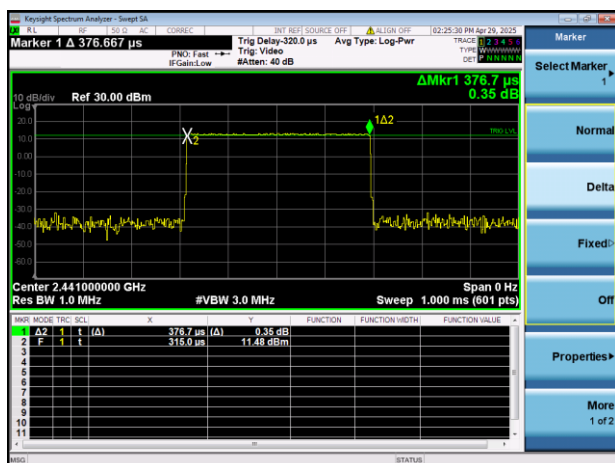
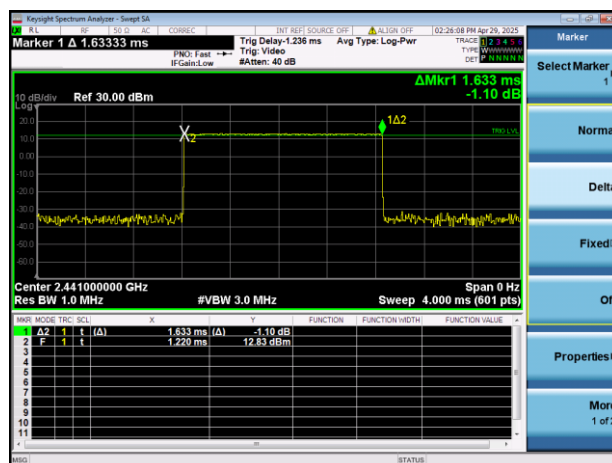


