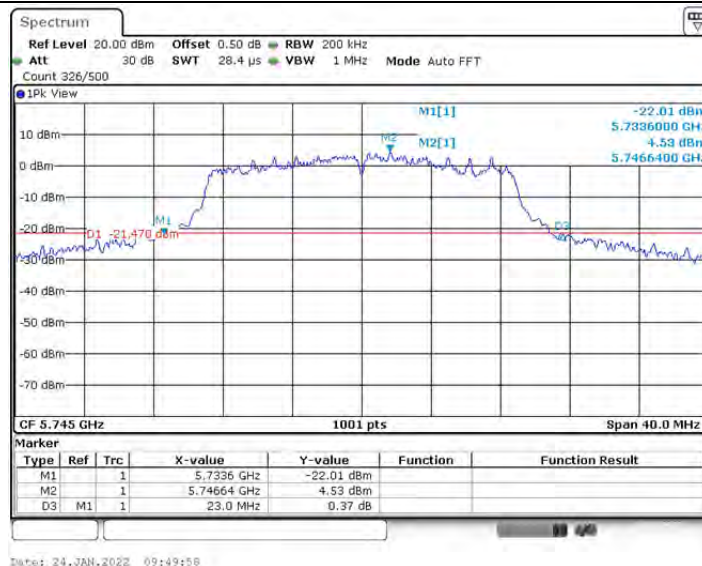
802.11n(HT20)_5200



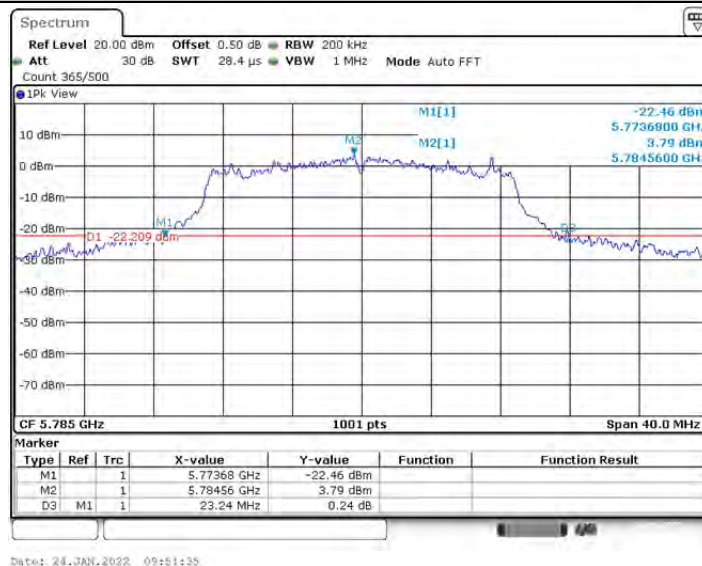
802.11n(HT20)_5240



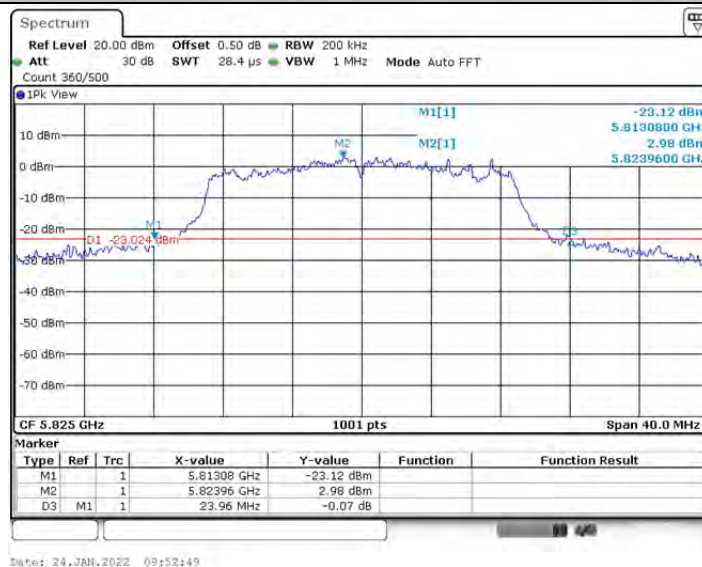
802.11n(HT20)_5745



802.11n(HT20)_5785



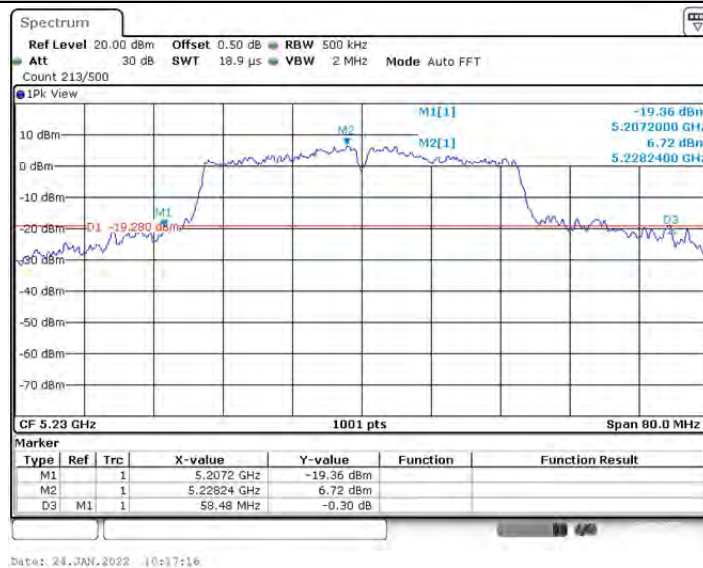
802.11n(HT20)_5825



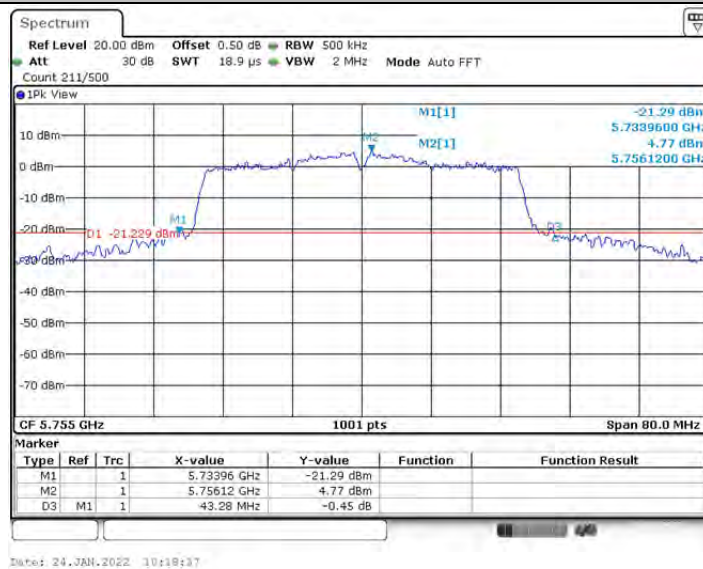
802.11n(HT40)_5190



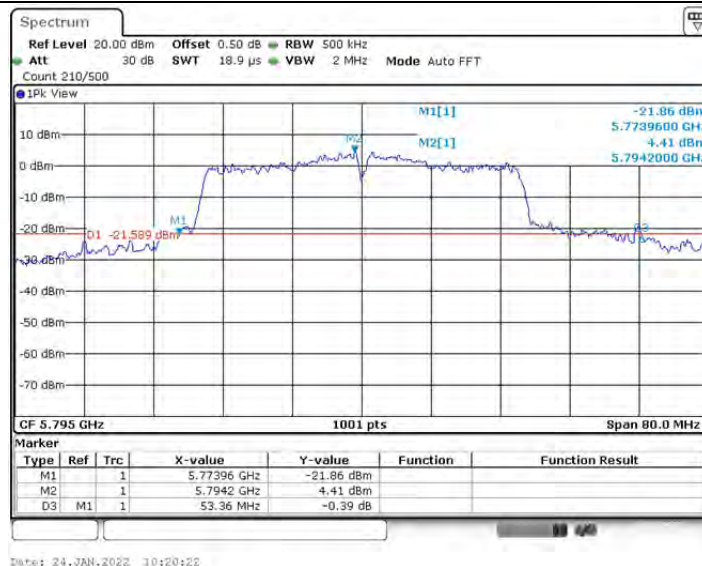
802.11n(HT40)_5230



802.11n(HT40)_5755



802.11n(HT40)_5795



802.11ac(VHT20)_5180



802.11ac(VHT20)_5200



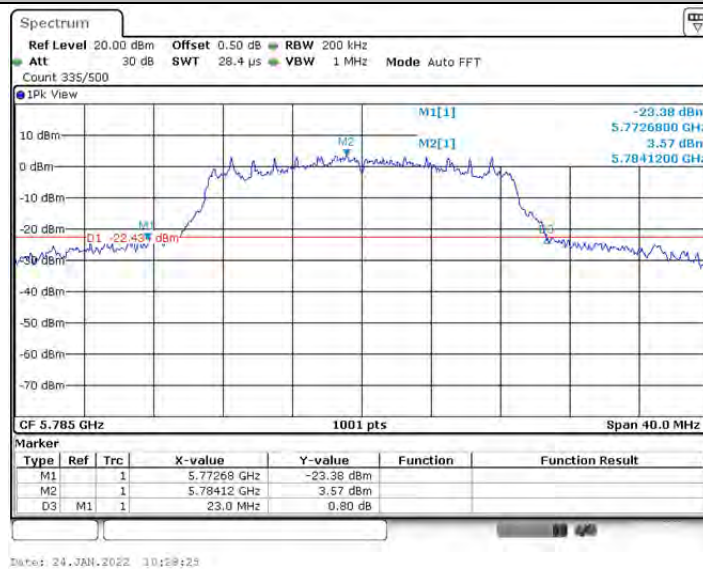
802.11ac(VHT20)_5240



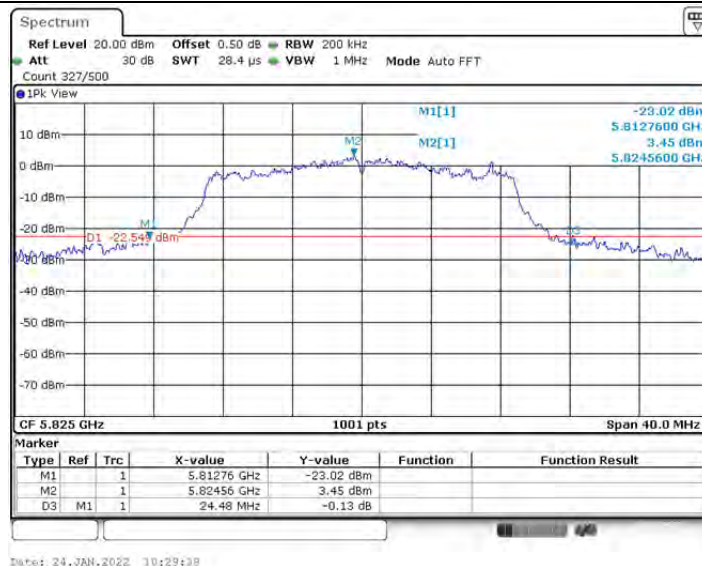
802.11ac(VHT20)_5745



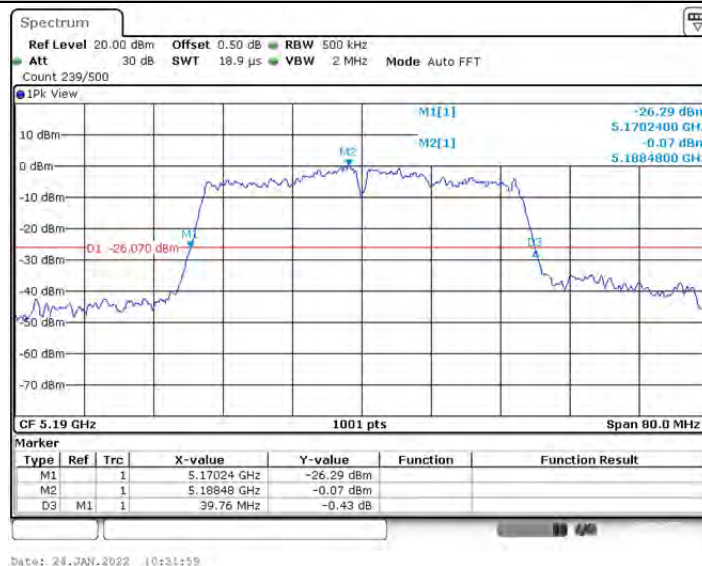
802.11ac(VHT20)_5785



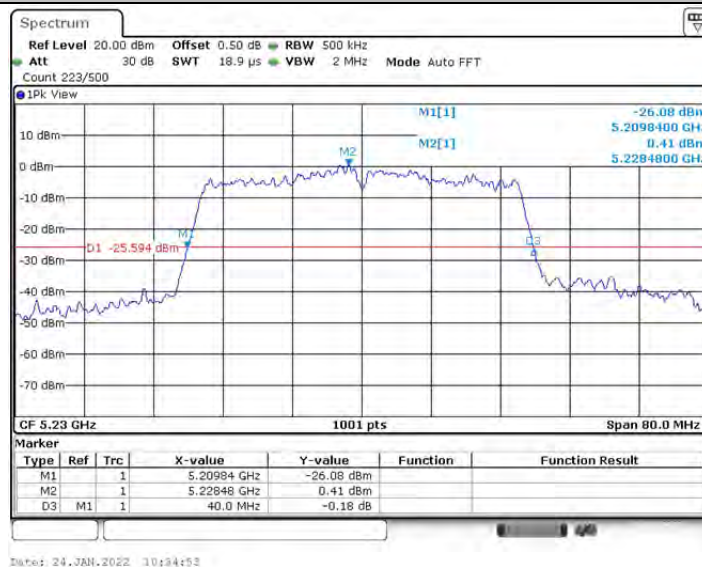
802.11ac(VHT20)_5825



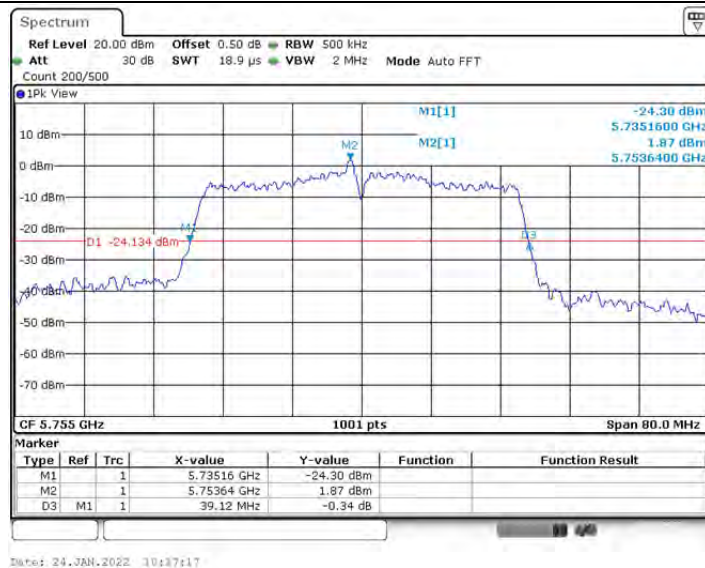
802.11ac(VHT40)_5190



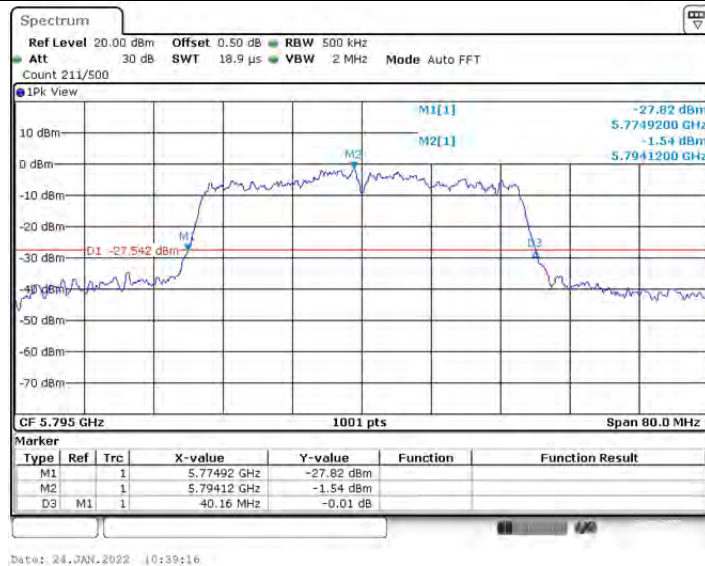
802.11ac(VHT40)_5230



802.11ac(VHT40)_5755



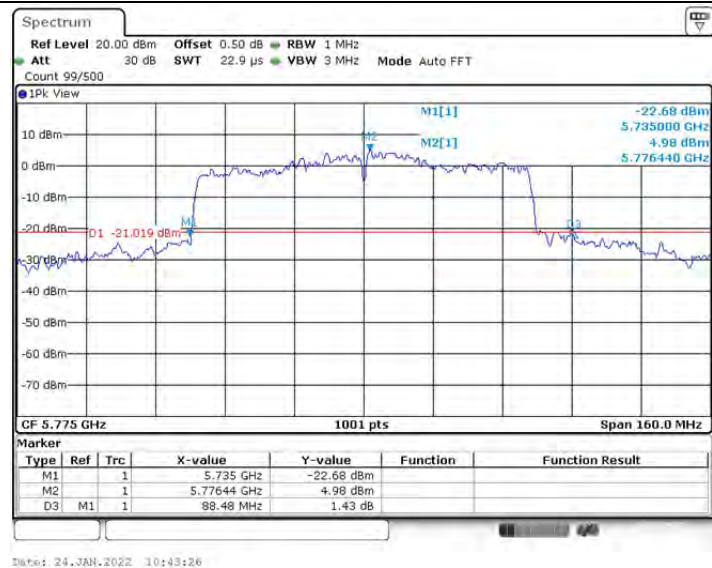
802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5775



Appendix A2: Occupied channel bandwidth

Test Result

Test Mode	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
802.11a	5180	17.902	5171.129	5189.031	PASS
	5200	18.302	5190.809	5209.111	PASS
	5240	18.501	5230.729	5249.231	PASS
	5745	17.822	5736.049	5753.871	PASS
	5785	17.822	5775.969	5793.791	PASS
	5825	17.942	5815.969	5833.911	PASS
802.11n(HT20)	5180	18.981	5170.569	5189.550	PASS
	5200	18.861	5190.529	5209.391	PASS
	5240	18.701	5230.569	5249.271	PASS
	5745	18.781	5735.490	5754.271	PASS
	5785	18.701	5775.649	5794.351	PASS
	5825	18.781	5815.569	5834.351	PASS
802.11n(HT40)	5190	36.603	5171.778	5208.382	PASS
	5230	36.843	5211.778	5248.621	PASS
	5755	36.444	5736.858	5773.302	PASS
