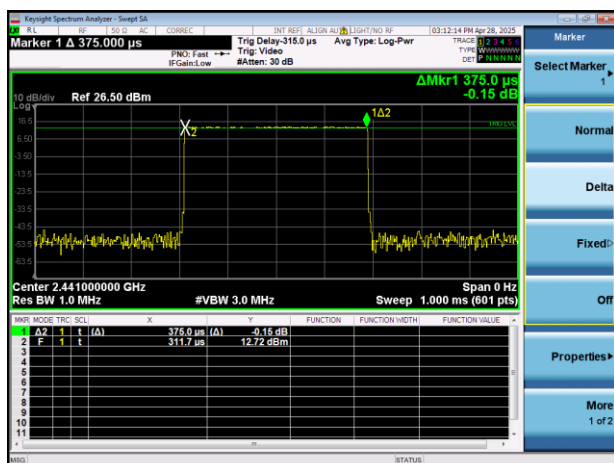
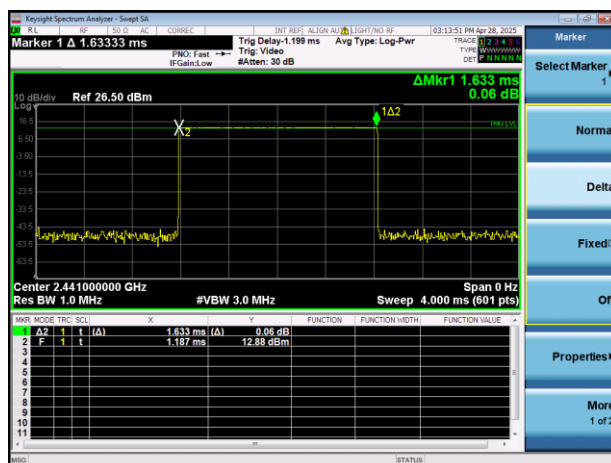


Test Plots

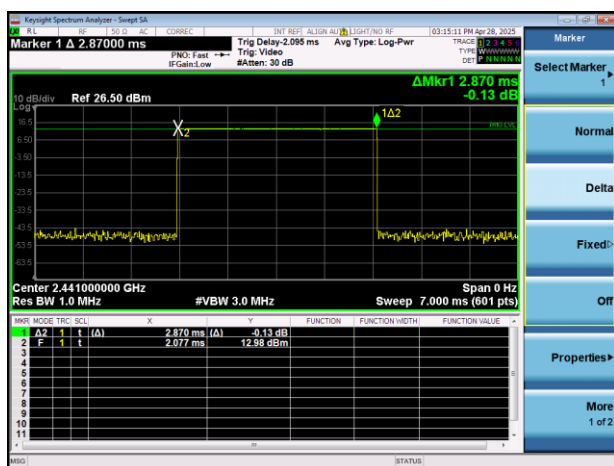
GFSK DH1



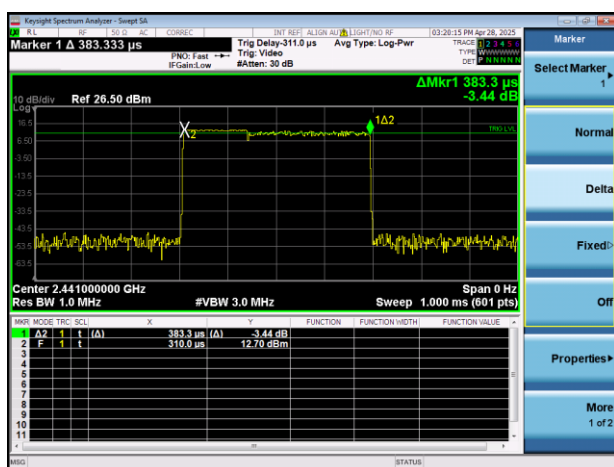
GFSK DH3



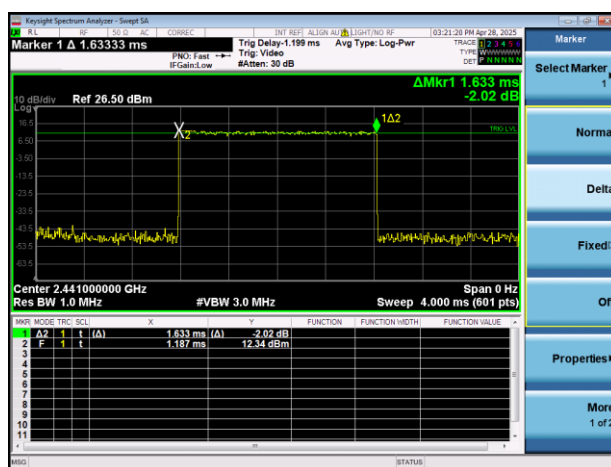
GFSK DH5



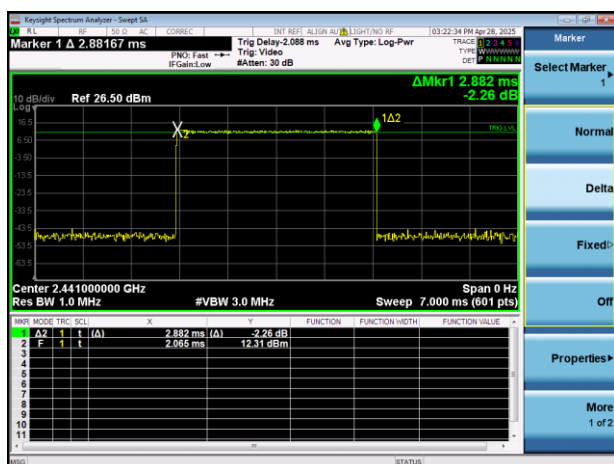
8-DPSK DH1



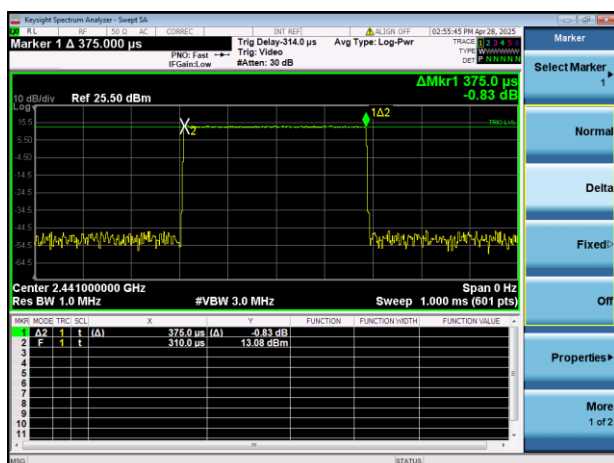
8-DPSK DH3



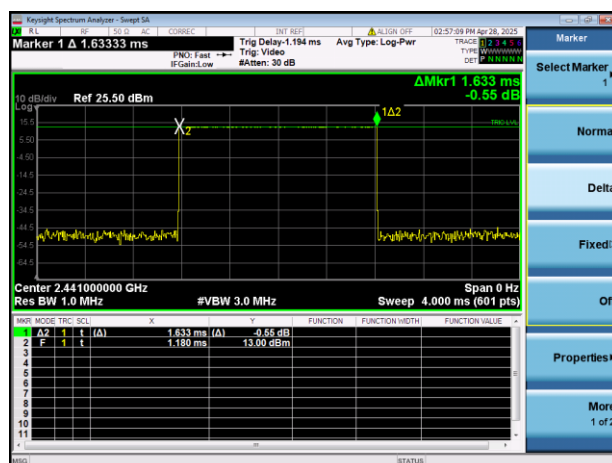
8-DPSK DH5



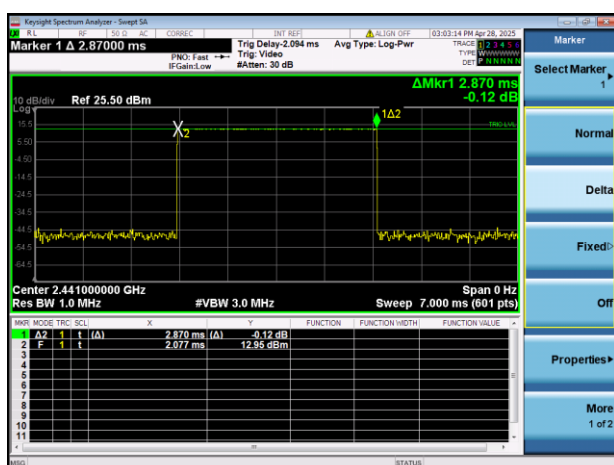
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5



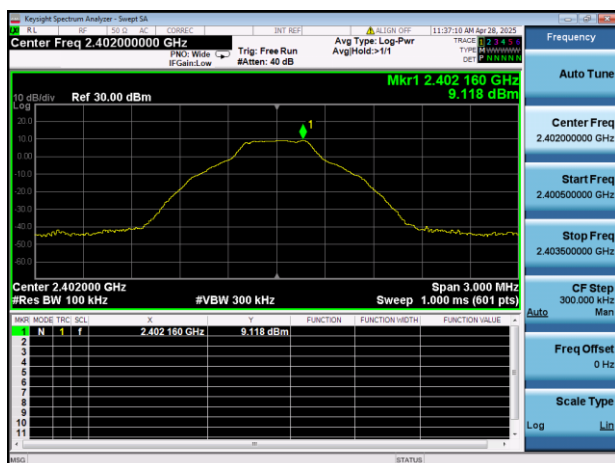
A.6 Conducted Spurious Emissions & Authorized-band band-edge

Test Data

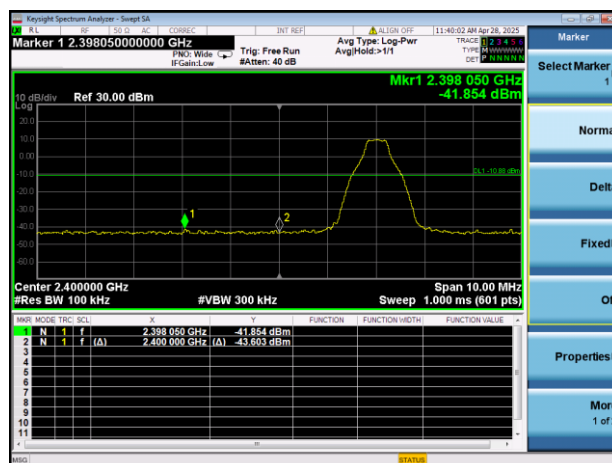
GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-26.21	9.12	-10.88	Pass
Middle	-26.25	12.52	-7.48	Pass
High	-25.99	13.03	-6.97	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-25.98	8.43	-11.57	Pass
Middle	-26.20	12.18	-7.82	Pass
High	-25.91	13.28	-6.72	Pass
Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-26.15	13.16	-6.84	Pass
8-DPSK	-26.46	13.29	-6.71	Pass