Test Plots

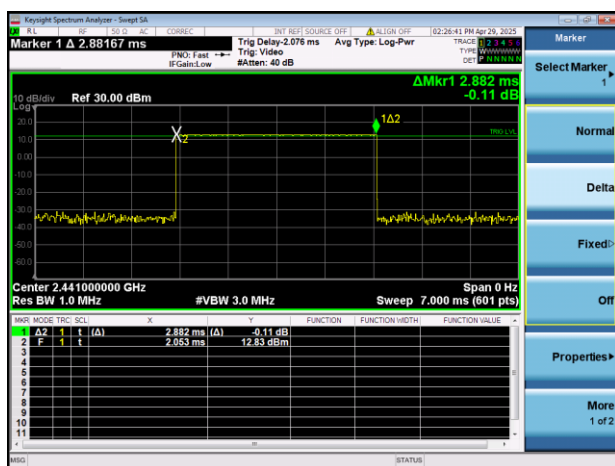
GFSK DH1



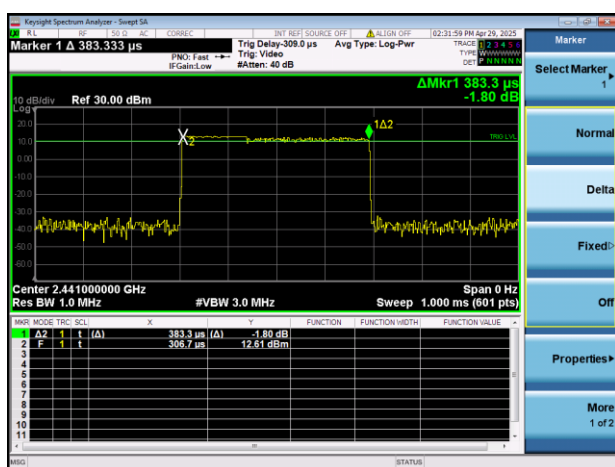
GFSK DH3



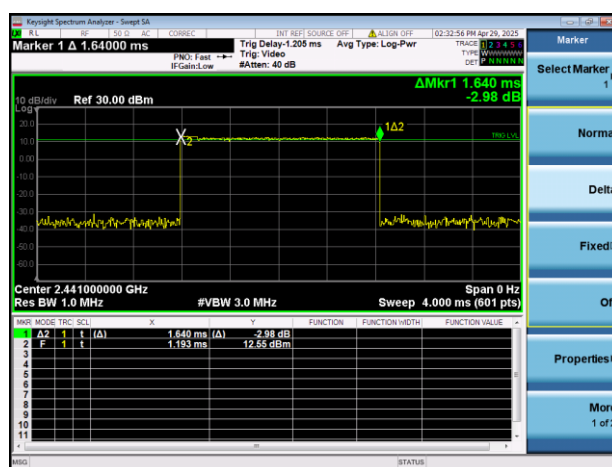
GFSK DH5



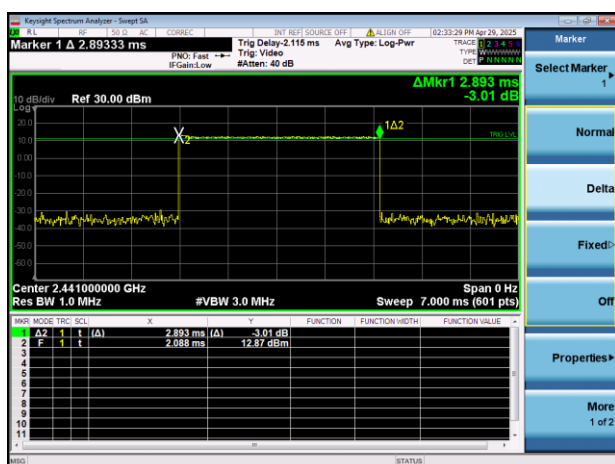
8-DPSK DH1



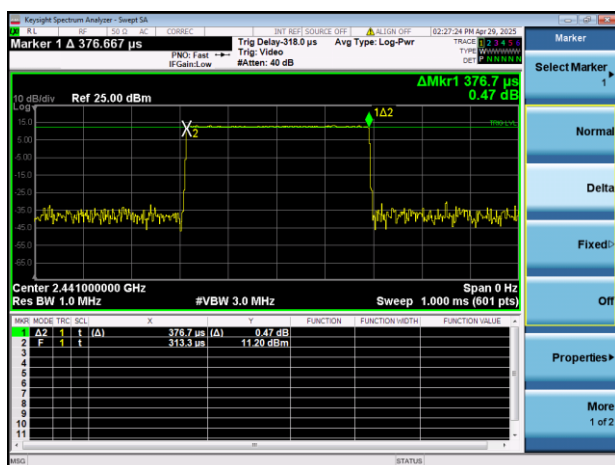
8-DPSK DH3



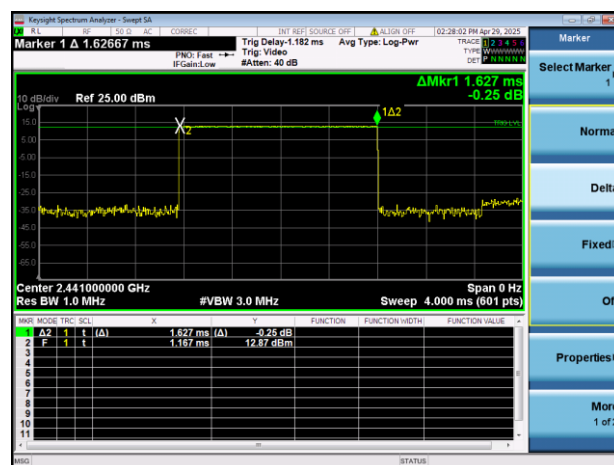
8-DPSK DH5



AFH Mode DH1

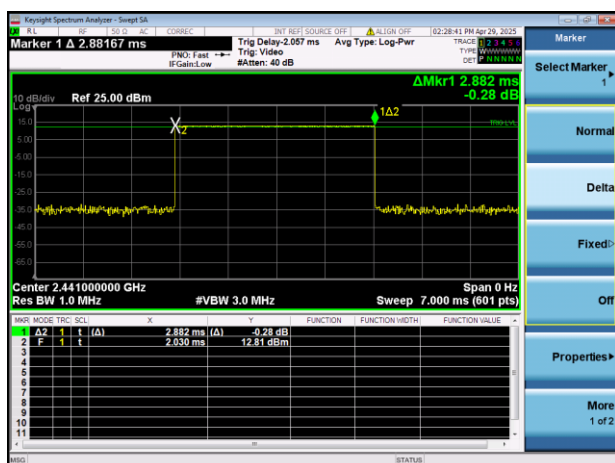


AFH Mode DH3



CC

AFH Mode DH5



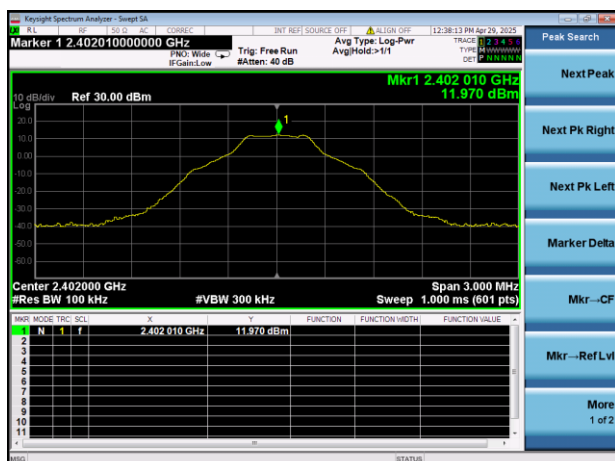
A.6 Conducted Spurious Emissions & Authorized-band band-edge