	5795	36.843	5776.698	5813.541	PASS
802.11ac(VHT20)	5180	19.021	5170.490	5189.510	PASS
	5200	18.701	5190.729	5209.431	PASS
	5240	18.621	5230.689	5249.311	PASS
	5745	18.981	5735.410	5754.391	PASS
	5785	18.701	5775.490	5794.191	PASS
	5825	18.701	5815.729	5834.431	PASS
802.11ac(VHT40)	5190	36.284	5171.938	5208.222	PASS
	5230	36.523	5211.778	5248.302	PASS
	5755	36.603	5736.459	5773.062	PASS
	5795	36.763	5776.459	5813.222	PASS
802.11ac(VHT80)	5210	76.723	5171.958	5248.681	PASS
	5775	76.084	5737.278	5813.362	PASS

Test Graphs

802.11a_5180



802.11a_5200



802.11a_5240



802.11a_5745



802.11a_5785



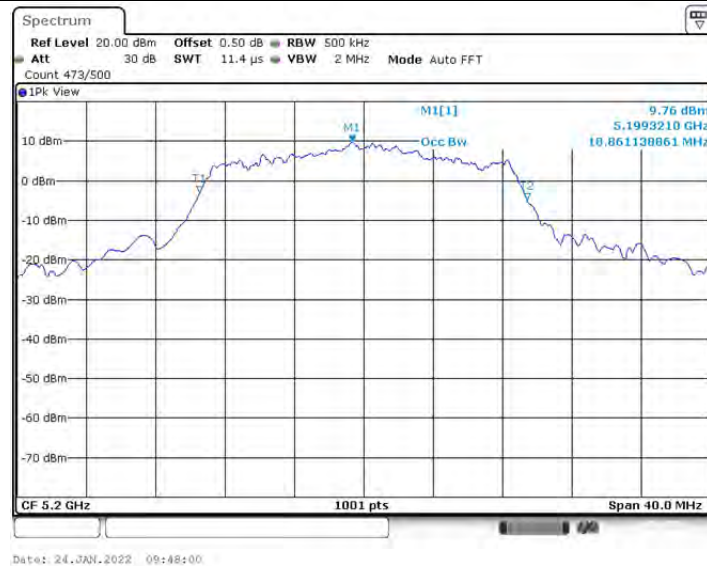
802.11a_5825



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



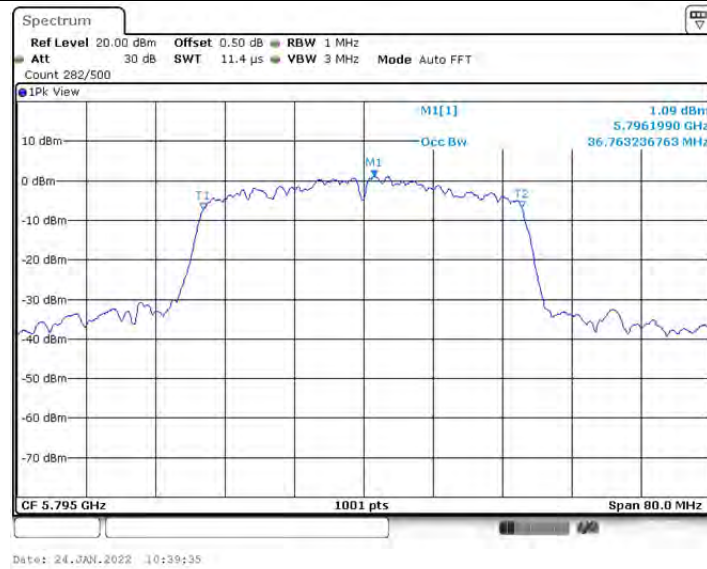
802.11ac(VHT40)_5230



802.11ac(VHT40)_5755



802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5775



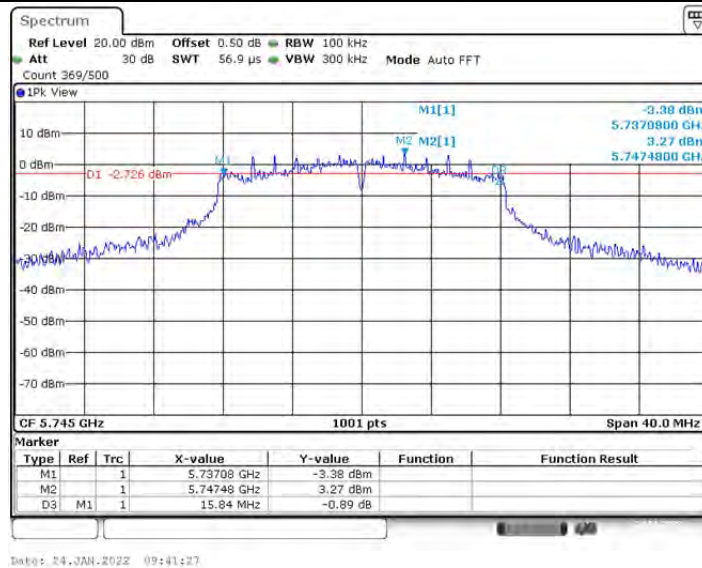
Appendix A3: Min emission bandwidth

Test Result

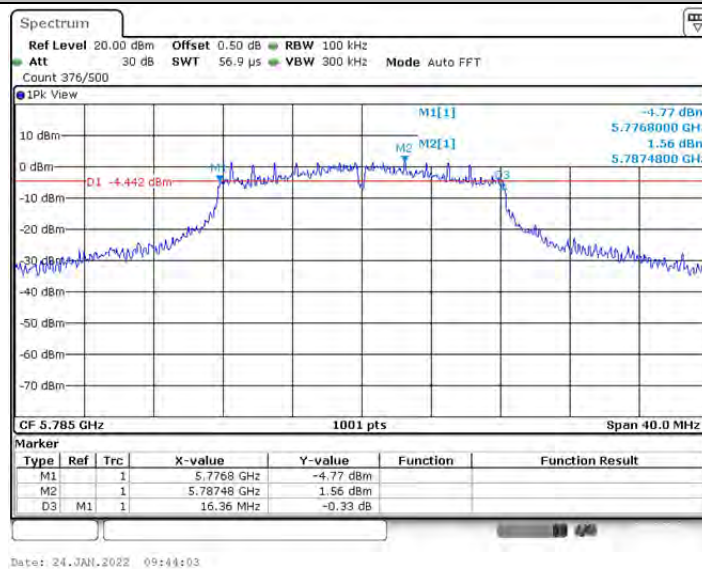
Test Mode	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
802.11a	5745	15.840	5737.080	5752.920	>0.5	PASS
	5785	16.360	5776.800	5793.160	>0.5	PASS
	5825	16.360	5816.800	5833.160	>0.5	PASS
802.11n(HT20)	5745	15.520	5737.040	5752.560	>0.5	PASS
	5785	17.240	5776.200	5793.440	>0.5	PASS
	5825	16.840	5816.560	5833.400	>0.5	PASS
802.11n(HT40)	5755	35.280	5737.320	5772.600	>0.5	PASS
	5795	35.280	5777.400	5812.680	>0.5	PASS
802.11ac(VHT20)	5745	16.120	5736.800	5752.920	>0.5	PASS
	5785	16.600	5776.560	5793.160	>0.5	PASS
	5825	15.240	5817.360	5832.600	>0.5	PASS
802.11ac(VHT40)	5755	35.600	5737.080	5772.680	>0.5	PASS
	5795	35.600	5777.080	5812.680	>0.5	PASS
802.11ac(VHT80)	5775	75.520	5737.240	5812.760	>0.5	PASS