Test Plots

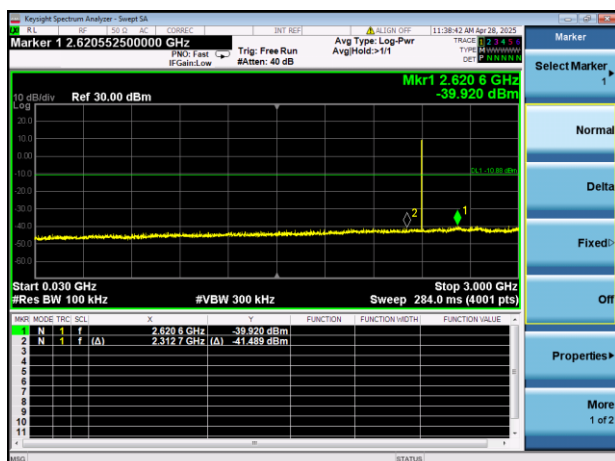
GFSK LOW CHANNEL, CARRIER LEVEL



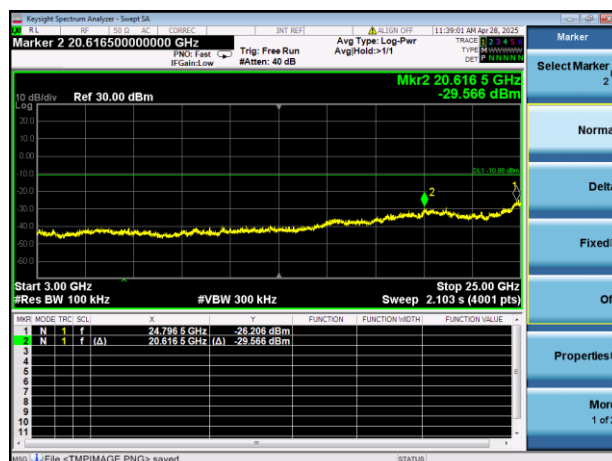
GFSK LOW CHANNEL, BAND EDGE



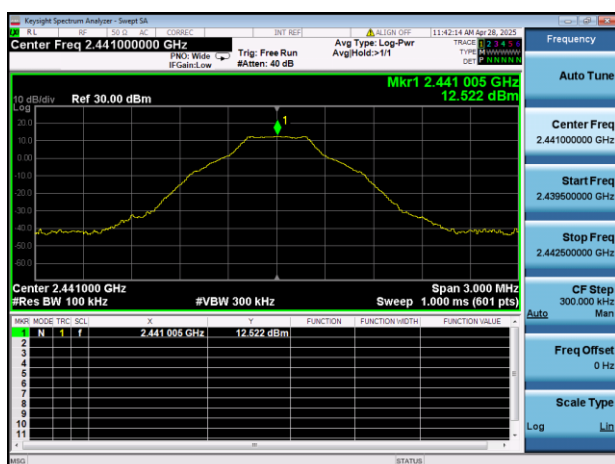
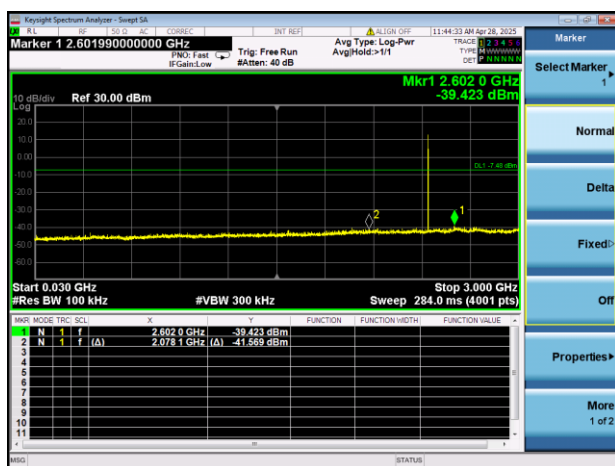
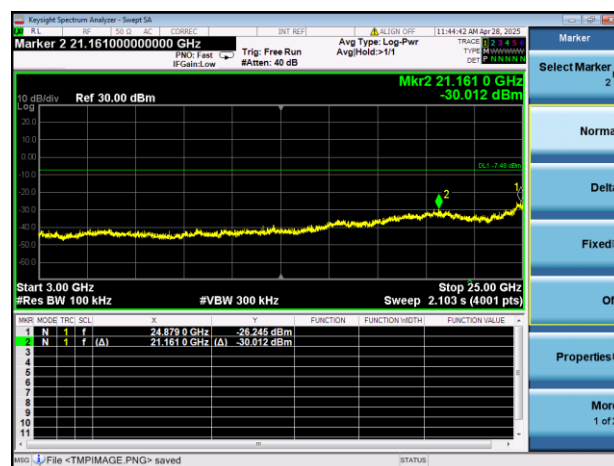
GFSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



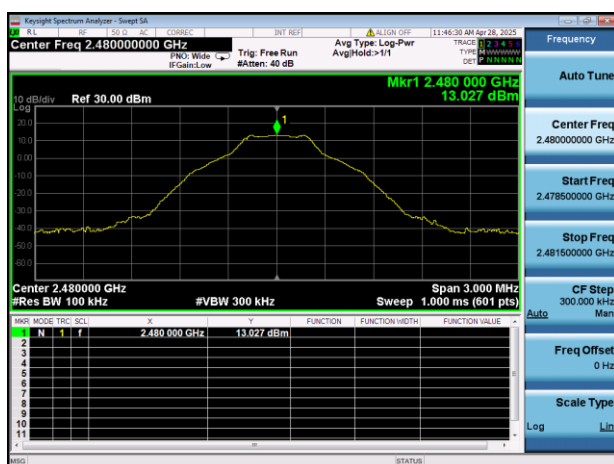
GFSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



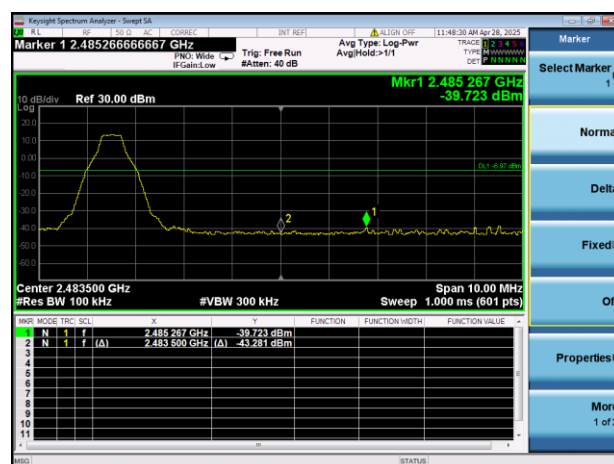
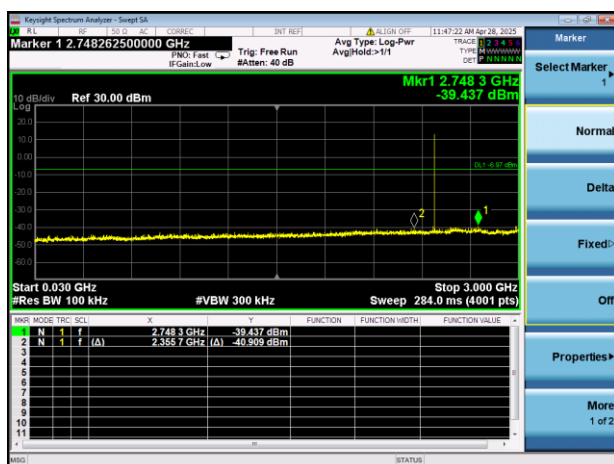
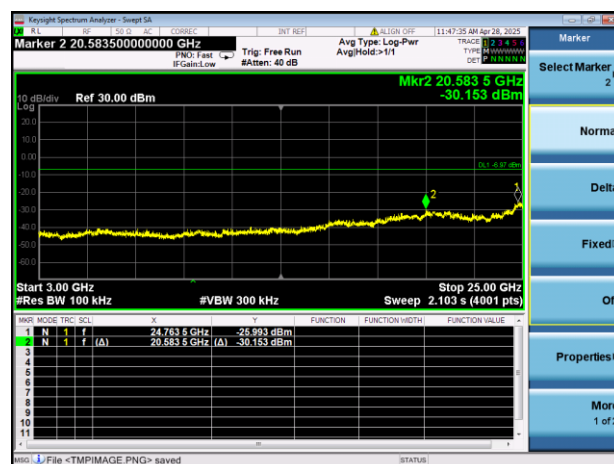
GFSK MIDDLE CHANNEL, CARRIER LEVEL

GFSK MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHzGFSK MIDDLE CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

