

Appendix A: Test Results of Wi-Fi 802.11 ac

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Appendix A.1 Test Results of Conducted Emission on AC Mains

Test Mode:

Mode 5

L

Graph L displays the conducted emission on AC mains. The Y-axis represents the signal level in dBuV, ranging from 0.0 to 80.0. The X-axis represents the frequency in MHz, ranging from 0.150 to 30.000. The graph shows three curves: QP (red), AVG (green), and a test result curve (blue). The QP curve starts at approximately 60 dBuV at 0.15 MHz and decreases to about 45 dBuV at 5 MHz, then rises to 50 dBuV. The AVG curve starts at approximately 40 dBuV at 0.15 MHz and decreases to about 25 dBuV at 5 MHz, then rises to 30 dBuV. The test result curve (blue) shows several peaks, with the highest peak at 0.2260 MHz (1P) reaching 32.79 dBuV. The graph also shows a peak at 30.000 MHz.

No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.2260	32.79	19.46	9.50	42.29	28.96	62.59	52.60	-20.30	-23.64	Pass
2*	0.5180	34.43	23.56	9.48	43.91	33.04	56.00	46.00	-12.09	-12.96	Pass
3P	1.5540	27.16	15.15	9.50	36.66	24.65	56.00	46.00	-19.34	-21.35	Pass
4P	2.9260	26.14	13.86	9.69	35.83	23.55	56.00	46.00	-20.17	-22.45	Pass
5P	5.0620	28.96	17.11	9.76	38.72	26.87	60.00	50.00	-21.28	-23.13	Pass
6P	10.8540	28.85	19.24	9.73	38.58	28.97	60.00	50.00	-21.42	-21.03	Pass

N

Graph N displays the conducted emission on AC mains. The Y-axis represents the signal level in dBuV, ranging from 0.0 to 80.0. The X-axis represents the frequency in MHz, ranging from 0.150 to 30.000. The graph shows three curves: QP (red), AVG (green), and a test result curve (blue). The QP curve starts at approximately 60 dBuV at 0.15 MHz and decreases to about 45 dBuV at 5 MHz, then rises to 50 dBuV. The AVG curve starts at approximately 40 dBuV at 0.15 MHz and decreases to about 25 dBuV at 5 MHz, then rises to 30 dBuV. The test result curve (blue) shows several peaks, with the highest peak at 0.1780 MHz (1P) reaching 36.40 dBuV. The graph also shows a peak at 30.000 MHz.

No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.1780	36.40	23.82	9.56	45.96	33.38	64.57	54.58	-18.61	-21.20	Pass
2*	0.5180	32.32	23.69	9.59	41.91	33.28	56.00	46.00	-14.09	-12.72	Pass
3P	1.2220	26.41	14.24	9.50	35.91	23.74	56.00	46.00	-20.09	-22.26	Pass
4P	2.0020	26.49	19.30	9.50	35.99	28.80	56.00	46.00	-20.01	-17.20	Pass
5P	4.6460	29.43	15.90	9.54	38.97	25.44	56.00	46.00	-17.03	-20.56	Pass
6P	10.3979	30.86	20.18	9.80	40.66	29.98	60.00	50.00	-19.34	-20.02	Pass

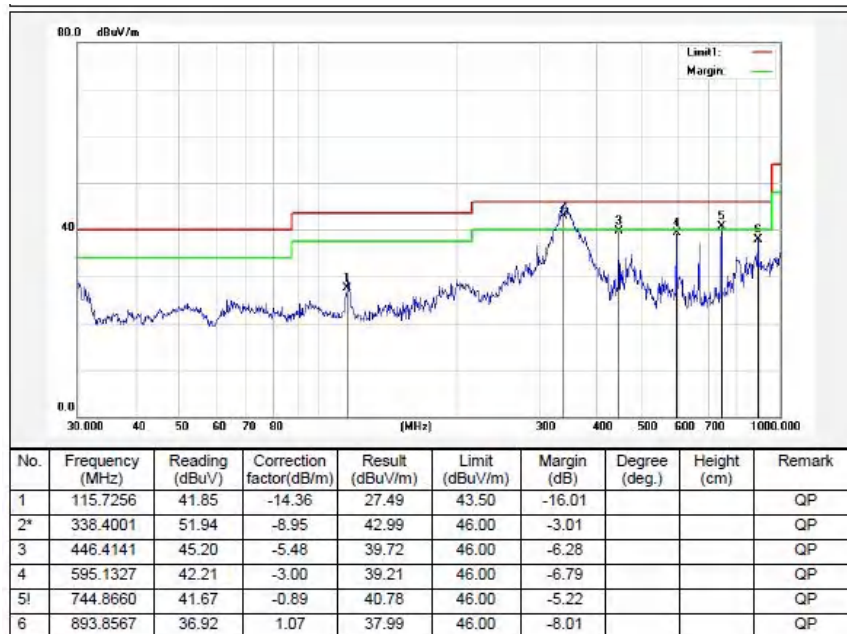
Appendix A.2 Test Results of Radiated Spurious Emission

Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 40GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported. All the data rate and configurations have been tested and only the worst case mode (ac(VHT20)) reported.

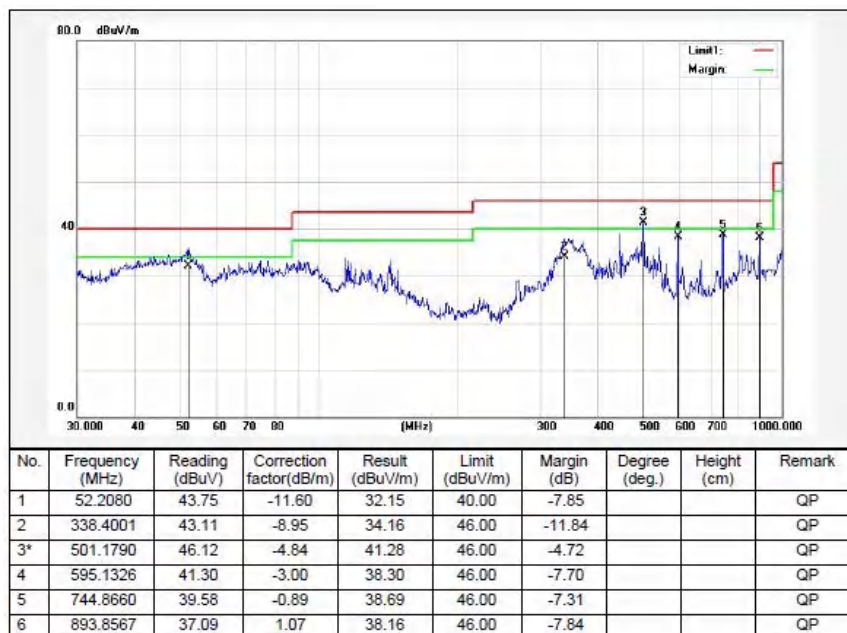
Below 1GHz:

Test Mode: Mode 1(worst mode)

Horizontal



Vertical



Above 1GHz:

Band I:

Note: All antennas and bandwidths are tested, and only the worst data (802.11ac(VHT20) MIMO) is reported in the report.

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1010.465	53.28	-23.14	30.14	54.00	-23.86	AVG
2	1011.652	64.29	-23.18	41.11	68.30	-27.19	peak
3	2454.225	68.18	-19.97	48.21	68.30	-20.09	peak
4	2456.489	54.26	-19.97	34.29	54.00	-19.71	AVG
5	4975.246	61.15	-15.6	45.55	68.30	-22.75	peak
6	4976.021	50.37	-15.6	34.77	54.00	-19.23	AVG
7	5885.269	57.84	-12.21	45.63	68.30	-22.67	peak
8	5886.348	46.85	-12.2	34.65	54.00	-19.35	AVG
9	14782.33	54.24	-0.99	53.25	68.30	-15.05	peak
10	14783.34	39.05	-0.98	38.07	54.00	-15.93	AVG
11	17996.09	34.84	4.44	39.28	54.00	-14.72	AVG
12	18000	50.38	4.46	54.84	68.30	-13.46	peak

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2037.255	52.21	-21.14	31.07	54.00	-22.93	AVG
2	2038.994	65.07	-21.13	43.94	68.30	-24.36	peak
3	5240.979	55.18	-14.61	40.57	54.00	-13.43	AVG
4	5241.49	67.62	-14.61	53.01	68.30	-15.29	peak
5	7816.81	57.55	-9.13	48.42	68.30	-19.88	peak
6	7817.354	46.07	-9.13	36.94	54.00	-17.06	AVG
7	10144.5	55.54	-6.06	49.48	68.30	-18.82	peak
8	10146.98	43.62	-6.06	37.56	54.00	-16.44	AVG
9	12496.58	53.58	-2.88	50.7	68.30	-17.6	peak
10	12498.5	40.82	-2.87	37.95	54.00	-16.05	AVG
11	17996.33	36.33	4.44	40.77	54.00	-13.23	AVG
12	18000	49.38	4.46	53.84	68.30	-14.46	peak

802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1023.44	67.11	-23.62	43.49	68.30	-24.81	peak
2	1023.44	52.05	-23.62	28.43	54.00	-25.57	AVG
3	2398.016	65.41	-19.88	45.53	68.30	-22.77	peak
4	2398.016	49.19	-19.88	29.31	54.00	-24.69	AVG
5	6569.953	58.17	-11.03	47.14	68.30	-21.16	peak
6	6569.953	40.16	-11.03	29.13	54.00	-24.87	AVG
7	8879.167	57.2	-7.81	49.39	68.30	-18.91	peak
8	8879.167	38.39	-7.81	30.58	54.00	-23.42	AVG
9	12863.79	55.27	-3.04	52.23	68.30	-16.07	peak
10	12863.79	37.89	-3.04	34.85	54.00	-19.15	AVG
11	14194.95	54.31	-1.12	53.19	68.30	-15.11	peak
12	14194.95	37.11	-1.12	35.99	54.00	-18.01	AVG



802.11 ac20-Middle Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2370.396	65.52	-19.98	45.54	68.30	-22.76	peak
2	2370.396	48.61	-19.98	28.63	54.00	-25.37	AVG
3	3660.067	61.47	-17.37	44.1	68.30	-24.2	peak
4	3660.067	43.78	-17.37	26.41	54.00	-27.59	AVG
5	7124.925	58.25	-9.79	48.46	68.30	-19.84	peak
6	7124.925	40.26	-9.79	30.47	54.00	-23.53	AVG
7	9354.324	55.97	-6.45	49.52	68.30	-18.78	peak
8	9354.324	40.3	-6.45	33.85	54.00	-20.15	AVG
9	11861.81	55.52	-3.5	52.02	68.30	-16.28	peak
10	11861.81	40.48	-3.5	36.98	54.00	-17.02	AVG
11	13165.32	55.49	-2.8	52.69	68.30	-15.61	peak
12	13165.32	37.69	-2.8	34.89	54.00	-19.11	AVG

802.11 ac20-High Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1010.598	54.7	-23.14	31.56	54.00	-22.44	AVG
2	1011.652	66.55	-23.18	43.37	68.30	-24.93	peak
3	2452.498	54.26	-19.98	34.28	54.00	-19.72	AVG
4	2454.225	67	-19.97	47.03	68.30	-21.27	peak
5	5004.148	62.67	-15.59	47.08	68.30	-21.22	peak
6	5006.701	49.8	-15.59	34.21	54.00	-19.79	AVG
7	9463.32	55.65	-6.37	49.28	68.30	-19.02	peak
8	9465.998	41.42	-6.38	35.04	54.00	-18.96	AVG
9	14030.8	41.65	-1.98	39.67	54.00	-14.33	AVG
10	14031.46	54.19	-1.98	52.21	68.30	-16.09	peak
11	17995.14	34.99	4.44	39.43	54.00	-14.57	AVG
12	18000	50.59	4.46	55.05	68.30	-13.25	peak

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5004.148	61.6	-15.59	46.01	68.30	-22.29	peak
2	5006.812	50.34	-15.59	34.75	54.00	-19.25	AVG
3	5716.557	49.98	-13.15	36.83	54.00	-17.17	AVG
4	5717.266	62.61	-13.15	49.46	68.30	-18.84	peak
5	7417.01	49.5	-9.08	40.42	54.00	-13.58	AVG
6	7419.751	60.41	-9.08	51.33	68.30	-16.97	peak
7	10687.37	54.64	-5.72	48.92	68.30	-19.38	peak
8	10688.67	43.37	-5.72	37.65	54.00	-16.35	AVG
9	14192.77	41.78	-1.13	40.65	54.00	-13.35	AVG
10	14194.95	52.85	-1.12	51.73	68.30	-16.57	peak
11	17997	35.84	4.45	40.29	54.00	-13.71	AVG
12	18000	49.13	4.46	53.59	68.30	-14.71	peak

Band IV:

Note: All antennas and bandwidths are tested, and only the worst data (802.11ac(VHT20) MIMO) is reported in the report.