Test Graphs

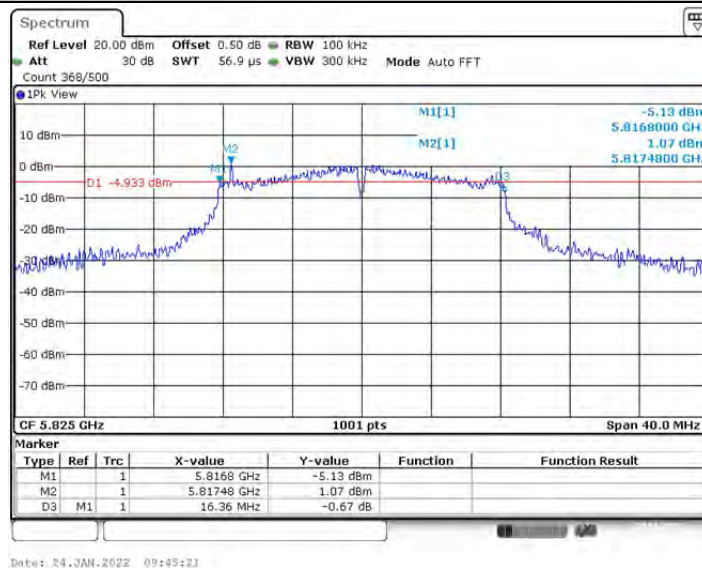
802.11a_5745



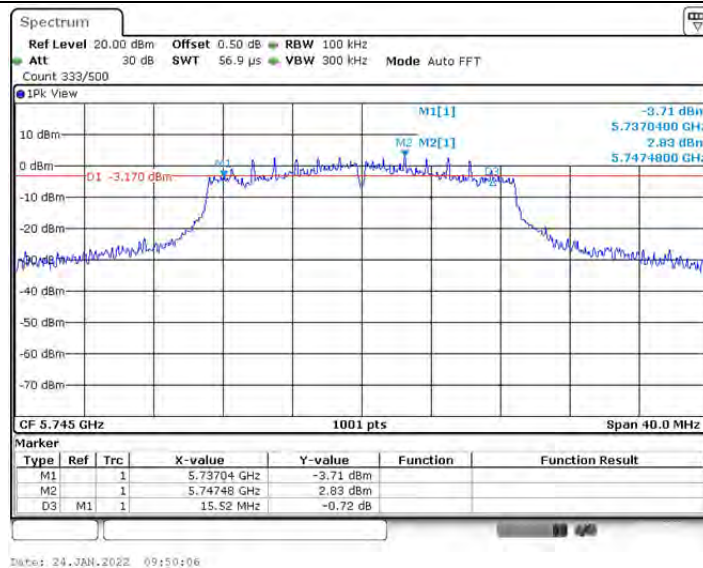
802.11a_5785



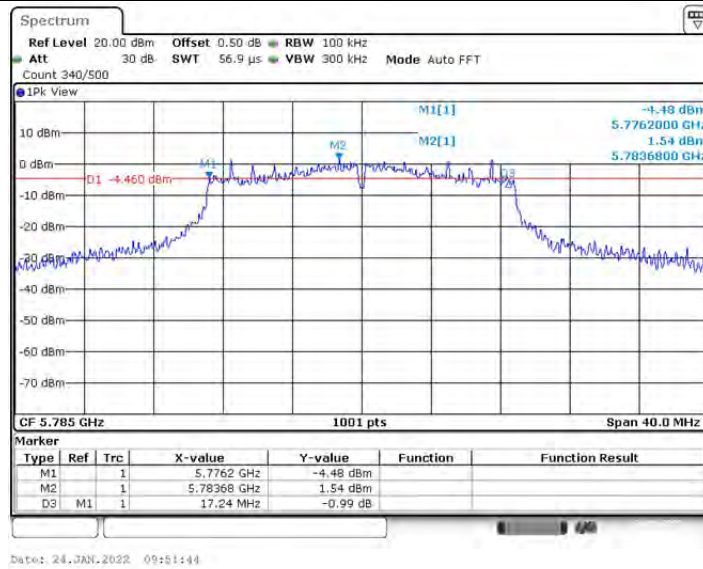
802.11a_5825



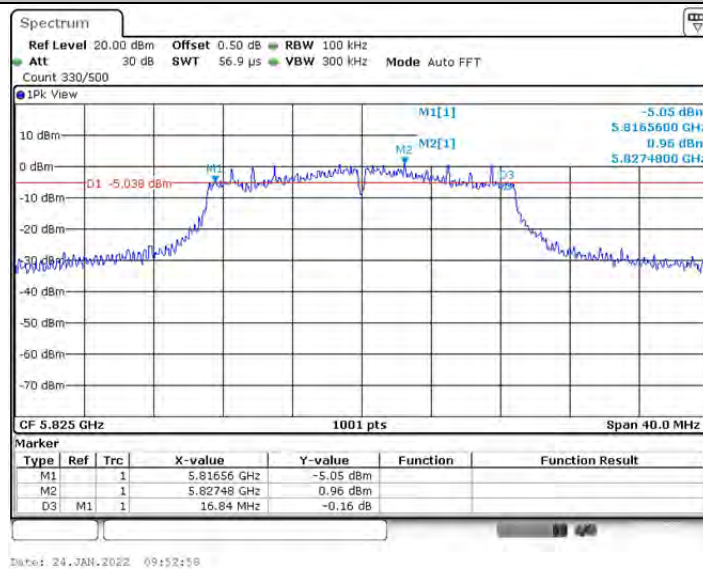
802.11n(HT20)_5745



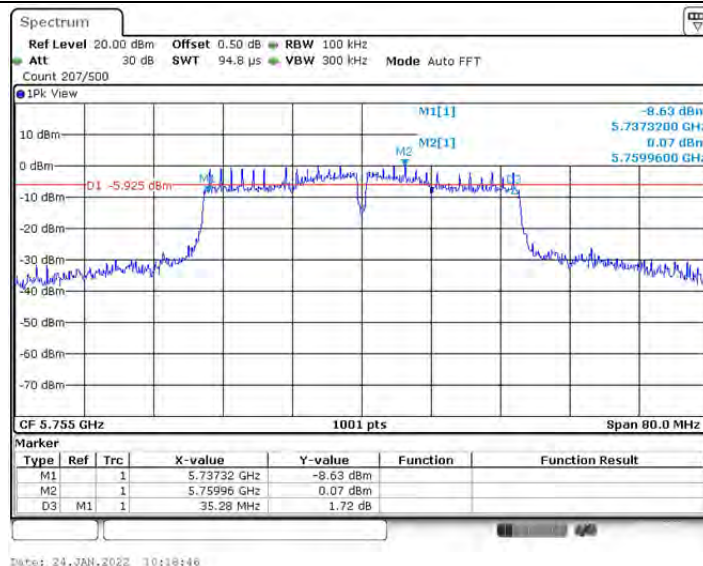
802.11n(HT20)_5785



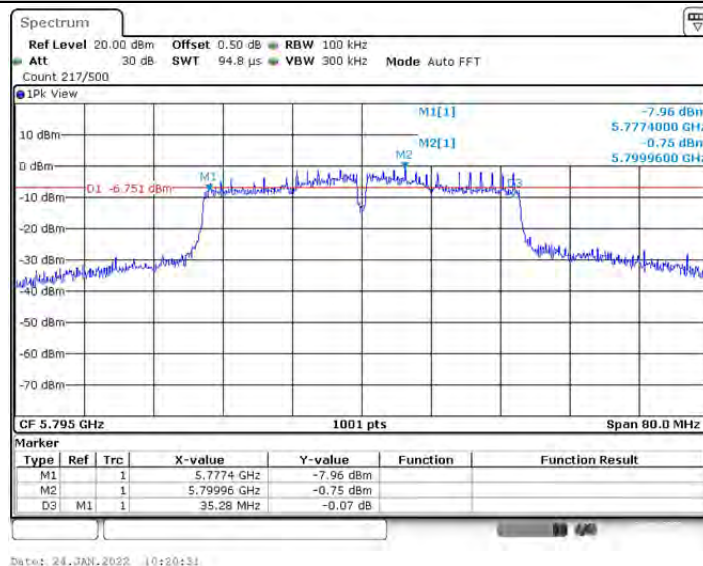
802.11n(HT20)_5825



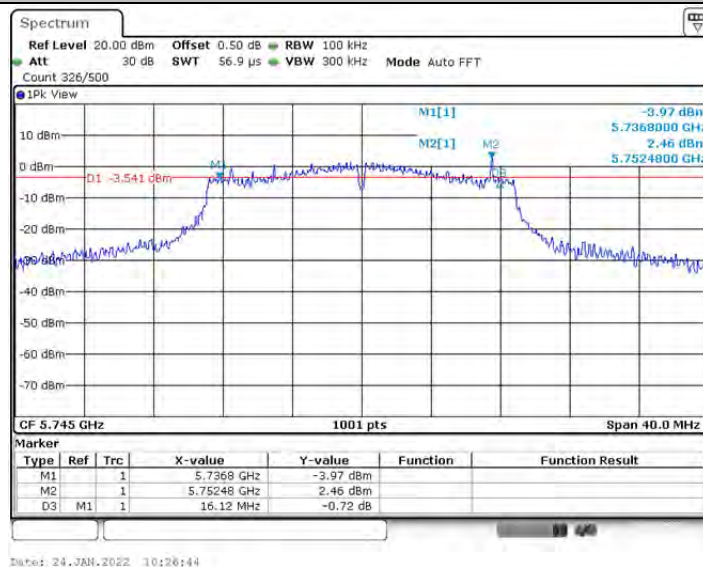
802.11n(HT40)_5755



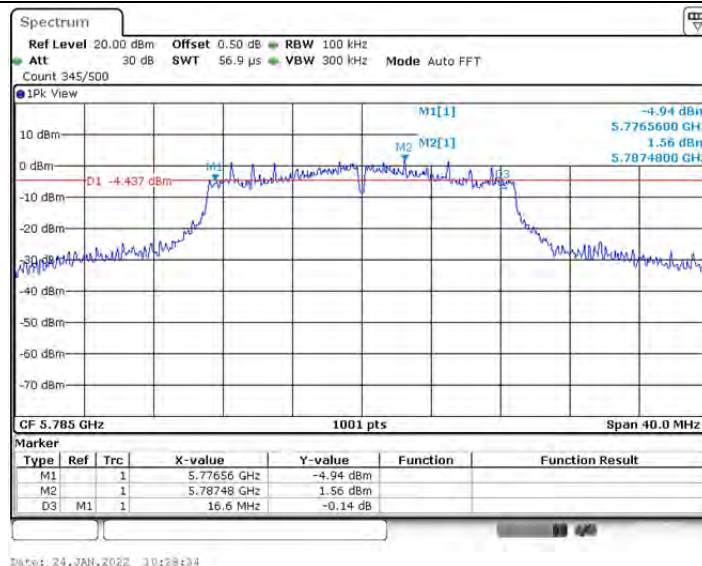
802.11n(HT40)_5795



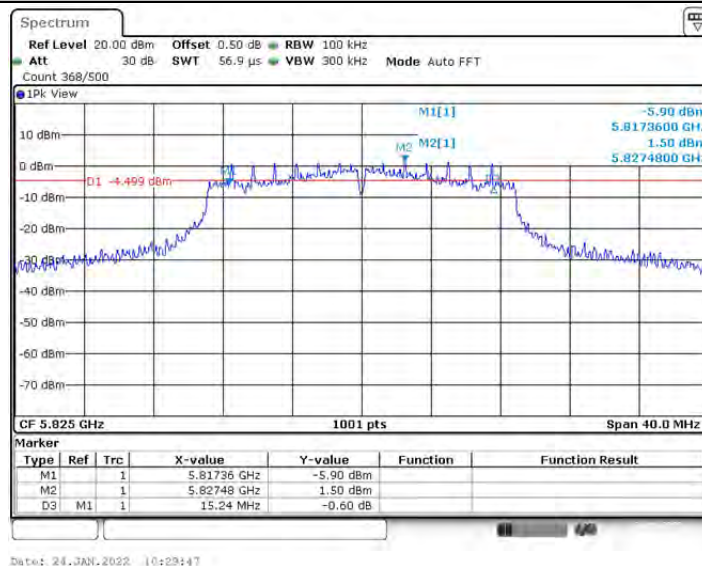
802.11ac(VHT20)_5745



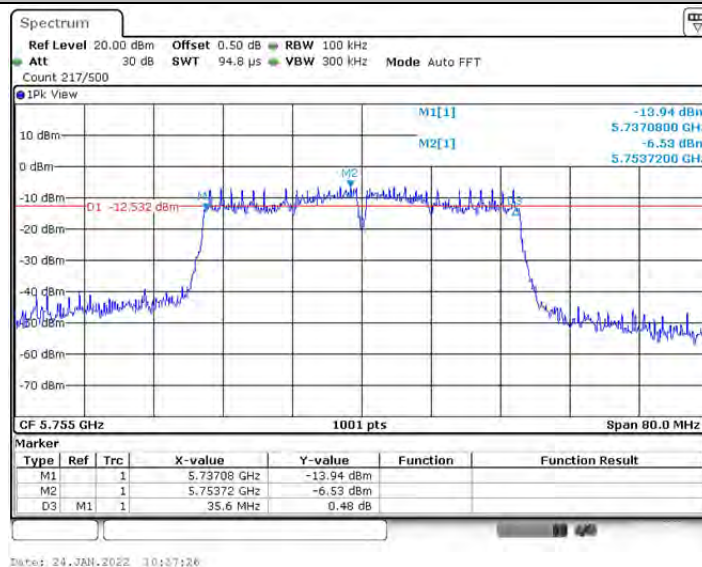
802.11ac(VHT20)_5785



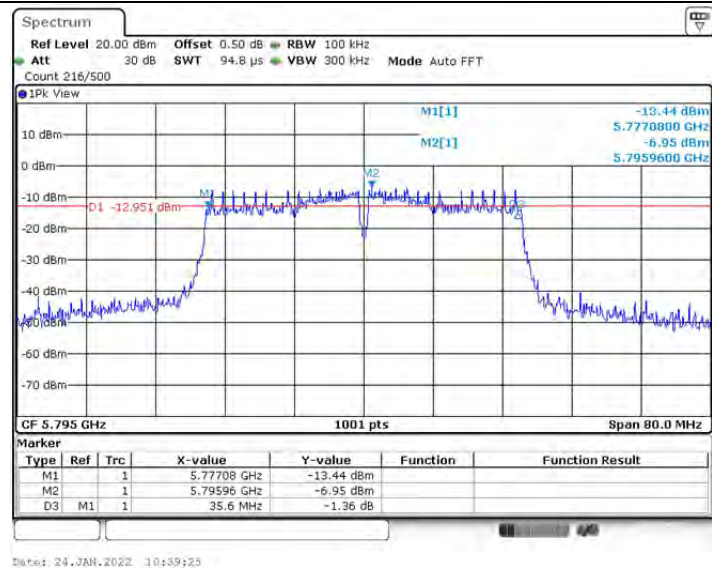
802.11ac(VHT20)_5825



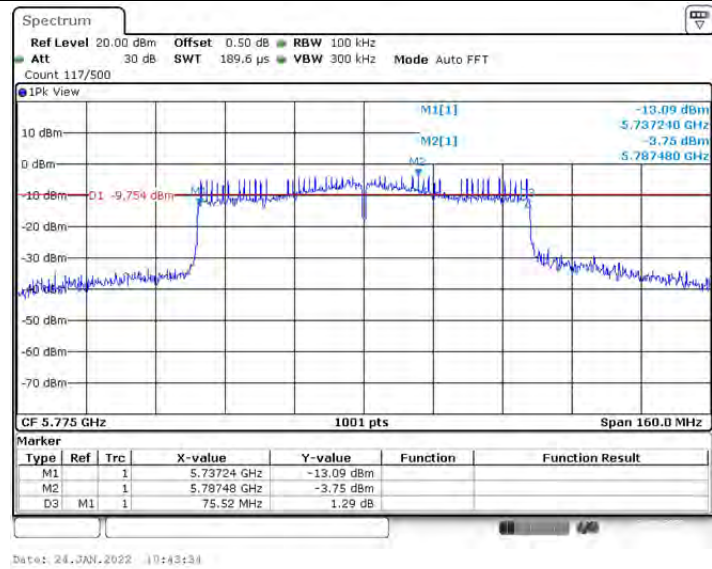
802.11ac(VHT40)_5755



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	15.22	<=24	PASS
	5200	15.49	<=24	PASS
	5240	16.04	<=24	PASS
	5745	14.26	<=30	PASS
	5785	13.39	<=30	PASS
	5825	12.98	<=30	PASS
802.11n(HT20)	5180	15.08	<=24	PASS
	5200	15.15	<=24	PASS
	5240	15.80	<=24	PASS
	5745	14.07	<=30	PASS
	5785	13.22	<=30	PASS
	5825	12.73	<=30	PASS
802.11n(HT40)	5190	14.97	<=24	PASS
	5230	15.41	<=24	PASS
	5755	13.97	<=30	PASS
	5795	13.23	<=30	PASS
802.11ac(VHT20)	5180	15.05	<=24	PASS
	5200	15.29	<=24	PASS