Test Data

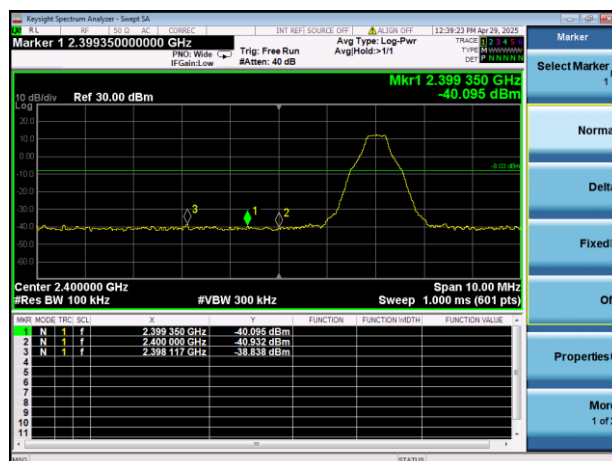
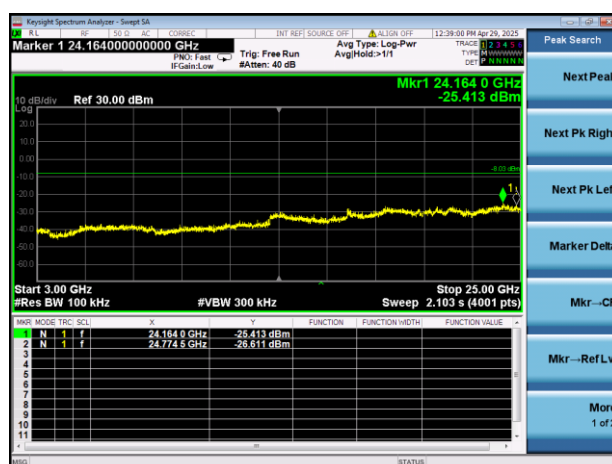
GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-25.41	11.97	-8.03	Pass
Middle	-25.92	12.38	-7.62	Pass
High	-25.04	11.83	-8.17	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-25.38	12.05	-7.95	Pass
Middle	-26.20	12.46	-7.54	Pass
High	-26.36	11.78	-8.22	Pass
Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-35.99	12.96	-7.04	Pass
8-DPSK	-36.25	12.89	-7.11	Pass

Test Plots

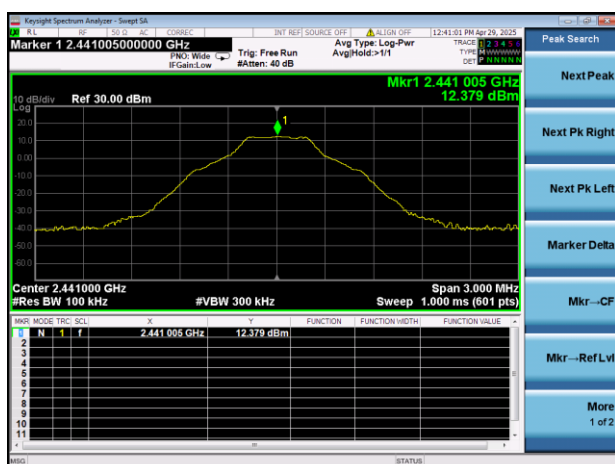
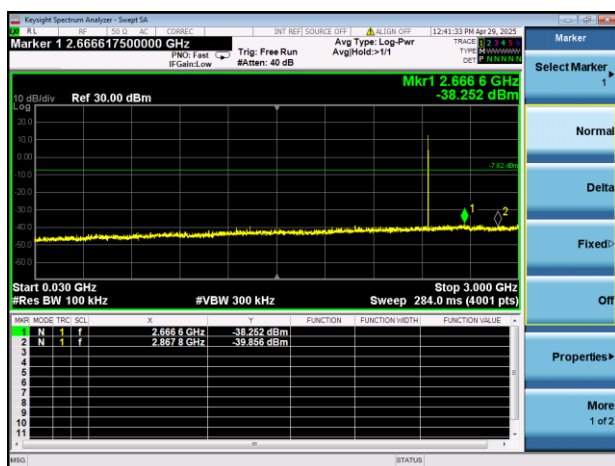
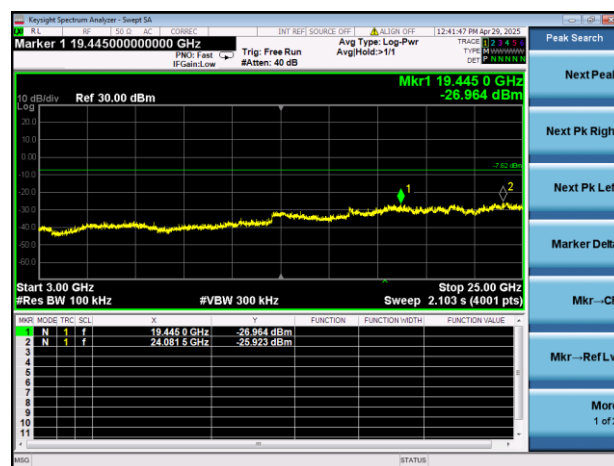
GFSK LOW CHANNEL, CARRIER LEVEL



