



CTC Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China
Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

Appendix for 5G WIFI

Applicant: Imin Technology Pte Ltd

**Address: 11 Bishan Street 21, #03-05 Bosch Building, Singapore
573943**

Product Name: POS Device

Model: I22T01

FCC ID: 2AYD5-I22T01

TABLE OF CONTENTS

Appendix A1: Emission Bandwidth	3
Appendix A2: Occupied channel bandwidth.....	25
Appendix A3: Min emission bandwidth	47
Appendix B: Maximum conducted output power.....	53
Appendix C: Maximum power spectral density	55
Appendix D: Frequency Stability	77
Appendix E: Duty Cycle	83

Appendix A1: Emission Bandwidth

Test Result

Test Mode	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
802.11a	5180	27.640	5167.320	5194.960	PASS
	5200	31.040	5187.160	5218.200	PASS
	5240	24.560	5228.600	5253.160	PASS
	5260	28.640	5247.280	5275.920	PASS
	5280	26.800	5266.480	5293.280	PASS
	5320	23.160	5308.520	5331.680	PASS
	5500	28.600	5487.720	5516.320	PASS
	5580	27.160	5567.800	5594.960	PASS
	5700	27.880	5687.400	5715.280	PASS
	5745	28.880	5732.400	5761.280	PASS
	5785	24.160	5774.600	5798.760	PASS
	5825	24.800	5811.960	5836.760	PASS
802.11n(HT20)	5180	29.040	5166.040	5195.080	PASS
	5200	28.000	5187.600	5215.600	PASS
	5240	29.440	5225.920	5255.360	PASS
	5260	30.280	5246.080	5276.360	PASS
	5280	28.840	5265.960	5294.800	PASS
	5320	29.560	5305.360	5334.920	PASS
	5500	27.360	5488.520	5515.880	PASS
	5580	26.640	5569.920	5596.560	PASS
	5700	28.600	5686.680	5715.280	PASS
	5745	27.440	5734.080	5761.520	PASS
	5785	28.560	5771.640	5800.200	PASS
	5825	25.720	5813.400	5839.120	PASS
802.11n(HT40)	5190	44.080	5170.400	5214.480	PASS
	5230	47.520	5209.760	5257.280	PASS
	5270	47.120	5250.000	5297.120	PASS
	5310	46.320	5290.000	5336.320	PASS
	5510	44.480	5489.360	5533.840	PASS
	5550	45.200	5529.440	5574.640	PASS
	5670	44.080	5648.960	5693.040	PASS
	5755	39.280	5735.320	5774.600	PASS
	5795	44.720	5775.000	5819.720	PASS
802.11ac(VHT20)	5180	28.080	5166.920	5195.000	PASS
	5200	25.920	5188.240	5214.160	PASS
	5240	28.200	5226.920	5255.120	PASS
	5260	26.600	5246.960	5273.560	PASS
	5280	27.600	5266.640	5294.240	PASS
	5320	26.840	5307.120	5333.960	PASS
	5500	25.680	5489.280	5514.960	PASS
	5580	26.560	5567.560	5594.120	PASS

	5700	27.600	5685.000	5712.600	PASS
	5745	25.200	5731.880	5757.080	PASS
	5785	25.480	5771.360	5796.840	PASS
	5825	25.240	5812.000	5837.240	PASS
802.11ac(VHT40)	5190	44.560	5170.160	5214.720	PASS
	5230	44.640	5210.160	5254.800	PASS
	5270	44.960	5247.280	5292.240	PASS
	5310	44.720	5287.760	5332.480	PASS
	5510	48.080	5483.520	5531.600	PASS
	5550	43.760	5527.200	5570.960	PASS
	5670	46.000	5645.920	5691.920	PASS
	5755	44.160	5730.840	5775.000	PASS
	5795	43.200	5772.600	5815.800	PASS
802.11ac(VHT80)	5210	85.280	5167.920	5253.200	PASS
	5290	83.840	5248.400	5332.240	PASS
	5530	85.760	5487.600	5573.360	PASS
	5610	83.840	5567.760	5651.600	PASS
	5775	85.920	5733.880	5819.800	PASS