	5240	15.79	<=24	PASS
	5745	13.95	<=30	PASS
	5785	13.20	<=30	PASS
	5825	12.78	<=30	PASS
802.11ac(VHT40)	5190	8.37	<=24	PASS
	5230	8.95	<=24	PASS
	5755	7.75	<=30	PASS
	5795	7.09	<=30	PASS
802.11ac(VHT80)	5210	9.85	<=24	PASS
	5775	10.27	<=30	PASS

Note: Test results increased RF cable loss by 0.5dB.

Appendix C: Maximum power spectral density

Test Result

Test Mode	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
802.11a	5180	5.86	<=11	PASS
	5200	5.90	<=11	PASS
	5240	6.43	<=11	PASS
	5745	1.91	<=30	PASS
	5785	1.34	<=30	PASS
	5825	0.46	<=30	PASS
802.11n(HT20)	5180	5.29	<=11	PASS
	5200	5.05	<=11	PASS
	5240	5.94	<=11	PASS
	5745	1.28	<=30	PASS
	5785	0.83	<=30	PASS
	5825	0.31	<=30	PASS
802.11n(HT40)	5190	1.88	<=11	PASS
	5230	2.99	<=11	PASS
	5755	-1.43	<=30	PASS
	5795	-2.23	<=30	PASS
802.11ac(VHT20)	5180	5.12	<=11	PASS
	5200	5.62	<=11	PASS
	5240	6.11	<=11	PASS
	5745	1.70	<=30	PASS
	5785	0.69	<=30	PASS
	5825	-0.01	<=30	PASS
802.11ac(VHT40)	5190	-4.33	<=11	PASS
	5230	-3.02	<=11	PASS
	5755	-6.95	<=30	PASS
	5795	-8.03	<=30	PASS
802.11ac(VHT80)	5210	-0.48	<=11	PASS
	5775	-5.82	<=30	PASS

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

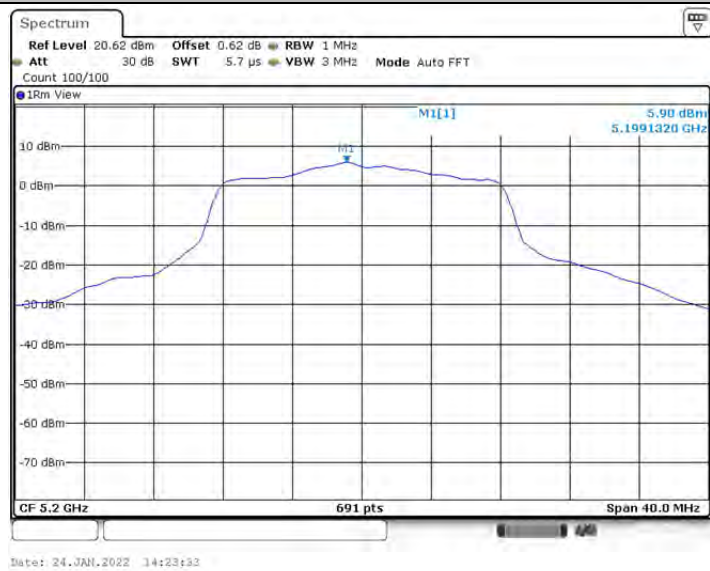
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