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2425.957	64.66	-19.93	44.73	68.30	-23.57	peak
2	2426.199	51.02	-19.93	31.09	54.00	-22.91	AVG
3	5004.148	62.57	-15.59	46.98	68.30	-21.32	peak
4	5005.998	50.16	-15.59	34.57	54.00	-19.43	AVG
5	8879.167	56.95	-7.81	49.14	68.30	-19.16	peak
6	8880.299	42.92	-7.81	35.11	54.00	-18.89	AVG
7	12000.03	54.04	-2.95	51.09	68.30	-17.21	peak
8	12003.55	39.92	-2.95	36.97	54.00	-17.03	AVG
9	14782.33	53.76	-0.99	52.77	68.30	-15.53	peak
10	14784	39.55	-0.98	38.57	54.00	-15.43	AVG
11	17996.09	35.68	4.44	40.12	54.00	-13.88	AVG
12	18000	51.1	4.46	55.56	68.30	-12.74	peak

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1005.809	66.86	-22.96	43.9	68.30	-24.4	peak
2	1007.944	55.81	-23.04	32.77	54.00	-21.23	AVG
3	5004.148	62.81	-15.59	47.22	68.30	-21.08	peak
4	5006.379	51.55	-15.59	35.96	54.00	-18.04	AVG
5	5783.884	63.3	-12.95	50.35	68.30	-17.95	peak
6	5785.333	50.39	-12.95	37.44	54.00	-16.56	AVG
7	10564.27	54.37	-5.69	48.68	68.30	-19.62	peak
8	10566.88	41.45	-5.68	35.77	54.00	-18.23	AVG
9	14277.41	52.33	-1.26	51.07	68.30	-17.23	peak
10	14279.85	39.35	-1.27	38.08	54.00	-15.92	AVG
11	17996.86	35.83	4.44	40.27	54.00	-13.73	AVG
12	18000	49.86	4.46	54.32	68.30	-13.98	peak

802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2411.946	67.11	-19.9	47.21	68.30	-21.09	peak
2	2411.946	48.21	-19.9	28.31	54.00	-25.69	AVG
3	5004.148	61.51	-15.59	45.92	68.30	-22.38	peak
4	5004.148	40.73	-15.59	25.14	54.00	-28.86	AVG
5	7506.206	56.28	-8.97	47.31	68.30	-20.99	peak
6	7506.206	36.3	-8.97	27.33	54.00	-26.67	AVG
7	9354.324	55.73	-6.45	49.28	68.30	-19.02	peak
8	9354.324	36.23	-6.45	29.78	54.00	-24.22	AVG
9	11930.72	54.49	-3.22	51.27	68.30	-17.03	peak
10	11930.72	34.67	-3.22	31.45	54.00	-22.55	AVG
11	13473.91	54.26	-2.48	51.78	68.30	-16.52	peak
12	13473.91	33.5	-2.48	31.02	54.00	-22.98	AVG



802.11 ac20-Middle Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2398.016	64.3	-19.88	44.42	68.30	-23.88	peak
2	2398.016	44.18	-19.88	24.3	54.00	-29.7	AVG
3	6921.535	57.48	-10.02	47.46	68.30	-20.84	peak
4	6921.535	38.15	-10.02	28.13	54.00	-25.87	AVG
5	8827.884	57.35	-7.96	49.39	68.30	-18.91	peak
6	8827.884	37.7	-7.96	29.74	54.00	-24.26	AVG
7	9408.664	55.54	-6.22	49.32	68.30	-18.98	peak
8	9408.664	35.52	-6.22	29.3	54.00	-24.7	AVG
9	12789.5	55.12	-2.82	52.3	68.30	-16	peak
10	12789.5	34.97	-2.82	32.15	54.00	-21.85	AVG
11	14782.33	55.01	-0.99	54.02	68.30	-14.28	peak
12	14782.33	35.61	-0.99	34.62	54.00	-19.38	AVG

802.11 ac20-High Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1011.652	65.19	-23.18	42.01	68.30	-26.29	peak
2	1011.652	65.19	-23.18	42.01	54.00	-11.99	AVG
3	2384.166	63.95	-19.93	44.02	68.30	-24.28	peak
4	2384.166	63.95	-19.93	44.02	54.00	-9.98	AVG
5	3414.304	71.94	-18.37	53.57	68.30	-14.73	peak
6	3415.165	58.48	-18.37	40.11	54.00	-13.89	AVG
7	5004.148	61.5	-15.59	45.91	68.30	-22.39	peak
8	5006.565	49.56	-15.59	33.97	54.00	-20.03	AVG
9	12424.41	53.93	-3.18	50.75	68.30	-17.55	peak
10	12427	41.43	-3.16	38.27	54.00	-15.73	AVG
11	17996.89	35.63	4.44	40.07	54.00	-13.93	AVG
12	18000	50.91	4.46	55.37	68.30	-12.93	peak

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1005.809	66.86	-22.96	43.9	68.30	-24.4	peak
2	1007.662	54.65	-23.03	31.62	54.00	-22.38	AVG
3	3574.512	50.43	-17.36	33.07	54.00	-20.93	AVG
4	3576.241	61.44	-17.34	44.1	68.30	-24.2	peak
5	5004.148	62.81	-15.59	47.22	68.30	-21.08	peak
6	5006.348	49.96	-15.59	34.37	54.00	-19.63	AVG
7	5783.884	63.3	-12.95	50.35	68.30	-17.95	peak
8	5785.421	47.7	-12.95	34.75	54.00	-19.25	AVG
9	14782.33	52.05	-0.99	51.06	68.30	-17.24	peak
10	14784.66	37.85	-0.98	36.87	54.00	-17.13	AVG
11	17996.12	32.27	4.44	36.71	54.00	-17.29	AVG
12	18000	50.86	4.46	55.32	68.30	-12.98	peak

Node:

- 1、 Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 40GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported..
- 2、 Radiated emissions measured in frequency above 1GHz were made with an instrument using peak/average detector mode.
- 3、 Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4、 Margin (dB), result in dBuV/m – limit in dBuV/m.

Restricted band Requirements

Note:

Since the distance of band IV exceeds 200 MHz and the distance limit is greater than 20 dB, only band I data is reflected in this document.

All antennas and bandwidths are tested, and only the worst data (802.11ac(VHT20) MIMO) is reported in the report.

Band I

802.11ac20-Low

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5066.292	37.71	9.83	47.54	68.30	-20.76	peak
2	5066.292	29.16	9.83	38.99	54.00	-15.01	AVG
3	5150.000	35.22	10.26	45.48	68.30	-22.82	peak
4	5150.000	29.10	10.26	39.36	54.00	-14.64	AVG

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5106.132	38.66	10.02	48.68	68.30	-19.62	peak
2	5106.132	28.72	10.02	38.74	54.00	-15.26	AVG
3	5150.000	43.75	10.26	54.01	68.30	-14.29	peak
4	5150.000	30.30	10.26	40.56	54.00	-13.44	AVG

802.11ac20-High

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	43.83	3.95	47.78	68.30	-20.52	peak
2	5350.000	32.37	3.95	36.32	54.00	-17.68	AVG
3	5380.341	45.80	3.98	49.78	68.30	-18.52	peak
4	5380.341	30.19	3.98	34.17	54.00	-19.83	AVG

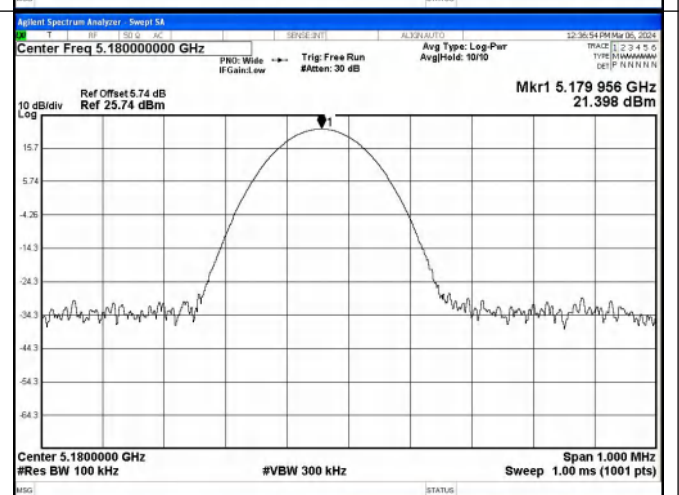
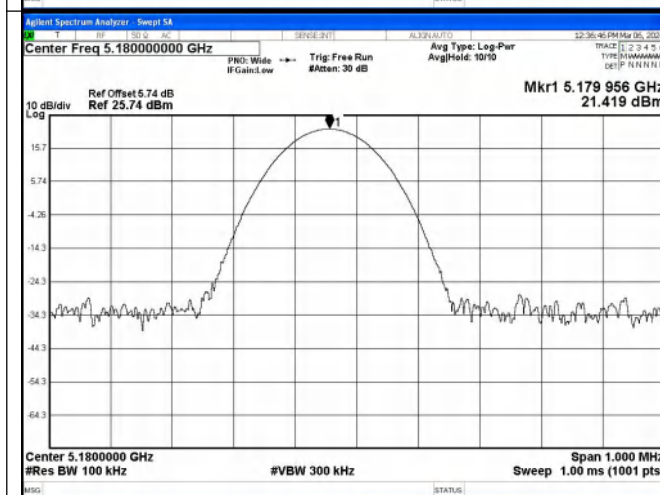
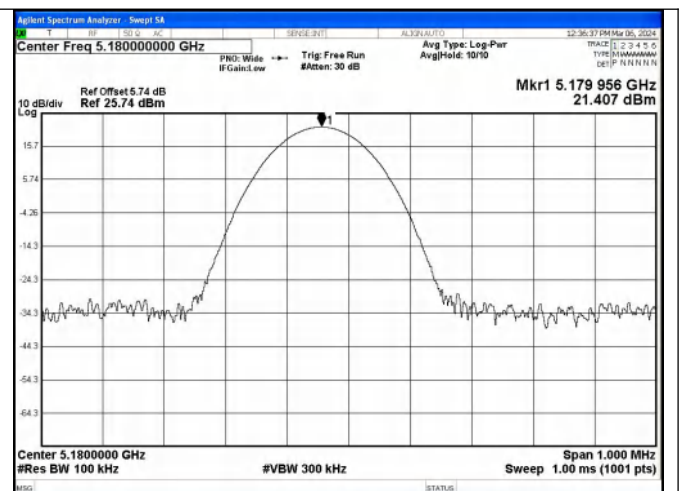
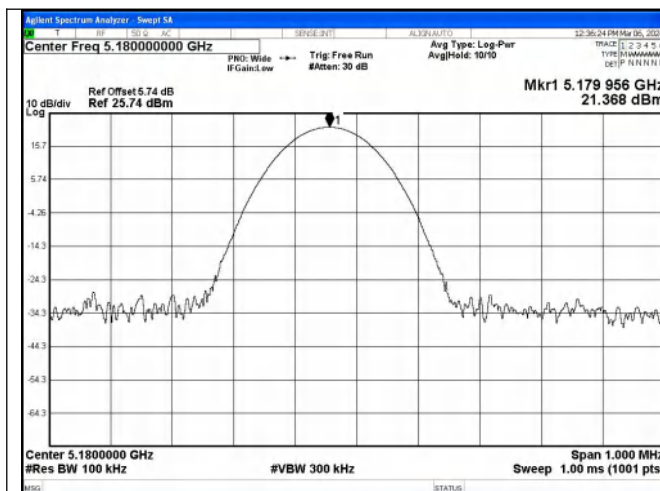
Vertical

