

Appendix A: Test Results of NII device

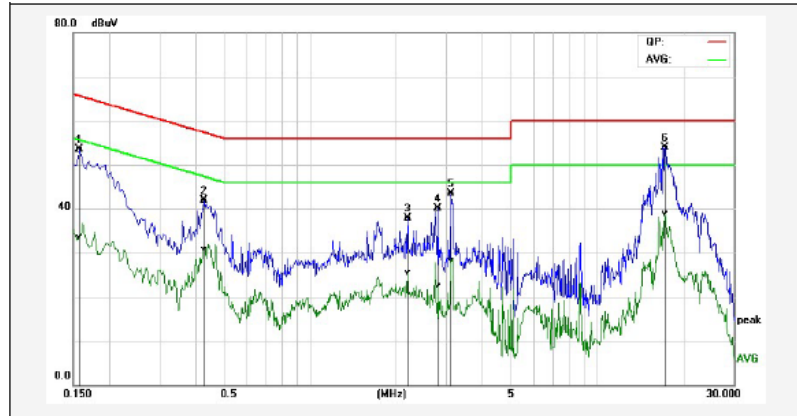
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Appendix A.1 Test Results of Conducted Emission on AC Mains

Note: All modes have been tested, and the report only reflects the worst mode.

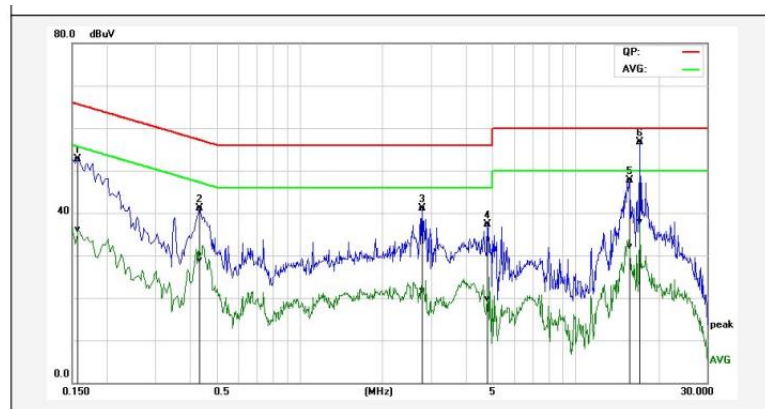
Test Mode :	Mode 25	Test Voltage :	DC 3.3V
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L



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	0.1580	43.99	24.01	9.50	53.49	33.51	65.56	55.57	-12.07	-22.06	Pass
2P	0.4300	32.48	21.28	9.50	41.98	30.78	57.25	47.25	-15.27	-16.47	Pass
3P	2.2100	28.62	16.21	9.28	37.90	25.49	56.00	46.00	-18.10	-20.51	Pass
4P	2.8179	30.82	13.30	9.22	40.04	22.52	56.00	46.00	-15.96	-23.48	Pass
5P	3.1220	34.41	19.21	9.19	43.60	28.40	56.00	46.00	-12.40	-17.60	Pass
6*	17.2099	44.51	29.53	9.44	53.95	38.97	60.00	50.00	-6.05	-11.03	Pass

N



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	0.1580	43.30	26.69	9.40	52.70	36.09	65.56	55.57	-12.86	-19.48	Pass
2P	0.4340	31.72	19.45	9.40	41.12	28.85	57.18	47.18	-16.06	-18.33	Pass
3P	2.7940	32.00	12.54	9.12	41.12	21.66	56.00	46.00	-14.88	-24.34	Pass
4P	4.7980	28.28	10.66	9.00	37.28	19.66	56.00	46.00	-18.72	-26.34	Pass
5P	15.7700	38.63	22.94	9.12	47.75	32.06	60.00	50.00	-12.25	-17.94	Pass
6*	17.1700	47.49	28.81	9.14	56.63	37.95	60.00	50.00	-3.37	-12.05	Pass

Correction Factor = insertion loss of LISN + cable loss;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit.

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 1G:

Test Mode :	Mode 3	Test Voltage :	DC 3.3V
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Horizontal

The graph displays the horizontal radiated spurious emission. The y-axis represents the signal level in dBuV/m, ranging from 0.0 to 80.0. The x-axis represents the frequency in MHz, ranging from 30.000 to 1000.000. A red line indicates the Limit, and a green line indicates the Margin. The blue line shows the measured signal with peaks labeled 1 through 6.

No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	72.0841	38.96	-18.68	20.28	40.00	-19.72			QP
2	137.9028	39.15	-12.44	26.71	43.50	-16.79			QP
3	242.5252	42.98	-13.53	29.45	46.00	-16.55			QP
4	270.3747	40.35	-11.98	28.37	46.00	-17.63			QP
5*	335.9284	50.26	-10.37	39.89	46.00	-6.11			QP
6	513.6331	36.11	-5.69	30.42	46.00	-15.58			QP

Vertical

The graph displays the vertical radiated spurious emission. The y-axis represents the signal level in dBuV/m, ranging from 0.0 to 80.0. The x-axis represents the frequency in MHz, ranging from 30.000 to 1000.000. A red line indicates the Limit, and a green line indicates the Margin. The blue line shows the measured signal with peaks labeled 1 through 6.

No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	39.8541	35.72	-12.54	23.18	40.00	-16.82			QP
2	85.8983	47.44	-19.09	28.35	40.00	-11.65			QP
3	135.9822	39.21	-12.37	26.84	43.50	-16.66			QP
4	165.4886	40.13	-13.38	26.75	43.50	-16.75			QP
5*	337.2155	46.67	-10.35	36.32	46.00	-9.68			QP
6	570.6100	38.94	-4.99	33.95	46.00	-12.05			QP

Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

Above 1GHz:

Note: All modes and antenna have been tested, and the report only reflects the worst mode(802.11ac(VHT20) MIMO).

Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Band I:

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4944	58.49	-12.85	45.64	68.2	-22.56	peak
2	4944	52.09	-12.85	39.24	54	-14.76	AVG
3	7494	56.49	-7.13	49.36	68.2	-18.84	peak
4	7494	49.85	-7.13	42.72	54	-11.28	AVG
5	8344	56.14	-7.20	48.94	68.2	-19.26	peak
6	8344	50.87	-7.20	43.67	54	-10.33	AVG
7	13886	54.53	1.21	55.74	68.2	-12.46	peak
8	13886	46.47	1.21	47.68	54	-6.32	AVG
9	16402	55.32	6.86	62.18	68.2	-6.02	peak
10	16402	42.72	6.86	49.58	54	-4.42	AVG
11	17796	54.94	8.92	63.86	68.2	-4.34	peak
12	17796	41.46	8.94	50.4	54	-3.6	AVG

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4910	58.61	-12.91	45.7	68.2	-22.5	peak
2	4910	53.22	-12.91	40.31	54	-13.69	AVG
3	7426	55.53	-7.09	48.44	68.2	-19.76	peak
4	7426	50.94	-7.09	43.85	54	-10.15	AVG
5	10554	54.71	-2.97	51.74	68.2	-16.46	peak
6	10554	49.88	-2.97	46.91	54	-7.09	AVG
7	13070	55.83	-0.16	55.67	68.2	-12.53	peak
8	13070	48.32	-0.16	48.16	54	-5.84	AVG
9	15484	53.44	6.39	59.83	68.2	-8.37	peak
10	15484	42.83	6.39	49.22	54	-4.78	AVG
11	17524	52.8	9.07	61.87	68.2	-6.33	peak
12	17524	41.16	9.07	50.23	54	-3.77	AVG

802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4944	58.2	-12.85	45.35	68.2	-22.85	peak
2	4944	53.64	-12.85	40.79	54	-13.21	AVG
3	8038	56.44	-7.79	48.65	68.2	-19.55	peak
4	8038	51.33	-7.79	43.54	54	-10.46	AVG
5	11132	54.29	-2.48	51.81	68.2	-16.39	peak
6	11132	47.51	-2.48	45.03	54	-8.97	AVG
7	12152	55.3	-2.44	52.86	68.2	-15.34	peak
8	12152	49.95	-2.44	47.51	54	-6.49	AVG
9	16232	53.26	7.04	60.3	68.2	-7.9	peak
10	16232	42.04	7.04	49.08	54	-4.92	AVG
11	17558	53.02	9.09	62.11	68.2	-6.09	peak
12	17558	41.27	9.09	50.36	54	-3.64	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	3992	61.02	-15.01	46.01	68.2	-22.19	peak
2	3992	54.42	-15.01	39.41	54	-14.59	AVG
3	6236	57.87	-9.95	47.92	68.2	-20.28	peak
4	6236	52.64	-9.95	42.69	54	-11.31	AVG
5	7290	56.95	-7.54	49.41	68.2	-18.79	peak
6	7290	52.49	-7.54	44.95	54	-9.05	AVG
7	11370	54.99	-1.94	53.05	68.2	-15.15	peak
8	11370	48.95	-1.94	47.01	54	-6.99	AVG
9	15314	53.79	6.82	60.61	68.2	-7.59	peak
10	15314	42.9	6.82	49.72	54	-4.28	AVG
11	17932	54.79	9.79	64.58	68.2	-3.62	peak
12	17932	40.08	9.79	49.87	54	-4.13	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	6168	57.82	-9.92	47.9	68.2	-20.3	peak
2	6168	50.58	-9.92	40.66	54	-13.34	AVG
3	7358	57.02	-7.23	49.79	68.2	-18.41	peak
4	7358	50.08	-7.23	42.85	54	-11.15	AVG
5	11336	55.59	-2.04	53.55	68.2	-14.65	peak
6	11336	48.91	-2.04	46.87	54	-7.13	AVG
7	15824	55.16	6.65	61.81	68.2	-6.39	peak
8	15824	42.64	6.65	49.29	54	-4.71	AVG
9	16776	54.92	7.49	62.41	68.2	-5.79	peak
10	16776	42.18	7.49	49.67	54	-4.33	AVG
11	17796	54.37	8.92	63.29	68.2	-4.91	peak
12	17796	41.38	8.92	50.3	54	-3.7	AVG

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1986	69.3	-21.01	48.29	68.2	-19.91	peak
2	1986	59.58	-21.01	38.57	54	-15.43	AVG
3	2632	67.88	-20.47	47.41	68.2	-20.79	peak
4	2632	61.2	-20.47	40.73	54	-13.27	AVG
5	7392	54.91	-7.13	47.78	68.2	-20.42	peak
6	7392	50	-7.13	42.87	54	-11.13	AVG
7	10894	54.4	-3.05	51.35	68.2	-16.85	peak
8	10894	50.34	-3.05	47.29	54	-6.71	AVG
9	15620	53.84	5.69	59.53	68.2	-8.67	peak
10	15620	43.98	5.69	49.67	54	-4.33	AVG
11	17524	52.85	9.07	61.92	68.2	-6.28	peak
12	17524	41.19	9.07	50.26	54	-3.74	AVG

Band II:

Note: All modes and antenna have been tested, and the report only reflects the worst mode (802.11ac (VHT20) MIMO).

Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5726	58.21	-11.86	46.35	68.2	-21.85	peak
2	5726	52.13	-11.86	40.27	54	-13.73	AVG
3	7528	56.49	-7.17	49.32	68.2	-18.88	peak
4	7528	51.08	-7.17	43.91	54	-10.09	AVG
5	10622	54.9	-2.67	52.23	68.2	-15.97	peak
6	10622	49.51	-2.67	46.84	54	-7.16	AVG
7	12696	54.88	-0.74	54.14	68.2	-14.06	peak
8	12696	48.72	-0.74	47.98	54	-6.02	AVG
9	15960	54.2	5.58	59.78	68.2	-8.42	peak
10	15960	43.46	5.58	49.04	54	-4.96	AVG
11	17864	52.91	9.35	62.26	68.2	-5.94	peak
12	17864	41.62	9.35	50.97	54	-3.03	AVG

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1986	69.11	-21.01	48.1	68.2	-20.1	peak
2	1986	63.52	-21.01	42.51	54	-11.49	AVG
3	7052	57.52	-8.58	48.94	68.2	-19.26	peak
4	7052	52.14	-8.58	43.56	54	-10.44	AVG
5	11982	55.38	-2.10	53.28	68.2	-14.92	peak
6	11982	48.13	-2.10	46.03	54	-7.97	AVG
7	14226	55.44	3.63	59.07	68.2	-9.13	peak
8	14226	43.6	3.63	47.23	54	-6.77	AVG
9	16368	55.42	6.88	62.3	68.2	-5.9	peak
10	16368	42.66	6.88	49.54	54	-4.46	AVG
11	17830	54.31	9.12	63.43	68.2	-4.77	peak
12	17830	41.3	9.12	50.42	54	-3.58	AVG

802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4910	58.04	-12.91	45.13	68.2	-23.07	peak
2	4910	52.73	-12.91	39.82	54	-14.18	AVG
3	7970	57.57	-7.86	49.71	68.2	-18.49	peak
4	7970	51.14	-7.86	43.28	54	-10.72	AVG
5	10078	56.45	-4.37	52.08	68.2	-16.12	peak
6	10078	50.61	-4.37	46.24	54	-7.76	AVG
7	12458	56.04	-1.59	54.45	68.2	-13.75	peak
8	12458	49.51	-1.59	47.92	54	-6.08	AVG
9	16776	54.05	7.49	61.54	68.2	-6.66	peak
10	16776	41.95	7.49	49.44	54	-4.56	AVG
11	17830	53.69	9.12	62.81	68.2	-5.39	peak
12	17830	41.2	9.12	50.32	54	-3.68	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	5046	57.97	-12.62	45.35	68.2	-22.85	peak
2	5046	53.78	-12.62	41.16	54	-12.84	AVG
3	5964	56.78	-10.23	46.55	68.2	-21.65	peak
4	5964	53.7	-10.23	43.47	54	-10.53	AVG
5	7358	55.55	-7.23	48.32	68.2	-19.88	peak
6	7358	53.09	-7.23	45.86	54	-8.14	AVG
7	11404	54.62	-1.87	52.75	68.2	-15.45	peak
8	11404	49.51	-1.87	47.64	54	-6.36	AVG
9	16368	53.91	6.88	60.79	68.2	-7.41	peak
10	16368	42.65	6.88	49.53	54	-4.47	AVG
11	17864	53.55	9.35	62.9	68.2	-5.3	peak
12	17864	41.12	9.35	50.47	54	-3.53	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	4910	57.46	-12.91	44.55	68.2	-23.65	peak
2	4910	50.12	-12.91	37.21	54	-16.79	AVG
3	7460	55.49	-7.09	48.4	68.2	-19.8	peak
4	7460	47.26	-7.09	40.17	54	-13.83	AVG
5	10554	55.14	-2.97	52.17	68.2	-16.03	peak
6	10554	47.43	-2.97	44.46	54	-9.54	AVG
7	13070	54.52	-0.16	54.36	68.2	-13.84	peak
8	13070	48.09	-0.16	47.93	54	-6.07	AVG
9	15892	54.44	6.08	60.52	68.2	-7.68	peak
10	15892	43.1	6.08	49.18	54	-4.82	AVG
11	17864	52.99	9.35	62.34	68.2	-5.86	peak
12	17864	41.26	9.35	50.61	54	-3.39	AVG

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4944	58.5	-12.85	45.65	68.2	-22.55	peak
2	4944	51.91	-12.85	39.06	54	-14.94	AVG
3	7358	56.72	-7.23	49.49	68.2	-18.71	peak
4	7358	50.58	-7.23	43.35	54	-10.65	AVG
5	10520	56.59	-3.25	53.34	68.2	-14.86	peak
6	10520	48.04	-3.25	44.79	54	-9.21	AVG
7	14192	55.29	3.58	58.87	68.2	-9.33	peak
8	14192	45.1	3.58	48.68	54	-5.32	AVG
9	15416	53.71	6.95	60.66	68.2	-7.54	peak
10	15416	42.79	6.95	49.74	54	-4.26	AVG
11	18000	53.44	10.19	63.63	68.2	-4.57	peak
12	18000	40.71	10.19	50.9	54	-3.1	AVG

Band III:

Note: All modes and antenna have been tested, and the report only reflects the worst mode (802.11ac (VHT20) MIMO).

Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6168	57.72	-9.92	47.8	68.2	-20.4	peak
2	6168	50.49	-9.92	40.57	54	-13.43	AVG
3	7358	56.65	-7.23	49.42	68.2	-18.78	peak
4	7358	50.94	-7.23	43.71	54	-10.29	AVG
5	10554	55.58	-2.97	52.61	68.2	-15.59	peak
6	10554	49.04	-2.97	46.07	54	-7.93	AVG
7	13070	57.12	-0.16	56.96	68.2	-11.24	peak
8	13070	47.27	-0.16	47.11	54	-6.89	AVG
9	15280	54.53	6.75	61.28	68.2	-6.92	peak
10	15280	42.6	6.75	49.35	54	-4.65	AVG
11	17830	54.57	9.12	63.69	68.2	-4.51	peak
12	17830	41.03	9.12	50.15	54	-3.85	AVG

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2122	67.08	-20.50	46.58	68.2	-21.62	peak
2	2122	60.92	-20.50	40.42	54	-13.58	AVG
3	4910	58.49	-12.91	45.58	68.2	-22.62	peak
4	4910	51.99	-12.91	39.08	54	-14.92	AVG
5	6984	57.38	-8.76	48.62	68.2	-19.58	peak
6	6984	51.9	-8.76	43.14	54	-10.86	AVG
7	11404	55.06	-1.87	53.19	68.2	-15.01	peak
8	11404	47.98	-1.87	46.11	54	-7.89	AVG
9	15076	54.58	5.56	60.14	68.2	-8.06	peak
10	15076	42.96	5.56	48.52	54	-5.48	AVG
11	17864	53.81	9.35	63.16	68.2	-5.04	peak
12	17864	41.62	9.35	50.97	54	-3.03	AVG

802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4876	58.69	-13.00	45.69	68.2	-22.51	peak
2	4876	51.34	-13.00	38.34	54	-15.66	AVG
3	7460	55.84	-7.09	48.75	68.2	-19.45	peak
4	7460	49.42	-7.09	42.33	54	-11.67	AVG
5	9398	57.3	-7.29	50.01	68.2	-18.19	peak
6	9398	52.77	-7.29	45.48	54	-8.52	AVG
7	11472	55.08	-2.21	52.87	68.2	-15.33	peak
8	11472	49.25	-2.21	47.04	54	-6.96	AVG
9	15178	54.49	6.43	60.92	68.2	-7.28	peak
10	15178	43.1	6.43	49.53	54	-4.47	AVG
11	18000	52.47	10.19	62.66	68.2	-5.54	peak
12	18000	40.78	10.19	50.97	54	-3.03	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	6168	57.37	-9.92	47.45	68.2	-20.75	peak
2	6168	49.4	-9.92	39.48	54	-14.52	AVG
3	7494	56.84	-7.13	49.71	68.2	-18.49	peak
4	7494	49.19	-7.13	42.06	54	-11.94	AVG
5	10112	57.03	-4.19	52.84	68.2	-15.36	peak
6	10112	49.43	-4.19	45.24	54	-8.76	AVG
7	13376	56.41	-0.19	56.22	68.2	-11.98	peak
8	13376	48.01	-0.19	47.82	54	-6.18	AVG
9	15348	54.95	6.93	61.88	68.2	-6.32	peak
10	15348	42.59	6.93	49.52	54	-4.48	AVG
11	17830	54.99	9.12	64.11	68.2	-4.09	peak
12	17830	41.44	9.12	50.56	54	-3.44	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	4910	58.87	-12.91	45.96	68.2	-22.24	peak
2	4910	54.3	-12.91	41.39	54	-12.61	AVG
3	7494	56	-7.13	48.87	68.2	-19.33	peak
4	7494	51.5	-7.13	44.37	54	-9.63	AVG
5	10554	54.99	-2.97	52.02	68.2	-16.18	peak
6	10554	49.61	-2.97	46.64	54	-7.36	AVG
7	13104	57.29	-0.02	57.27	68.2	-10.93	peak
8	13104	47.94	-0.02	47.92	54	-6.08	AVG
9	15246	54.6	6.70	61.3	68.2	-6.9	peak
10	15246	43.18	6.70	49.88	54	-4.12	AVG
11	17830	53.83	9.12	62.95	68.2	-5.25	peak
12	17830	41.45	9.12	50.57	54	-3.43	AVG

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1986	68.58	-21.01	47.57	68.2	-20.63	peak
2	1986	61.2	-21.01	40.19	54	-13.81	AVG
3	6882	57.29	-8.82	48.47	68.2	-19.73	peak
4	6882	52.63	-8.82	43.81	54	-10.19	AVG
5	7664	56.62	-7.61	49.01	68.2	-19.19	peak
6	7664	53.4	-7.61	45.79	54	-8.21	AVG
7	11982	55.28	-2.10	53.18	68.2	-15.02	peak
8	11982	48.96	-2.10	46.86	54	-7.14	AVG
9	14804	55.67	4.57	60.24	68.2	-7.96	peak
10	14804	43.99	4.57	48.56	54	-5.44	AVG
11	18000	51.84	10.19	62.03	68.2	-6.17	peak
12	18000	40.79	10.19	50.98	54	-3.02	AVG

Band IV:

Note: All modes and antenna have been tested, and the report only reflects the worst mode (802.11ac (VHT20) MIMO).

Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

802.11 ac20-Low Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	6032	56.64	-10.10	46.54	68.2	-21.66	peak
2	6032	51.05	-10.10	40.95	54	-13.05	AVG
3	7426	56.17	-7.09	49.08	68.2	-19.12	peak
4	7426	50.51	-7.09	43.42	54	-10.58	AVG
5	10724	55.05	-3.00	52.05	68.2	-16.15	peak
6	10724	48.77	-3.00	45.77	54	-8.23	AVG
7	11914	55.46	-2.32	53.14	68.2	-15.06	peak
8	11914	49.21	-2.32	46.89	54	-7.11	AVG
9	15450	54.35	6.67	61.02	68.2	-7.18	peak
10	15450	43.16	6.67	49.83	54	-4.17	AVG
11	18000	52.48	10.19	62.67	68.2	-5.53	peak
12	18000	40.78	10.19	50.97	54	-3.03	AVG

802.11 ac20-Low Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2088	66.26	-20.16	46.1	68.2	-22.1	peak
2	2088	59.97	-20.16	39.81	54	-14.19	AVG
3	4876	59.08	-13.00	46.08	68.2	-22.12	peak
4	4876	54.03	-13.00	41.03	54	-12.97	AVG
5	11132	55.47	-2.48	52.99	68.2	-15.21	peak
6	11132	49.2	-2.48	46.72	54	-7.28	AVG
7	12424	56.51	-1.81	54.7	68.2	-13.5	peak
8	12424	49.59	-1.81	47.78	54	-6.22	AVG
9	15756	54.36	6.55	60.91	68.2	-7.29	peak
10	15756	42.46	6.55	49.01	54	-4.99	AVG
11	17830	54.33	9.12	63.45	68.2	-4.75	peak
12	17830	41.45	9.12	50.57	54	-3.43	AVG