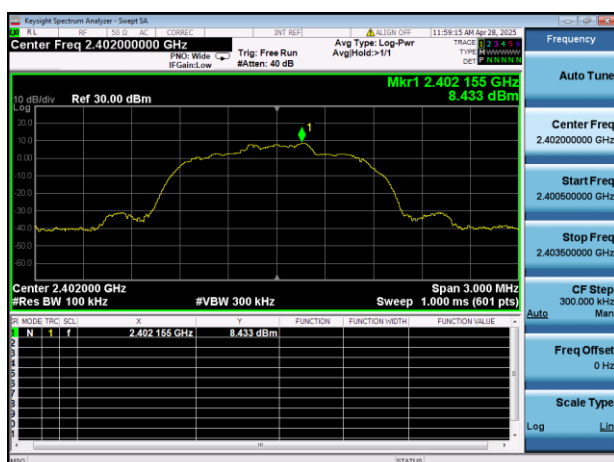
GFSK HIGH CHANNEL, CARRIER LEVEL



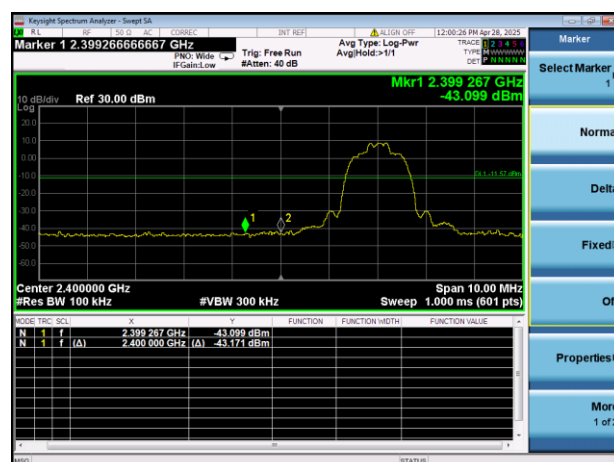
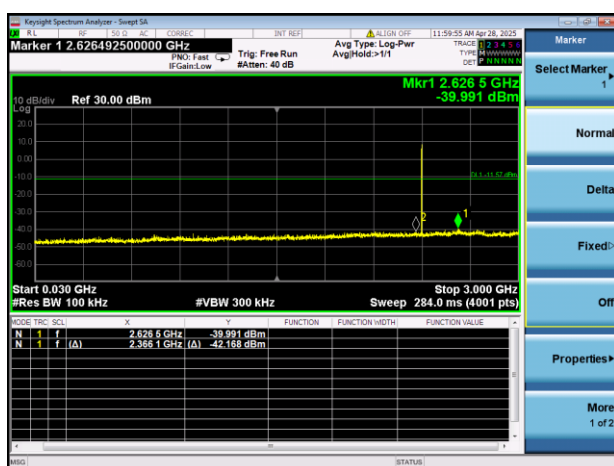
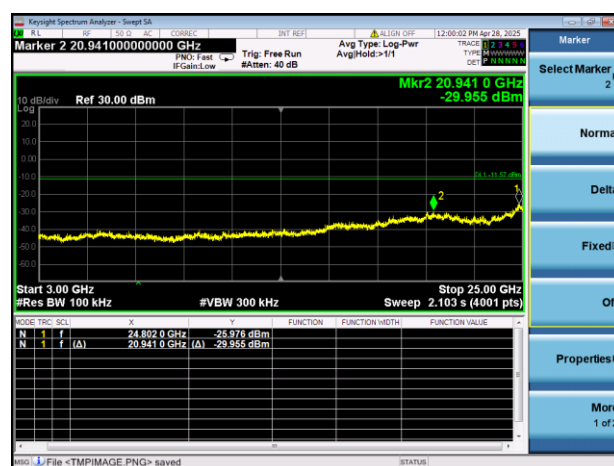
GFSK HIGH CHANNEL, BAND EDGE

GFSK HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHzGFSK HIGH CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

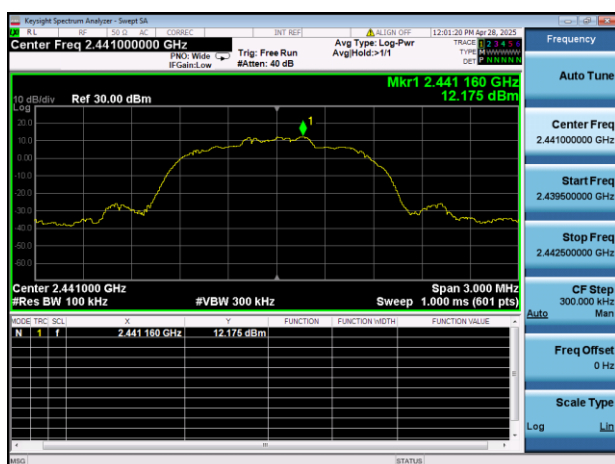
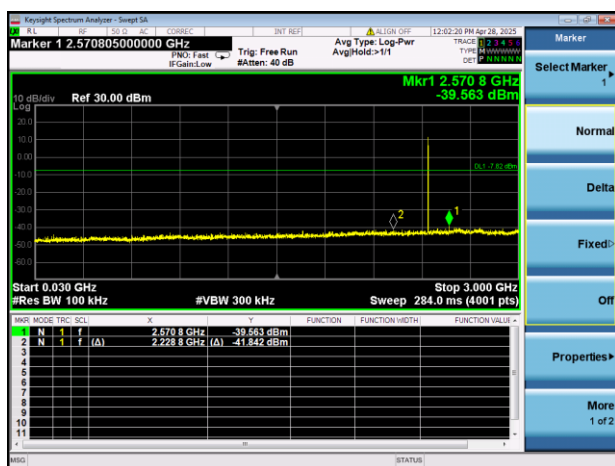
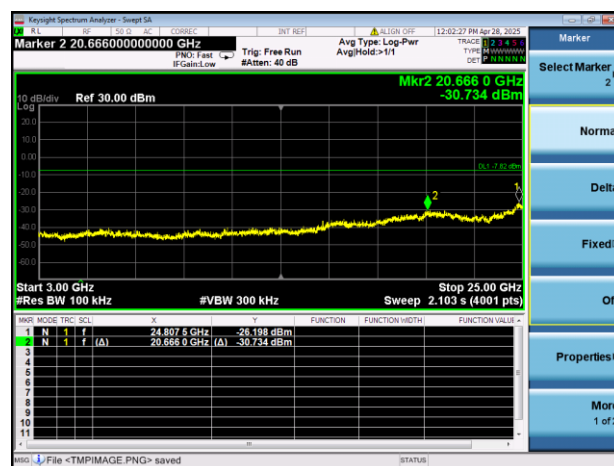
8-DPSK LOW CHANNEL, CARRIER LEVEL



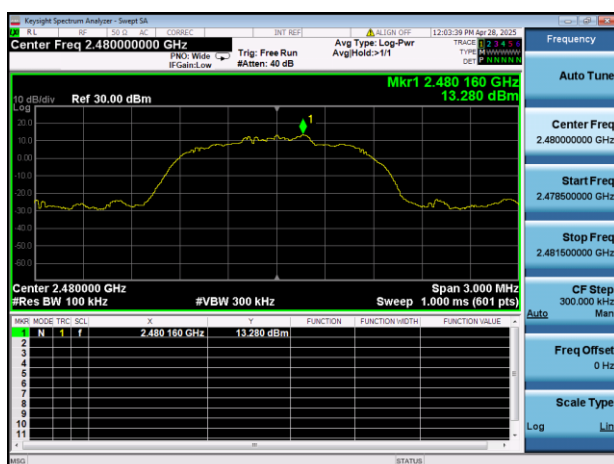
8-DPSK LOW CHANNEL, BAND EDGE

8-DPSK LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz8-DPSK LOW CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

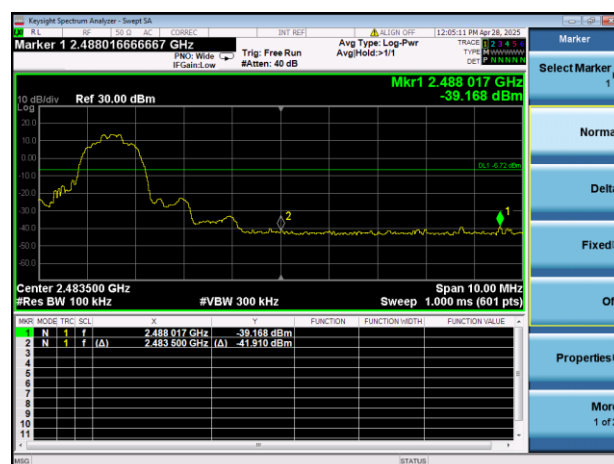
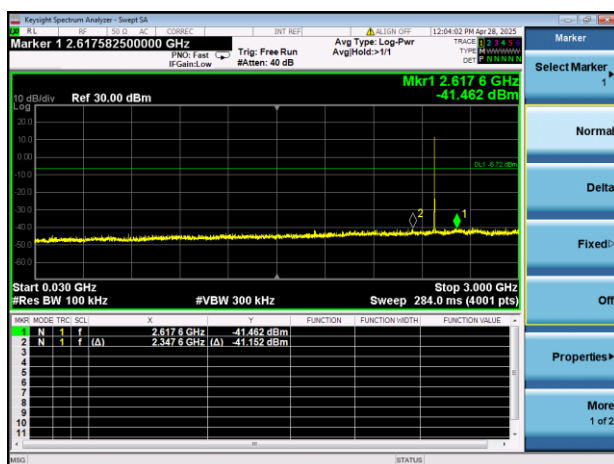
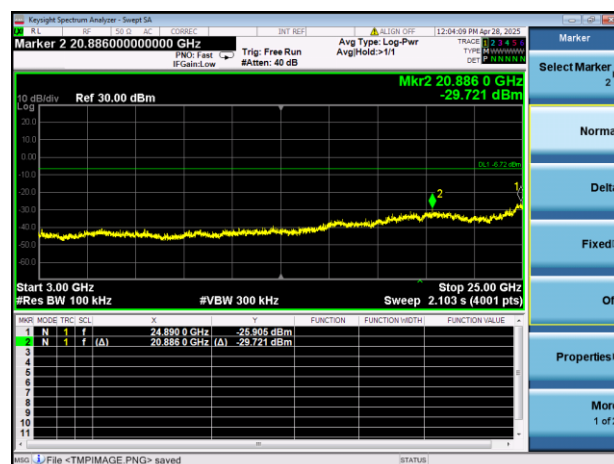
8-DPSK MIDDLE CHANNEL, CARRIER LEVEL

8-DPSK MIDDLE CHANNEL, SPURIOUS
30 MHz ~ 3 GHz8-DPSK MIDDLE CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