Test Graphs

802.11a_5180



802.11a_5200



802.11a_5240



802.11a_5260



802.11a_5280



802.11a_5320



802.11a_5500



802.11a_5580



802.11a_5700



802.11a_5745



802.11a_5785



802.11a_5825



802.11n(HT20)_5180



802.11n(HT20)_5200



802.11n(HT20)_5240



802.11n(HT20)_5260



802.11n(HT20)_5280



802.11n(HT20)_5320



802.11n(HT20)_5500



802.11n(HT20)_5580



802.11n(HT20)_5700



802.11n(HT20)_5745



802.11n(HT20)_5785



802.11n(HT20)_5825



802.11n(HT40)_5190



802.11n(HT40)_5230



802.11n(HT40)_5270



802.11n(HT40)_5310



802.11n(HT40)_5510



802.11n(HT40)_5550



802.11n(HT40)_5670



802.11n(HT40)_5755



802.11n(HT40)_5795



802.11ac(VHT20)_5180



802.11ac(VHT20)_5200



802.11ac(VHT20)_5240



802.11ac(VHT20)_5260



802.11ac(VHT20)_5280



802.11ac(VHT20)_5320



802.11ac(VHT20)_5500



802.11ac(VHT20)_5580



802.11ac(VHT20)_5700



802.11ac(VHT20)_5745



802.11ac(VHT20)_5785



802.11ac(VHT20)_5825



802.11ac(VHT40)_5190



802.11ac(VHT40)_5230



802.11ac(VHT40)_5270



802.11ac(VHT40)_5310



802.11ac(VHT40)_5510



802.11ac(VHT40)_5550



802.11ac(VHT40)_5670



802.11ac(VHT40)_5755



802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5290



802.11ac(VHT80)_5530



802.11ac(VHT80)_5610



802.11ac(VHT80)_5775



Appendix A2: Occupied channel bandwidth

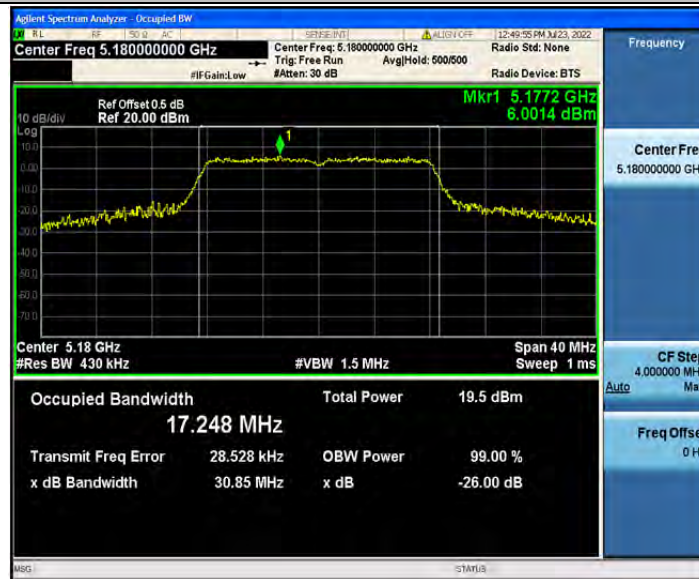
Test Result

Test Mode	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
802.11a	5180	17.248	5171.405	5188.653	PASS
	5200	17.329	5191.391	5208.720	PASS
	5240	17.316	5231.378	5248.694	PASS
	5260	17.275	5251.369	5268.644	PASS
	5280	17.205	5271.409	5288.614	PASS
	5320	17.181	5311.377	5328.558	PASS
	5500	17.112	5491.454	5508.566	PASS
	5580	17.264	5571.456	5588.720	PASS
	5700	17.192	5691.394	5708.586	PASS
	5745	17.203	5736.377	5753.580	PASS
	5785	17.103	5776.436	5793.539	PASS
	5825	17.180	5816.428	5833.608	PASS
802.11n(HT20)	5180	18.046	5171.013	5189.059	PASS
	5200	18.137	5190.947	5209.084	PASS
	5240	18.131	5230.955	5249.086	PASS
	5260	18.185	5250.889	5269.074	PASS
	5280	18.064	5270.982	5289.046	PASS
	5320	18.075	5310.921	5328.996	PASS
	5500	17.952	5491.058	5509.010	PASS
	5580	18.055	5571.031	5589.086	PASS
	5700	18.006	5691.007	5709.013	PASS
	5745	17.969	5735.987	5753.956	PASS
	5785	17.983	5776.000	5793.983	PASS
	5825	17.941	5816.044	5833.985	PASS
802.11n(HT40)	5190	36.513	5171.883	5208.396	PASS
	5230	36.533	5211.804	5248.337	PASS
	5270	36.485	5251.748	5288.233	PASS
	5310	36.532	5291.673	5328.205	PASS
	5510	36.422	5491.810	5528.232	PASS
	5550	36.427	5531.892	5568.319	PASS
	5670	36.508	5651.770	5688.278	PASS
	5755	36.383	5736.728	5773.111	PASS
	5795	36.344	5776.798	5813.142	PASS
802.11ac(VHT20)	5180	18.005	5171.054	5189.059	PASS
	5200	18.004	5191.063	5209.067	PASS
	5240	17.955	5231.074	5249.029	PASS
	5260	17.987	5250.998	5268.985	PASS
	5280	17.973	5271.018	5288.991	PASS
	5320	17.954	5310.994	5328.948	PASS
	5500	17.912	5491.061	5508.973	PASS
	5580	17.978	5571.060	5589.038	PASS

	5700	18.005	5690.992	5708.997	PASS
	5745	17.934	5736.037	5753.971	PASS
	5785	17.921	5776.027	5793.948	PASS
	5825	17.929	5816.043	5833.972	PASS
802.11ac(VHT40)	5190	36.332	5171.862	5208.194	PASS
	5230	36.428	5211.790	5248.218	PASS
	5270	36.367	5251.759	5288.126	PASS
	5310	36.422	5291.755	5328.177	PASS
	5510	36.495	5491.712	5528.207	PASS
	5550	36.371	5531.845	5568.216	PASS
	5670	36.303	5651.807	5688.110	PASS
	5755	36.402	5736.703	5773.105	PASS
	5795	36.379	5776.747	5813.126	PASS
802.11ac(VHT80)	5210	75.956	5172.163	5248.119	PASS
	5290	75.908	5252.031	5327.939	PASS
	5530	75.877	5492.034	5567.911	PASS
	5610	75.964	5571.878	5647.842	PASS
	5775	75.961	5737.346	5813.307	PASS

