



## **Appendix A: Test Results of Wi-Fi 802.11 a/n/ac**

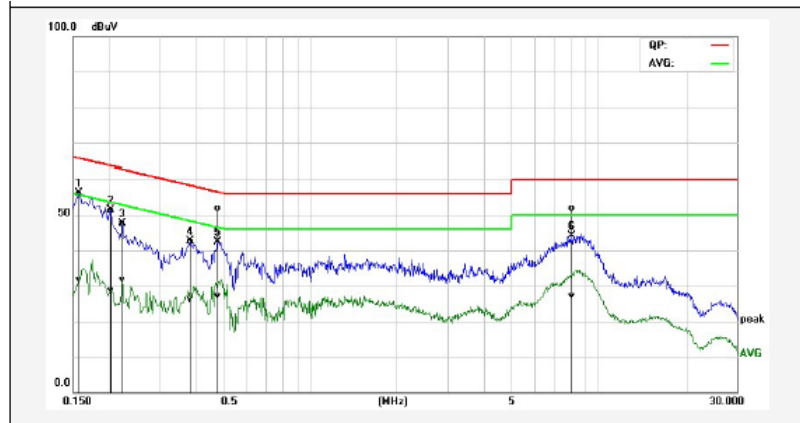
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## Appendix A.1 Test Results of Conducted Emission on AC Mains

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

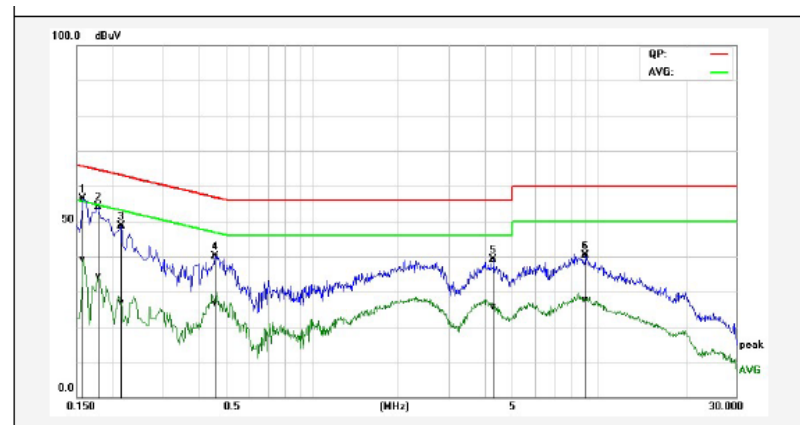
Test Mode :	Mode 5	Test Voltage :	AC 230V/50Hz
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L



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	46.45	22.12	9.62	56.07	31.74	65.56	55.57	-9.49	-23.83	Pass
2P	0.2020	41.84	19.12	9.53	51.37	28.65	63.52	53.53	-12.15	-24.88	Pass
3P	0.2220	38.09	22.01	9.53	47.62	31.54	62.74	52.74	-15.12	-21.20	Pass
4P	0.3820	33.18	16.64	9.52	42.70	26.16	58.23	48.24	-15.53	-22.08	Pass
5P	0.4780	42.35	17.50	9.52	51.87	27.02	56.37	46.37	-4.50	-19.35	Pass
6P	8.0380	42.24	17.39	9.63	51.87	27.02	60.00	50.00	-8.13	-22.98	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
1*	0.1580	46.88	29.52	9.56	56.44	39.08	65.56	55.57	-9.12	-16.49	Pass
2P	0.1780	44.46	24.84	9.59	54.05	34.43	64.57	54.58	-10.52	-20.15	Pass
3P	0.2140	39.03	17.33	9.63	48.66	26.96	63.04	53.05	-14.38	-26.09	Pass
4P	0.4580	30.39	17.00	9.62	40.01	26.62	56.73	46.73	-16.72	-20.11	Pass
5P	4.3140	29.49	16.07	9.57	39.06	25.64	56.00	46.00	-16.94	-20.36	Pass
6P	9.0300	30.47	17.92	9.83	40.30	27.75	60.00	50.00	-19.70	-22.25	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

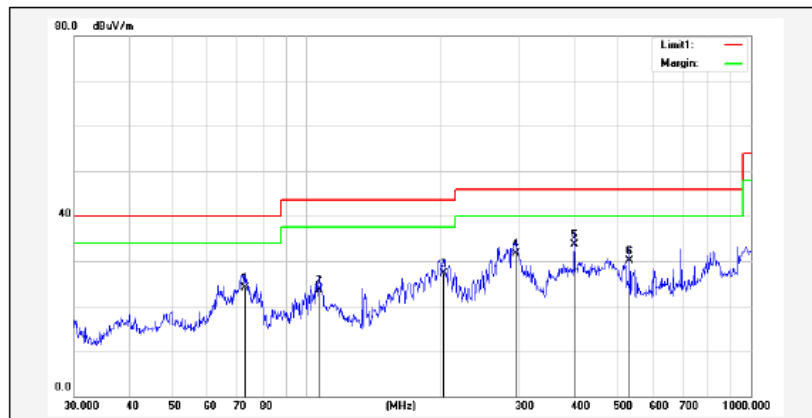
Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz 40 GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18G Hz were reported.

All the data rate and configurations have been tested and only the worst case mode ac(VHT20 reported.

**Below 1G:**

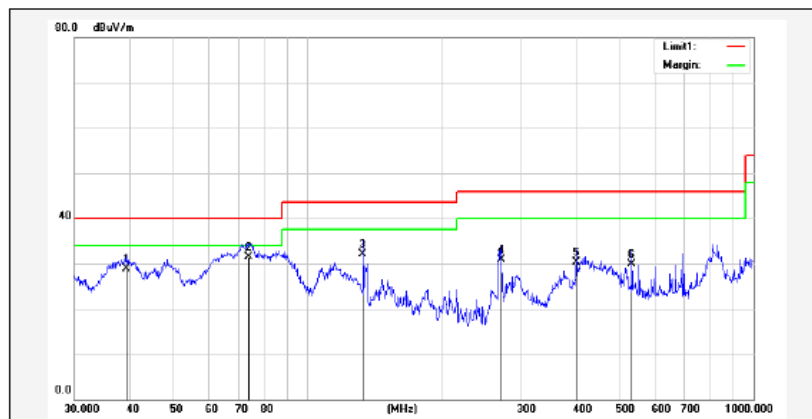
Test Mode :	Mode 5	Test Voltage :	AC 230V/50Hz
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### Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	72.8465	38.33	-14.26	24.07	40.00	-15.93			QP
2	106.7587	38.58	-14.86	23.72	43.50	-19.78			QP
3	203.5227	42.30	-14.92	27.38	43.50	-16.12			QP
4	296.1836	41.91	-10.15	31.76	46.00	-14.24			QP
5*	400.4318	41.08	-7.43	33.65	46.00	-12.35			QP
6	533.8320	34.37	-4.26	30.11	46.00	-15.89			QP

### Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	39.2991	41.55	-12.62	28.93	40.00	-11.07			QP
2*	73.6170	46.06	-14.46	31.60	40.00	-8.40			QP
3	133.1511	45.09	-12.89	32.20	43.50	-11.30			QP
4	271.3245	42.80	-11.88	30.92	46.00	-15.08			QP
5	400.4318	37.77	-7.43	30.34	46.00	-15.66			QP
6	533.8320	34.21	-4.26	29.95	46.00	-16.05			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	2015.509	65.91	-21.29	44.62	68.2	-23.58	peak
2	2015.509	45.85	-21.29	24.56	54	-29.44	AVG
3	3681.329	60.66	-17.62	43.04	68.2	-25.16	peak
4	3681.329	41.04	-17.62	23.42	54	-30.58	AVG
5	5953.844	59.7	-12.04	47.66	68.2	-20.54	peak
6	5953.844	39.93	-12.04	27.89	54	-26.11	AVG
7	8282.955	56.12	-8.51	47.61	68.2	-20.59	peak
8	8282.955	37.07	-8.51	28.56	54	-25.44	AVG
9	10382.28	55.8	-6.38	49.42	68.2	-18.78	peak
10	10382.28	35.56	-6.38	29.18	54	-24.82	AVG
11	14868.2	54.46	-0.98	53.48	68.2	-14.72	peak
12	14868.2	34.44	-0.98	33.46	54	-20.54	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	1891.095	63.18	-22.35	40.83	68.2	-27.37	peak
2	1891.095	42.49	-22.35	20.14	54	-33.86	AVG
3	3597.016	58.36	-17	41.36	68.2	-26.84	peak
4	3597.016	38.36	-17	21.36	54	-32.64	AVG
5	7593.669	58.47	-8.9	49.57	68.2	-18.63	peak
6	7593.669	38.58	-8.9	29.68	54	-24.32	AVG
7	9354.324	56.18	-6.45	49.73	68.2	-18.47	peak
8	9354.324	36.19	-6.45	29.74	54	-24.26	AVG
9	10382.28	61.68	-6.38	55.3	68.2	-12.9	peak
10	10382.28	41.99	-6.38	35.61	54	-18.39	AVG
11	11861.81	54.44	-3.5	50.94	68.2	-17.26	peak
12	11861.81	33.95	-3.5	30.45	54	-23.55	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	1837.111	64.9	-22.46	42.44	68.2	-25.76	peak
2	1837.111	44.82	-22.46	22.36	54	-31.64	AVG
3	2755.661	71.57	-19.68	51.89	68.2	-16.31	peak
4	2755.661	50.88	-19.68	31.2	54	-22.8	AVG
5	2954.015	64.29	-19.59	44.7	68.2	-23.5	peak
6	2954.015	44.1	-19.59	24.51	54	-29.49	AVG
7	7593.669	57.38	-8.9	48.48	68.2	-19.72	peak
8	7593.669	37.69	-8.9	28.79	54	-25.21	AVG
9	10382.28	65.53	-6.38	59.15	68.2	-9.05	peak
10	10382.28	45.8	-6.38	39.42	54	-14.58	AVG
11	14277.41	53.72	-1.26	52.46	68.2	-15.74	peak
12	14277.41	33.86	-1.26	32.6	54	-21.4	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	1764.113	66.81	-23.01	43.8	68.2	-24.4	peak
2	1764.113	46.12	-23.01	23.11	54	-30.89	AVG
3	2755.661	62.48	-19.68	42.8	68.2	-25.4	peak
4	2755.661	41.81	-19.68	22.13	54	-31.87	AVG
5	3660.067	60.29	-17.37	42.92	68.2	-25.28	peak
6	3660.067	40.16	-17.37	22.79	54	-31.21	AVG
7	7682.15	64.17	-9.05	55.12	68.2	-13.08	peak
8	7682.15	44.31	-9.05	35.26	54	-18.74	AVG
9	10442.59	56.62	-6.22	50.4	68.2	-17.8	peak
10	10442.59	37.1	-6.22	30.88	54	-23.12	AVG
11	12000.03	54	-2.95	51.05	68.2	-17.15	peak
12	12000.03	34.42	-2.95	31.47	54	-22.53	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	1837.111	64.4	-22.46	41.94	68.2	-26.26	peak
2	1837.111	43.91	-22.46	21.45	54	-32.55	AVG
3	2836.637	63.75	-19.65	44.1	68.2	-24.1	peak
4	2836.637	44.28	-19.65	24.63	54	-29.37	AVG
5	5521.982	63.91	-13.67	50.24	68.2	-17.96	peak
6	5521.982	44.09	-13.67	30.42	54	-23.58	AVG
7	7726.777	69.13	-9.13	60	68.2	-8.2	peak
8	7726.777	49.36	-9.13	40.23	54	-13.77	AVG
9	10503.26	68.1	-5.93	62.17	68.2	-6.03	peak
10	10503.26	48.06	-5.93	42.13	54	-11.87	AVG
11	12715.63	54.53	-2.72	51.81	68.2	-16.39	peak
12	12715.63	33.94	-2.72	31.22	54	-22.78	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	2755.661	63.19	-19.68	43.51	68.2	-24.69	peak
2	2755.661	42.88	-19.68	23.2	54	-30.8	AVG
3	3597.016	59.55	-17	42.55	68.2	-25.65	peak
4	3597.016	39.56	-17	22.56	54	-31.44	AVG
5	7682.15	60.39	-9.05	51.34	68.2	-16.86	peak
6	7682.15	40.47	-9.05	31.42	54	-22.58	AVG
7	10503.26	68.38	-5.93	62.45	68.2	-5.75	peak
8	10503.26	48.51	-5.93	42.58	54	-11.42	AVG
9	12496.58	53.94	-2.88	51.06	68.2	-17.14	peak
10	12496.58	34.38	-2.88	31.5	54	-22.5	AVG
11	14194.95	54.09	-1.12	52.97	68.2	-15.23	peak
12	14194.95	33.83	-1.12	32.71	54	-21.29	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	1837.111	63.68	-22.46	41.22	68.2	-26.98	peak
2	1837.111	43.89	-22.46	21.43	54	-32.57	AVG
3	3597.016	59.37	-17	42.37	68.2	-25.83	peak
4	3597.016	39.57	-17	22.57	54	-31.43	AVG
5	7726.777	65.09	-9.13	55.96	68.2	-12.24	peak
6	7726.777	44.74	-9.13	35.61	54	-18.39	AVG
7	9354.324	56.64	-6.45	50.19	68.2	-18.01	peak
8	9354.324	36.63	-6.45	30.18	54	-23.82	AVG
9	10564.27	64.74	-5.69	59.05	68.2	-9.15	peak
10	10564.27	45.16	-5.69	39.47	54	-14.53	AVG
11	14782.33	53.76	-0.99	52.77	68.2	-15.43	peak
12	14782.33	33.54	-0.99	32.55	54	-21.45	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	2384.166	63.88	-19.93	43.95	68.2	-24.25	peak
2	2384.166	43.44	-19.93	23.51	54	-30.49	AVG
3	7637.782	57.07	-9	48.07	68.2	-20.13	peak
4	7637.782	37.63	-9	28.63	54	-25.37	AVG
5	9408.664	54.99	-6.22	48.77	68.2	-19.43	peak
6	9408.664	34.93	-6.22	28.71	54	-25.29	AVG
7	10503.26	69.06	-5.93	63.13	68.2	-5.07	peak
8	10503.26	49.13	-5.93	43.2	54	-10.8	AVG
9	11930.72	53.96	-3.22	50.74	68.2	-17.46	peak
10	11930.72	33.33	-3.22	30.11	54	-23.89	AVG
11	14612.07	53.27	-1.59	51.68	68.2	-16.52	peak
12	14612.07	33.15	-1.59	31.56	54	-22.44	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	2384.166	62.93	-19.93	43	68.2	-25.2	peak
2	2384.166	42.94	-19.93	23.01	54	-30.99	AVG
3	4133.483	58.74	-17.78	40.96	68.2	-27.24	peak
4	4133.483	38.29	-17.78	20.51	54	-33.49	AVG
5	7771.663	60.35	-9.21	51.14	68.2	-17.06	peak
6	7771.663	40.9	-9.21	31.69	54	-22.31	AVG
7	10625.64	63.85	-5.62	58.23	68.2	-9.97	peak
8	10625.64	43.88	-5.62	38.26	54	-15.74	AVG
9	12715.63	53.99	-2.72	51.27	68.2	-16.93	peak
10	12715.63	33.72	-2.72	31	54	-23	AVG
11	15938.43	59.75	-1	58.75	68.2	-9.45	peak
12	15938.43	39.9	-1	38.9	54	-15.1	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	1847.784	64.4	-22.38	42.02	68.2	-26.18	peak
2	1847.784	44.81	-22.38	22.43	54	-31.57	AVG
3	3576.241	59.76	-17.34	42.42	68.2	-25.78	peak
4	3576.241	39.84	-17.34	22.5	54	-31.5	AVG
5	6093.401	57.54	-11.78	45.76	68.2	-22.44	peak
6	6093.401	37.27	-11.78	25.49	54	-28.51	AVG
7	10625.64	63.38	-5.62	57.76	68.2	-10.44	peak
8	10625.64	43.2	-5.62	37.58	54	-16.42	AVG
9	14194.95	53.47	-1.12	52.35	68.2	-15.85	peak
10	14194.95	33.78	-1.12	32.66	54	-21.34	AVG
11	15938.43	58.09	-1	57.09	68.2	-11.11	peak
12	15938.43	38.41	-1	37.41	54	-16.59	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	3576.241	60.13	-17.34	42.79	68.2	-25.41	peak
2	3576.241	39.7	-17.34	22.36	54	-31.64	AVG
3	8140.266	56.13	-8.56	47.57	68.2	-20.63	peak
4	8140.266	36.97	-8.56	28.41	54	-25.59	AVG
5	9408.664	54.88	-6.22	48.66	68.2	-19.54	peak
6	9408.664	35.38	-6.22	29.16	54	-24.84	AVG
7	10687.37	62.33	-5.72	56.61	68.2	-11.59	peak
8	10687.37	42.15	-5.72	36.43	54	-17.57	AVG
9	12715.63	54.22	-2.72	51.5	68.2	-16.7	peak
10	12715.63	34.24	-2.72	31.52	54	-22.48	AVG
11	16031.01	57.35	-0.95	56.4	68.2	-11.8	peak
12	16031.01	37.65	-0.95	36.7	54	-17.3	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	1805.464	65.66	-22.73	42.93	68.2	-25.27	peak
2	1805.464	45.04	-22.73	22.31	54	-31.69	AVG
3	7549.811	56.14	-8.89	47.25	68.2	-20.95	peak
4	7549.811	36.79	-8.89	27.9	54	-26.1	AVG
5	9408.664	55.33	-6.22	49.11	68.2	-19.09	peak
6	9408.664	35.68	-6.22	29.46	54	-24.54	AVG
7	10625.64	62.91	-5.62	57.29	68.2	-10.91	peak
8	10625.64	43.1	-5.62	37.48	54	-16.52	AVG
9	14696.95	53.87	-1.37	52.5	68.2	-15.7	peak
10	14696.95	33.89	-1.37	32.52	54	-21.48	AVG
11	15938.43	58.58	-1	57.58	68.2	-10.62	peak
12	15938.43	39.99	-1	38.99	54	-15.01	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	2343.094	61.64	-20.09	41.55	68.2	-26.65	peak
2	2343.094	41.54	-20.09	21.45	54	-32.55	AVG
3	3617.911	58.98	-17.05	41.93	68.2	-26.27	peak
4	3617.911	38.81	-17.05	21.76	54	-32.24	AVG
5	7637.782	55.95	-9	46.95	68.2	-21.25	peak
6	7637.782	35.38	-9	26.38	54	-27.62	AVG
7	11001.42	63.44	-5.89	57.55	68.2	-10.65	peak
8	11001.42	43.8	-5.89	37.91	54	-16.09	AVG
9	12715.63	54.69	-2.72	51.97	68.2	-16.23	peak
10	12715.63	33.78	-2.72	31.06	54	-22.94	AVG
11	14194.95	54.41	-1.12	53.29	68.2	-14.91	peak
12	14194.95	34.59	-1.12	33.47	54	-20.53	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	1969.348	65.34	-21.75	43.59	68.2	-24.61	peak
2	1969.348	45.35	-21.75	23.6	54	-30.4	AVG
3	5004.148	60.61	-15.59	45.02	68.2	-23.18	peak
4	5004.148	41.07	-15.59	25.48	54	-28.52	AVG
5	9408.664	54.44	-6.22	48.22	68.2	-19.98	peak
6	9408.664	34.95	-6.22	28.73	54	-25.27	AVG
7	11001.42	61.96	-5.89	56.07	68.2	-12.13	peak
8	11001.42	42.35	-5.89	36.46	54	-17.54	AVG
9	12569.18	54.01	-2.72	51.29	68.2	-16.91	peak
10	12569.18	33.95	-2.72	31.23	54	-22.77	AVG
11	14277.41	53.24	-1.26	51.98	68.2	-16.22	peak
12	14277.41	32.27	-1.26	31.01	54	-22.99	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	1837.111	64.01	-22.46	41.55	68.2	-26.65	peak
2	1837.111	43.76	-22.46	21.3	54	-32.7	AVG
3	5004.148	61.68	-15.59	46.09	68.2	-22.11	peak
4	5004.148	42.38	-15.59	26.79	54	-27.21	AVG
5	8827.884	56.3	-7.96	48.34	68.2	-19.86	peak
6	8827.884	36.11	-7.96	28.15	54	-25.85	AVG
7	11194.26	62.23	-5.33	56.9	68.2	-11.3	peak
8	11194.26	41.76	-5.33	36.43	54	-17.57	AVG
9	12496.58	53.55	-2.88	50.67	68.2	-17.53	peak
10	12496.58	33.35	-2.88	30.47	54	-23.53	AVG
11	14277.41	53.95	-1.26	52.69	68.2	-15.51	peak
12	14277.41	34.16	-1.26	32.9	54	-21.1	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	1969.348	64.89	-21.75	43.14	68.2	-25.06	peak
2	1969.348	45.26	-21.75	23.51	54	-30.49	AVG
3	8093.251	55.89	-8.47	47.42	68.2	-20.78	peak
4	8093.251	36.27	-8.47	27.8	54	-26.2	AVG
5	9854.908	55.49	-6.39	49.1	68.2	-19.1	peak
6	9854.908	36.02	-6.39	29.63	54	-24.37	AVG
7	11129.6	63.61	-5.49	58.12	68.2	-10.08	peak
8	11129.6	43.95	-5.49	38.46	54	-15.54	AVG
9	13396.09	53.73	-2.8	50.93	68.2	-17.27	peak
10	13396.09	33.01	-2.8	30.21	54	-23.79	AVG
11	14612.07	53.78	-1.59	52.19	68.2	-16.01	peak
12	14612.07	34.29	-1.59	32.7	54	-21.3	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	1957.974	66.16	-21.89	44.27	68.2	-23.93	peak
2	1957.974	46.48	-21.89	24.59	54	-29.41	AVG
3	3617.911	59.87	-17.05	42.82	68.2	-25.38	peak
4	3617.911	39.18	-17.05	22.13	54	-31.87	AVG
5	9408.664	55.88	-6.22	49.66	68.2	-18.54	peak
6	9408.664	35.86	-6.22	29.64	54	-24.36	AVG
7	11456.65	62.03	-4.52	57.51	68.2	-10.69	peak
8	11456.65	42.33	-4.52	37.81	54	-16.19	AVG
9	12715.63	54.49	-2.72	51.77	68.2	-16.43	peak
10	12715.63	34.64	-2.72	31.92	54	-22.08	AVG
11	14360.35	54.52	-1.45	53.07	68.2	-15.13	peak
12	14360.35	35.01	-1.45	33.56	54	-20.44	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	4062.276	59.89	-17.67	42.22	68.2	-25.98	peak
2	4062.276	40.09	-17.67	22.42	54	-31.58	AVG
3	7637.782	55.7	-9	46.7	68.2	-21.5	peak
4	7637.782	35.31	-9	26.31	54	-27.69	AVG
5	9969.738	55.09	-6.07	49.02	68.2	-19.18	peak
6	9969.738	35.52	-6.07	29.45	54	-24.55	AVG
7	11390.48	61.29	-4.61	56.68	68.2	-11.52	peak
8	11390.48	41.48	-4.61	36.87	54	-17.13	AVG
9	12715.63	53.94	-2.72	51.22	68.2	-16.98	peak
10	12715.63	34.14	-2.72	31.42	54	-22.58	AVG
11	14194.95	53.72	-1.12	52.6	68.2	-15.6	peak
12	14194.95	34.01	-1.12	32.89	54	-21.11	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	3316.838	66.43	-18.45	47.98	68.2	-20.22	peak
2	3316.838	47.38	-18.45	28.93	54	-25.07	AVG
3	6646.506	58.81	-10.91	47.9	68.2	-20.3	peak
4	6646.506	38.44	-10.91	27.53	54	-26.47	AVG
5	8140.266	58.19	-8.56	49.63	68.2	-18.57	peak
6	8140.266	38.3	-8.56	29.74	54	-24.26	AVG
7	11523.2	59.81	-4.51	55.3	68.2	-12.9	peak
8	11523.2	40.11	-4.51	35.6	54	-18.4	AVG
9	12424.41	54	-3.18	50.82	68.2	-17.38	peak
10	12424.41	33.2	-3.18	30.02	54	-23.98	AVG
11	14782.33	52.89	-0.99	51.9	68.2	-16.3	peak
12	14782.33	32.16	-0.99	31.17	54	-22.83	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	3597.016	58.56	-17	41.56	68.2	-26.64	peak
2	3597.016	38.46	-17	21.46	54	-32.54	AVG
3	7593.669	55.93	-8.9	47.03	68.2	-21.17	peak
4	7593.669	36.73	-8.9	27.83	54	-26.17	AVG
5	9518.294	55.9	-6.54	49.36	68.2	-18.84	peak
6	9518.294	36	-6.54	29.46	54	-24.54	AVG
7	11523.2	65.37	-4.51	60.86	68.2	-7.34	peak
8	11523.2	44.63	-4.51	40.12	54	-13.88	AVG
9	12000.03	54.09	-2.95	51.14	68.2	-17.06	peak
10	12000.03	34.28	-2.95	31.33	54	-22.67	AVG
11	14194.95	53.65	-1.12	52.53	68.2	-15.67	peak
12	14194.95	33.76	-1.12	32.64	54	-21.36	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	1743.794	70.39	-23.13	47.26	68.2	-20.94	peak
2	1743.794	51.74	-23.13	28.61	54	-25.39	AVG
3	3355.486	68.9	-18.42	50.48	68.2	-17.72	peak
4	3355.486	48.66	-18.42	30.24	54	-23.76	AVG
5	5004.148	60.01	-15.59	44.42	68.2	-23.78	peak
6	5004.148	40.17	-15.59	24.58	54	-29.42	AVG
7	8187.553	61.81	-8.71	53.1	68.2	-15.1	peak
8	8187.553	42.91	-8.71	34.2	54	-19.8	AVG
9	11590.14	61.68	-4.57	57.11	68.2	-11.09	peak
10	11590.14	42.56	-4.57	37.99	54	-16.01	AVG
11	14696.95	53.23	-1.37	51.86	68.2	-16.34	peak
12	14696.95	32.84	-1.37	31.47	54	-22.53	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	1924.244	65.48	-22.17	43.31	68.2	-24.89	peak
2	1924.244	55.43	-22.17	33.26	54	-20.74	AVG
3	3297.681	62.18	-18.47	43.71	68.2	-24.49	peak
4	3297.681	42.22	-18.47	23.75	54	-30.25	AVG
5	8235.116	60.26	-8.67	51.59	68.2	-16.61	peak
6	8235.116	40.14	-8.67	31.47	54	-22.53	AVG
7	9408.664	55.17	-6.22	48.95	68.2	-19.25	peak
8	9408.664	35.12	-6.22	28.9	54	-25.1	AVG
9	11590.14	64.56	-4.57	59.99	68.2	-8.21	peak
10	11590.14	43.99	-4.57	39.42	54	-14.58	AVG
11	15041.45	53.69	-1.35	52.34	68.2	-15.86	peak
12	15041.45	33.99	-1.35	32.64	54	-21.36	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	3597.016	59.78	-17	42.78	68.2	-25.42	peak
2	3597.016	39.45	-17	22.45	54	-31.55	AVG
3	5004.148	60.86	-15.59	45.27	68.2	-22.93	peak
4	5004.148	42	-15.59	26.41	54	-27.59	AVG
5	7816.81	57.61	-9.13	48.48	68.2	-19.72	peak
6	7816.81	38.04	-9.13	28.91	54	-25.09	AVG
7	9408.664	55.07	-6.22	48.85	68.2	-19.35	peak
8	9408.664	34.58	-6.22	28.36	54	-25.64	AVG
9	11657.47	59.38	-4.32	55.06	68.2	-13.14	peak
10	11657.47	40.04	-4.32	35.72	54	-18.28	AVG
11	14782.33	53.82	-0.99	52.83	68.2	-15.37	peak
12	14782.33	33.1	-0.99	32.11	54	-21.89	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	1774.361	70.68	-22.93	47.75	68.2	-20.45	peak
2	1774.361	51.25	-22.93	28.32	54	-25.68	AVG
3	8827.884	57.6	-7.96	49.64	68.2	-18.56	peak
4	8827.884	37.1	-7.96	29.14	54	-24.86	AVG
5	9854.908	54.91	-6.39	48.52	68.2	-19.68	peak
6	9854.908	35.13	-6.39	28.74	54	-25.26	AVG
7	11657.47	59.9	-4.32	55.58	68.2	-12.62	peak
8	11657.47	40.07	-4.32	35.75	54	-18.25	AVG
9	12715.63	54.26	-2.72	51.54	68.2	-16.66	peak
10	12715.63	33.92	-2.72	31.2	54	-22.8	AVG
11	14194.95	53.1	-1.12	51.98	68.2	-16.22	peak
12	14194.95	33.01	-1.12	31.89	54	-22.11	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							
<b>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 data (802.11ac(VHT20) MIMO ) is reported in the report.</b>							
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	4960.822	50.97	9.44	60.41	68.2	-7.79	peak
2	4960.822	30.77	9.44	40.21	54	-13.79	AVG
3	5150	49.05	10.26	59.31	68.2	-8.89	peak
4	5150	28.3	10.26	38.56	54	-15.44	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4687.255	49.21	9.03	58.24	68.2	-9.96	peak
2	4687.255	29.43	9.03	38.46	54	-15.54	AVG
3	5150	49.19	10.26	59.45	68.2	-8.75	peak
4	5150	28.76	10.26	39.02	54	-14.98	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	48.78	10.78	59.56	68.2	-8.64	peak
2	5350	28.69	10.78	39.47	54	-14.53	AVG
3	5408.056	52.62	10.93	63.55	68.2	-4.65	peak
4	5408.056	32.22	10.93	43.15	54	-10.85	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350	49.01	10.78	59.79	68.2	-8.41	peak
2	5350	28.65	10.78	39.43	54	-14.57	AVG
3	5403.567	53.41	10.95	64.36	68.2	-3.84	peak
4	5403.567	33.8	10.95	44.75	54	-9.25	AVG