802.11 ac20-Middle Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5794	60.51	-12.18	48.33	68.2	-19.87	peak
2	5794	51.91	-12.18	39.73	54	-14.27	AVG
3	8072	57.2	-7.75	49.45	68.2	-18.75	peak
4	8072	50.81	-7.75	43.06	54	-10.94	AVG
5	10554	55.14	-2.97	52.17	68.2	-16.03	peak
6	10554	48.64	-2.97	45.67	54	-8.33	AVG
7	12730	55.05	-0.78	54.27	68.2	-13.93	peak
8	12730	48.09	-0.78	47.31	54	-6.69	AVG
9	15212	54.51	6.63	61.14	68.2	-7.06	peak
10	15212	42.45	6.63	49.08	54	-4.92	AVG
11	17592	53.77	9.08	62.85	68.2	-5.35	peak
12	17592	40.76	9.08	49.84	54	-4.16	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	2054	65.21	-20.30	44.91	68.2	-23.29	peak
2	2054	58.45	-20.30	38.15	54	-15.85	AVG
3	5794	59.66	-12.18	47.48	68.2	-20.72	peak
4	5794	54.4	-12.18	42.22	54	-11.78	AVG
5	7358	56.21	-7.23	48.98	68.2	-19.22	peak
6	7358	53.19	-7.23	45.96	54	-8.04	AVG
7	10078	56.28	-4.37	51.91	68.2	-16.29	peak
8	10078	51.38	-4.37	47.01	54	-6.99	AVG
9	16164	54.2	6.74	60.94	68.2	-7.26	peak
10	16164	43.11	6.74	49.85	54	-4.15	AVG
11	17864	53.56	9.35	62.91	68.2	-5.29	peak
12	17864	41.58	9.35	50.93	54	-3.07	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	6168	56.58	-9.92	46.66	68.2	-21.54	peak
2	6168	49.94	-9.92	40.02	54	-13.98	AVG
3	7460	56.31	-7.09	49.22	68.2	-18.98	peak
4	7460	50.7	-7.09	43.61	54	-10.39	AVG
5	10996	54.94	-2.85	52.09	68.2	-16.11	peak
6	10996	48.23	-2.85	45.38	54	-8.62	AVG
7	14396	55.35	3.07	58.42	68.2	-9.78	peak
8	14396	44.58	3.07	47.65	54	-6.35	AVG
9	16776	53.49	7.49	60.98	68.2	-7.22	peak
10	16776	42.13	7.49	49.62	54	-4.38	AVG
11	17592	53.2	9.08	62.28	68.2	-5.92	peak
12	17592	40.69	9.08	49.77	54	-4.23	AVG

802.11 ac20-High Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1986	69.72	-21.01	48.71	68.2	-19.49	peak
2	1986	64.63	-21.01	43.62	54	-10.38	AVG
3	4944	58.68	-12.85	45.83	68.2	-22.37	peak
4	4944	53.94	-12.85	41.09	54	-12.91	AVG
5	7460	56.31	-7.09	49.22	68.2	-18.98	peak
6	7460	51.44	-7.09	44.35	54	-9.65	AVG
7	10724	55.2	-3.00	52.2	68.2	-16	peak
8	10724	49.85	-3.00	46.85	54	-7.15	AVG
9	15824	53.85	6.65	60.5	68.2	-7.7	peak
10	15824	42.58	6.65	49.23	54	-4.77	AVG
11	17966	52.91	9.99	62.9	68.2	-5.3	peak
12	17966	40.45	9.99	50.44	54	-3.56	AVG

Node:

1. Radiated emissions measured in frequency above 1GHz were made with an instrument using peak/average detector mode.
2. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
3. Margin (dB), result in dBuV/m – limit in dBuV/m.

Restricted band Requirements							
Band I							
Note: Since the distance of band IV exceeds 200 MHz and the distance limit is greater than 20 dB, only band I to band III data is reflected in this document All antennas and bandwidths are tested, and only the worst mode (802.11ac (VHT20) MIMO) is reported in the report.							
802.11 ac (VHT20)-Low (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5086.6	63.43	-12.48	50.95	68.2	-17.25	peak
2	5086.6	47.55	-12.48	35.07	54	-18.93	AVG
3	5150	69.56	-12.61	56.95	68.2	-11.25	peak
4	5150	52.13	-12.61	39.52	54	-14.48	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5114.6	60.3	-12.49	47.81	68.2	-20.39	peak
2	5114.6	46.07	-12.49	33.58	54	-20.42	AVG
3	5150	57.93	-12.61	45.32	68.2	-22.88	peak
4	5150	45.42	-12.61	32.81	54	-21.19	AVG
802.11 ac (VHT20)-High (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350	55.87	-12.59	43.28	68.2	-24.92	peak
2	5350	45.93	-12.59	33.34	54	-20.66	AVG
3	5399.8	46.77	-12.51	34.26	54	-19.74	AVG
4	5399.86	59.35	-12.51	46.84	68.2	-21.36	peak
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350	56.4	-12.59	43.81	68.2	-24.39	peak
2	5350	44.85	-12.59	32.26	54	-21.74	AVG
3	5362	45.07	-12.57	32.5	54	-21.5	AVG
4	5362.04	58.08	-12.57	45.51	68.2	-22.69	peak

Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

Band II							
Note: Since the distance of band IV exceeds 200 MHz and the distance limit is greater than 20 dB, only band I to band III data is reflected in this document All antennas and bandwidths are tested, and only the worst mode (802.11ac (VHT20) MIMO) is reported in the report.							
802.11 ac (VHT20)-Low (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5093	46.08	-12.46	33.62	54	-20.38	AVG
2	5093.6	59.94	-12.46	47.48	68.2	-20.72	peak
3	5150	57.93	-12.61	45.32	68.2	-22.88	peak
4	5150	45.52	-12.61	32.91	54	-21.09	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5079.2	57.79	-12.50	45.29	68.2	-22.91	peak
2	5079.2	46.19	-12.50	33.69	54	-20.31	AVG
3	5150	59.28	-12.61	46.67	68.2	-21.53	peak
4	5150	44.96	-12.61	32.35	54	-21.65	AVG
802.11 ac (VHT20)-High (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350	69.44	-12.59	56.85	68.2	-11.35	peak
2	5350	52.59	-12.59	40	54	-14	AVG
3	5355	50.92	-12.58	38.34	54	-15.66	AVG
4	5355.04	67.36	-12.58	54.78	68.2	-13.42	peak
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350	58.53	-12.59	45.94	68.2	-22.26	peak
2	5350	46.16	-12.59	33.57	54	-20.43	AVG
3	5380.6	45.76	-12.54	33.22	54	-20.78	AVG
4	5380.64	59.44	-12.54	46.9	68.2	-21.3	peak

Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

Band III							
Note: Since the distance of band IV exceeds 200 MHz and the distance limit is greater than 20 dB, only band I to band III data is reflected in this document All antennas and bandwidths are tested, and only the worst mode (802.11ac (VHT20) MIMO) is reported in the report.							
802.11 ac(VHT20)-Low (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5460	62.91	-12.30	50.61	68.2	-17.59	peak
2	5460	50.61	-12.30	38.31	54	-15.69	AVG
3	5472.4	54.05	-12.24	41.81	54	-12.19	AVG
4	5472.48	76.3	-12.24	64.06	68.2	-4.14	peak
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5460	56.86	-12.30	44.56	68.2	-23.64	peak
2	5460	45.47	-12.30	33.17	54	-20.83	AVG
3	5486.8	51.92	-12.17	39.75	54	-14.25	AVG
4	5486.88	71.36	-12.17	59.19	68.2	-9.01	peak
802.11 ac (VHT20)-High (worst mode)							
Note: Since the distance restricted band of this part frequency exceeds 200 MHz and the distance limit is greater than 20 dB.							

Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

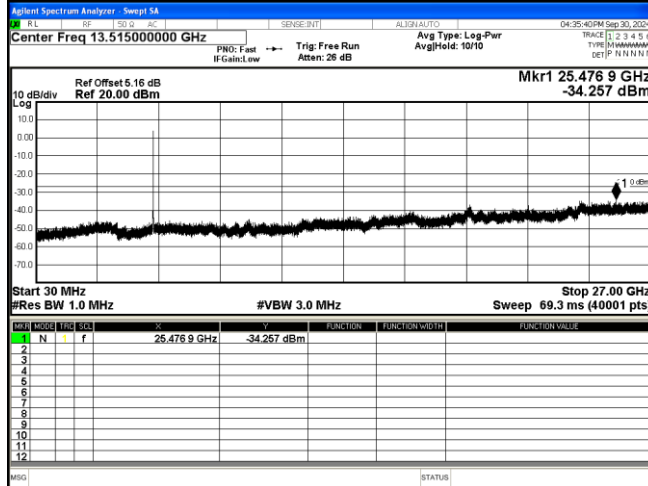
Result = Correction Factor + Reading;

Margin = Result – Limit

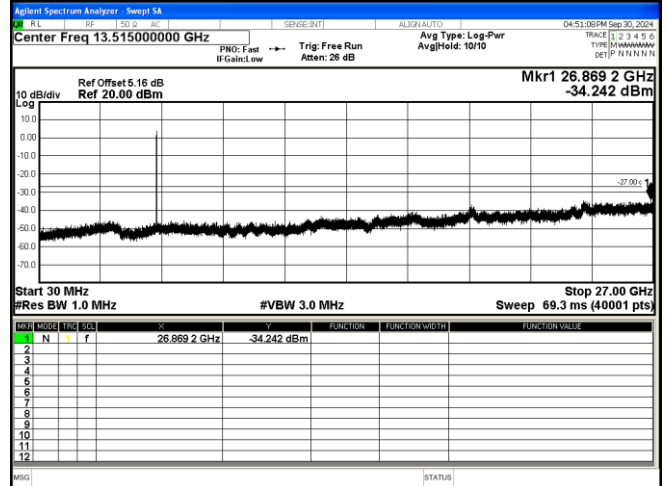
Appendix A.3 Test Results of Conducted Spurious Emissions and Band Edge

All the data rate and antenna configurations have been tested and only the worst-case mode SISO antenna 1 reported.