802.11a_5180



802.11a_5200



802.11a_5240



802.11a_5745



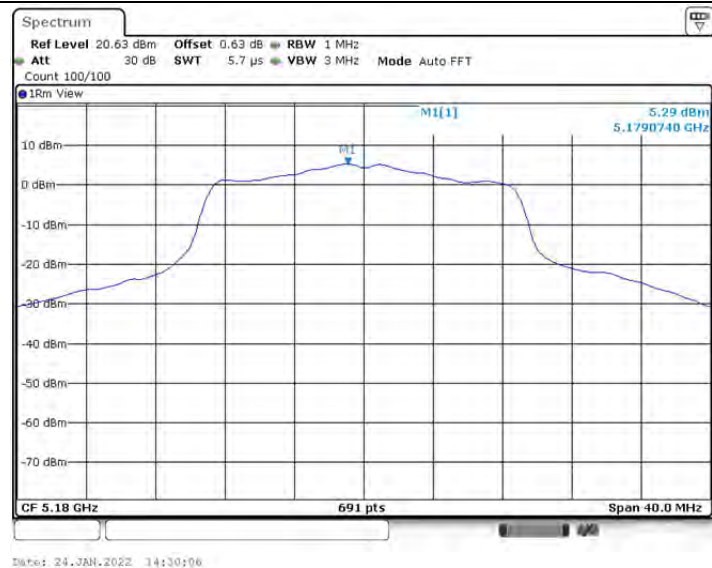
802.11a_5785



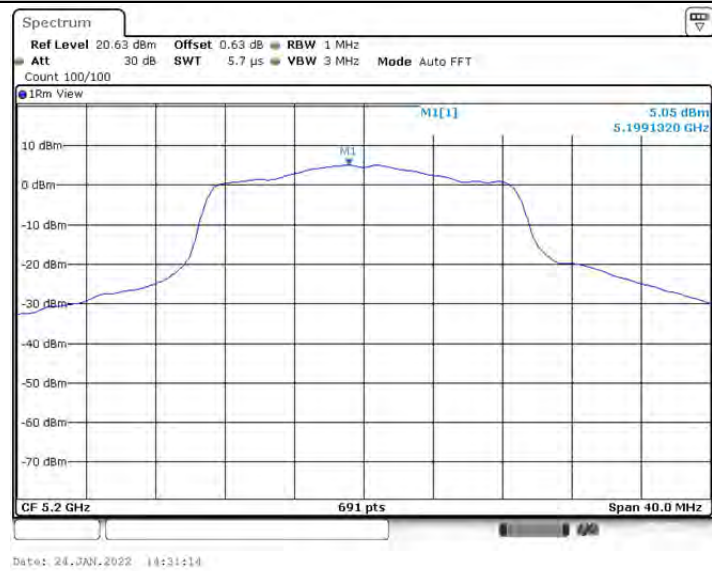
802.11a_5825



802.11n(HT20)_5180



802.11n(HT20)_5200



802.11n(HT20)_5240



802.11n(HT20)_5745



802.11n(HT20)_5785



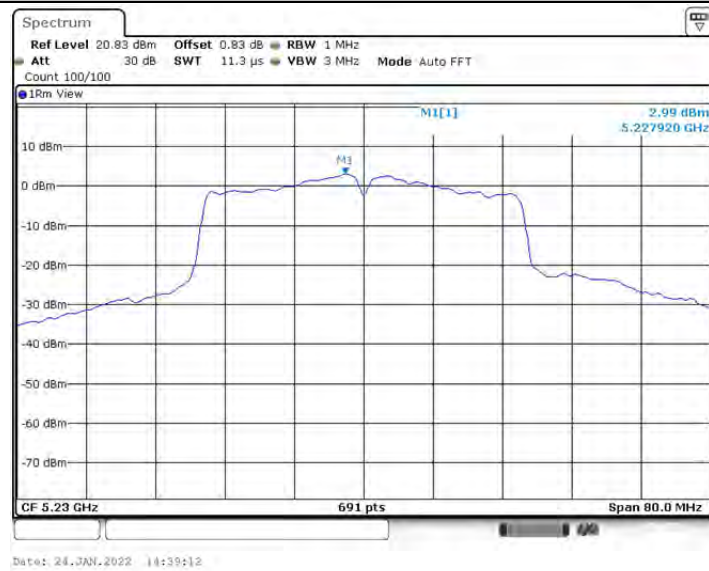
802.11n(HT20)_5825



802.11n(HT40)_5190



802.11n(HT40)_5230



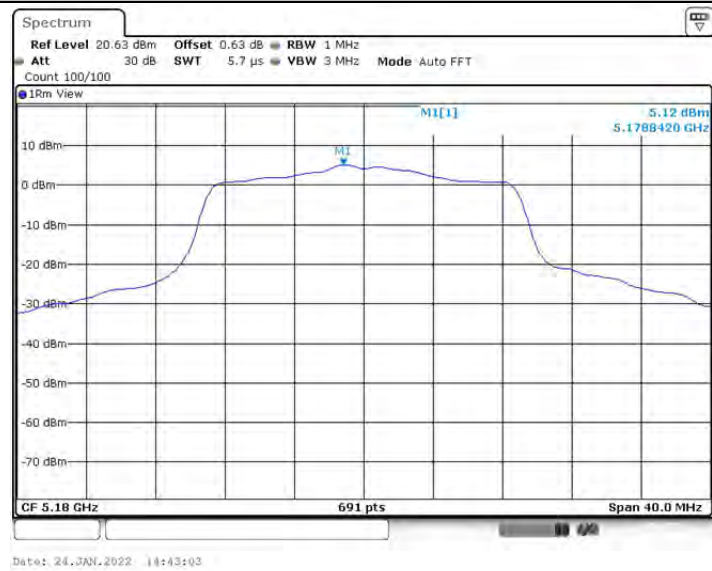
802.11n(HT40)_5755



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



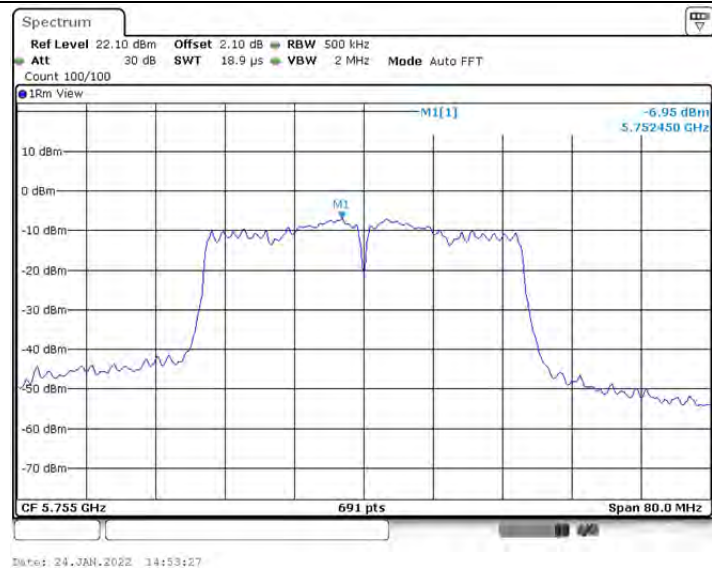
802.11ac(VHT40)_5190



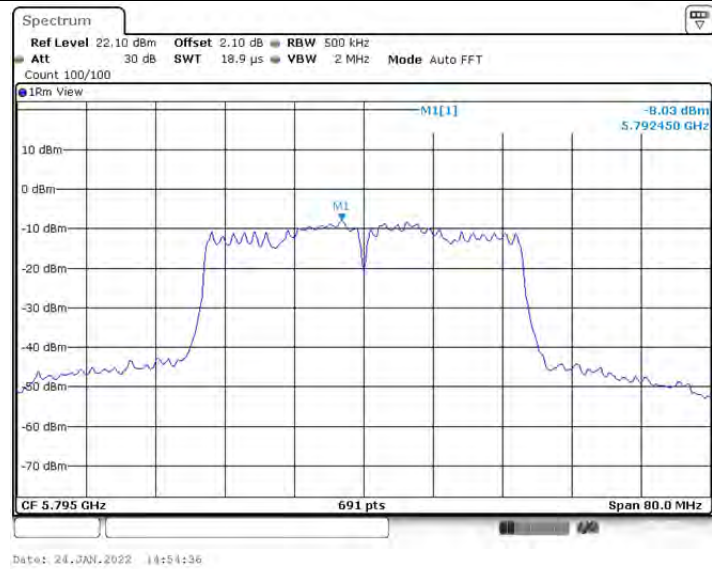
802.11ac(VHT40)_5230



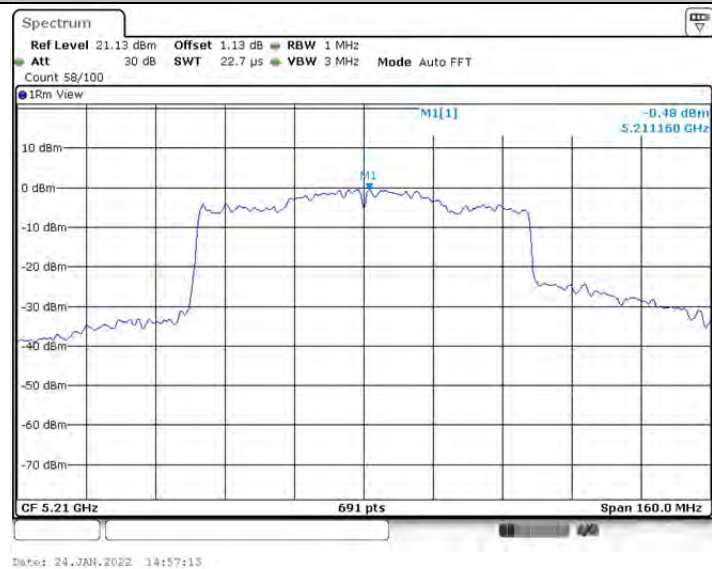
802.11ac(VHT40)_5755



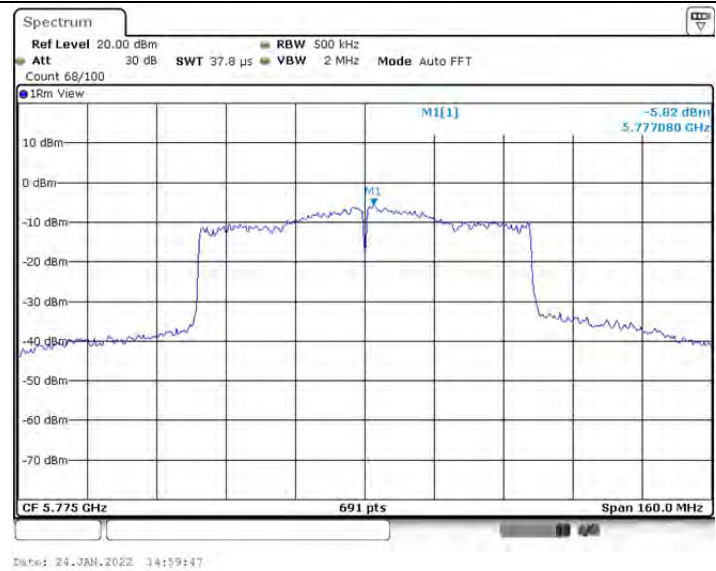
802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5775



Appendix D: Frequency Stability

Test Result

Voltage							
Test Mode	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20MHz	5180	NV	NT	-21000	-4.054054	20	PASS
		LV	NT	-21000	-4.054054	20	PASS
		HV	NT	-21000	-4.054054	20	PASS
	5200	NV	NT	-20000	-3.846154	20	PASS
		LV	NT	-21000	-4.038462	20	PASS
		HV	NT	-21000	-4.038462	20	PASS
	5240	NV	NT	-21000	-4.007634	20	PASS
		LV	NT	-21000	-4.007634	20	PASS
		HV	NT	-21000	-4.007634	20	PASS
	5745	NV	NT	-23000	-4.003481	20	PASS
		LV	NT	-23000	-4.003481	20	PASS
		HV	NT	-23000	-4.003481	20	PASS
	5785	NV	NT	-22000	-3.802939	20	PASS
		LV	NT	-23000	-3.975799	20	PASS
		HV	NT	-23000	-3.975799	20	PASS
	5825	NV	NT	-22000	-3.776824	20	PASS
		LV	NT	-22000	-3.776824	20	PASS
		HV	NT	-23000	-3.948498	20	PASS
40MHz	5190	NV	NT	-20000	-3.853565	20	PASS
		LV	NT	-20000	-3.853565	20	PASS
		HV	NT	-20000	-3.853565	20	PASS
	5230	NV	NT	-22000	-4.206501	20	PASS
		LV	NT	-22000	-4.206501	20	PASS
		HV	NT	-22000	-4.206501	20	PASS
	5755	NV	NT	-24000	-4.170287	20	PASS
		LV	NT	-24000	-4.170287	20	PASS
		HV	NT	-24000	-4.170287	20	PASS
80MHz	5210	NV	NT	-21000	-4.030710	20	PASS
		LV	NT	-21000	-4.030710	20	PASS
		HV	NT	-21000	-4.030710	20	PASS
	5775	NV	NT	-24000	-4.155844	20	PASS
		LV	NT	-24000	-4.155844	20	PASS
		HV	NT	-24000	-4.155844	20	PASS

Temperature							
Test Mode	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20MHz	5180	NV	0	-21000	-4.054054	20	PASS
		NV	10	-21000	-4.054054	20	PASS
		NV	20	-21000	-4.054054	20	PASS
		NV	30	-20000	-3.861004	20	PASS
		NV	40	-21000	-4.054054	20	PASS
		NV	45	-20000	-3.861004	20	PASS
	5200	NV	0	-21000	-4.038462	20	PASS
		NV	10	-21000	-4.038462	20	PASS
		NV	20	-21000	-4.038462	20	PASS
		NV	30	-21000	-4.038462	20	PASS
		NV	40	-21000	-4.038462	20	PASS
		NV	45	-21000	-4.038462	20	PASS
	5240	NV	0	-21000	-4.007634	20	PASS
		NV	10	-21000	-4.007634	20	PASS
		NV	20	-21000	-4.007634	20	PASS
		NV	30	-21000	-4.007634	20	PASS
		NV	40	-21000	-4.007634	20	PASS
		NV	45	-21000	-4.007634	20	PASS
	5745	NV	0	-22000	-3.829417	20	PASS
		NV	10	-23000	-4.003481	20	PASS
		NV	20	-23000	-4.003481	20	PASS
		NV	30	-23000	-4.003481	20	PASS
		NV	40	-23000	-4.003481	20	PASS
		NV	45	-23000	-4.003481	20	PASS
	5785	NV	0	-23000	-3.975799	20	PASS
		NV	10	-22000	-3.802939	20	PASS
		NV	20	-23000	-3.975799	20	PASS
		NV	30	-22000	-3.802939	20	PASS
		NV	40	-22000	-3.802939	20	PASS
		NV	45	-22000	-3.802939	20	PASS
	5825	NV	0	-22000	-3.776824	20	PASS
		NV	10	-23000	-3.948498	20	PASS
		NV	20	-22000	-3.776824	20	PASS
		NV	30	-22000	-3.776824	20	PASS
		NV	40	-23000	-3.948498	20	PASS
		NV	45	-23000	-3.948498	20	PASS
40MHz	5190	NV	0	-20000	-3.853565	20	PASS
		NV	10	-20000	-3.853565	20	PASS
		NV	20	-21000	-4.046243	20	PASS
		NV	30	-21000	-4.046243	20	PASS
		NV	40	-20000	-3.853565	20	PASS
		NV	45	-21000	-4.046243	20	PASS
	5230	NV	0	-22000	-4.206501	20	PASS

		NV	10	-22000	-4.206501	20	PASS
		NV	20	-22000	-4.206501	20	PASS
		NV	30	-22000	-4.206501	20	PASS
		NV	40	-22000	-4.206501	20	PASS
		NV	45	-22000	-4.206501	20	PASS
	5755	NV	0	-23000	-3.996525	20	PASS
		NV	10	-23000	-3.996525	20	PASS
		NV	20	-24000	-4.170287	20	PASS
		NV	30	-23000	-3.996525	20	PASS
		NV	40	-24000	-4.170287	20	PASS
		NV	45	-24000	-4.170287	20	PASS
	5795	NV	0	-24000	-4.141501	20	PASS
		NV	10	-24000	-4.141501	20	PASS
		NV	20	-24000	-4.141501	20	PASS
		NV	30	-23000	-3.968939	20	PASS
		NV	40	-24000	-4.141501	20	PASS
		NV	45	-24000	-4.141501	20	PASS
80MHz	5210	NV	0	-21000	-4.030710	20	PASS
		NV	10	-21000	-4.030710	20	PASS
		NV	20	-21000	-4.030710	20	PASS
		NV	30	-21000	-4.030710	20	PASS
		NV	40	-22000	-4.222649	20	PASS
		NV	45	-21000	-4.030710	20	PASS
	5775	NV	0	-23000	-3.982684	20	PASS
		NV	10	-24000	-4.155844	20	PASS
		NV	20	-23000	-3.982684	20	PASS
		NV	30	-23000	-3.982684	20	PASS
		NV	40	-23000	-3.982684	20	PASS
		NV	45	-23000	-3.982684	20	PASS