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

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit



<b>Band II</b>							
<b>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 data (802.11ac(VHT20) MIMO ) is reported in the report.</b>							
<b>802.11 ac(VHT20)-Low (worst mode)</b>							
<b>Horizontal</b>							
<b>No.</b>	<b>Frequency (MHz)</b>	<b>Reading (dBuV)</b>	<b>Correct Factor(dB/m)</b>	<b>Result (dBuV/m)</b>	<b>Limit (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Remark</b>
1	4751.523	49.58	9.16	58.74	68.2	-9.46	peak
2	4751.523	29.29	9.16	38.45	54	-15.55	AVG
3	5150	48.53	10.26	58.79	68.2	-9.41	peak
4	5150	27.75	10.26	38.01	54	-15.99	AVG
<b>Vertical</b>							
<b>No.</b>	<b>Frequency (MHz)</b>	<b>Reading (dBuV)</b>	<b>Correct Factor(dB/m)</b>	<b>Result (dBuV/m)</b>	<b>Limit (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Remark</b>
1	4589.499	49.84	8.14	57.98	68.2	-10.22	peak
2	4589.499	29.42	8.14	37.56	54	-16.44	AVG
3	5150	48.94	10.26	59.2	68.2	-8.98	peak
4	5150	29.22	10.26	39.48	54	-14.52	AVG
<b>802.11 ac(VHT20)-High (worst mode)</b>							
<b>Horizontal</b>							
<b>No.</b>	<b>Frequency (MHz)</b>	<b>Reading (dBuV)</b>	<b>Correct Factor(dB/m)</b>	<b>Result (dBuV/m)</b>	<b>Limit (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Remark</b>
1	5350	40.89	10.78	51.67	68.2	-16.53	peak
2	5350	20.78	10.78	31.56	54	-22.44	AVG
3	5402.385	44.22	10.96	55.18	68.2	-13.02	peak
4	5402.385	24.9	10.96	35.86	54	-18.14	AVG
<b>Vertical</b>							
<b>No.</b>	<b>Frequency (MHz)</b>	<b>Reading (dBuV)</b>	<b>Correct Factor(dB/m)</b>	<b>Result (dBuV/m)</b>	<b>Limit (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Remark</b>
1	5350	40.13	10.78	50.91	68.2	-17.29	peak
2	5350	19.34	10.78	30.12	54	-23.88	AVG
3	5414.83	43.69	10.89	54.58	68.2	-13.62	peak
4	5414.83	24.54	10.89	35.43	54	-18.57	AVG

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

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

Band III							
<b>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 data (802.11ac(VHT20) MIMO ) is reported in the report.</b>							
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	5436.232	51.93	10.79	62.72	68.2	-5.48	peak
2	5436.232	31.79	10.79	42.58	54	-11.42	AVG
3	5460	50.94	10.68	61.62	68.2	-6.58	peak
4	5460	30.55	10.68	41.23	54	-12.77	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5419.559	52.12	10.87	62.99	68.2	-5.21	peak
2	5419.559	30.36	10.87	41.23	54	-12.77	AVG
3	5460	50.38	10.68	61.06	68.2	-7.14	peak
4	5460	30.68	10.68	41.36	54	-12.64	AVG
802.11 ac(VHT20)-High (worst mode)							
<b>Note: Since the distance restricted band of this part frequency exceeds 200 MHz and the distance limit is greater than 20 dB.</b>							

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

Reading = Reading Amplitude in the instrument;

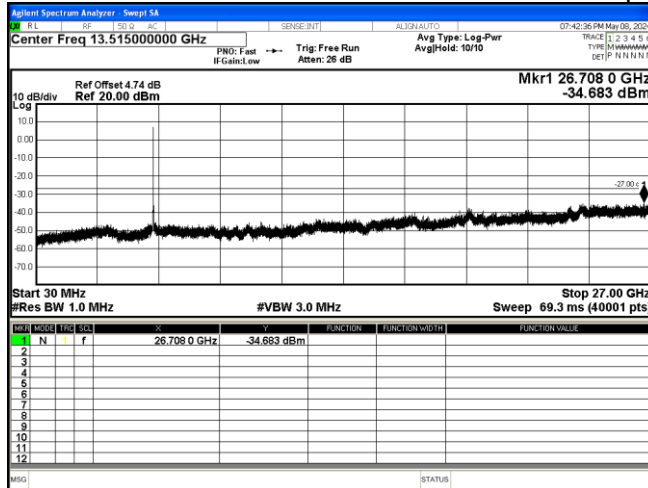
Result = Correction Factor + Reading;

Margin = Result – Limit

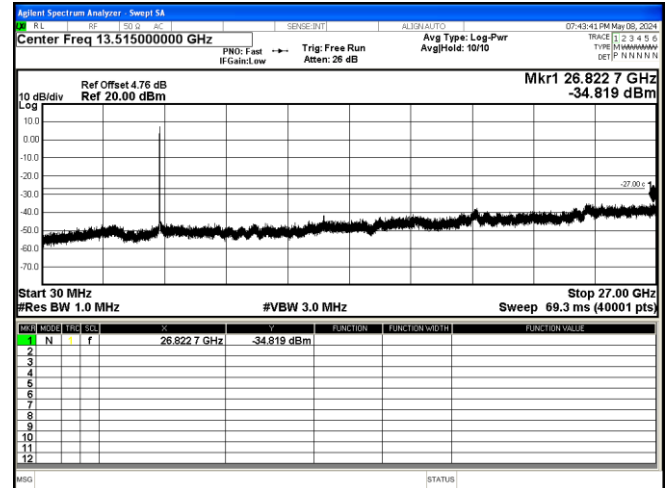
## Appendix A.3 Test Results of Conducted Spurious Emissions and BandEdge