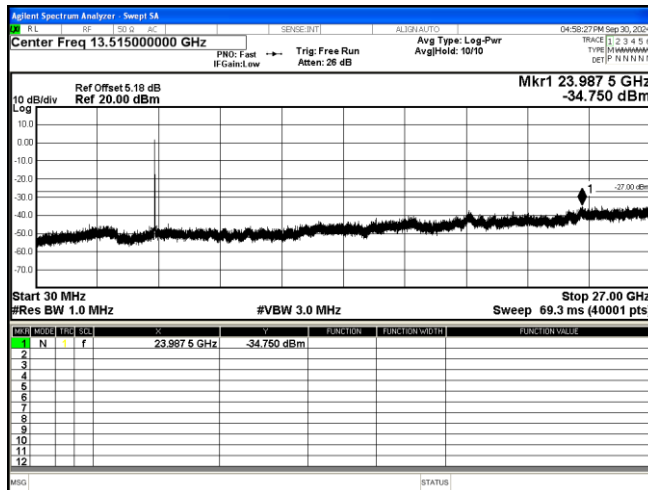
Conducted Spurious Emissions



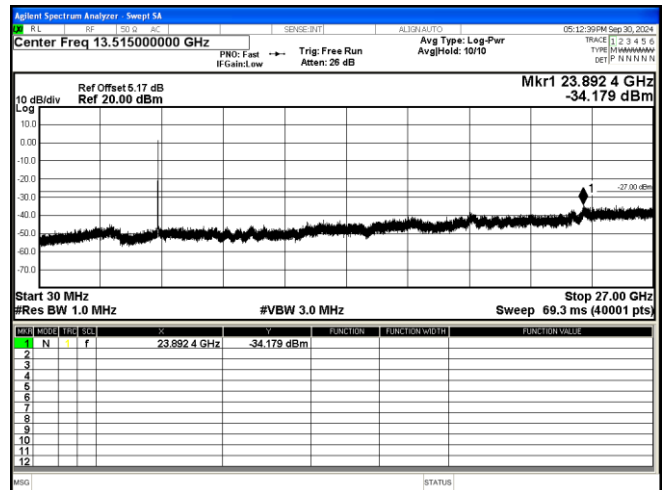
802.11a 5180MHz



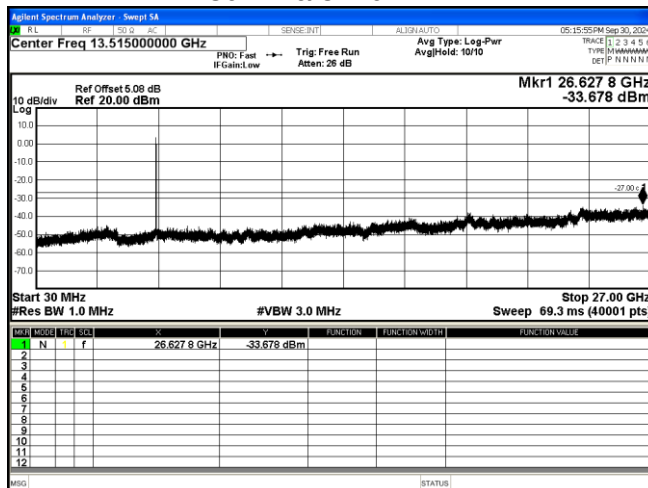
802.11a 5200MHz



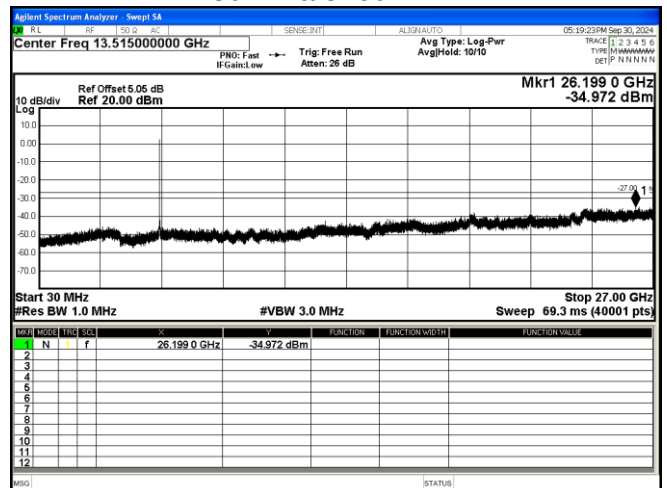
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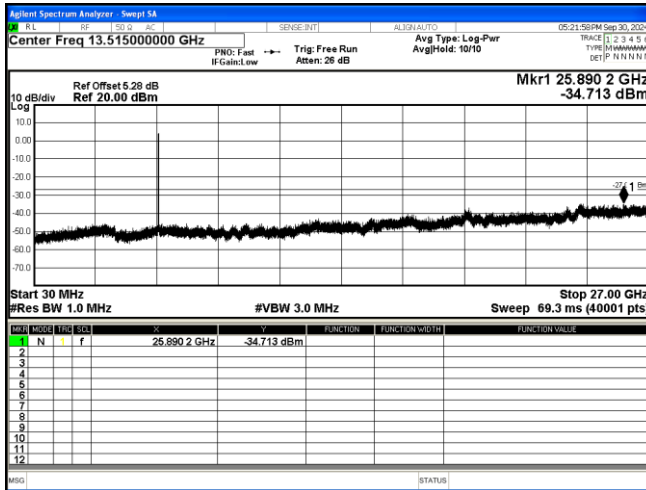
802.11a 5260MHz