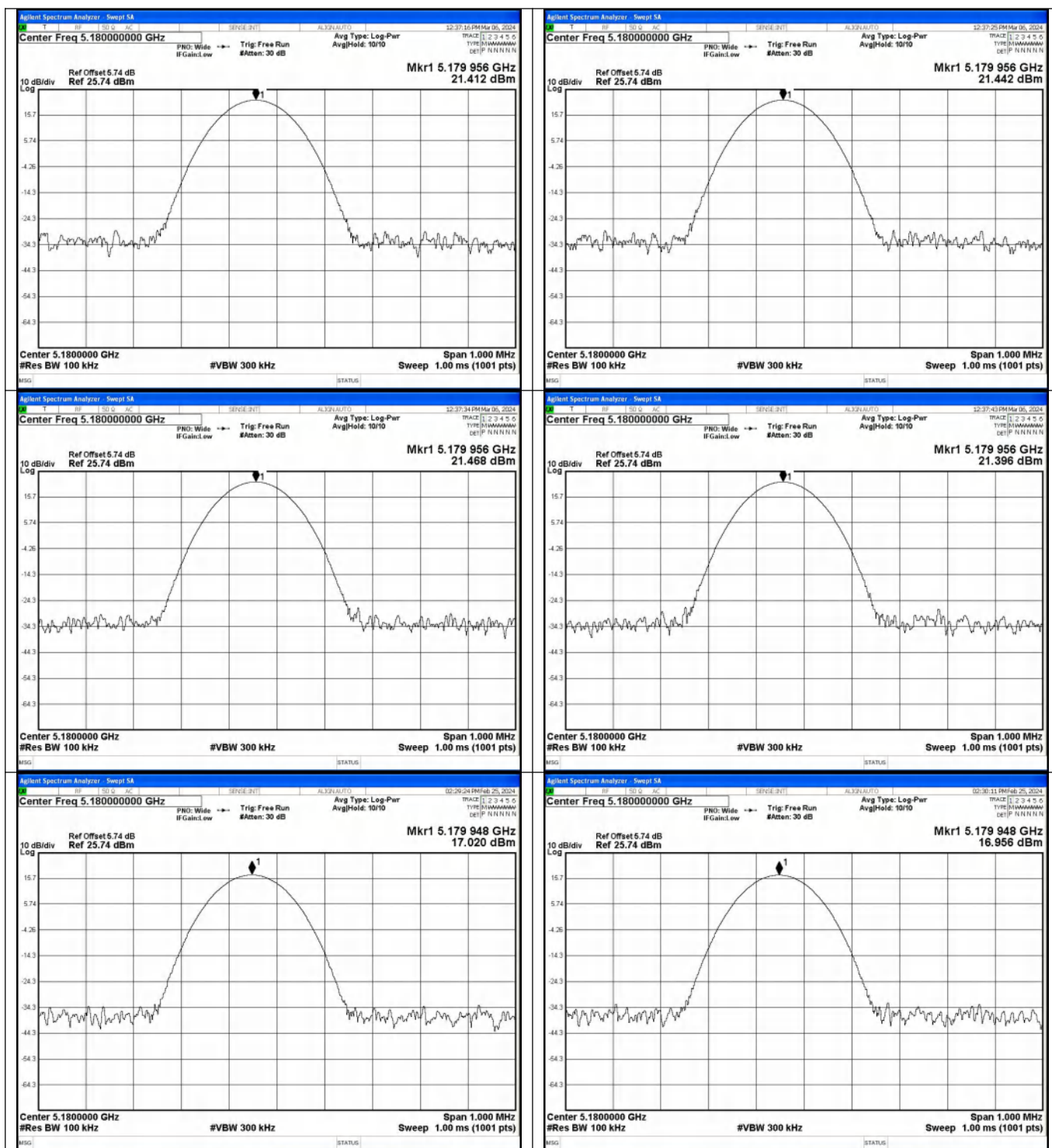
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	44.29	3.95	48.24	68.30	-20.06	peak
2	5350.000	32.27	3.95	36.22	54.00	-17.78	AVG
3	5371.323	45.97	3.97	49.94	68.30	-18.36	peak
4	5371.323	31.09	3.97	35.06	54.00	-18.94	AVG

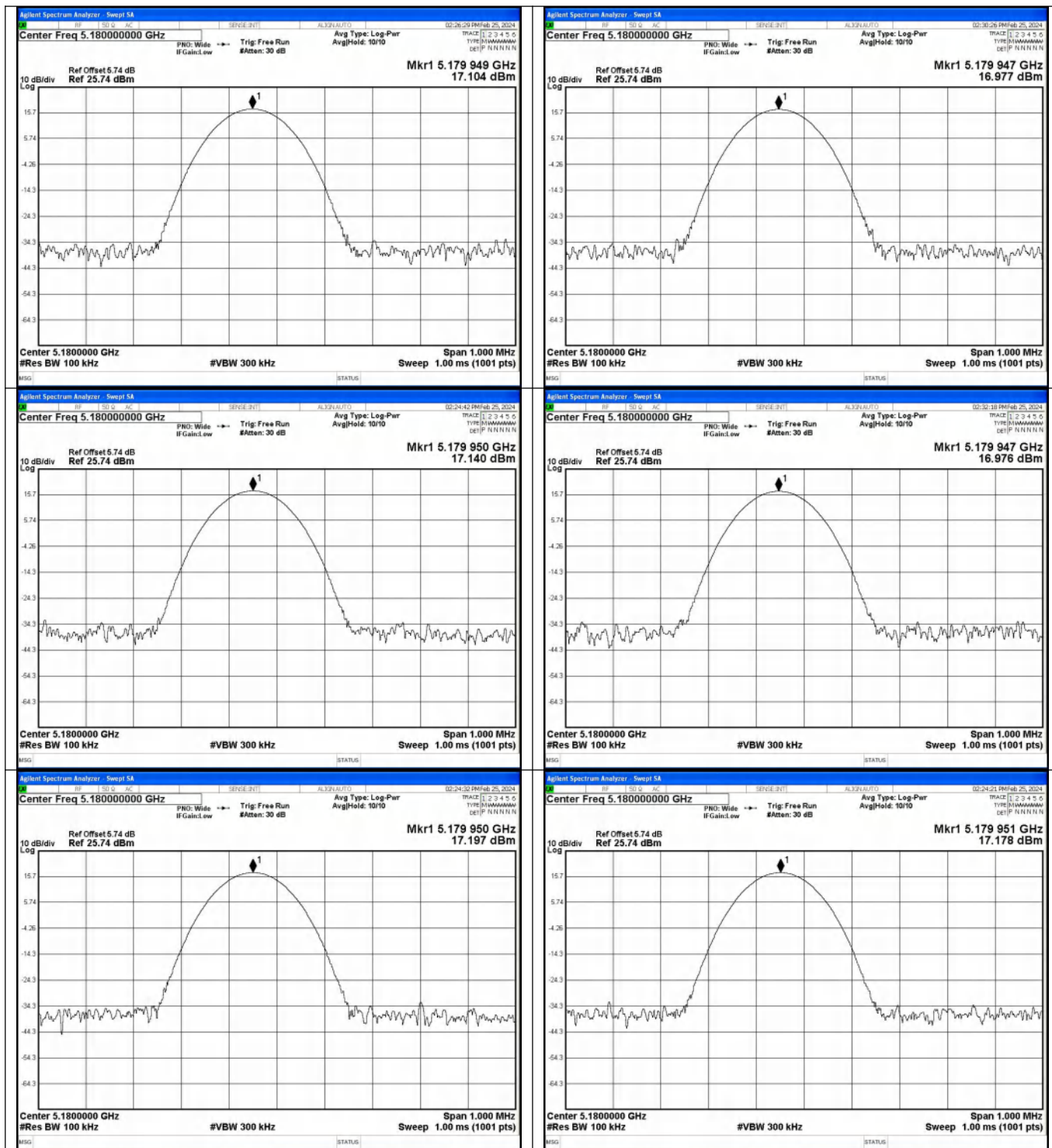
Appendix A.3 Test Results of Frequency Stability

Wi-Fi 802.11ac mode:

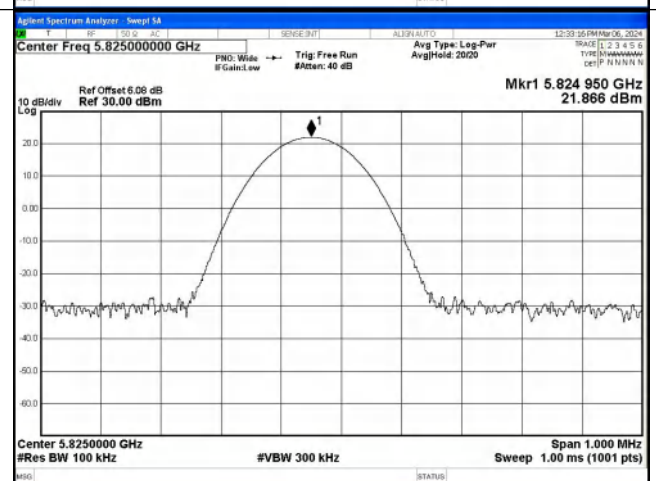
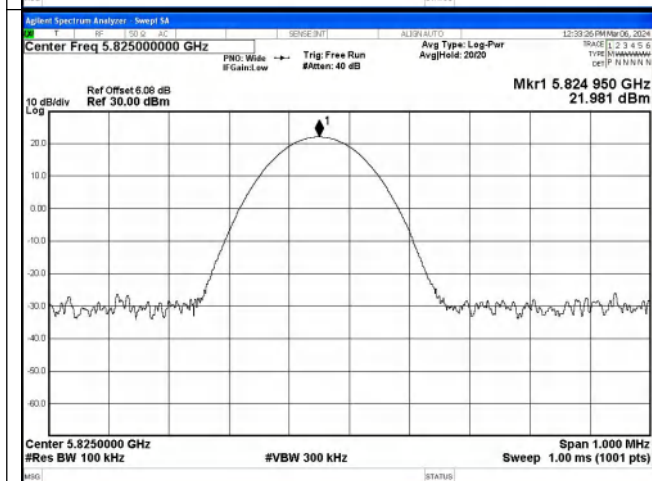
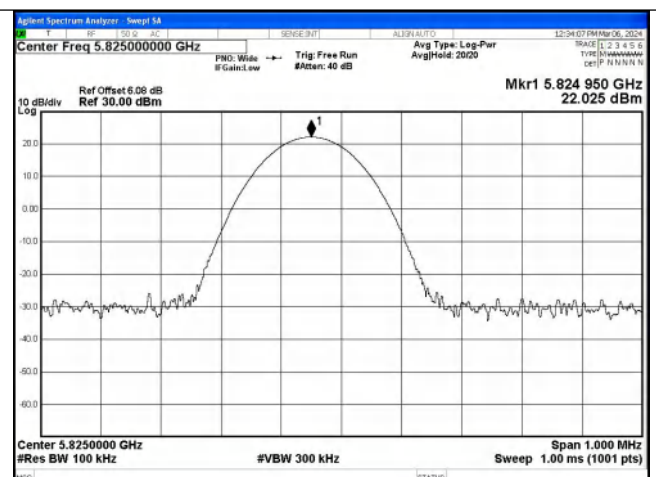
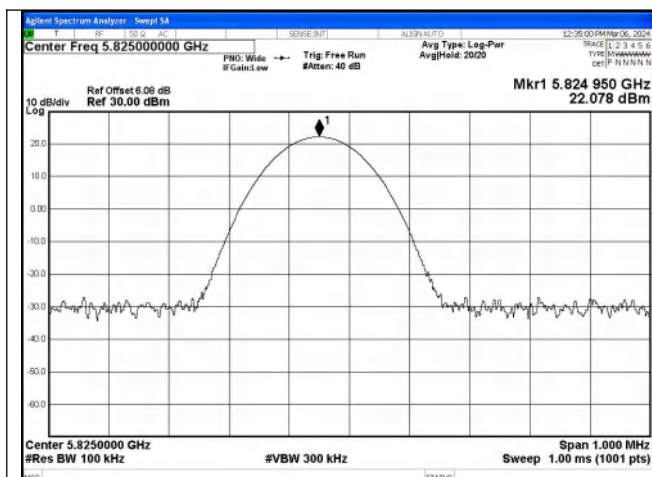
Frequency (MHz)	Voltage (V)	Temperature (°C)	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Result
5180	7.4 Vdc	-10	5179.956	8.59	25	Pass
		0	5179.956	8.59	25	Pass
		10	5179.956	8.59	25	Pass
		20	5179.956	8.59	25	Pass
		30	5179.956	8.59	25	Pass
		40	5179.956	8.59	25	Pass
	6 Vdc	25	5179.956	8.59	25	Pass
	16 Vdc	25	5179.956	8.59	25	Pass
	120 Vac	-10	5179.948	10.04	25	Pass
		0	5179.948	10.04	25	Pass
		10	5179.949	10.04	25	Pass
		20	5179.947	10.23	25	Pass
		30	5179.950	9.65	25	Pass
		40	5179.947	10.23	25	Pass
	85 Vac	25	5179.950	9.65	25	Pass
	240 Vac	25	5179.951	9.46	25	Pass

