Appendix A: Test Results of DTS device

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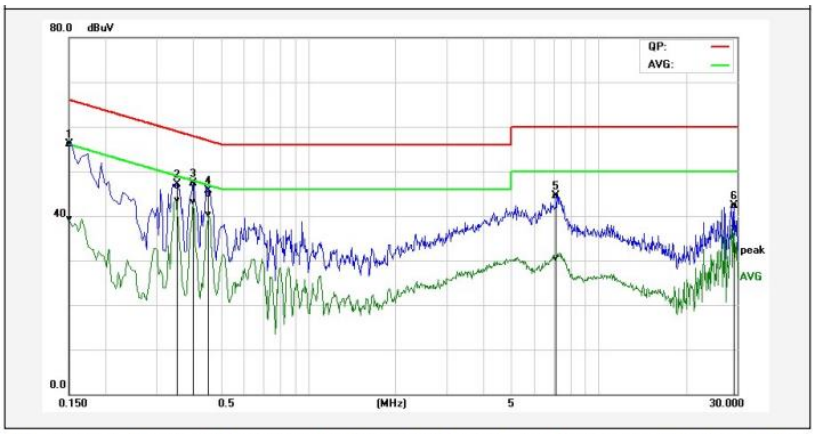
Appendix A.1 Test Results of Conducted Emission on AC Mains

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

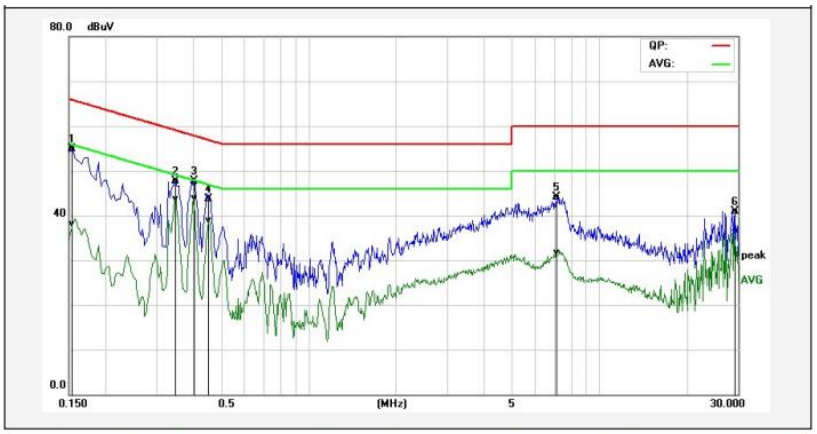
Test Mode：	Working	Test Voltage ：	AC 110V/60Hz

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	0.1500	46.57	29.75	9.54	56.11	39.29	65.99	56.00	-9.88	-16.71	Pass
2P	0.3500	37.28	33.89	9.52	46.80	43.41	58.96	48.96	-12.16	-5.55	Pass
3*	0.4020	37.78	33.55	9.52	47.30	43.07	57.81	47.81	-10.51	-4.74	Pass
4P	0.4540	35.35	30.77	9.52	44.87	40.29	56.80	46.80	-11.93	-6.51	Pass
5P	7.1540	35.51	21.34	9.07	44.58	30.41	60.00	50.00	-15.42	-19.59	Pass
6P	29.2340	32.21	27.21	10.05	42.26	37.26	60.00	50.00	-17.74	-12.74	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	0.1539	45.56	28.59	9.44	55.00	38.03	65.78	55.79	-10.78	-17.76	Pass
2P	0.3500	38.28	34.34	9.42	47.70	43.76	58.96	48.96	-11.26	-5.20	Pass
3*	0.4020	37.87	34.42	9.42	47.29	43.84	57.81	47.81	-10.52	-3.97	Pass
4P	0.4580	34.34	29.45	9.42	43.76	38.87	56.73	46.73	-12.97	-7.86	Pass
5P	7.1180	35.03	22.56	9.06	44.09	31.62	60.00	50.00	-15.91	-18.38	Pass
6P	29.2340	31.51	26.93	9.47	40.98	36.40	60.00	50.00	-19.02	-13.60	Pass

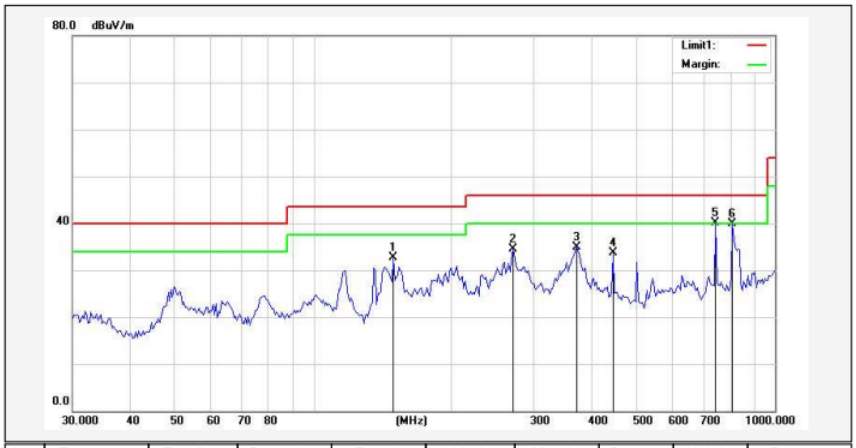
Correction Factor = insertion loss of LISN + cable loss;
Reading = Reading Amplitude in the instrument;
Result = Correction Factor + Reading;
Margin = Result – Limit

Appendix A.2 Test Results of Radiated Spurious Emission

Below 1GHz:
All modes have been tested, and the report only reflects the worst mode.

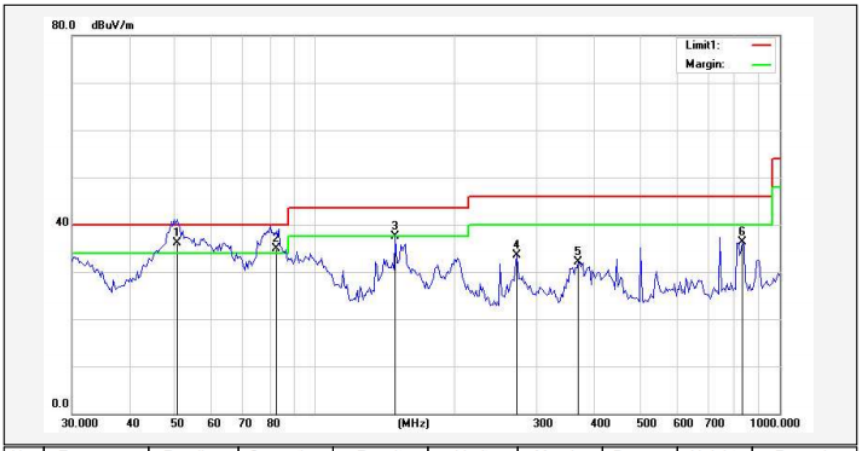
Test Mode :	Working	Test Voltage :	110V 60Hz

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	148.9175	44.14	-11.50	32.64	43.50	-10.86			QP
2	270.6161	46.55	-12.12	34.43	46.00	-11.57			QP
3	371.2680	44.05	-9.06	34.99	46.00	-11.01			QP
4	445.6931	40.67	-7.01	33.66	46.00	-12.34			QP
5*	744.4265	41.05	-0.99	40.06	46.00	-5.94			QP
6	809.9238	40.54	-0.59	39.95	46.00	-6.05			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*	50.3620	47.27	-11.08	36.19	40.00	-3.81			QP
2!	82.3826	51.45	-16.57	34.88	40.00	-5.12			QP
3	148.9175	48.93	-11.50	37.43	43.50	-6.07			QP
4	272.5246	45.63	-12.07	33.56	46.00	-12.44			QP
5	368.6681	41.32	-9.17	32.15	46.00	-13.85			QP
6	833.0126	36.82	-0.44	36.38	46.00	-9.62			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 models were tested, and only the worst model(802.11be(EHT20),ANT 1) were reported in the report.

802.11 be(EHT20)-Low (worst mode) Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7494	54.16	-7.13	47.03	74	-26.97	peak
2	9874	52.44	-5.45	46.99	75.65	-28.66	peak
3	10418	53.79	-4.09	49.7	75.65	-25.95	peak
4	10724	53.19	-3	50.19	74	-23.81	peak
5	11438	52.39	-2.04	50.35	74	-23.65	peak
6	12458	54.05	-1.59	52.46	74	-21.54	peak

802.11 be(EHT20)-Low (worst mode) Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8412	56.35	-7.14	49.21	74	-24.79	peak
2	9636	57.9	-7.16	50.74	75.65	-24.91	peak
3	10486	54.4	-3.53	50.87	75.65	-24.78	peak
4	11166	53.29	-2.41	50.88	74	-23.12	peak
5	12560	52.67	-0.94	51.73	74	-22.27	peak
6	13070	52.85	-0.16	52.69	75.65	-22.96	peak

802.11 be(EHT20)-Middle (worst mode) Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8412	56.56	-7.14	49.42	74	-24.58	peak
2	9738	61.51	-6.35	55.16	75.65	-20.49	peak
3	10486	54	-3.53	50.47	75.65	-25.18	peak
4	11438	52.92	-2.04	50.88	74	-23.12	peak
5	12152	52.71	-2.44	50.27	74	-23.73	peak
6	12424	53.2	-1.81	51.39	74	-22.61	peak

802.11 be(EHT20)-Middle (worst mode) Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8412	56.35	-7.14	49.21	74	-24.79	peak
2	9738	61.1	-6.35	54.75	75.65	-20.9	peak
3	10486	54.57	-3.53	51.04	75.65	-24.61	peak
4	11472	53.1	-2.21	50.89	74	-23.11	peak
5	12730	53.19	-0.78	52.41	75.65	-23.24	peak
6	13886	52.97	1.21	54.18	75.65	-21.47	peak

802.11 be(EHT20)-High (worst mode) Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8786	55.03	-7.83	47.2	75.65	-28.45	peak
2	9840	55.9	-5.65	50.25	75.65	-25.4	peak
3	10384	53.93	-4.2	49.73	75.65	-25.92	peak
4	11098	52.89	-2.54	50.35	74	-23.65	peak
5	11676	53.23	-2.74	50.49	74	-23.51	peak
6	12424	54	-1.81	52.19	74	-21.81	peak

802.11 be(EHT20)-High (worst mode) Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8412	58.41	-7.14	51.27	74	-22.73	peak
2	9840	60.88	-5.65	55.23	75.65	-20.42	peak
3	10486	55.17	-3.53	51.64	75.65	-24.01	peak
4	11166	53.31	-2.41	50.9	74	-23.1	peak
5	12458	54.01	-1.59	52.42	74	-21.58	peak
6	13070	52.31	-0.16	52.15	75.65	-23.5	peak

Node:

1、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..

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.

5、According to section part 15.247(d), frequencies other than those required by part 15.205(a) are limited to the level of the intended emission (min. 95.01) minus 20dB.

Restricted band Requirements

Note: All models were tested, and only the worst model(802.11EHT20,MIMO) were reported in the report.

802.11 be (EHT20)-Low (worst mode)

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2367.36	64.36	-22.13	42.23	74	-31.77	peak
2	2367.36	52.54	-22.13	30.41	54	-23.59	AVG
3	2390	65.42	-22.09	43.33	74	-30.67	peak
4	2390	52.95	-22.09	30.86	54	-23.14	AVG
5	2415.36	117.66	-22.01	95.65	125.2	-29.55	peak

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.8	76.88	-22.1	54.78	74	-19.22	peak
2	2386.8	64.66	-22.1	42.56	54	-11.44	AVG
3	2390	76.59	-22.09	54.5	74	-19.5	peak
4	2390	63.31	-22.09	41.22	54	-12.78	AVG
5	2405.52	121.72	-22.05	99.67	125.2	-25.53	peak

802.11 be (EHT20)-High (worst mode)

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.5	118.83	-21.79	97.04	125.2	-27.56	peak
2	2483.5	73.03	-21.72	51.31	74	-22.69	peak
3	2483.5	59.07	-21.72	37.35	54	-16.65	AVG
4	2488.9	73.88	-21.7	52.18	74	-21.82	peak
5	2488.9	60.33	-21.7	38.63	54	-15.37	AVG

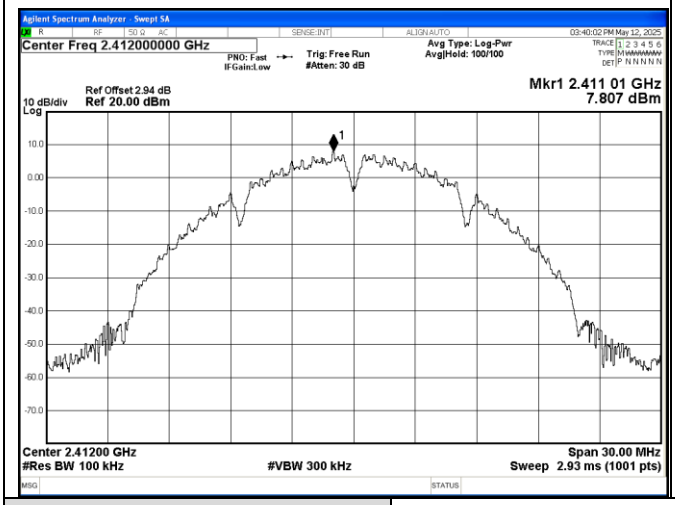
Vertical

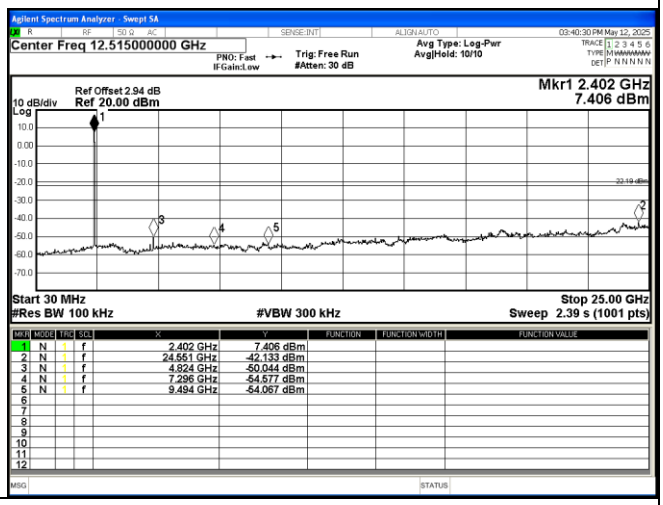
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2467.3	121.61	-21.77	99.84	125.2	-25.36	peak
2	2483.5	71.21	-21.72	49.49	74	-24.51	peak
3	2483.5	56.64	-21.72	34.92	54	-19.08	AVG
4	2490	71.7	-21.7	50	74	-24	peak
5	2490	58.55	-21.7	36.85	54	-17.15	AVG

Appendix A.3 Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

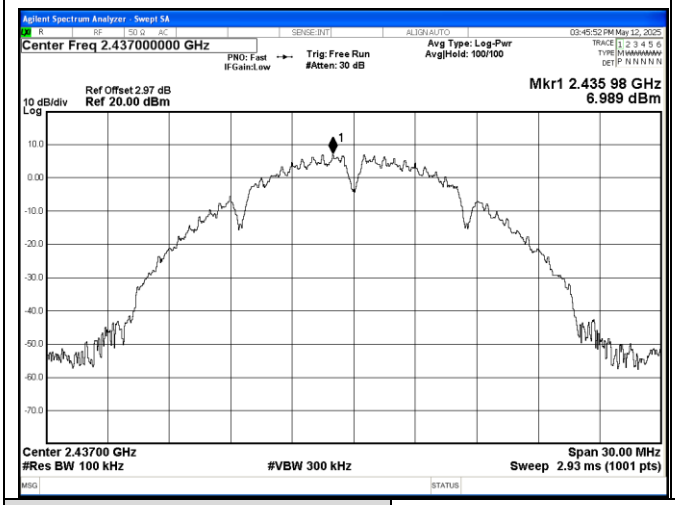
Note: All models were tested, and only the worst model(ANT 1) were reported in the report.

