

Appendix A: Test Results of BDR&EDR

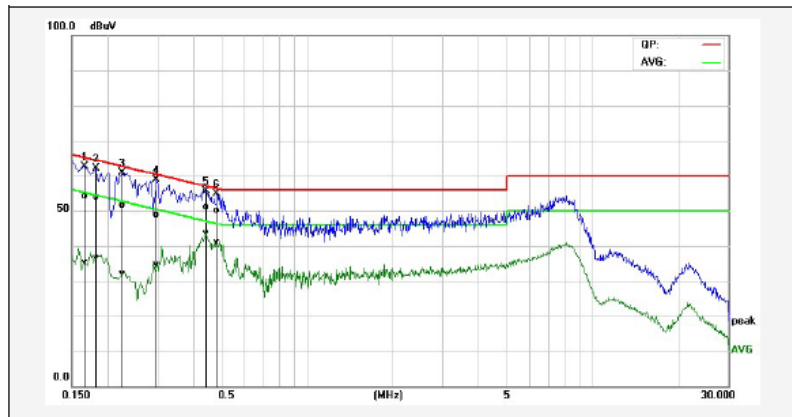
Table of Contents	Page
APPENDIX A.1 TEST RESULTS OF CONDUCTED EMISSION ON AC MAINS	2
APPENDIX A.2 TEST RESULTS OF RADIATED SPURIOUS EMISSION	3
APPENDIX A.3 TEST RESULTS OF CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH.....	14
APPENDIX A.5 TEST RESULTS OF NUMBER OF HOPPING FREQUENCY	23
APPENDIX A.6 TEST RESULTS OF TIME OF OCCUPANCY.....	24
APPENDIX A.7 TEST RESULTS OF 20DB & 99% BANDWIDTH	26
APPENDIX A.8 TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER.....	28

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.

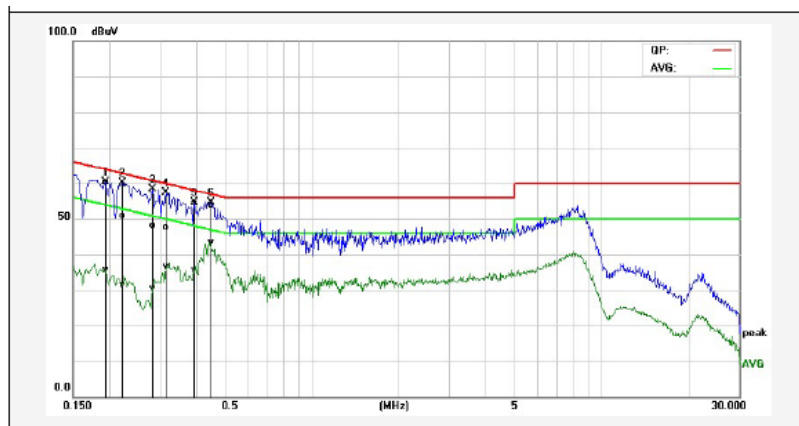
Test Mode :	Mode 5	Test Voltage :	AC 230V/50Hz
-------------	--------	----------------	--------------

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	0.1660	44.62	25.80	9.61	54.23	35.41	65.15	55.16	-10.92	-19.75	Pass
2P	0.1819	44.32	26.96	9.57	53.89	36.53	64.39	54.40	-10.50	-17.87	Pass
3P	0.2260	42.18	22.64	9.53	51.71	32.17	62.59	52.60	-10.88	-20.43	Pass
4P	0.2960	39.32	25.21	9.52	48.84	34.73	60.30	50.30	-11.46	-15.57	Pass
5*	0.4420	41.69	34.07	9.52	51.21	43.59	57.02	47.02	-5.81	-3.43	Pass
6P	0.4860	40.58	31.57	9.52	50.10	41.09	56.24	46.24	-6.14	-5.15	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	0.1940	50.83	25.95	9.62	60.45	35.57	63.86	53.86	-3.41	-18.29	Pass
2P	0.2220	41.25	21.65	9.63	50.88	31.28	62.74	52.74	-11.86	-21.46	Pass
3P	0.2819	38.47	20.70	9.62	48.09	30.32	60.76	50.76	-12.67	-20.44	Pass
4P	0.3140	37.92	27.09	9.62	47.54	36.71	59.86	49.86	-12.32	-13.15	Pass
5P	0.3940	44.96	26.00	9.62	54.58	35.62	57.98	47.98	-3.40	-12.36	Pass
6*	0.4460	44.22	33.75	9.62	53.84	43.37	56.95	46.95	-3.11	-3.58	Pass

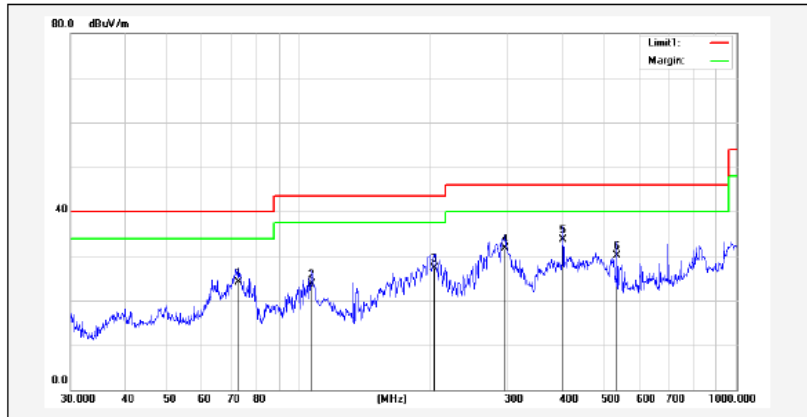
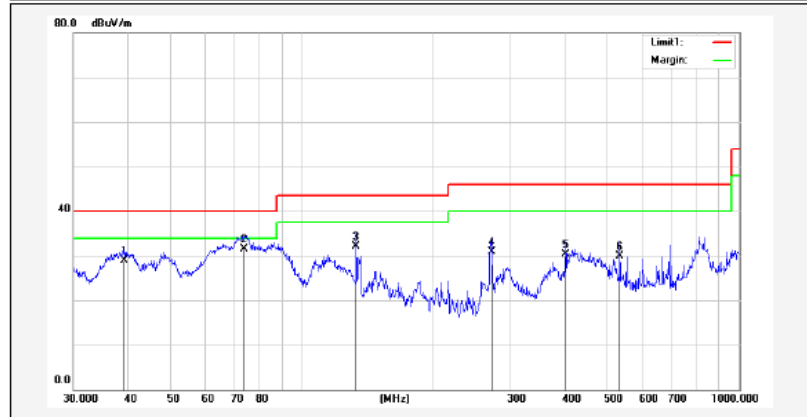
Correction Factor = insertion loss of LISN + cable loss;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit.

Appendix A.2 Test Results of Radiated Spurious Emission

Below 1G:																																																																															
Test Mode :		Mode 5			Test Voltage :		AC 230V/50Hz																																																																								
Horizontal																																																																															
 The graph shows the radiated spurious emission for the horizontal orientation. The y-axis represents the reading 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 represents the measured signal. Several peaks are identified and numbered 1 through 6. <table><thead><tr><th>No.</th><th>Frequency (MHz)</th><th>Reading (dBuV)</th><th>Correction factor(dB/m)</th><th>Result (dBuV/m)</th><th>Limit (dBuV/m)</th><th>Margin (dB)</th><th>Degree (deg.)</th><th>Height (cm)</th><th>Remark</th></tr></thead><tbody><tr><td>1</td><td>72.8465</td><td>38.33</td><td>-14.26</td><td>24.07</td><td>40.00</td><td>-15.93</td><td></td><td></td><td>QP</td></tr><tr><td>2</td><td>106.7587</td><td>38.58</td><td>-14.86</td><td>23.72</td><td>43.50</td><td>-19.78</td><td></td><td></td><td>QP</td></tr><tr><td>3</td><td>203.5227</td><td>42.30</td><td>-14.92</td><td>27.38</td><td>43.50</td><td>-16.12</td><td></td><td></td><td>QP</td></tr><tr><td>4</td><td>296.1836</td><td>41.91</td><td>-10.15</td><td>31.76</td><td>46.00</td><td>-14.24</td><td></td><td></td><td>QP</td></tr><tr><td>5*</td><td>400.4318</td><td>41.08</td><td>-7.43</td><td>33.65</td><td>46.00</td><td>-12.35</td><td></td><td></td><td>QP</td></tr><tr><td>6</td><td>533.8320</td><td>34.37</td><td>-4.26</td><td>30.11</td><td>46.00</td><td>-15.89</td><td></td><td></td><td>QP</td></tr></tbody></table>										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
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																																																																															
 The graph shows the radiated spurious emission for the vertical orientation. The y-axis represents the reading 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 represents the measured signal. Several peaks are identified and numbered 1 through 6. <table><thead><tr><th>No.</th><th>Frequency (MHz)</th><th>Reading (dBuV)</th><th>Correction factor(dB/m)</th><th>Result (dBuV/m)</th><th>Limit (dBuV/m)</th><th>Margin (dB)</th><th>Degree (deg.)</th><th>Height (cm)</th><th>Remark</th></tr></thead><tbody><tr><td>1</td><td>39.2991</td><td>41.55</td><td>-12.62</td><td>28.93</td><td>40.00</td><td>-11.07</td><td></td><td></td><td>QP</td></tr><tr><td>2*</td><td>73.6170</td><td>46.06</td><td>-14.46</td><td>31.60</td><td>40.00</td><td>-8.40</td><td></td><td></td><td>QP</td></tr><tr><td>3</td><td>133.1511</td><td>45.09</td><td>-12.89</td><td>32.20</td><td>43.50</td><td>-11.30</td><td></td><td></td><td>QP</td></tr><tr><td>4</td><td>271.3245</td><td>42.80</td><td>-11.88</td><td>30.92</td><td>46.00</td><td>-15.08</td><td></td><td></td><td>QP</td></tr><tr><td>5</td><td>400.4318</td><td>37.77</td><td>-7.43</td><td>30.34</td><td>46.00</td><td>-15.66</td><td></td><td></td><td>QP</td></tr><tr><td>6</td><td>533.8320</td><td>34.21</td><td>-4.26</td><td>29.95</td><td>46.00</td><td>-16.05</td><td></td><td></td><td>QP</td></tr></tbody></table>										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
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:
GFSK - Low (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1312.901	68.25	-24.51	43.74	74	-30.26	peak
2	1312.901	48.09	-24.51	23.58	54	-30.42	AVG
3	2050.838	66.43	-21.05	45.38	74	-28.62	peak
4	2050.838	46.52	-21.05	25.47	54	-28.53	AVG
5	3617.911	59.6	-17.05	42.55	74	-31.45	peak
6	3617.911	40.5	-17.05	23.45	54	-30.55	AVG
7	5004.148	60.96	-15.59	45.37	74	-28.63	peak
8	5004.148	41.45	-15.59	25.86	54	-28.14	AVG
9	7462.854	55.96	-9.05	46.91	74	-27.09	peak
10	7462.854	35.48	-9.05	26.43	54	-27.57	AVG
11	12715.63	55.19	-2.72	52.47	74	-21.53	peak
12	12715.63	35.12	-2.72	32.4	54	-21.6	AVG

GFSK - Low (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1328.199	69.04	-24.59	44.45	74	-29.55	peak
2	1328.199	49.12	-24.59	24.53	54	-29.47	AVG
3	1837.111	66.76	-22.46	44.3	74	-29.7	peak
4	1837.111	46.77	-22.46	24.31	54	-29.69	AVG
5	3394.584	62.52	-18.38	44.14	74	-29.86	peak
6	3394.584	43.23	-18.38	24.85	54	-29.15	AVG
7	4975.246	61.27	-15.6	45.67	74	-28.33	peak
8	4975.246	41.57	-15.6	25.97	54	-28.03	AVG
9	7637.782	55.96	-9	46.96	74	-27.04	peak
10	7637.782	35.4	-9	26.4	54	-27.6	AVG
11	12715.63	53.85	-2.72	51.13	74	-22.87	peak
12	12715.63	34.31	-2.72	31.59	54	-22.41	AVG