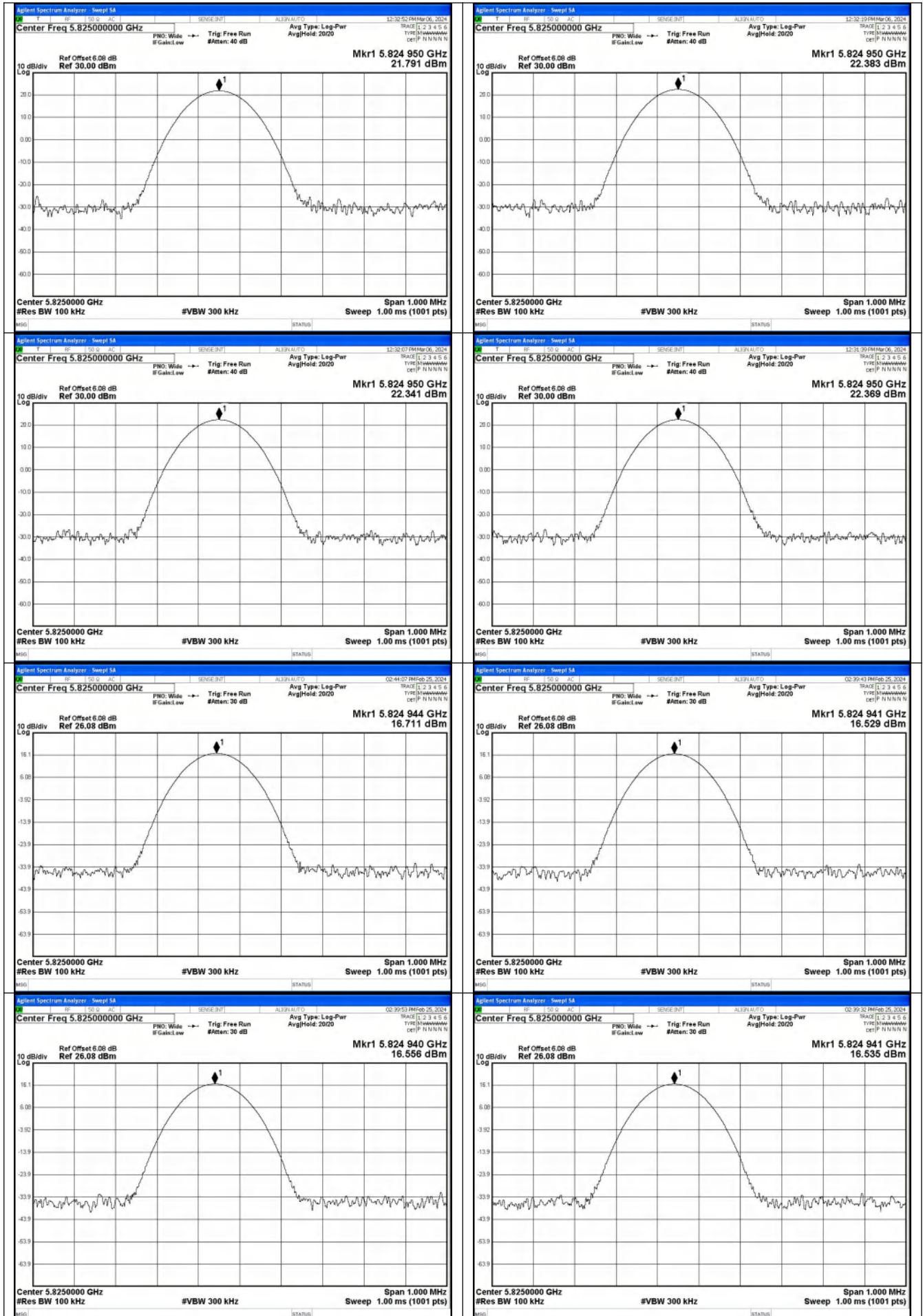


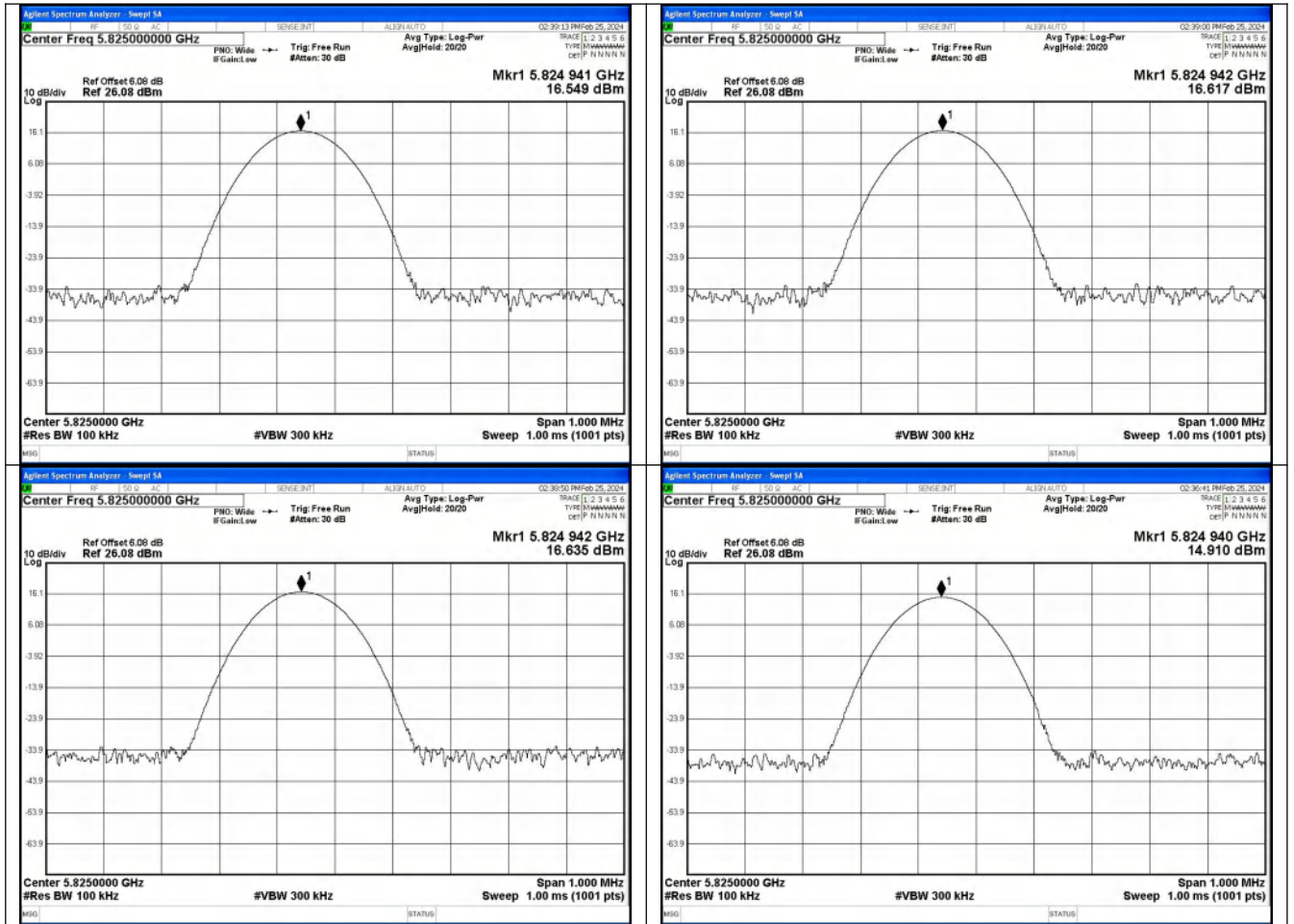




Frequency (MHz)	Voltage (V)	Temperature (°C)	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Result
5825	7.4 Vdc	-10	5824.950	8.58	25	Pass
		0	5824.950	8.58	25	Pass
		10	5824.950	8.58	25	Pass
		20	5824.950	8.58	25	Pass
		30	5824.950	8.58	25	Pass
		40	5824.950	8.58	25	Pass
	6 Vdc	25	5824.950	8.58	25	Pass
	16 Vdc	25	5824.950	8.58	25	Pass
	120 Vac	-10	5824.944	9.61	25	Pass
		0	5824.941	10.13	25	Pass
		10	5824.940	10.30	25	Pass
		20	5824.941	10.13	25	Pass
		30	5824.941	10.13	25	Pass
		40	5824.942	9.96	25	Pass
	85 Vac	25	5824.942	9.96	25	Pass
	240 Vac	25	5824.940	10.30	25	Pass







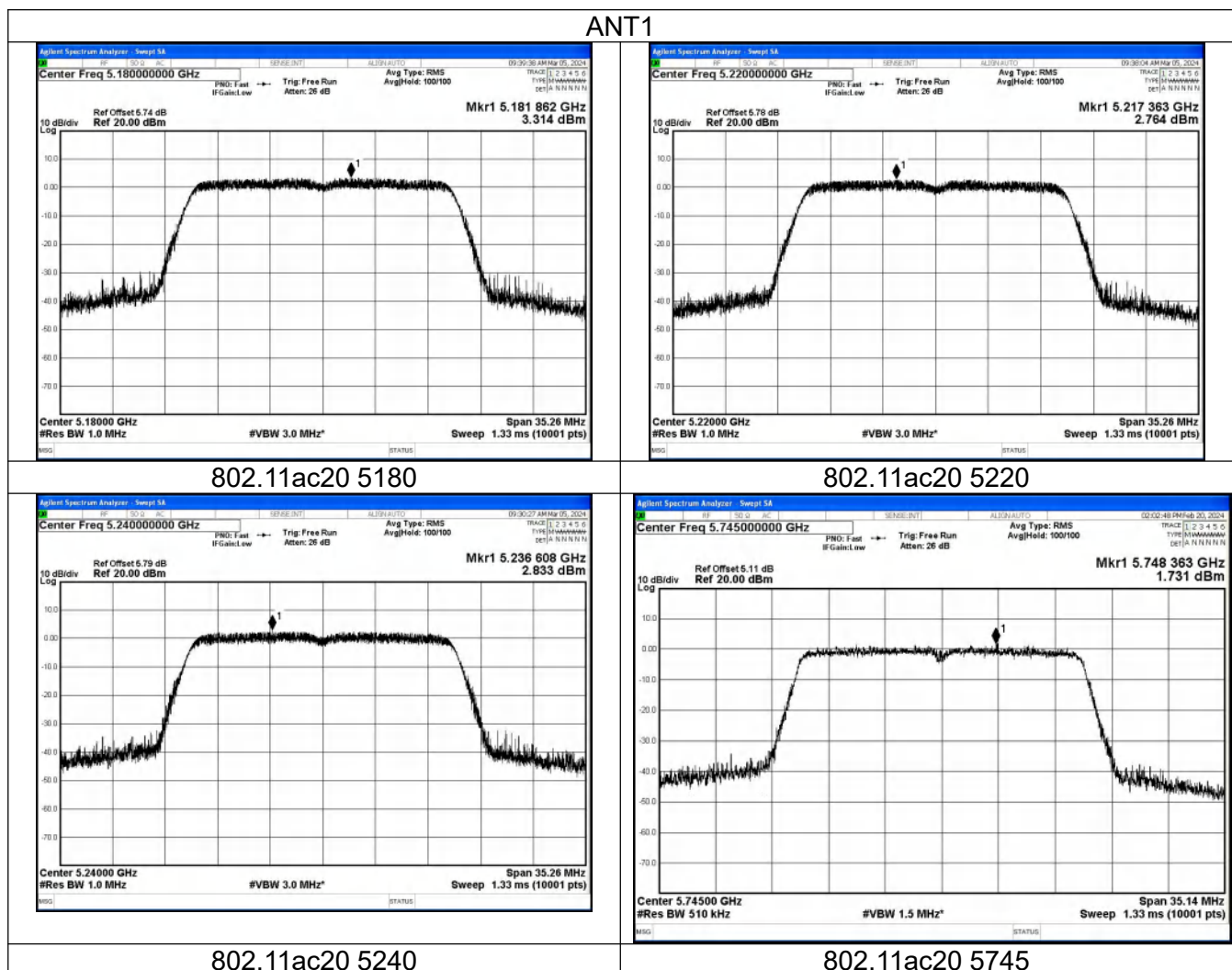
Appendix A.4 Test Results of Power Spectral Density

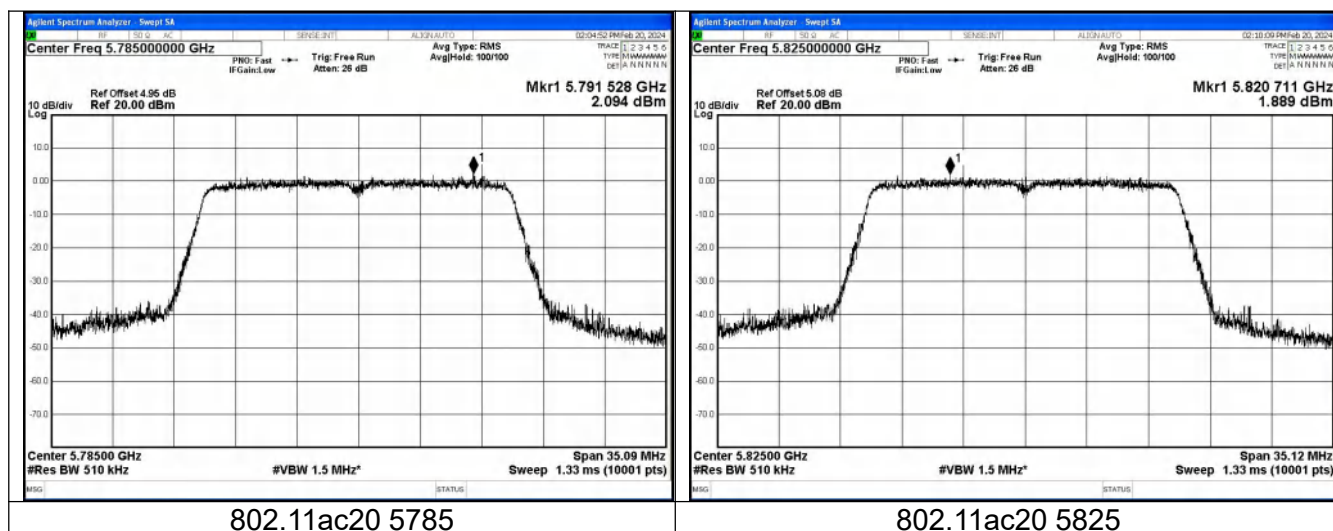
802.11ac20 mode:								
CH	Freq.	ANT1_Power Spectral Density (dBm/MHz)	ANT2_Power Spectral Density (dBm/MHz)	Total_Power Spectral Density (dBm/MHz)	IC_Power Spectral Density (dBm/MHz)	IC Limit (dBm/MHz)	FCC Limit (dBm/MHz)	Result
36	5180	3.314	3.081	6.209	8.549	10	11	Pass
44	5220	2.764	2.985	5.886	8.226	10	11	Pass
48	5240	2.833	2.803	5.828	8.168	10	11	Pass

Note:

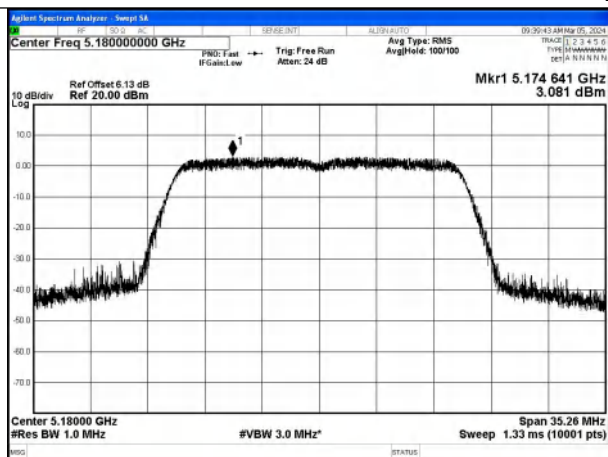
1) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz.