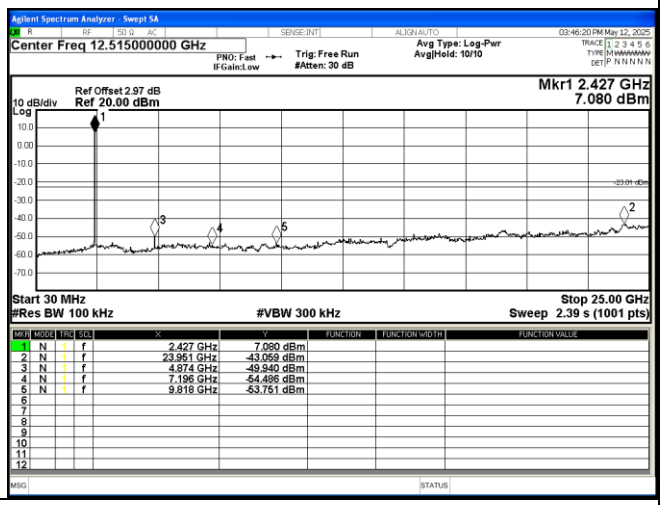
Conducted spurious emission	
Test Mode:	802.11b CH01



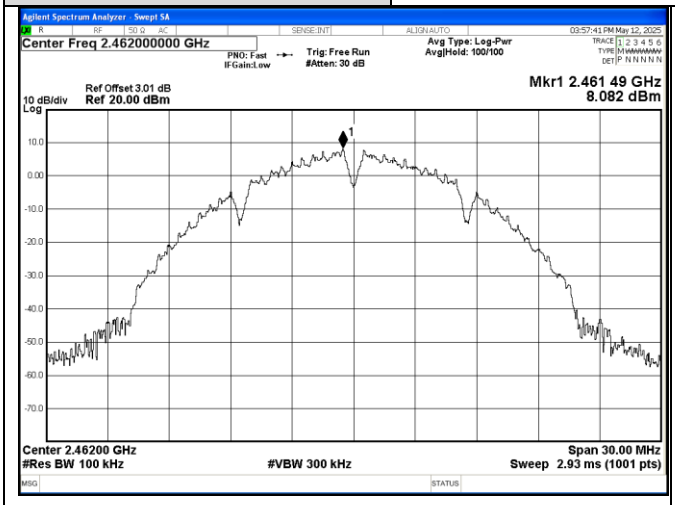


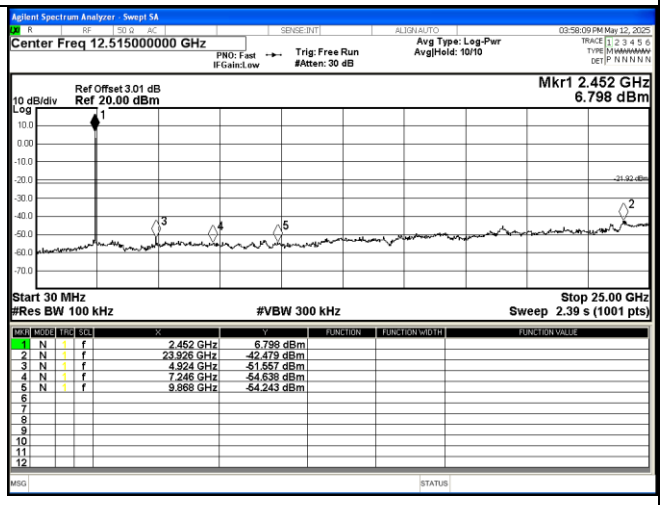
Test Mode:	802.11b CH06



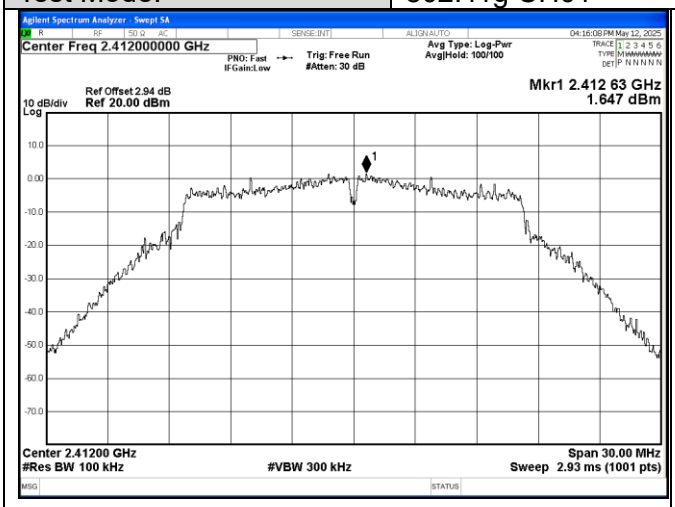


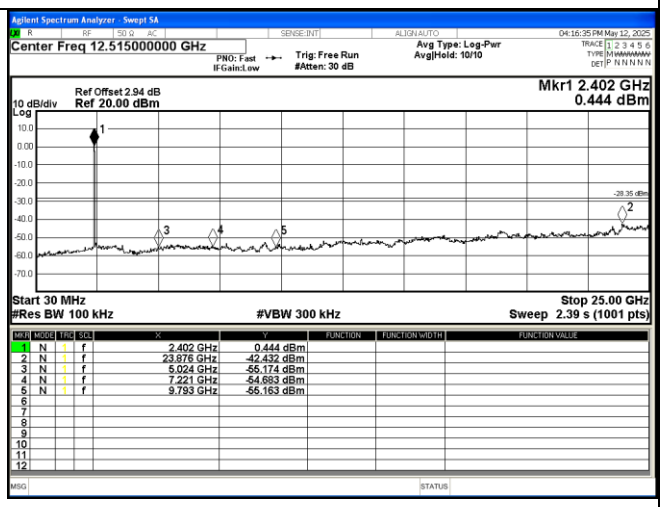
Test Mode:	802.11b CH11





Test Mode:	802.11g CH01





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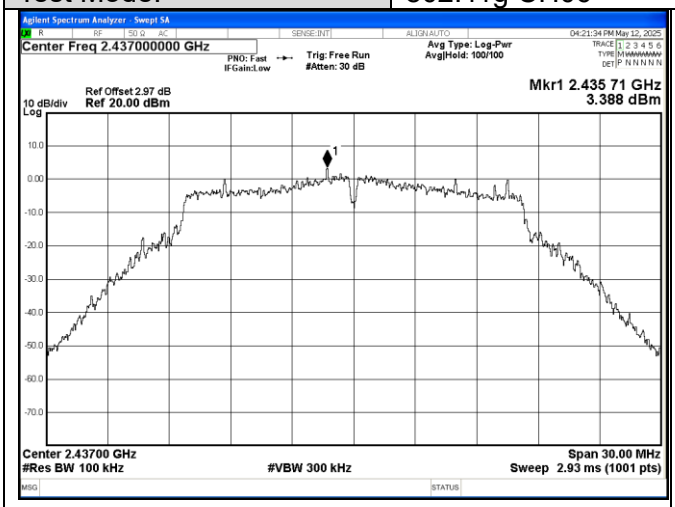
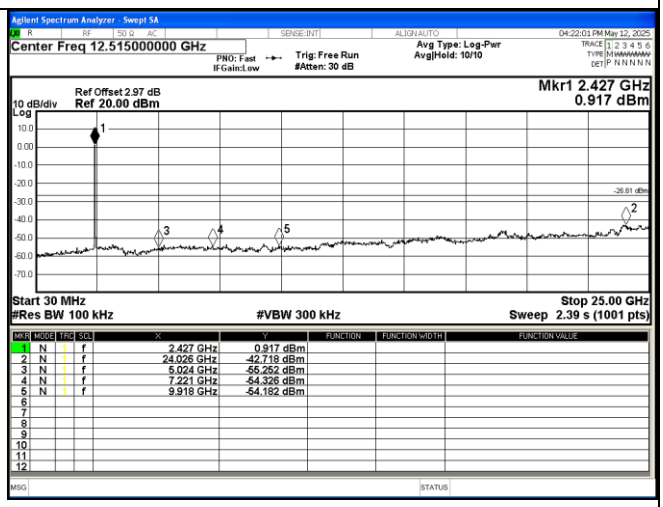
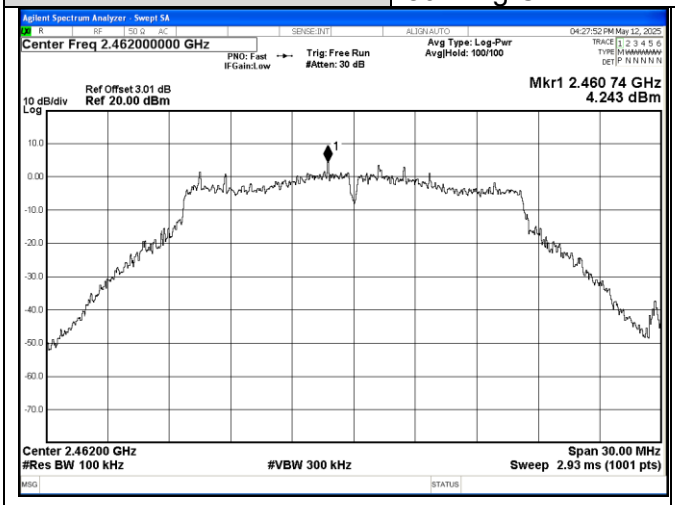
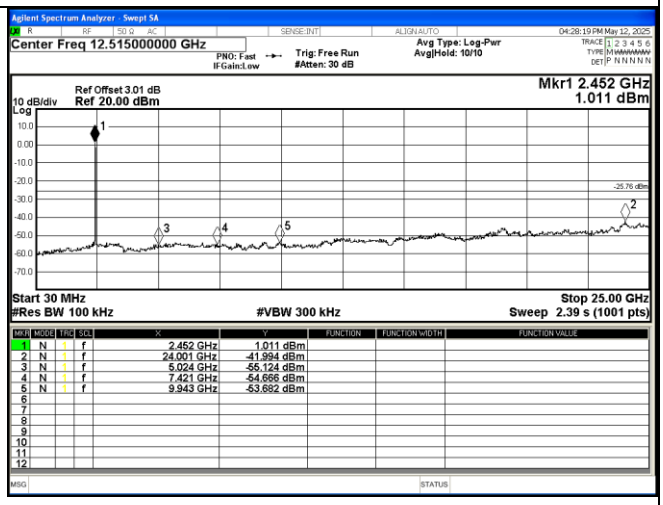