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

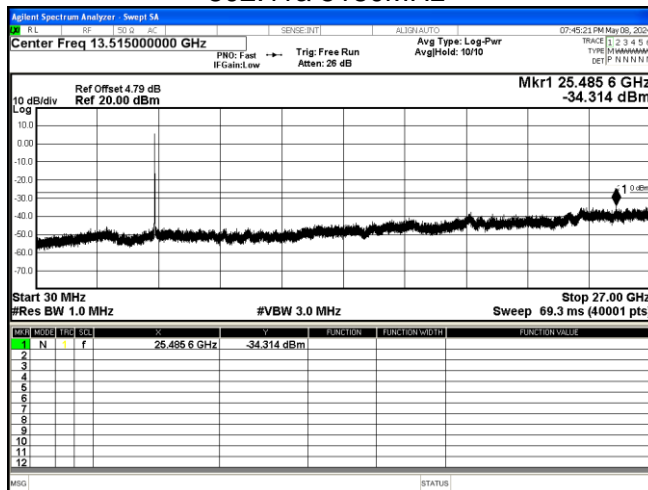
### Conducted Spurious Emissions



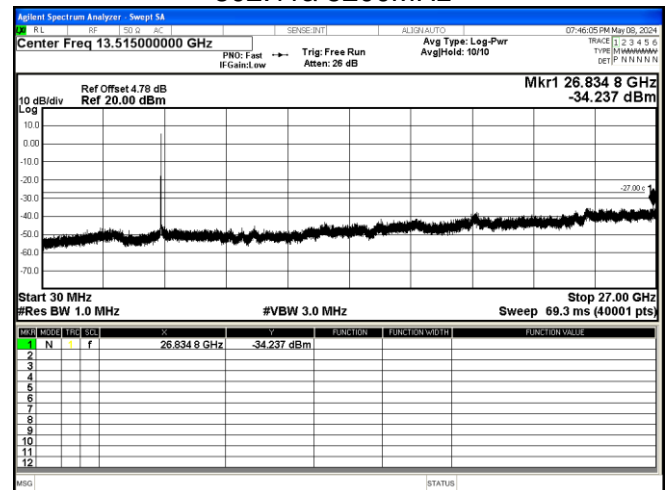
802.11a 5180MHz



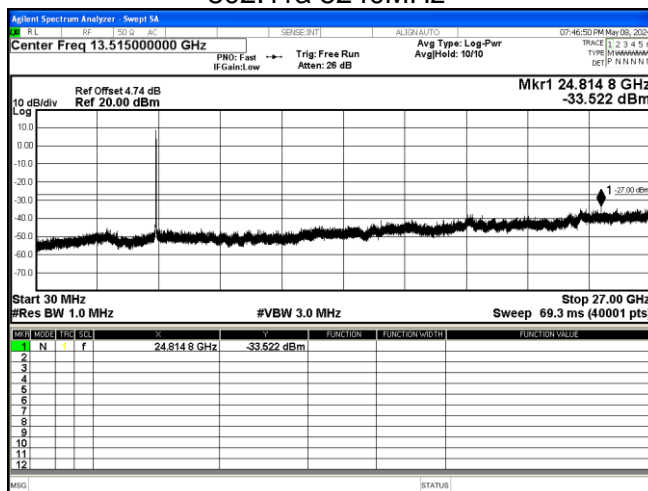
802.11a 5200MHz



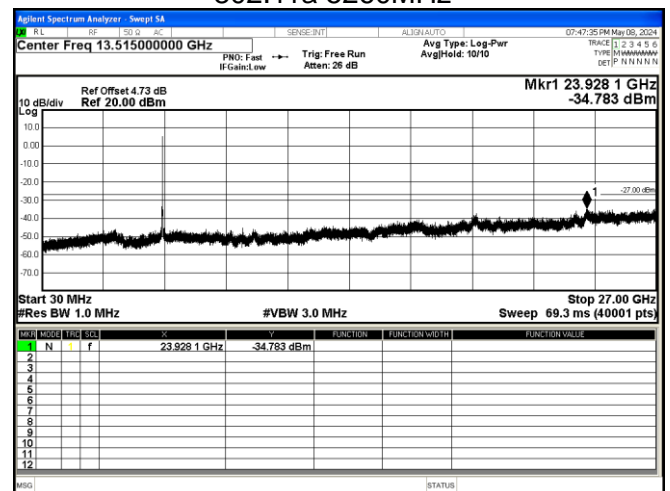
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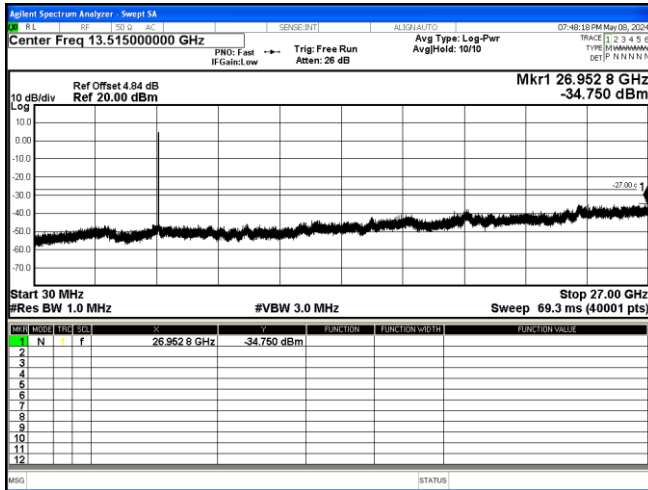
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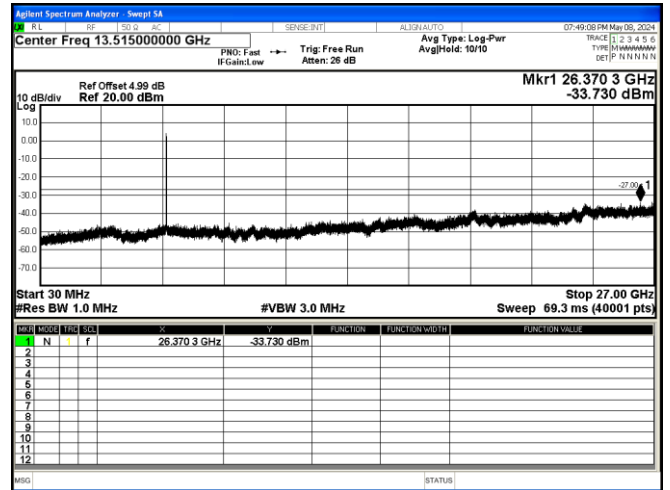
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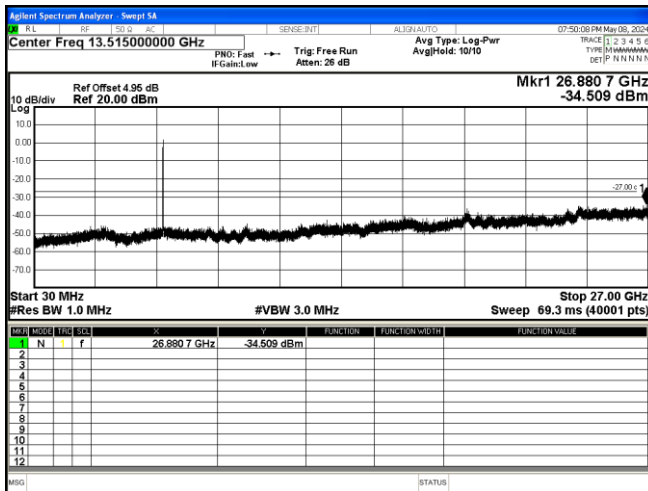
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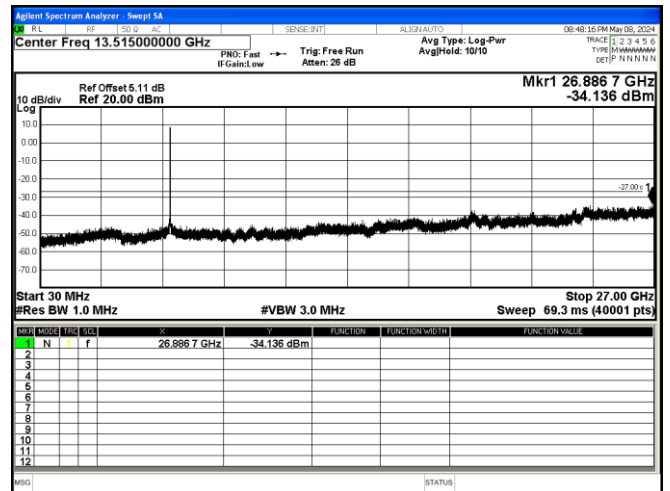
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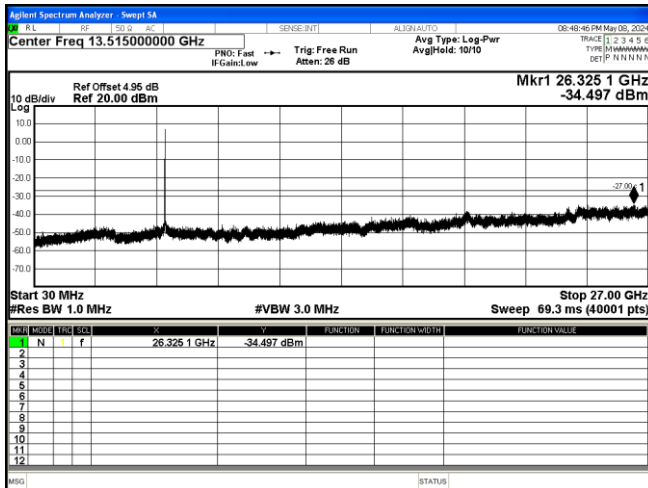
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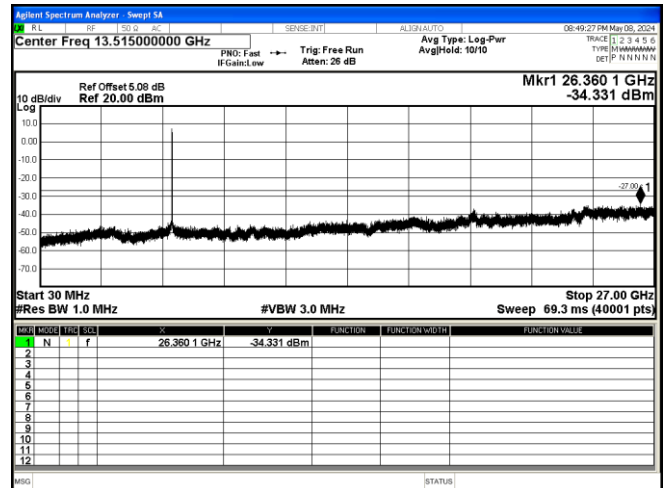
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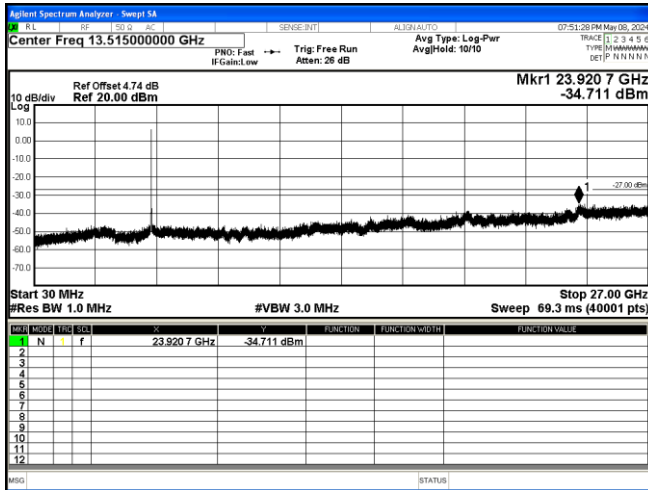
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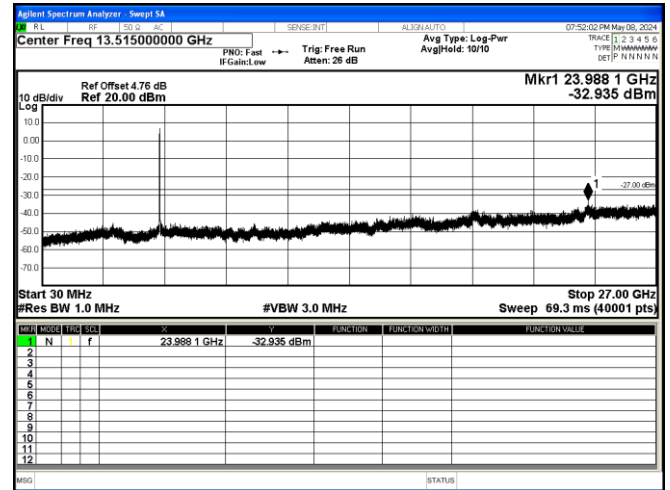