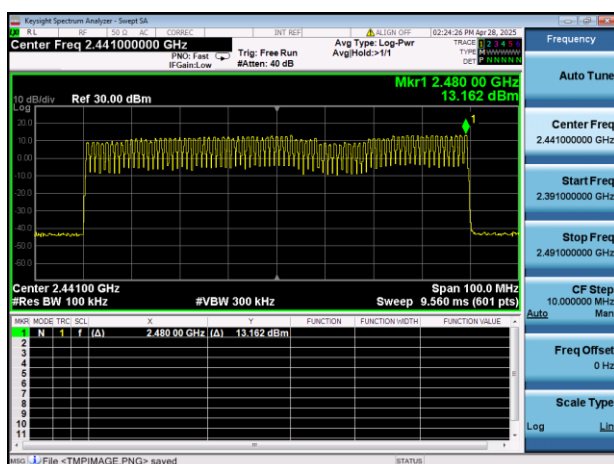
8-DPSK HIGH CHANNEL, CARRIER LEVEL



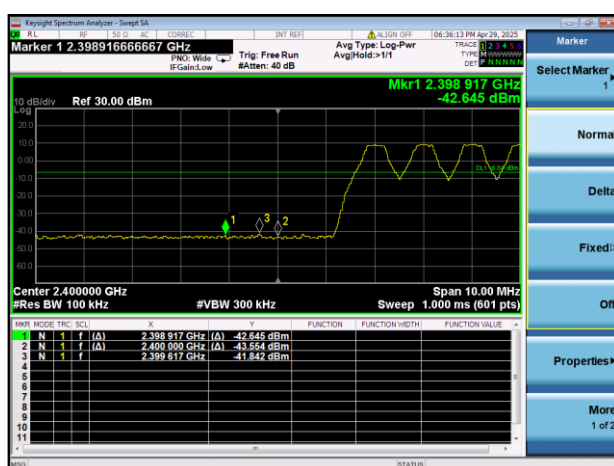
8-DPSK HIGH CHANNEL, BAND EDGE

8-DPSK HIGH CHANNEL, SPURIOUS
30 MHz ~ 3 GHz8-DPSK HIGH CHANNEL, SPURIOUS
3 GHz ~ 25 GHz

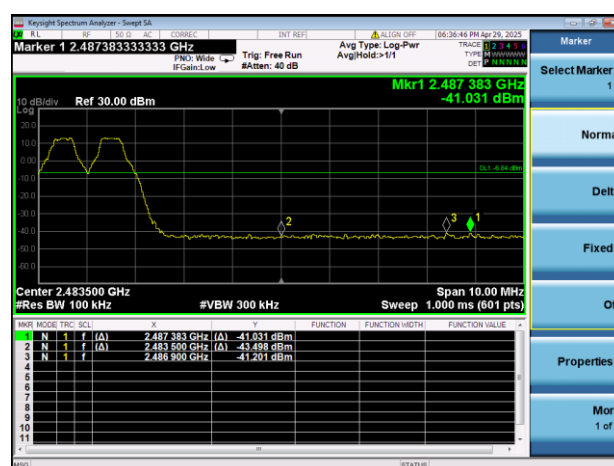
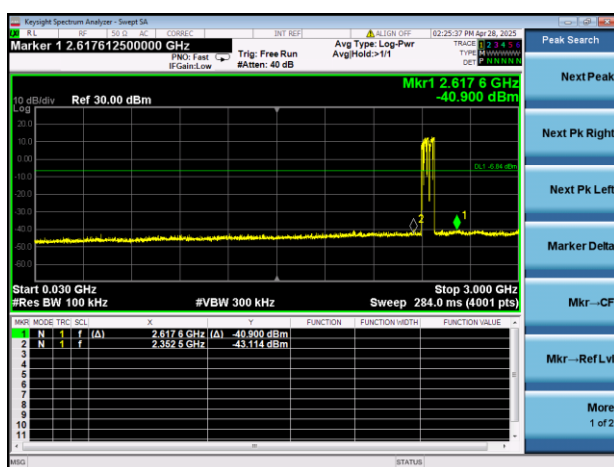
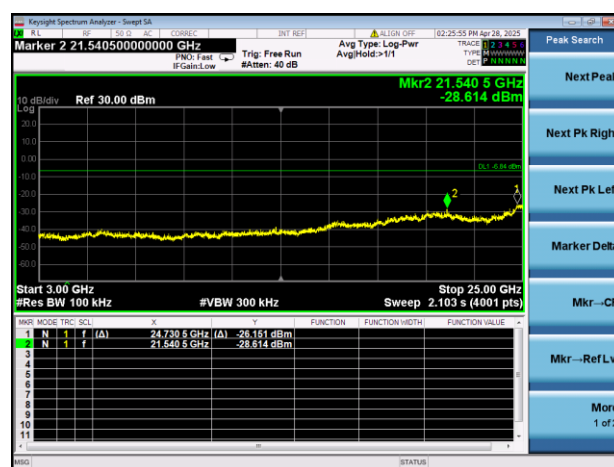
GFSK HOPPING, CARRIER LEVEL



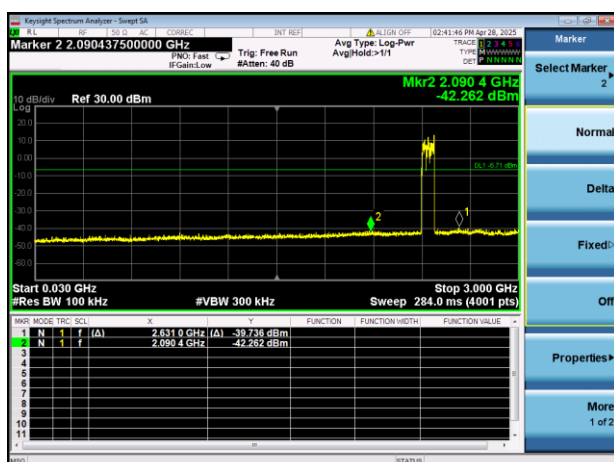
GFSK HOPPING BAND EDGE (LOW)



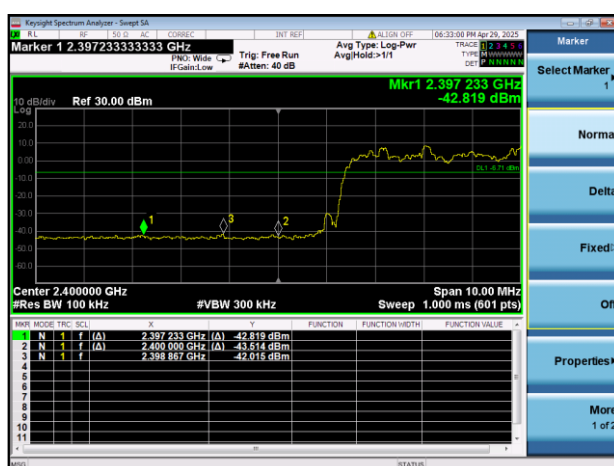
GFSK HOPPING BAND EDGE (HIGH)

GFSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHzGFSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

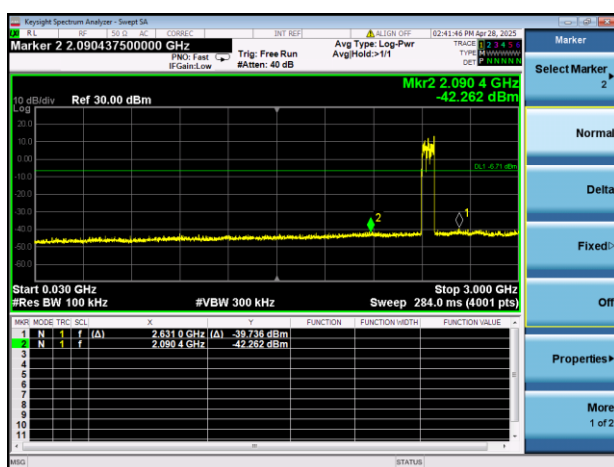
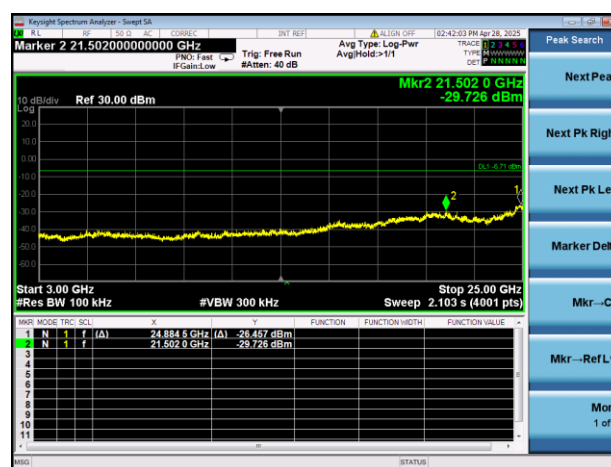
8-DPSK HOPPING, CARRIER LEVEL



8-DPSK Hopping BAND EDGE (LOW)



8-DPSK Hopping BAND EDGE (HIGH)

8-DPSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHz8-DPSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

A.7 Conducted Emission

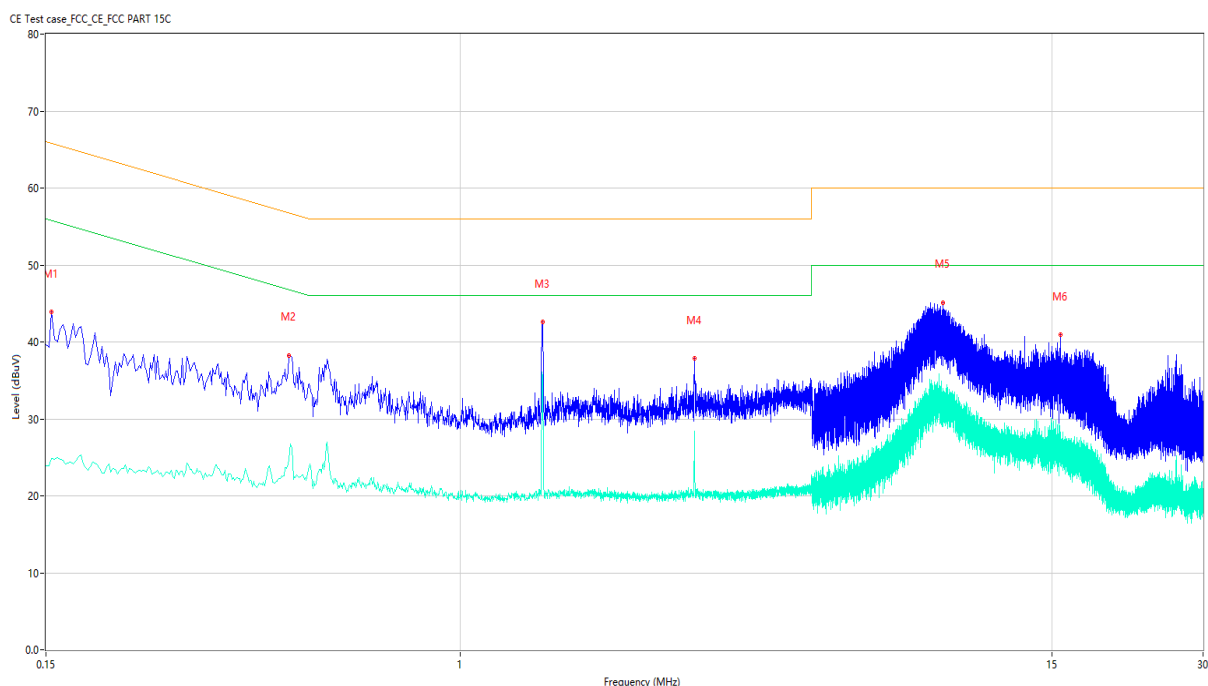
Note 1: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note 2: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note 3: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