CH	Freq.	ANT1_Power Spectral Density (dBm/500KHz)	ANT2_Power Spectral Density (dBm/500KHz)	Total_Power Spectral Density (dBm/500KHz)	Limit (dBm/500KHz)	Result
149	5745	1.731	3.411	5.662	30	Pass
157	5785	2.094	3.641	5.946	30	Pass
165	5825	1.889	2.304	5.112	30	Pass

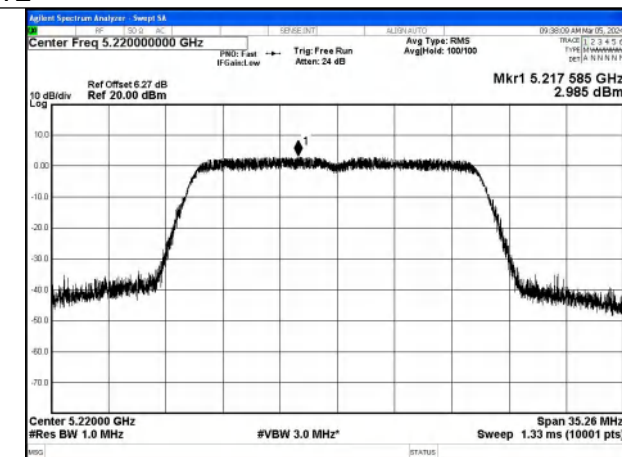




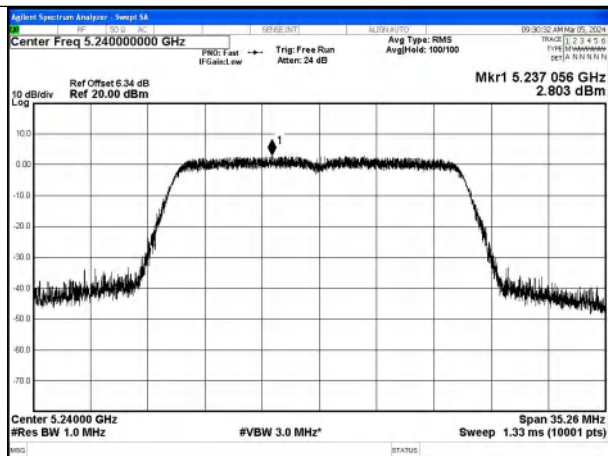
ANT2



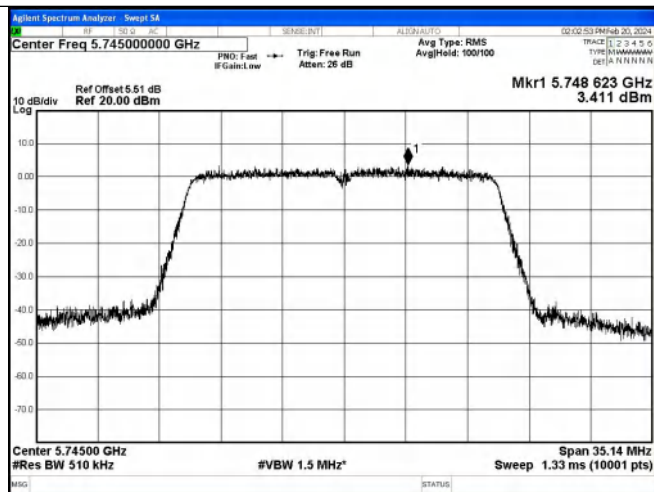
802.11ac20 5180



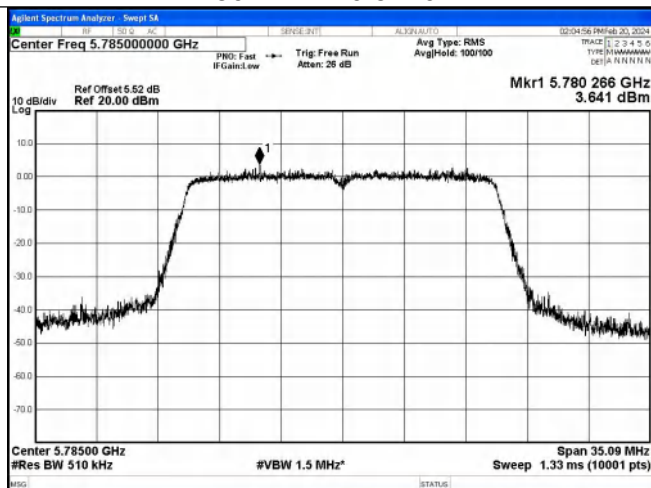
802.11ac20 5220



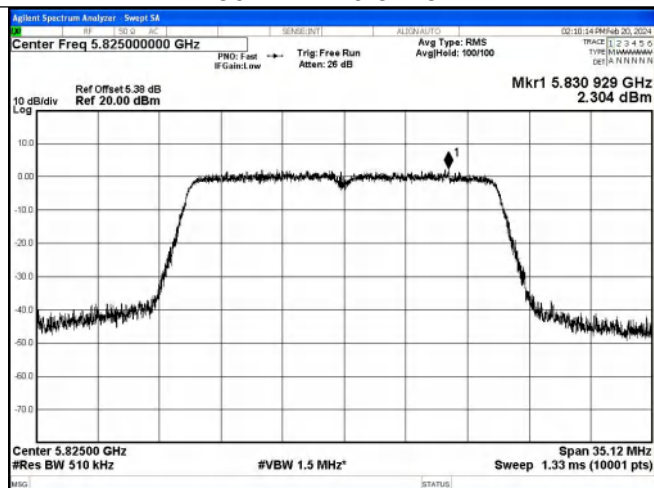
802.11ac20 5240



802.11ac20 5745



802.11ac20 5785



802.11ac20 5825

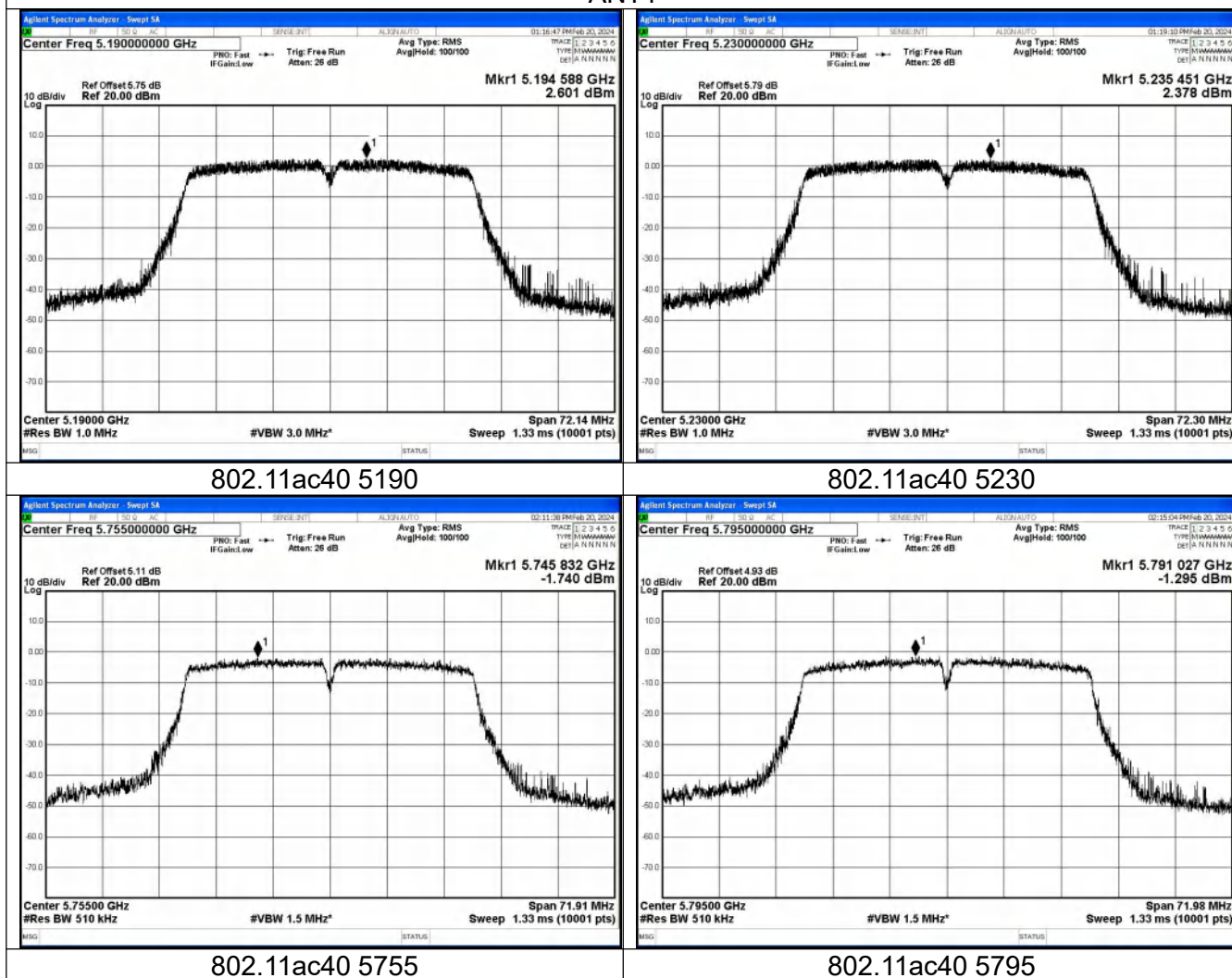
802.11ac40 mode:

CH	Freq.	ANT1_Power Spectral Density (dBm/MHz)	ANT2_Power Spectral Density (dBm/MHz)	Total_Power Spectral Density (dBm/MHz)	IC_Power Spectral Density (dBm/MHz)	IC Limit (dBm/MHz)	FCC Limit (dBm/MHz)	Result
38	5190	2.601	2.338	5.482	7.822	10	11	Pass
46	5230	2.378	2.533	5.466	7.806	10	11	Pass

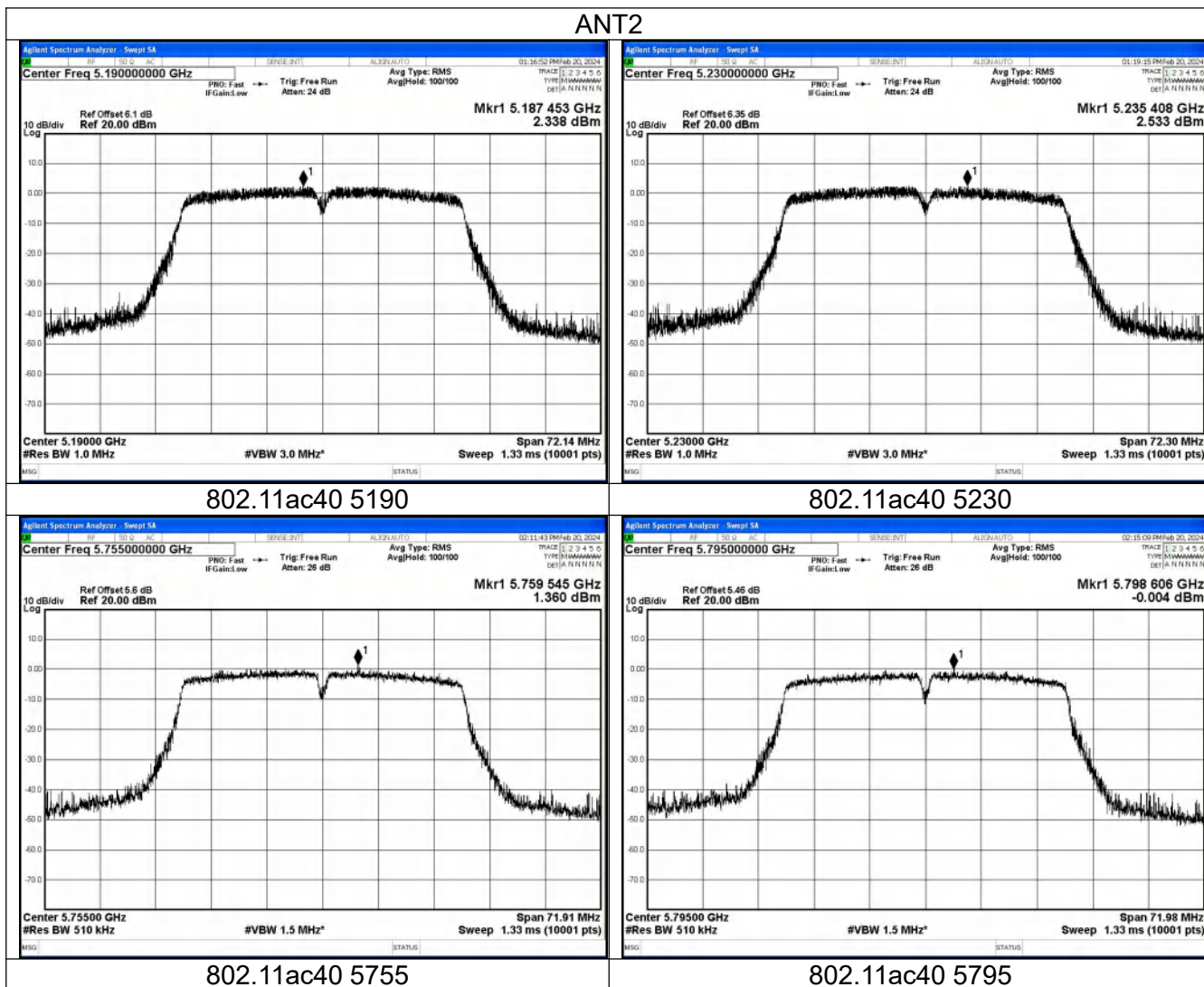
Note:

1) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz.