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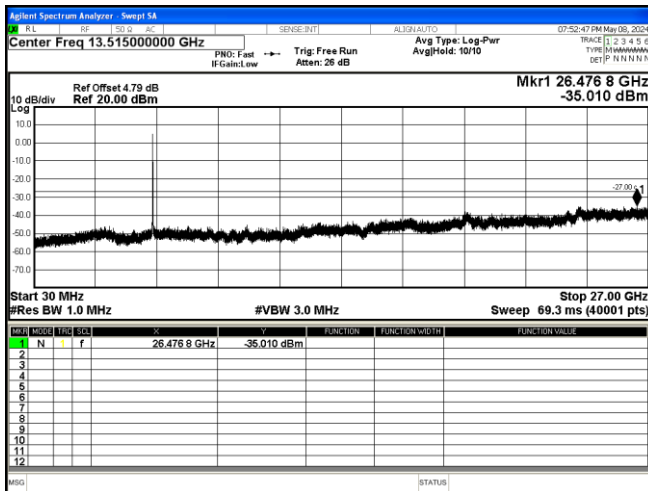
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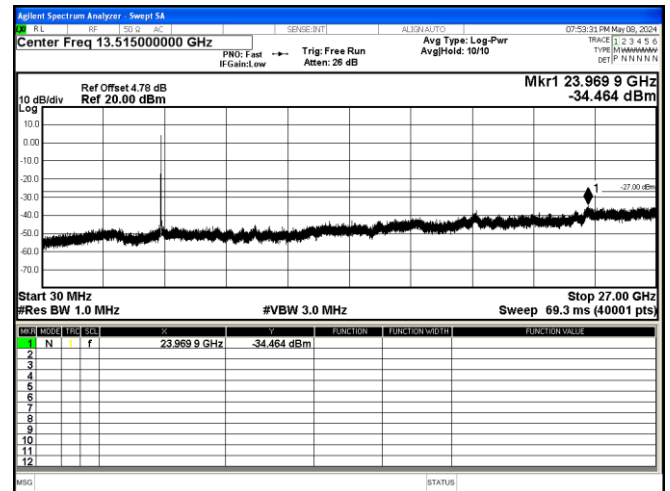
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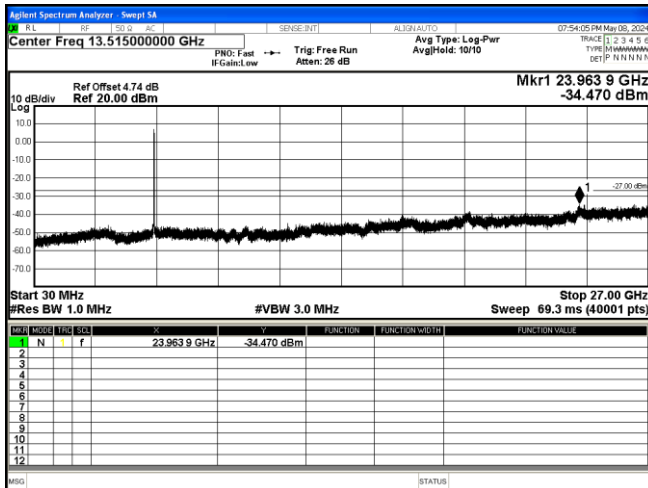
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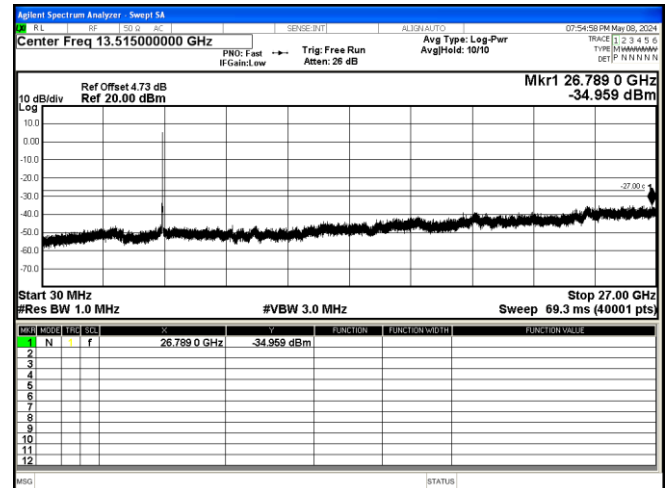
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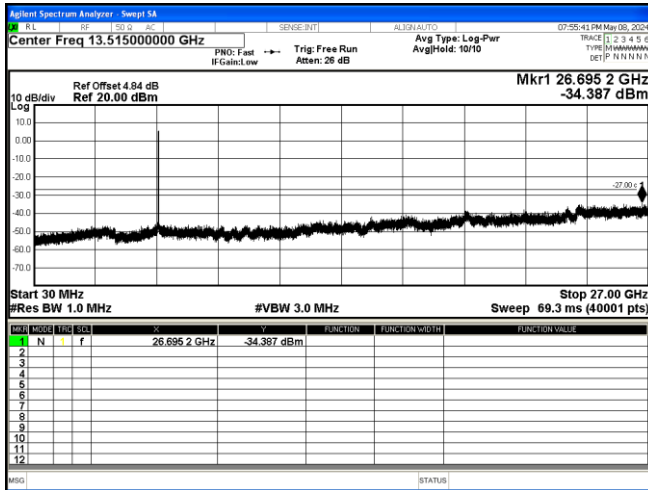
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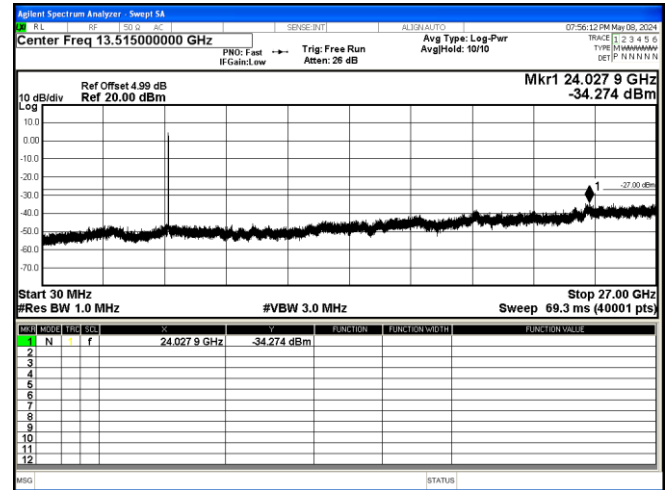
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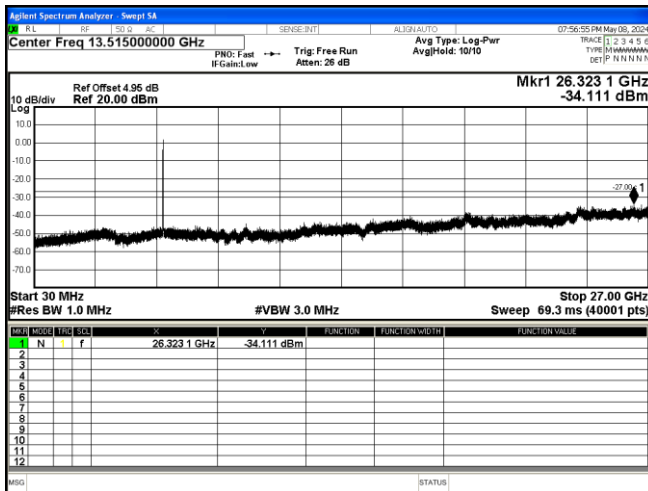
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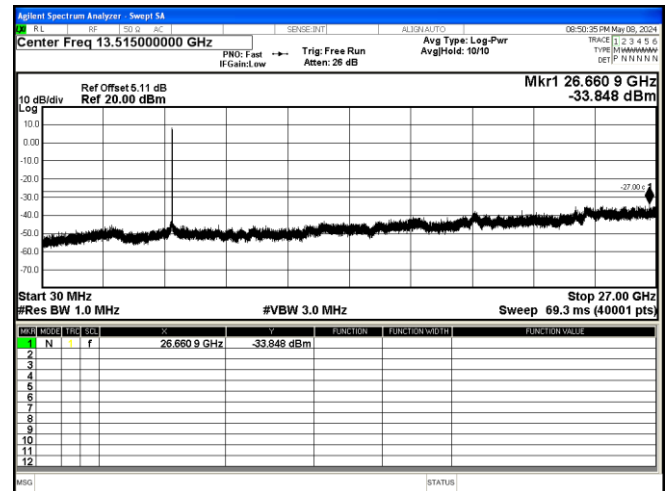
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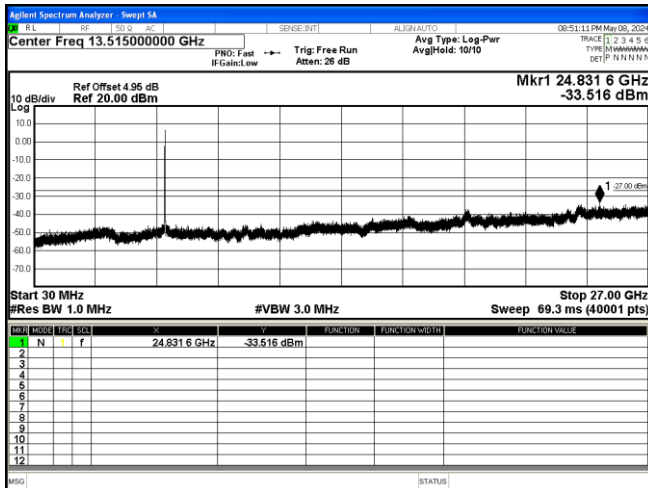
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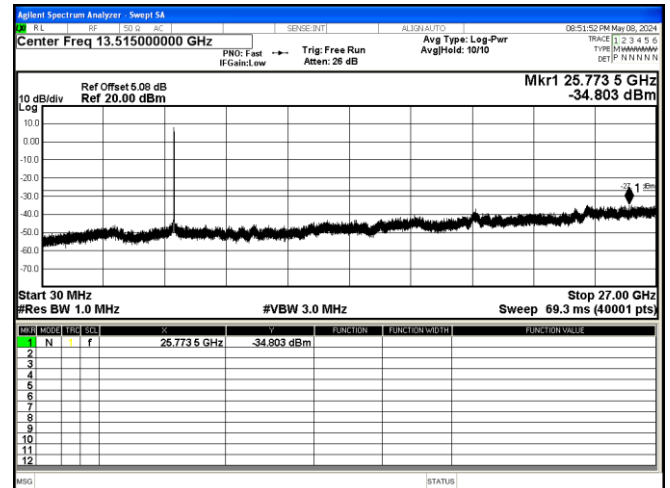
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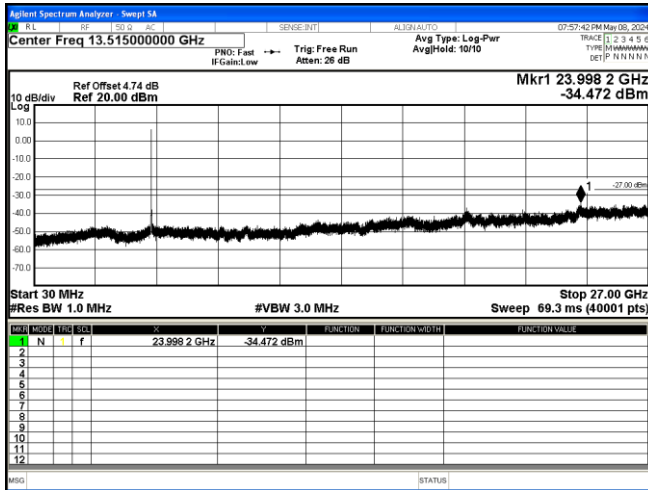
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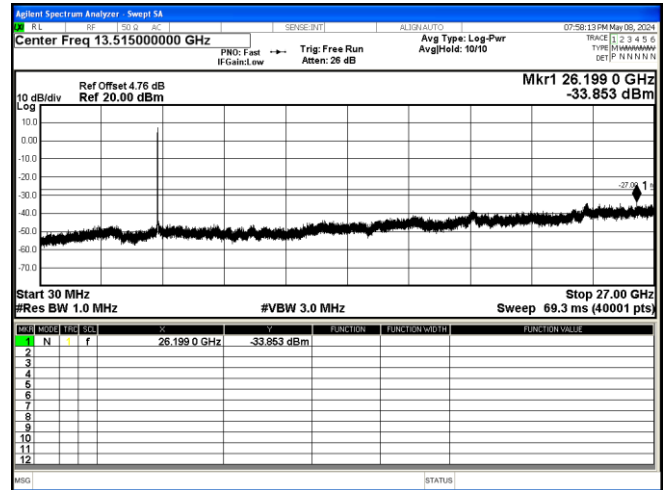