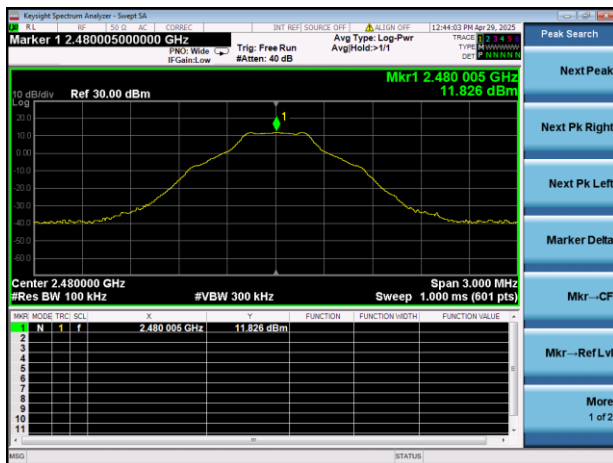
GFSK LOW CHANNEL, BAND EDGE

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

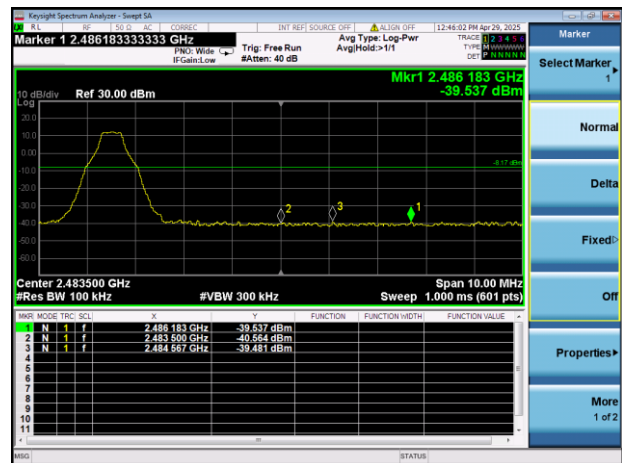
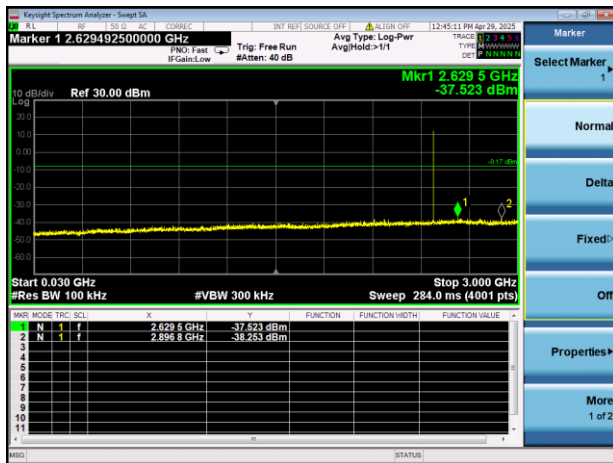
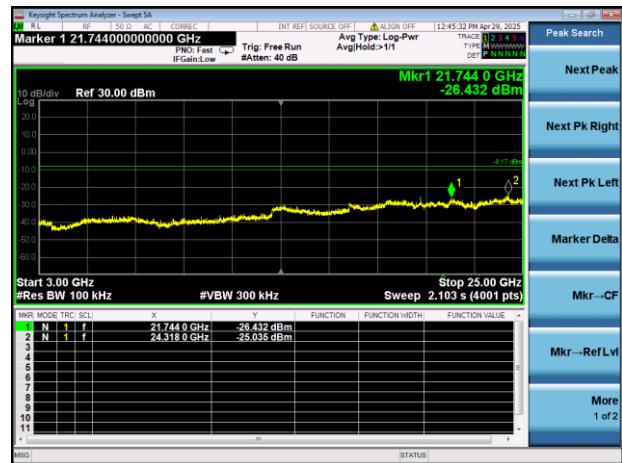
GFSK MIDDLE CHANNEL, CARRIER LEVEL

