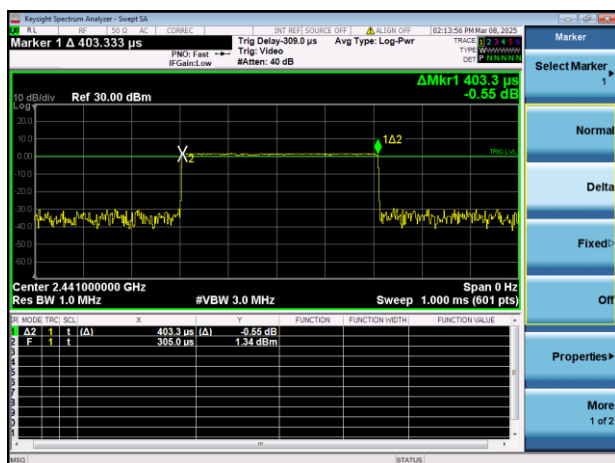
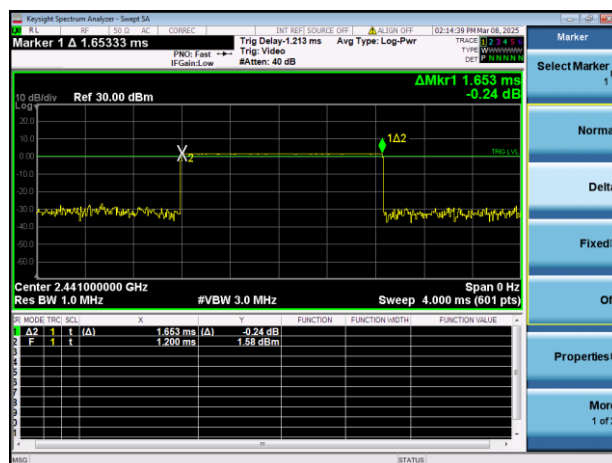


Test Plots

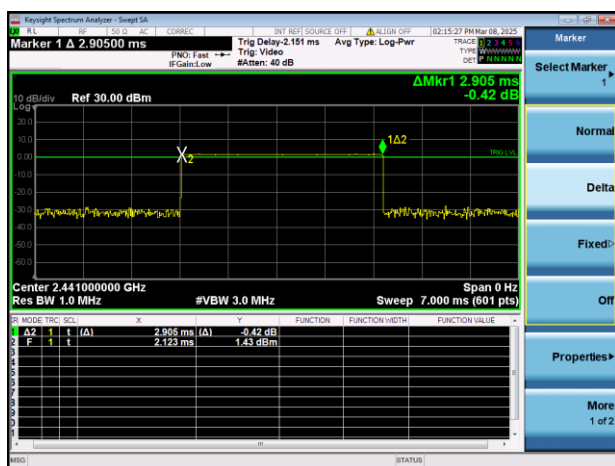
GFSK DH1



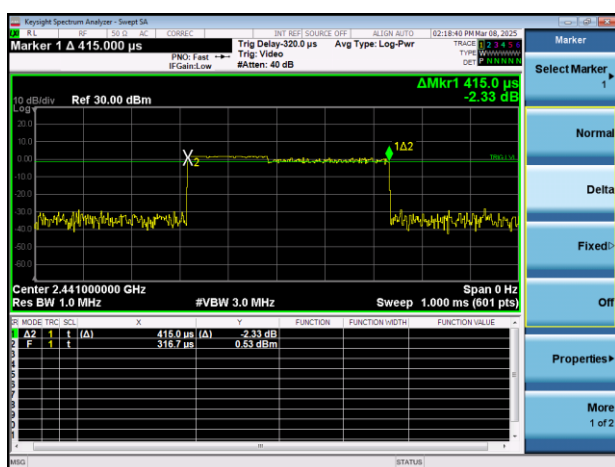
GFSK DH3



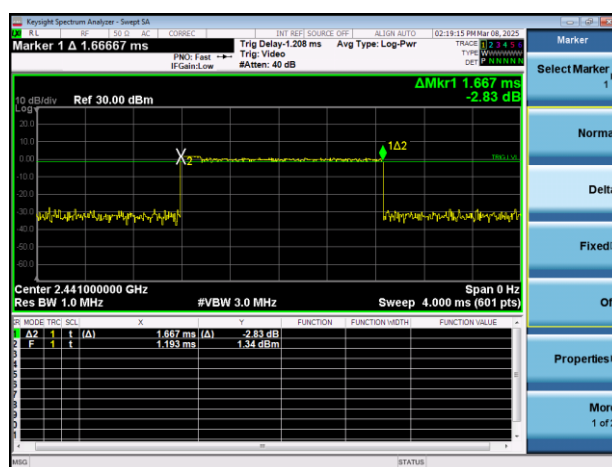
GFSK DH5



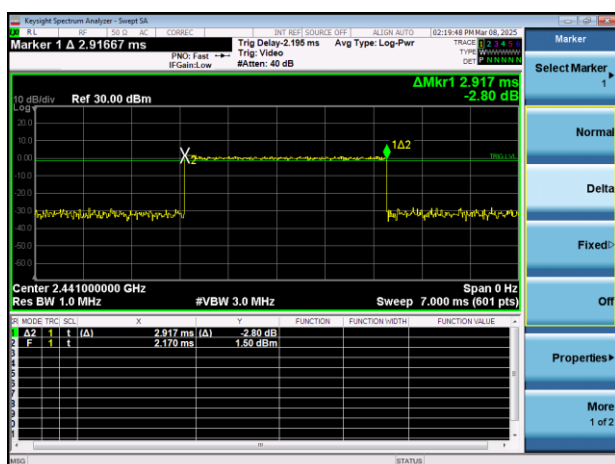
8-DPSK DH1



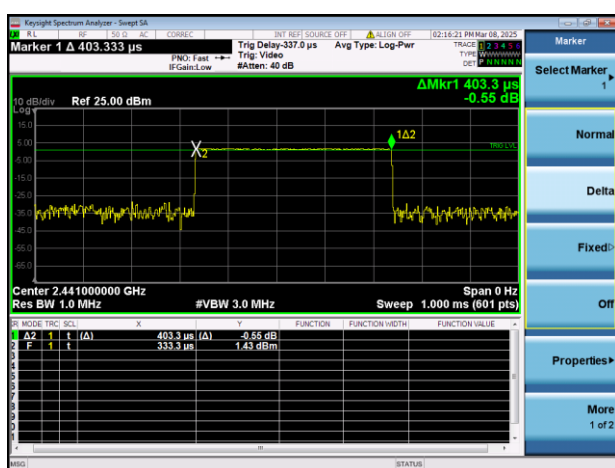
8-DPSK DH3



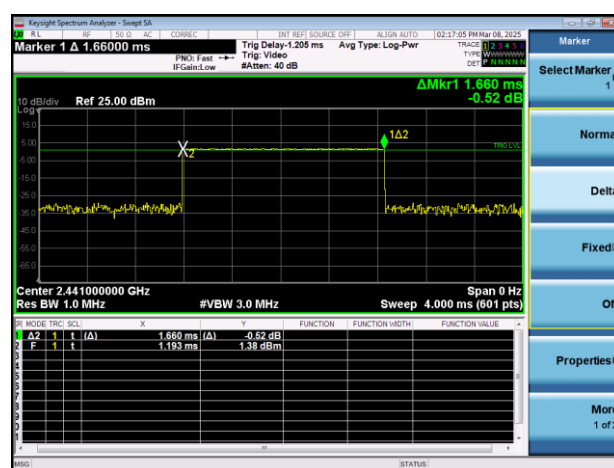
8-DPSK DH5



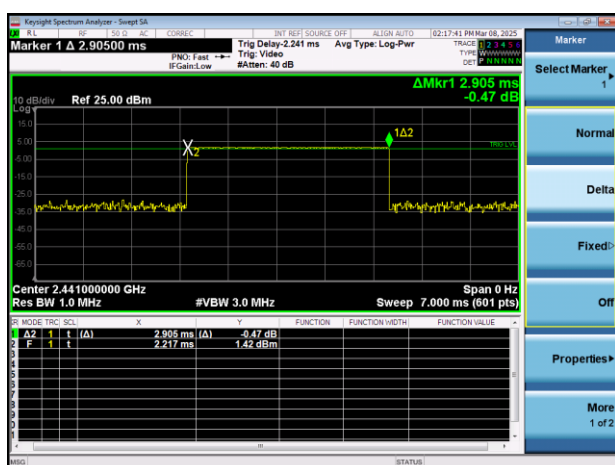
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5



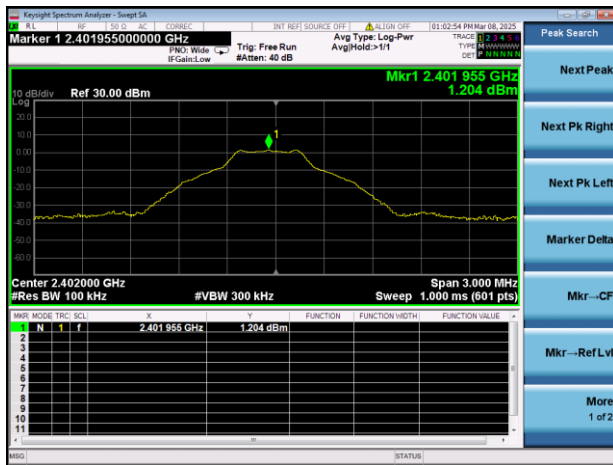
A.6 Conducted Spurious Emissions & Authorized-band band-edge