GFSK - Middle (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1607.967	68.61	-23.7	44.91	74	-29.09	peak
2	1607.967	47.8	-23.7	24.1	54	-29.9	AVG
3	2820.253	64.7	-19.64	45.06	74	-28.94	peak
4	2820.253	45.1	-19.64	25.46	54	-28.54	AVG
5	5004.148	61.29	-15.59	45.7	74	-28.3	peak
6	5004.148	41.28	-15.59	25.69	54	-28.31	AVG
7	7862.219	55.87	-8.83	47.04	74	-26.96	peak
8	7862.219	36.69	-8.83	27.86	54	-26.14	AVG
9	9518.294	54.81	-6.54	48.27	74	-25.73	peak
10	9518.294	35.48	-6.54	28.94	54	-25.06	AVG
11	12715.63	55.08	-2.72	52.36	74	-21.64	peak
12	12715.63	35.37	-2.72	32.65	54	-21.35	AVG



GFSK - Middle (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1391.195	68.33	-24.73	43.6	74	-30.4	peak
2	1391.195	47.88	-24.73	23.15	54	-30.85	AVG
3	1969.348	66.15	-21.75	44.4	74	-29.6	peak
4	1969.348	46.61	-21.75	24.86	54	-29.14	AVG
5	4975.246	60.73	-15.6	45.13	74	-28.87	peak
6	4975.246	41.39	-15.6	25.79	54	-28.21	AVG
7	6961.743	56.77	-10.04	46.73	74	-27.27	peak
8	6961.743	36.34	-10.04	26.3	54	-27.7	AVG
9	7862.219	56.39	-8.83	47.56	74	-26.44	peak
10	7862.219	36.46	-8.83	27.63	54	-26.37	AVG
11	9969.738	55.88	-6.07	49.81	74	-24.19	peak
12	9969.738	35.65	-6.07	29.58	54	-24.42	AVG

GFSK - High (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1297.78	68.77	-24.47	44.3	74	-29.7	peak
2	1297.78	49.22	-24.47	24.75	54	-29.25	AVG
3	1544.074	67.13	-24.05	43.08	74	-30.92	peak
4	1544.074	48.66	-24.05	24.61	54	-29.39	AVG
5	1957.974	67.27	-21.89	45.38	74	-28.62	peak
6	1957.974	46.9	-21.89	25.01	54	-28.99	AVG
7	3336.106	61.05	-18.44	42.61	74	-31.39	peak
8	3336.106	41.07	-18.44	22.63	54	-31.37	AVG
9	5004.148	62.08	-15.59	46.49	74	-27.51	peak
10	5004.148	42.58	-15.59	26.99	54	-27.01	AVG
11	9912.157	55.3	-6.14	49.16	74	-24.84	peak
12	9912.157	36.38	-6.14	30.24	54	-23.76	AVG

GFSK - High (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1109.891	69.15	-25.97	43.18	74	-30.82	peak
2	1109.891	49.42	-25.97	23.45	54	-30.55	AVG
3	1544.074	67.78	-24.05	43.73	74	-30.27	peak
4	1544.074	47.74	-24.05	23.69	54	-30.31	AVG
5	3474.153	63.21	-18.42	44.79	74	-29.21	peak
6	3474.153	42.98	-18.42	24.56	54	-29.44	AVG
7	4975.246	62.47	-15.6	46.87	74	-27.13	peak
8	4975.246	41.75	-15.6	26.15	54	-27.85	AVG
9	7042.862	56.22	-9.93	46.29	74	-27.71	peak
10	7042.862	36.82	-9.93	26.89	54	-27.11	AVG
11	10144.5	55.34	-6.06	49.28	74	-24.72	peak
12	10144.5	35.52	-6.06	29.46	54	-24.54	AVG

 $\pi/4$ DQPSK - Low (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1391.195	67.5	-24.73	42.77	74	-31.23	peak
2	1391.195	46.73	-24.73	22	54	-32	AVG
3	1607.967	68.65	-23.7	44.95	74	-29.05	peak
4	1607.967	48.28	-23.7	24.58	54	-29.42	AVG
5	3597.016	58.77	-17	41.77	74	-32.23	peak
6	3597.016	38.79	-17	21.79	54	-32.21	AVG
7	5004.148	61.48	-15.59	45.89	74	-28.11	peak
8	5004.148	41.22	-15.59	25.63	54	-28.37	AVG
9	7419.751	56.96	-9.08	47.88	74	-26.12	peak
10	7419.751	37.71	-9.08	28.63	54	-25.37	AVG
11	10564.27	55.32	-5.69	49.63	74	-24.37	peak
12	10564.27	34.76	-5.69	29.07	54	-24.93	AVG

 $\pi/4$ DQPSK - Low (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1169.285	69.7	-26.1	43.6	74	-30.4	peak
2	1169.285	49.65	-26.1	23.55	54	-30.45	AVG
3	2135.701	66.38	-20.57	45.81	74	-28.19	peak
4	2135.701	45.98	-20.57	25.41	54	-28.59	AVG
5	3535.05	61.71	-17.98	43.73	74	-30.27	peak
6	3535.05	41.65	-17.98	23.67	54	-30.33	AVG
7	4975.246	62.29	-15.6	46.69	74	-27.31	peak
8	4975.246	41.9	-15.6	26.3	54	-27.7	AVG
9	7462.854	56.46	-9.05	47.41	74	-26.59	peak
10	7462.854	36.1	-9.05	27.05	54	-26.95	AVG
11	9685.139	55.05	-6.71	48.34	74	-25.66	peak
12	9685.139	35.48	-6.71	28.77	54	-25.23	AVG

 $\pi/4$ DQPSK - Middle (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1607.967	67.5	-23.7	43.8	74	-30.2	peak
2	1607.967	46.85	-23.7	23.15	54	-30.85	AVG
3	1946.665	67.04	-22	45.04	74	-28.96	peak
4	1946.665	48.43	-22	26.43	54	-27.57	AVG
5	5004.148	60.12	-15.59	44.53	74	-29.47	peak
6	5004.148	40.17	-15.59	24.58	54	-29.42	AVG
7	7419.751	55.98	-9.08	46.9	74	-27.1	peak
8	7419.751	35.77	-9.08	26.69	54	-27.31	AVG
9	10027.65	55.11	-6.06	49.05	74	-24.95	peak
10	10027.65	36.07	-6.06	30.01	54	-23.99	AVG
11	12496.58	54.29	-2.88	51.41	74	-22.59	peak
12	12496.58	34.13	-2.88	31.25	54	-22.75	AVG

 $\pi/4$ DQPSK - Middle (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1297.78	66.95	-24.47	42.48	74	-31.52	peak
2	1297.78	46.94	-24.47	22.47	54	-31.53	AVG
3	1946.665	66.92	-22	44.92	74	-29.08	peak
4	1946.665	46.58	-22	24.58	54	-29.42	AVG
5	3454.087	62.42	-18.39	44.03	74	-29.97	peak
6	3454.087	43.15	-18.39	24.76	54	-29.24	AVG
7	5004.148	60.93	-15.59	45.34	74	-28.66	peak
8	5004.148	41.5	-15.59	25.91	54	-28.09	AVG
9	6419.481	57.34	-11.08	46.26	74	-27.74	peak
10	6419.481	37.41	-11.08	26.33	54	-27.67	AVG
11	7462.854	56.61	-9.05	47.56	74	-26.44	peak
12	7462.854	36.53	-9.05	27.48	54	-26.52	AVG

 $\pi/4$ DQPSK - High (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1607.967	67.56	-23.7	43.86	74	-30.14	peak
2	1607.967	46.85	-23.7	23.15	54	-30.85	AVG
3	2015.509	65.26	-21.29	43.97	74	-30.03	peak
4	2015.509	45.07	-21.29	23.78	54	-30.22	AVG
5	4975.246	61.07	-15.6	45.47	74	-28.53	peak
6	4975.246	41.28	-15.6	25.68	54	-28.32	AVG
7	7334.292	55.31	-9.32	45.99	74	-28.01	peak
8	7334.292	35.23	-9.32	25.91	54	-28.09	AVG
9	9408.664	55.02	-6.22	48.8	74	-25.2	peak
10	9408.664	34.52	-6.22	28.3	54	-25.7	AVG
11	11930.72	53.87	-3.22	50.65	74	-23.35	peak
12	11930.72	33.47	-3.22	30.25	54	-23.75	AVG

 $\pi/4$ DQPSK - High (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1260.733	67.85	-24.82	43.03	74	-30.97	peak
2	1260.733	47.96	-24.82	23.14	54	-30.86	AVG
3	2038.994	66.47	-21.13	45.34	74	-28.66	peak
4	2038.994	46.73	-21.13	25.6	54	-28.4	AVG
5	3336.106	62.67	-18.44	44.23	74	-29.77	peak
6	3336.106	42.79	-18.44	24.35	54	-29.65	AVG
7	5004.148	61.69	-15.59	46.1	74	-27.9	peak
8	5004.148	42.38	-15.59	26.79	54	-27.21	AVG
9	7334.292	56.53	-9.32	47.21	74	-26.79	peak
10	7334.292	37.27	-9.32	27.95	54	-26.05	AVG
11	8526.351	56.53	-8.27	48.26	74	-25.74	peak
12	8526.351	36.81	-8.27	28.54	54	-25.46	AVG



8DPSK - Low (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1305.319	68.72	-24.47	44.25	74	-29.75	peak
2	1305.319	48.5	-24.47	24.03	54	-29.97	AVG
3	1935.422	66.88	-22.08	44.8	74	-29.2	peak
4	1935.422	46.16	-22.08	24.08	54	-29.92	AVG
5	3076.251	61.76	-19.17	42.59	74	-31.41	peak
6	3076.251	41.36	-19.17	22.19	54	-31.81	AVG
7	5004.148	61.4	-15.59	45.81	74	-28.19	peak
8	5004.148	40.72	-15.59	25.13	54	-28.87	AVG
9	7682.15	56.23	-9.05	47.18	74	-26.82	peak
10	7682.15	36.88	-9.05	27.83	54	-26.17	AVG
11	10203.43	55.57	-6.04	49.53	74	-24.47	peak
12	10203.43	35.38	-6.04	29.34	54	-24.66	AVG

8DPSK - Low (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1246.212	67.74	-24.97	42.77	74	-31.23	peak
2	1246.212	47.2	-24.97	22.23	54	-31.77	AVG
3	1992.294	66.66	-21.49	45.17	74	-28.83	peak
4	1992.294	46.68	-21.49	25.19	54	-28.81	AVG
5	3414.304	63.31	-18.37	44.94	74	-29.06	peak
6	3414.304	43.02	-18.37	24.65	54	-29.35	AVG
7	5004.148	62.08	-15.59	46.49	74	-27.51	peak
8	5004.148	42.02	-15.59	26.43	54	-27.57	AVG
9	7419.751	55.53	-9.08	46.45	74	-27.55	peak
10	7419.751	35.39	-9.08	26.31	54	-27.69	AVG
11	9408.664	54.85	-6.22	48.63	74	-25.37	peak
12	9408.664	35	-6.22	28.78	54	-25.22	AVG

8DPSK - Middle (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1297.78	68.03	-24.47	43.56	74	-30.44	peak
2	1297.78	47.95	-24.47	23.48	54	-30.52	AVG
3	1607.967	66.67	-23.7	42.97	74	-31.03	peak
4	1607.967	45.86	-23.7	22.16	54	-31.84	AVG
5	1935.422	66.79	-22.08	44.71	74	-29.29	peak
6	1935.422	66.97	-22.08	44.89	54	-9.11	AVG
7	5004.148	61.09	-15.59	45.5	74	-28.5	peak
8	5004.148	40.72	-15.59	25.13	54	-28.87	AVG
9	7376.898	57.02	-9.16	47.86	74	-26.14	peak
10	7376.898	36.34	-9.16	27.18	54	-26.82	AVG
11	9573.587	56.3	-6.7	49.6	74	-24.4	peak
12	9573.587	36.16	-6.7	29.46	54	-24.54	AVG