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

GFSK HIGH CHANNEL, CARRIER LEVEL



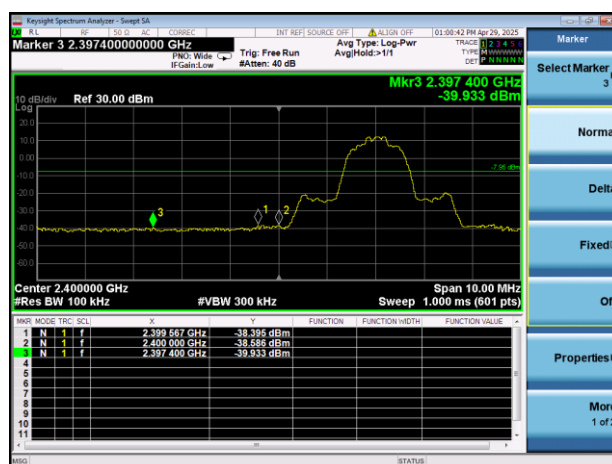
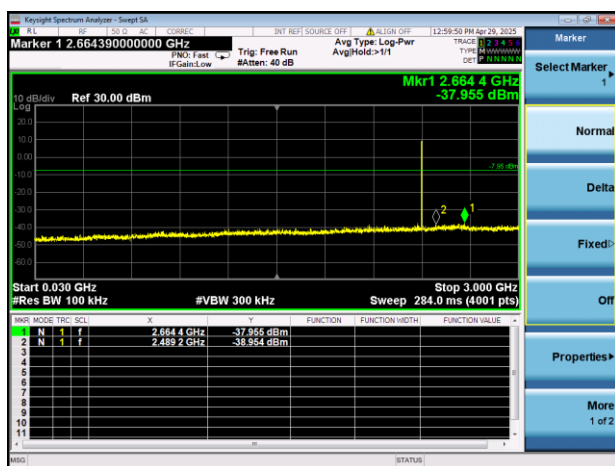
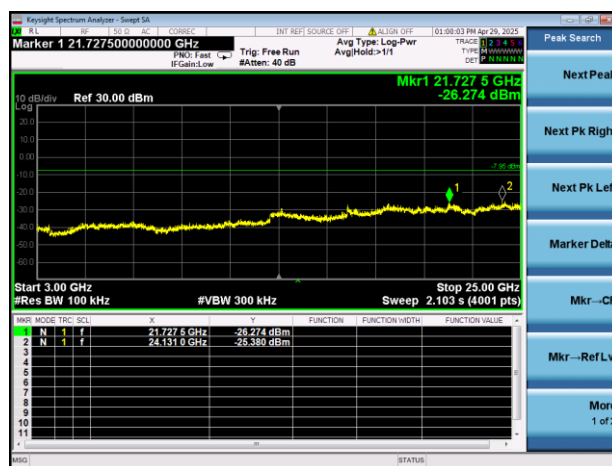
GFSK HIGH CHANNEL, BAND EDGE

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

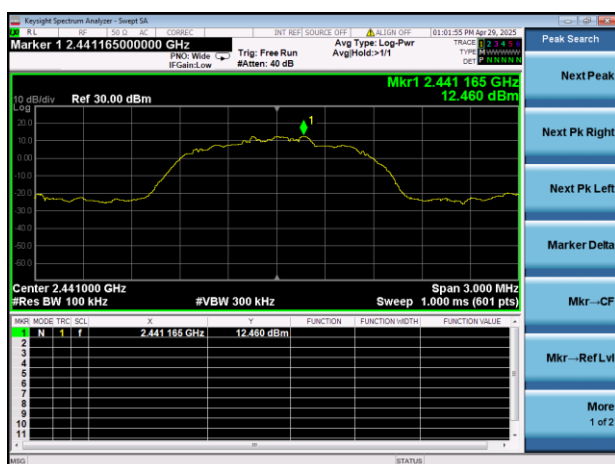
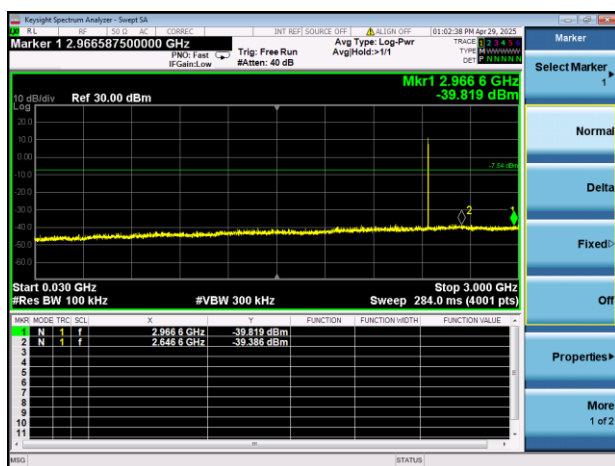
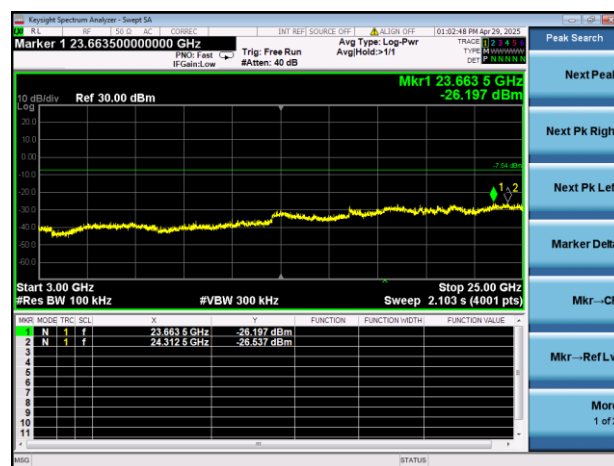
8-DPSK LOW CHANNEL, CARRIER LEVEL