Test Data

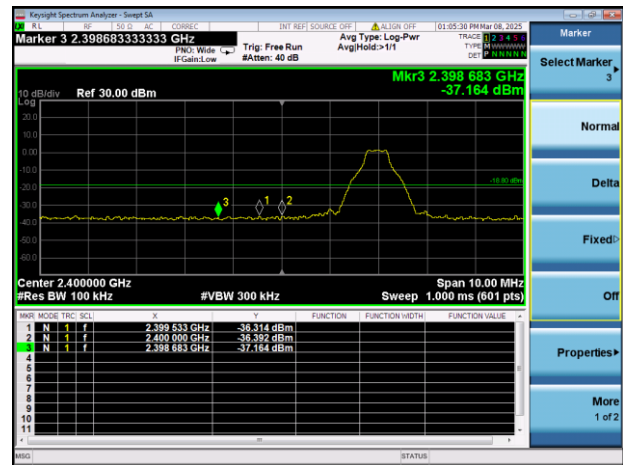
GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-20.60	1.20	-18.80	Pass
Middle	-22.88	1.60	-18.40	Pass
High	-22.71	0.67	-19.33	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-22.63	0.56	-19.44	Pass
Middle	-22.84	0.97	-19.03	Pass
High	-22.09	0.01	-19.99	Pass
Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-32.18	1.02	-18.98	Pass
8-DPSK	-32.93	1.49	-18.51	Pass

Test Plots

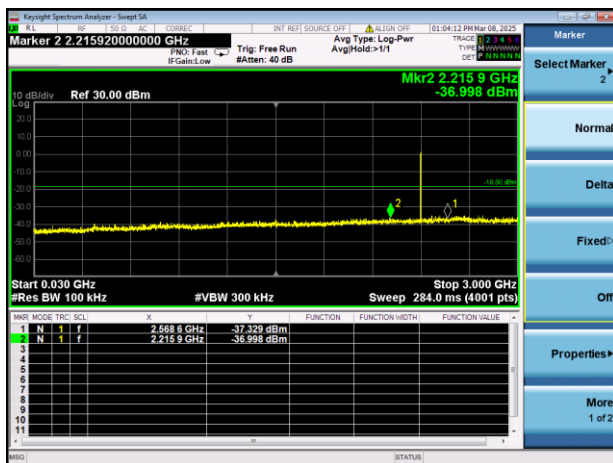
GFSK LOW CHANNEL, CARRIER LEVEL



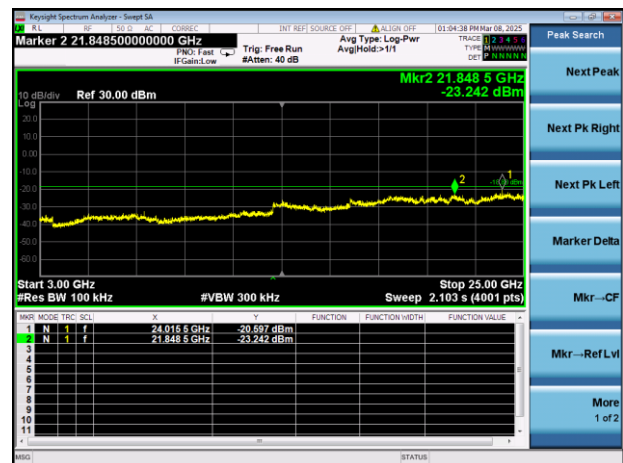
GFSK LOW CHANNEL, BAND EDGE



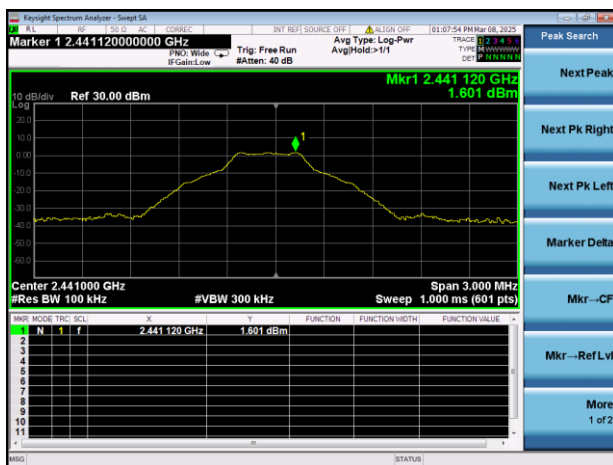
GFSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



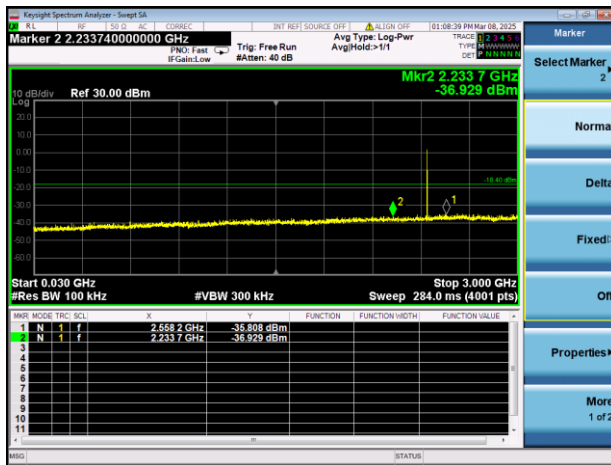
GFSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



GFSK MIDDLE CHANNEL, CARRIER LEVEL



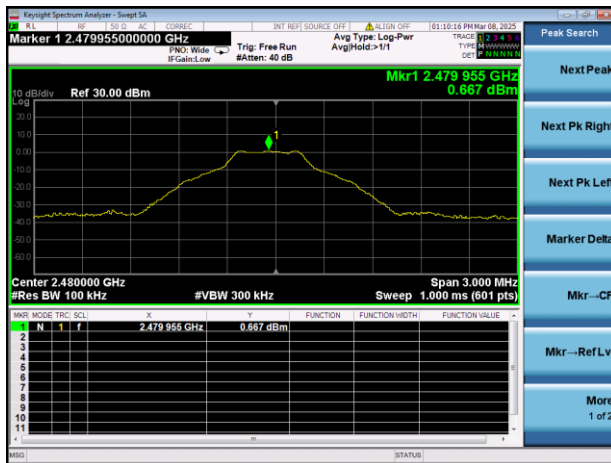
GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



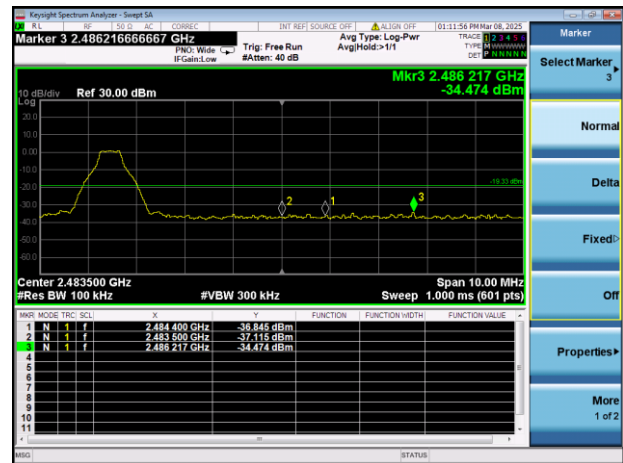
GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



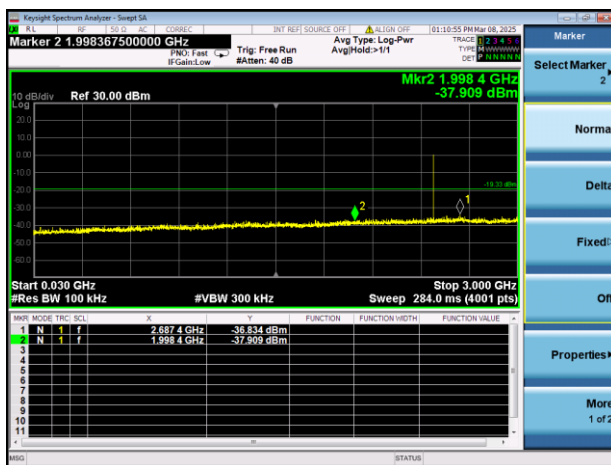
GFSK HIGH CHANNEL, CARRIER LEVEL



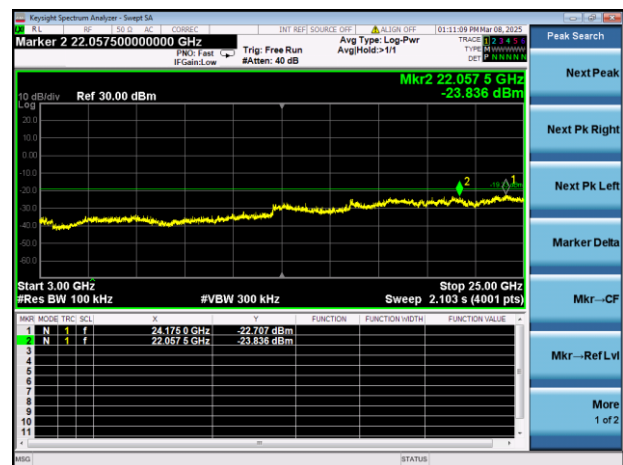
GFSK HIGH CHANNEL, BAND EDGE



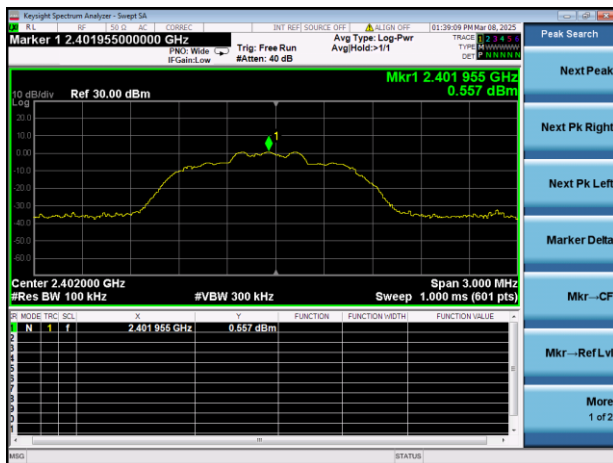
GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