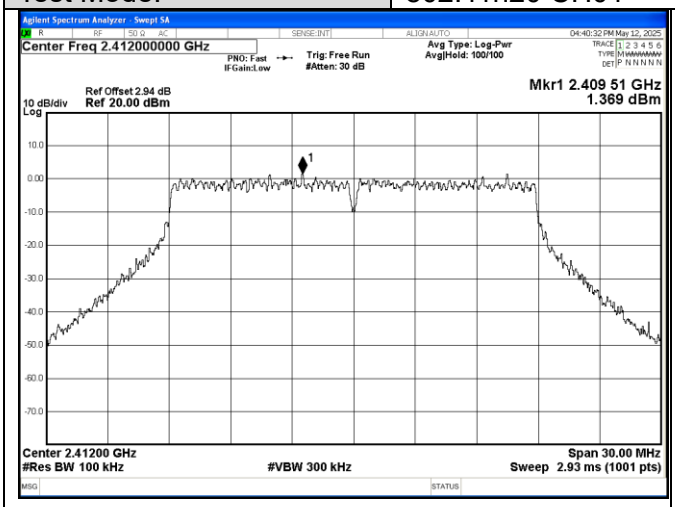


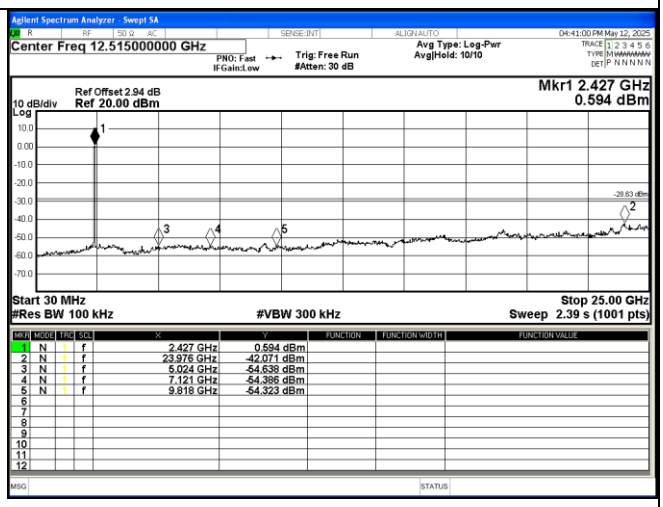
Test Mode:	802.11g CH11





Test Mode:	802.11n20 CH01





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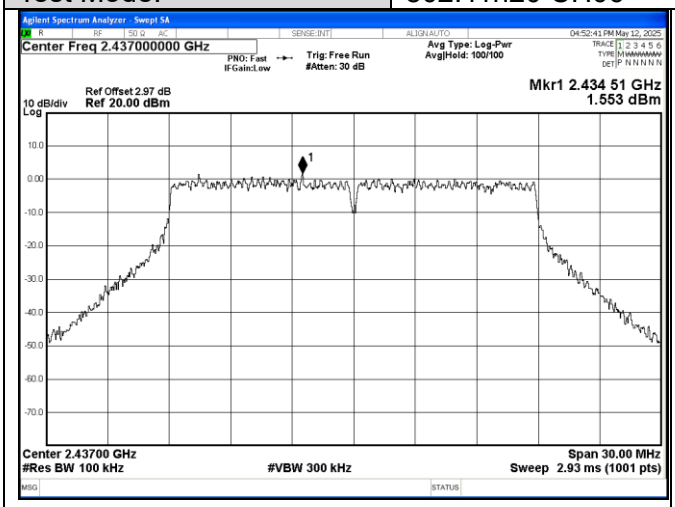
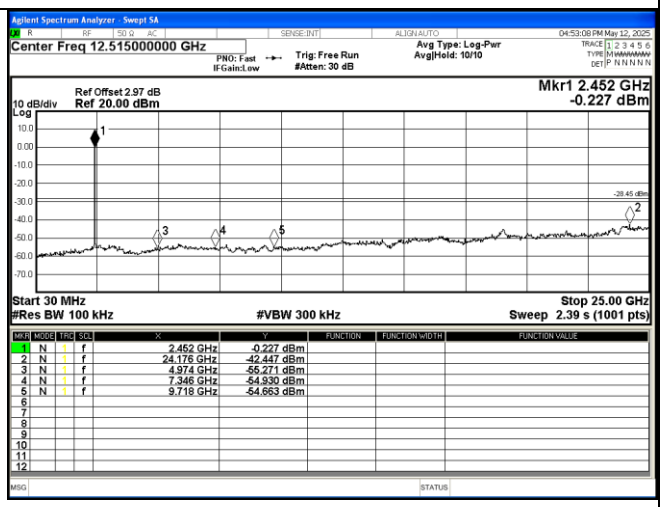
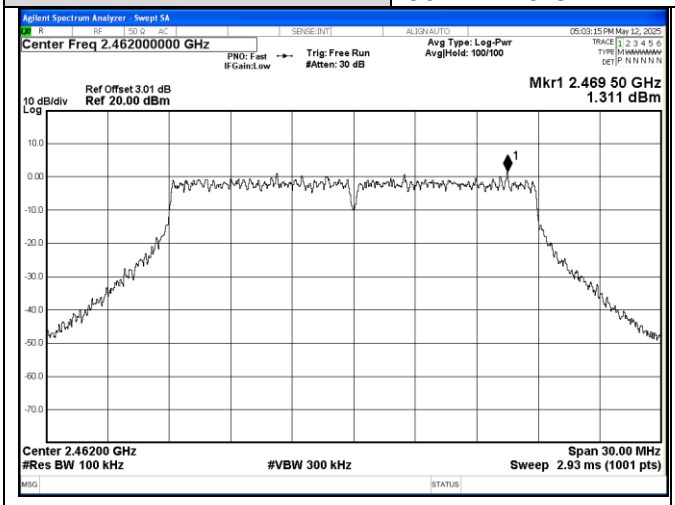
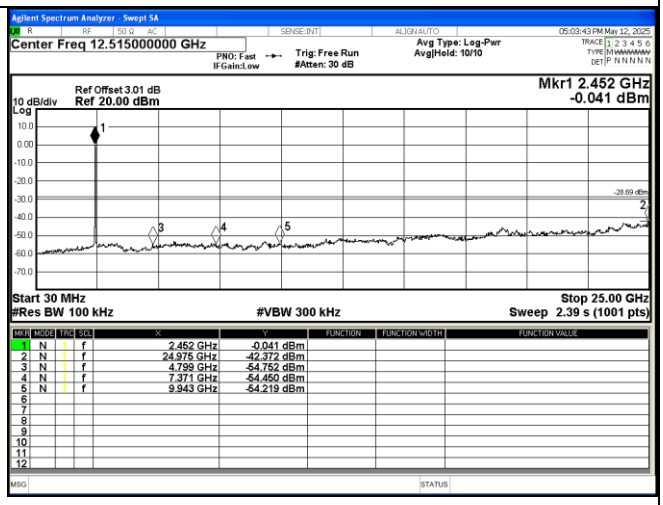


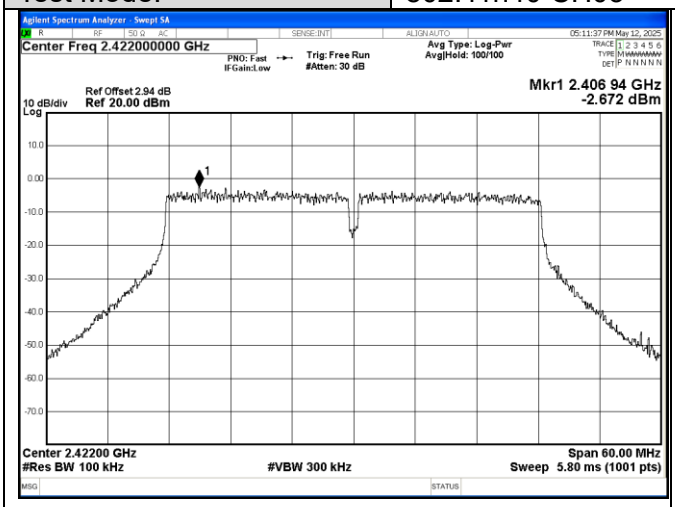


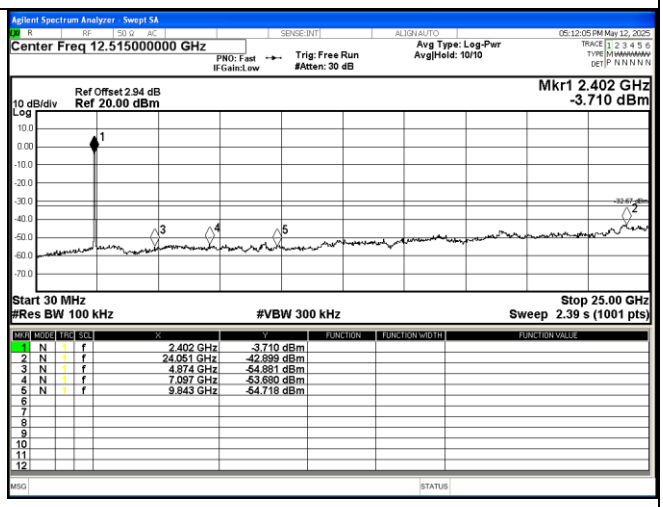
Test Mode:	802.11n20 CH11





Test Mode:	802.11n40 CH03





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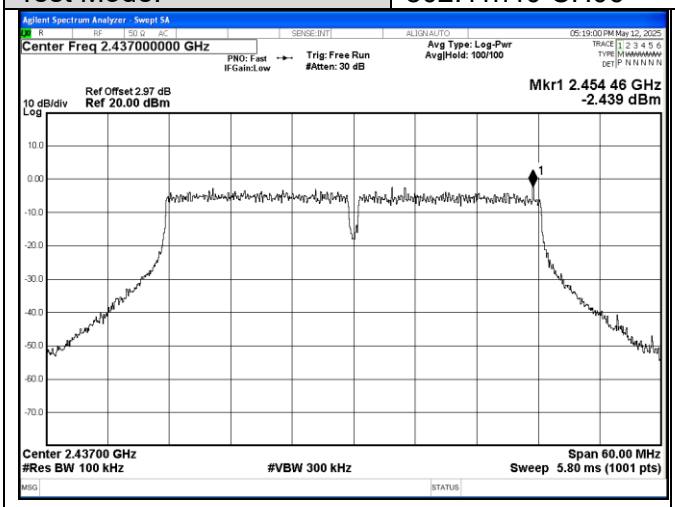
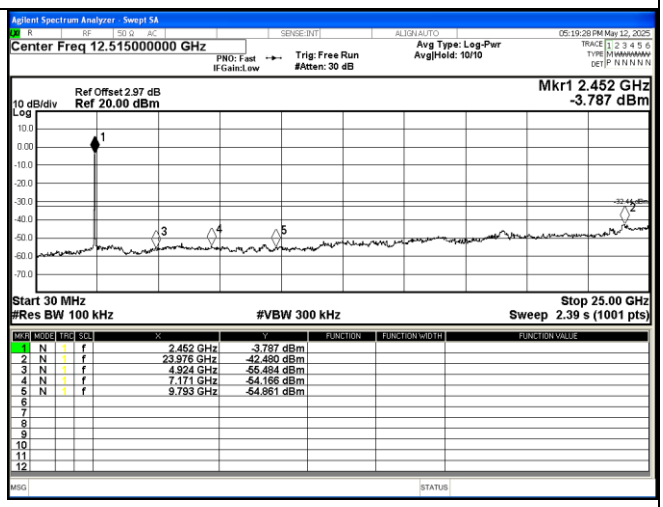
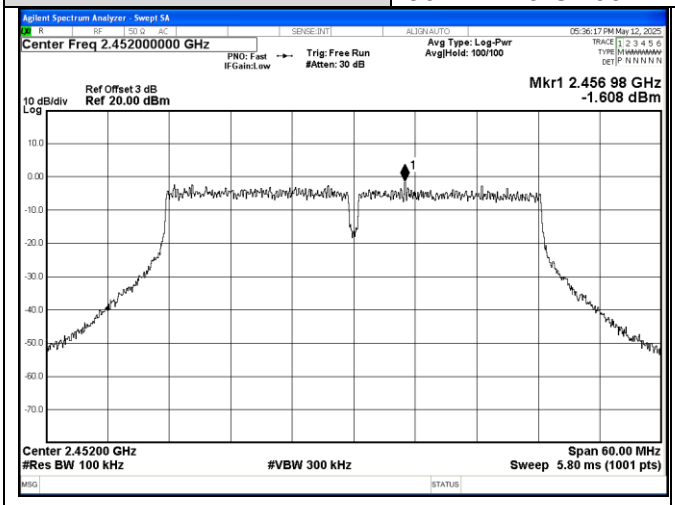
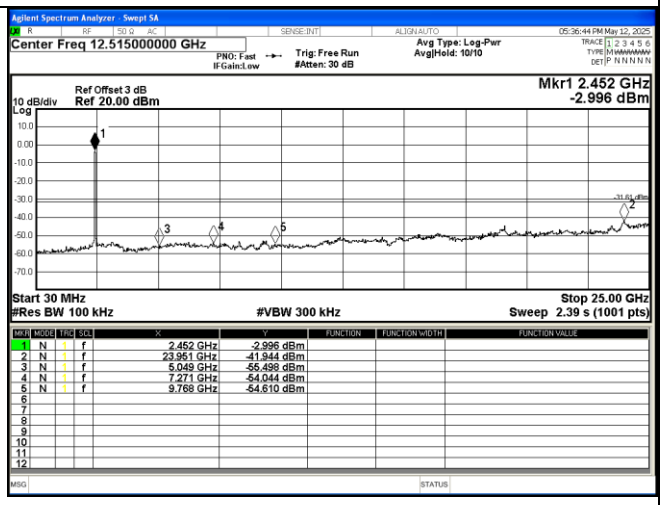