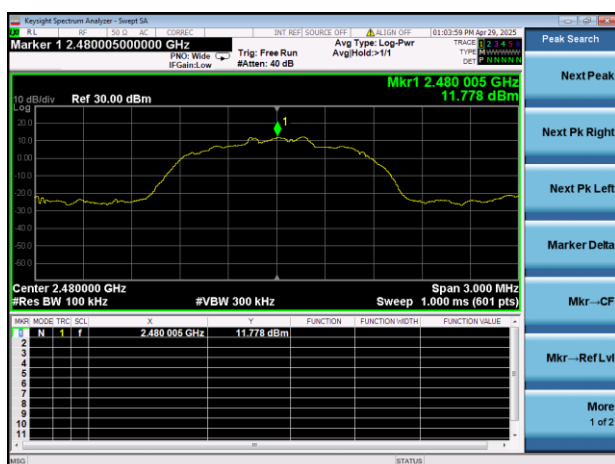
8-DPSK LOW CHANNEL, BAND EDGE

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

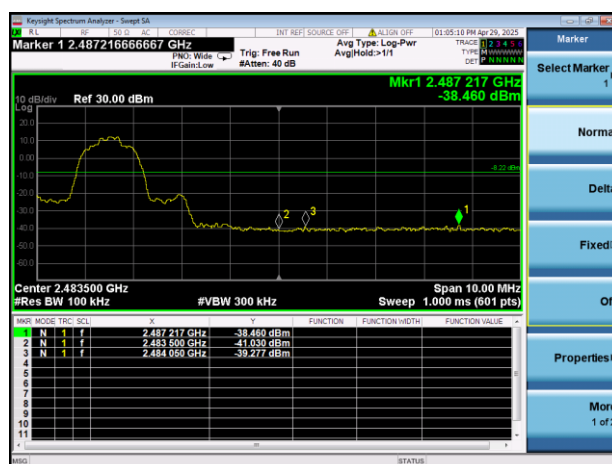
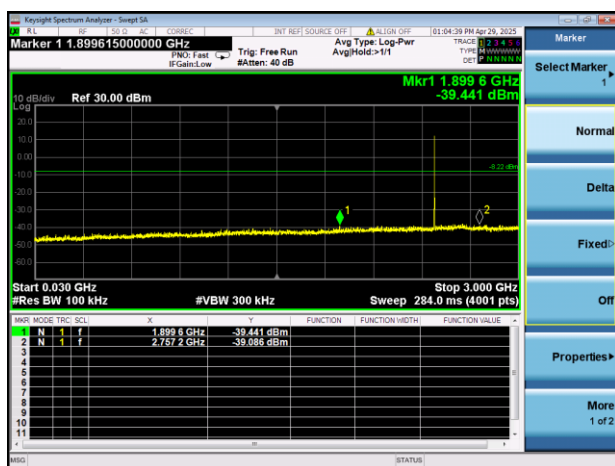
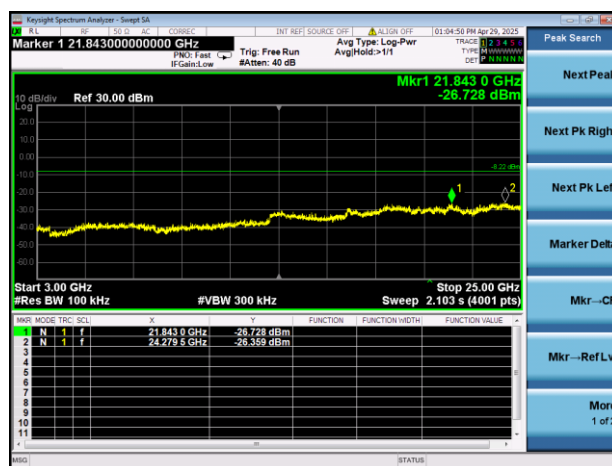
8-DPSK MIDDLE CHANNEL, CARRIER LEVEL