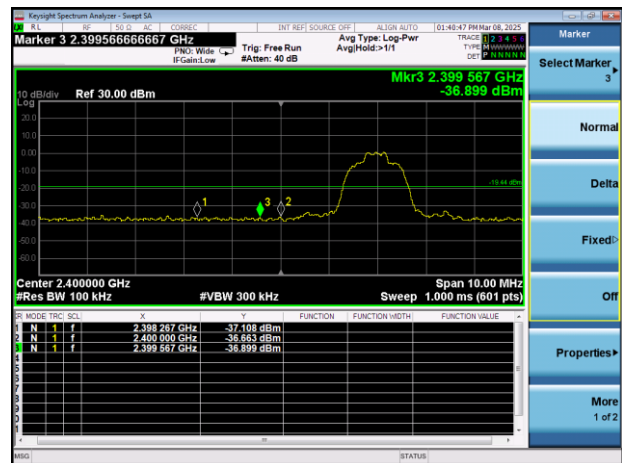
GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



8-DPSK LOW CHANNEL, CARRIER LEVEL

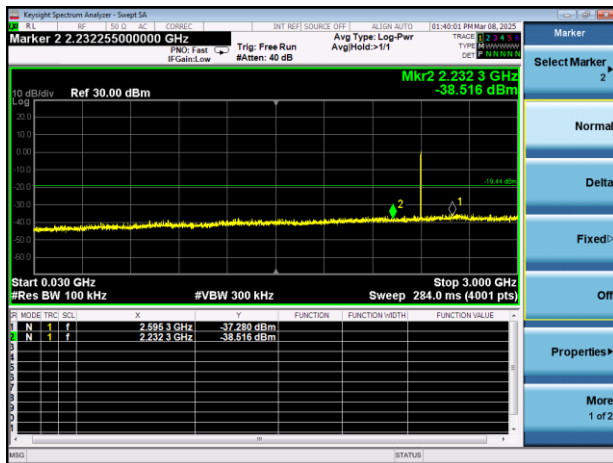


8-DPSK LOW CHANNEL, BAND EDGE



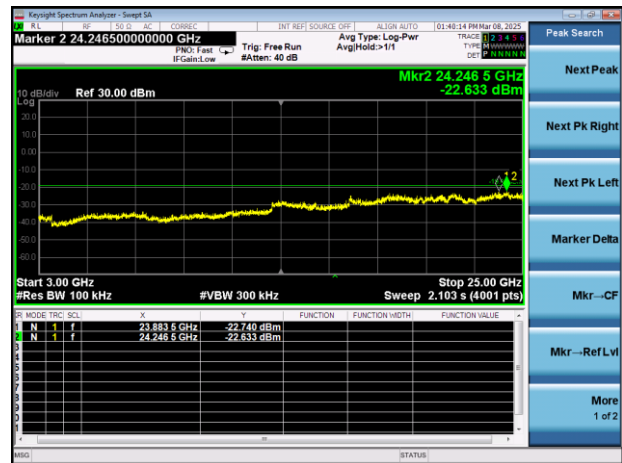
8-DPSK LOW CHANNEL, SPURIOUS

30 MHz ~ 3 GHz

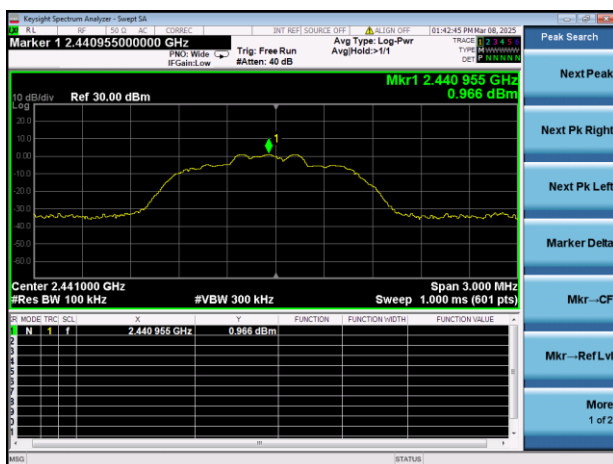


8-DPSK LOW CHANNEL, SPURIOUS

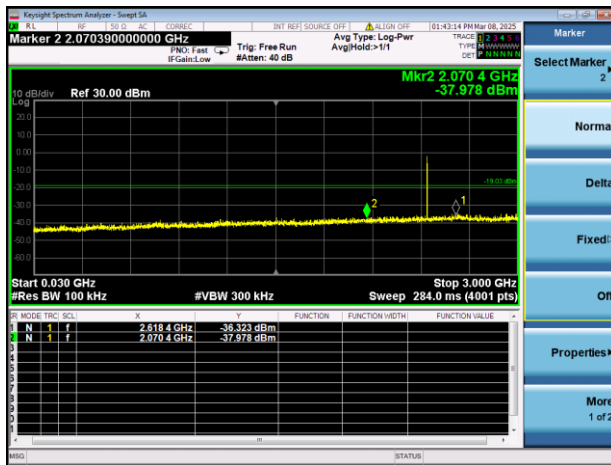
3 GHz ~ 25 GHz



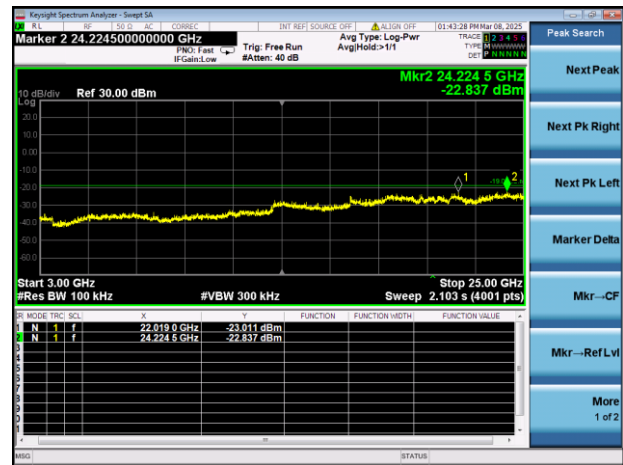
8-DPSK MIDDLE CHANNEL, CARRIER LEVEL



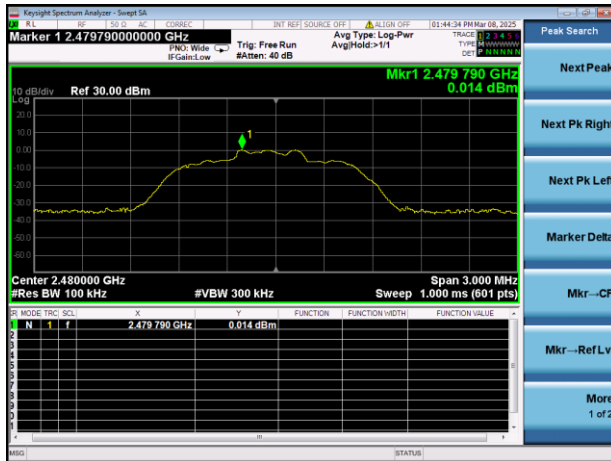
8-DPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



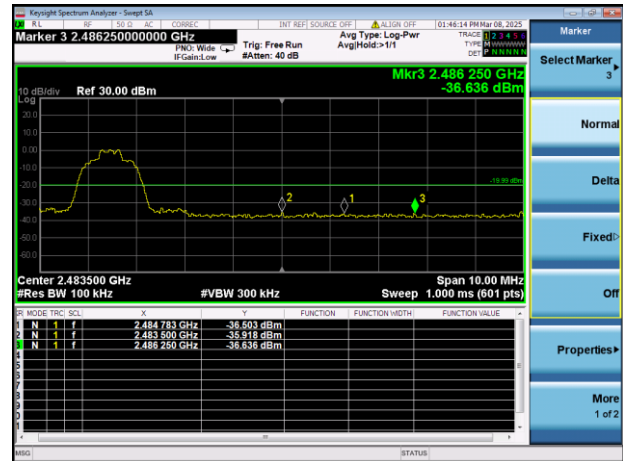
8-DPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