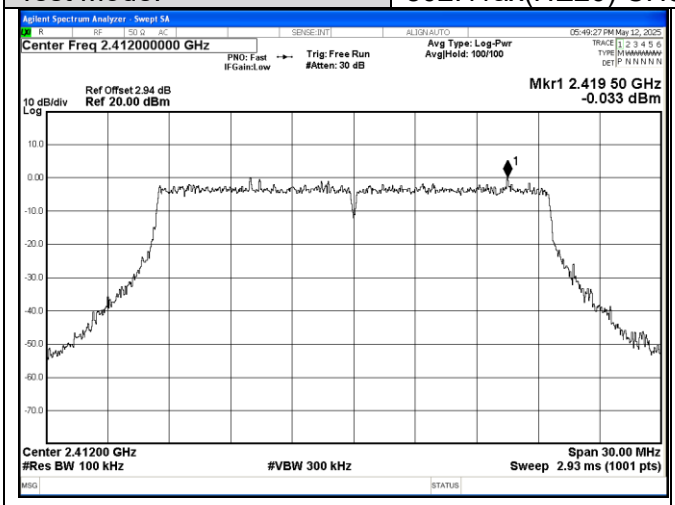
Test Mode:	802.11n40 CH09

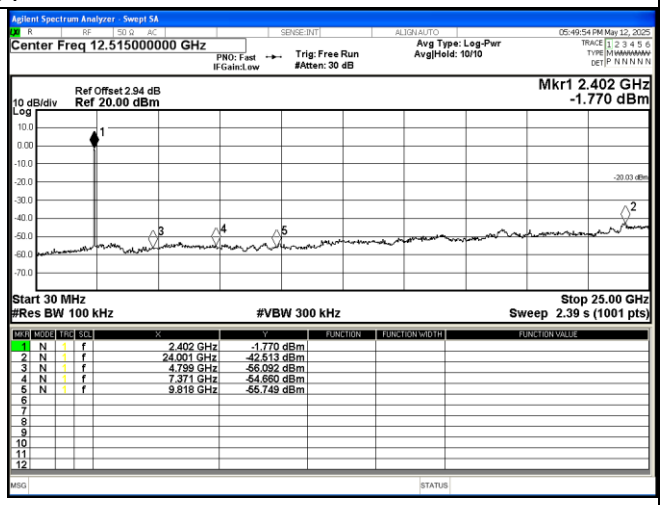




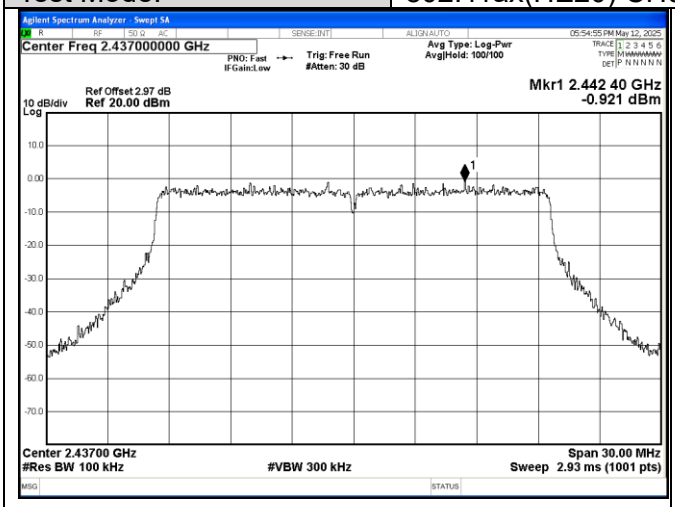
Conducted spurious emission

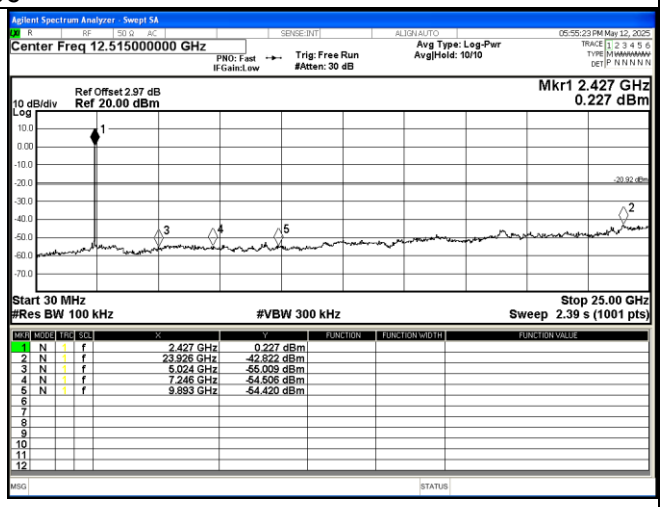
Test Mode: 802.11ax(HE20) CH01



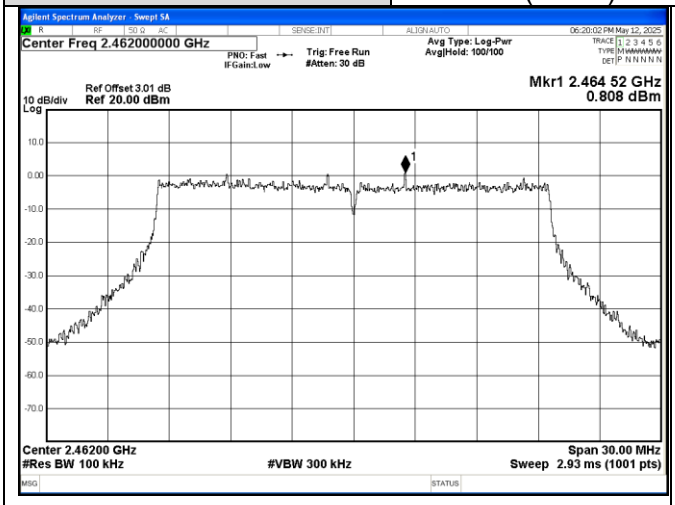


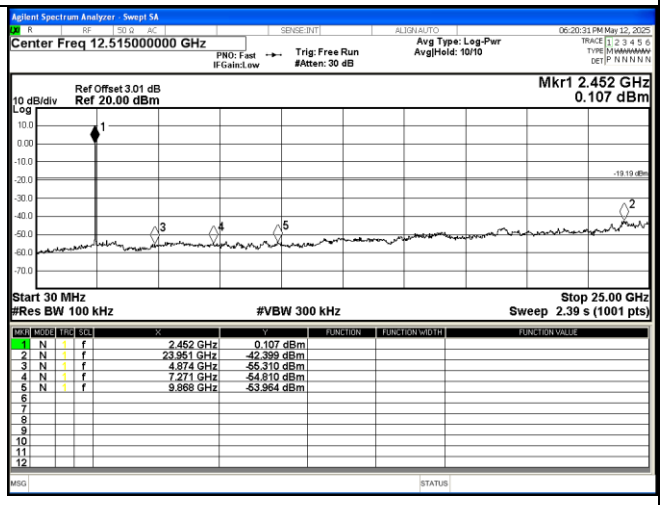
Test Mode: 802.11ax(HE20) CH06





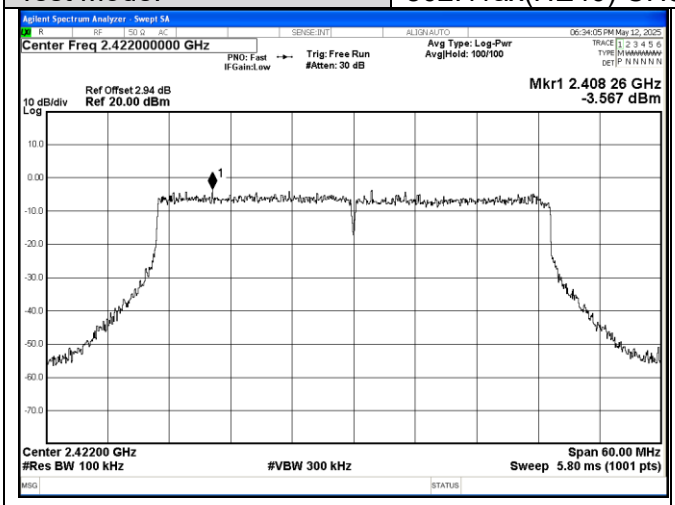
Test Mode: 802.11ax(HE20) CH11

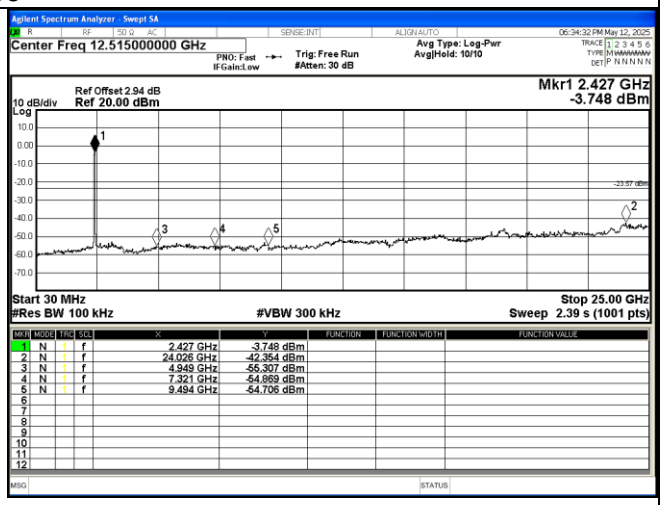




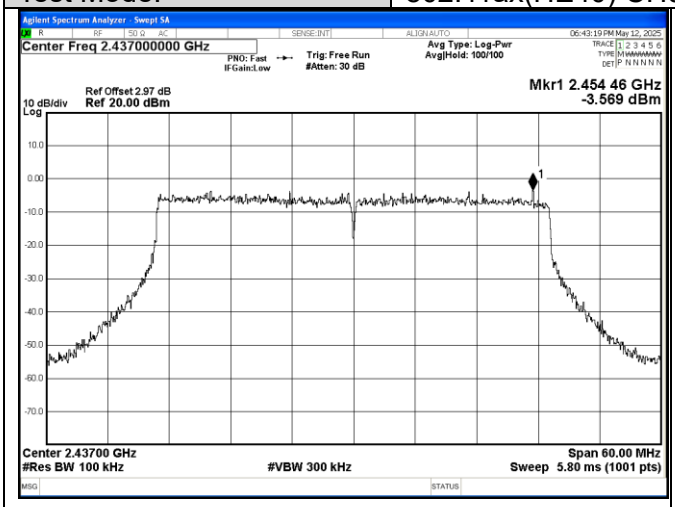
Conducted spurious emission

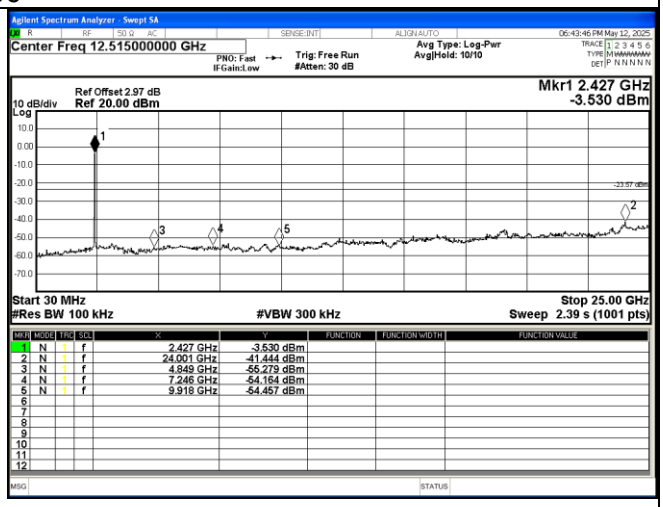
Test Mode:	802.11ax(HE40) CH03



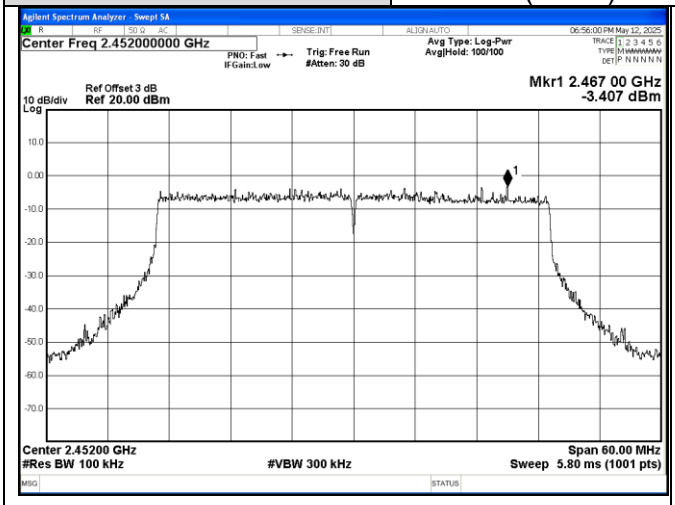


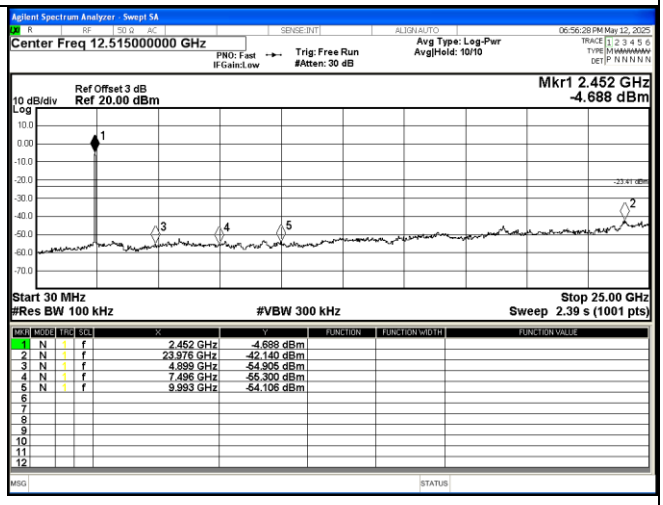
Test Mode:	802.11ax(HE40) CH06





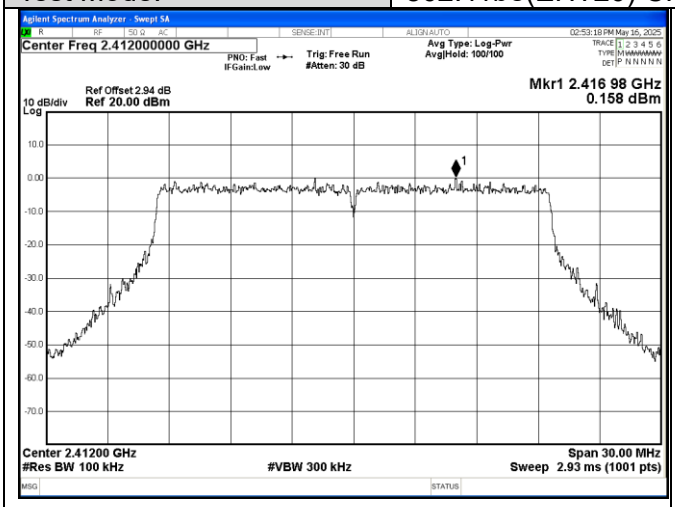
Test Mode:	802.11ax(HE40) CH09

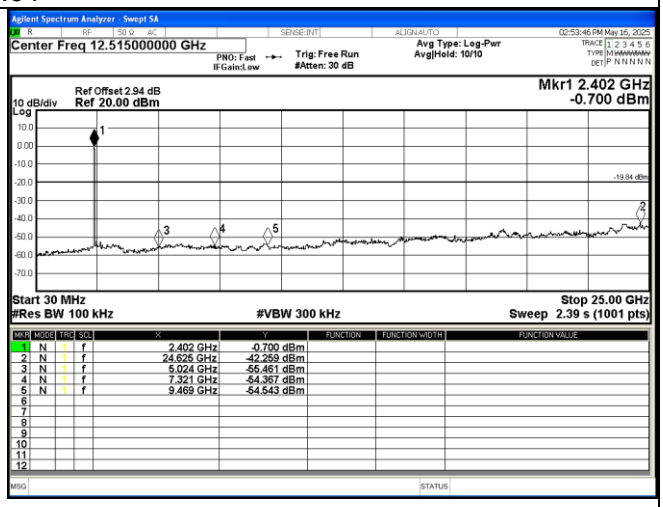