8DPSK - Middle (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1992.294	66	-21.49	44.51	74	-29.49	peak
2	1992.294	46.14	-21.49	24.65	54	-29.35	AVG
3	3355.486	63	-18.42	44.58	74	-29.42	peak
4	3355.486	42.95	-18.42	24.53	54	-29.47	AVG
5	4975.246	61.31	-15.6	45.71	74	-28.29	peak
6	4975.246	41.4	-15.6	25.8	54	-28.2	AVG
7	7462.854	56.64	-9.05	47.59	74	-26.41	peak
8	7462.854	36.99	-9.05	27.94	54	-26.06	AVG
9	9408.664	54.91	-6.22	48.69	74	-25.31	peak
10	9408.664	34.53	-6.22	28.31	54	-25.69	AVG
11	12715.63	54.16	-2.72	51.44	74	-22.56	peak
12	12715.63	34.18	-2.72	31.46	54	-22.54	AVG

8DPSK - High (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1598.68	67.46	-23.72	43.74	74	-30.26	peak
2	1598.68	47.22	-23.72	23.5	54	-30.5	AVG
3	1946.665	67.32	-22	45.32	74	-28.68	peak
4	1946.665	47.61	-22	25.61	54	-28.39	AVG
5	5004.148	62.03	-15.59	46.44	74	-27.56	peak
6	5004.148	42.32	-15.59	26.73	54	-27.27	AVG
7	8282.955	56.02	-8.51	47.51	74	-26.49	peak
8	8282.955	35.67	-8.51	27.16	54	-26.84	AVG
9	10085.91	55.35	-6.09	49.26	74	-24.74	peak
10	10085.91	35.52	-6.09	29.43	54	-24.57	AVG
11	12715.63	54.59	-2.72	51.87	74	-22.13	peak
12	12715.63	34.32	-2.72	31.6	54	-22.4	AVG

8DPSK - High (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1162.532	73.56	-26.22	47.34	74	-26.66	peak
2	1162.532	53.54	-26.22	27.32	54	-26.68	AVG
3	2050.838	66.24	-21.05	45.19	74	-28.81	peak
4	2050.838	46.51	-21.05	25.46	54	-28.54	AVG
5	2646.164	67.51	-19.86	47.65	74	-26.35	peak
6	2646.164	47.77	-19.86	27.91	54	-26.09	AVG
7	3394.584	62.9	-18.38	44.52	74	-29.48	peak
8	3394.584	43.01	-18.38	24.63	54	-29.37	AVG
9	4975.246	60.76	-15.6	45.16	74	-28.84	peak
10	4975.246	40.9	-15.6	25.3	54	-28.7	AVG
11	7334.292	56.31	-9.32	46.99	74	-27.01	peak
12	7334.292	36.13	-9.32	26.81	54	-27.19	AVG

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. Result formula:

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

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin (dB) = result in dBuV/m – limit in dBuV/m.

Restricted band Requirements							
GFSK - Low (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2331.603	49.96	2.65	52.61	74	-21.39	peak
2	2331.603	29.38	2.65	32.03	54	-21.97	AVG
3	2390	46.79	3.01	49.8	74	-24.2	peak
4	2390	26.88	3.01	29.89	54	-24.11	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2343.387	49.79	2.74	52.53	74	-21.47	peak
2	2343.387	29.52	2.74	32.26	54	-21.74	AVG
3	2390	47.65	3.01	50.66	74	-23.34	peak
4	2390	27.77	3.01	30.78	54	-23.22	AVG
GFSK - High (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5	60.76	3.54	64.3	74	-9.7	peak
2	2483.5	40.69	3.54	44.23	54	-9.77	AVG
3	2492.585	49.74	3.62	53.36	74	-20.64	peak
4	2492.585	29.83	3.62	33.45	54	-20.55	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5	52.95	3.54	56.49	74	-17.51	peak
2	2483.5	33.21	3.54	36.75	54	-17.25	AVG
3	2489.379	51.83	3.59	55.42	74	-18.58	peak
4	2489.379	31.65	3.59	35.24	54	-18.76	AVG

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

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

$\pi/4$ DQPSK - Low (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2352.365	49.73	2.79	52.52	74	-21.48	peak
2	2352.365	29.36	2.79	32.15	54	-21.85	AVG
3	2390	48.38	3.01	51.39	74	-22.61	peak
4	2390	28.28	3.01	31.29	54	-22.71	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2366.393	50.08	2.87	52.95	74	-21.05	peak
2	2366.393	29.92	2.87	32.79	54	-21.21	AVG
3	2390	48.01	3.01	51.02	74	-22.98	peak
4	2390	28.24	3.01	31.25	54	-22.75	AVG
$\pi/4$ DQPSK - High (worst mode)							
Horizontal							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5	54	3.54	57.54	74	-16.46	peak
2	2483.5	34.67	3.54	38.21	54	-15.79	AVG
3	2486.172	49.06	3.56	52.62	74	-21.38	peak
4	2486.172	28.8	3.56	32.36	54	-21.64	AVG
Vertical							
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.5	53.48	3.54	57.02	74	-16.98	peak
2	2483.5	33.91	3.54	37.45	54	-16.55	AVG
3	2489.479	51.02	3.59	54.61	74	-19.39	peak
4	2489.479	30.93	3.59	34.52	54	-19.48	AVG

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

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

8DPSK - Low (worst mode)							
Horizontal							
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2349.84	51.26	2.78	54.04	74	-19.96	peak
2	2349.84	31.91	2.78	34.69	54	-19.31	AVG
3	2390	47.98	3.01	50.99	74	-23.01	peak
4	2390	27.77	3.01	30.78	54	-23.22	AVG
Vertical							
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2339.739	49.75	2.71	52.46	74	-21.54	peak
2	2339.739	29.44	2.71	32.15	54	-21.85	AVG
3	2390	48.31	3.01	51.32	74	-22.68	peak
4	2390	28.46	3.01	31.47	54	-22.53	AVG
8DPSK - High (worst mode)							
Horizontal							
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5	50.01	3.54	53.55	74	-20.45	peak
2	2483.5	29.94	3.54	33.48	54	-20.52	AVG
3	2497.395	49.68	3.64	53.32	74	-20.68	peak
4	2497.395	29.37	3.64	33.01	54	-20.99	AVG
Vertical							
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5	49.67	3.54	53.21	74	-20.79	peak
2	2483.5	30.08	3.54	33.62	54	-20.38	AVG
3	2493.988	49.79	3.62	53.41	74	-20.59	peak
4	2493.988	29.8	3.62	33.42	54	-20.58	AVG

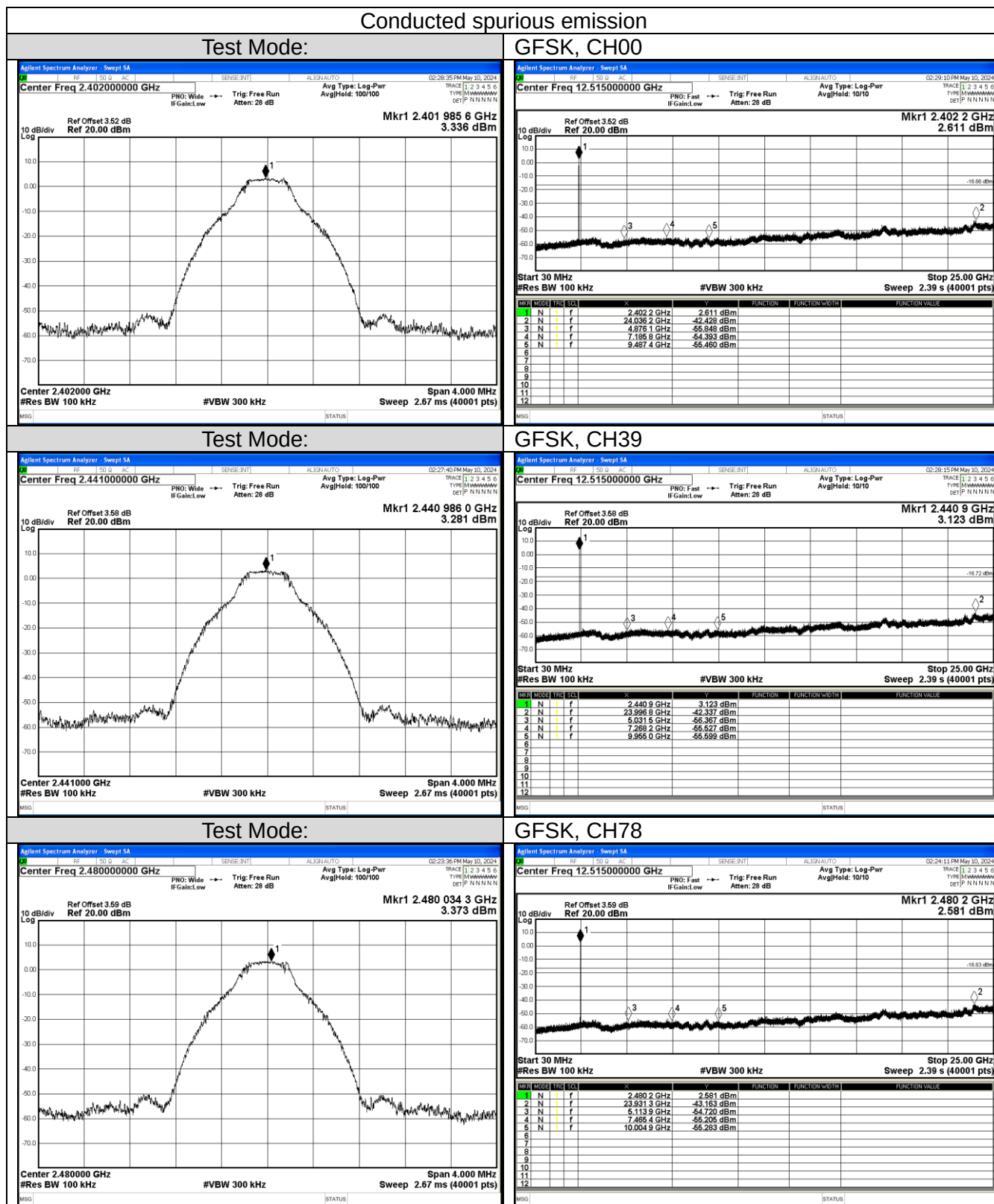
Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

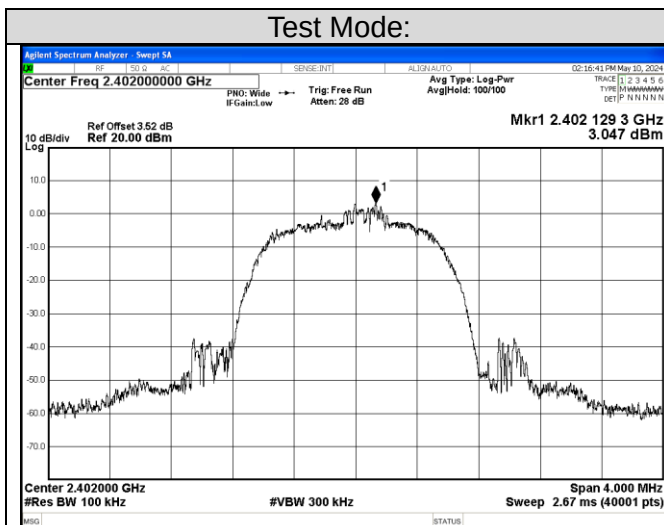
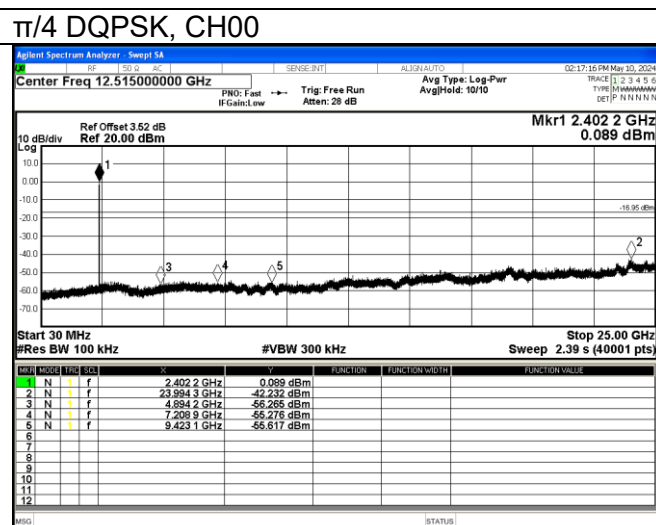
Result = Correction Factor + Reading;