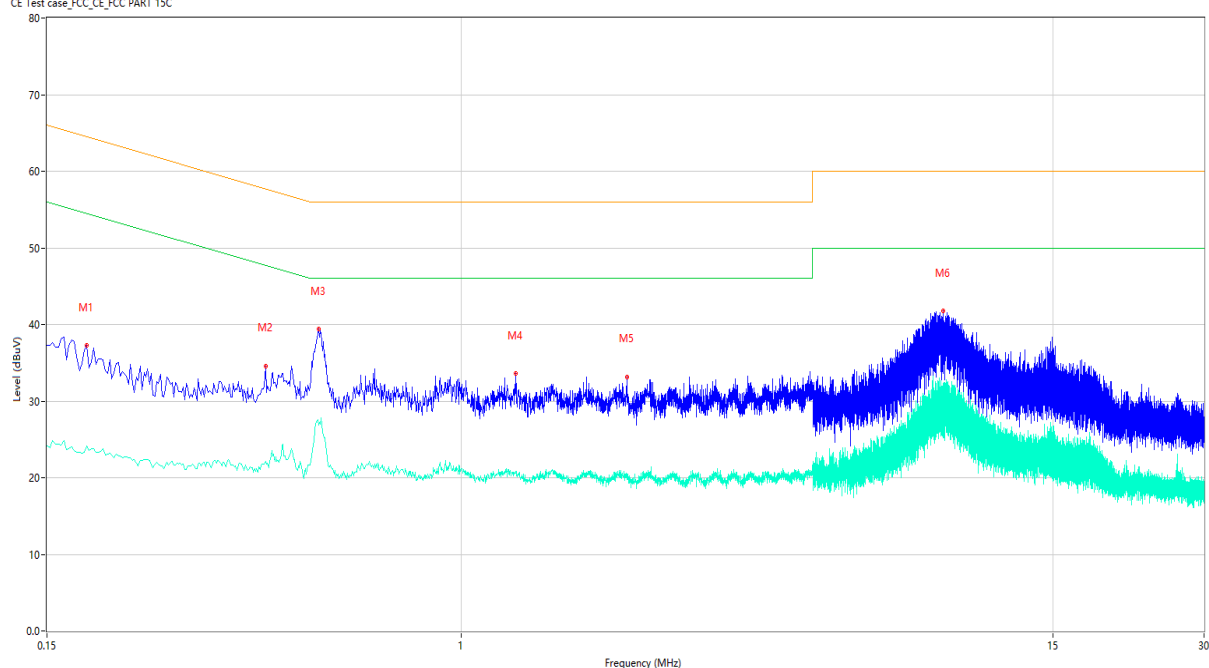
PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	43.92	9.83	65.78	21.86	Peak	L	Pass
1**	0.154	24.88	9.83	55.78	30.90	AV	L	Pass
2	0.456	38.26	9.77	56.77	18.51	Peak	L	Pass
2**	0.456	24.78	9.77	46.77	21.99	AV	L	Pass
3	1.458	42.63	9.73	56.00	13.37	Peak	L	Pass
3**	1.458	35.58	9.73	46.00	10.42	AV	L	Pass
4	2.922	37.81	9.63	56.00	18.19	Peak	L	Pass
4**	2.922	28.19	9.63	46.00	17.81	AV	L	Pass
5	9.104	45.12	9.22	60.00	14.88	Peak	L	Pass
5**	9.104	31.10	9.22	50.00	18.90	AV	L	Pass
6	15.640	40.96	8.93	60.00	19.04	Peak	L	Pass
6**	15.640	27.55	8.93	50.00	22.45	AV	L	Pass

PHASE N

CE Test case FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.180	37.31	9.80	64.49	27.18	Peak	N	Pass
1**	0.180	24.08	9.80	54.49	30.41	AV	N	Pass
2	0.408	34.59	9.77	57.69	23.10	Peak	N	Pass
2**	0.408	22.14	9.77	47.69	25.55	AV	N	Pass
3	0.520	39.42	9.76	56.00	16.58	Peak	N	Pass
3**	0.520	26.85	9.76	46.00	19.15	AV	N	Pass
4	1.282	33.56	9.75	56.00	22.44	Peak	N	Pass
4**	1.282	20.63	9.75	46.00	25.37	AV	N	Pass
5	2.134	33.18	9.65	56.00	22.82	Peak	N	Pass
5**	2.134	19.78	9.65	46.00	26.22	AV	N	Pass
6	9.074	41.78	9.22	60.00	18.22	Peak	N	Pass
6**	9.074	32.05	9.22	50.00	17.95	AV	N	Pass

A.8 Radiated Spurious Emission

Note 1: The symbol of "--" in the table which means not application.

Note 2: For the test data above 1 GHz, according the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested.

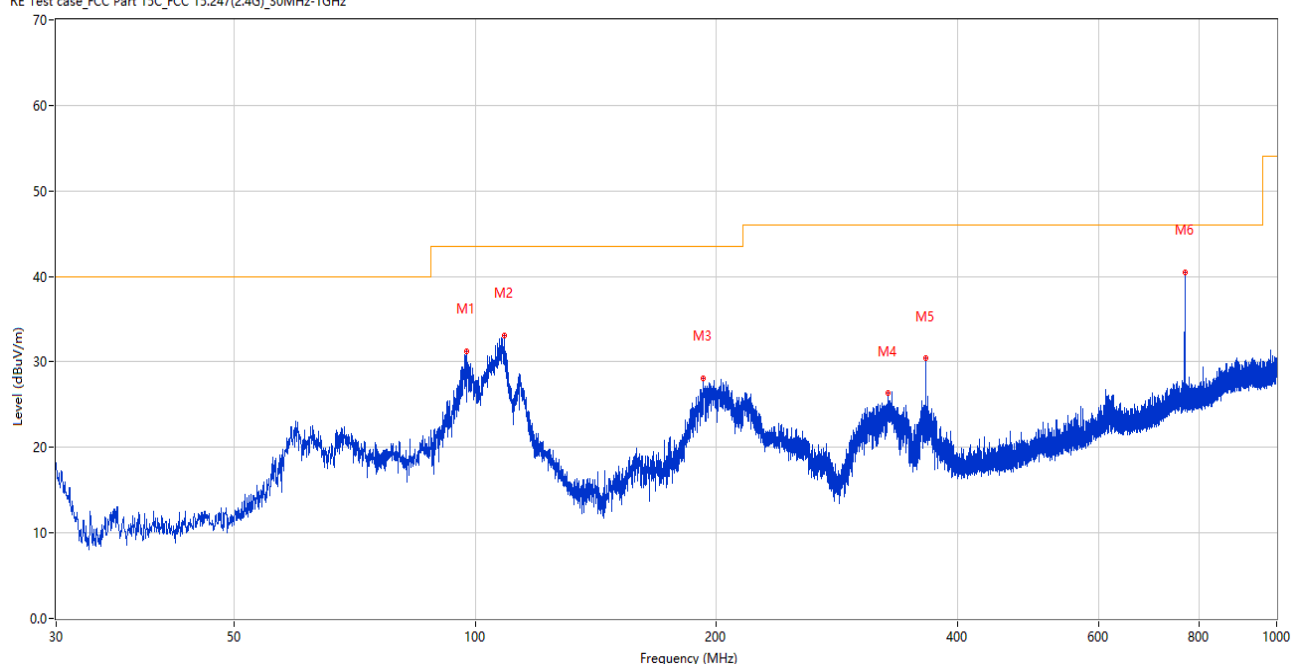
Note 4: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Note 5: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Test Data and Plots

30 MHz to 1 GHz, ANT H

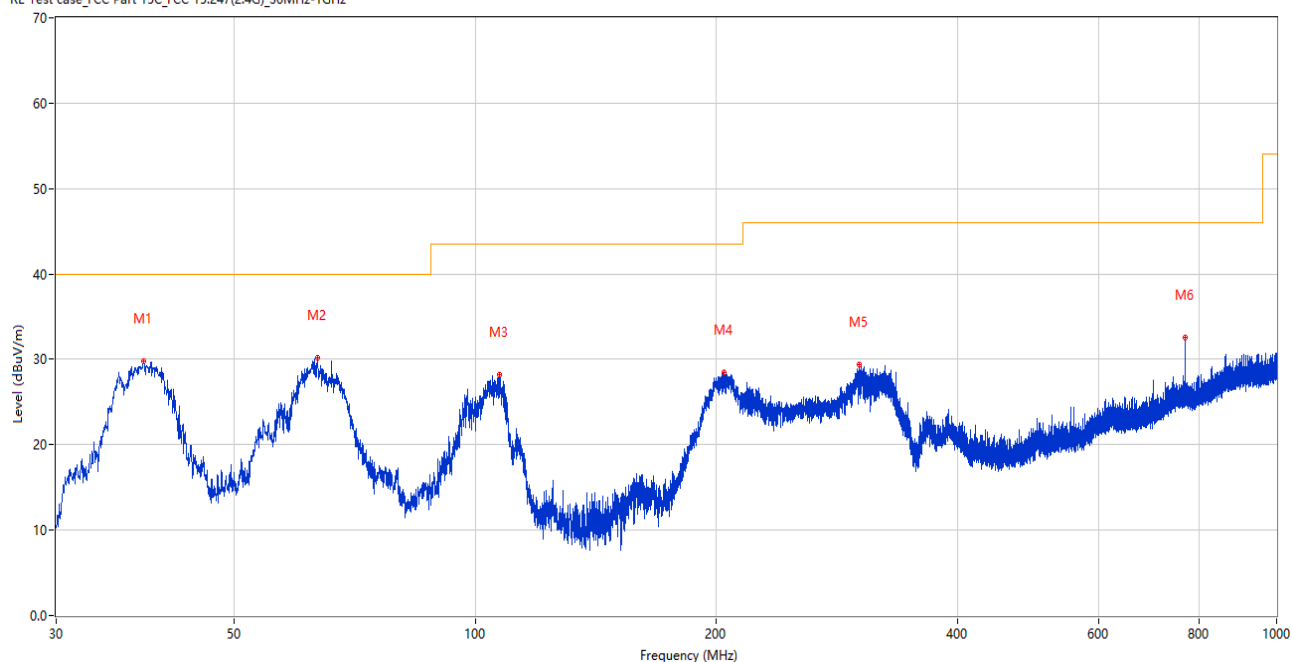
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	97.561	31.23	-26.29	43.5	12.27	Peak	256.00	200	Horizontal	Pass
2	108.715	33.14	-26.52	43.5	10.36	Peak	221.00	200	Horizontal	Pass
3	192.378	28.07	-25.91	43.5	15.43	Peak	274.00	100	Horizontal	Pass
4	327.693	26.33	-22.49	46.0	19.67	Peak	274.00	200	Horizontal	Pass
5	365.232	30.39	-21.59	46.0	15.61	Peak	99.00	100	Horizontal	Pass
6	767.976	40.45	-11.95	46.0	5.55	Peak	202.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case_FCC Part 15C_FCC 15.247(2.4G)_30MHz-1GHz