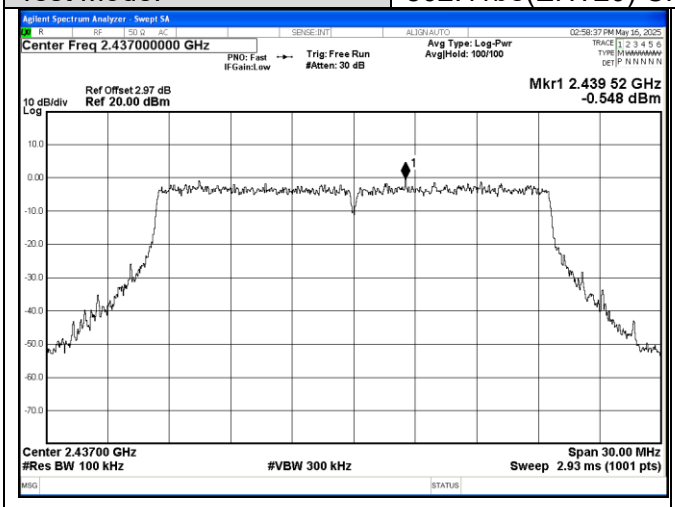
Conducted spurious emission

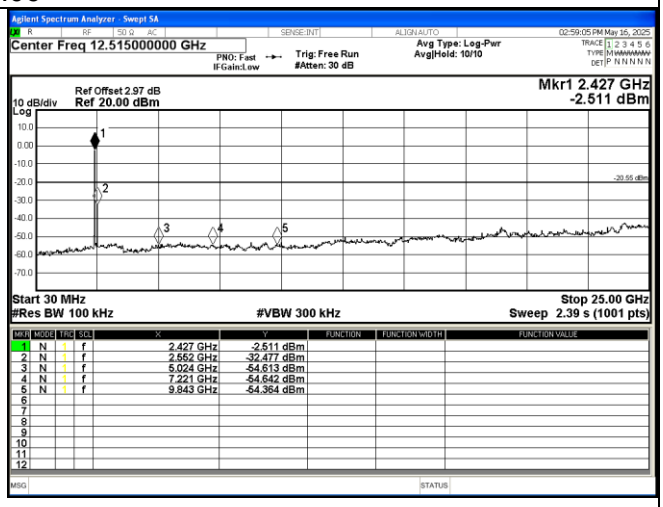
Test Mode: 802.11be(EHT20) CH01



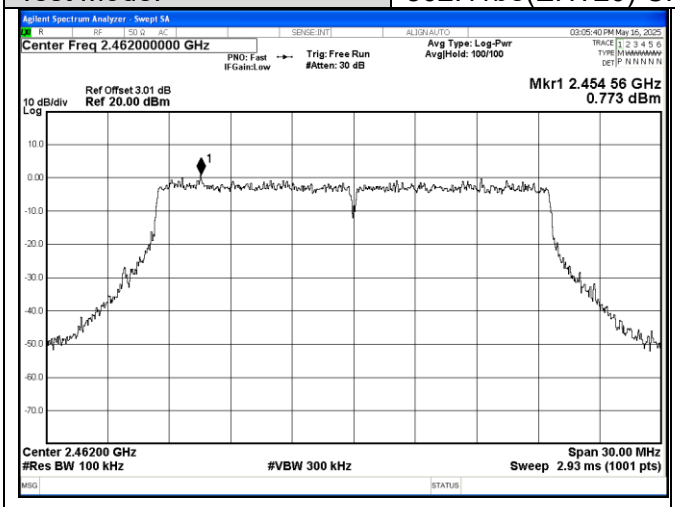


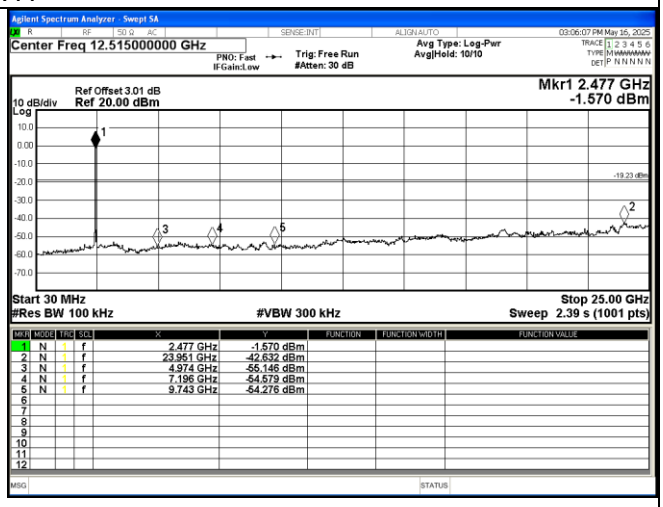
Test Mode: 802.11be(EHT20) CH06





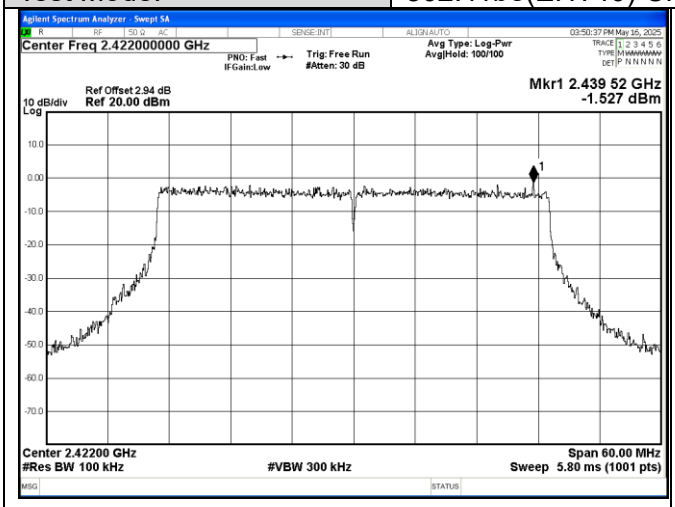
Test Mode: 802.11be(EHT20) CH11

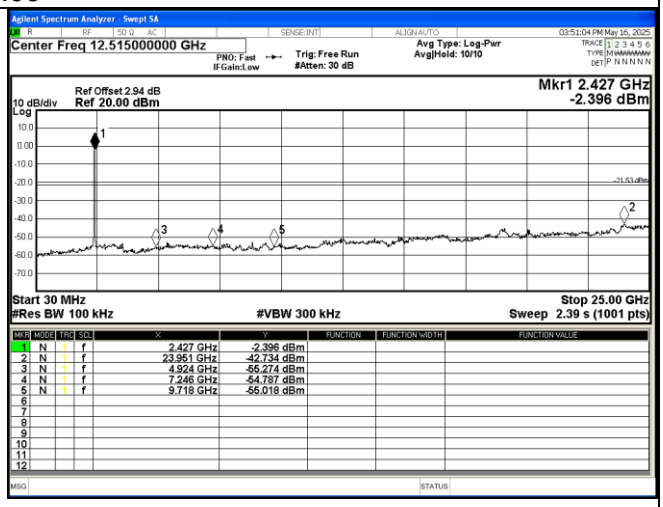




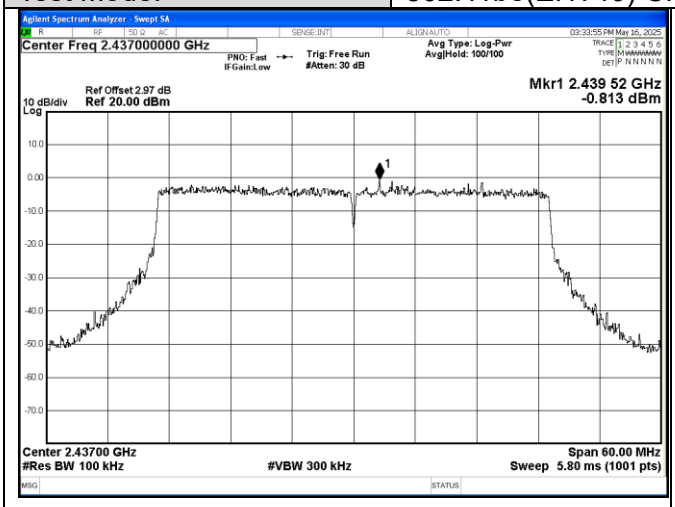
Conducted spurious emission

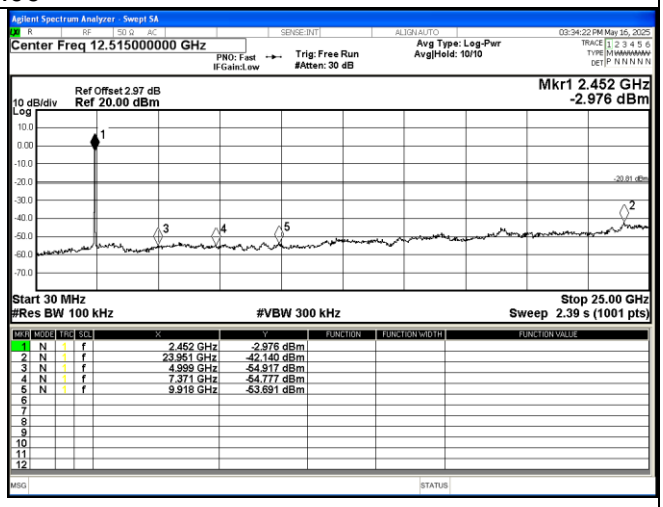
Test Mode:	802.11be(EHT40) CH03



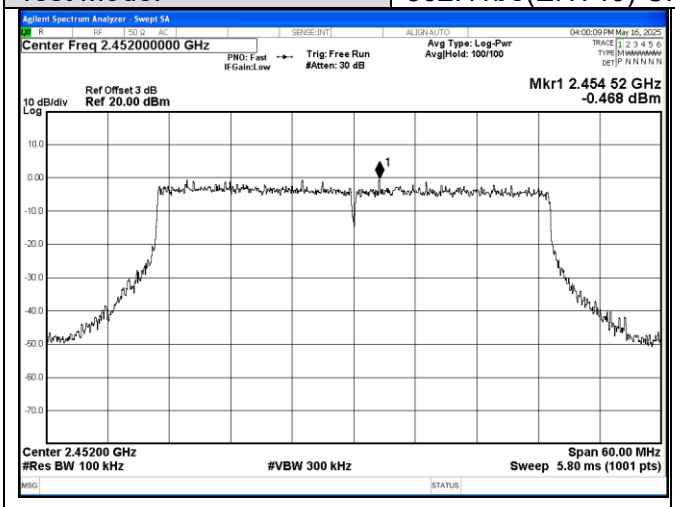


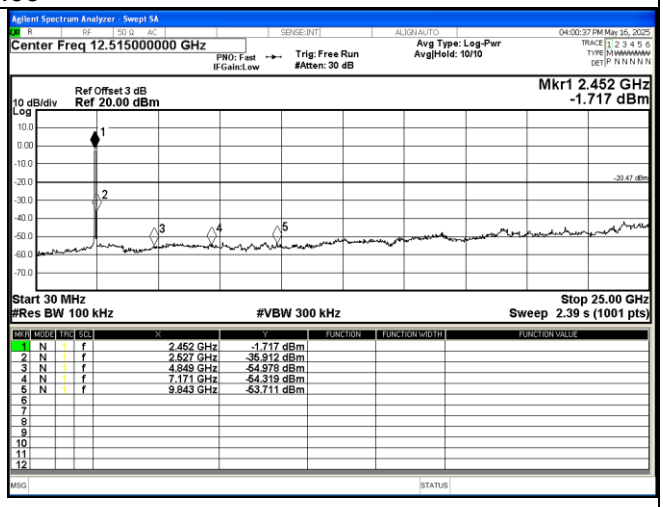
Test Mode:	802.11be(EHT40) CH06





Test Mode:	802.11be(EHT40) CH09

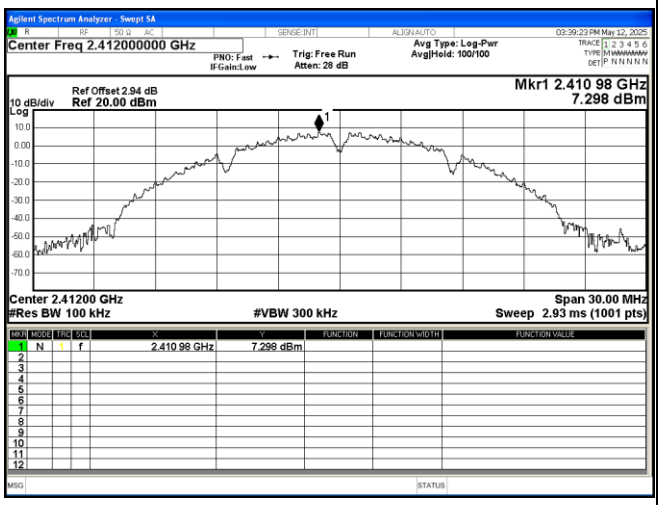


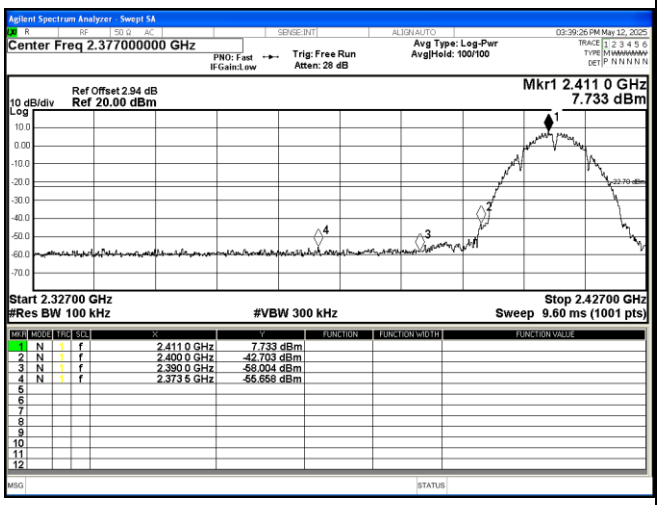


Note: All models were tested, and only the worst model(ANT 1) were reported in the report.