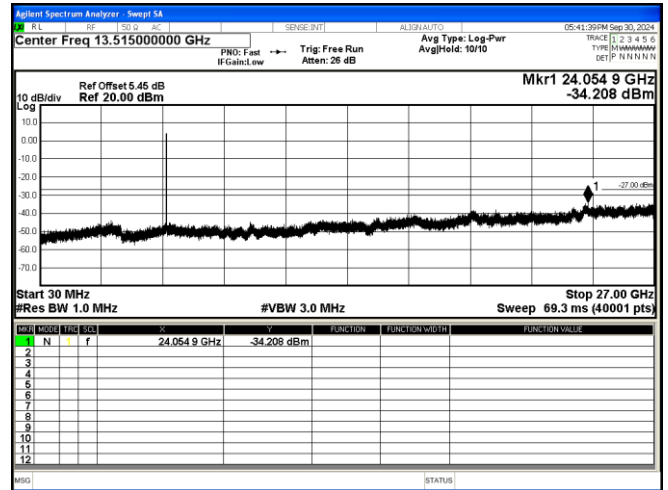
802.11a 5300MHz



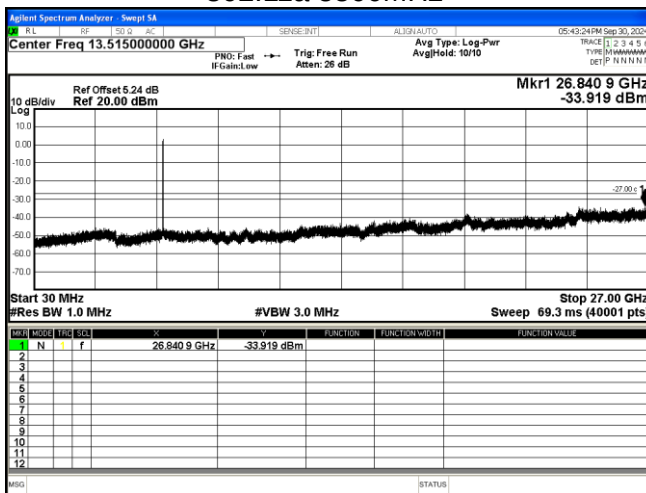
802.11a 5320MHz



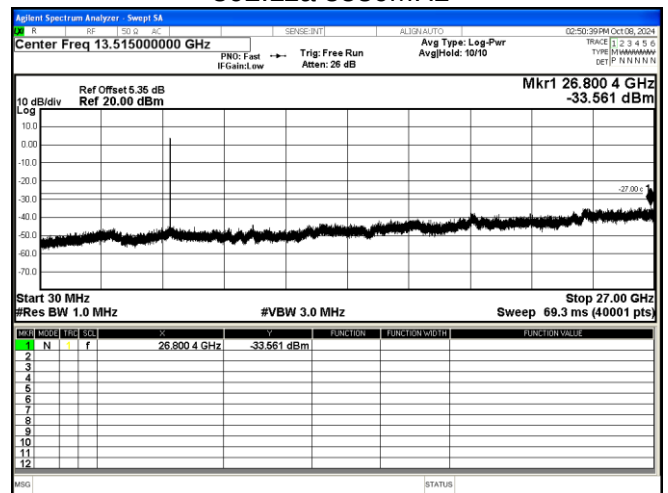
802.11a 5500MHz



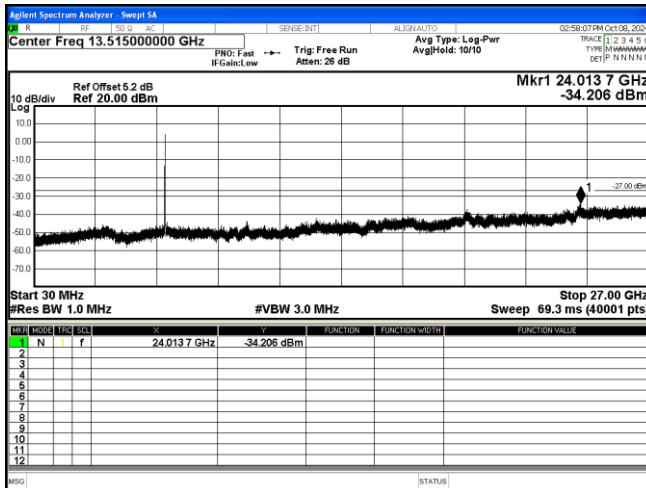
802.11a 5580MHz



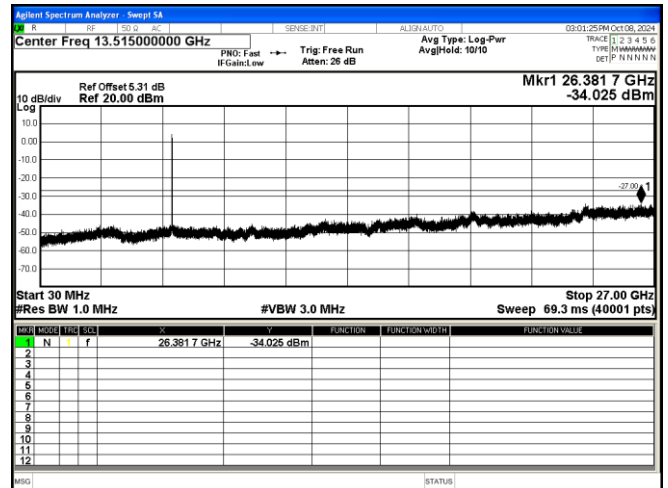
802.11a 5700MHz



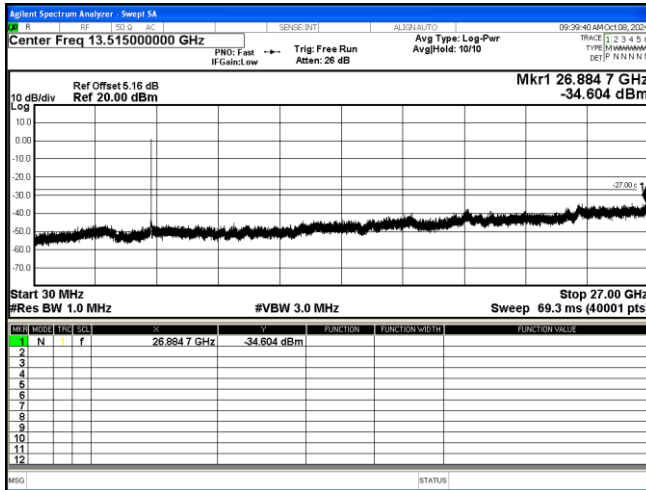
802.11a 5745MHz



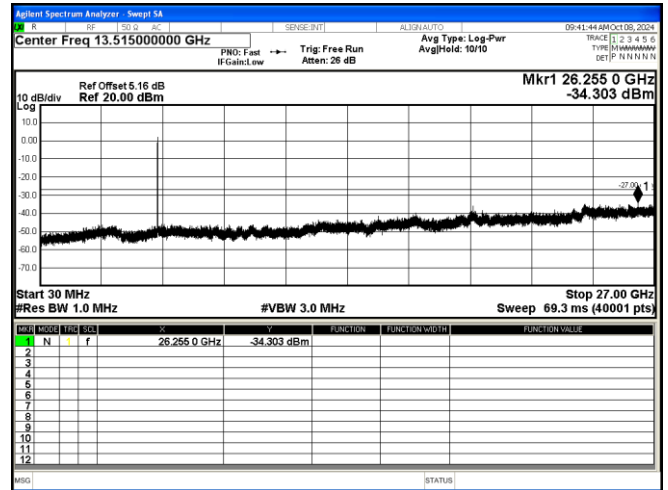
802.11a 5785MHz



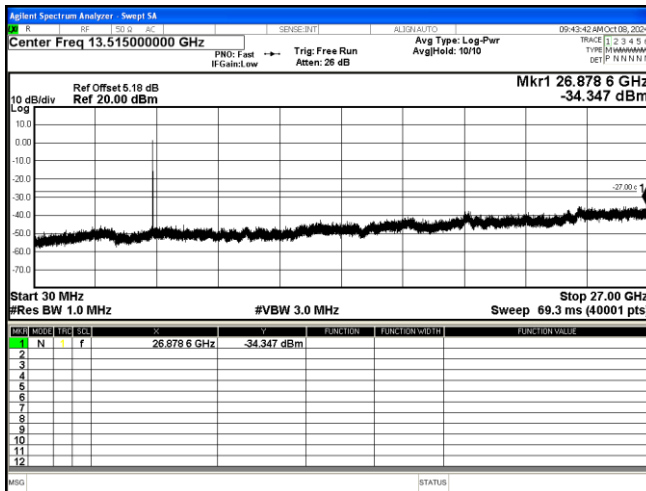
802.11a 5825MHz



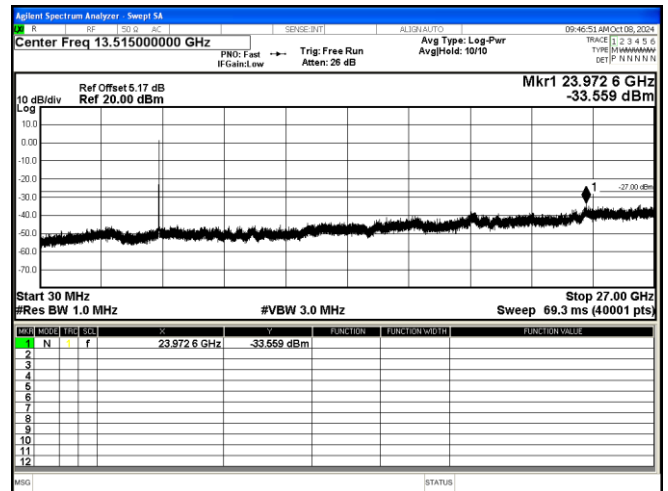
802.11 n20 5180MHz



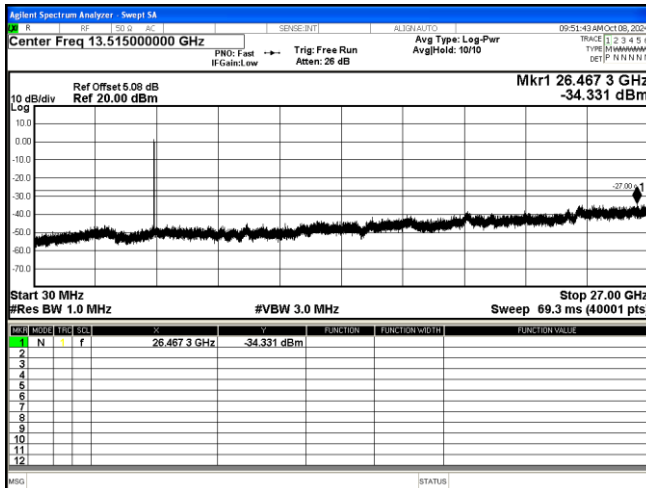
802.11 n20 5200MHz



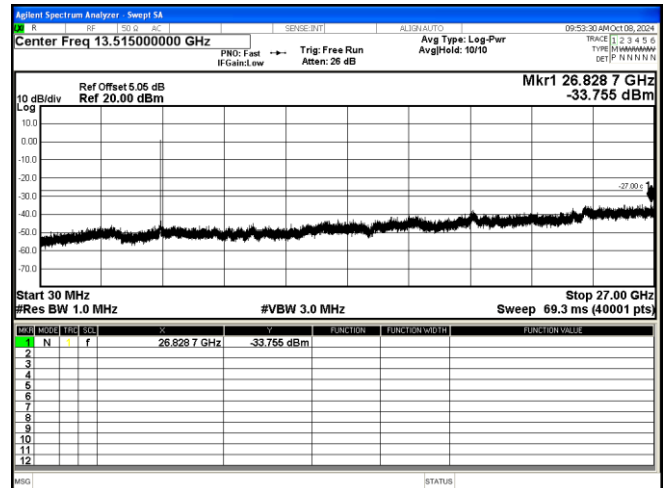
802.11 n20 5240MHz



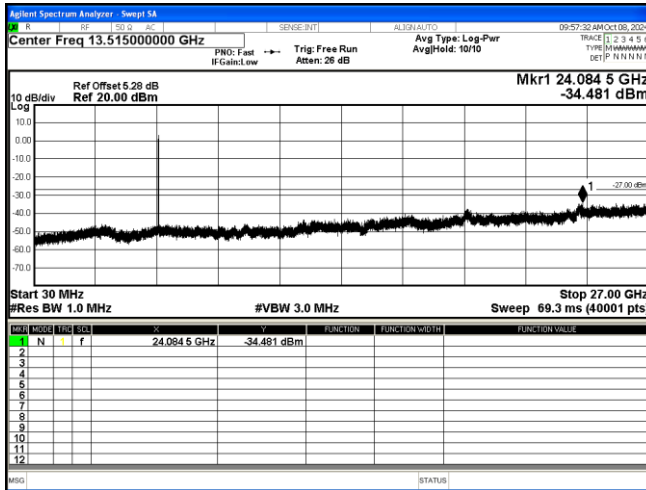
802.11 n20 5260MHz



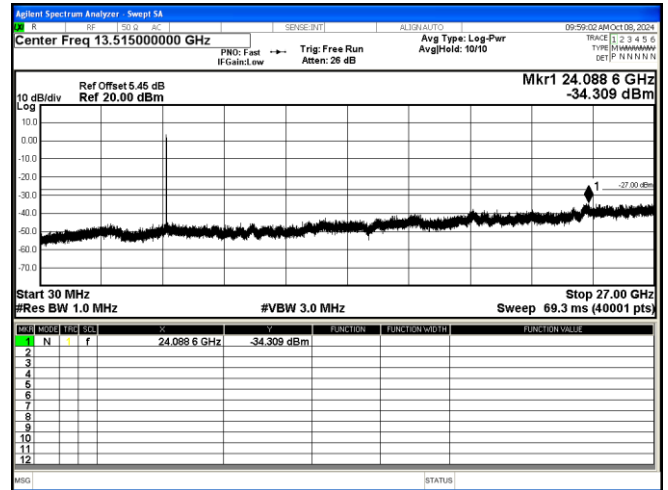
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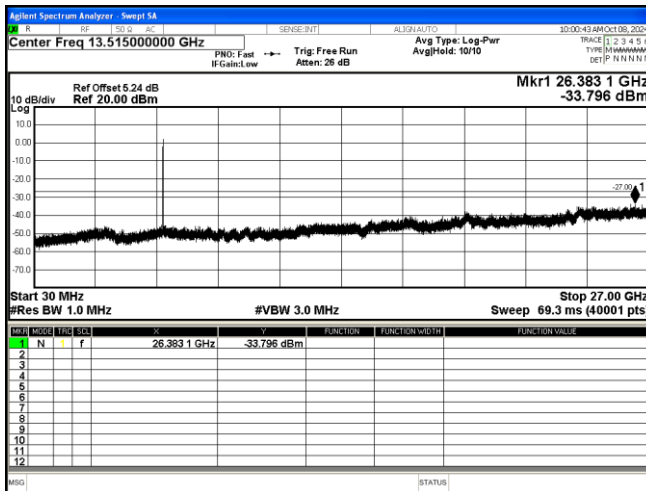
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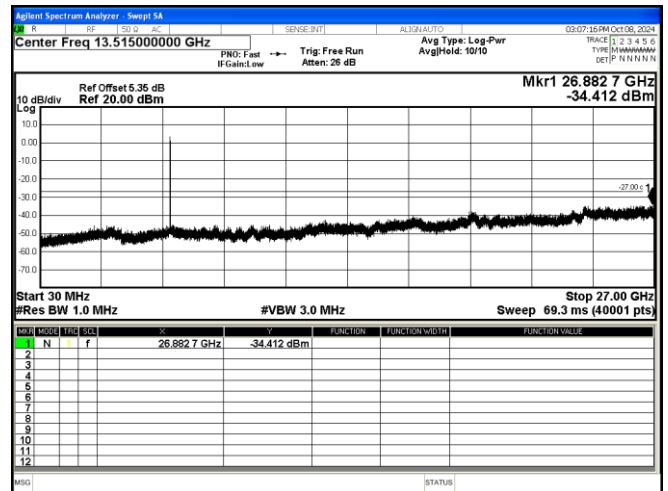
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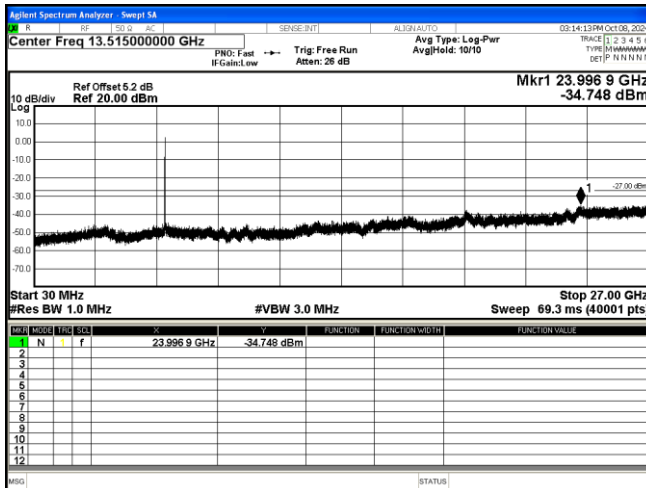
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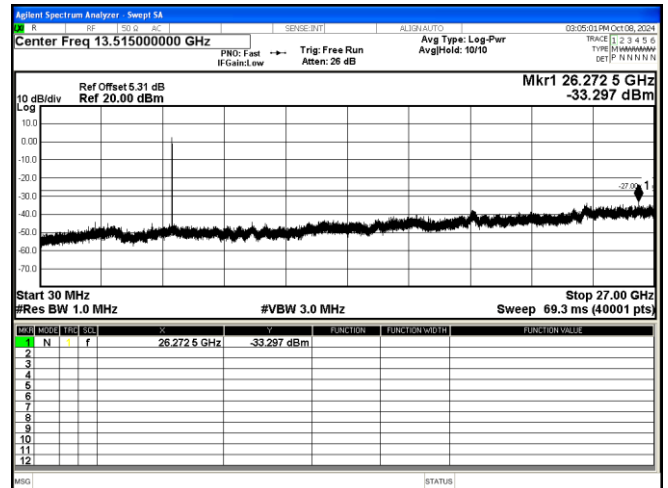
802.11 n20 5700MHz