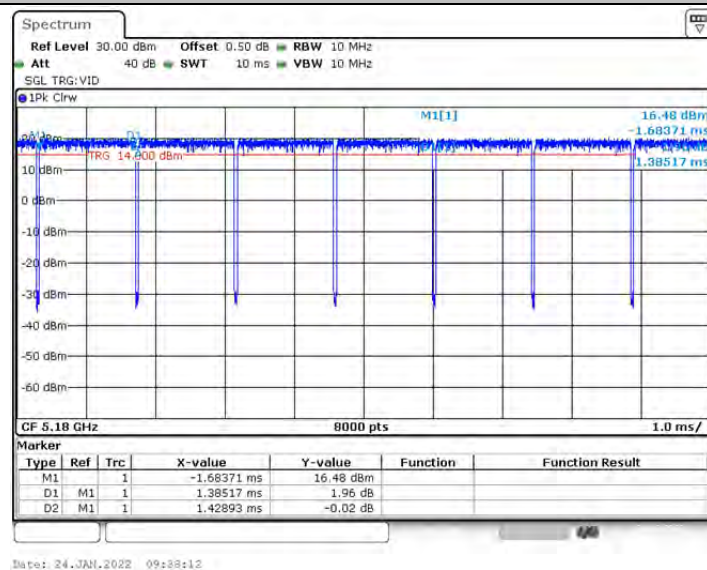
Appendix E: Duty Cycle

Test Result

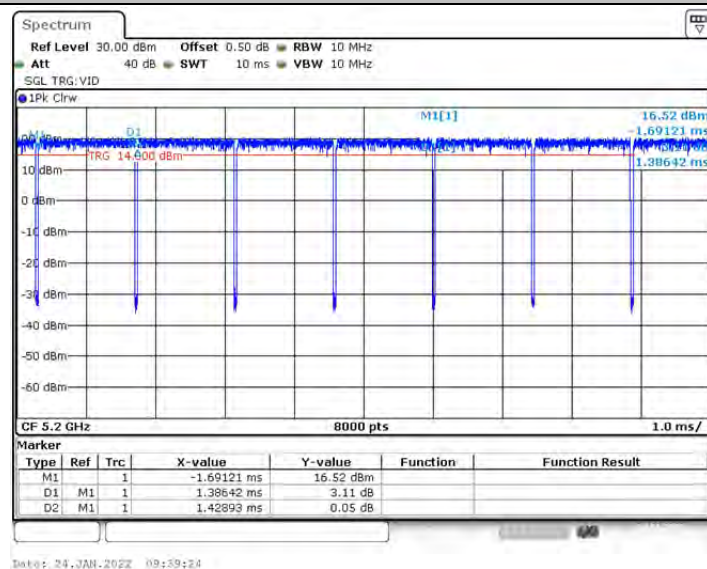
Test Mode	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
802.11a	5180	1.39	1.43	97.20	0.719	1
	5200	1.39	1.43	97.20	0.719	1
	5240	1.39	1.43	97.20	0.719	1
	5745	1.39	1.43	97.20	0.719	1
	5785	1.39	1.43	97.20	0.719	1
	5825	1.39	1.43	97.20	0.719	1
802.11n(HT20)	5180	1.30	1.34	97.01	0.769	1
	5200	1.30	1.34	97.01	0.769	1
	5240	1.30	1.34	97.01	0.769	1
	5745	1.30	1.34	97.01	0.769	1
	5785	1.30	1.34	97.01	0.769	1
	5825	1.30	1.34	97.01	0.769	1
802.11n(HT40)	5190	0.64	0.69	92.75	1.563	2
	5230	0.64	0.69	92.75	1.563	2
	5755	0.64	0.69	92.75	1.563	2
	5795	0.64	0.69	92.75	1.563	2
802.11ac(VHT20)	5180	1.31	1.35	97.04	0.763	1
	5200	1.31	1.35	97.04	0.763	1
	5240	1.31	1.35	97.04	0.763	1
	5745	1.31	1.35	97.04	0.763	1
	5785	1.31	1.35	97.04	0.763	1
	5825	1.31	1.35	97.04	0.763	1
802.11ac(VHT40)	5190	0.09	0.13	69.23	11.111	20
	5230	0.09	0.13	69.23	11.111	20
	5755	0.09	0.13	69.23	11.111	20
	5795	0.09	0.13	69.23	11.111	20
802.11ac(VHT80)	5210	0.32	0.37	86.49	3.125	5
	5775	0.32	0.37	86.49	3.125	5