Test Graphs

802.11a_5180



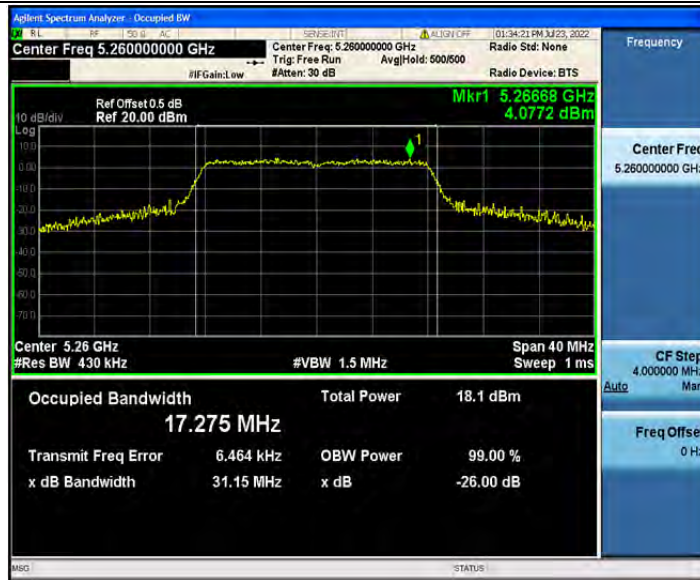
802.11a_5200



802.11a_5240



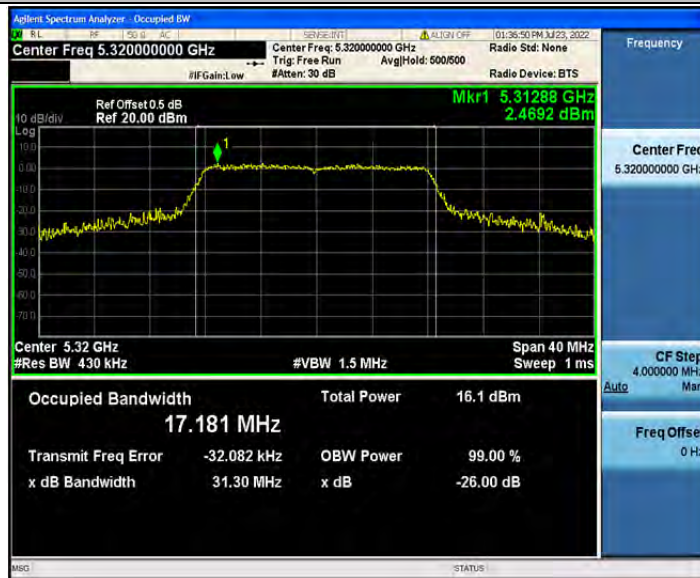
802.11a_5260



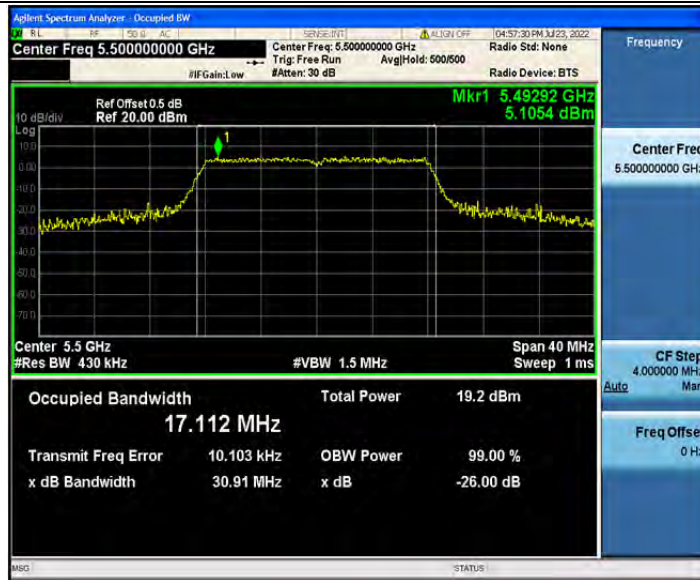
802.11a_5280



802.11a_5320



802.11a_5500



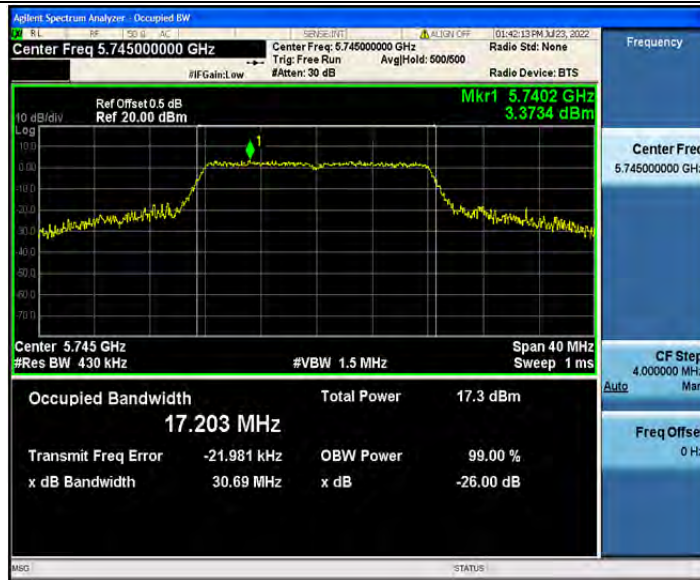
802.11a_5580



802.11a_5700



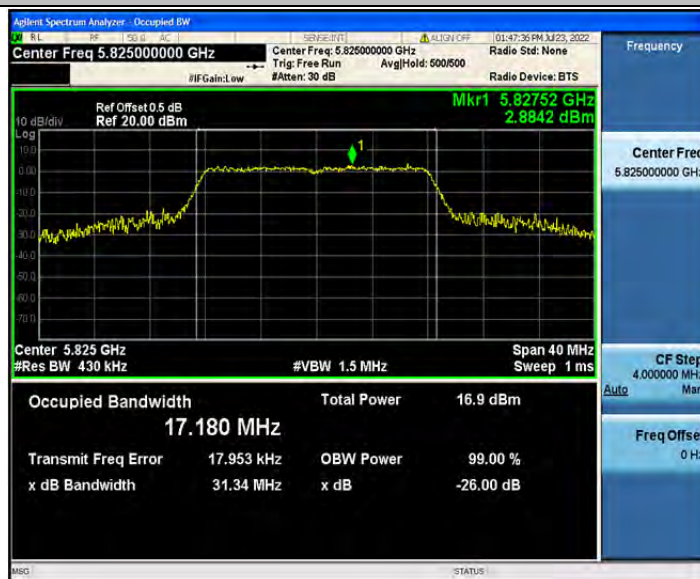
802.11a_5745



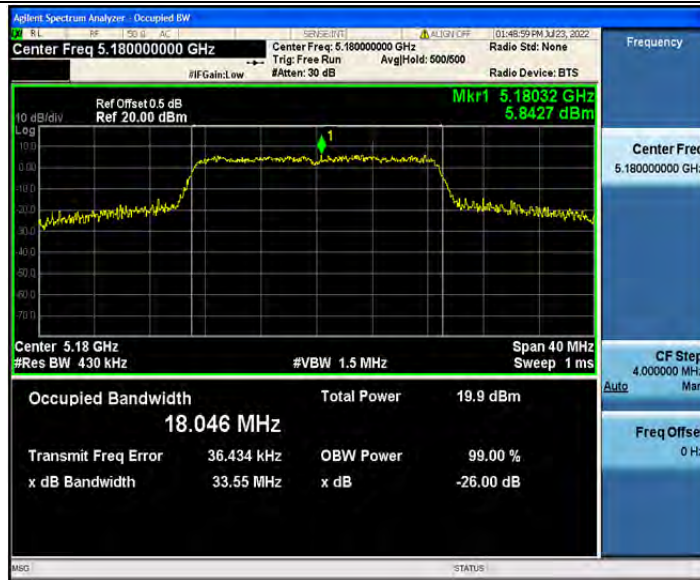
802.11a_5785



802.11a_5825



802.11n(HT20)_5180



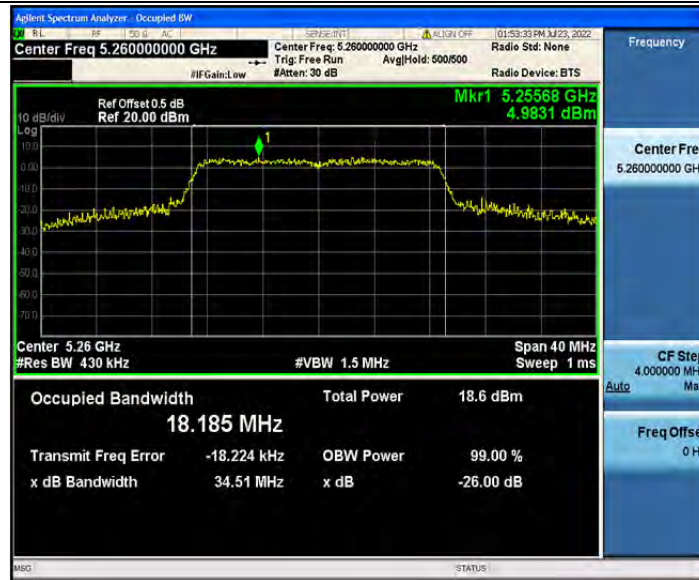
802.11n(HT20)_5200



802.11n(HT20)_5240



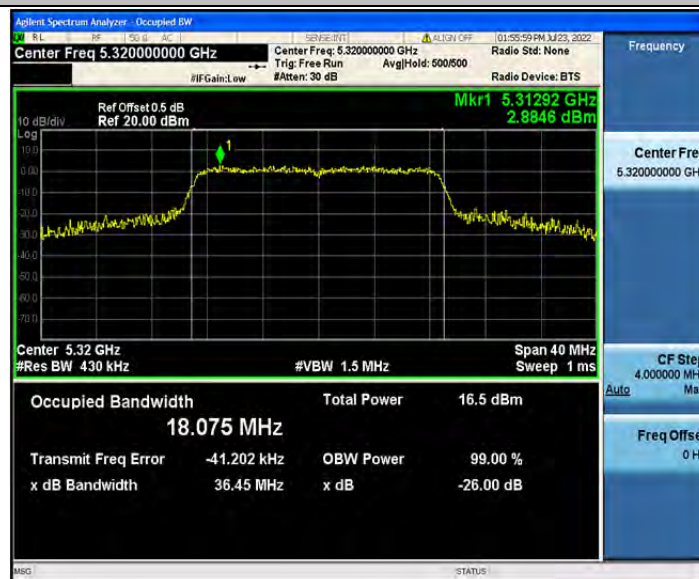
802.11n(HT20)_5260



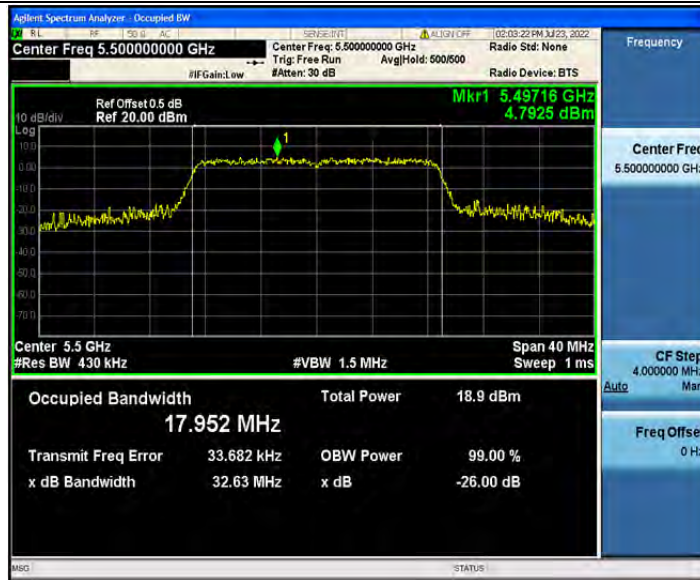
802.11n(HT20)_5280