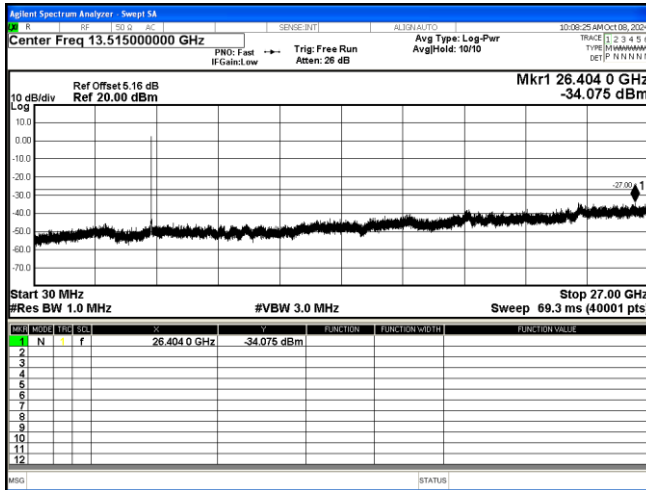
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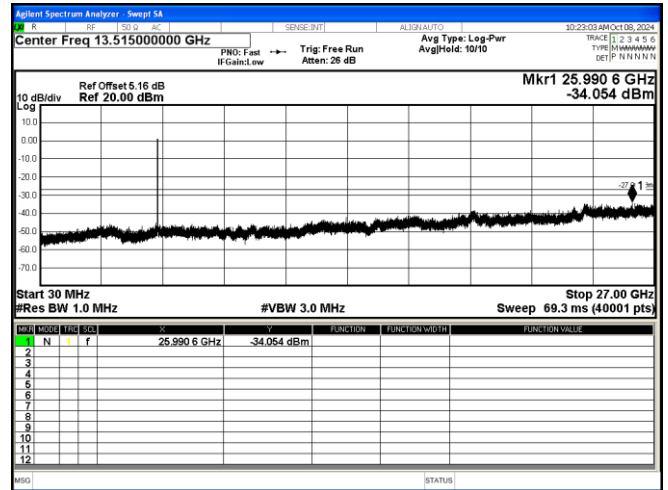
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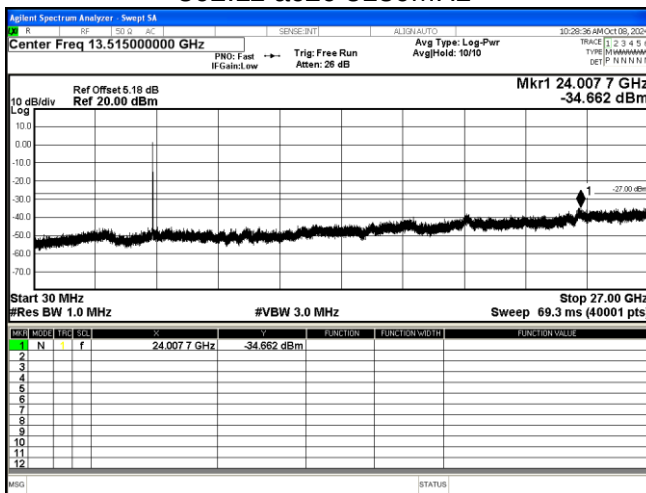
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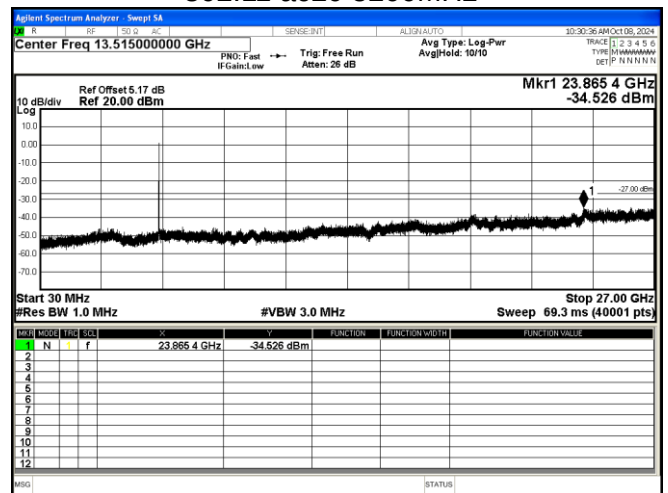
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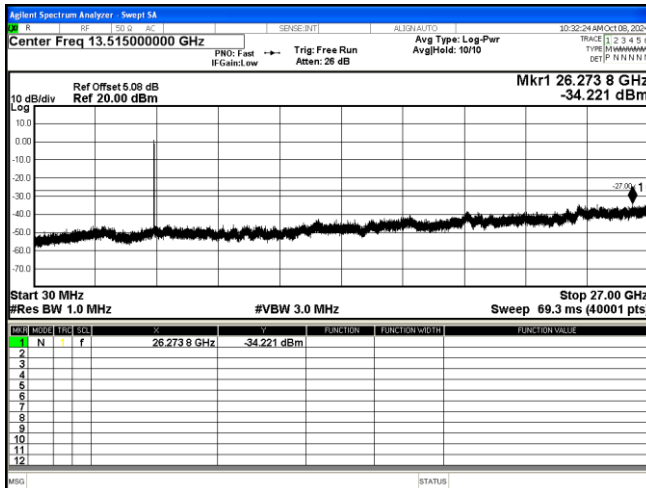
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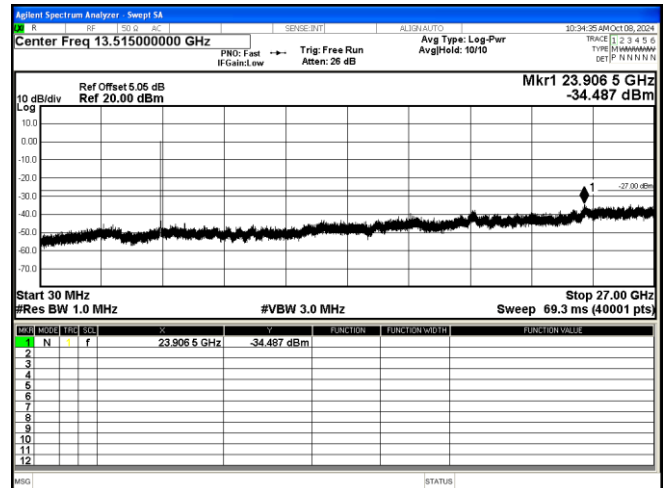
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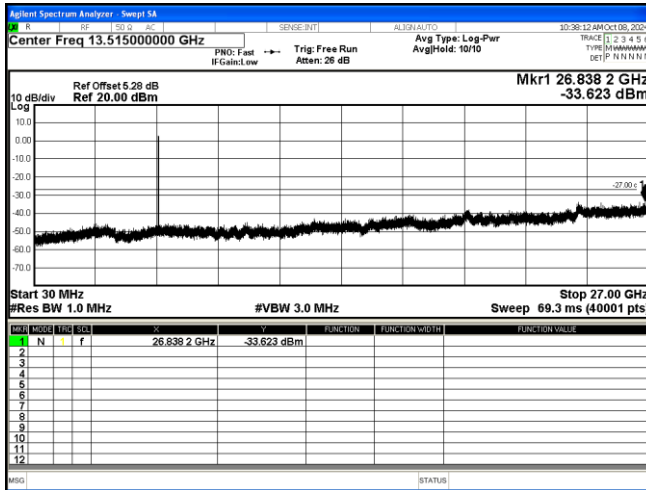
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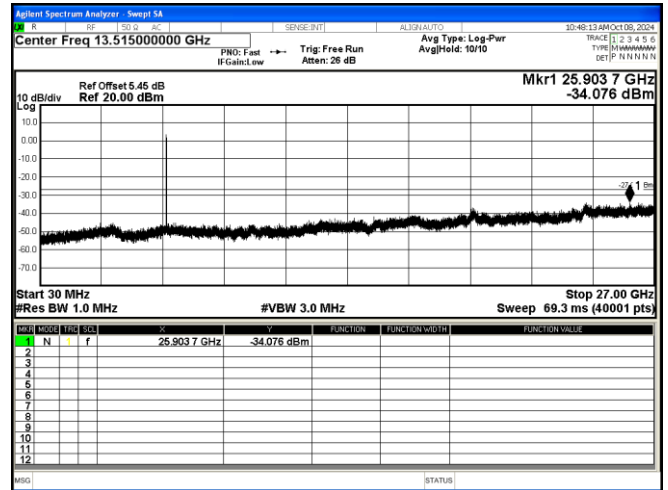
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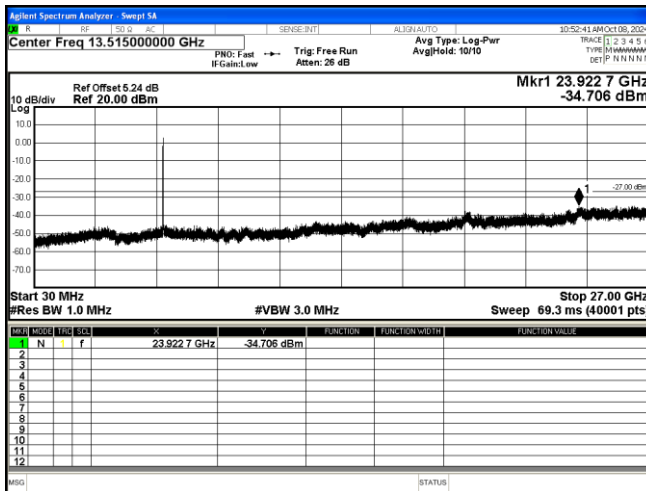
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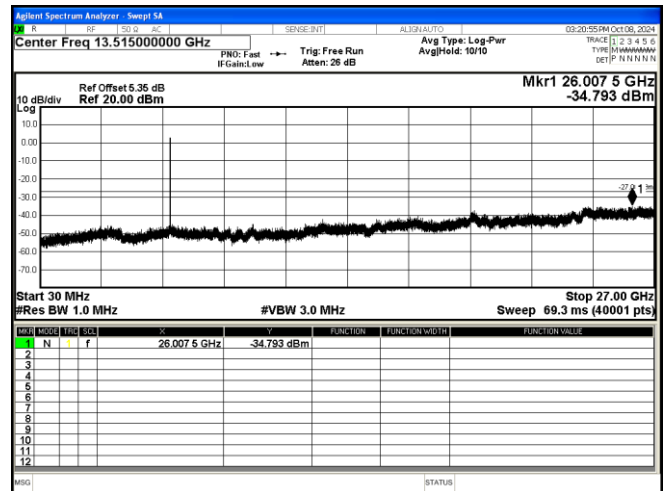
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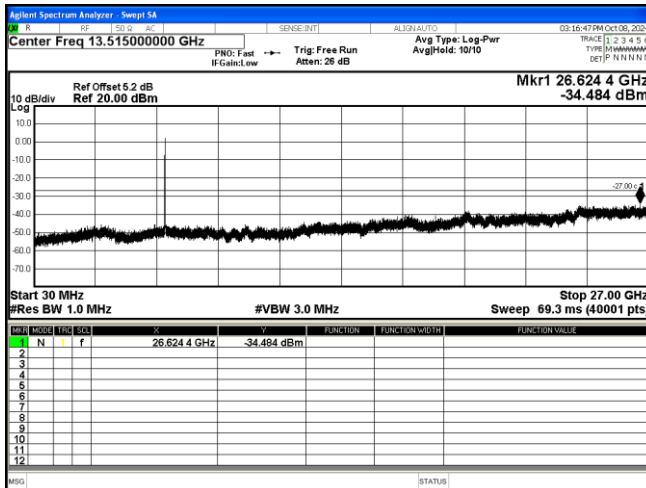
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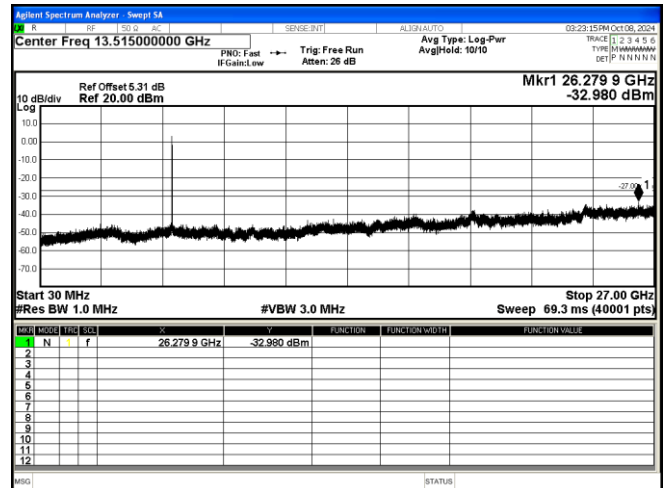
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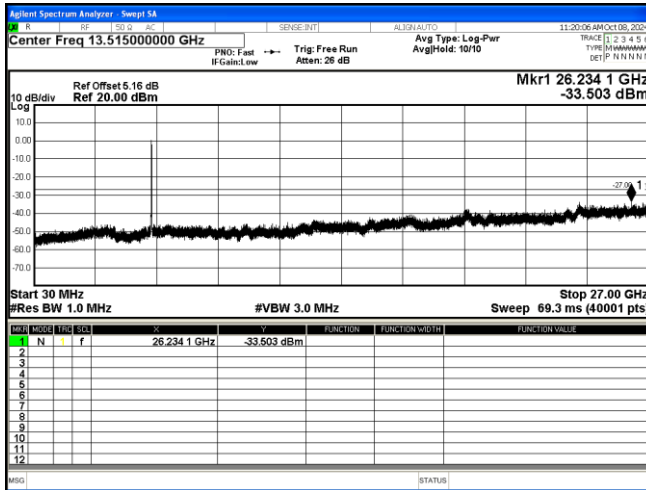
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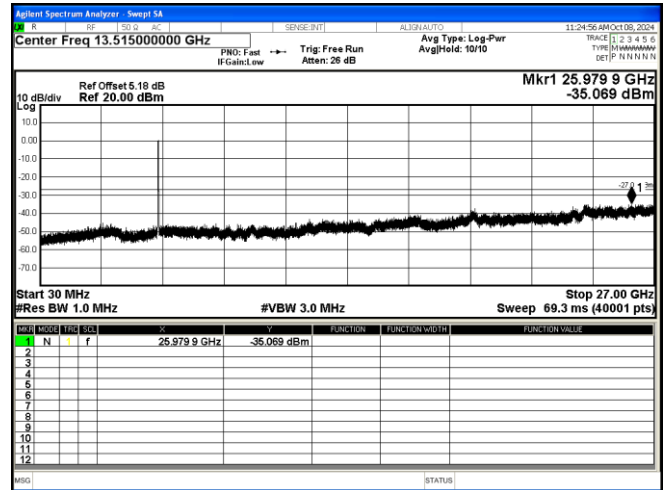
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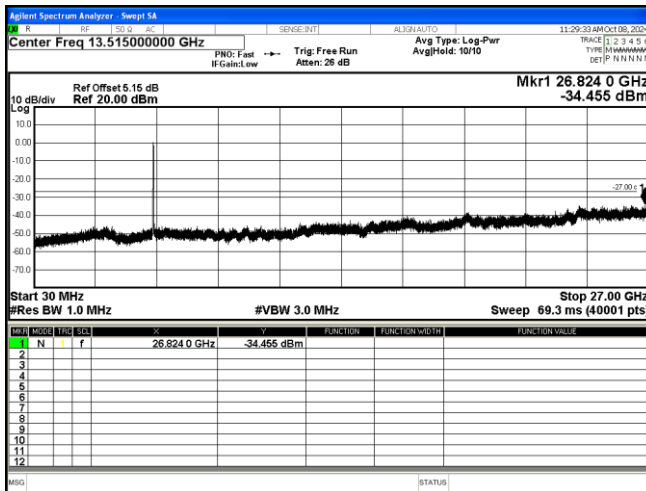
802.11 ac20 5825MHz