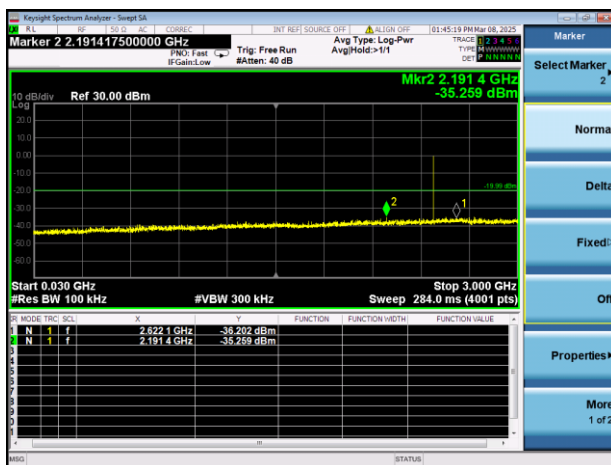
8-DPSK HIGH CHANNEL, CARRIER LEVEL



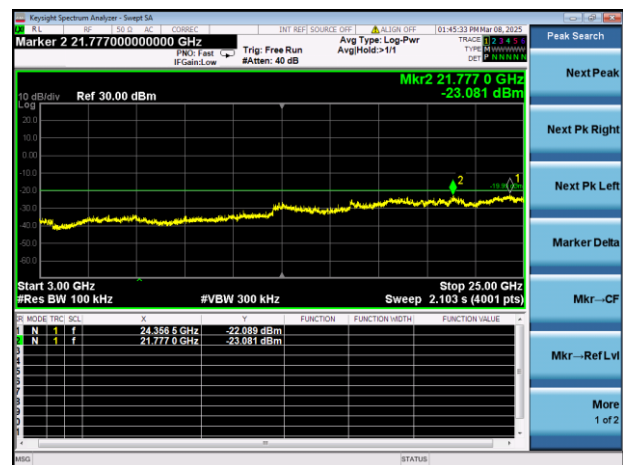
8-DPSK HIGH CHANNEL, BAND EDGE



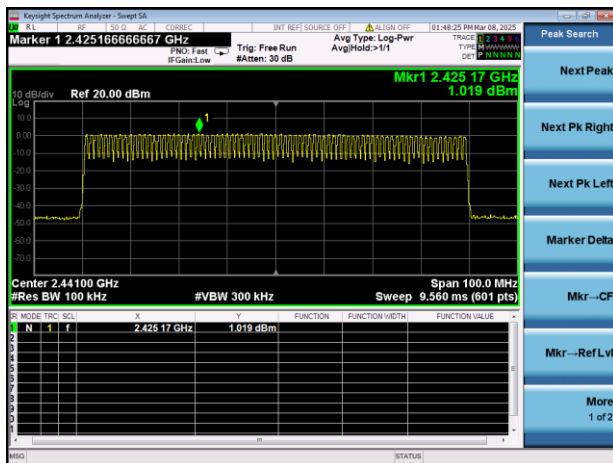
8-DPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



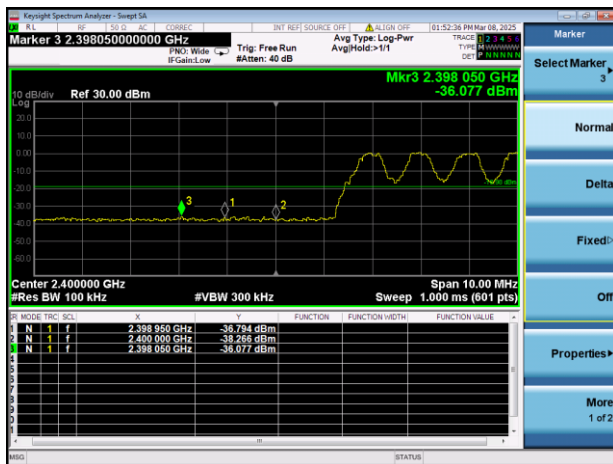
8-DPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



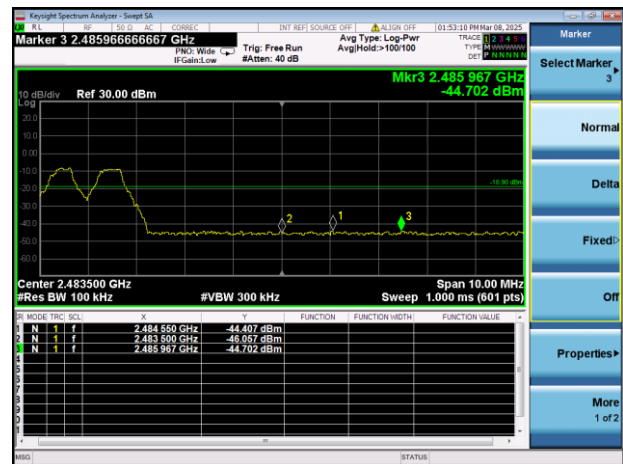
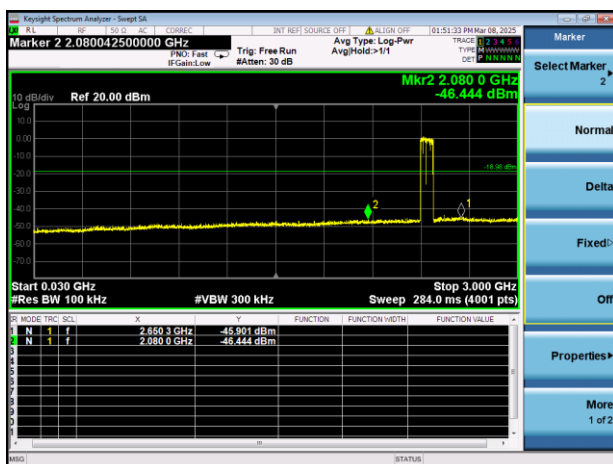
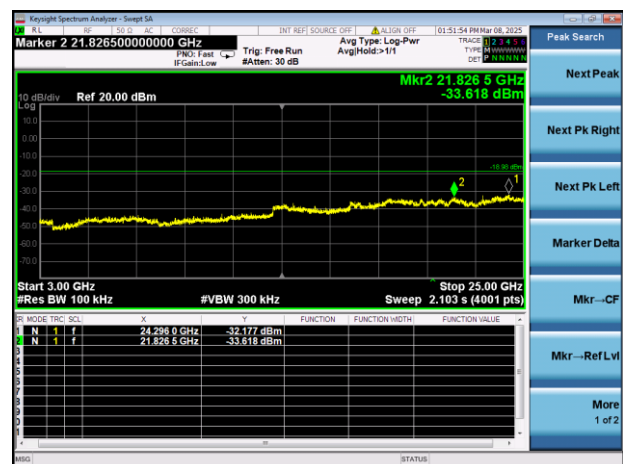
GFSK HOPPING, CARRIER LEVEL



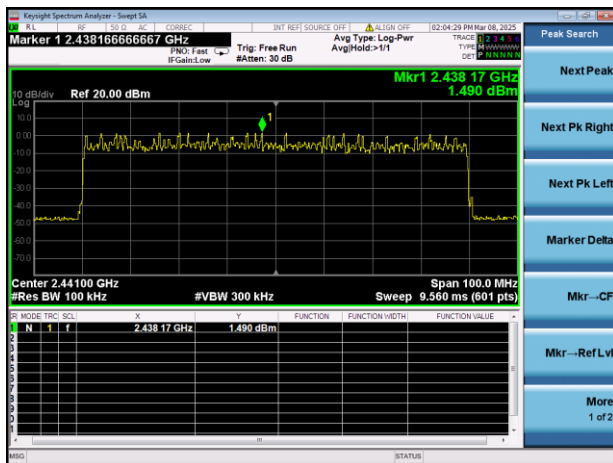
GFSK HOPPING BAND EDGE (LOW)



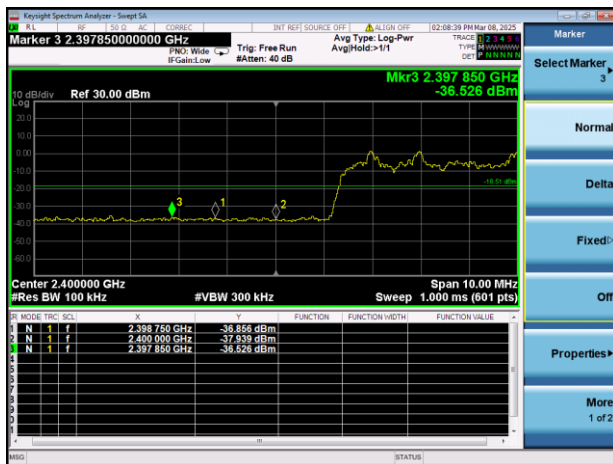
GFSK HOPPING BAND EDGE (HIGH)

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

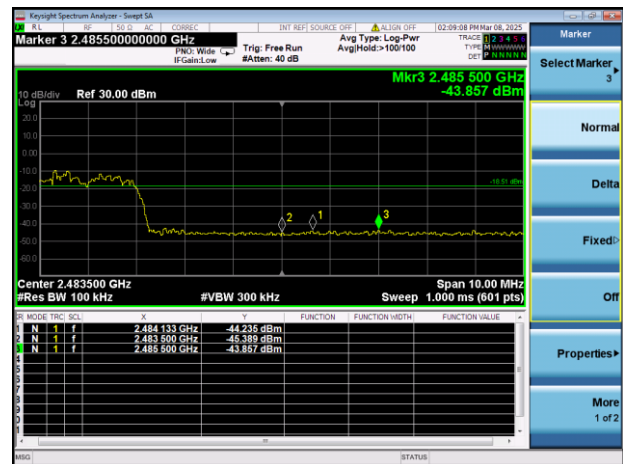
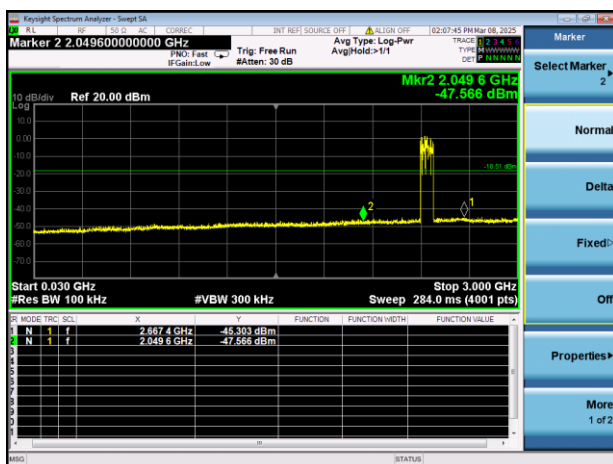
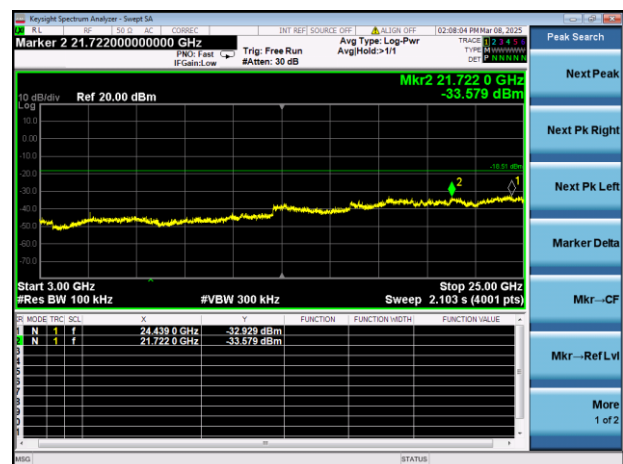
8-DPSK HOPPING, CARRIER LEVEL



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.