802.11n(HT20)_5320



802.11n(HT20)_5500



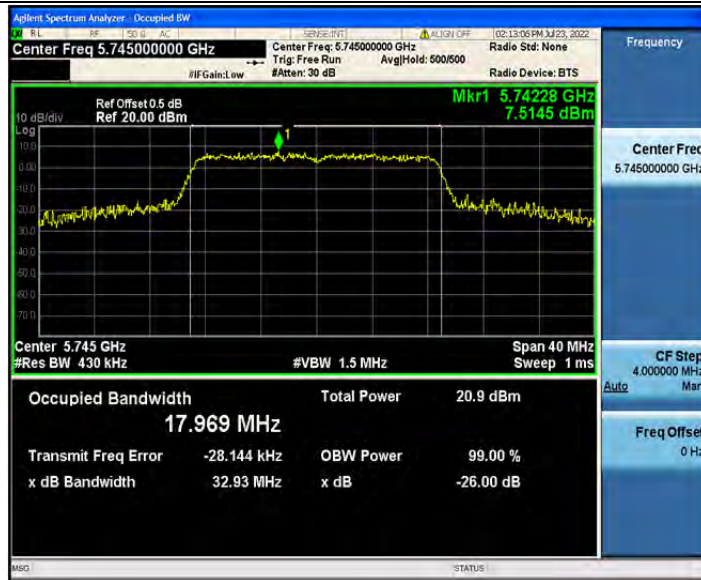
802.11n(HT20)_5580



802.11n(HT20)_5700



802.11n(HT20)_5745



802.11n(HT20)_5785



802.11n(HT20)_5825



802.11n(HT40)_5190



802.11n(HT40)_5230



802.11n(HT40)_5270



802.11n(HT40)_5310



802.11n(HT40)_5510



802.11n(HT40)_5550



802.11n(HT40)_5670



802.11n(HT40)_5755



802.11n(HT40)_5795



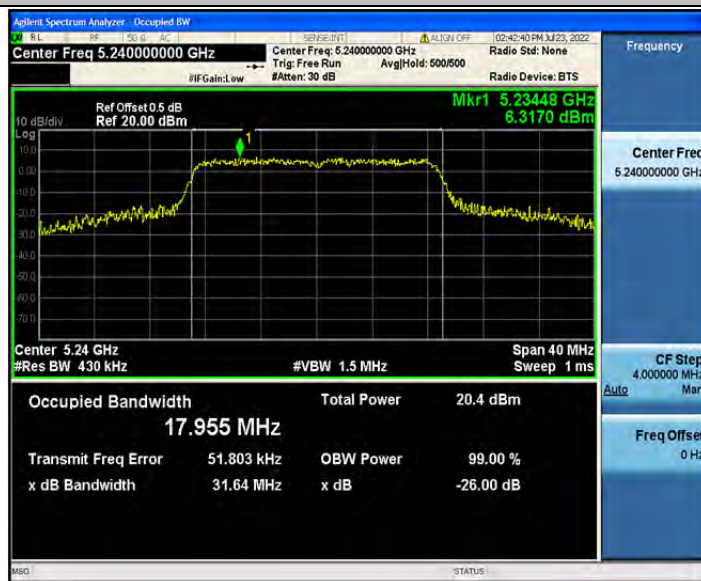
802.11ac(VHT20)_5180



802.11ac(VHT20)_5200



802.11ac(VHT20)_5240



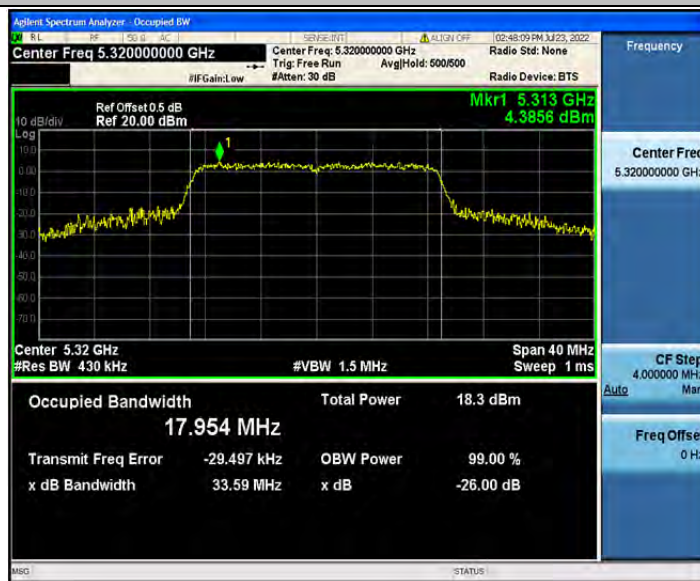
802.11ac(VHT20)_5260



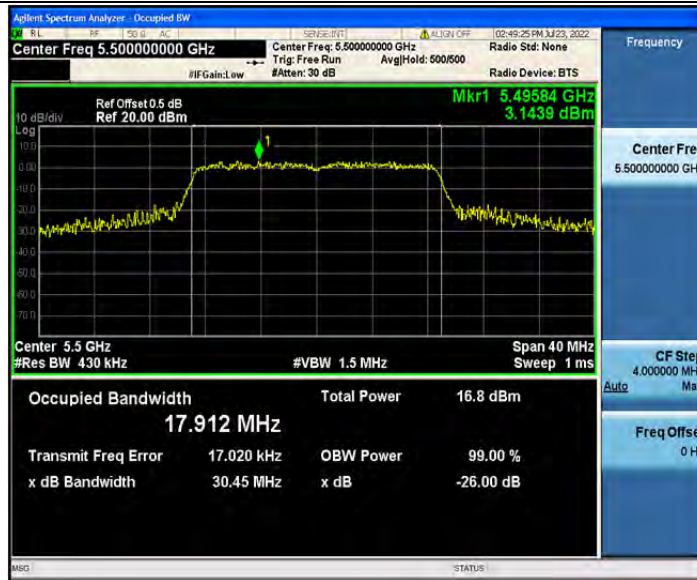
802.11ac(VHT20)_5280



802.11ac(VHT20)_5320