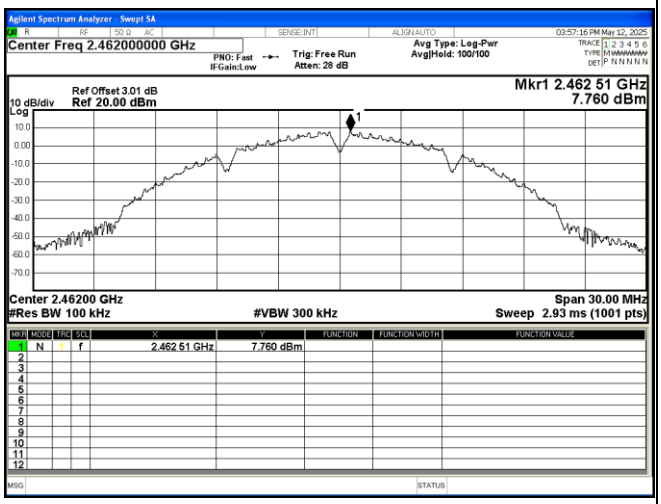
For Band edge(it's also the reference level for conducted spurious emission)

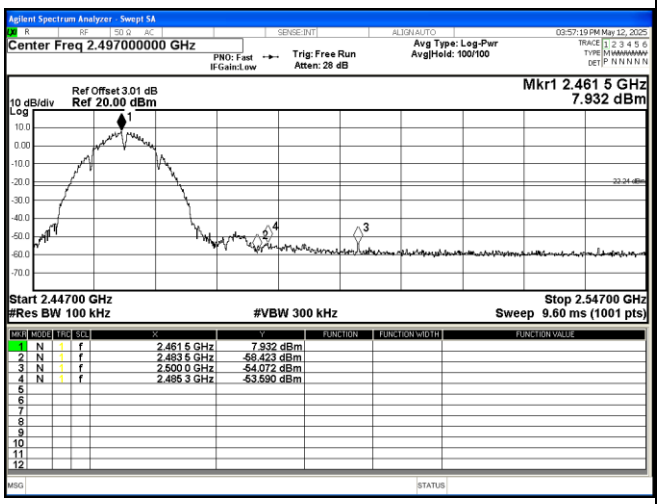
Test Mode:	802.11b CH01



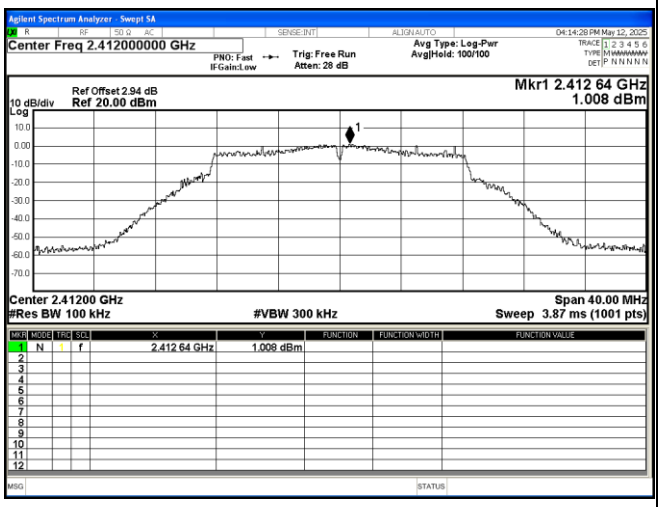


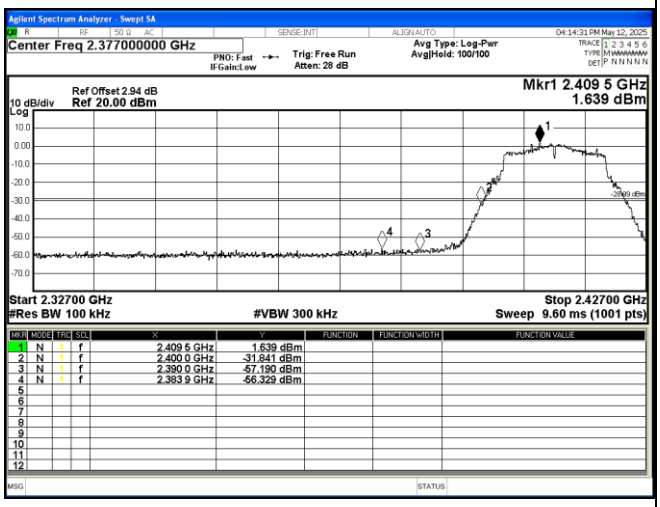
Test Mode:	802.11b CH011



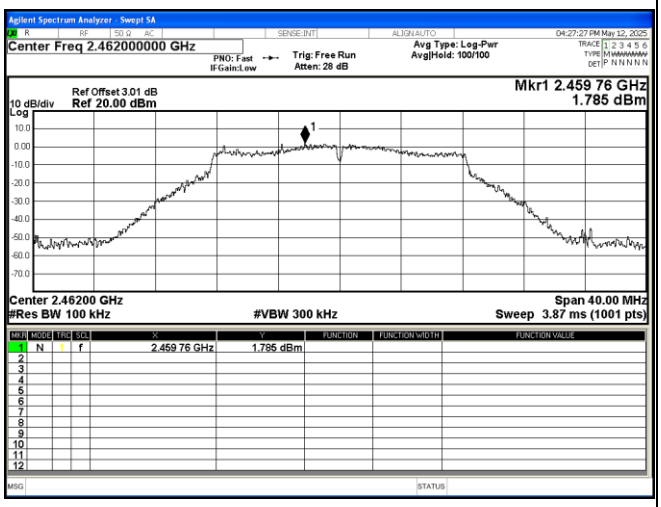


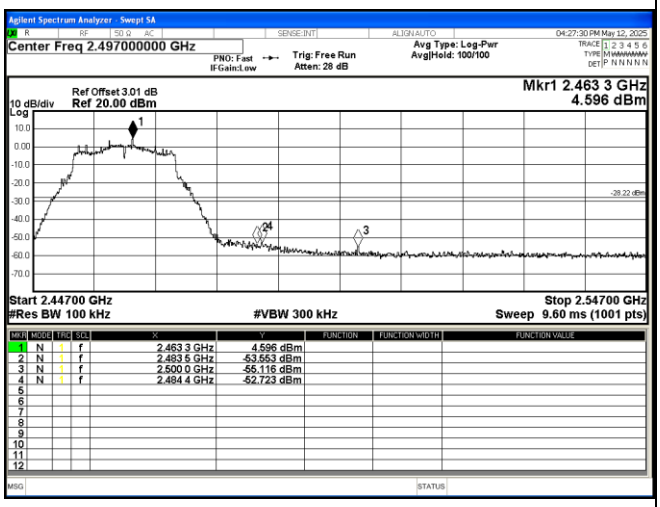
Test Mode:	802.11g CH01



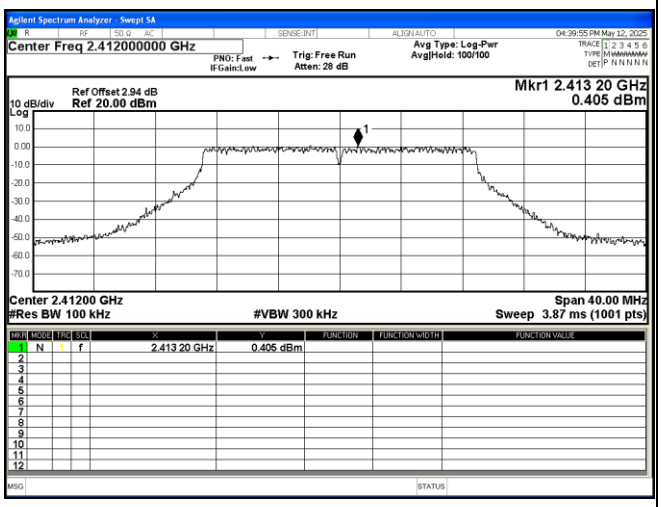


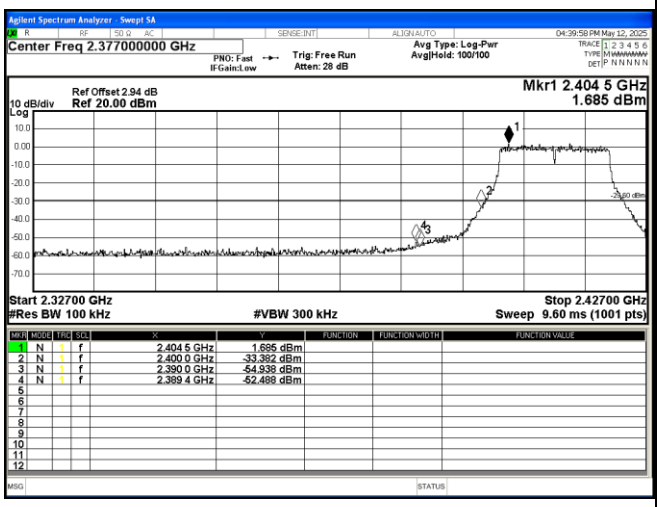
Test Mode:	802.11g CH11



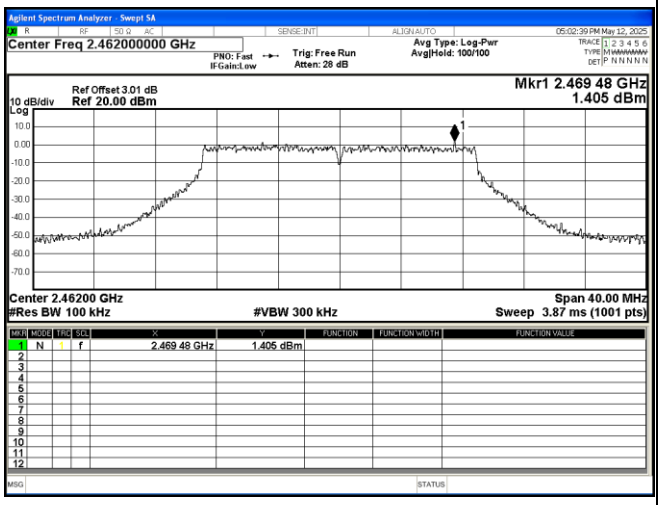


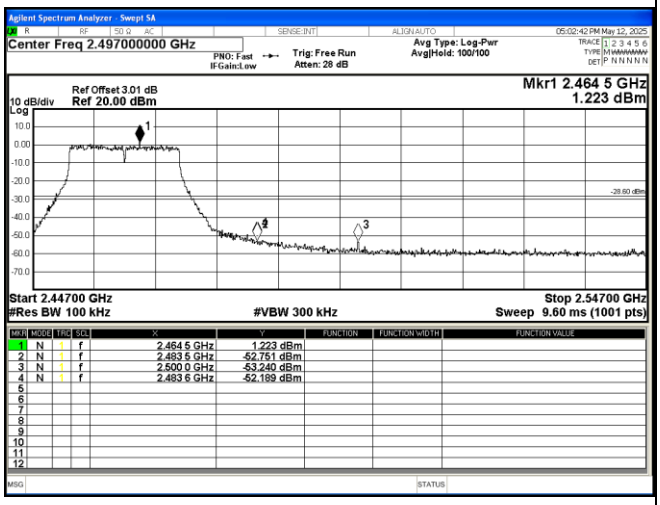
Test Mode:	802.11n20 CH01



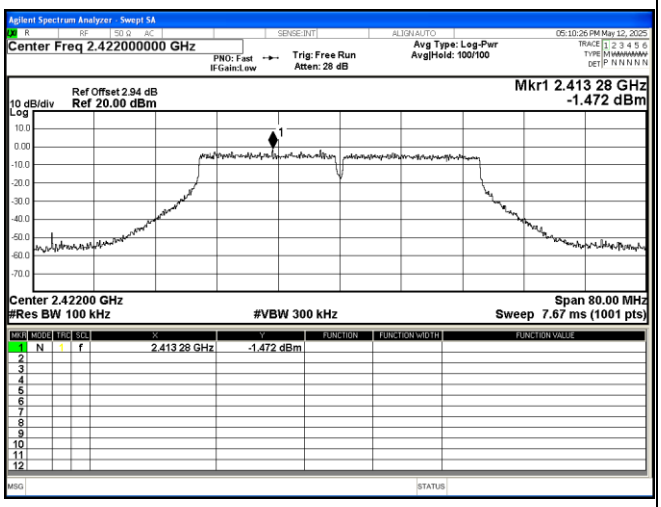


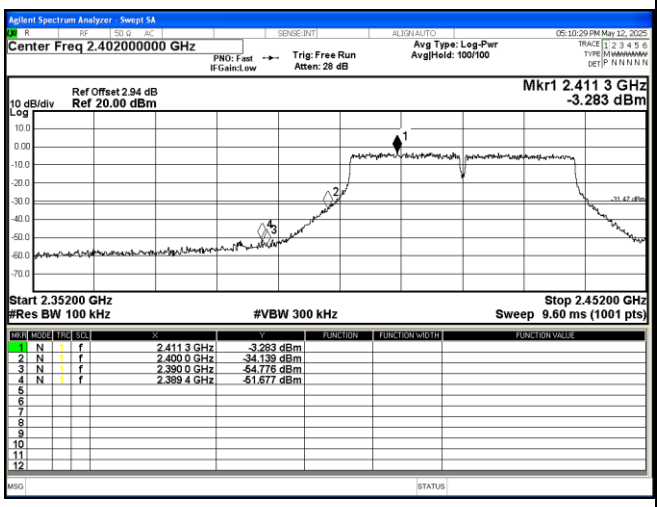
Test Mode:	802.11n20 CH11



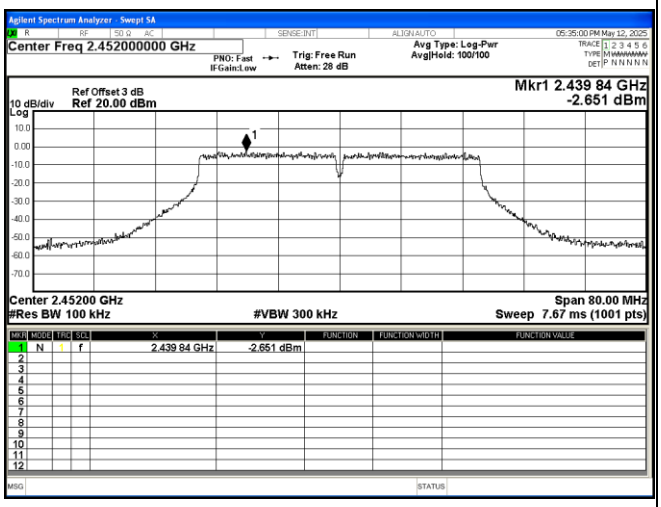


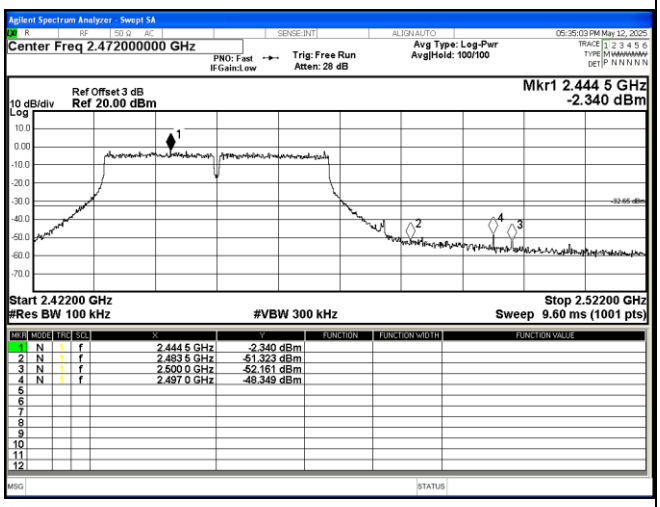
Test Mode:	802.11n40 CH03



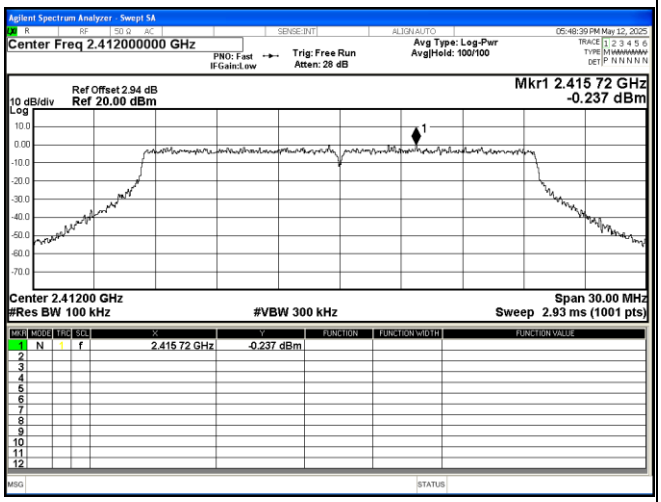


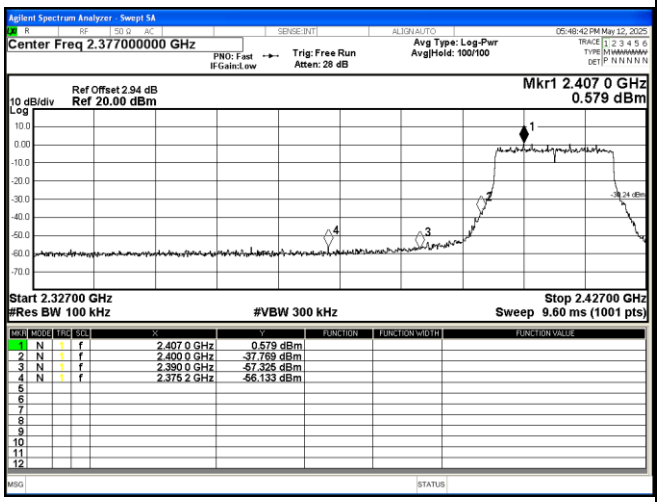
Test Mode:	802.11n40 CH09



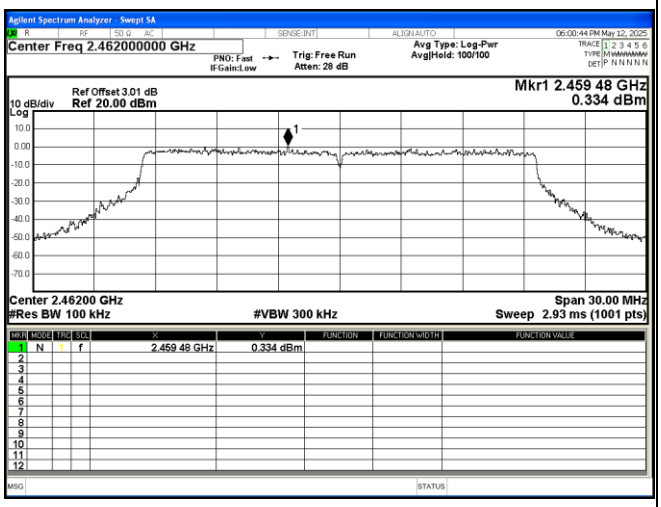


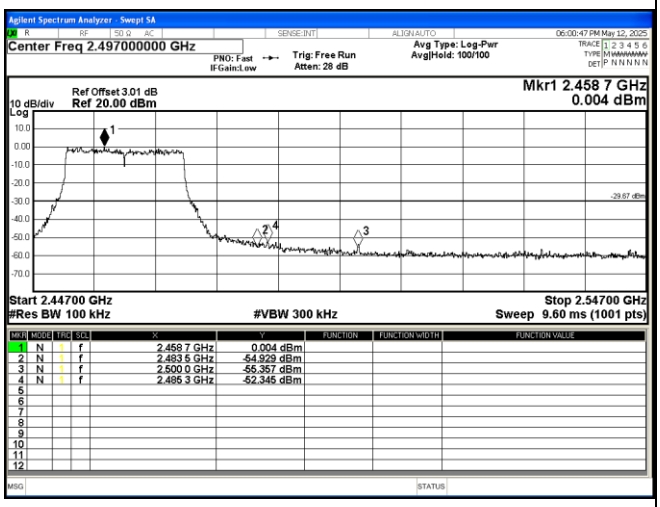
Test Mode:	802.11ax(HE20) CH01



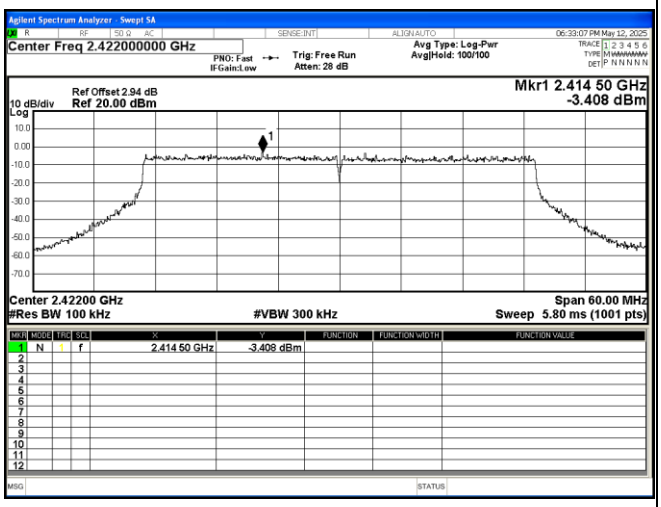


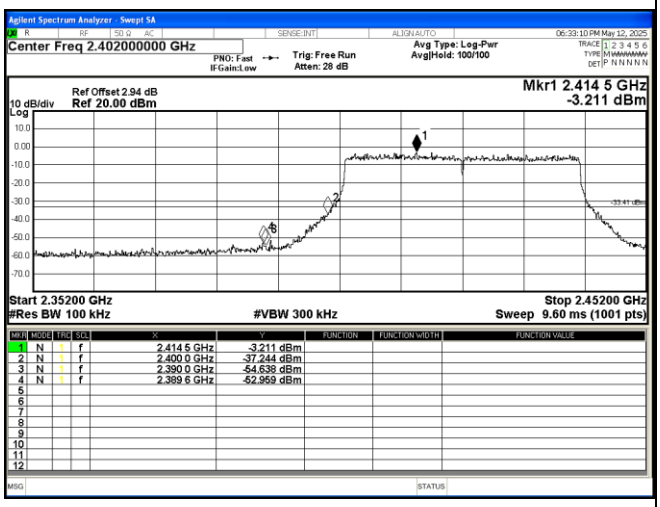
Test Mode:	802.11ax(HE20) CH11



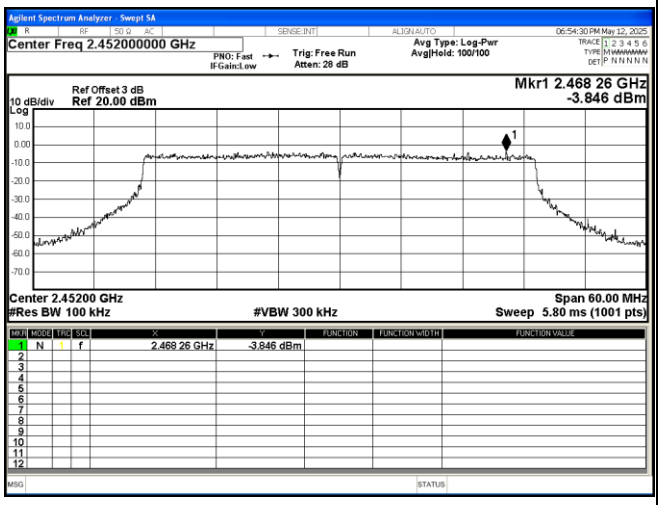