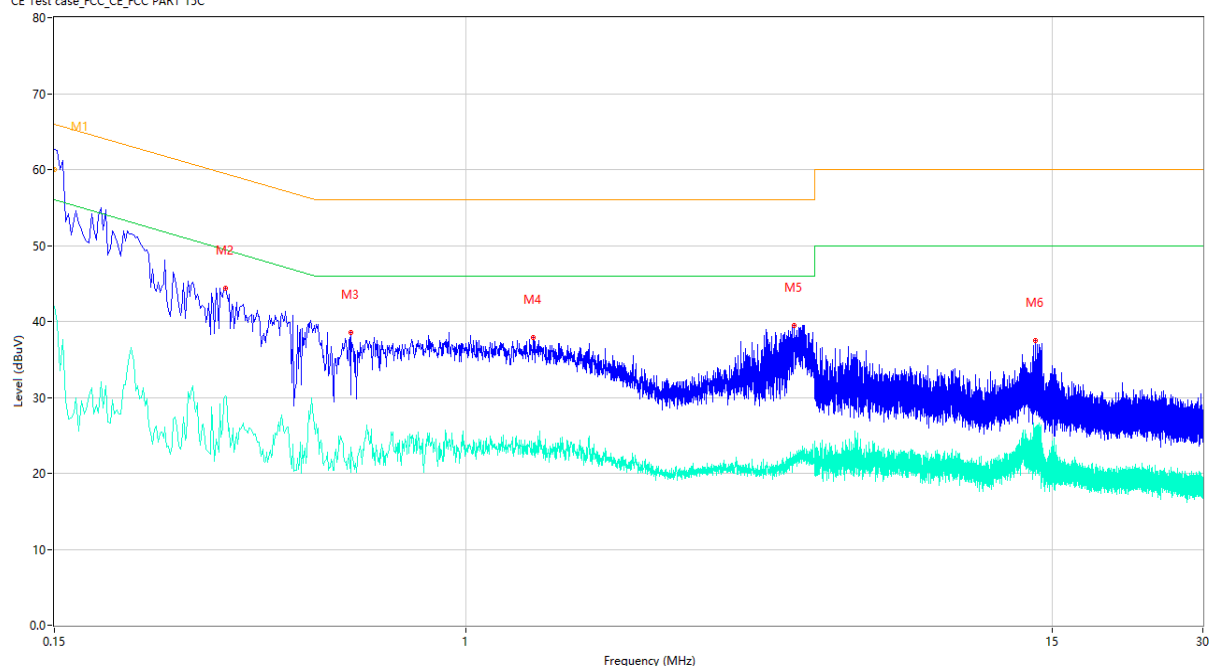
Note 2: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration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

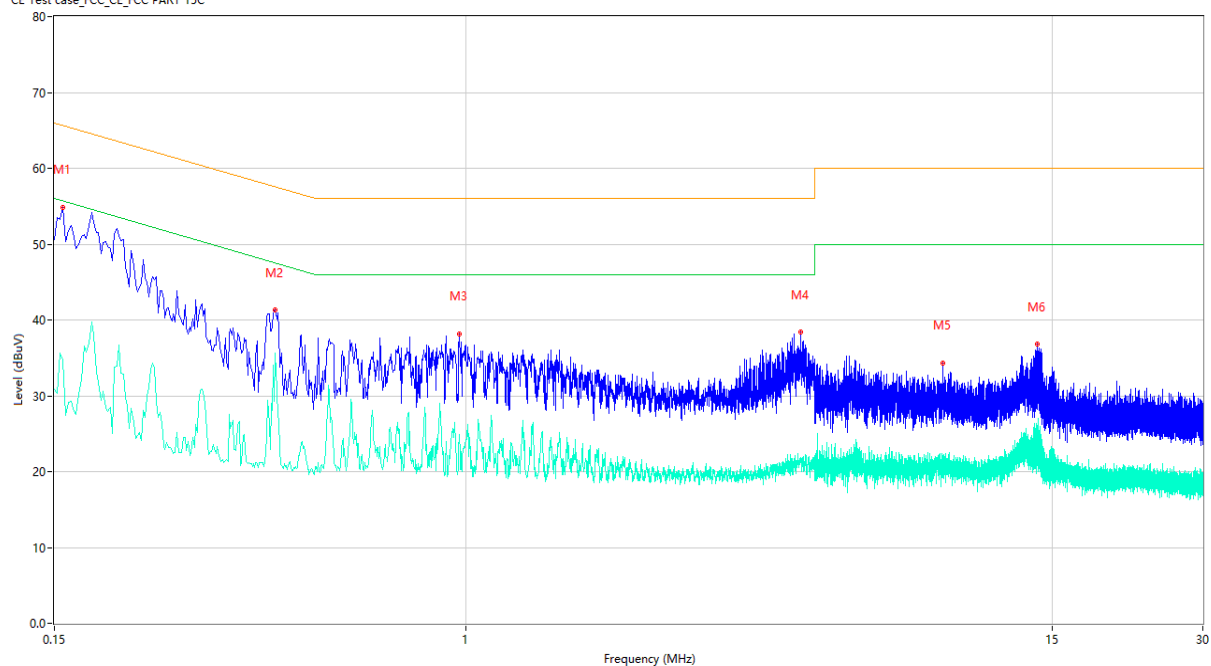
CE Test case_FCC_CE_FCC PART 15C



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.150	62.74	9.75	66.00	3.26	Peak	L	Pass
1*	0.150	59.97	9.75	66.00	6.03	QP	L	Pass
1**	0.150	41.98	9.75	56.00	14.02	AV	L	Pass
2	0.330	44.42	9.74	59.45	15.03	Peak	L	Pass
2**	0.330	30.14	9.74	49.45	19.31	AV	L	Pass
3	0.590	38.51	9.73	56.00	17.49	Peak	L	Pass
3**	0.590	23.40	9.73	46.00	22.60	AV	L	Pass
4	1.368	37.90	9.70	56.00	18.10	Peak	L	Pass
4**	1.368	23.21	9.70	46.00	22.79	AV	L	Pass
5	4.550	39.53	9.64	56.00	16.47	Peak	L	Pass
5**	4.550	22.16	9.64	46.00	23.84	AV	L	Pass
6	13.846	37.49	9.31	60.00	22.51	Peak	L	Pass
6**	13.846	26.03	9.31	50.00	23.97	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	0.156	54.81	9.75	65.67	10.86	Peak	N	Pass
1**	0.156	34.65	9.75	55.67	21.02	AV	N	Pass
2	0.416	41.27	9.74	57.53	16.26	Peak	N	Pass
2**	0.416	35.57	9.74	47.53	11.96	AV	N	Pass
3	0.970	38.20	9.70	56.00	17.80	Peak	N	Pass
3**	0.970	24.97	9.70	46.00	21.03	AV	N	Pass
4	4.688	38.36	9.64	56.00	17.64	Peak	N	Pass
4**	4.688	21.84	9.64	46.00	24.16	AV	N	Pass
5	9.044	34.28	9.51	60.00	25.72	Peak	N	Pass
5**	9.044	20.78	9.51	50.00	29.22	AV	N	Pass
6	13.998	36.78	9.30	60.00	23.22	Peak	N	Pass
6**	13.998	25.99	9.30	50.00	24.01	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 and 3DH5-High mode is the worst.