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

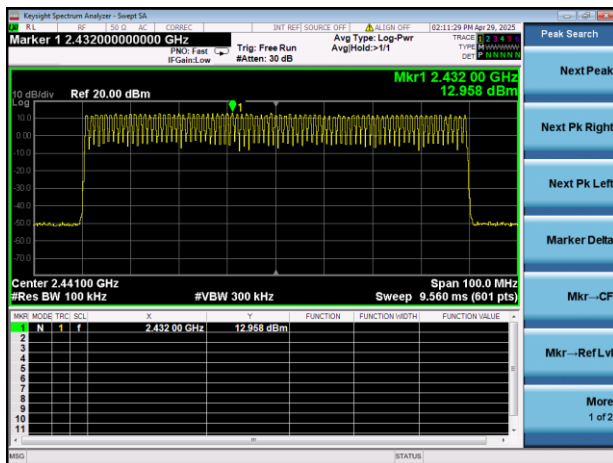
8-DPSK HIGH CHANNEL, CARRIER LEVEL



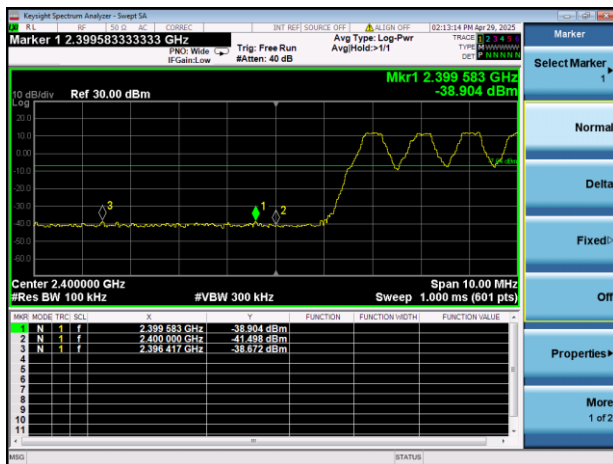
8-DPSK HIGH CHANNEL, BAND EDGE

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

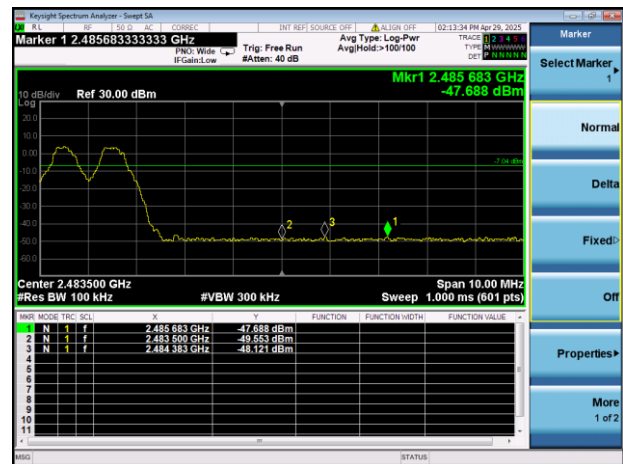
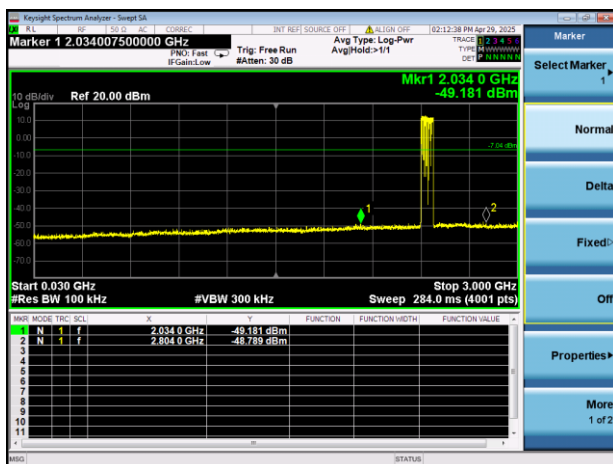
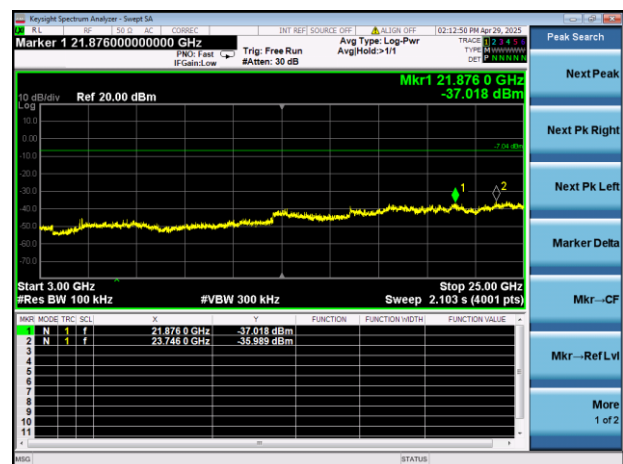
GFSK HOPPING, CARRIER LEVEL