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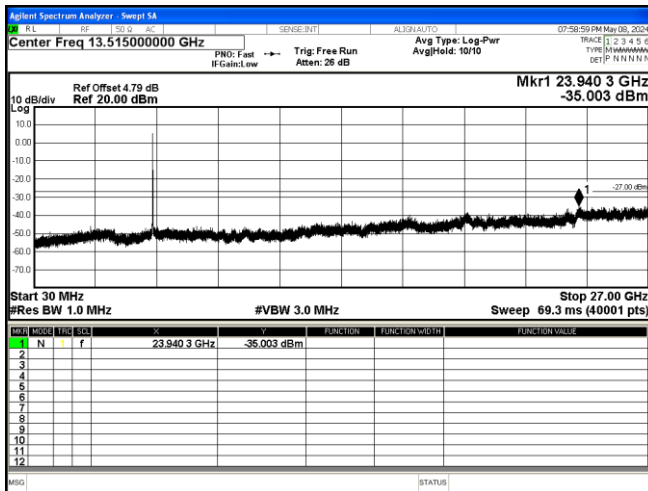
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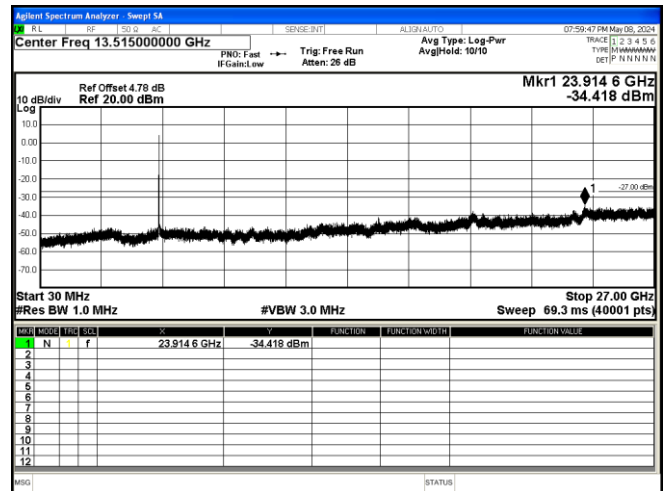
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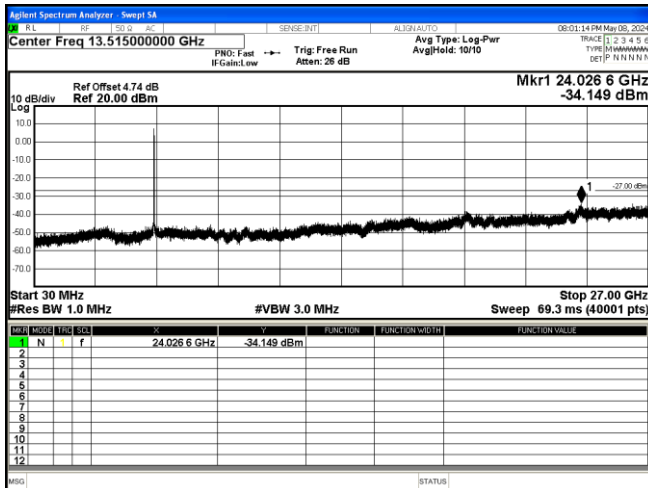
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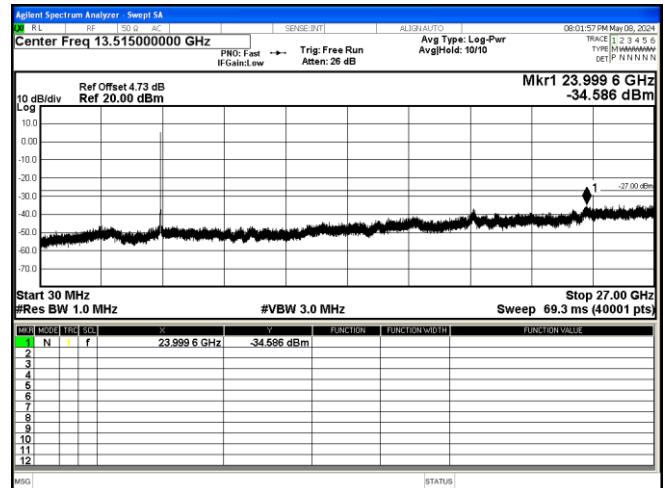
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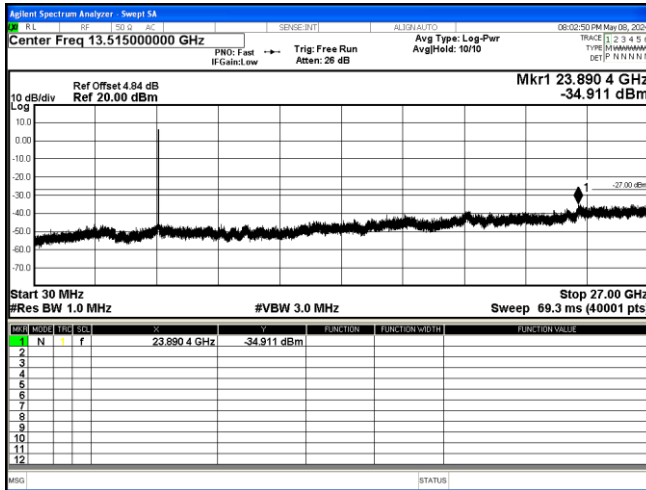
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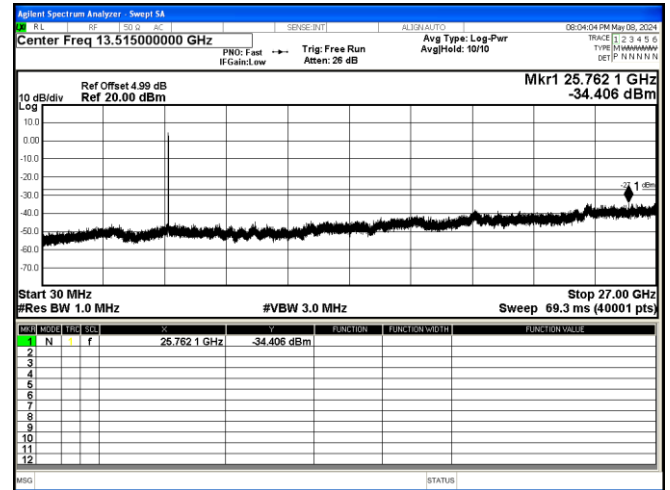
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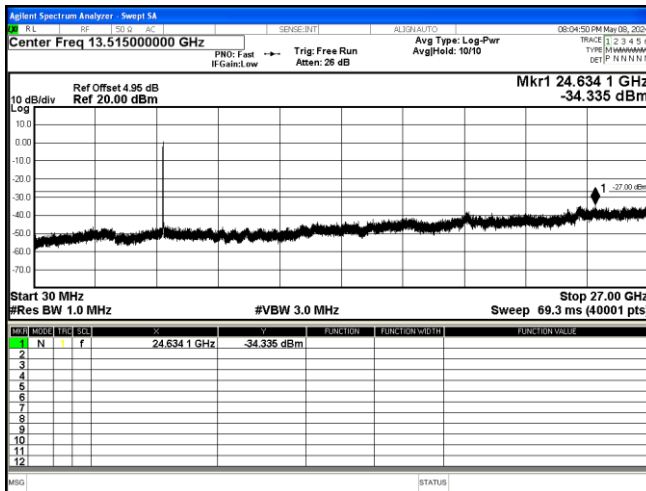
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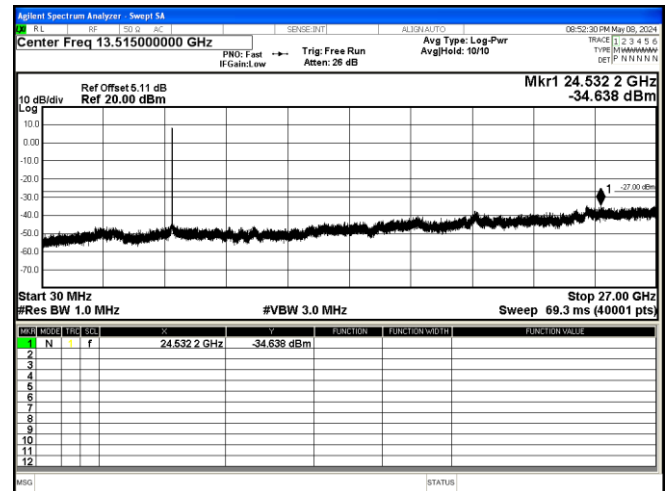
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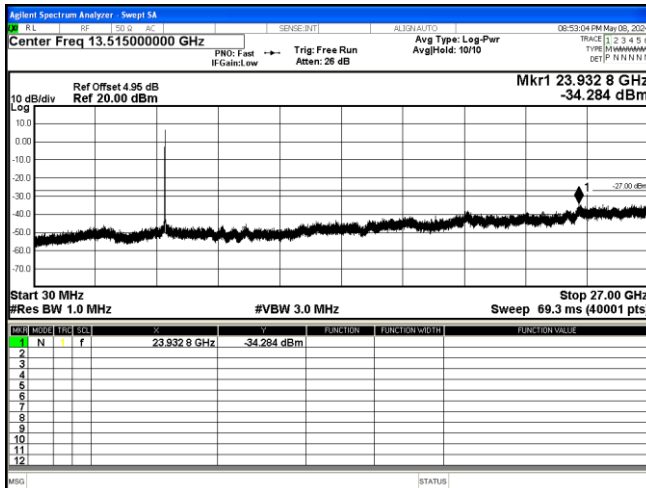
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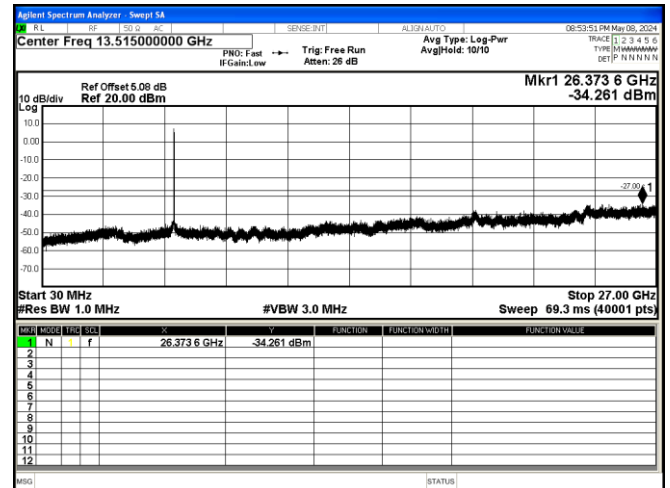
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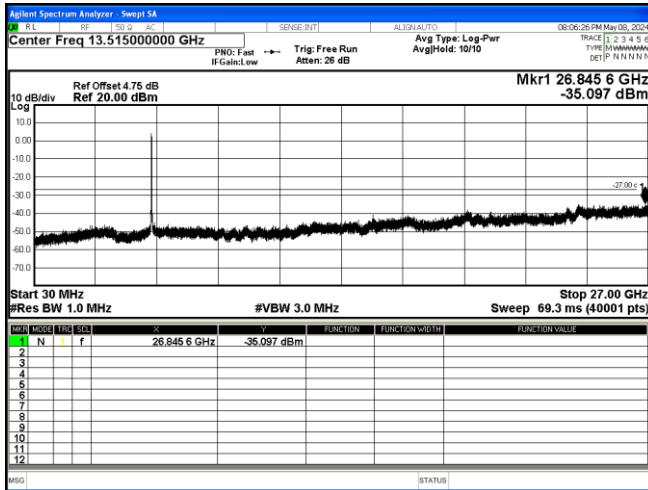