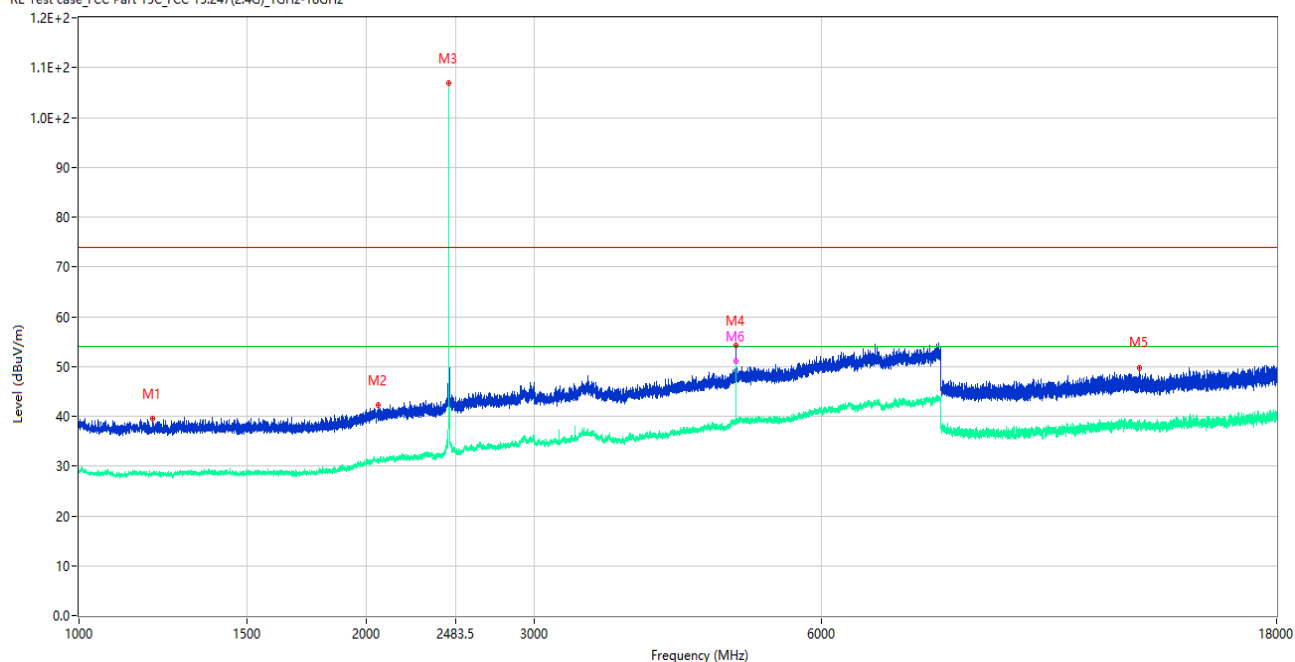
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	38.536	29.74	-26.40	40.0	10.26	Peak	144.00	100	Vertical	Pass
2	63.659	30.20	-26.93	40.0	9.80	Peak	197.00	200	Vertical	Pass
3	107.066	28.26	-26.34	43.5	15.24	Peak	360.00	100	Vertical	Pass
4	204.454	28.46	-26.30	43.5	15.04	Peak	310.00	200	Vertical	Pass
5	301.115	29.42	-23.25	46.0	16.58	Peak	83.00	100	Vertical	Pass
6	767.976	32.61	-11.95	46.0	13.39	Peak	144.00	100	Vertical	Pass

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

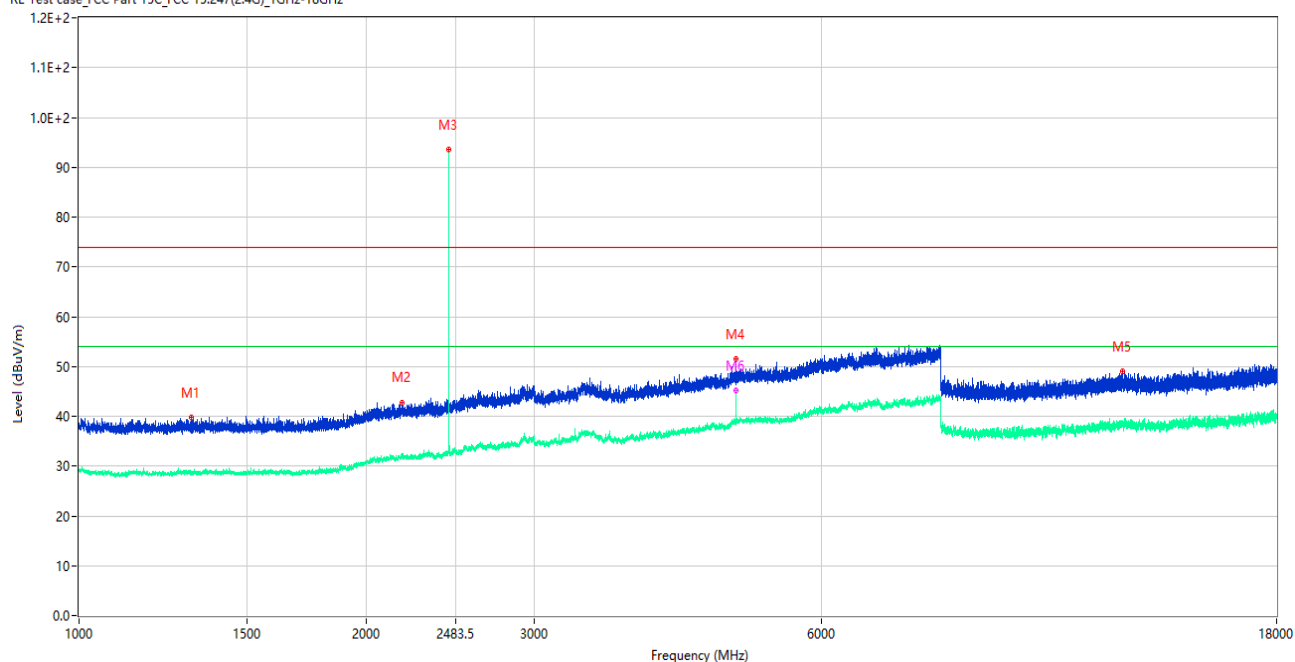
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1195.500	39.53	-15.75	74.0	34.47	Peak	308.00	150	Horizontal	Pass
1**	1195.500	28.38	-15.75	54.0	25.62	AV	308.00	150	Horizontal	Pass
2	2056.500	42.28	-13.81	74.0	31.72	Peak	224.00	150	Horizontal	Pass
2**	2056.500	31.02	-13.81	54.0	22.98	AV	224.00	150	Horizontal	Pass
3	2440.750	106.88	-12.38	74.0	-32.88	Peak	29.00	150	Horizontal	N/A
3**	2440.750	105.36	-12.38	54.0	-51.36	AV	29.00	150	Horizontal	N/A
4	4881.500	54.13	-2.31	74.0	19.87	Peak	20.00	150	Horizontal	Pass
4**	4881.500	46.98	-2.31	54.0	7.02	AV	20.00	150	Horizontal	Pass
5	12937.000	49.83	-1.94	74.0	24.17	Peak	9.00	150	Horizontal	Pass
5**	12937.000	38.72	-1.94	54.0	15.28	AV	9.00	150	Horizontal	Pass
6	4882.000	53.72	-2.31	74.0	20.28	Peak	20.00	150	Horizontal	Pass
6**	4882.000	50.96	-2.31	54.0	3.04	AV	20.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