Test Graphs

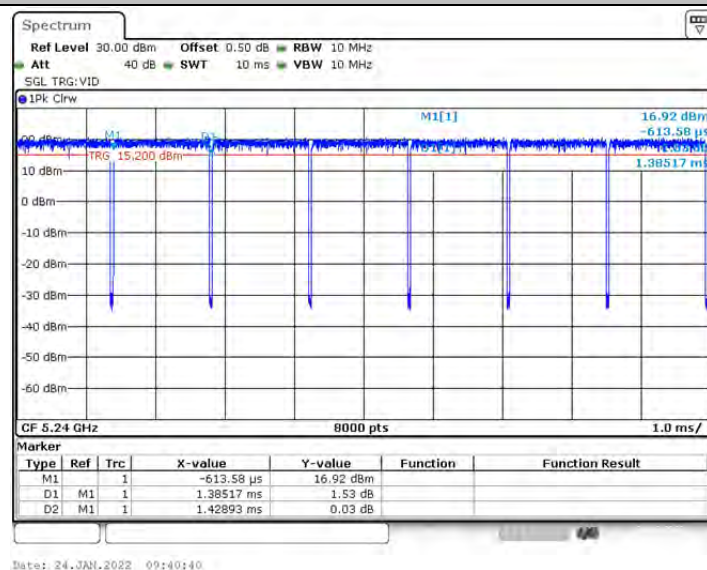
802.11a_5180



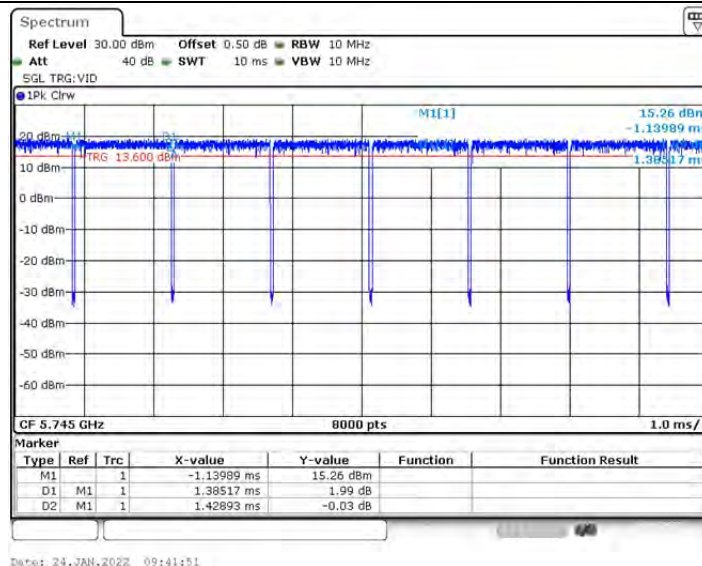
802.11a_5200



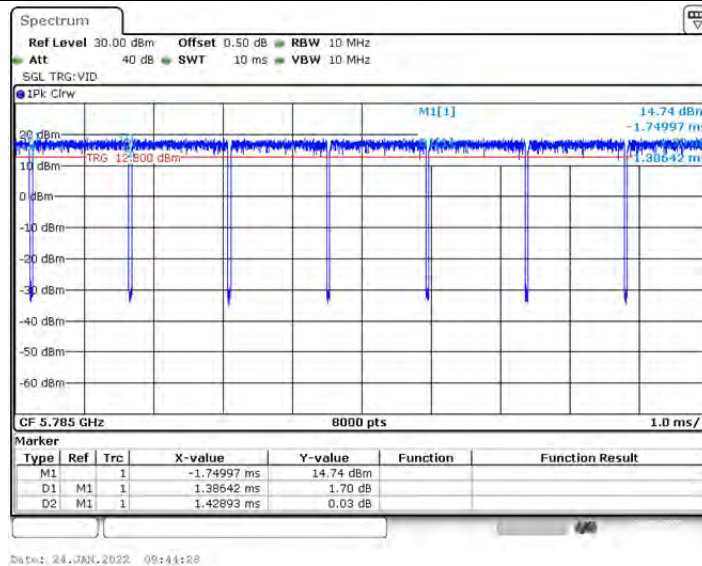
802.11a_5240



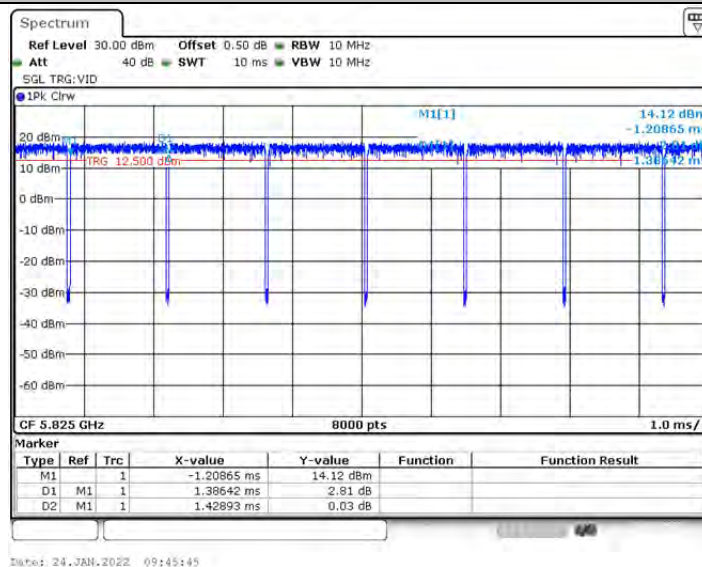
802.11a_5745



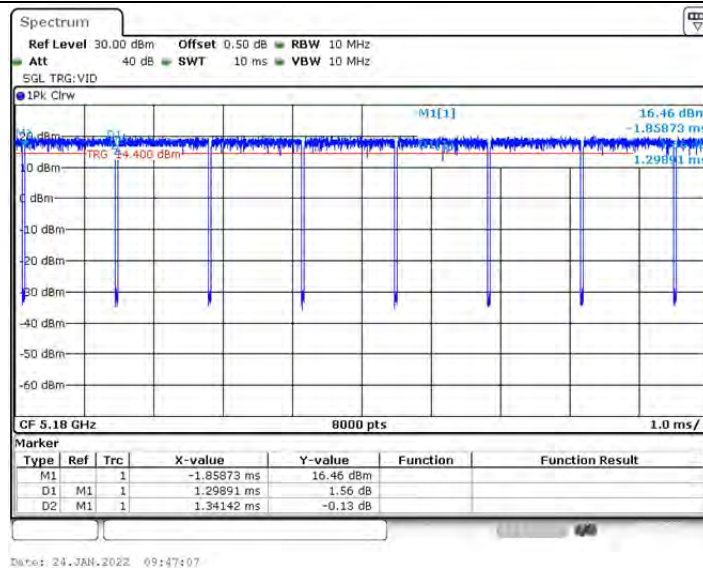
802.11a_5785



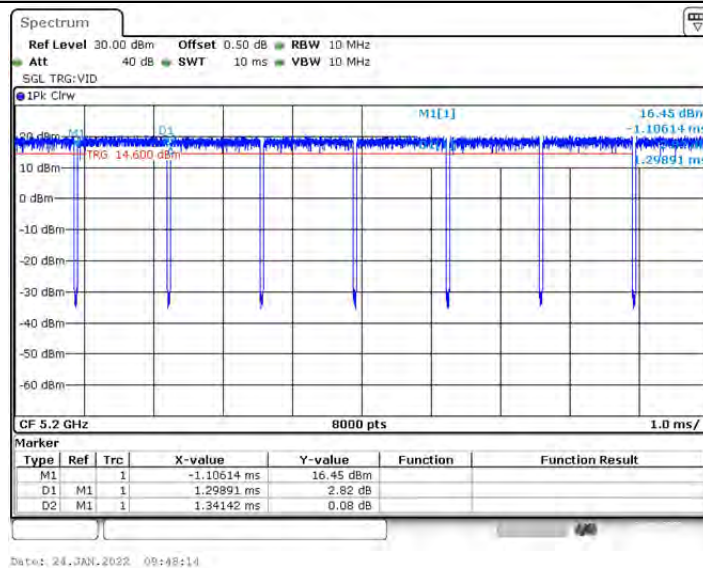
802.11a_5825



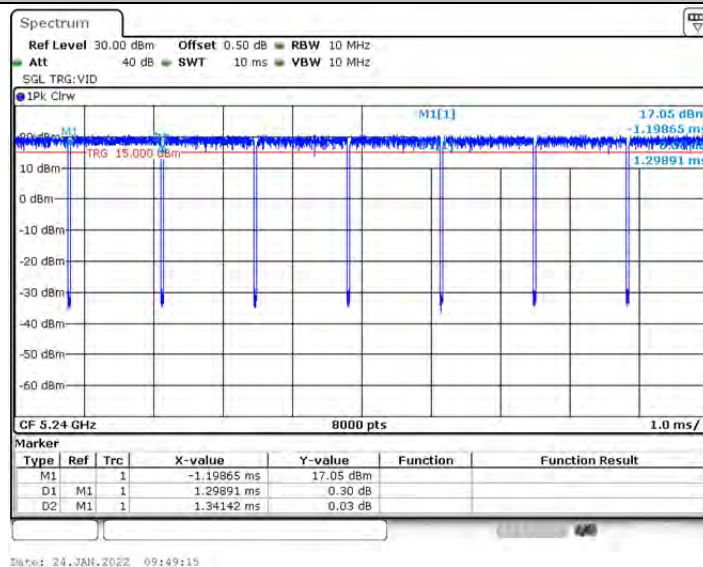
802.11n(HT20)_5180



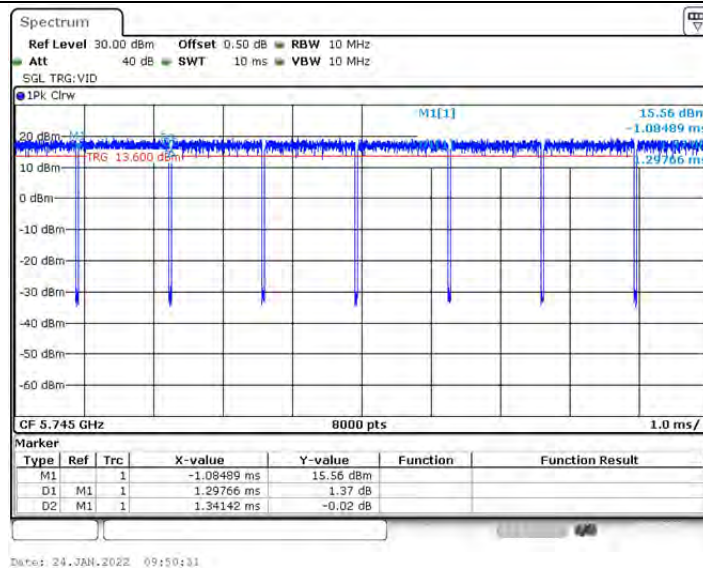
802.11n(HT20)_5200



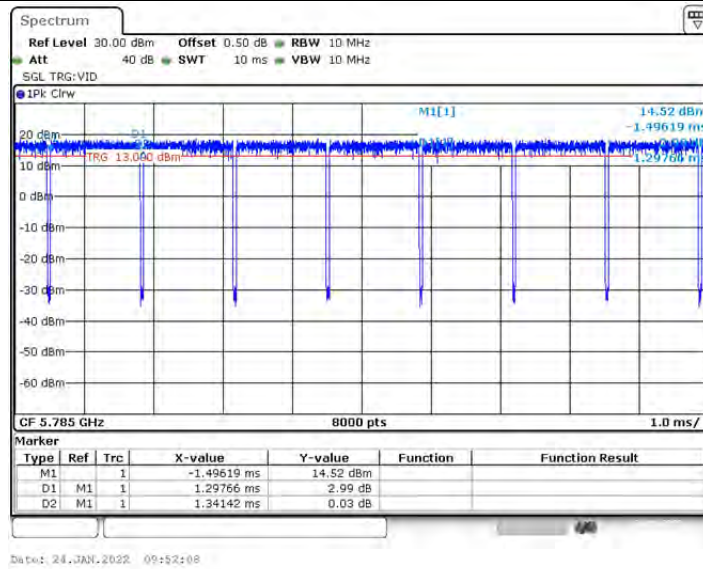
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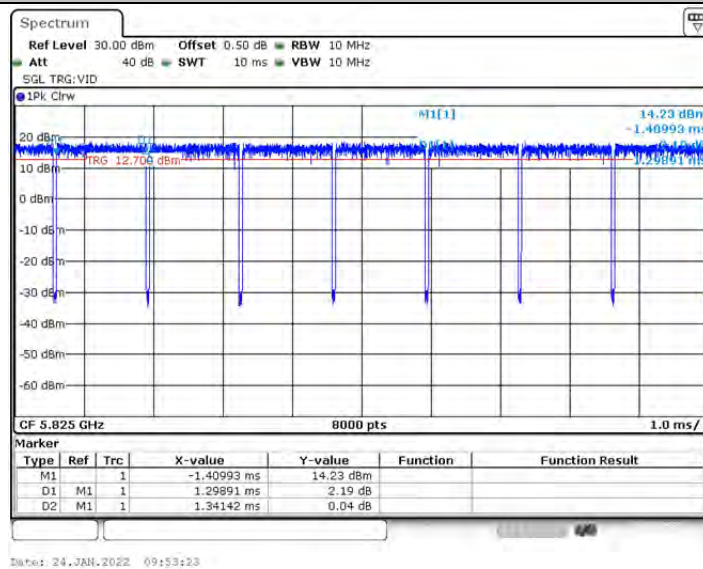
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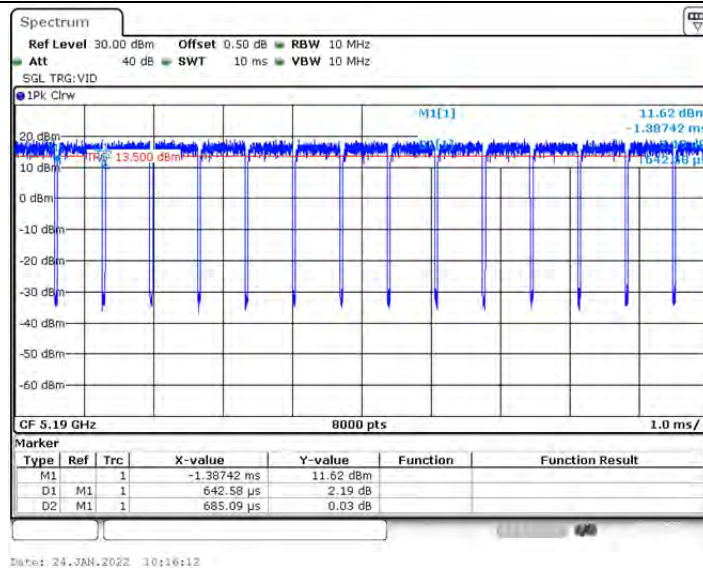
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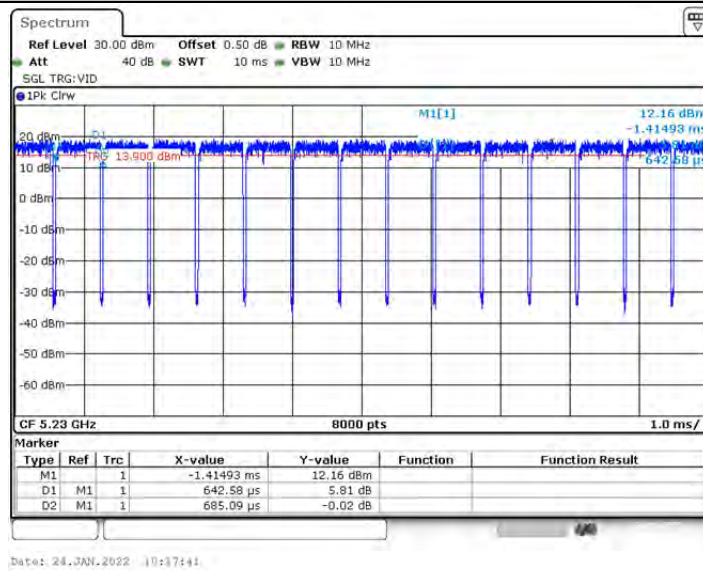
802.11n(HT20)_5825