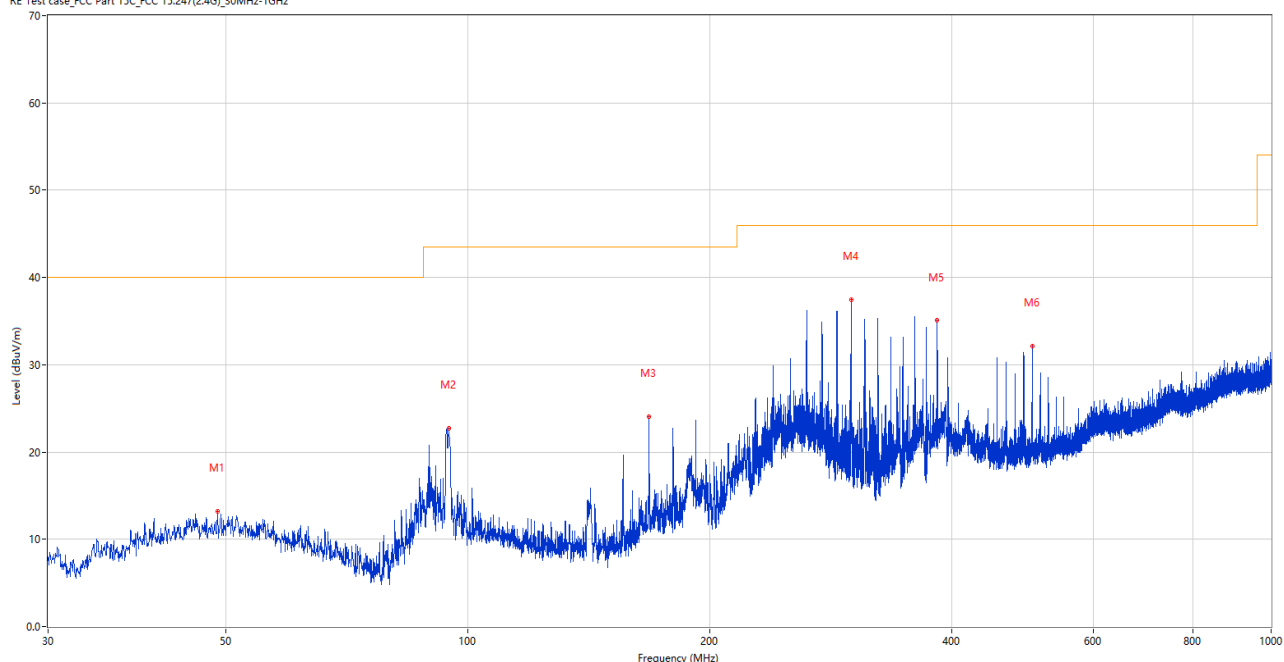
Note 4: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

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

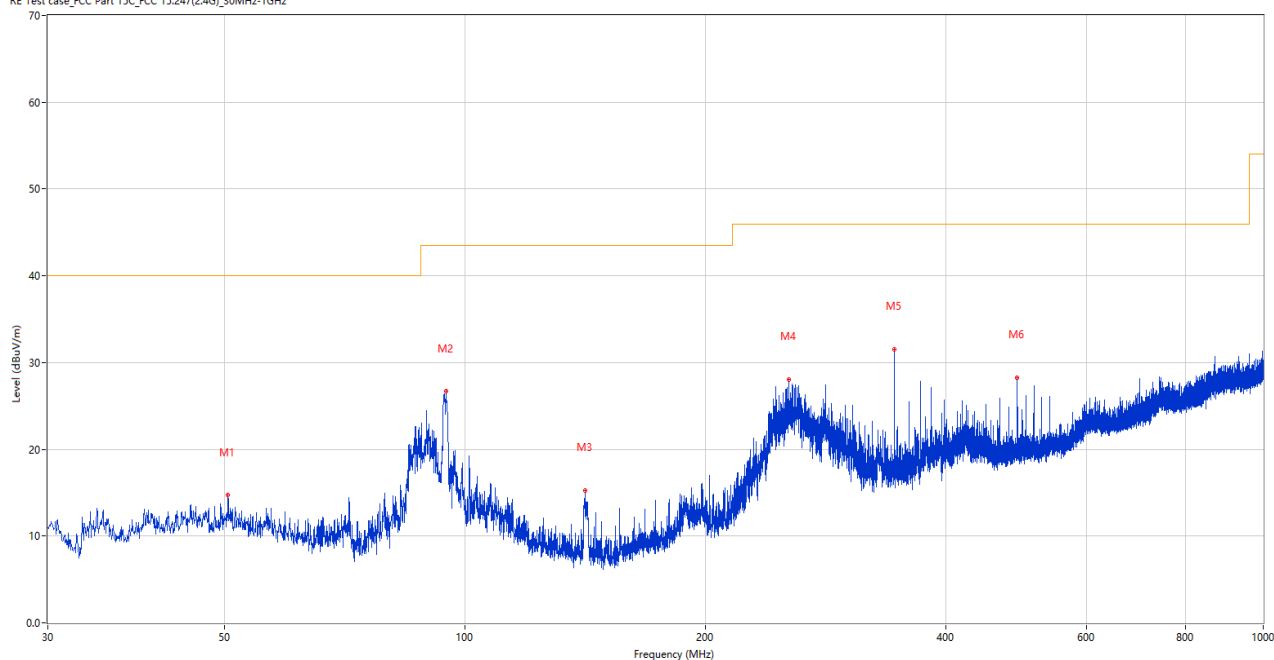
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.770	13.21	-24.50	40.0	26.79	Peak	0.00	200	Horizontal	Pass
2	94.602	22.72	-26.86	43.5	20.78	Peak	236.00	200	Horizontal	Pass
3	168.031	24.03	-28.44	43.5	19.47	Peak	181.00	200	Horizontal	Pass
4	299.951	37.42	-23.23	46.0	8.58	Peak	203.00	100	Horizontal	Pass
5	383.905	35.05	-20.80	46.0	10.95	Peak	197.00	100	Horizontal	Pass
6	504.039	32.17	-17.89	46.0	13.83	Peak	290.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

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

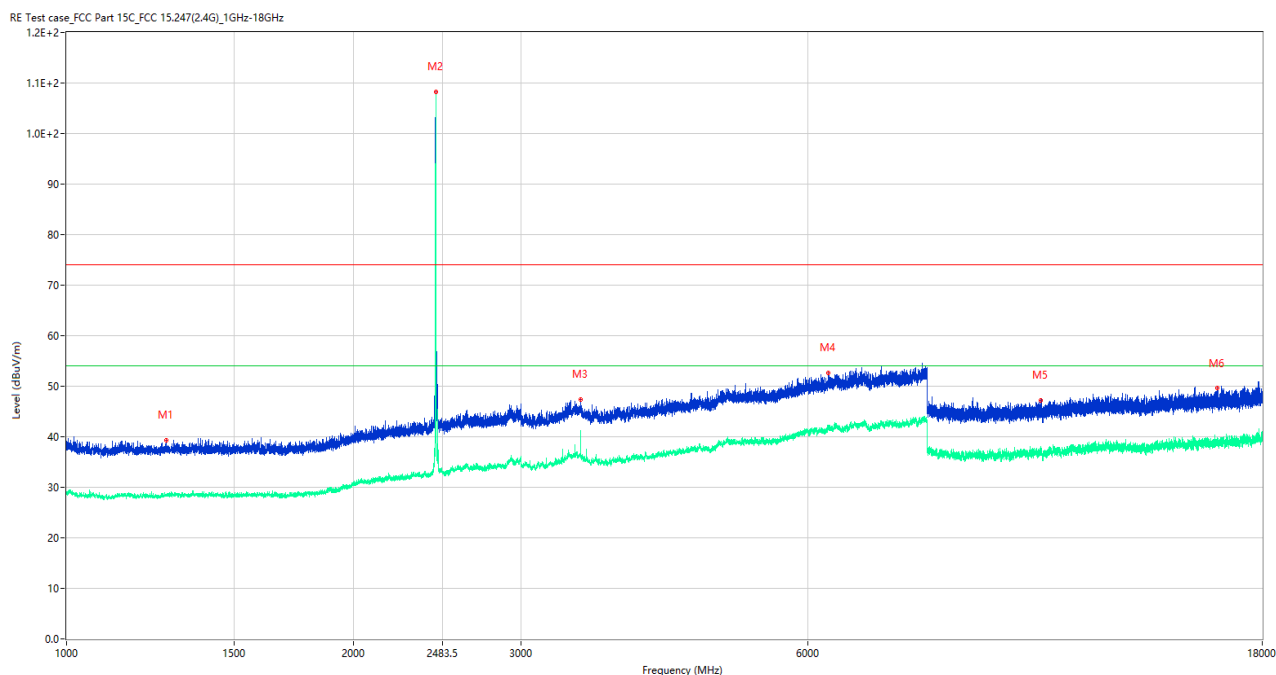


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.467	14.69	-24.54	40.0	25.31	Peak	0.00	200	Vertical	Pass
2	94.650	26.66	-26.84	43.5	16.84	Peak	277.00	100	Vertical	Pass
3	141.307	15.27	-29.51	43.5	28.23	Peak	360.00	100	Vertical	Pass
4	254.652	28.08	-24.06	46.0	17.92	Peak	0.00	200	Vertical	Pass
5	345.008	31.51	-21.51	46.0	14.49	Peak	320.00	200	Vertical	Pass
6	491.914	28.22	-18.32	46.0	17.78	Peak	222.00	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.