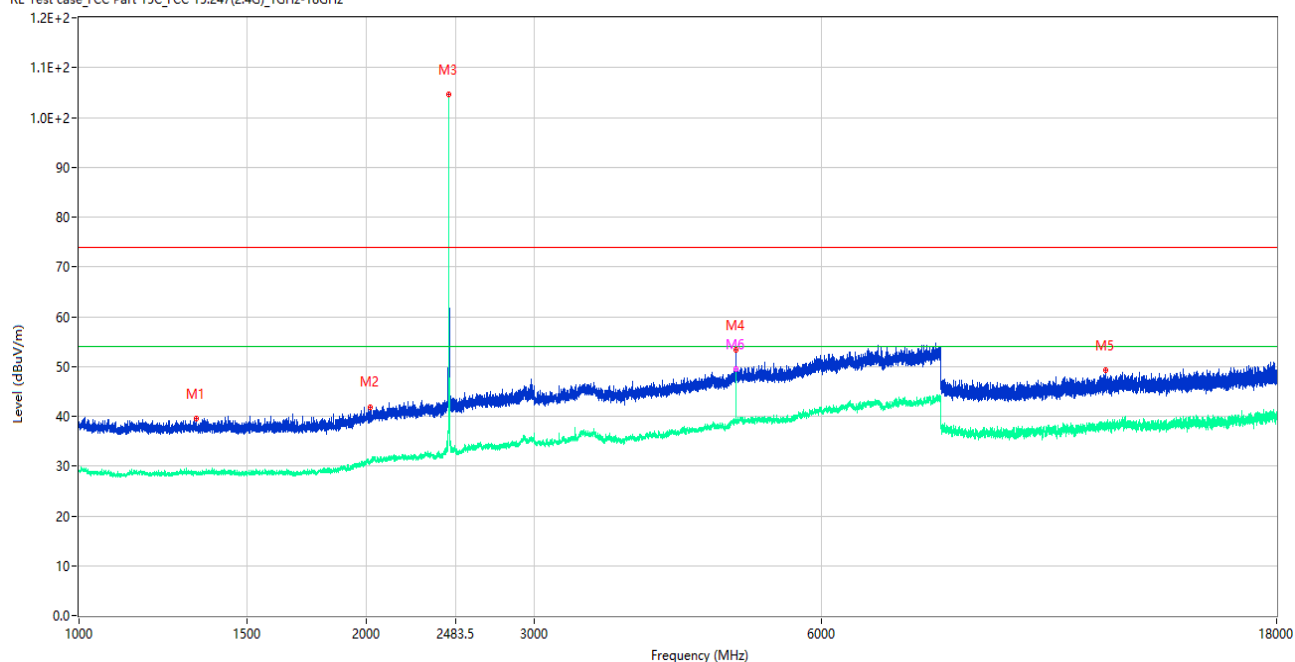
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1312.250	39.70	-15.82	74.0	34.30	Peak	237.00	150	Vertical	Pass
1**	1312.250	28.66	-15.82	54.0	25.34	AV	237.00	150	Vertical	Pass
2	2180.750	42.80	-12.94	74.0	31.20	Peak	308.00	150	Vertical	Pass
2**	2180.750	32.13	-12.94	54.0	21.87	AV	308.00	150	Vertical	Pass
3	2440.750	93.54	-12.38	74.0	-19.54	Peak	337.00	150	Vertical	N/A
3**	2440.750	91.97	-12.38	54.0	-37.97	AV	337.00	150	Vertical	N/A
4	4882.000	51.44	-2.31	74.0	22.56	Peak	115.00	150	Vertical	Pass
4**	4882.000	45.24	-2.31	54.0	8.76	AV	115.00	150	Vertical	Pass
5	12405.500	49.00	-2.41	74.0	25.00	Peak	11.00	150	Vertical	Pass
5**	12405.500	38.21	-2.41	54.0	15.79	AV	11.00	150	Vertical	Pass
6	4882.000	51.44	-2.31	74.0	22.56	Peak	115.00	150	Vertical	Pass
6**	4882.000	45.24	-2.31	54.0	8.76	AV	115.00	150	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

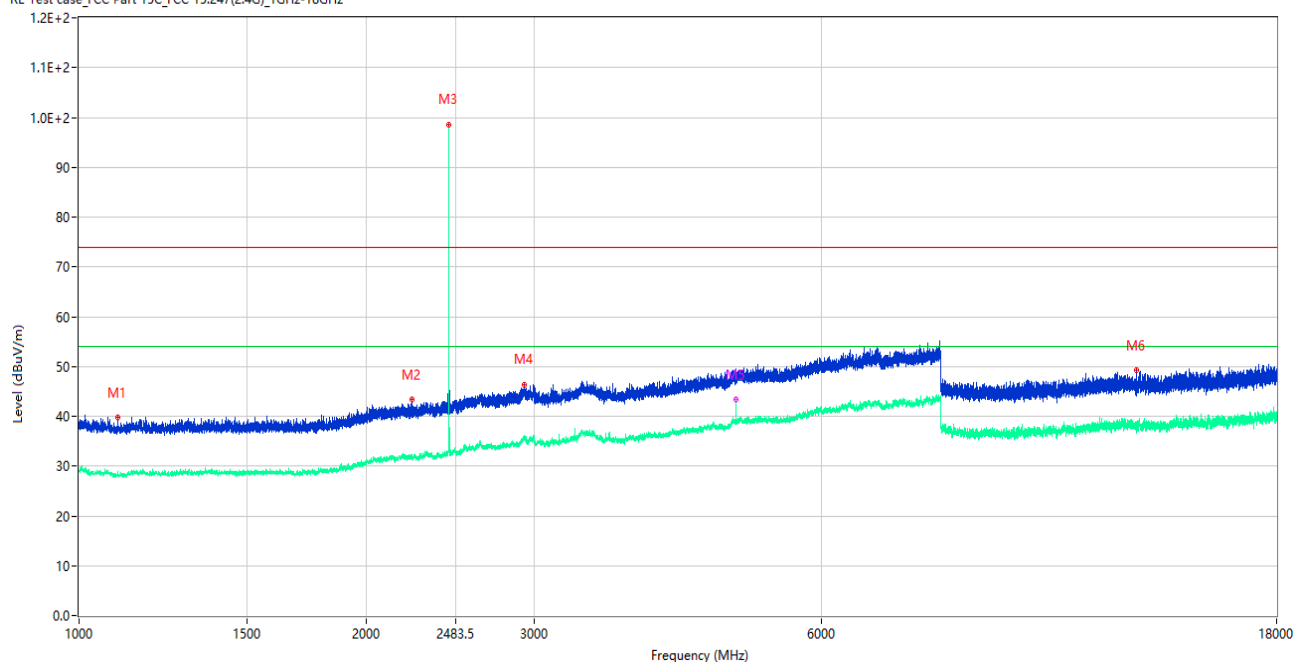
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1325.750	39.56	-15.89	74.0	34.44	Peak	16.00	150	Horizontal	Pass
1**	1325.750	28.79	-15.89	54.0	25.21	AV	16.00	150	Horizontal	Pass
2	2019.750	41.92	-14.16	74.0	32.08	Peak	116.00	150	Horizontal	Pass
2**	2019.750	30.85	-14.16	54.0	23.15	AV	116.00	150	Horizontal	Pass
3	2440.750	104.54	-12.38	74.0	-30.54	Peak	56.00	150	Horizontal	N/A
3**	2440.750	101.59	-12.38	54.0	-47.59	AV	56.00	150	Horizontal	N/A
4	4882.000	53.23	-2.31	74.0	20.77	Peak	40.00	150	Horizontal	Pass
4**	4882.000	46.81	-2.31	54.0	7.19	AV	40.00	150	Horizontal	Pass
5	11908.000	49.25	-3.69	74.0	24.75	Peak	9.00	150	Horizontal	Pass
5**	11908.000	38.31	-3.69	54.0	15.69	AV	9.00	150	Horizontal	Pass
6	4882.500	51.36	-2.31	74.0	22.64	Peak	62.00	150	Horizontal	Pass
6**	4882.500	49.44	-2.31	54.0	4.56	AV	62.00	150	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1097.500	39.71	-15.74	74.0	34.29	Peak	0.00	150	Vertical	Pass
1**	1097.500	28.15	-15.74	54.0	25.85	AV	0.00	150	Vertical	Pass
2	2234.000	43.38	-13.12	74.0	30.62	Peak	307.00	150	Vertical	Pass
2**	2234.000	31.94	-13.12	54.0	22.06	AV	307.00	150	Vertical	Pass
3	2441.000	98.62	-12.39	74.0	-24.62	Peak	60.00	150	Vertical	N/A
3**	2441.000	97.47	-12.39	54.0	-43.47	AV	60.00	150	Vertical	N/A
4	2931.500	46.43	-7.96	74.0	27.57	Peak	0.00	150	Vertical	Pass
4**	2931.500	35.71	-7.96	54.0	18.29	AV	0.00	150	Vertical	Pass
5	4882.500	48.92	-2.31	74.0	25.08	Peak	249.00	150	Vertical	Pass
5**	4882.500	43.33	-2.31	54.0	10.67	AV	249.00	150	Vertical	Pass
6	12830.500	49.21	-3.41	74.0	24.79	Peak	327.00	150	Vertical	Pass
6**	12830.500	37.43	-3.41	54.0	16.57	AV	327.00	150	Vertical	Pass

A.9 Band Edge (Restricted-band band-edge)

Note 1: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

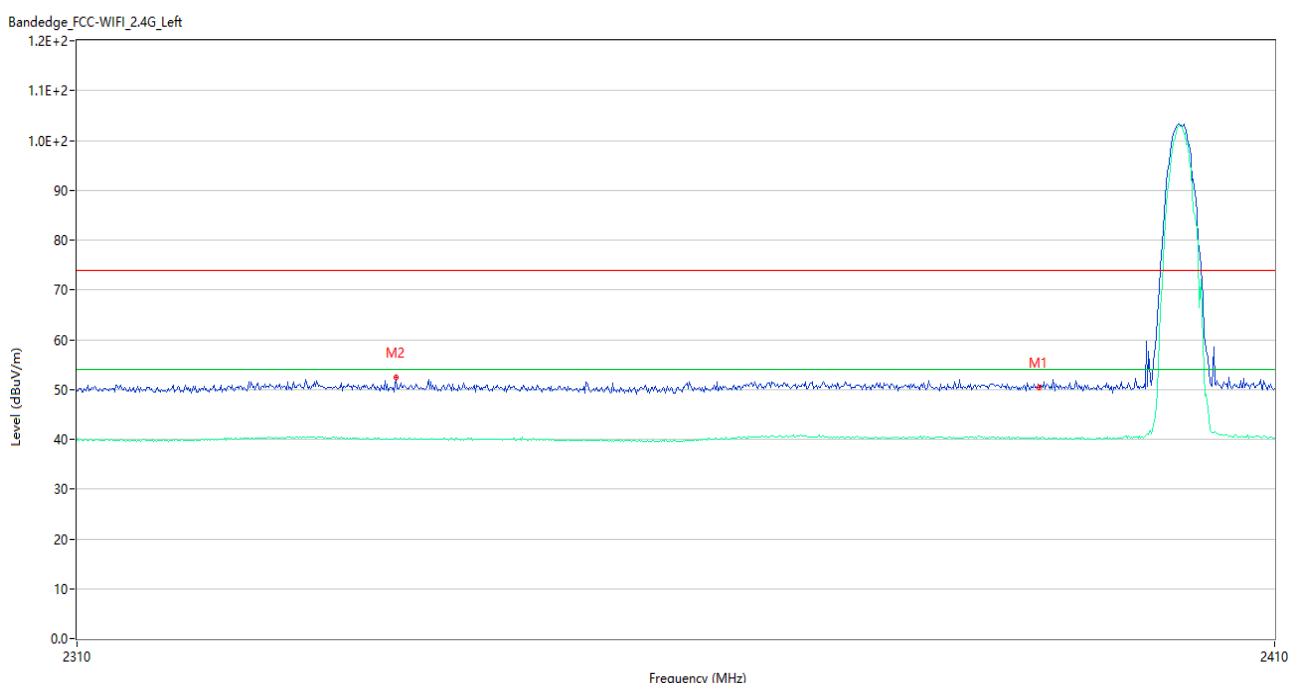
Note 2: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note 3: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 4: The Level (dBuV/m) has been corrected by factor.