Margin = Result – Limit

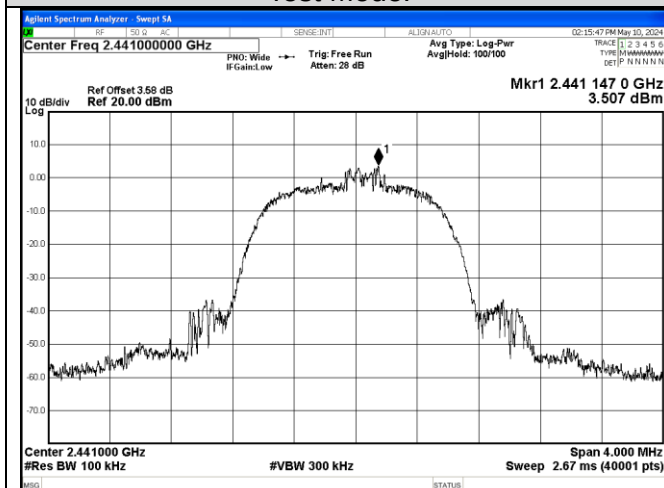
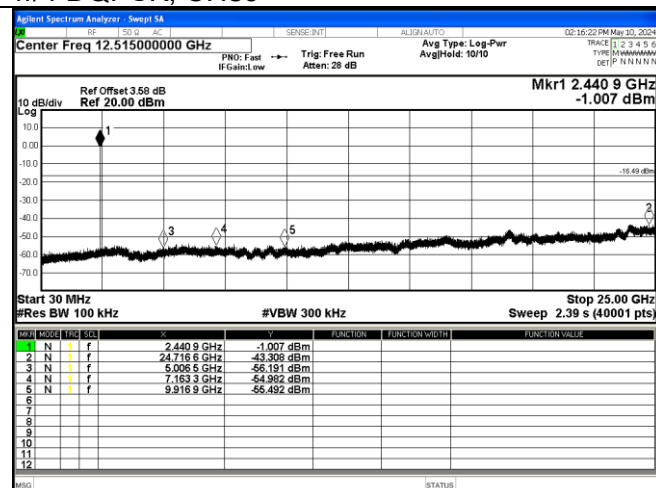
Appendix A.3 Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth



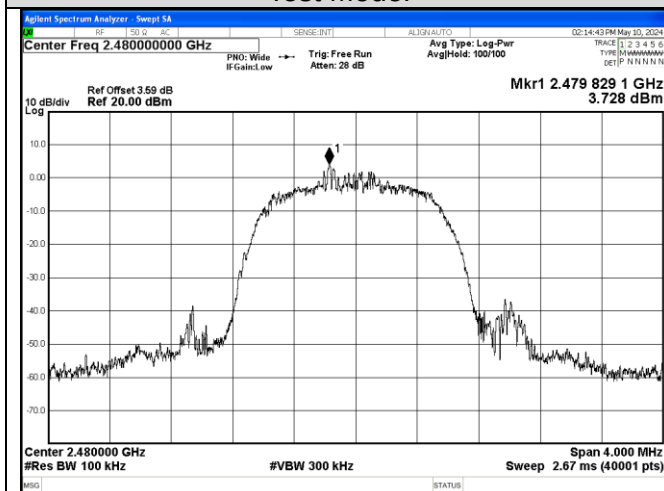
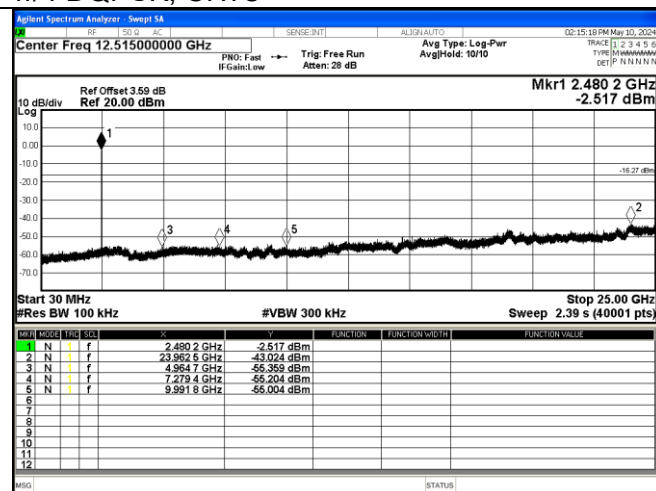
Test Mode:


 $\pi/4$ DQPSK, CH00


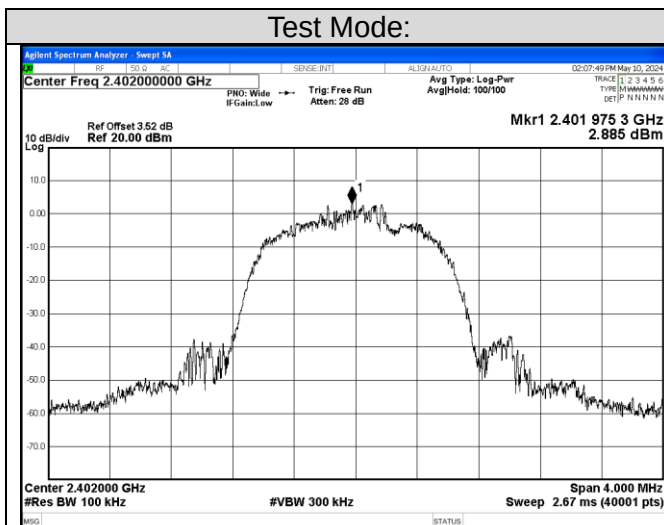
Test Mode:


 $\pi/4$ DQPSK, CH39


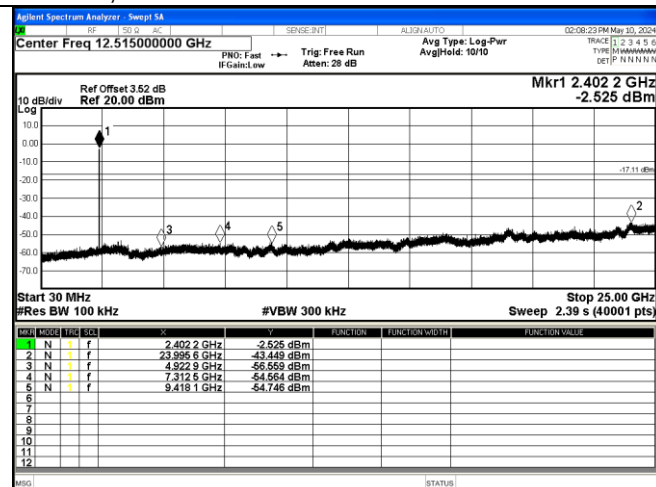
Test Mode:


 $\pi/4$ DQPSK, CH78


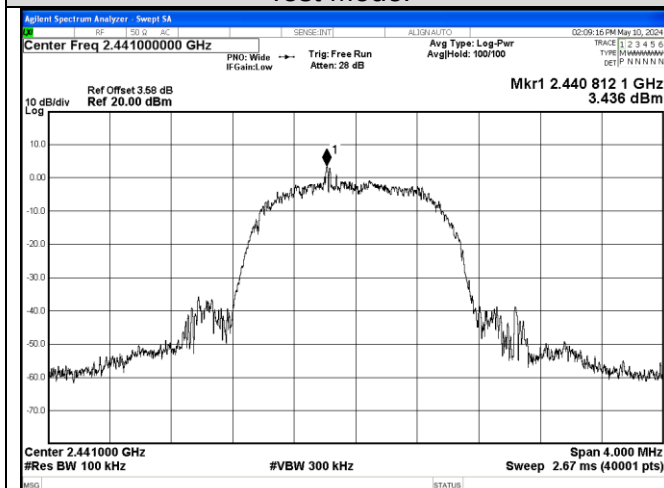
Test Mode:



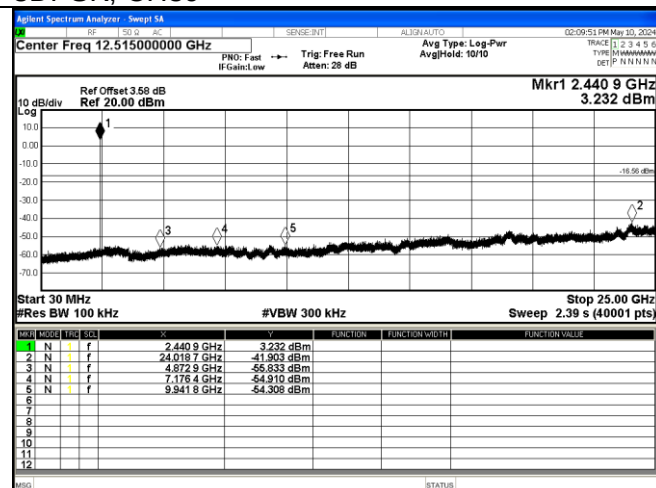
8DPSK, CH00



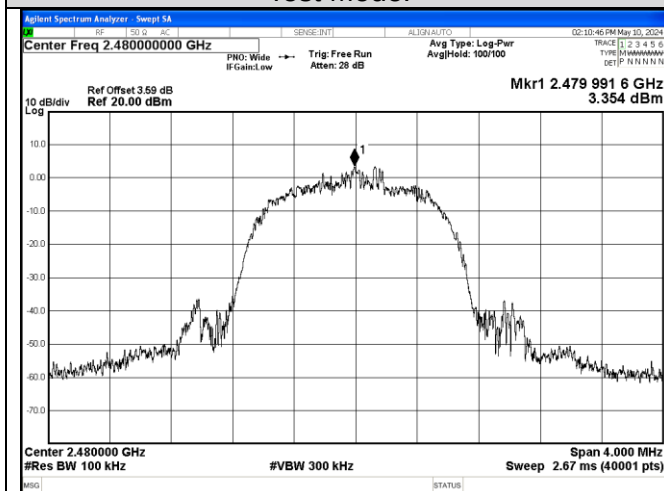
Test Mode:



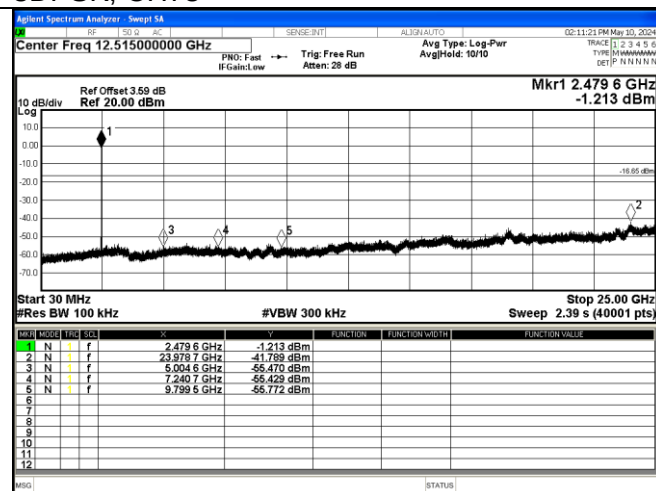
8DPSK, CH39



Test Mode:



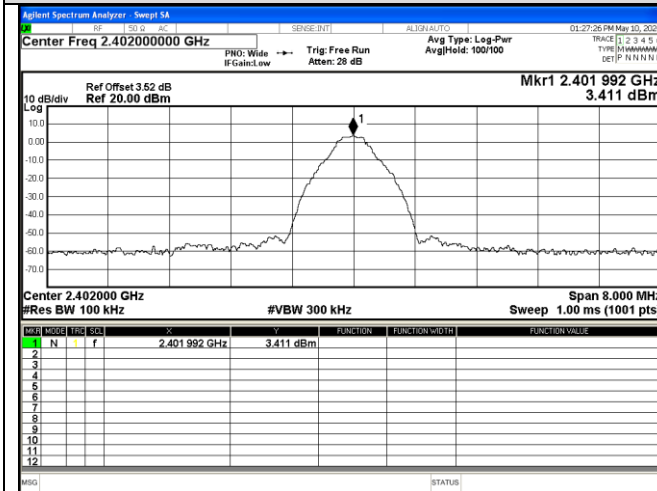
8DPSK, CH78



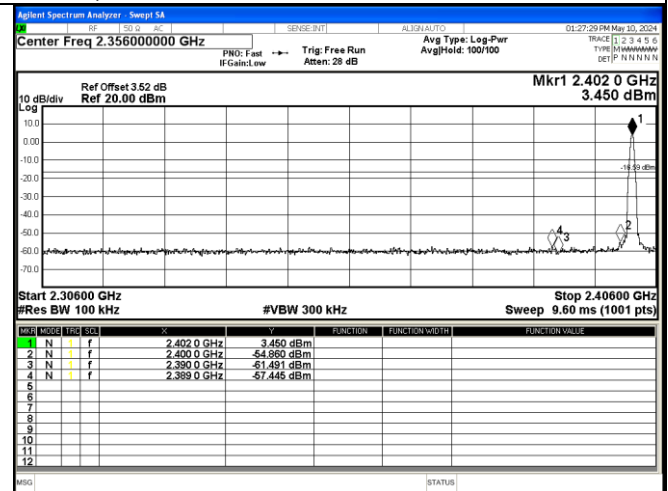


For Band edge (it's also the reference level for conducted spurious emission)

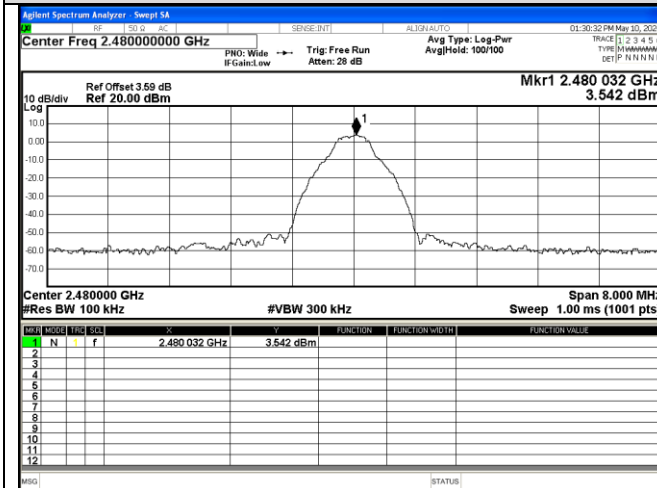
Test Mode:



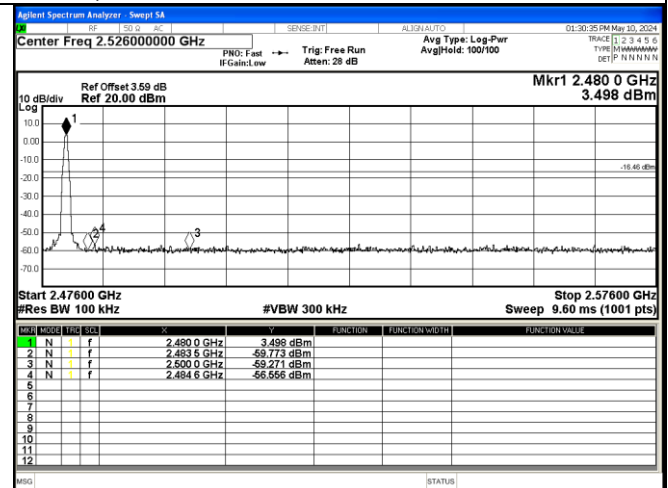
GFSK, CH00



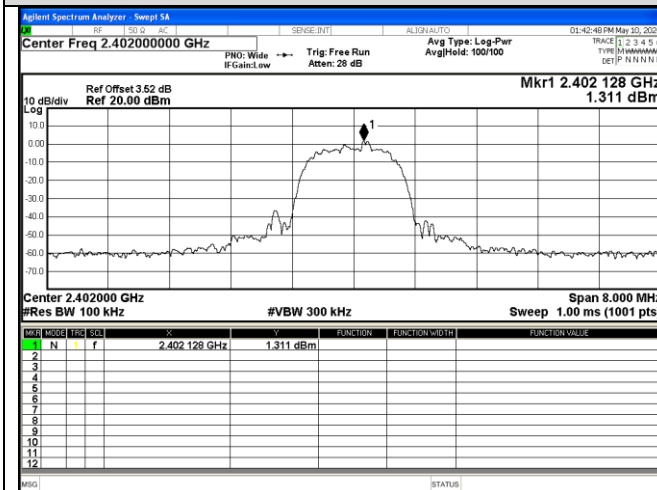
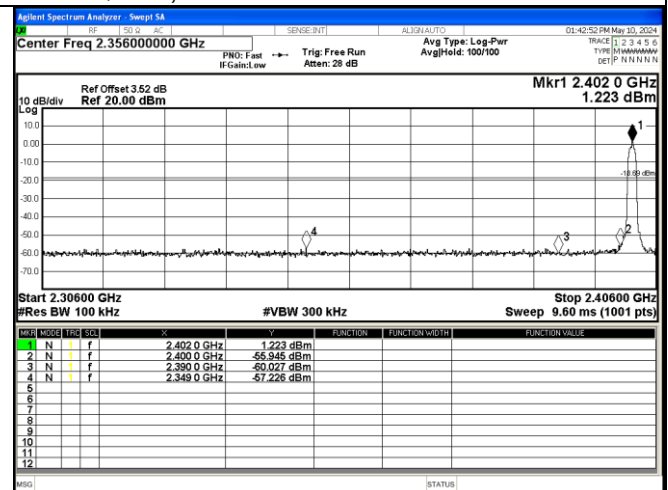
Test Mode:



GFSK, CH78

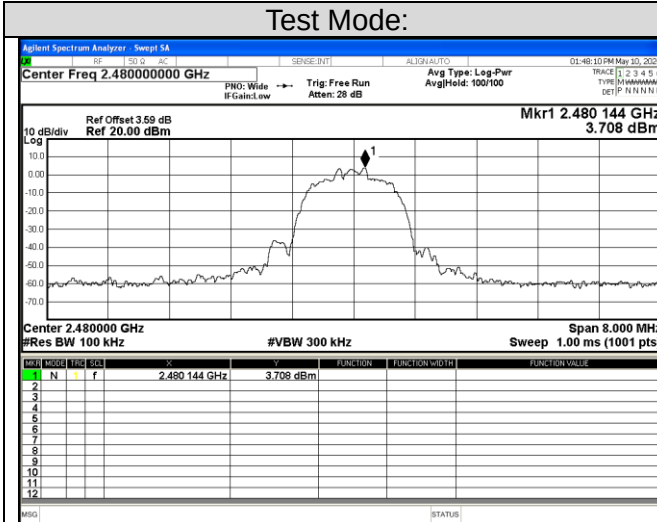
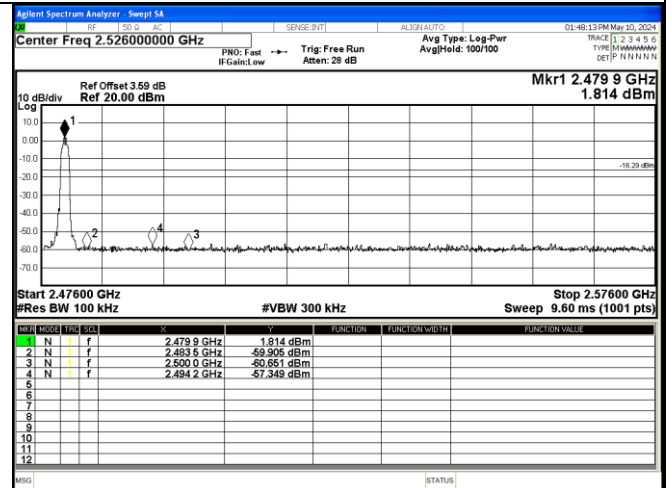


Test Mode:

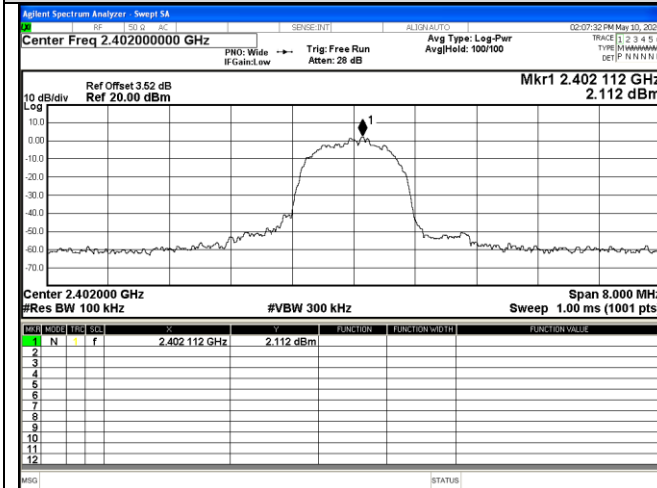
 $\pi/4$ DQPSK, CH00



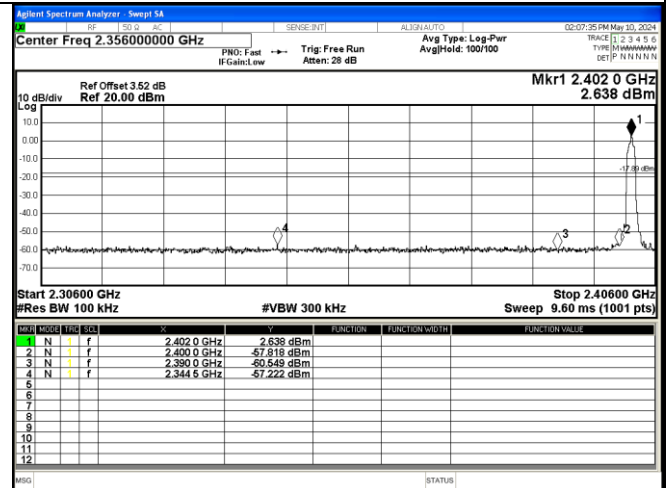
Test Mode:

 $\pi/4$ DQPSK, CH78

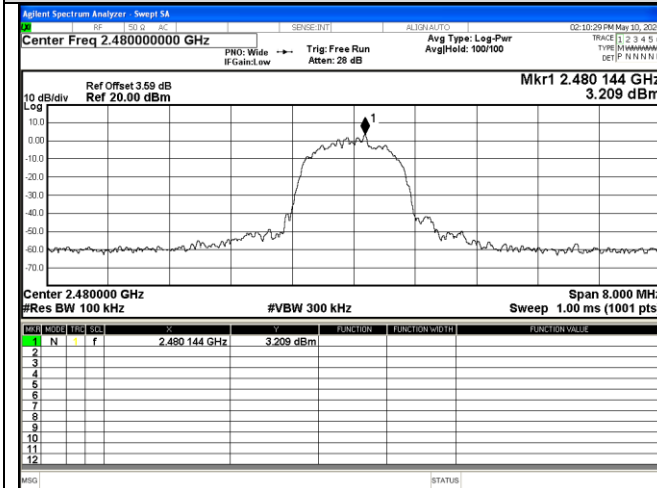
Test Mode:



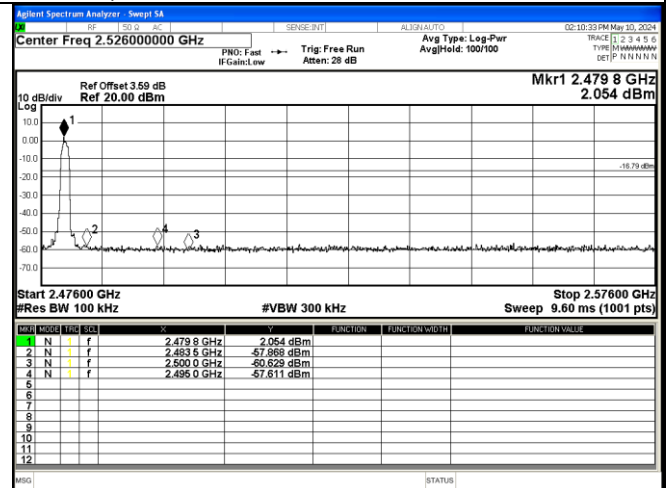
8DPSK, CH00

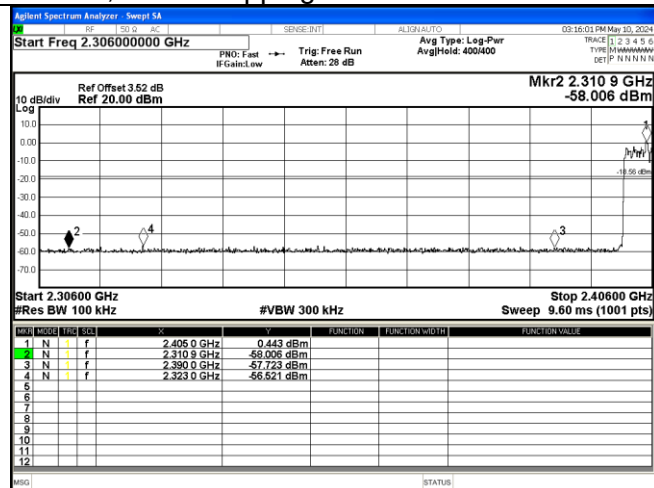


Test Mode:

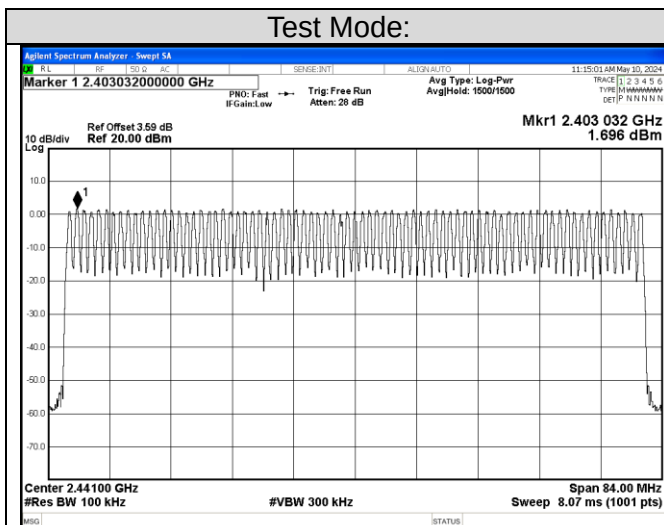


8DPSK, CH78

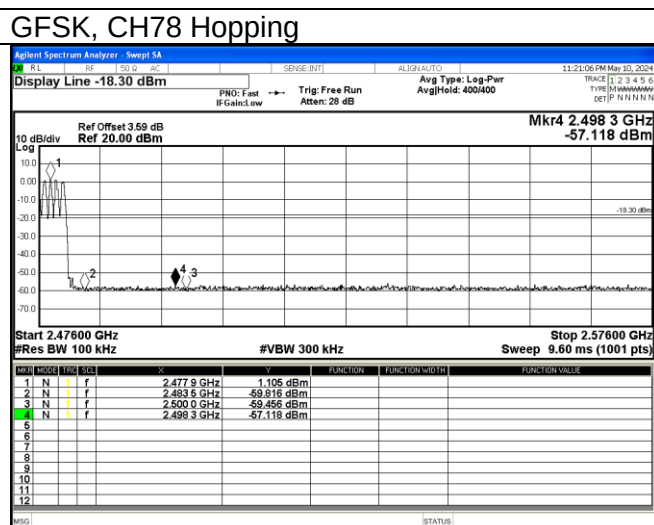




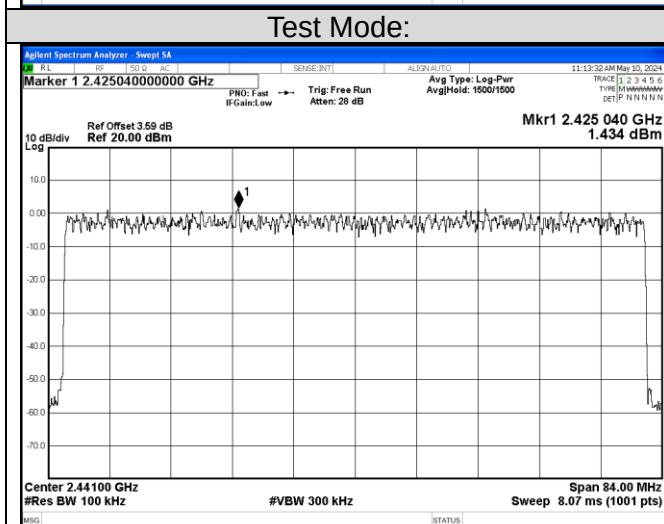
Test Mode:



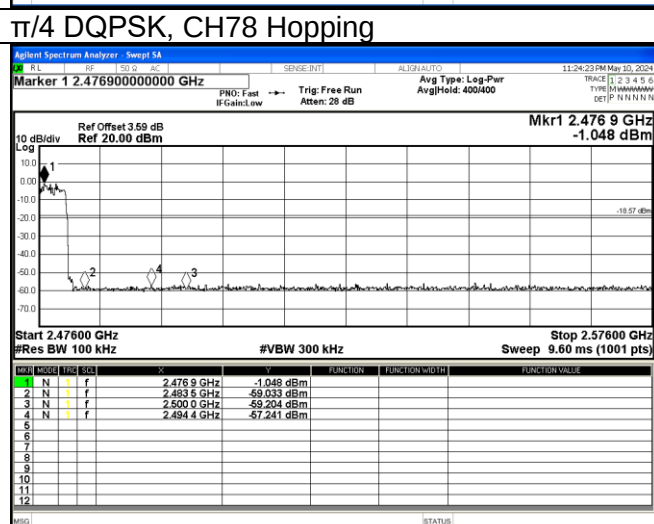
GFSK, CH78 Hopping



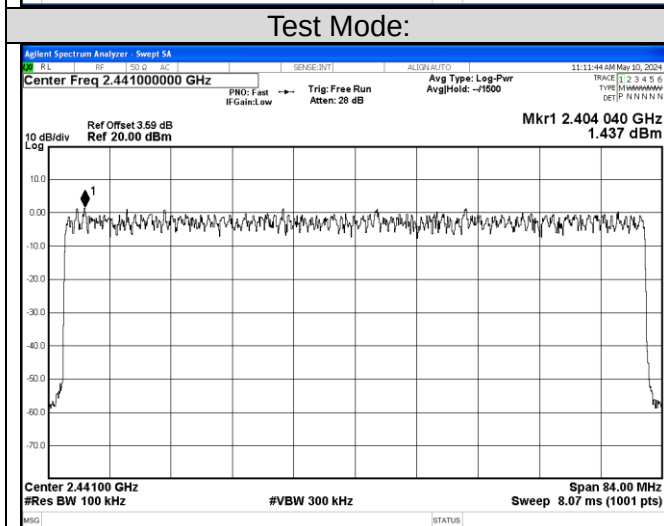
Test Mode:



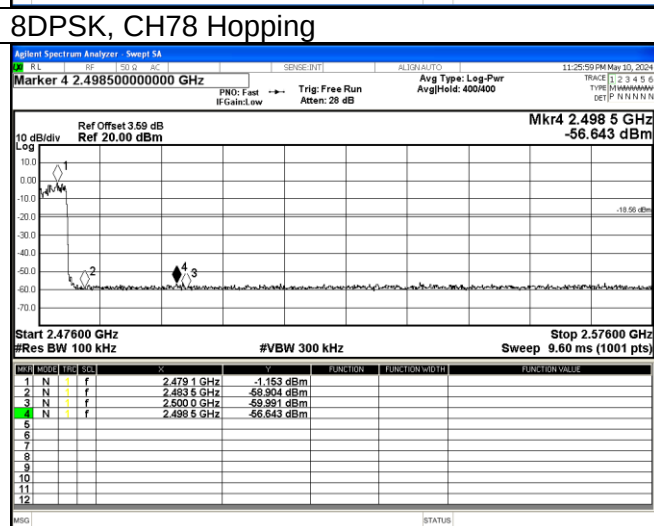
pi/4 DQPSK, CH78 Hopping



Test Mode:

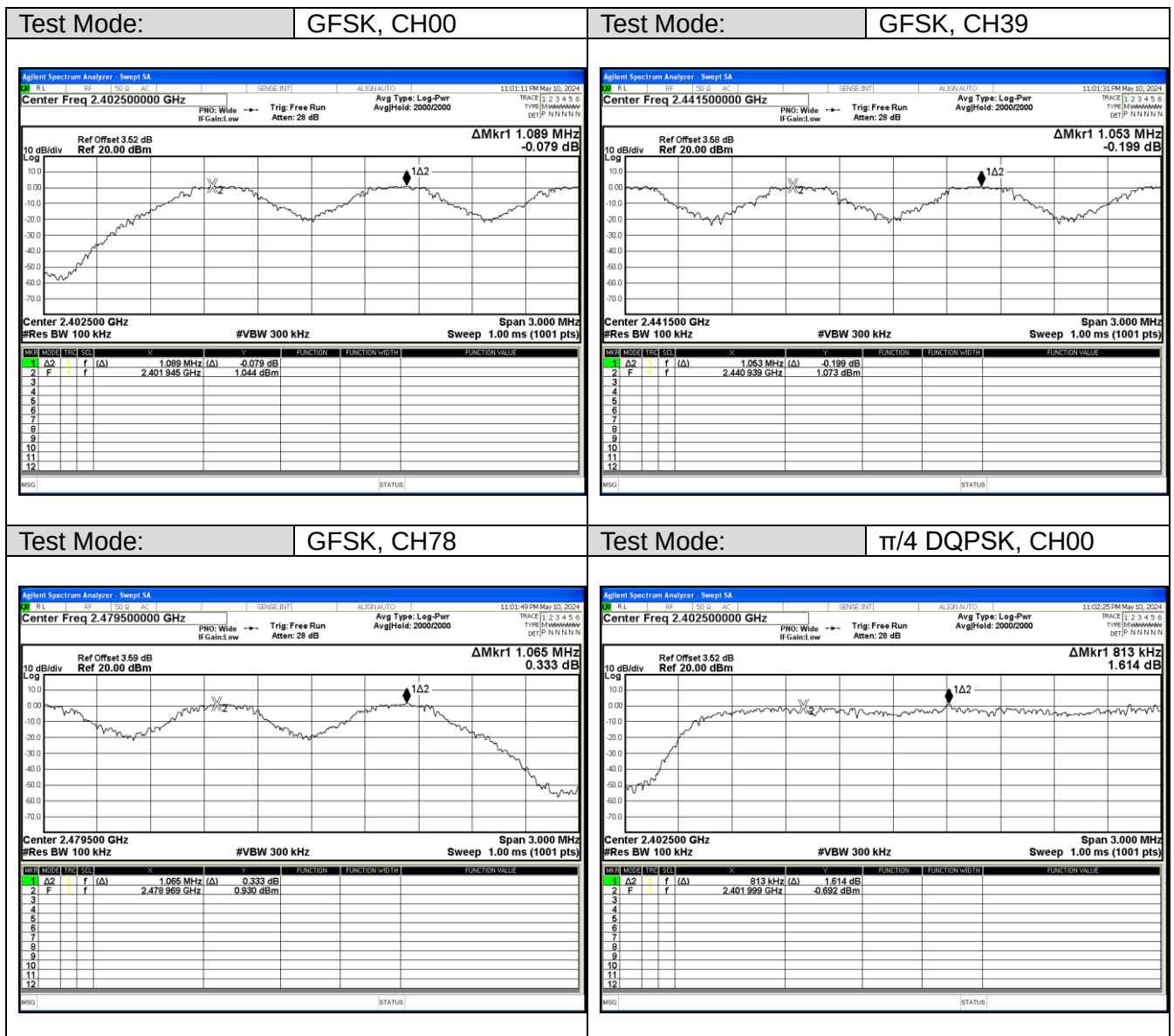


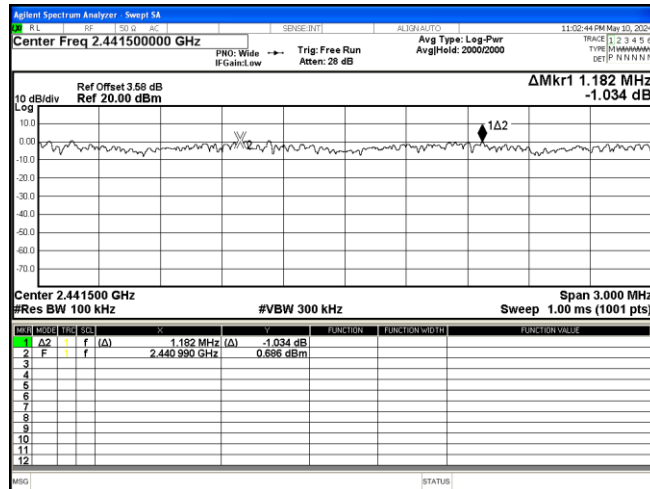
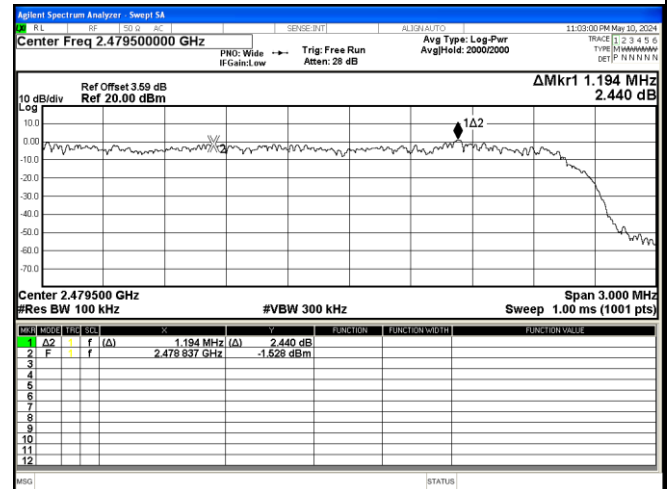
8DPSK, CH78 Hopping



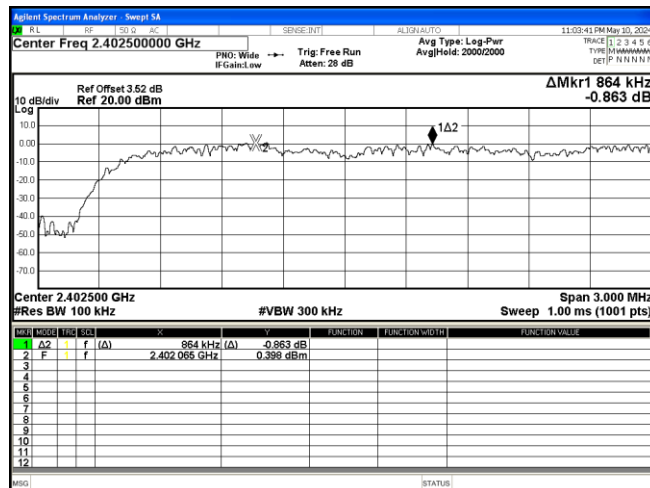
Appendix A.4 Test Results of Carrier Frequency Separation

Mode	HFS (MHz)	Limit (MHz)	Verdict
GFSK, CH00	1.089	0.667	Pass
GFSK, CH39	1.053	0.667	Pass
GFSK, CH78	1.065	0.667	Pass
$\pi/4$ DQPSK, CH00	0.813	0.667	Pass
$\pi/4$ DQPSK, CH39	1.182	0.667	Pass
$\pi/4$ DQPSK, CH78	1.194	0.667	Pass
8DPSK, CH00	0.864	0.667	Pass
8DPSK, CH39	1.239	0.667	Pass
8DPSK, CH78	1.008	0.667	Pass