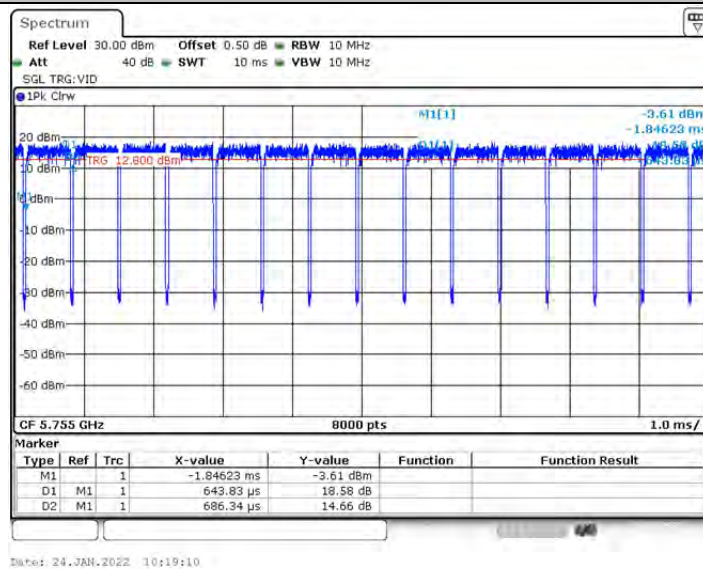
802.11n(HT40)_5190



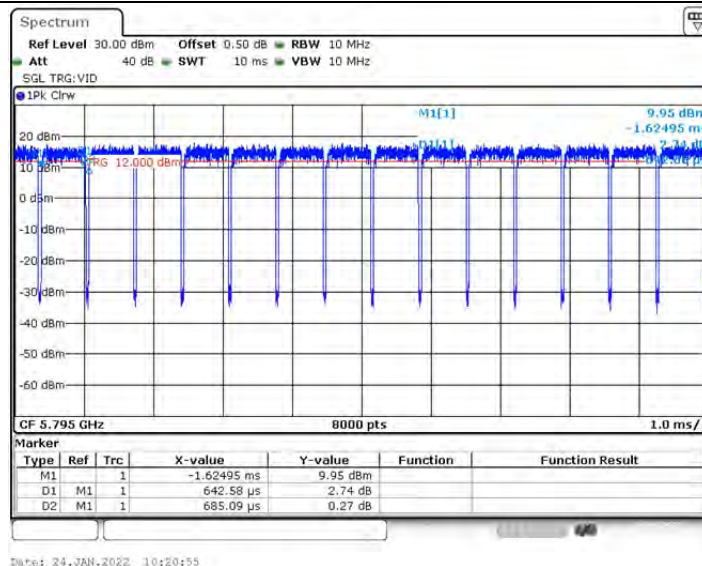
802.11n(HT40)_5230



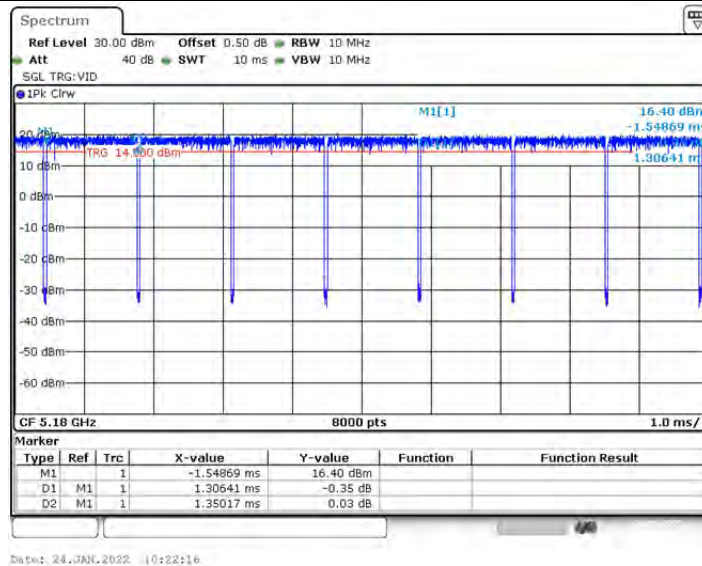
802.11n(HT40)_5755



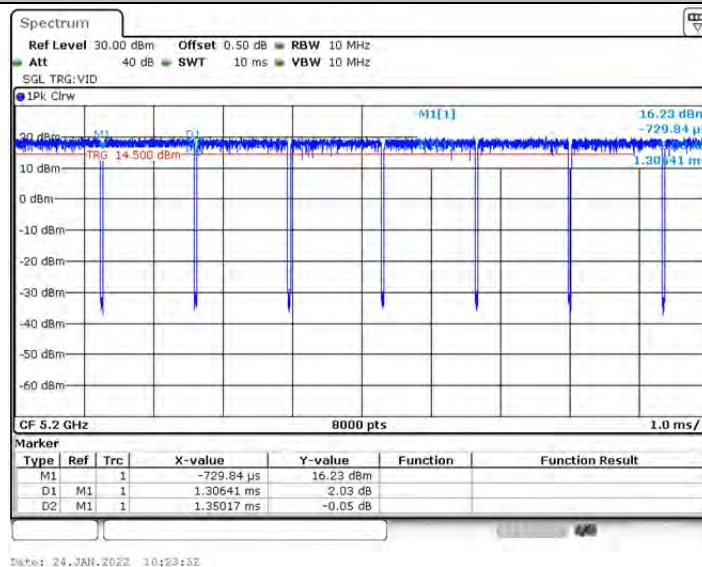
802.11n(HT40)_5795



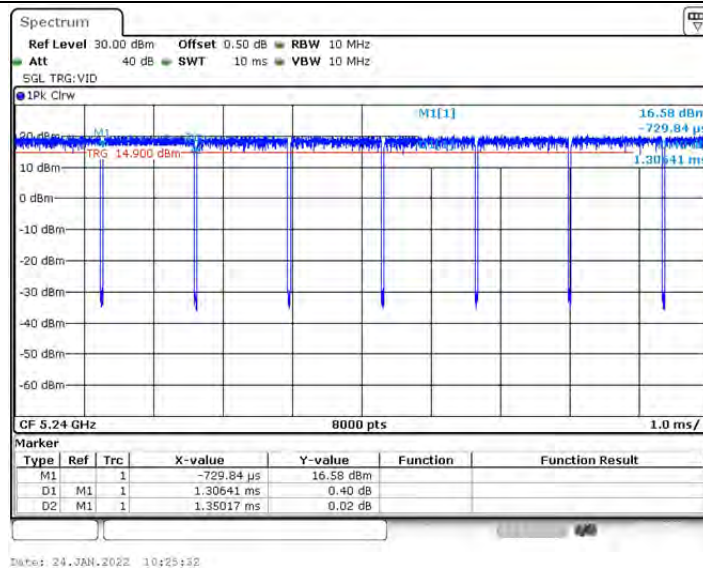
802.11ac(VHT20)_5180



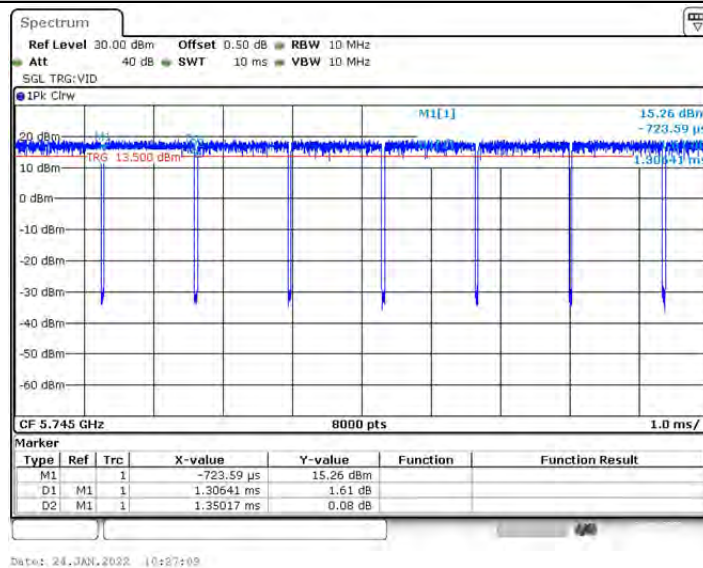
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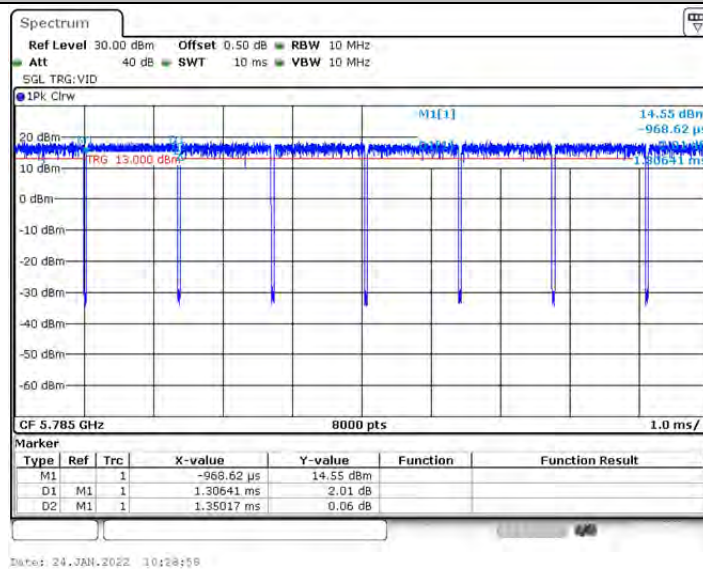
802.11ac(VHT20)_5240



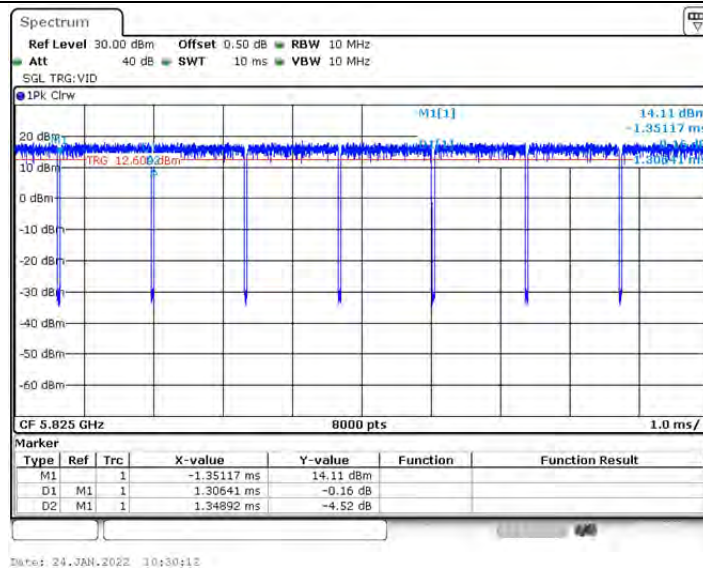
802.11ac(VHT20)_5745



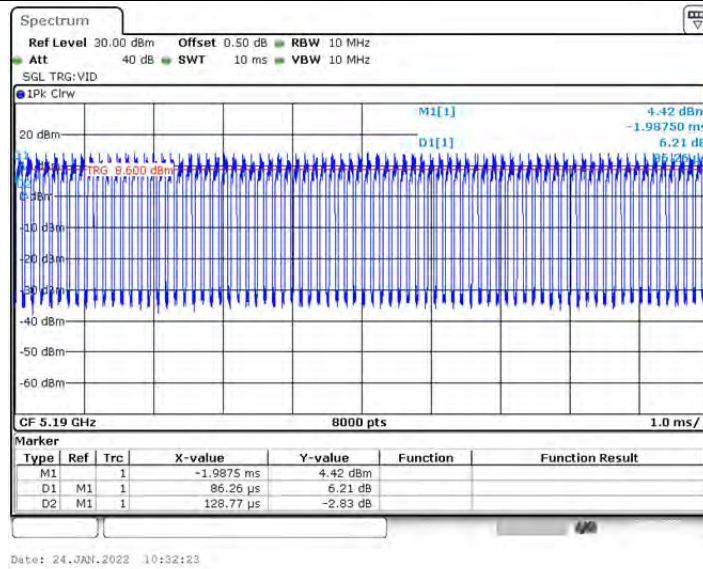
802.11ac(VHT20)_5785



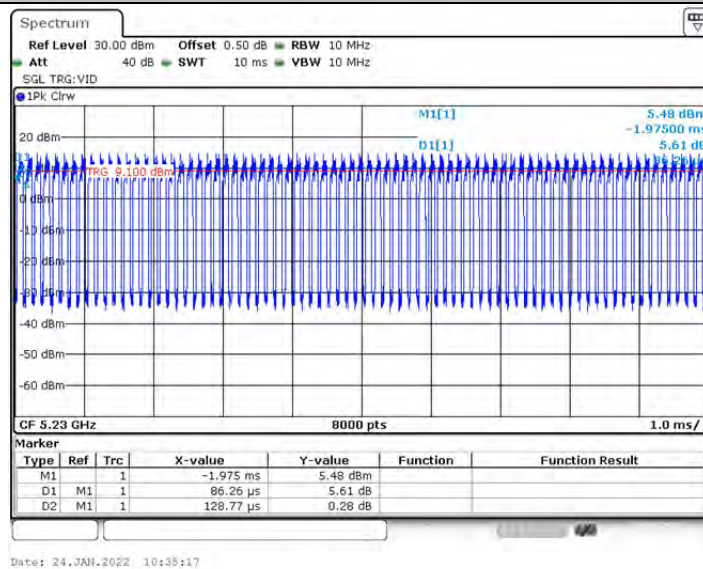
802.11ac(VHT20)_5825



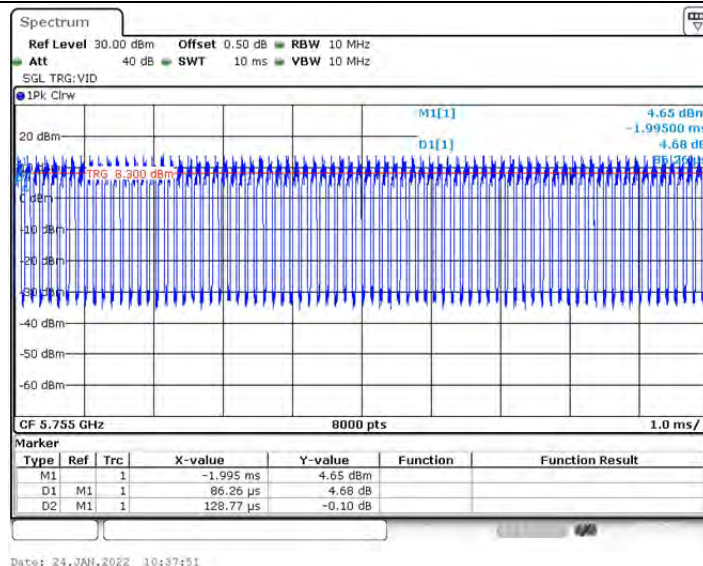
802.11ac(VHT40)_5190



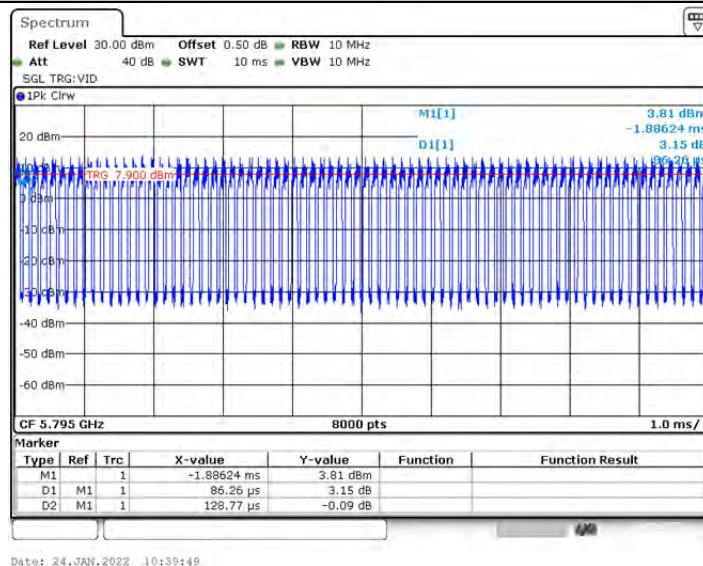
802.11ac(VHT40)_5230



802.11ac(VHT40)_5755



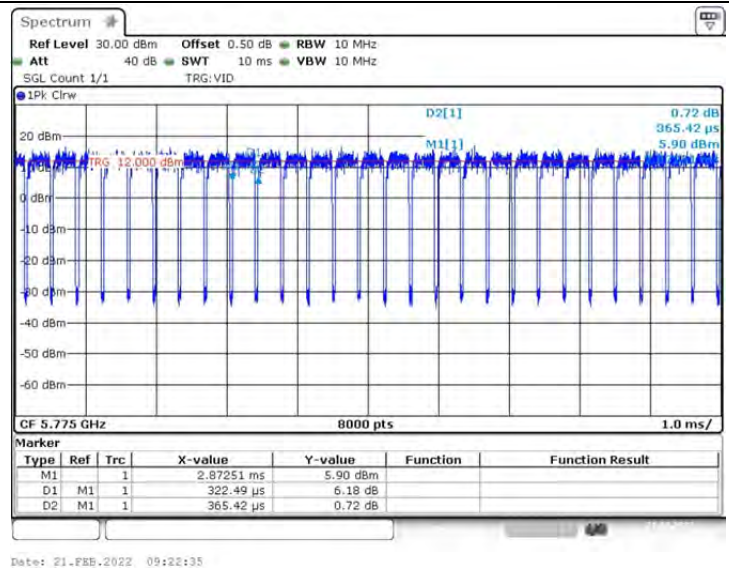
802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5775



-----End-----