Test Data and Plots

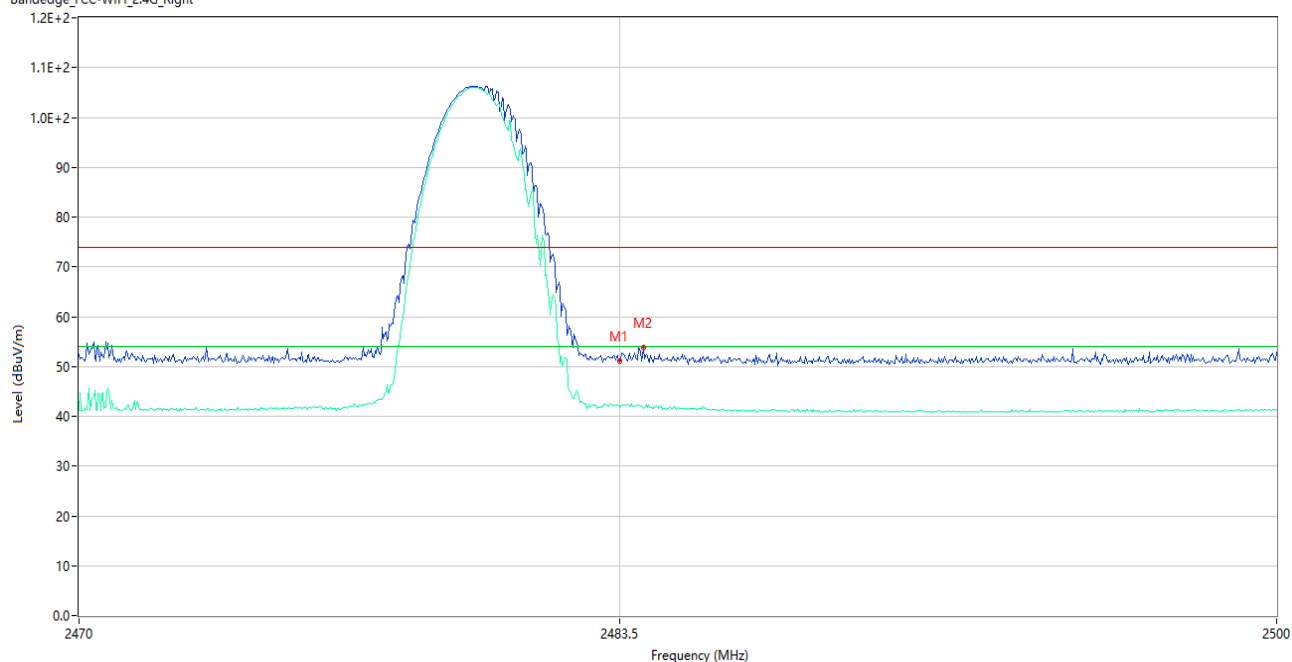
GFSK LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2390.000	50.32	-4.87	74.0	23.68	Peak	102.08	150	Horizontal	Pass
1**	2390.000	40.14	-4.87	54.0	13.86	AV	102.08	150	Horizontal	Pass
2	2336.200	52.41	-4.22	74.0	21.59	Peak	360.00	150	Horizontal	Pass
2**	2336.200	40.07	-4.22	54.0	13.93	AV	360.00	150	Horizontal	Pass

GFSK HIGH CHANNEL

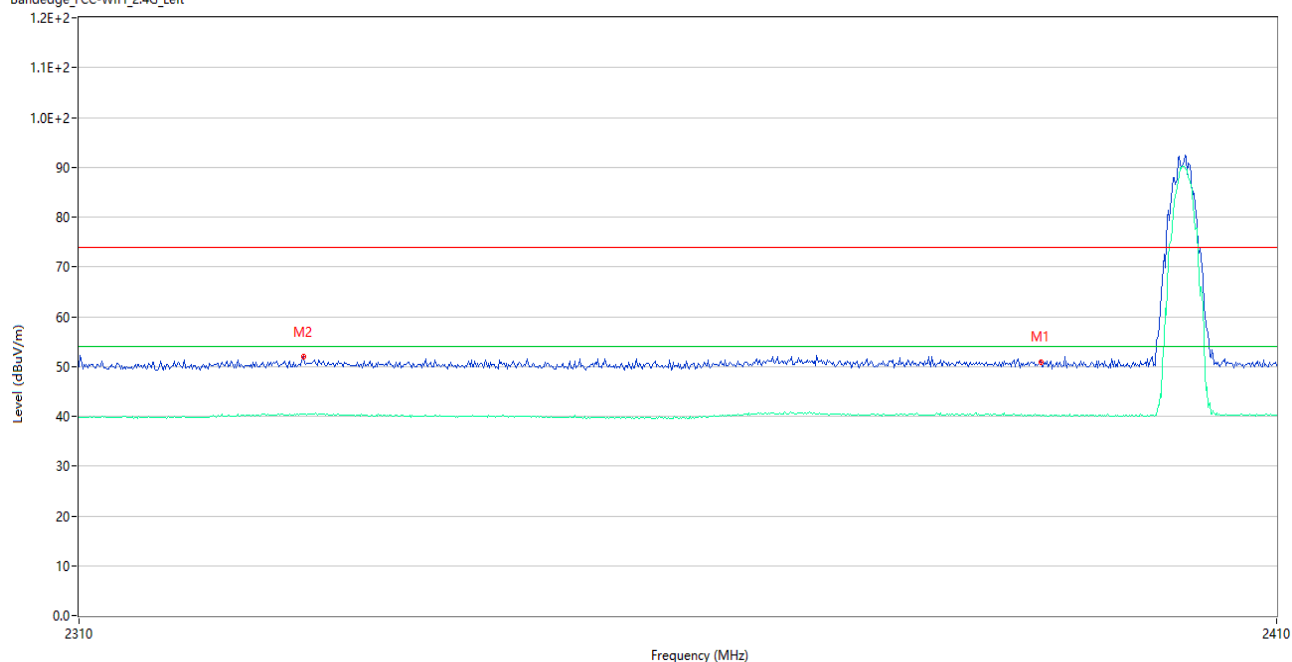
Bandedge_FCC-WIFI_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	51.08	-3.78	74.0	22.92	Peak	258.00	150	Horizontal	Pass
1**	2483.500	42.20	-3.78	54.0	11.80	AV	258.00	150	Horizontal	Pass
2	2484.100	53.85	-3.78	74.0	20.15	Peak	210.00	150	Horizontal	Pass
2**	2484.100	41.66	-3.78	54.0	12.34	AV	210.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL

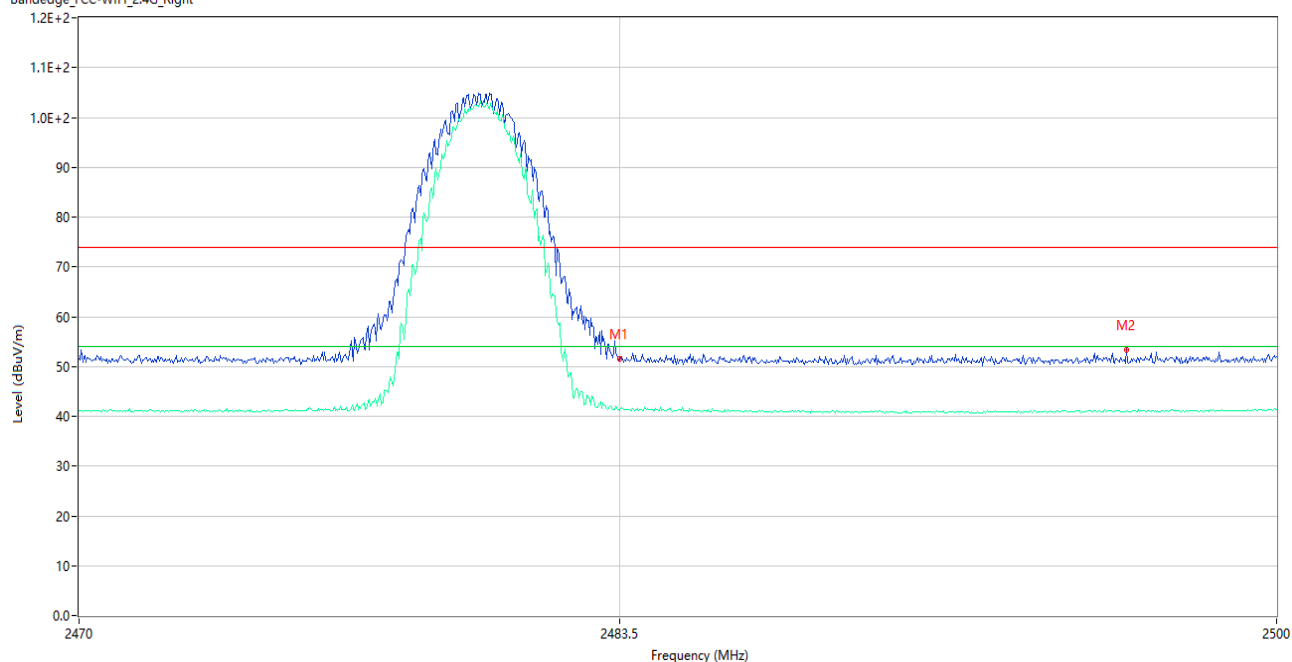
Bandedge_FCC-WIFI_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2390.000	50.94	-4.87	74.0	23.06	Peak	12.44	150	Vertical	Pass
1**	2390.000	40.02	-4.87	54.0	13.98	AV	12.44	150	Vertical	Pass
2	2328.400	52.00	-4.26	74.0	22.00	Peak	40.00	150	Vertical	Pass
2**	2328.400	40.48	-4.26	54.0	13.52	AV	40.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL

Bandedge_FCC-WIFI_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	51.62	-3.78	74.0	22.38	Peak	84.00	150	Horizontal	Pass
1**	2483.500	41.19	-3.78	54.0	12.81	AV	84.00	150	Horizontal	Pass
2	2496.220	53.29	-3.94	74.0	20.71	Peak	200.00	150	Horizontal	Pass
2**	2496.220	41.09	-3.94	54.0	12.91	AV	200.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH2540336-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2540336-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH2540336-AI.PDF”.

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--END OF REPORT--