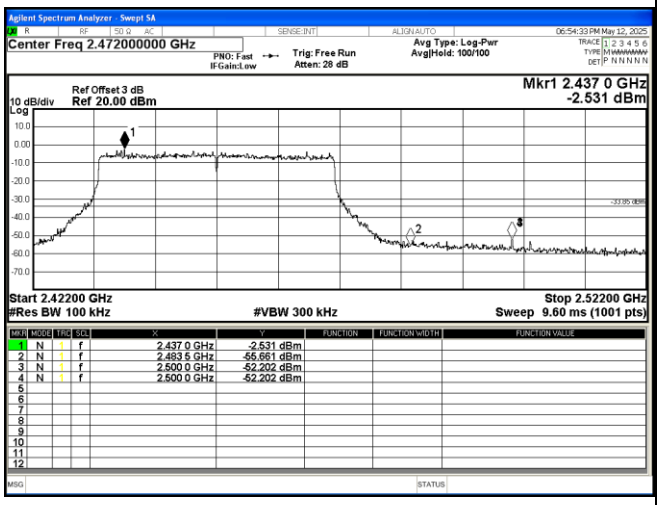
Test Mode:	802.11ax(HE40) CH03



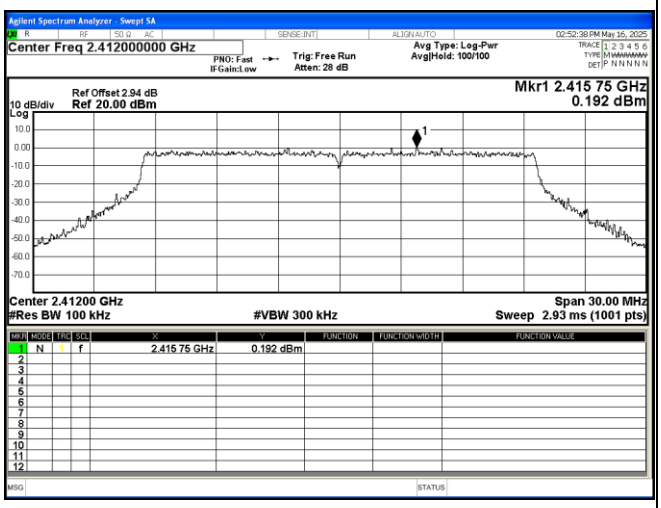


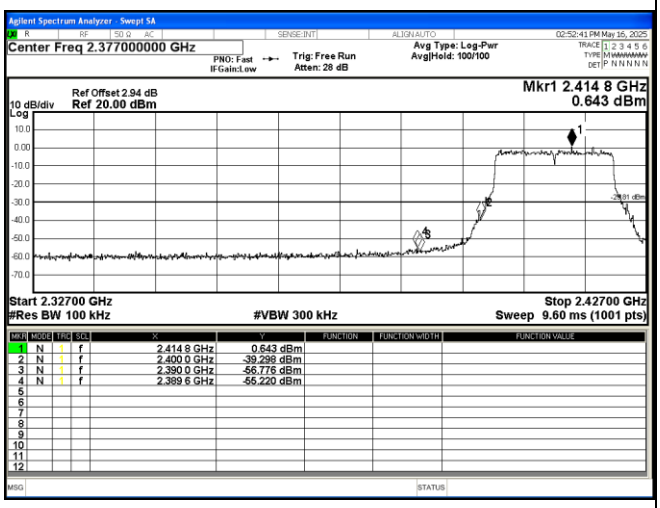
Test Mode:	802.11ax(HE40) CH09



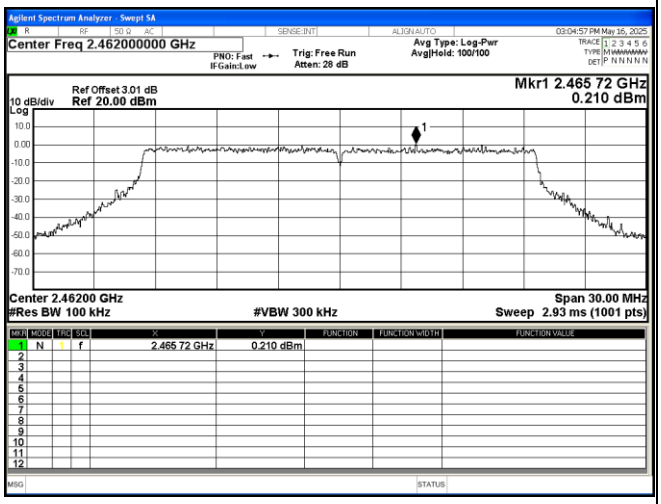


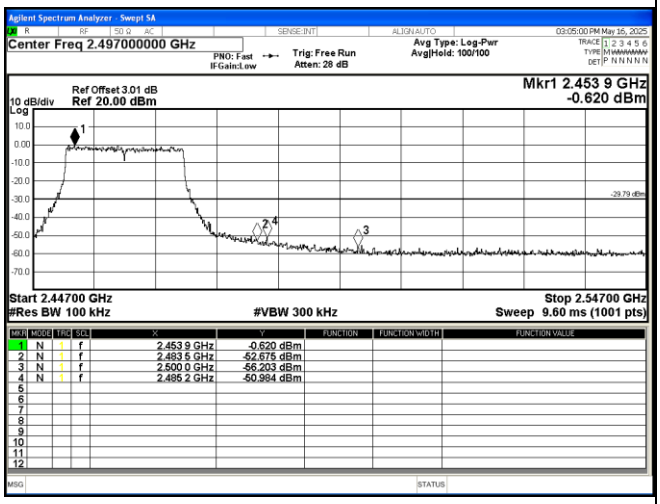
Test Mode:	802.11be(EHT20) CH01



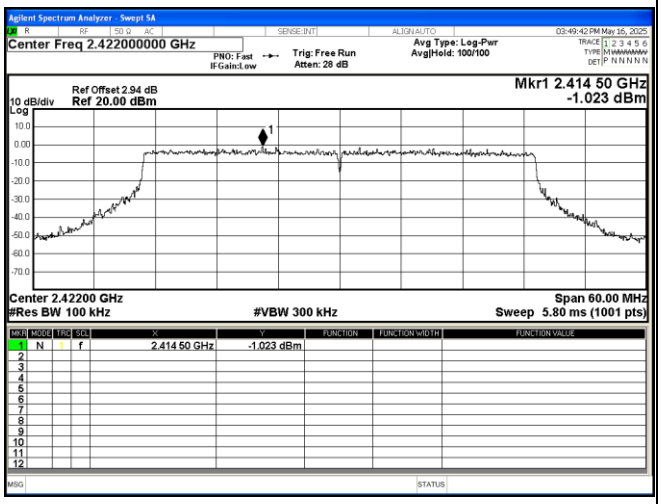


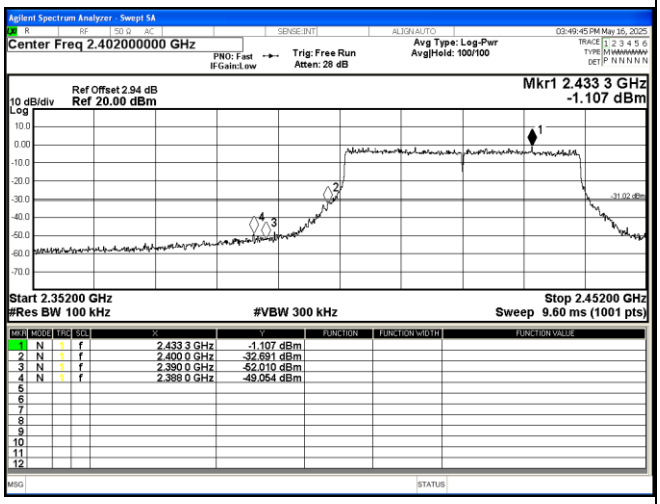
Test Mode:	802.11be(EHT20) CH11





Test Mode:	802.11be(EHT40) CH03





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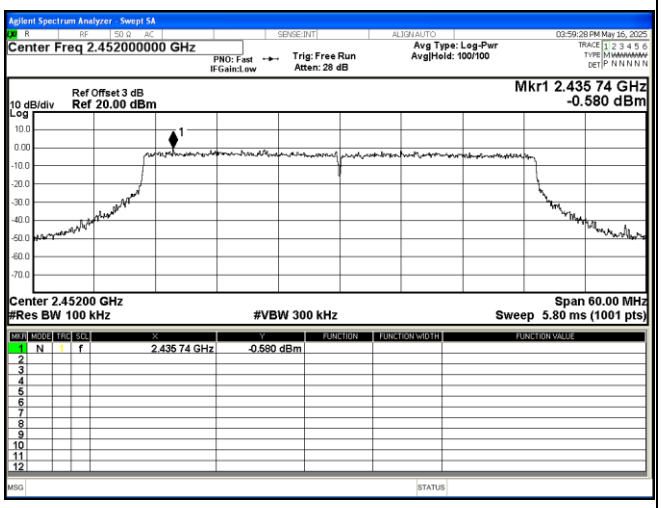
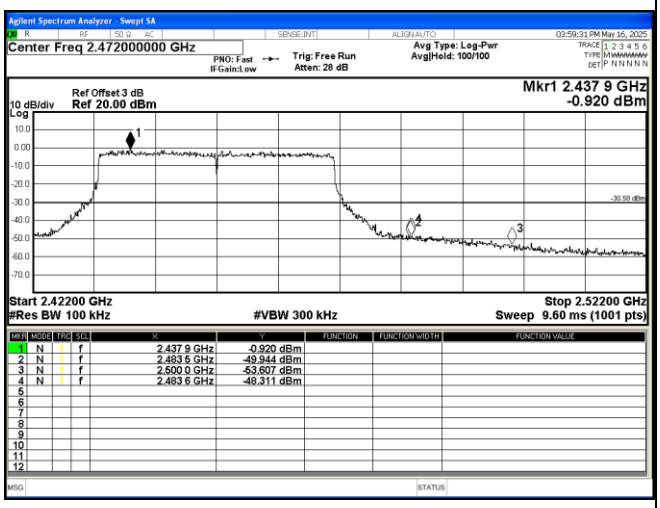




Appendix A.4 Test Results of Conducted Power Spectral Density

802.11b					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH01	-5.654	-6.462	---	8	Pass
CH06	-7.15	-7.861	---	8	Pass
CH11	-5.983	-6.648	---	8	Pass

802.11g					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH01	-10.573	-11.483	---	8	Pass
CH06	-12.006	-12.161	---	8	Pass
CH11	-10.831	-11.385	---	8	Pass

802.11n20					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH01	-11.622	-12.338	-8.955	8	Pass
CH06	-11.377	-11.716	-8.533	8	Pass
CH11	-11.911	-11.419	-8.648	8	Pass

802.11n40					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH03	-14.592	-15.353	-11.946	8	Pass