802.11 ac20 5785MHz

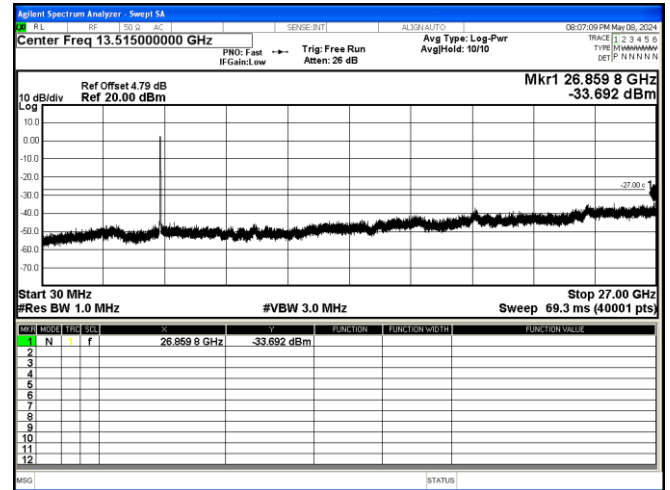


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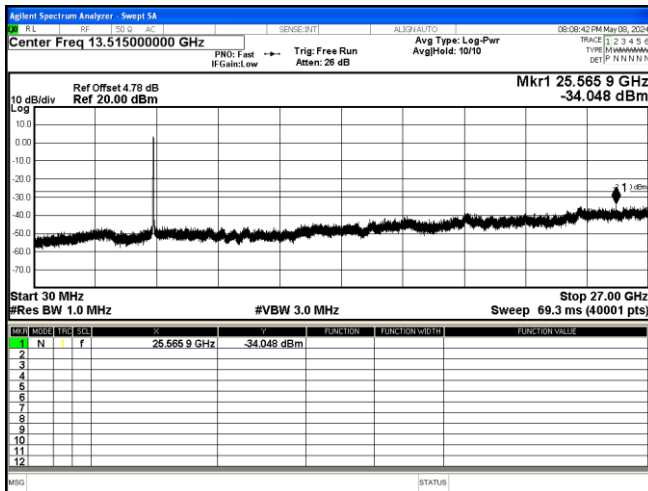