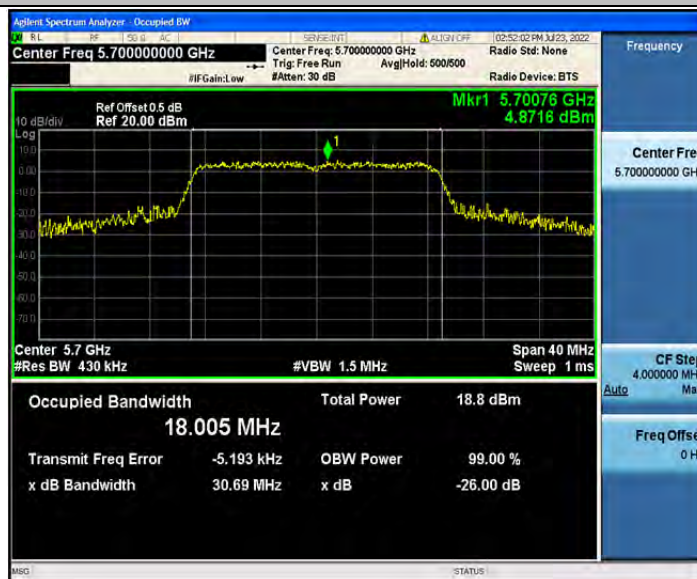
802.11ac(VHT20)_5500



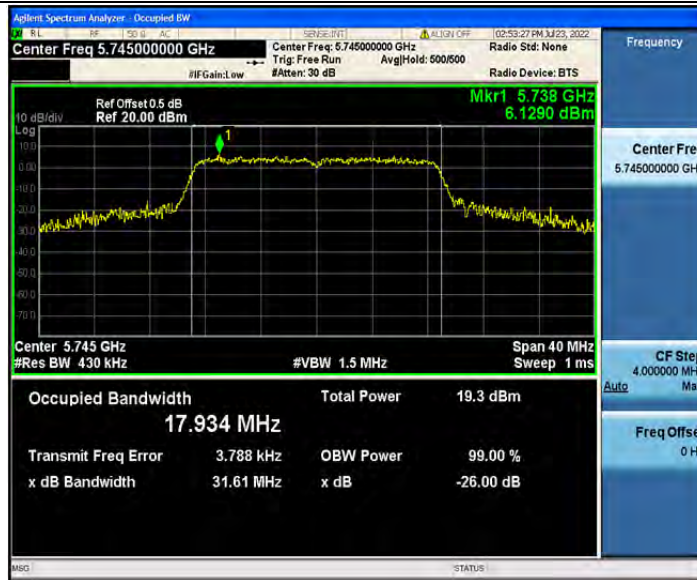
802.11ac(VHT20)_5580



802.11ac(VHT20)_5700



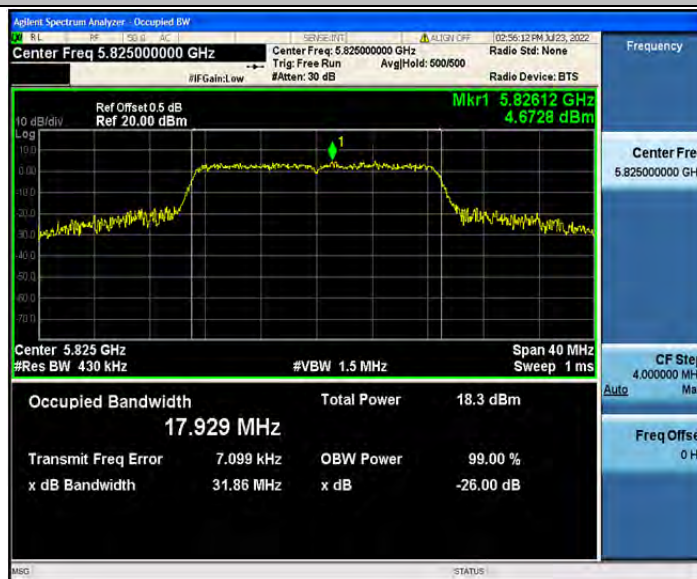
802.11ac(VHT20)_5745



802.11ac(VHT20)_5785



802.11ac(VHT20)_5825



802.11ac(VHT40)_5190



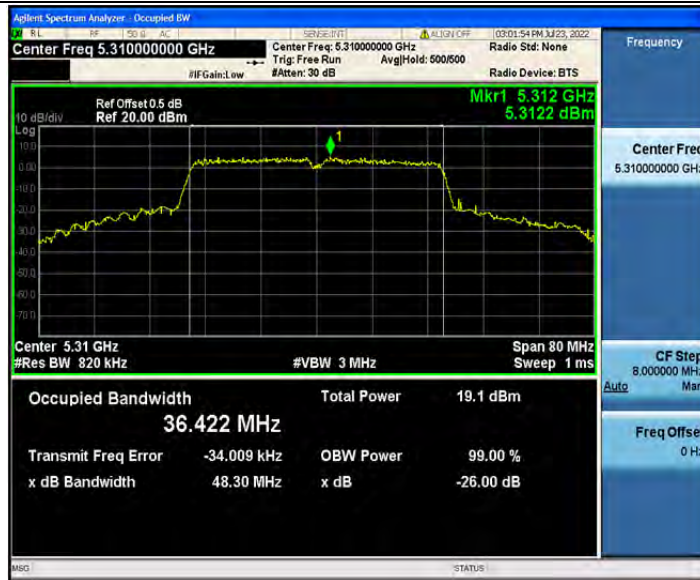
802.11ac(VHT40)_5230



802.11ac(VHT40)_5270



802.11ac(VHT40)_5310



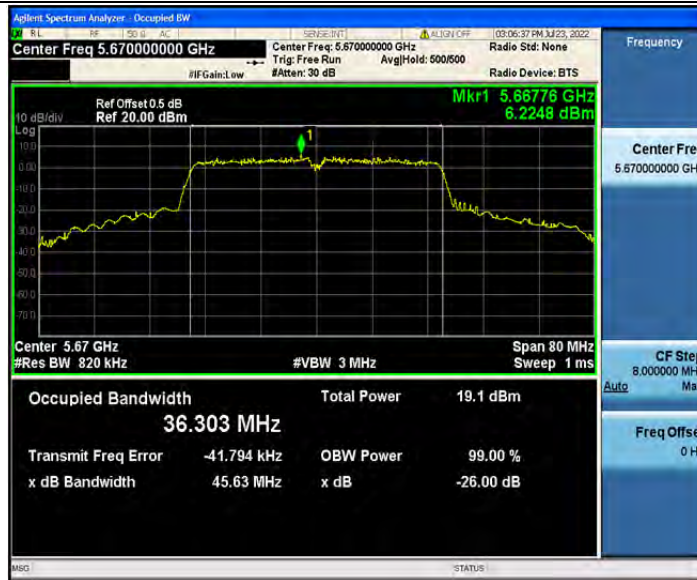
802.11ac(VHT40)_5510



802.11ac(VHT40)_5550



802.11ac(VHT40)_5670



802.11ac(VHT40)_5755



802.11ac(VHT40)_5795



802.11ac(VHT80)_5210



802.11ac(VHT80)_5290



802.11ac(VHT80)_5530



802.11ac(VHT80)_5610



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	16.320	5736.840	5753.160	>0.5	PASS
	5785	16.360	5776.800	5793.160	>0.5	PASS
	5825	16.320	5816.840	5833.160	>0.5	PASS
802.11n(HT20)	5745	17.200	5736.400	5753.600	>0.5	PASS
	5785	17.400	5776.360	5793.760	>0.5	PASS
	5825	17.320	5816.320	5833.640	>0.5	PASS
802.11n(HT40)	5755	35.600	5737.080	5772.680	>0.5	PASS
	5795	35.840	5777.080	5812.920	>0.5	PASS
802.11ac(VHT20)	5745	17.120	5736.360	5753.480	>0.5	PASS
	5785	17.240	5776.360	5793.600	>0.5	PASS
	5825	17.240	5816.360	5833.600	>0.5	PASS
802.11ac(VHT40)	5755	35.840	5737.080	5772.920	>0.5	PASS
	5795	36.000	5777.080	5813.080	>0.5	PASS
802.11ac(VHT80)	5775	75.360	5737.400	5812.760	>0.5	PASS