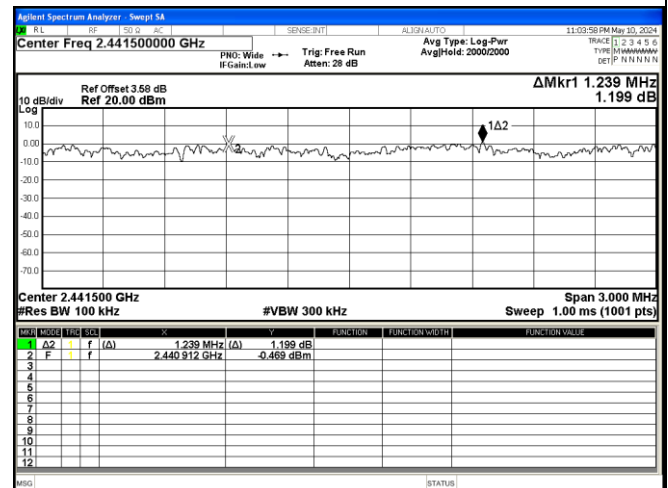


Test Mode: $\pi/4$ DQPSK, CH39Test Mode: $\pi/4$ DQPSK, CH78

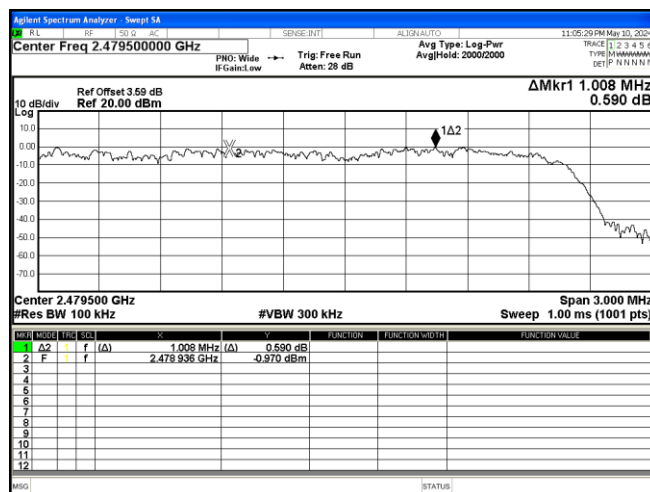
Test Mode: 8DPSK, CH00



Test Mode: 8DPSK, CH39

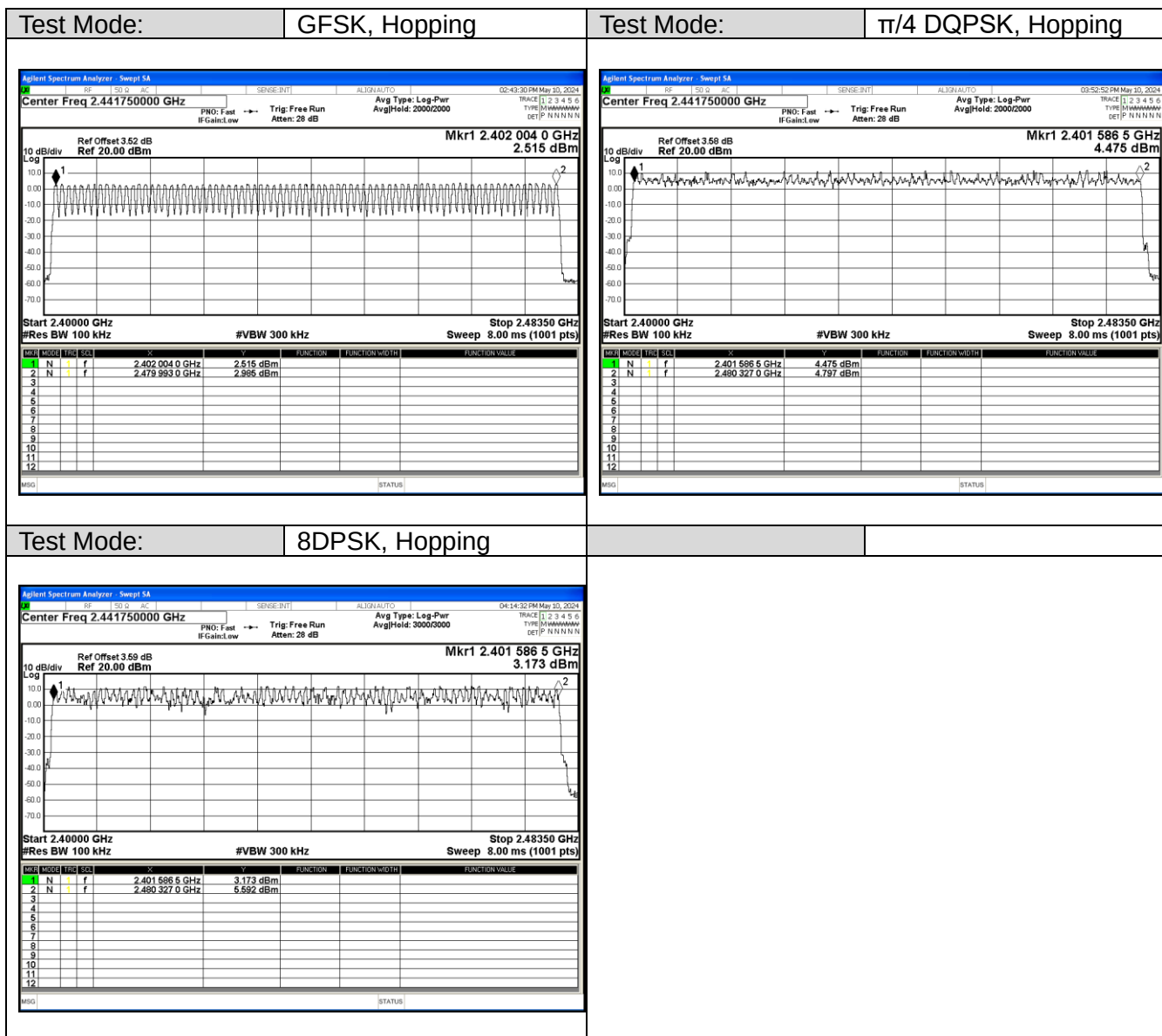


Test Mode: 8DPSK, CH78



Appendix A.5 Test Results of Number of Hopping Frequency

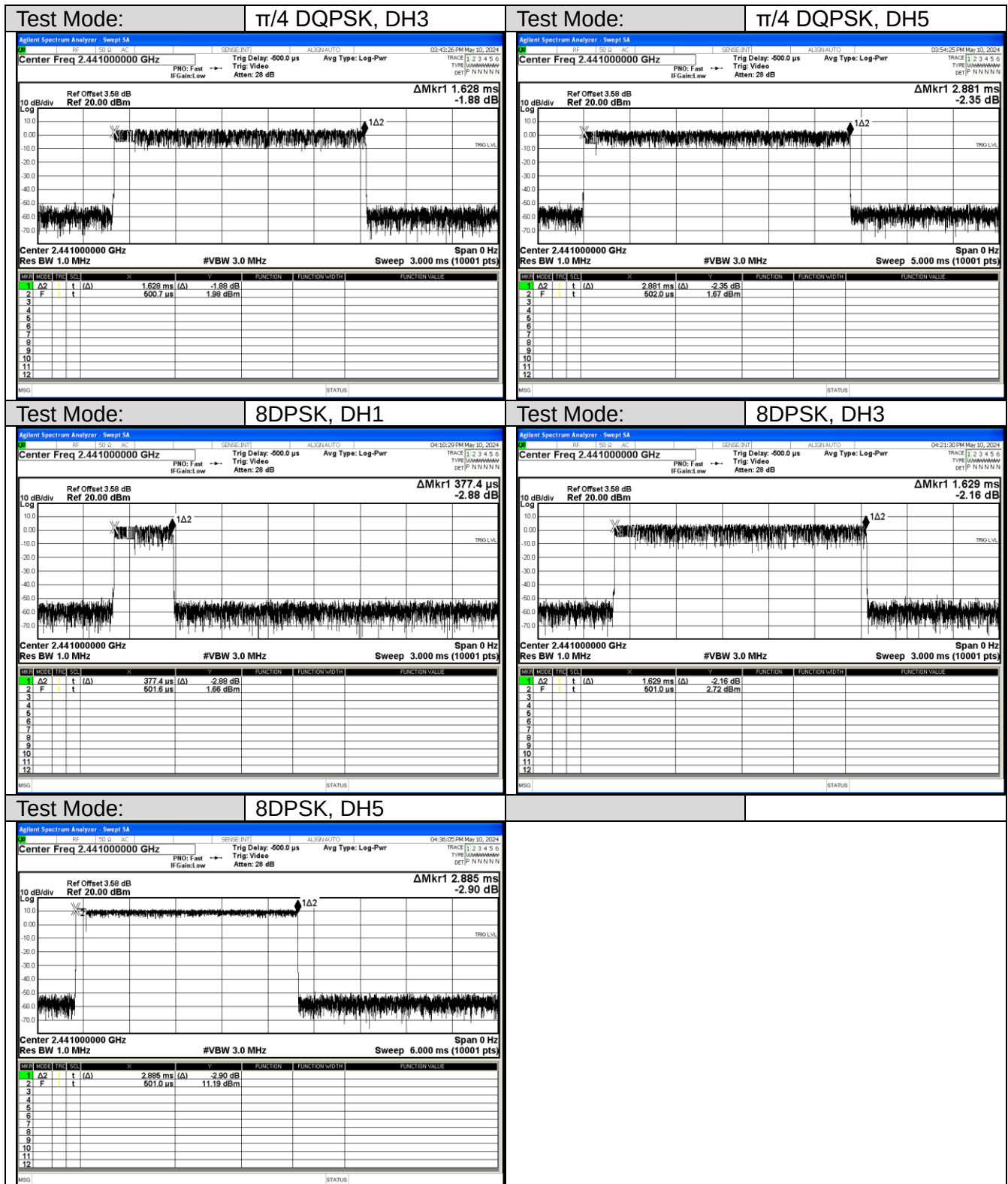
Mode	Hopping Number	Limit	Verdict
GFSK, Hopping	79	15	Pass
$\pi/4$ DQPSK, Hopping	79	15	Pass
8DPSK, Hopping	79	15	Pass



Appendix A.6 Test Results of Time of Occupancy

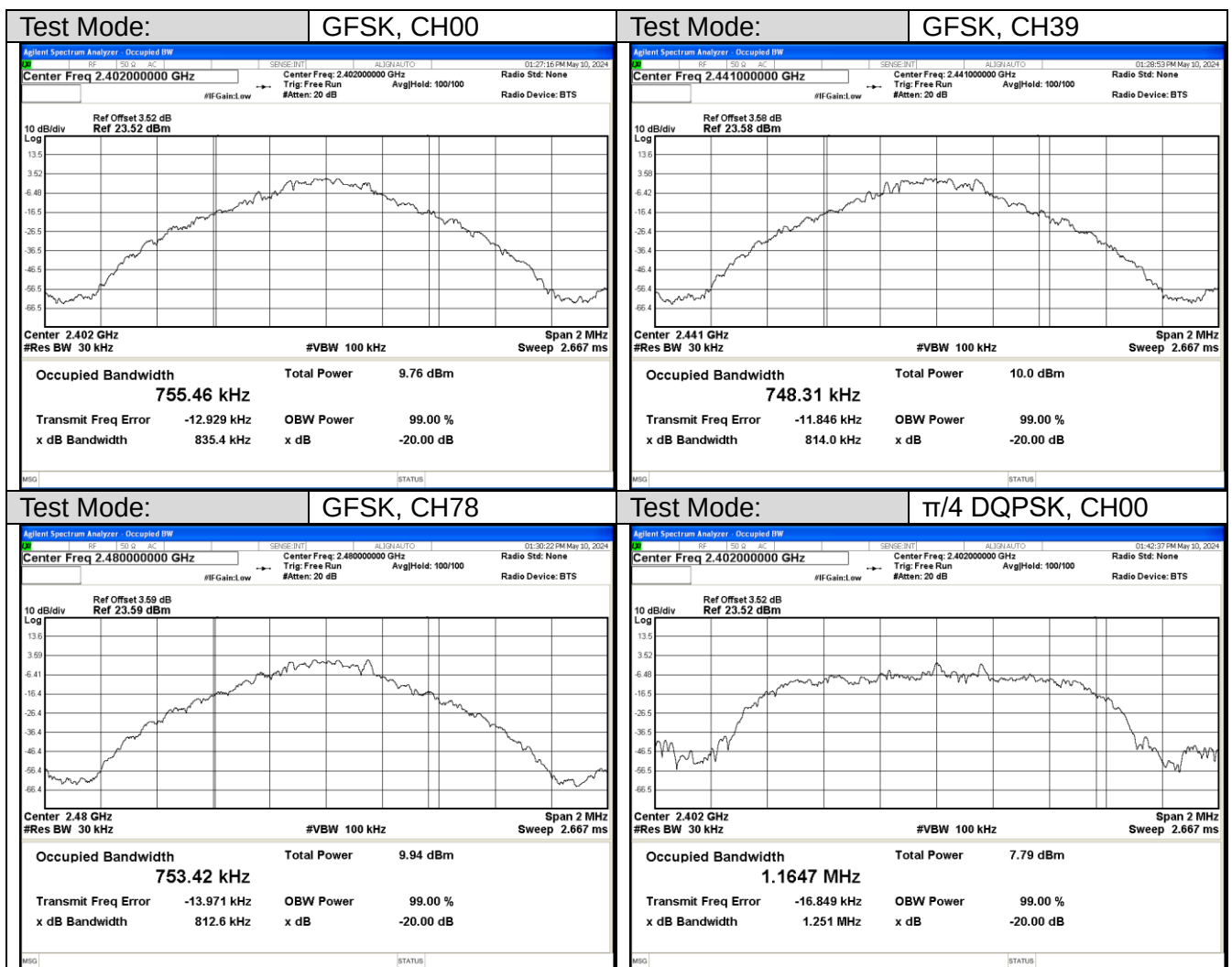
Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
GFSK, DH1	2441	0.369	116.604	31600	400	Pass
GFSK, DH3	2441	1.626	256.955	31600	400	Pass
GFSK, DH5	2441	2.88	273.024	31600	400	Pass
$\pi/4$ DQPSK, DH1	2441	0.383	121.154	31600	400	Pass
$\pi/4$ DQPSK, DH3	2441	1.628	257.287	31600	400	Pass
$\pi/4$ DQPSK, DH5	2441	2.881	273.119	31600	400	Pass
8DPSK, DH1	2441	0.377	119.258	31600	400	Pass
8DPSK, DH3	2441	1.629	257.429	31600	400	Pass
8DPSK, DH5	2441	2.885	273.536	31600	400	Pass

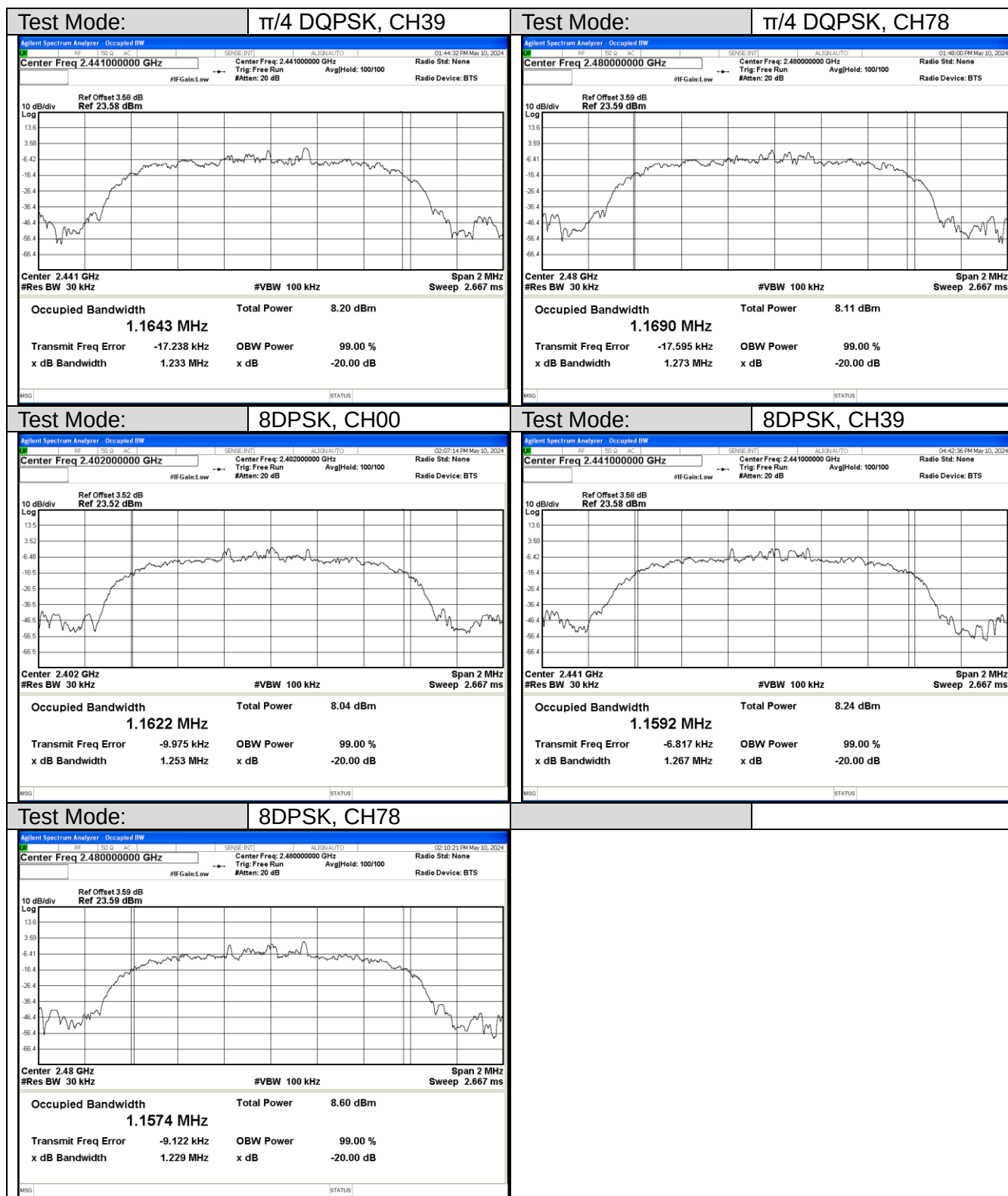




Appendix A.7 Test Results of 20dB & 99% BANDWIDTH

Mode	Frequency [MHz]	99% Bandwidth [MHz]	20dB Bandwidth [MHz]
GFSK	2402	0.7555	0.8354
GFSK	2441	0.7483	0.814
GFSK	2480	0.7534	0.8126
$\pi/4$ DQPSK	2402	1.1647	1.2508
$\pi/4$ DQPSK	2441	1.1643	1.2325
$\pi/4$ DQPSK	2480	1.169	1.2728
8DPSK	2402	1.1622	1.2528
8DPSK	2441	1.1592	1.2666
8DPSK	2480	1.1574	1.2289





Appendix A.8 Test Results of Maximum Conducted Output Power

Mode	Frequency [MHz]	Measured of Peak Power		Limit [W]
		dBm	W	
GFSK	2402	3.785	0.0024	< 0.125
	2441	3.849	0.0024	< 0.125
	2480	3.918	0.0025	< 0.125
$\pi/4$ DQPSK	2402	3.556	0.0023	< 0.125
	2441	3.684	0.0023	< 0.125
	2480	3.913	0.0025	< 0.125
8DPSK	2402	3.702	0.0023	< 0.125
	2441	4.000	0.0025	< 0.125
	2480	4.051	0.0025	< 0.125

Note:

- 1) The cable loss is taken into account in results.
 - 2) Antenna gain(G) of Bluetooth: 2.71 dBi
- e.i.r.p.=P(Peak power)+ G, which is far below the 4 W