CH	Freq.	ANT1_Power Spectral Density (dBm/500KHz)	ANT2_Power Spectral Density (dBm/500K Hz)	Total_Power Spectral Density (dBm/500K Hz)	Limit (dBm/500KHz)	Result
151	5755	-1.740	1.360	3.091	30	Pass
159	5795	-1.295	-0.004	2.409	30	Pass

ANT1


ANT2



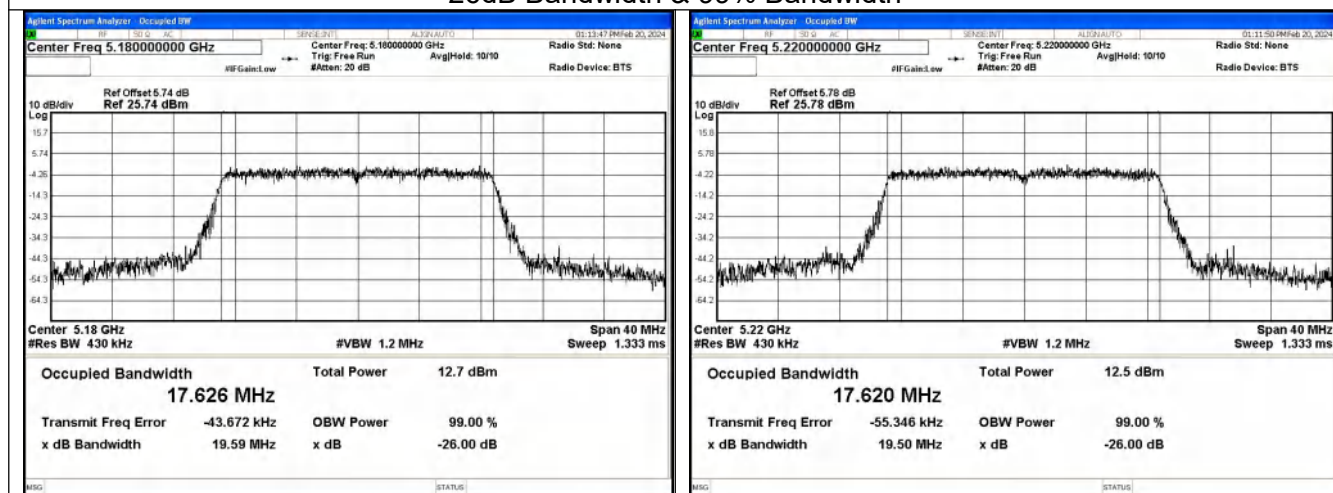
Appendix A.5 Test Results of 6dB & 26dB & 99% BANDWIDTH

802.11ac20 mode:					
Channel	Frequency (MHz)	ANT1_Emission Bandwidth		ANT2_Emission Bandwidth	
		26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	19.59	17.626	19.32	17.562
44	5220	19.50	17.620	19.32	17.677
48	5240	19.57	17.585	19.65	17.635

Channel	Frequency (MHz)	ANT1_Emission Bandwidth		ANT2_Emission Bandwidth	
		6dB Bandwidth (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
149	5745	17.58	17.690	17.65	17.619
157	5785	17.25	17.666	17.25	17.619
165	5825	17.56	17.652	16.65	17.664