Test Graphs

802.11a_5745



802.11a_5785



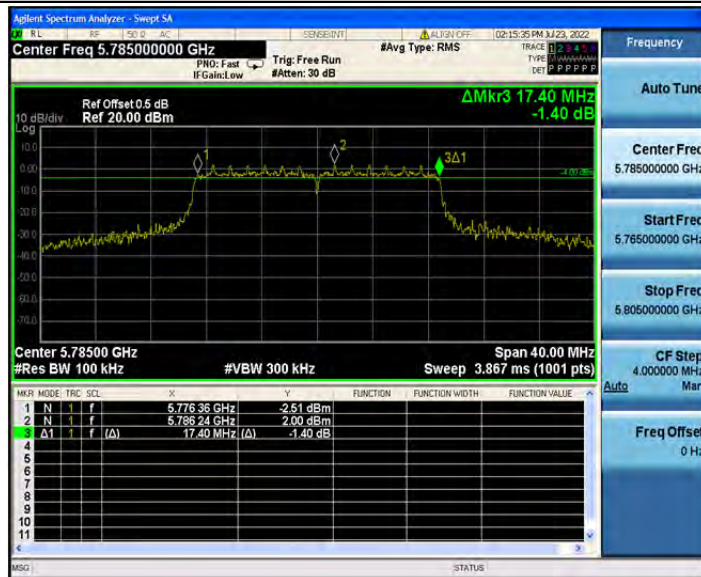
802.11a_5825



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



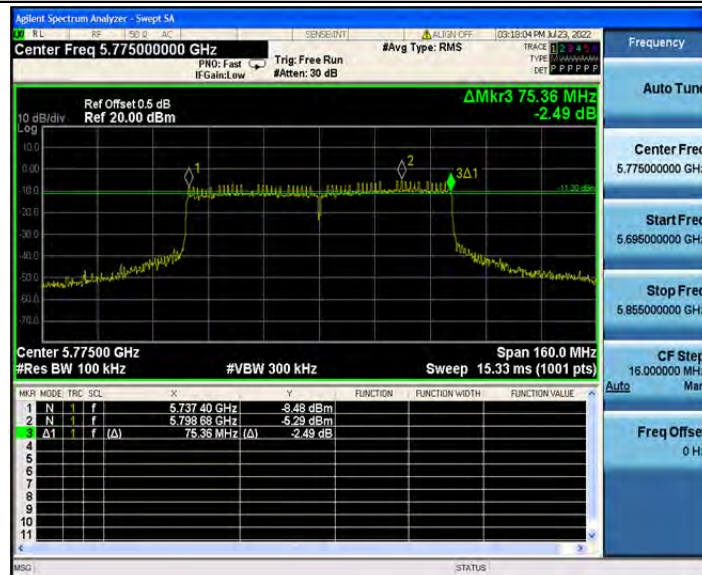
802.11ac(VHT40)_5755



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	12.88	<=24	PASS
	5200	12.81	<=24	PASS
	5240	12.77	<=24	PASS
	5260	11.90	<=24	PASS
	5280	10.99	<=24	PASS
	5320	13.98	<=24	PASS
	5500	12.64	<=24	PASS
	5580	13.93	<=24	PASS
	5700	10.55	<=24	PASS
	5745	11.11	<=30	PASS
	5785	10.28	<=30	PASS
	5825	10.59	<=30	PASS
802.11n(HT20)	5180	12.98	<=24	PASS
	5200	13.02	<=24	PASS
	5240	12.45	<=24	PASS
	5260	11.66	<=24	PASS
	5280	10.98	<=24	PASS
	5320	14.18	<=24	PASS
	5500	14.85	<=24	PASS
	5580	13.23	<=24	PASS
	5700	13.92	<=24	PASS
	5745	14.42	<=30	PASS
	5785	13.52	<=30	PASS
	5825	12.30	<=30	PASS
802.11n(HT40)	5190	14.09	<=24	PASS
	5230	14.35	<=24	PASS
	5270	13.44	<=24	PASS
	5310	13.95	<=24	PASS
	5510	12.26	<=24	PASS
	5550	12.47	<=24	PASS
	5670	14.11	<=24	PASS
	5755	12.83	<=30	PASS
	5795	12.32	<=30	PASS
802.11ac(VHT20)	5180	14.37	<=24	PASS
	5200	13.51	<=24	PASS
	5240	13.61	<=24	PASS
	5260	12.70	<=24	PASS
	5280	12.26	<=24	PASS
	5320	11.43	<=24	PASS
	5500	10.12	<=24	PASS
	5580	11.30	<=24	PASS
	5700	11.99	<=24	PASS

	5745	12.61	<=30	PASS
	5785	11.60	<=30	PASS
	5825	11.23	<=30	PASS
802.11ac(VHT40)	5190	13.25	<=24	PASS
	5230	13.31	<=24	PASS
	5270	12.21	<=24	PASS
	5310	11.82	<=24	PASS
	5510	10.22	<=24	PASS
	5550	10.02	<=24	PASS
	5670	11.46	<=24	PASS
	5755	11.48	<=30	PASS
	5795	10.70	<=30	PASS
802.11ac(VHT80)	5210	13.64	<=24	PASS
	5290	12.00	<=24	PASS
	5530	9.19	<=24	PASS
	5610	10.58	<=24	PASS
	5775	10.93	<=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	8.95	<=11	PASS
	5200	8.87	<=11	PASS
	5240	8.79	<=11	PASS
	5260	7.81	<=11	PASS
	5280	6.93	<=11	PASS
	5320	6.49	<=11	PASS
	5500	10.01	<=11	PASS
	5580	5.27	<=11	PASS
	5700	7.02	<=11	PASS
	5745	5.04	<=30	PASS
	5785	3.87	<=30	PASS
	5825	4.71	<=30	PASS
802.11n(HT20)	5180	9.55	<=11	PASS
	5200	10.36	<=11	PASS
	5240	8.60	<=11	PASS
	5260	8.64	<=11	PASS
	5280	7.69	<=11	PASS
	5320	6.90	<=11	PASS
	5500	9.55	<=11	PASS
	5580	10.03	<=11	PASS
	5700	10.56	<=11	PASS
	5745	4.58	<=30	PASS
	5785	3.88	<=30	PASS
	5825	2.86	<=30	PASS
802.11n(HT40)	5190	8.60	<=11	PASS
	5230	8.88	<=11	PASS
	5270	8.15	<=11	PASS
	5310	8.57	<=11	PASS
	5510	6.40	<=11	PASS
	5550	8.60	<=11	PASS
	5670	8.88	<=11	PASS
	5755	1.28	<=30	PASS
	5795	1.24	<=30	PASS
802.11ac(VHT20)	5180	10.86	<=11	PASS
	5200	10.47	<=11	PASS
	5240	10.43	<=11	PASS
	5260	9.79	<=11	PASS
	5280	9.44	<=11	PASS
	5320	8.75	<=11	PASS
	5500	7.25	<=11	PASS
	5580	9.06	<=11	PASS