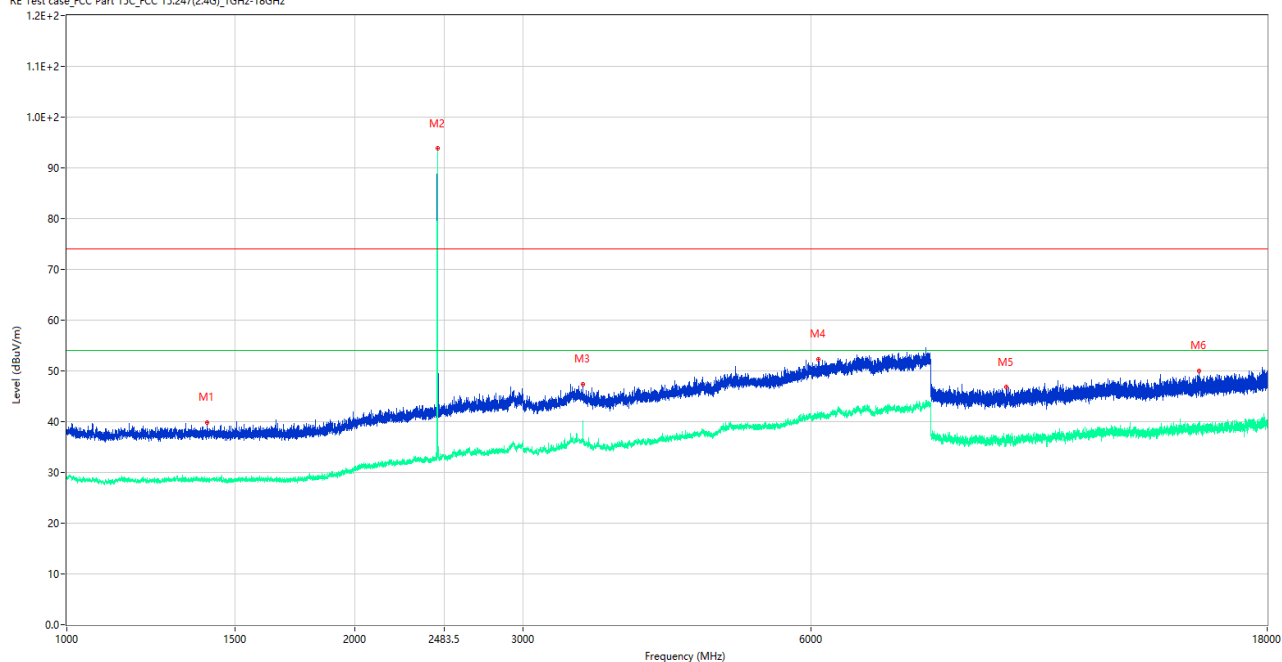
GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1271.750	39.38	-15.88	74.0	34.62	Peak	312.00	150	Horizontal	Pass
1**	1271.750	28.25	-15.88	54.0	25.75	AV	312.00	150	Horizontal	Pass
2	2441.000	108.25	-12.39	74.0	-34.25	Peak	99.00	150	Horizontal	N/A
2**	2441.000	107.01	-12.39	54.0	-53.01	AV	99.00	150	Horizontal	N/A
3	3465.500	47.41	-5.12	74.0	26.59	Peak	350.00	150	Horizontal	Pass
3**	3465.500	41.16	-5.12	54.0	12.84	AV	350.00	150	Horizontal	Pass
4	6301.000	52.69	0.10	74.0	21.31	Peak	178.00	150	Horizontal	Pass
4**	6301.000	41.87	0.10	54.0	12.13	AV	178.00	150	Horizontal	Pass
5	10528.000	47.27	-3.48	74.0	26.73	Peak	349.00	150	Horizontal	Pass
5**	10528.000	36.10	-3.48	54.0	17.90	AV	349.00	150	Horizontal	Pass
6	16146.500	49.59	-1.44	74.0	24.41	Peak	349.00	150	Horizontal	Pass
6**	16146.500	38.48	-1.44	54.0	15.52	AV	349.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

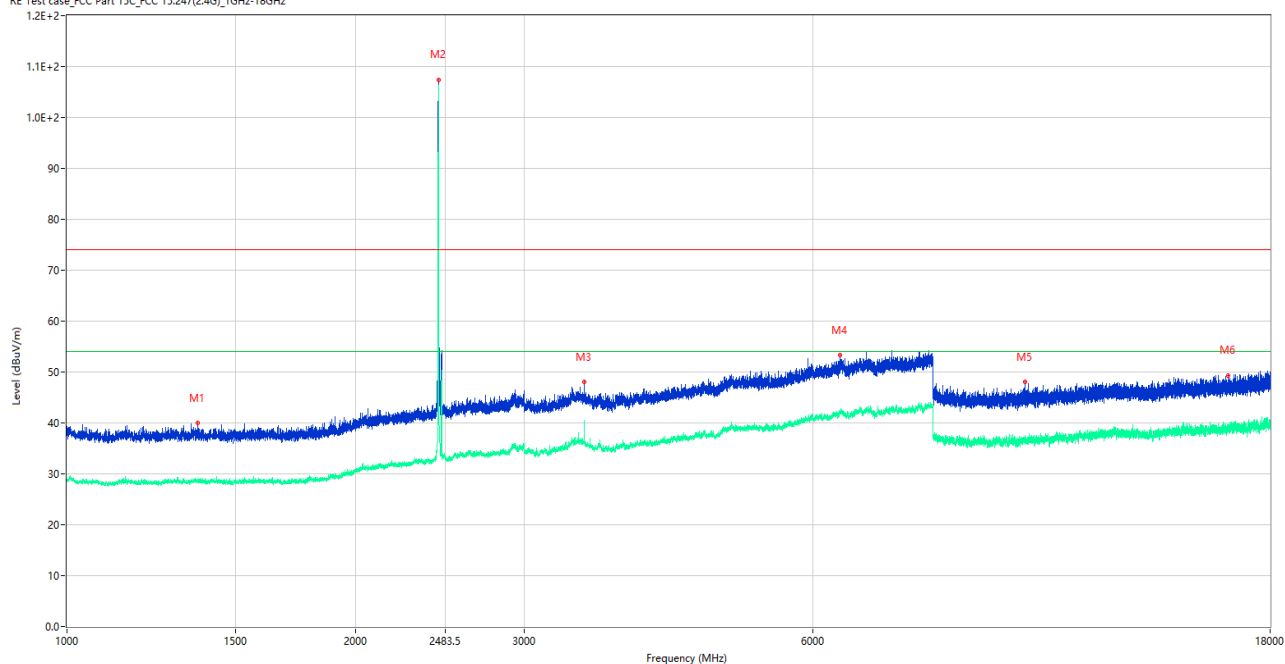
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1401.000	39.88	-15.97	74.0	34.12	Peak	215.00	150	Vertical	Pass
1**	1401.000	28.38	-15.97	54.0	25.62	AV	215.00	150	Vertical	Pass
2	2441.000	93.83	-12.39	74.0	-19.83	Peak	275.00	150	Vertical	N/A
2**	2441.000	92.72	-12.39	54.0	-38.72	AV	275.00	150	Vertical	N/A
3	3465.500	47.40	-5.12	74.0	26.60	Peak	25.00	150	Vertical	Pass
3**	3465.500	40.17	-5.12	54.0	13.83	AV	25.00	150	Vertical	Pass
4	6103.500	52.26	-0.43	74.0	21.74	Peak	349.00	150	Vertical	Pass
4**	6103.500	41.15	-0.43	54.0	12.85	AV	349.00	150	Vertical	Pass
5	9606.500	46.87	-3.24	74.0	27.13	Peak	350.00	150	Vertical	Pass
5**	9606.500	36.37	-3.24	54.0	17.63	AV	350.00	150	Vertical	Pass
6	15271.500	50.01	-1.31	74.0	23.99	Peak	296.00	150	Vertical	Pass
6**	15271.500	39.11	-1.31	54.0	14.89	AV	296.00	150	Vertical	Pass

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

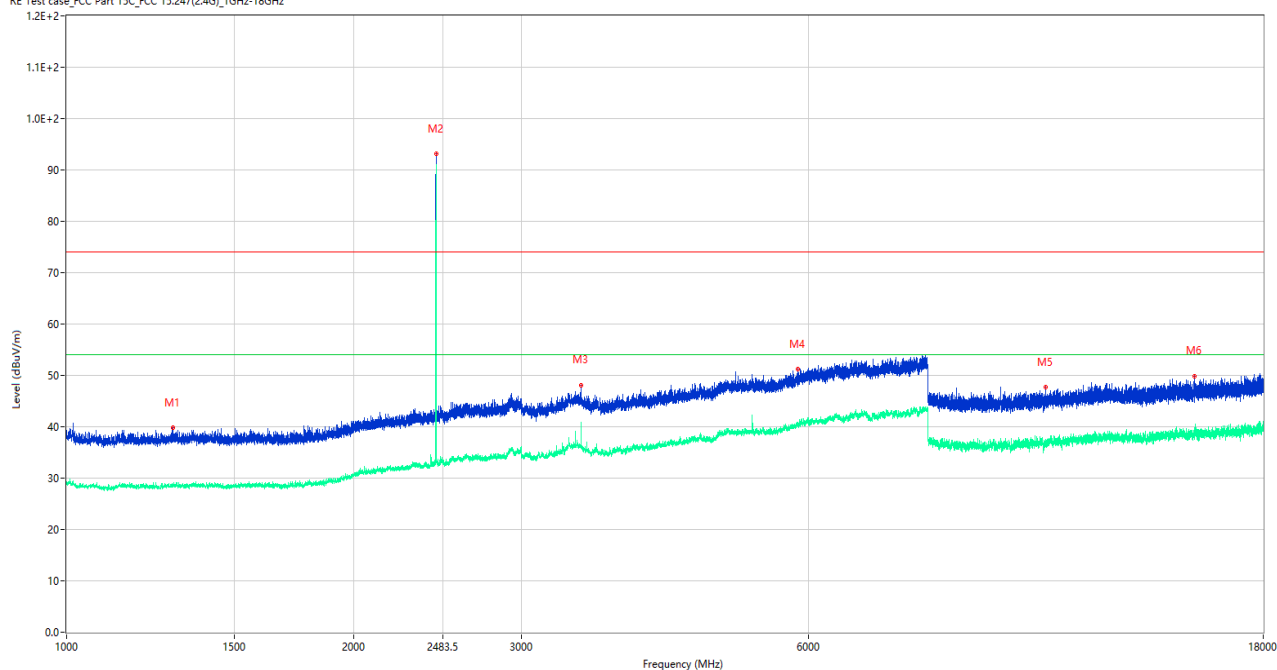
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1368.250	39.95	-15.90	74.0	34.05	Peak	222.00	150	Horizontal	Pass
1**	1368.250	28.58	-15.90	54.0	25.42	AV	222.00	150	Horizontal	Pass
2	2441.000	107.45	-12.39	74.0	-33.45	Peak	95.00	150	Horizontal	N/A
2**	2441.000	103.98	-12.39	54.0	-49.98	AV	95.00	150	Horizontal	N/A
3	3464.500	48.04	-5.08	74.0	25.96	Peak	360.00	150	Horizontal	Pass
3**	3464.500	36.96	-5.08	54.0	17.04	AV	360.00	150	Horizontal	Pass
4	6411.500	53.29	0.26	74.0	20.71	Peak	41.00	150	Horizontal	Pass
4**	6411.500	42.11	0.26	54.0	11.89	AV	41.00	150	Horizontal	Pass
5	9984.500	47.99	-3.71	74.0	26.01	Peak	184.00	150	Horizontal	Pass
5**	9984.500	37.09	-3.71	54.0	16.91	AV	184.00	150	Horizontal	Pass
6	16286.500	49.37	-1.41	74.0	24.63	Peak	359.00	150	Horizontal	Pass
6**	16286.500	38.93	-1.41	54.0	15.07	AV	359.00	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	1294.000	39.79	-15.75	74.0	34.21	Peak	338.00	150	Vertical	Pass
1**	1294.000	28.46	-15.75	54.0	25.54	AV	338.00	150	Vertical	Pass
2	2441.000	93.11	-12.39	74.0	-19.11	Peak	343.00	150	Vertical	N/A
2**	2441.000	89.77	-12.39	54.0	-35.77	AV	343.00	150	Vertical	N/A
3	3465.000	48.13	-5.10	74.0	25.87	Peak	359.00	150	Vertical	Pass
3**	3465.000	39.88	-5.10	54.0	14.12	AV	359.00	150	Vertical	Pass
4	5846.500	51.15	-1.11	74.0	22.85	Peak	160.00	150	Vertical	Pass
4**	5846.500	40.36	-1.11	54.0	13.64	AV	160.00	150	Vertical	Pass
5	10651.000	47.66	-4.03	74.0	26.34	Peak	9.00	150	Vertical	Pass
5**	10651.000	36.78	-4.03	54.0	17.22	AV	9.00	150	Vertical	Pass
6	15262.500	49.91	-1.07	74.0	24.09	Peak	119.00	150	Vertical	Pass
6**	15262.500	39.16	-1.07	54.0	14.84	AV	119.00	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.