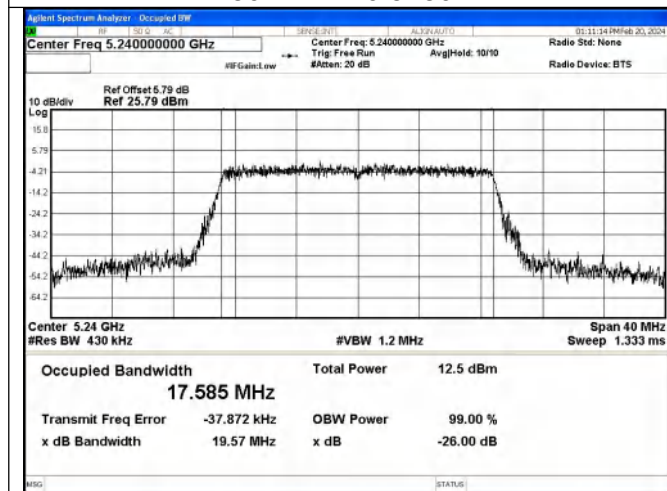
ANT1

26dB Bandwidth & 99% Bandwidth



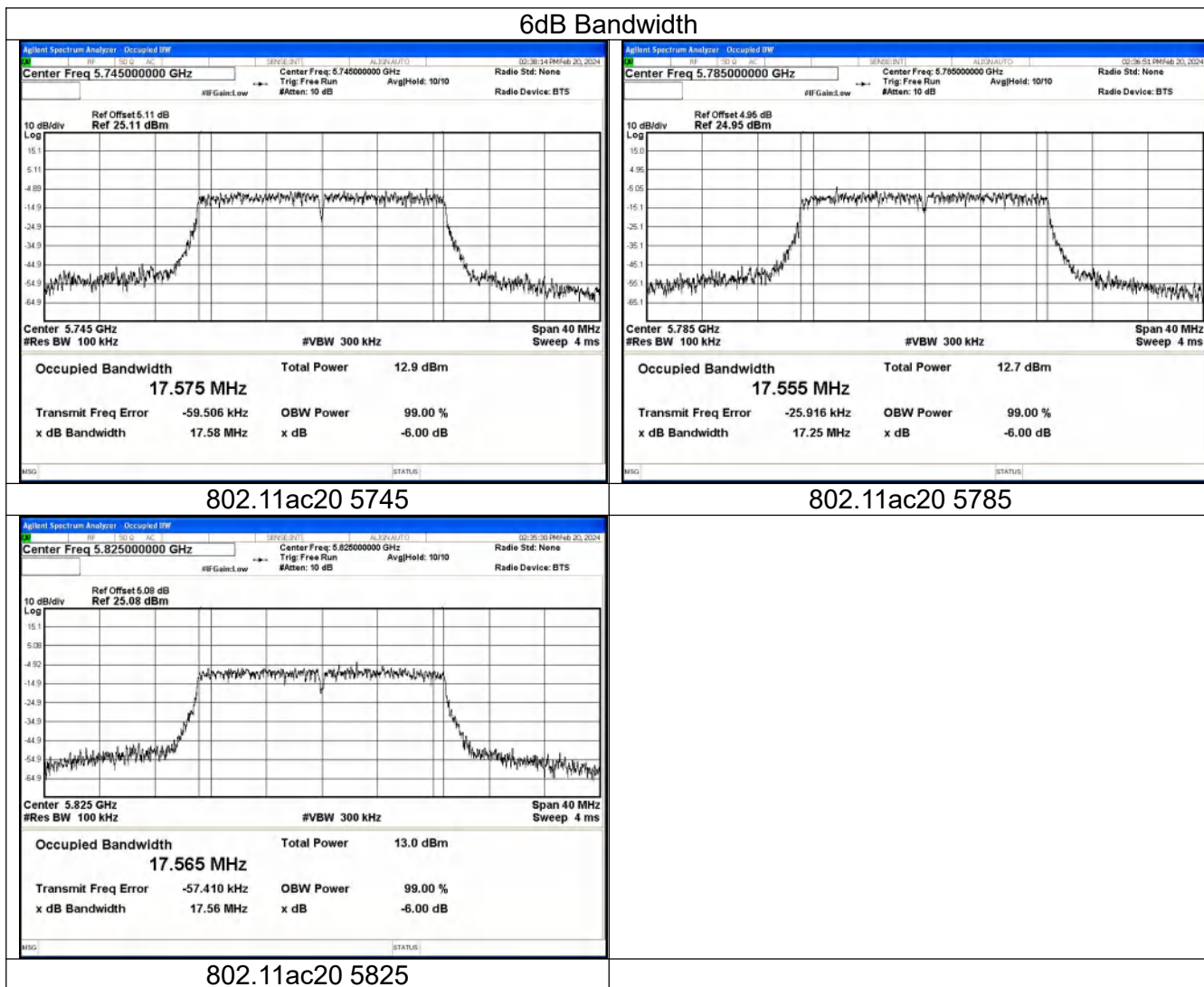
802.11ac20 5180

802.11ac20 5220

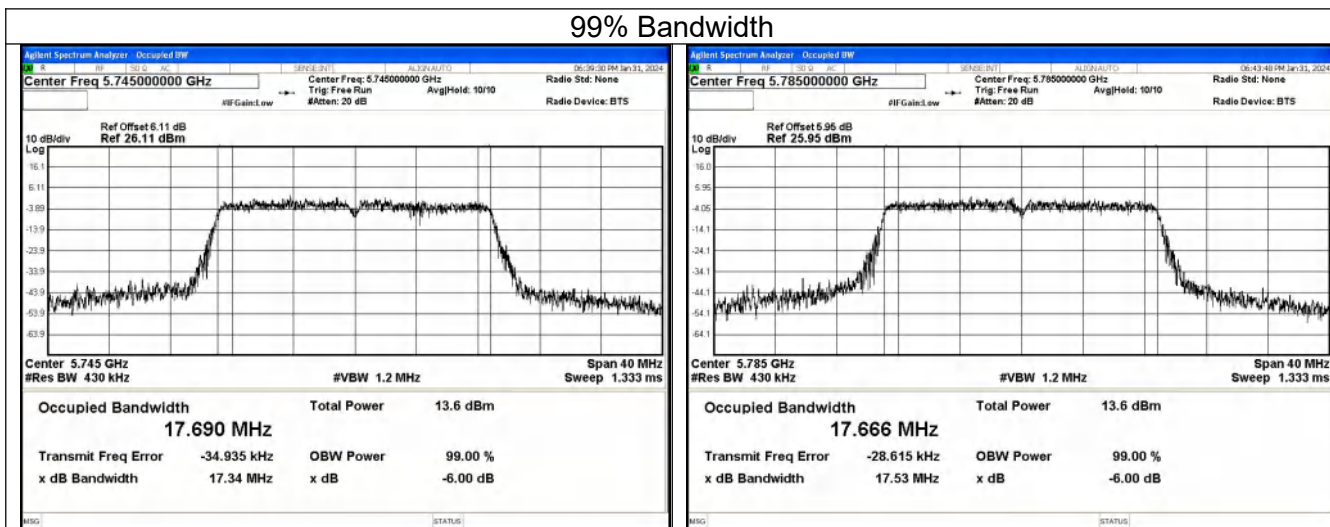


802.11ac20 5240

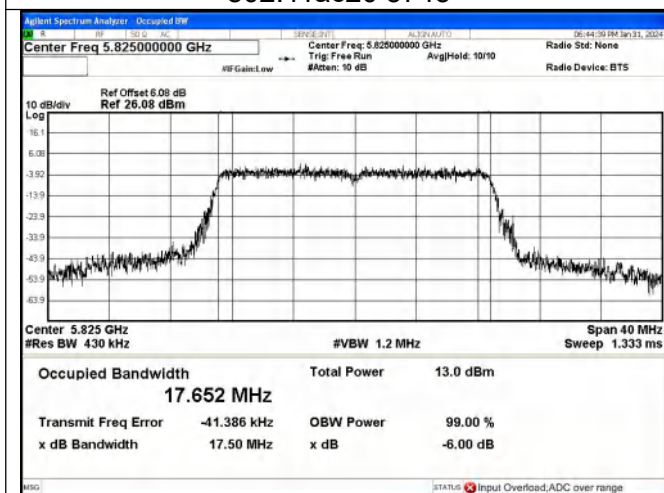
6dB Bandwidth



99% Bandwidth



802.11ac20 5745

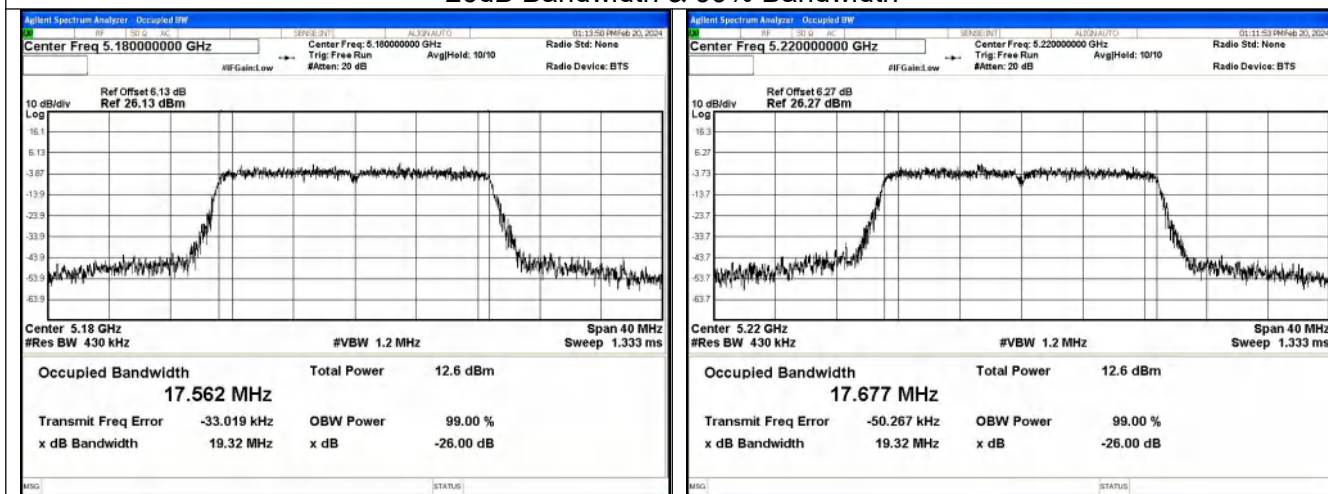


802.11ac20 5785

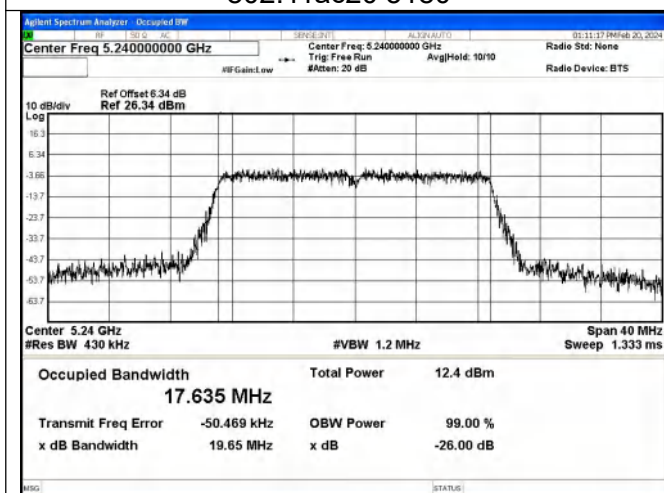
802.11ac20 5825

ANT2

26dB Bandwidth & 99% Bandwidth



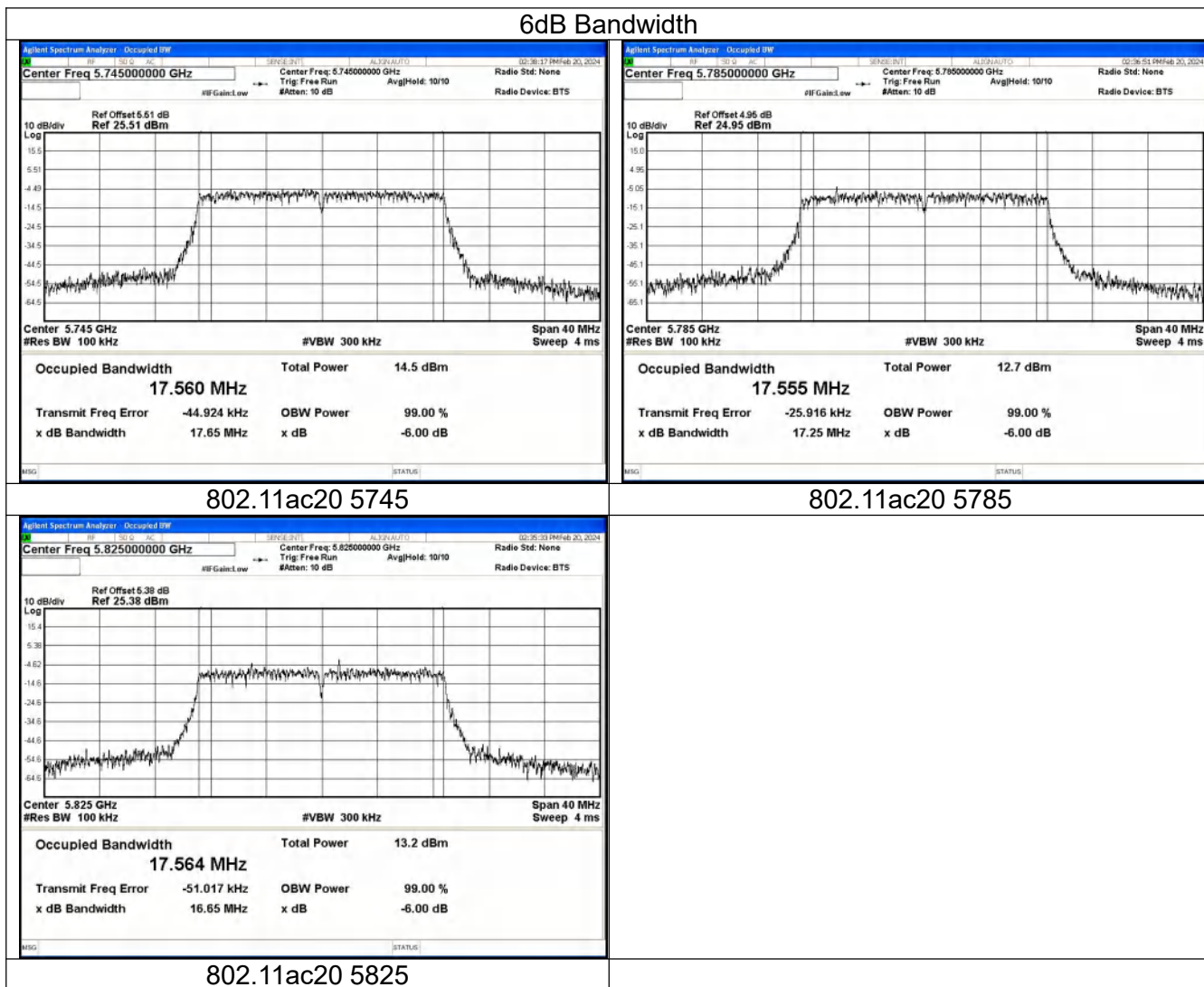
802.11ac20 5180



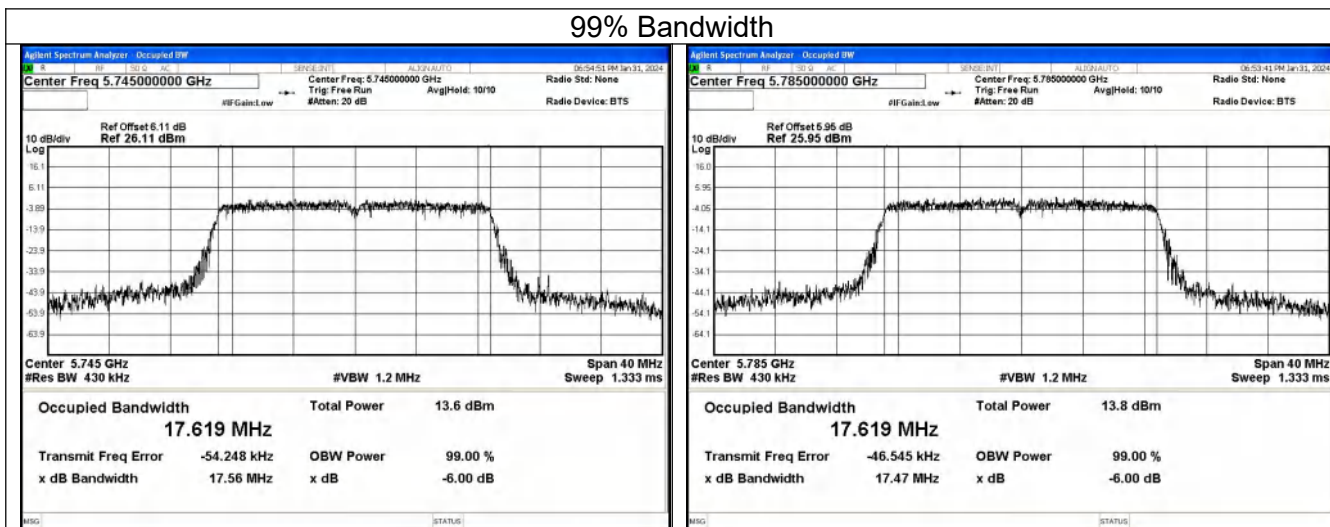
802.11ac20 5220

802.11ac20 5240

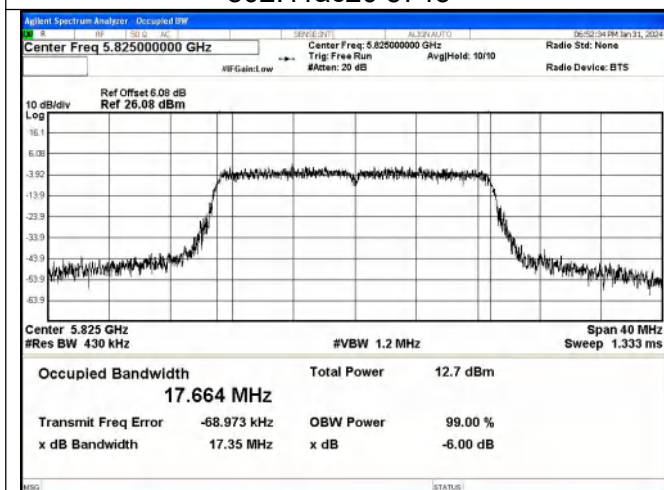
6dB Bandwidth



99% Bandwidth



802.11ac20 5745



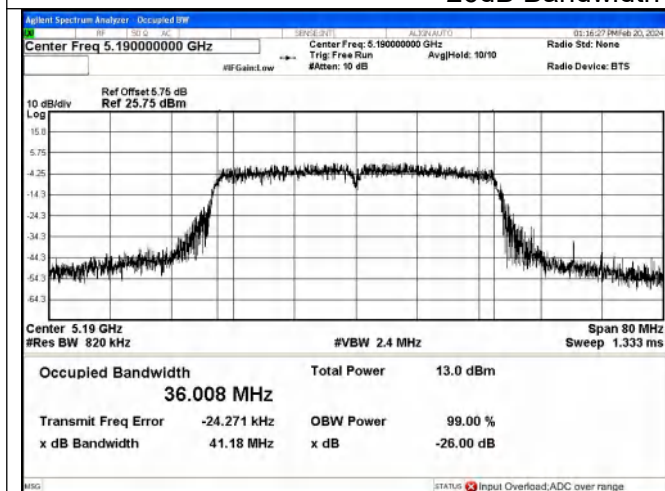
802.11ac20 5785

802.11ac20 5825

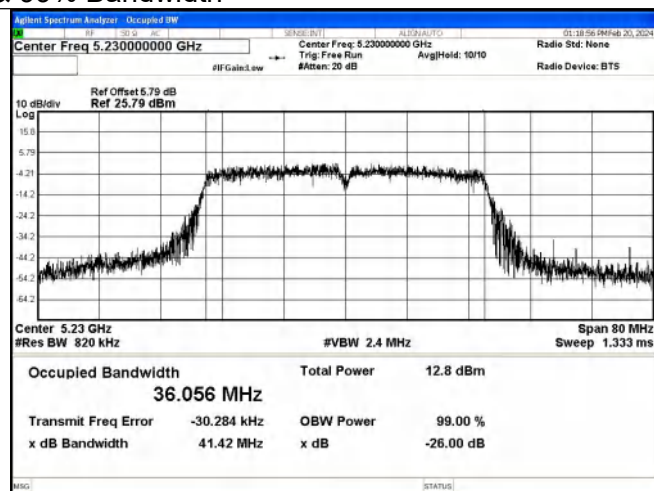
802.11ac40 mode:

Channel	Frequency (MHz)	ANT1 Emission Bandwidth		ANT2 Emission Bandwidth	
		26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	41.18	36.008	40.99	36.070
46	5230	41.42	36.056	41.27	36.149

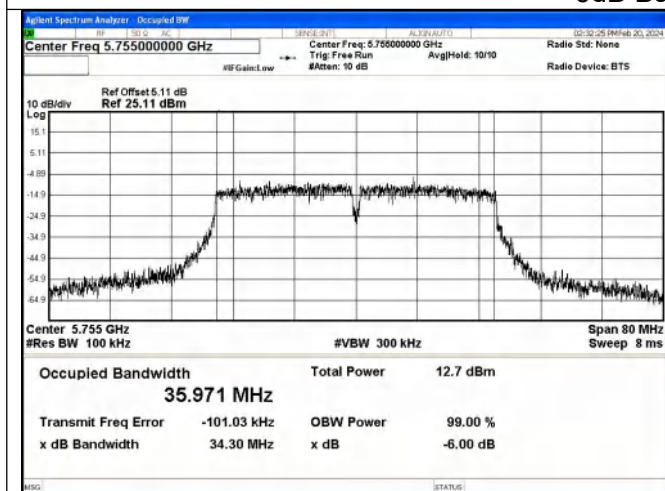
Channel	Frequency (MHz)	ANT1 Emission Bandwidth		ANT2 Emission Bandwidth	
		6dB Bandwidth (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
151	5755	34.30	36.140	27.64	36.124
159	5795	32.87	36.180	27.53	36.027