	5700	8.48	≤ 11	PASS
	5745	2.55	≤ 30	PASS
	5785	1.84	≤ 30	PASS
	5825	1.73	≤ 30	PASS
802.11ac(VHT40)	5190	7.40	≤ 11	PASS
	5230	7.98	≤ 11	PASS
	5270	7.46	≤ 11	PASS
	5310	8.00	≤ 11	PASS
	5510	5.31	≤ 11	PASS
	5550	4.50	≤ 11	PASS
	5670	6.23	≤ 11	PASS
	5755	-0.25	≤ 30	PASS
	5795	-0.25	≤ 30	PASS
802.11ac(VHT80)	5210	5.68	≤ 11	PASS
	5290	4.63	≤ 11	PASS
	5530	1.62	≤ 11	PASS
	5610	2.41	≤ 11	PASS
	5775	-3.35	≤ 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



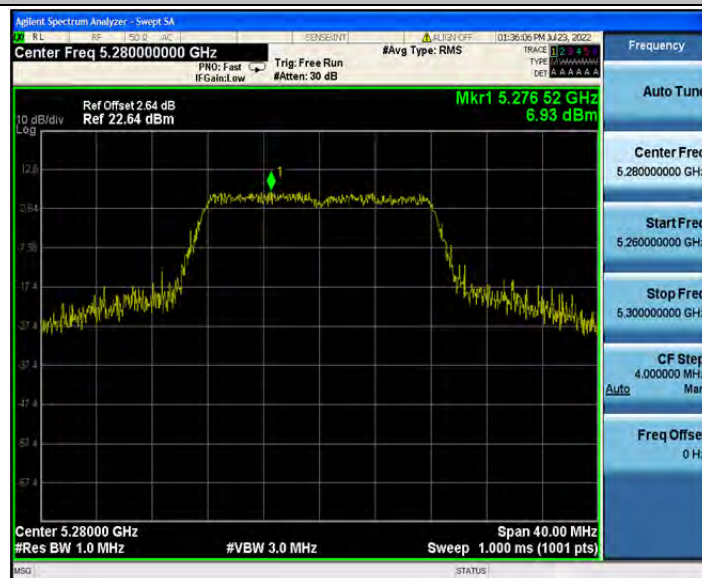
802.11a_5240



802.11a_5260



802.11a_5280



802.11a_5320



802.11a_5500



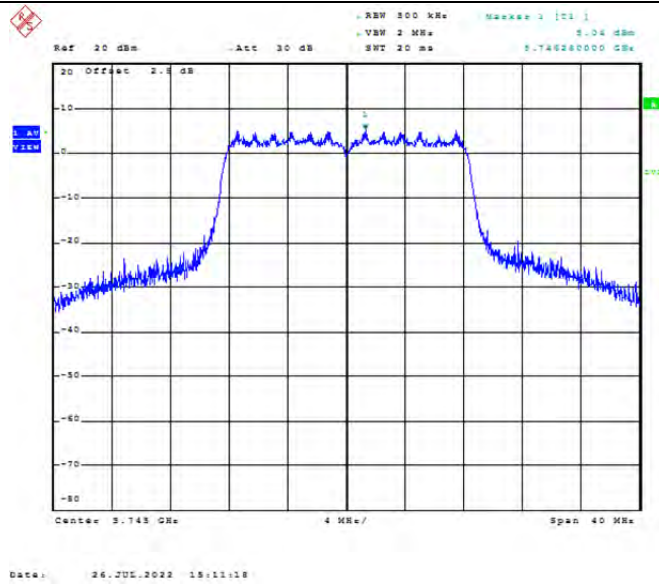
802.11a_5580



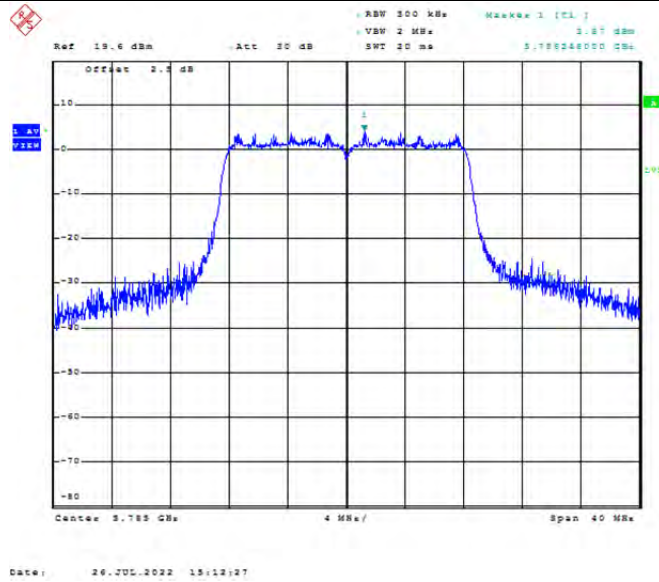
802.11a_5700



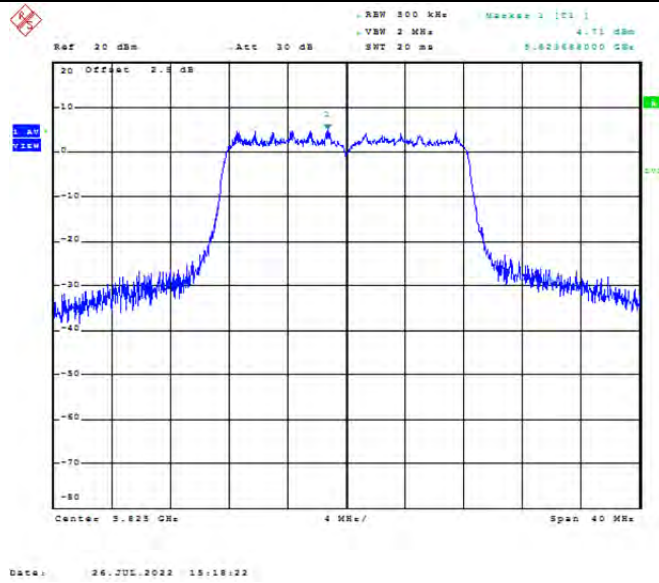
802.11a_5745



802.11a_5785



802.11a_5825



802.11n(HT20)_5180