CH06	-15.061	-15.222	-12.13	8	Pass
CH09	-14.527	-14.962	-11.729	8	Pass

802.11ax(HE20)					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH01	-14.091	-13.841	-10.954	8	Pass
CH06	-14.09	-14.461	-11.261	8	Pass
CH11	-13.437	-13.674	-10.544	8	Pass

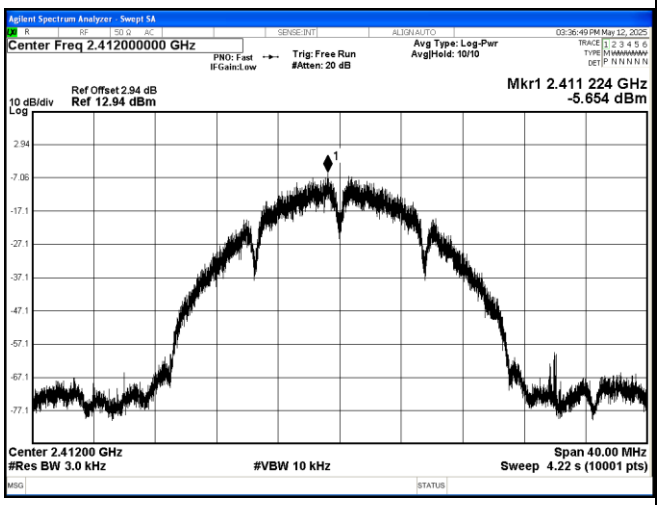
802.11ax(HE40)					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH03	-16.54	-16.765	-13.641	8	Pass
CH06	-16.871	-17.08	-13.964	8	Pass
CH09	-15.929	-16.795	-13.33	8	Pass

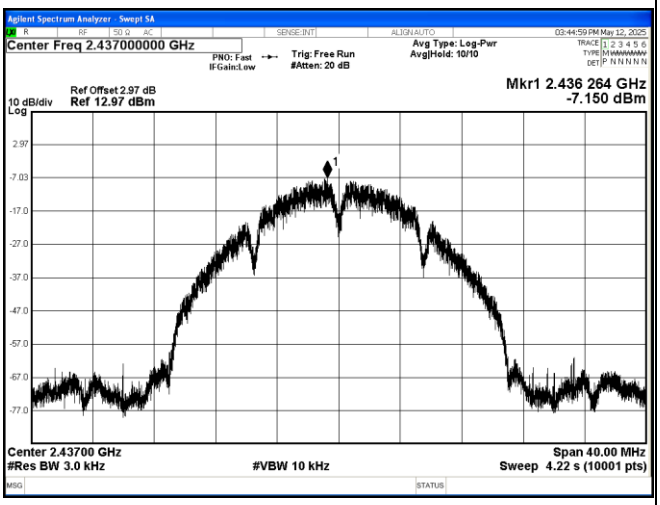
802.11be(EHT20)					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH01	-13.418	-14.373	-10.859	8	Pass
CH06	-13.933	-13.925	-10.919	8	Pass
CH011	-13.341	-13.395	-10.358	8	Pass

802.11be(EHT40)					
Frequency	Power Density (dBm/3kHz)			Limit (dBm/3KHz)	Result
	Ant1	Ant2	Total		
CH03	-14.544	-13.952	-11.228	8	Pass
CH06	-13.468	-14.701	-11.031	8	Pass
CH09	-14.135	-14.235	-11.174	8	Pass

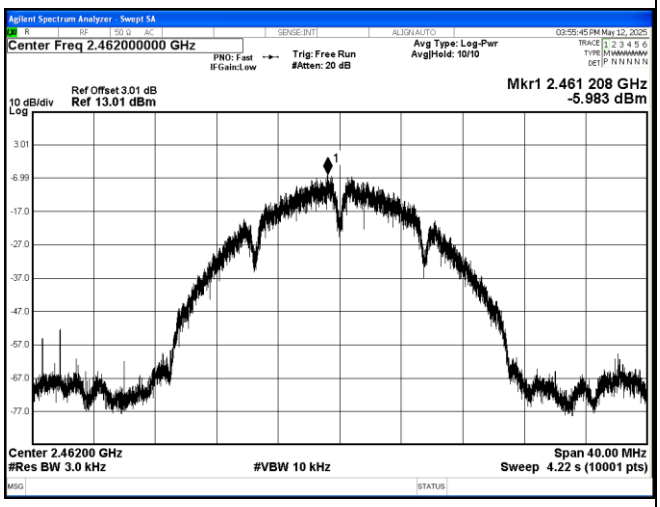
ANT1

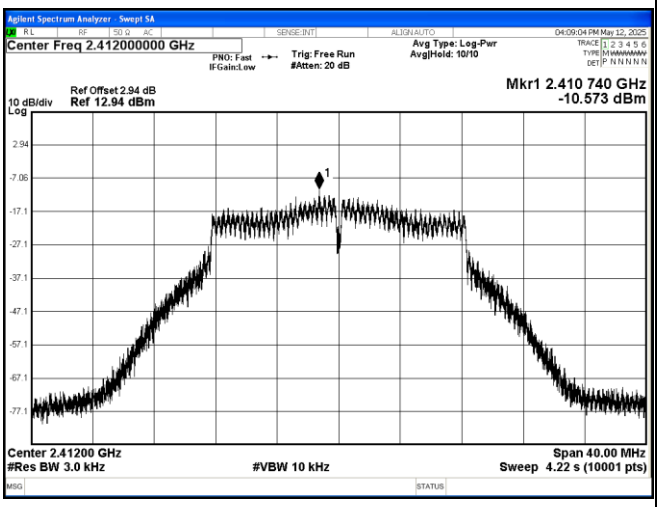
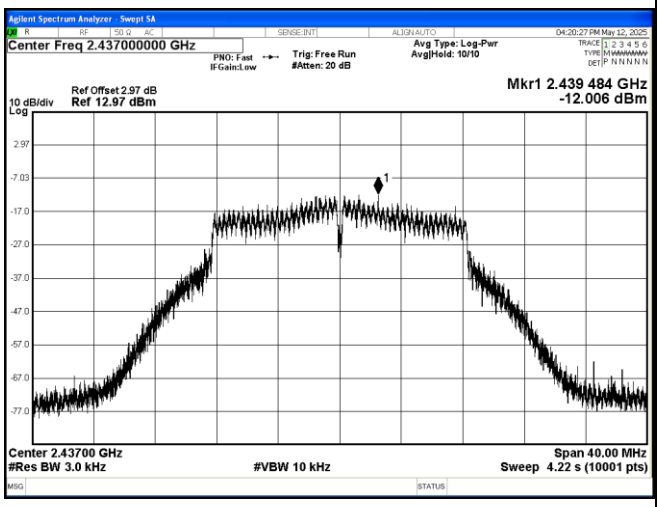
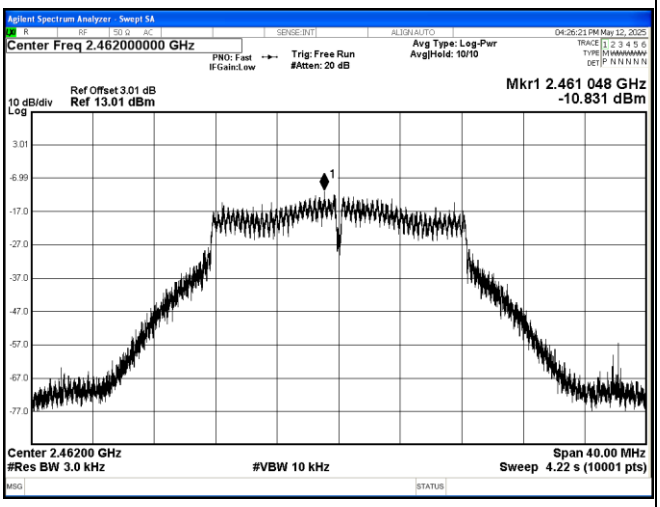
Test Mode:	802.11b CH01	Test Mode:	802.11b CH06





Test Mode:	802.11b CH11	Test Mode:	802.11g CH01





Test Mode:	802.11g CH06	Test Mode:	802.11g CH11