ANT1
26dB Bandwidth & 99% Bandwidth


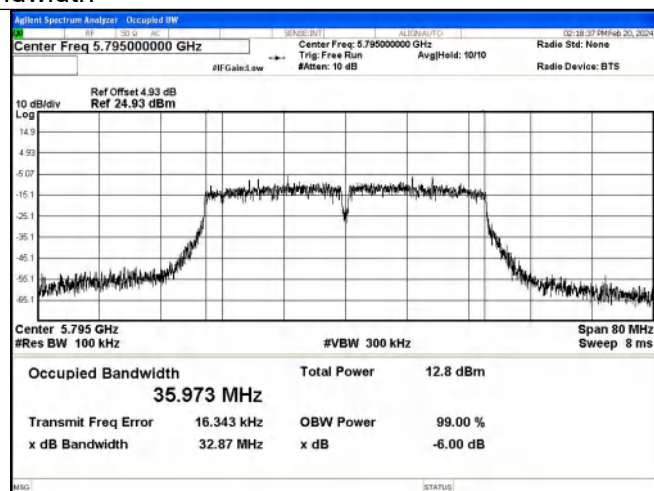
802.11ac40 5190



802.11ac40 5230

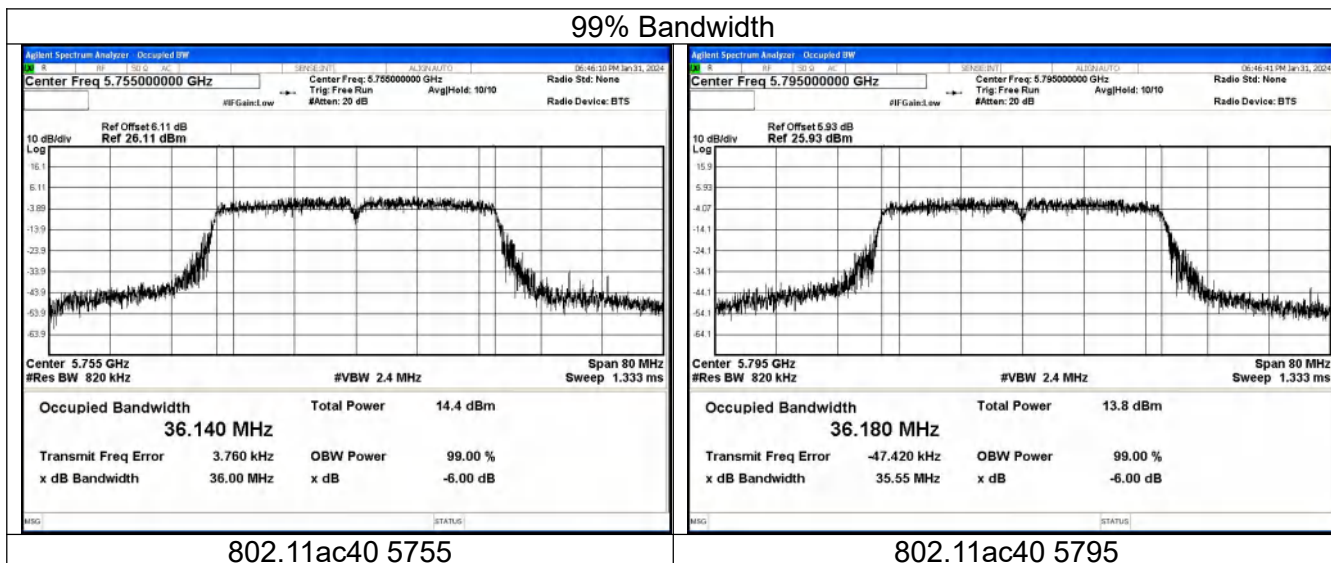
6dB Bandwidth


802.11ac40 5755



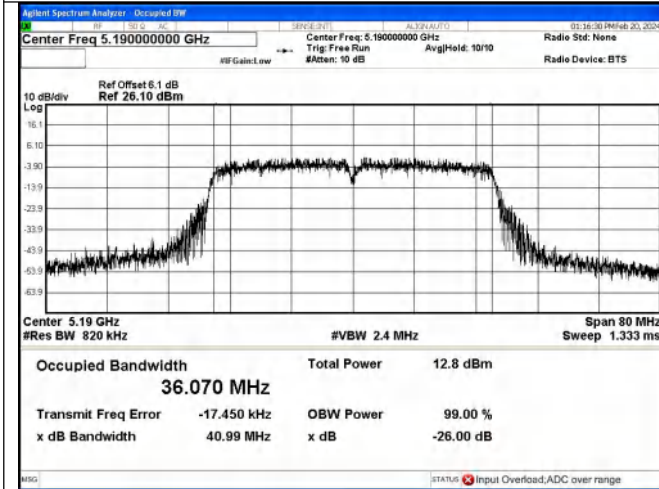
802.11ac40 5795

99% Bandwidth

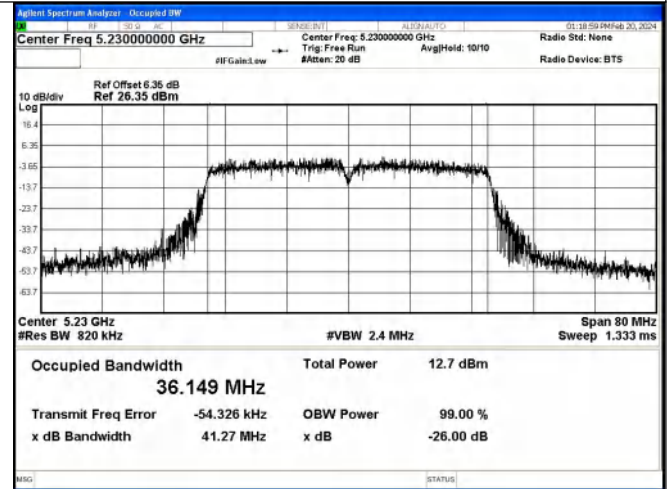


ANT2

26dB Bandwidth & 99% Bandwidth

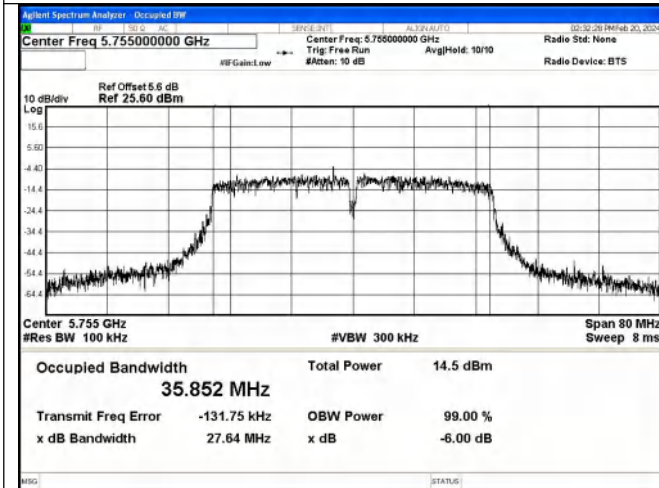


802.11ac40 5190

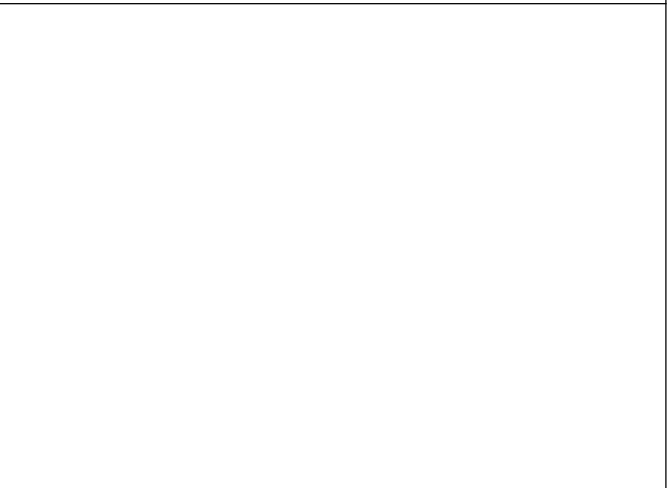


802.11ac40 5230

6dB Bandwidth

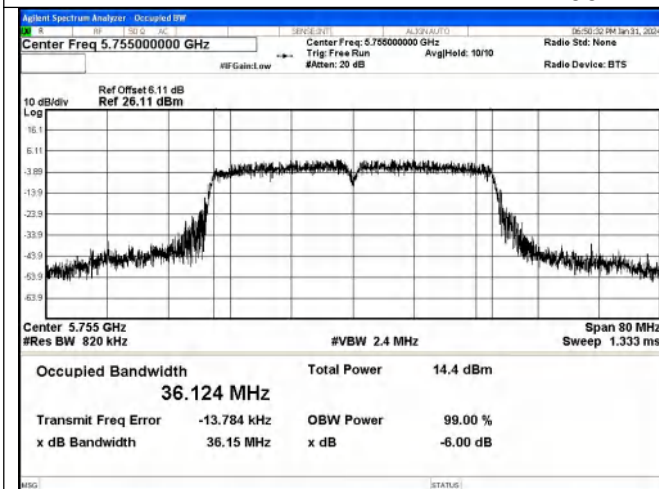


802.11ac40 5755

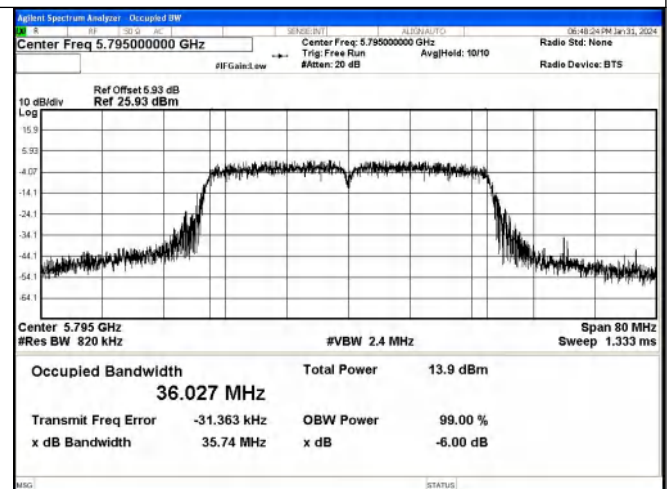


802.11ac40 5795

99% Bandwidth



802.11ac40 5755



802.11ac40 5795

Appendix A.6 Test Results of Maximum Conducted Output Power

For FCC:

802.11ac20 mode						
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total (dBm) Conducted	Limit (dBm)	Result
36	5180	11.524	12.645	15.131	23.98	Pass
44	5220	11.643	11.302	14.486	23.98	Pass
48	5240	11.857	11.754	14.816	23.98	Pass
149	5745	13.754	15.422	17.678	30	Pass
157	5785	13.434	14.386	16.946	30	Pass
165	5825	13.616	13.792	16.715	30	Pass

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz

802.11ac40 mode						
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total (dBm) Conducted	Limit (dBm)	Result
38	5190	14.036	13.918	16.988	23.98	Pass
46	5230	13.724	13.853	16.799	23.98	Pass
151	5755	13.792	15.561	17.776	30	Pass
159	5795	13.763	14.730	17.284	30	Pass

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz

For IC:

802.11ac20 mode							
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total E.I.R.P (dBm)	Limit (dBm)		Result
36	5180	11.524	12.645	17.471	22.45 ^{Note3}	23	Pass
44	5220	11.643	11.302	16.826	22.47 ^{Note3}	23	Pass
48	5240	11.857	11.754	17.156	22.46 ^{Note3}	23	Pass

802.11ac20 mode						
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total Conducted Power (dBm)	Limit (dBm)	Result
149	5745	13.754	15.422	17.678	30	Pass
157	5785	13.434	14.386	16.946	30	Pass
165	5825	13.616	13.792	16.715	30	Pass

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz;
- 3) the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less, where B is the 99% emission bandwidth in megahertz.

802.11ac40 mode						
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total E.I.R.P (dBm)	Limit (dBm)	Result
38	5190	14.036	13.918	19.328	23	Pass
46	5230	13.724	13.853	19.139	23	Pass

802.11ac40 mode						
CH	Freq.	ANT1_Conducted Power (dBm)	ANT2_Conducted Power (dBm)	Total Conducted Power (dBm)	Limit (dBm)	Result
151	5755	13.792	15.561	17.776	30	Pass
159	5795	13.763	14.730	17.284	30	Pass

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) of 802.11 ac: 2.34 dBi for 5150MHz-5250MHz, 3.14 dBi for 5725MHz-5850MHz