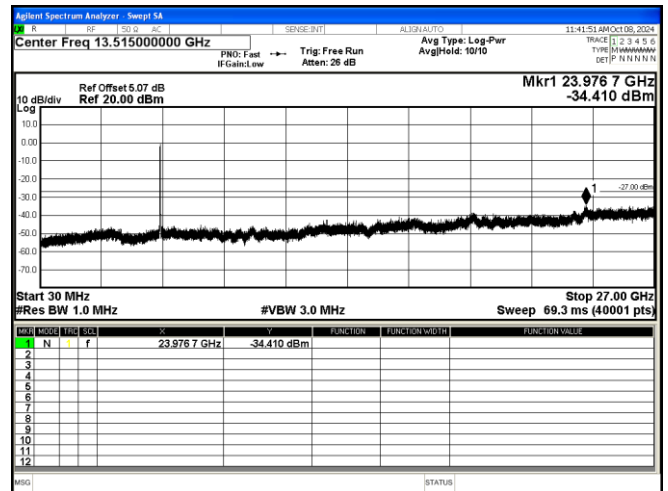
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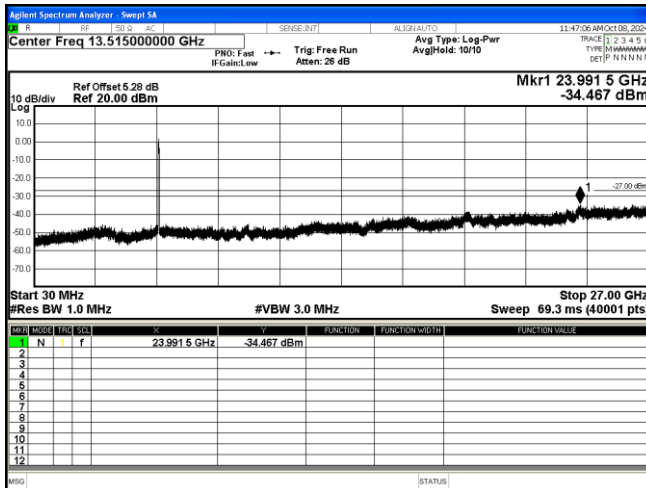
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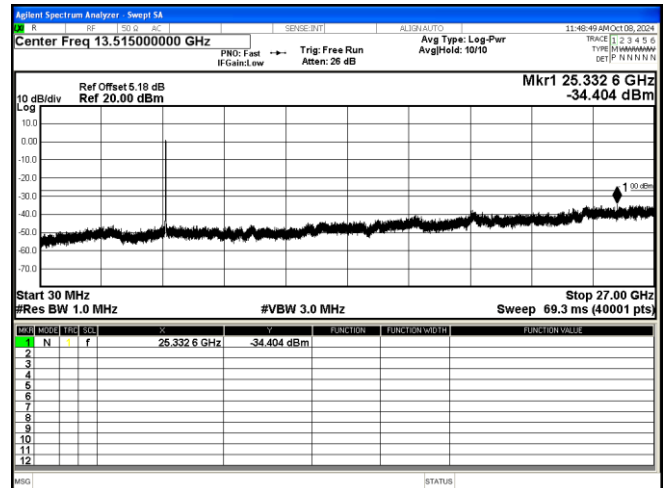
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802.11 n40 5230MHz



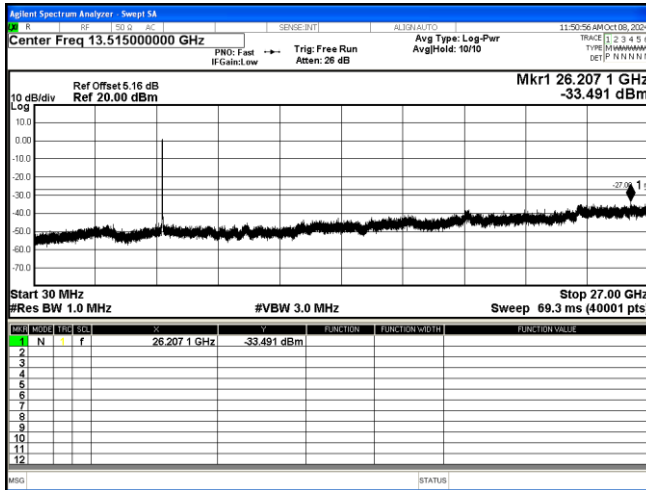
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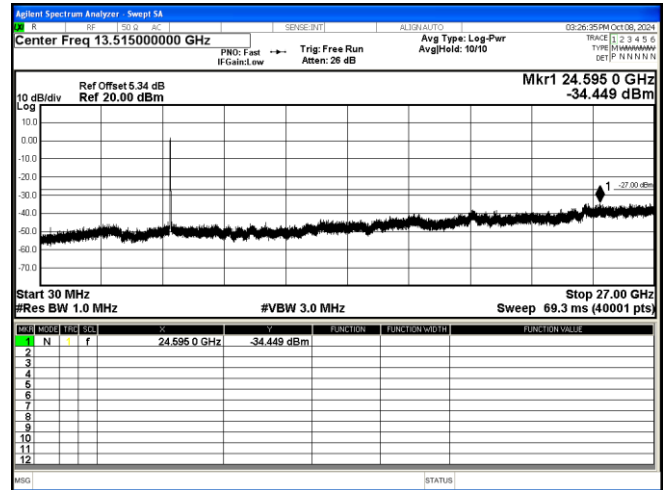
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802.11 n40 5510MHz