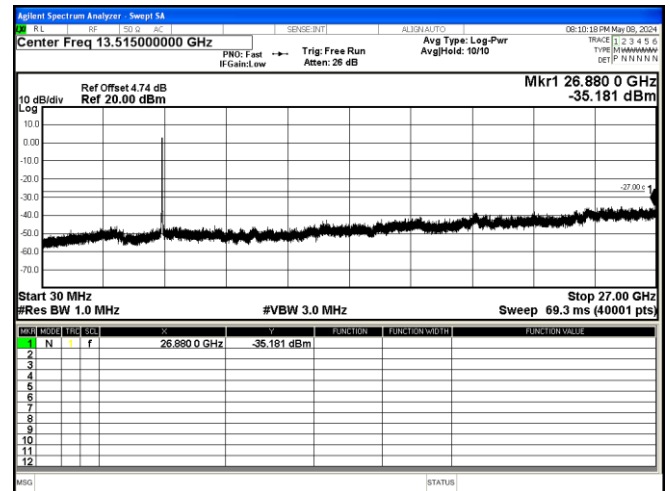
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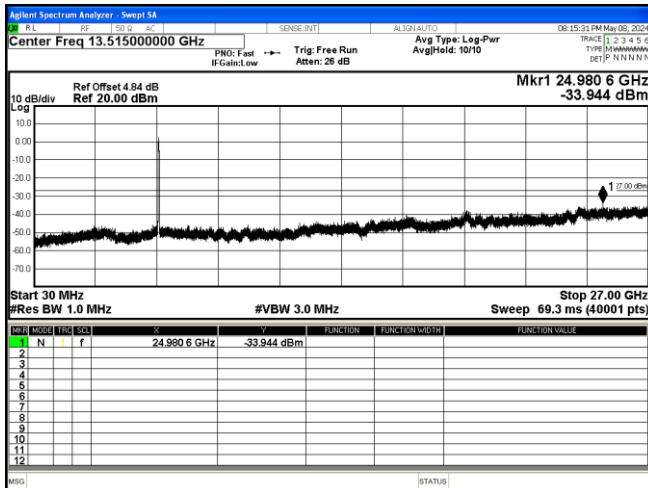
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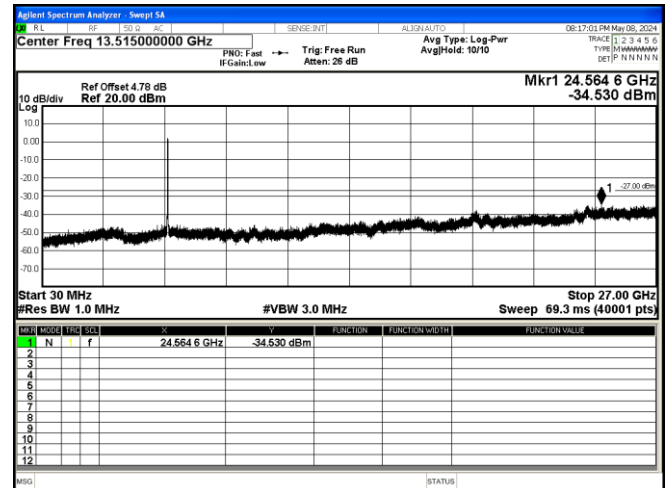
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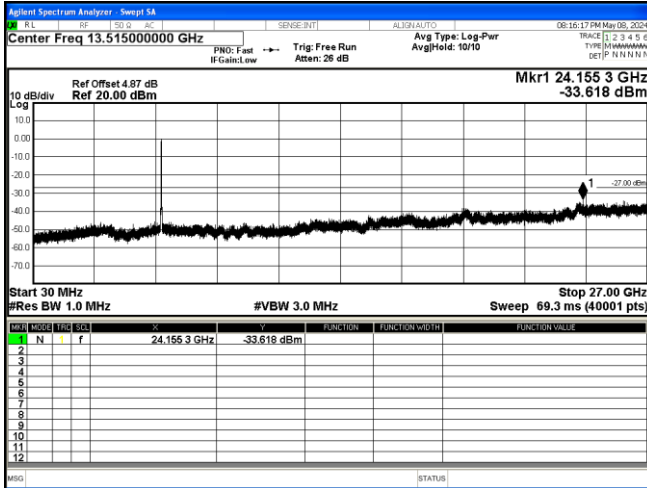
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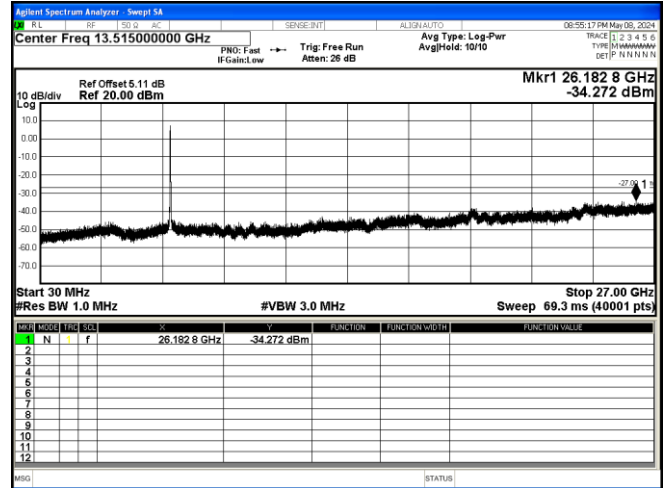
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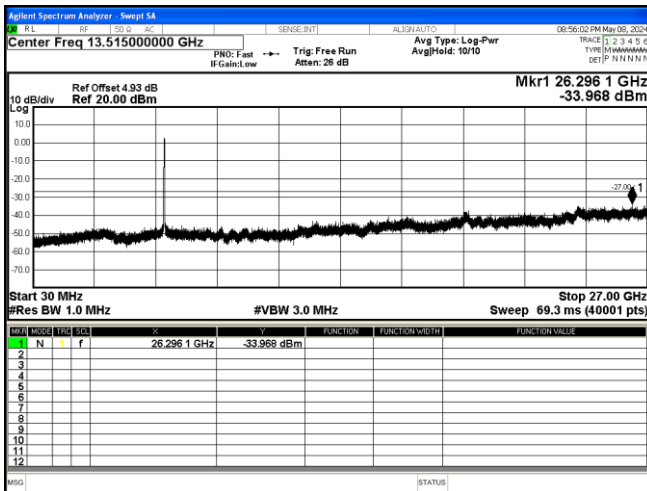
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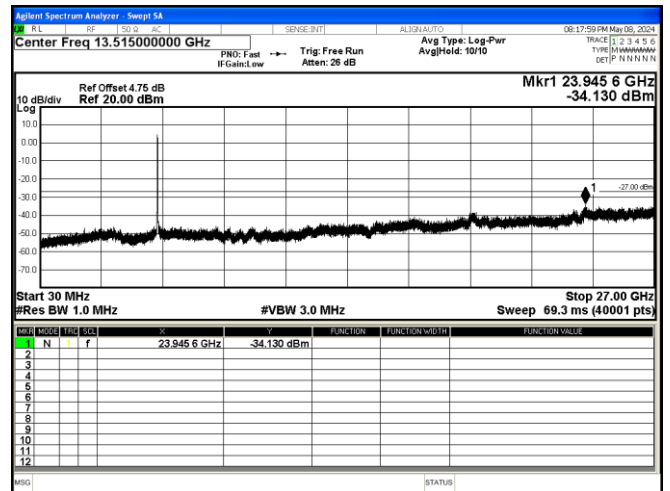
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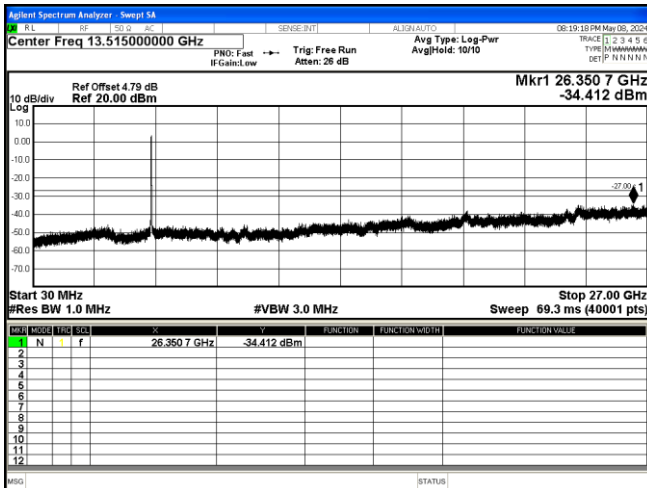
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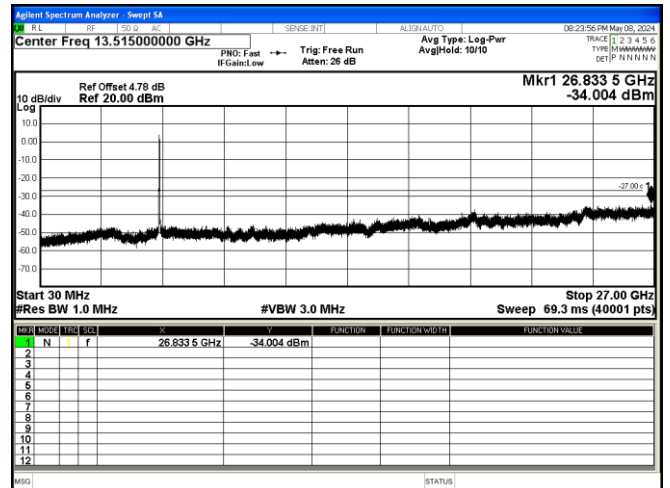
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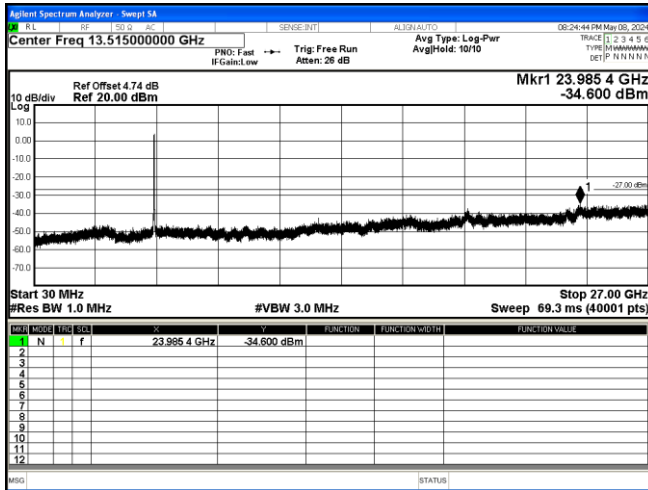
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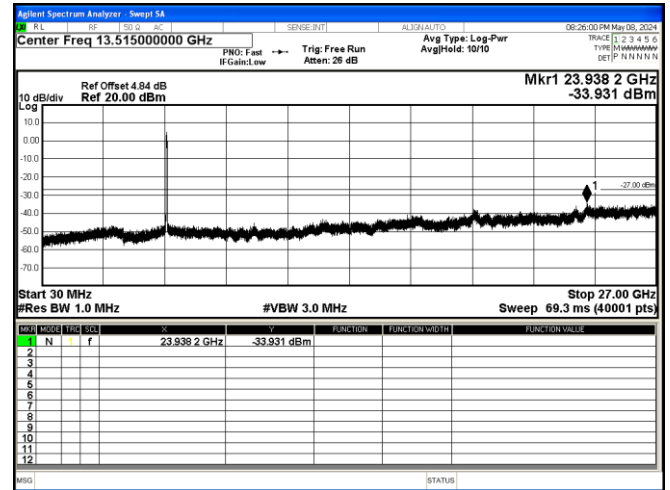
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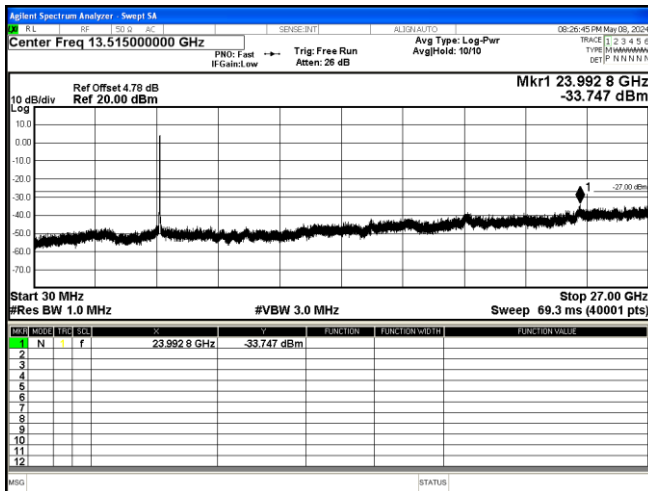
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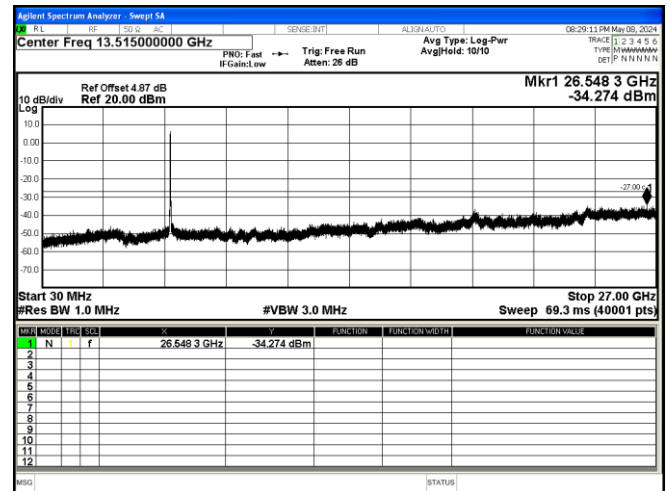
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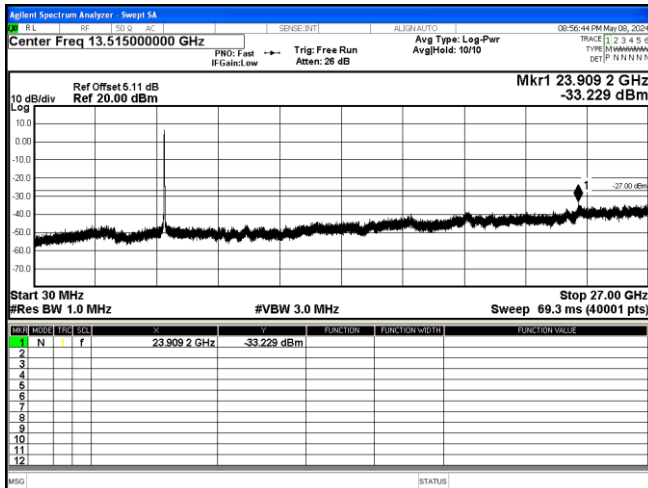
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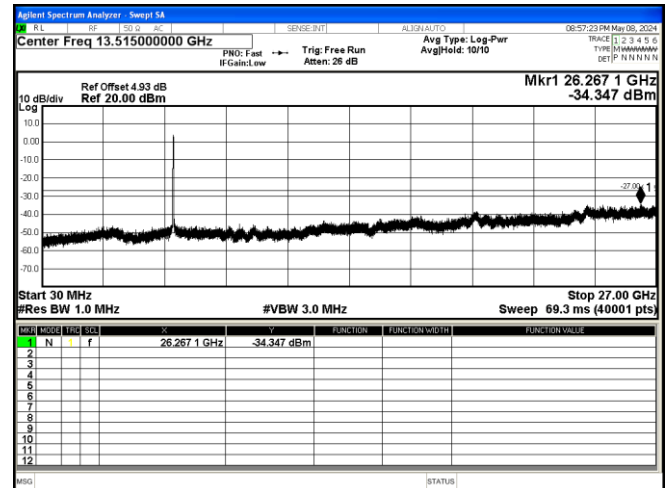
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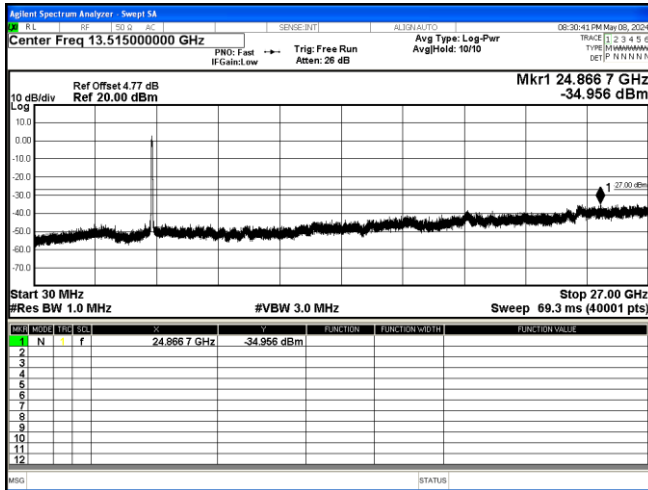
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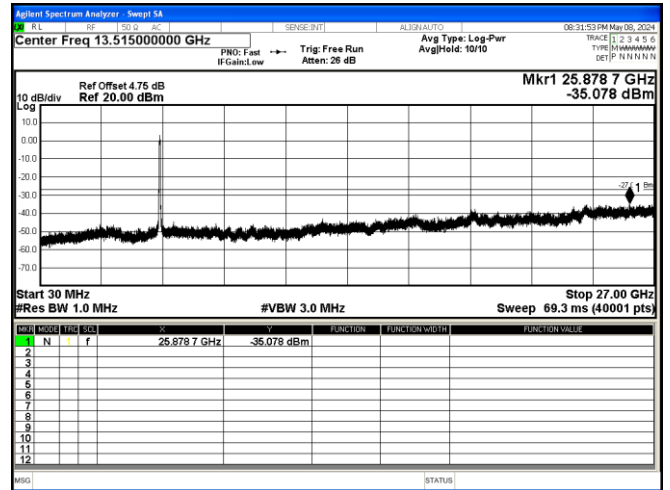
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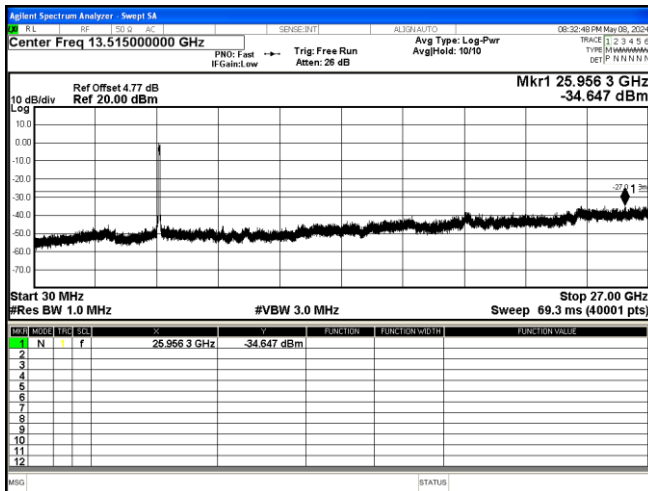
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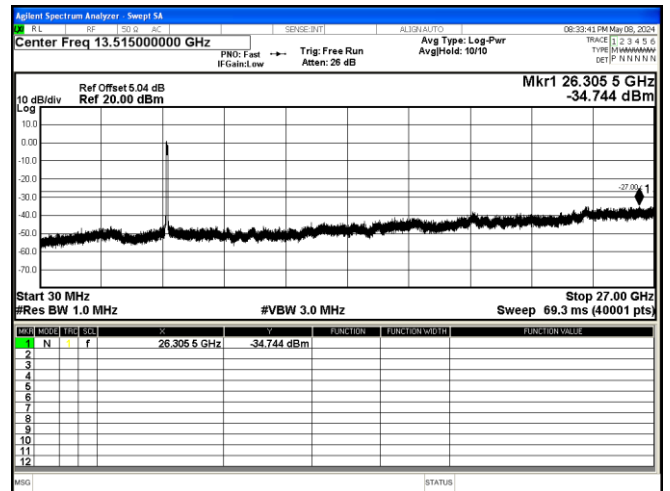
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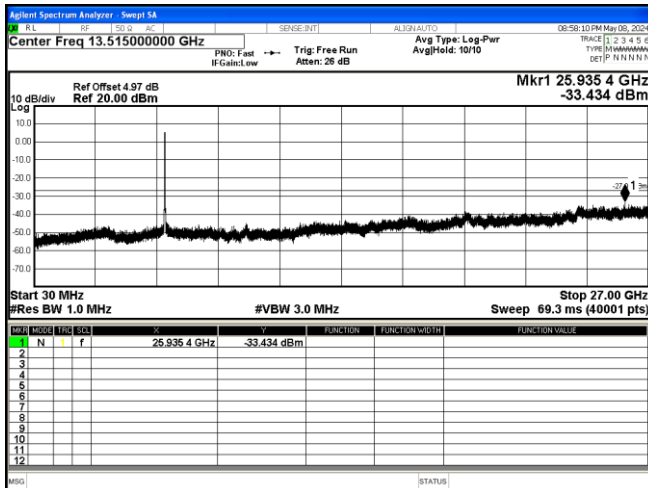
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802.11 ac80 5530MHz



802.11 ac80 5610MHz



802.11 ac80 5775MHz