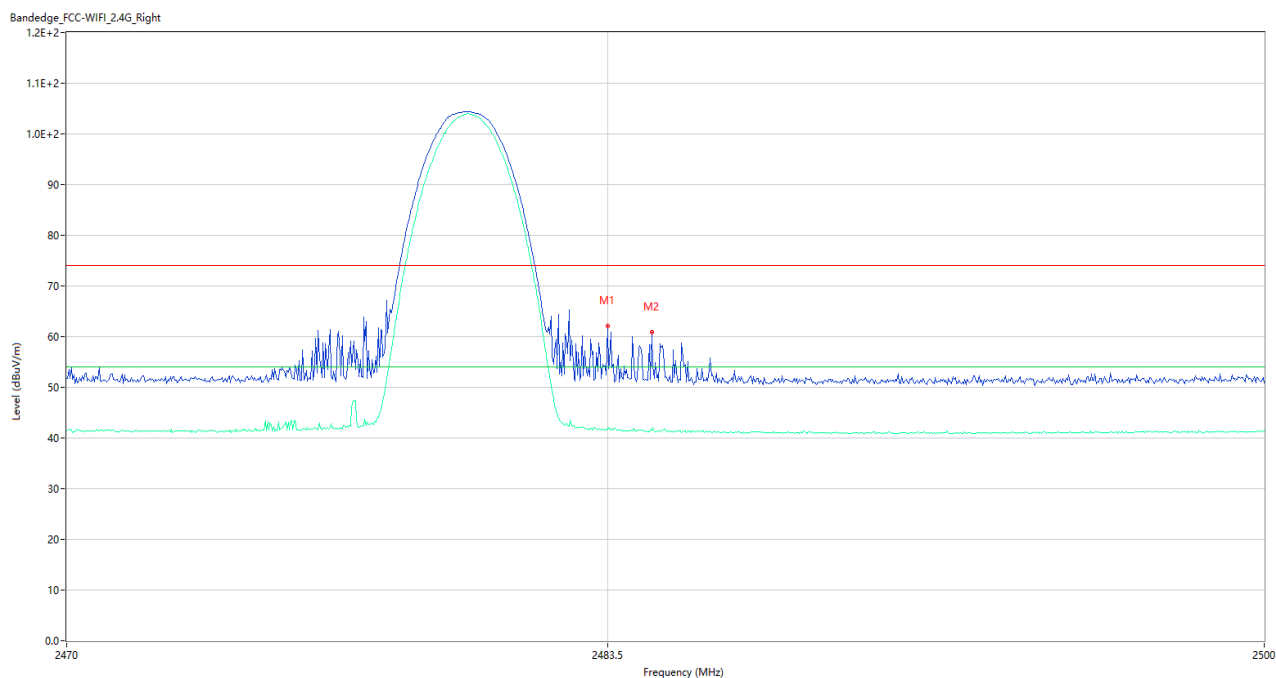
Test Data and Plots

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	51.22	-4.88	74.0	22.78	Peak	90.00	150	Horizontal	Pass
1**	2390.000	40.67	-4.88	54.0	13.33	AV	90.00	150	Horizontal	Pass
2	2369.200	53.21	-4.09	74.0	20.79	Peak	270.00	150	Horizontal	Pass
2**	2369.200	41.18	-4.09	54.0	12.82	AV	270.00	150	Horizontal	Pass

GFSK HIGH CHANNEL



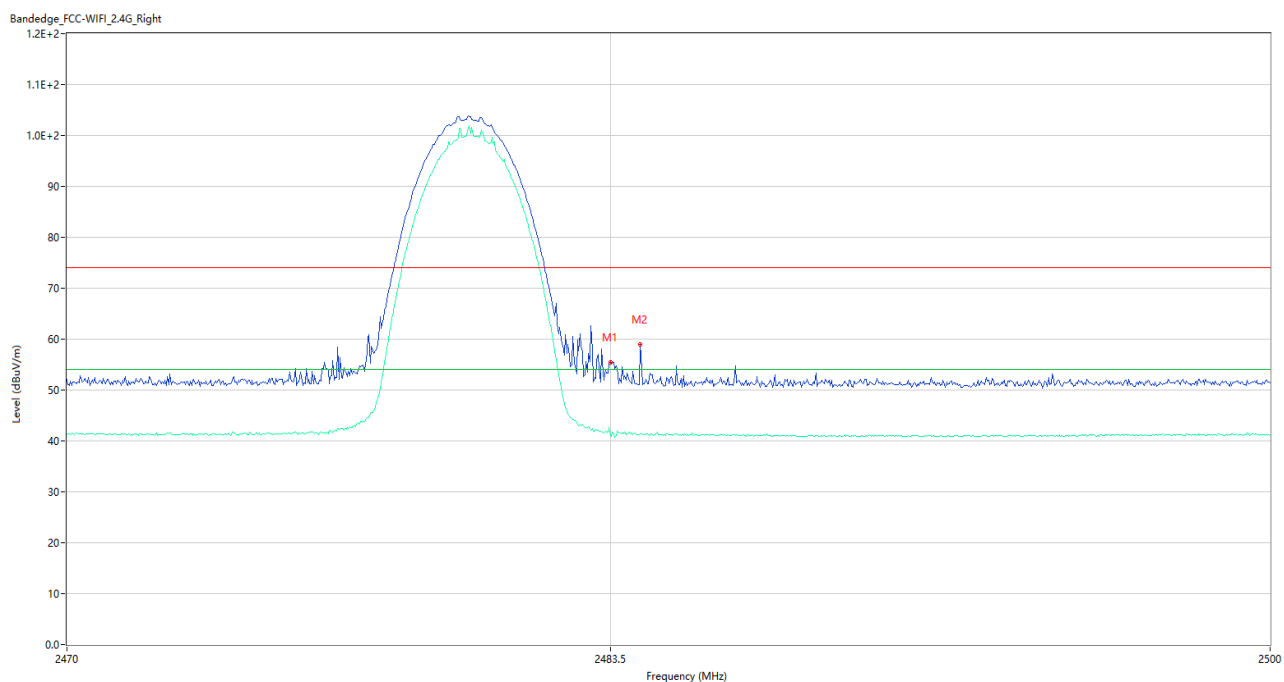
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	62.16	-3.78	74.0	11.84	Peak	298.00	150	Horizontal	Pass
1**	2483.500	41.78	-3.78	54.0	12.22	AV	298.00	150	Horizontal	Pass
2	2484.610	60.91	-3.78	74.0	13.09	Peak	302.00	150	Horizontal	Pass
2**	2484.610	41.41	-3.78	54.0	12.59	AV	302.00	150	Horizontal	Pass

8-DPSK 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	58.00	150	Vertical	Pass
1**	2390.000	40.31	-4.87	54.0	13.69	AV	58.00	150	Vertical	Pass
2	2368.400	52.26	-4.18	74.0	21.74	Peak	256.00	150	Vertical	Pass
2**	2368.400	40.99	-4.18	54.0	13.01	AV	256.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	52.73	-3.78	74.0	21.27	Peak	112.00	150	Horizontal	Pass
1**	2483.500	41.45	-3.78	54.0	12.55	AV	112.00	150	Horizontal	Pass
2	2484.250	58.88	-3.78	74.0	15.12	Peak	302.00	150	Horizontal	Pass
2**	2484.250	41.37	-3.78	54.0	12.63	AV	302.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH2520075-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2520075-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH2520075-AI.PDF”.

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--END OF REPORT--