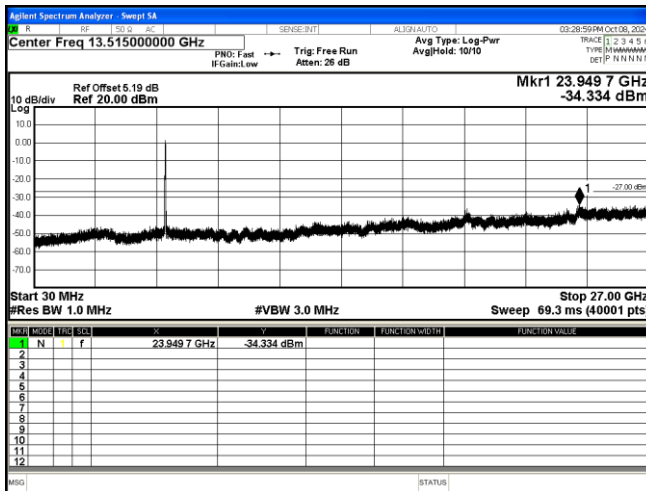
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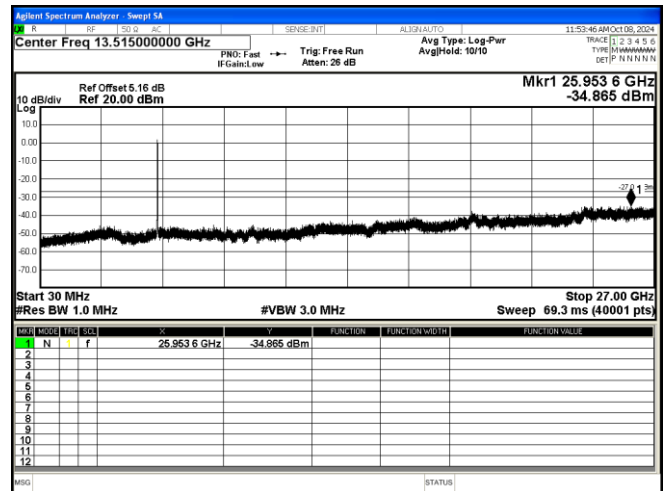
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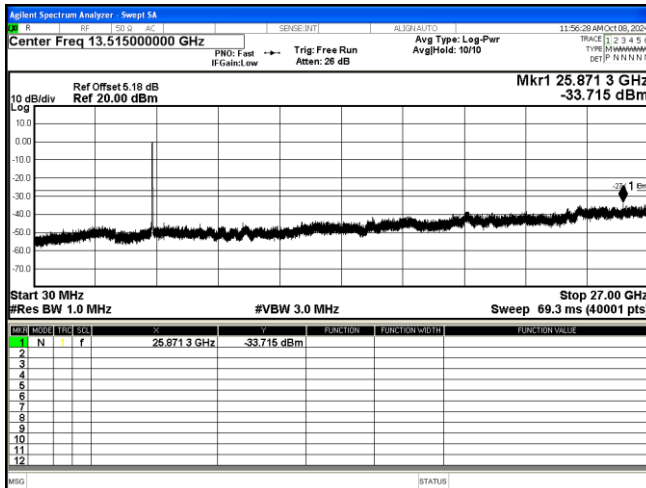
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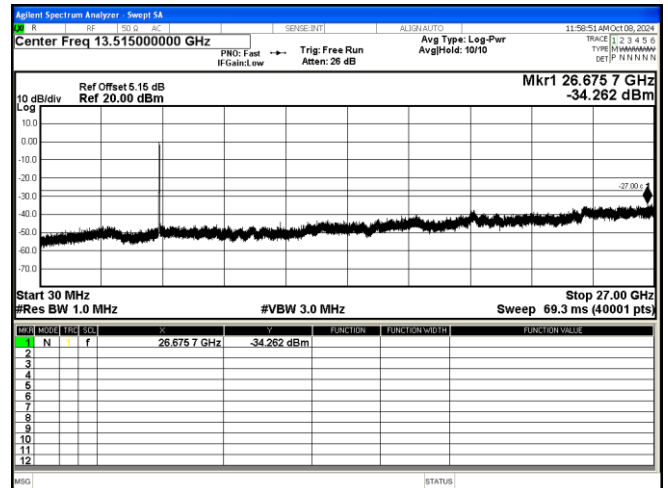
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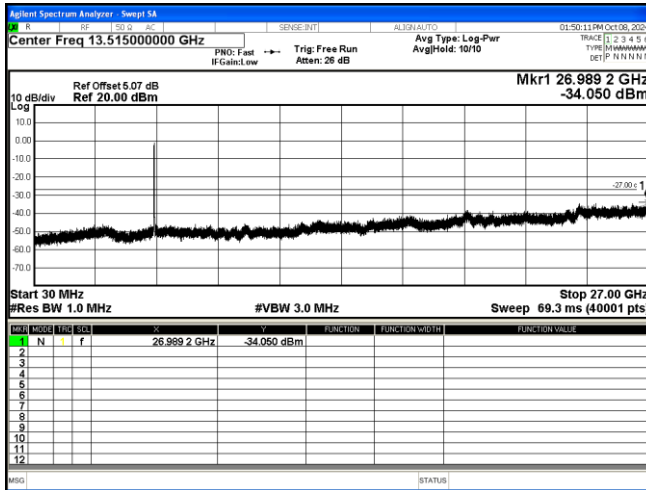
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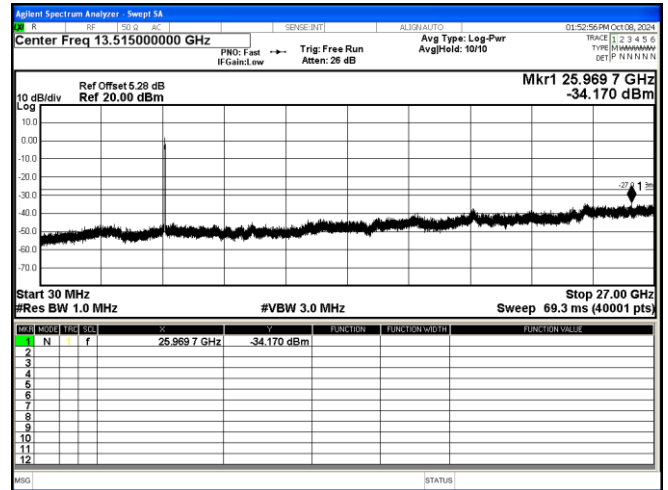
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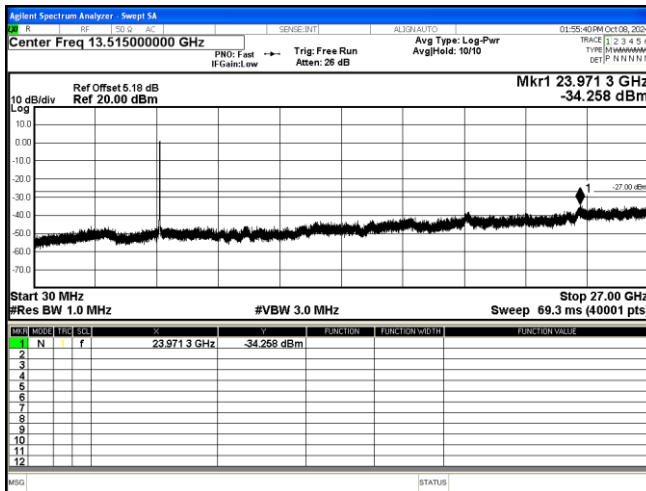
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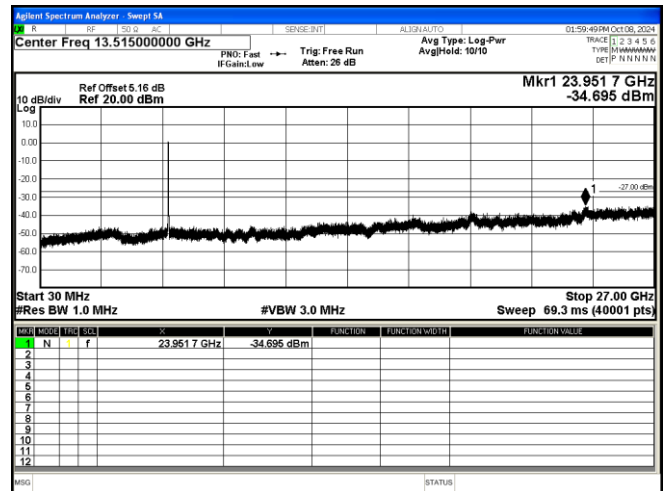
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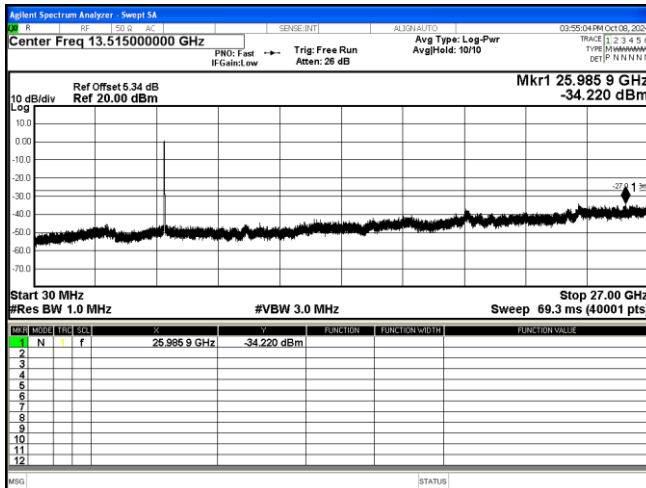
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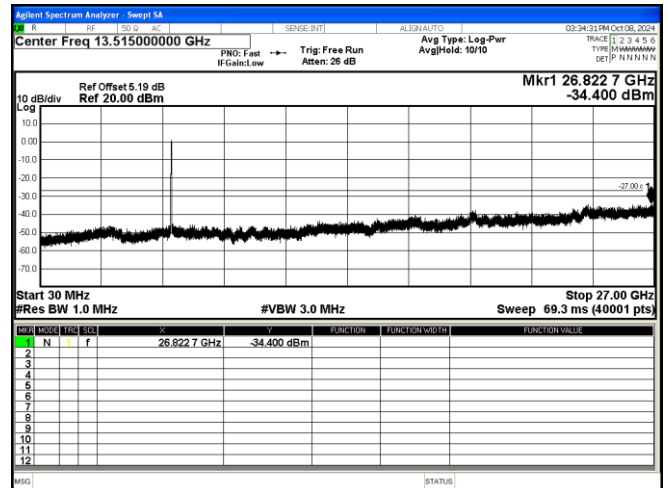
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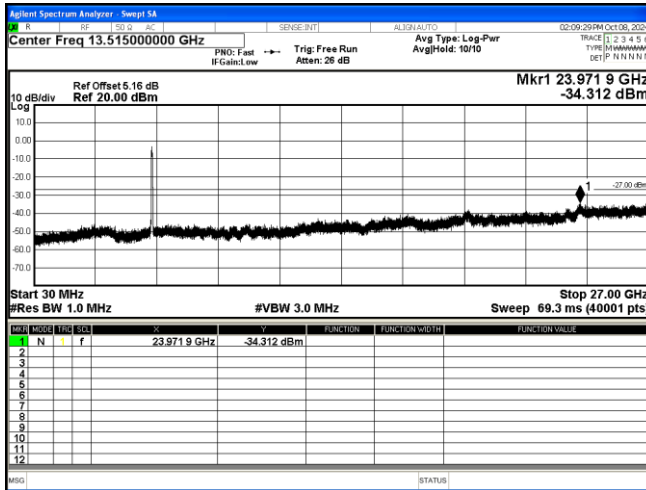
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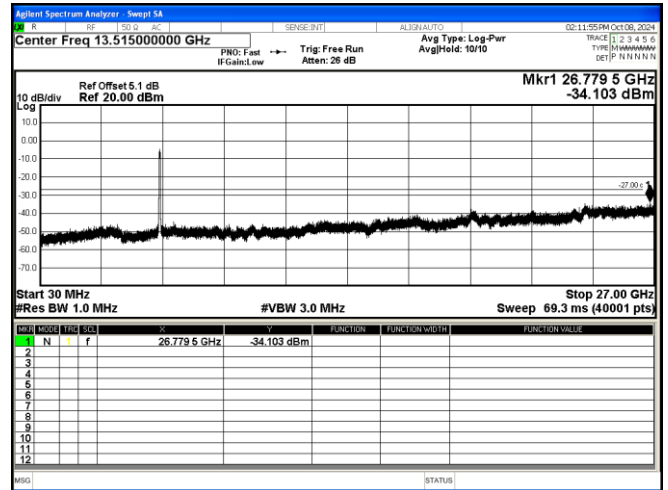
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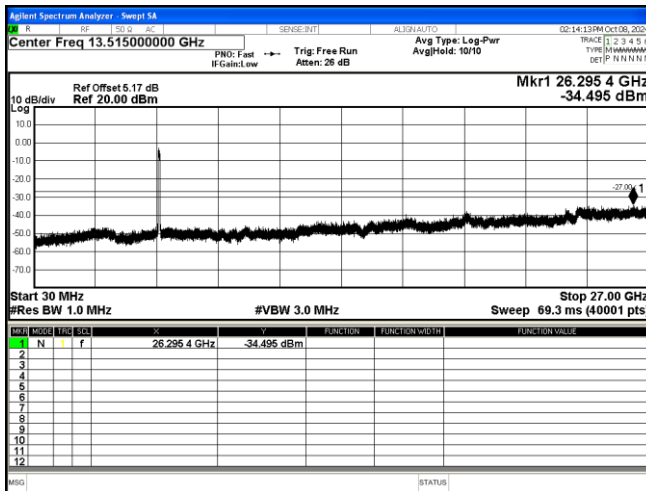
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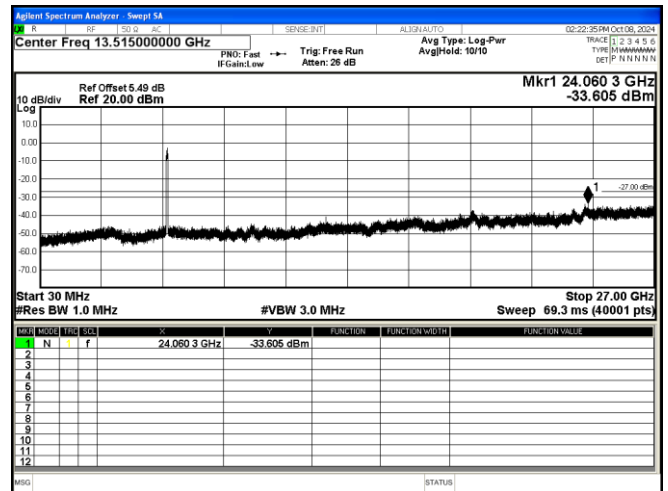
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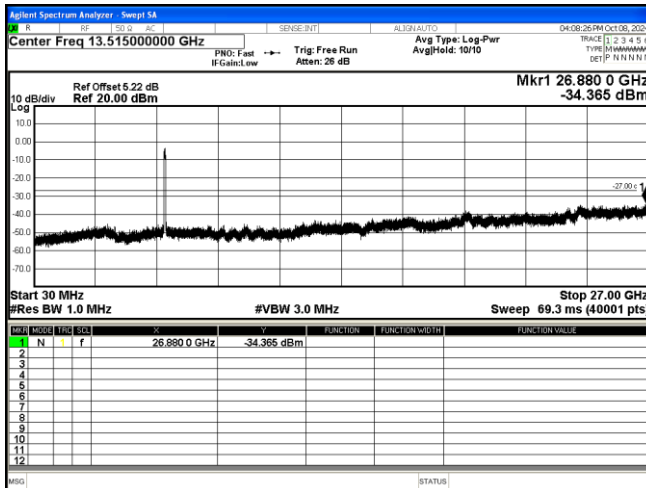
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802.11 ac80 5290MHz



802.11 ac80 5530MHz



802.11 ac80 5610MHz



802.11 ac80 5775MHz