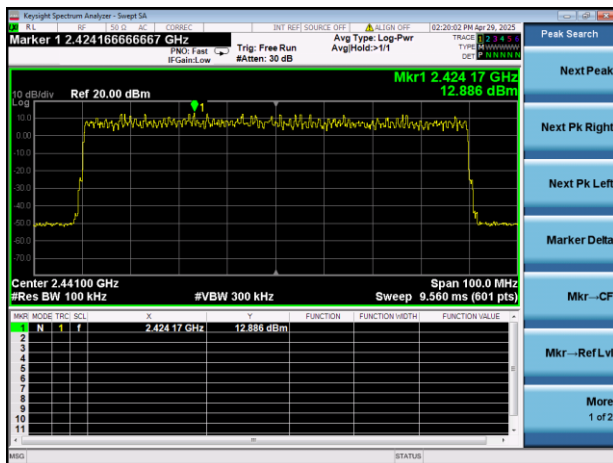
GFSK HOPPING BAND EDGE (LOW)



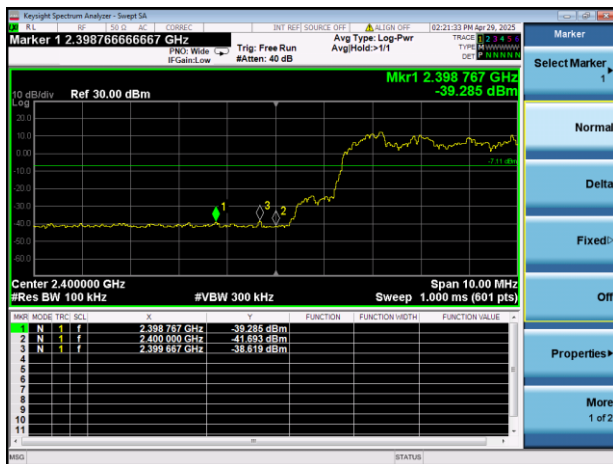
GFSK HOPPING BAND EDGE (HIGH)

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

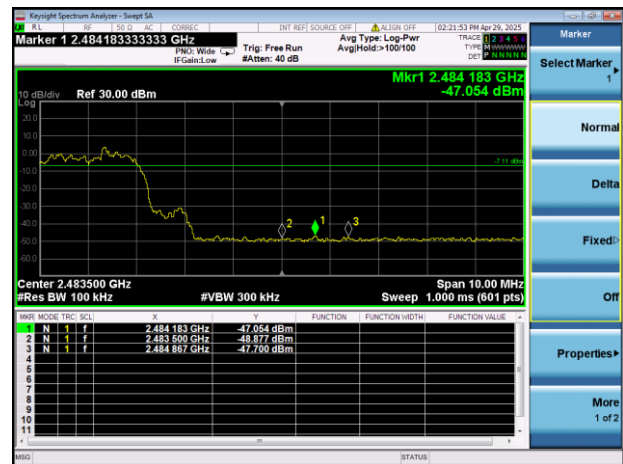
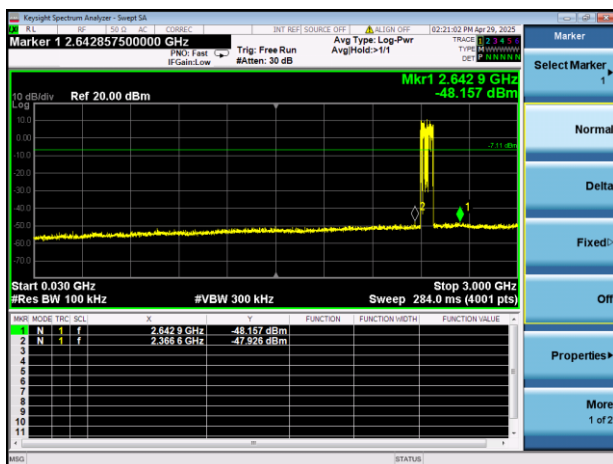
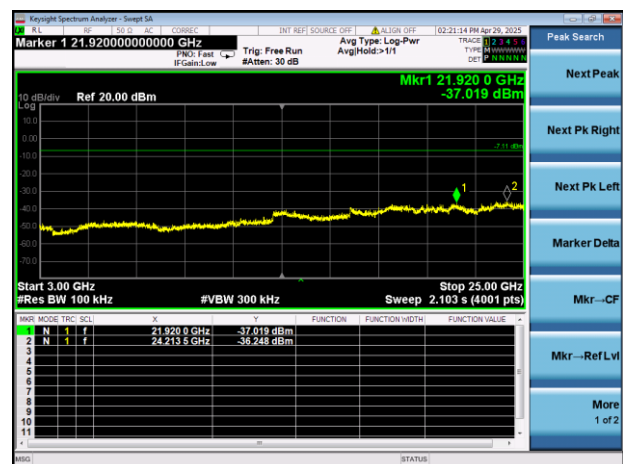
8-DPSK HOPPING, CARRIER LEVEL



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

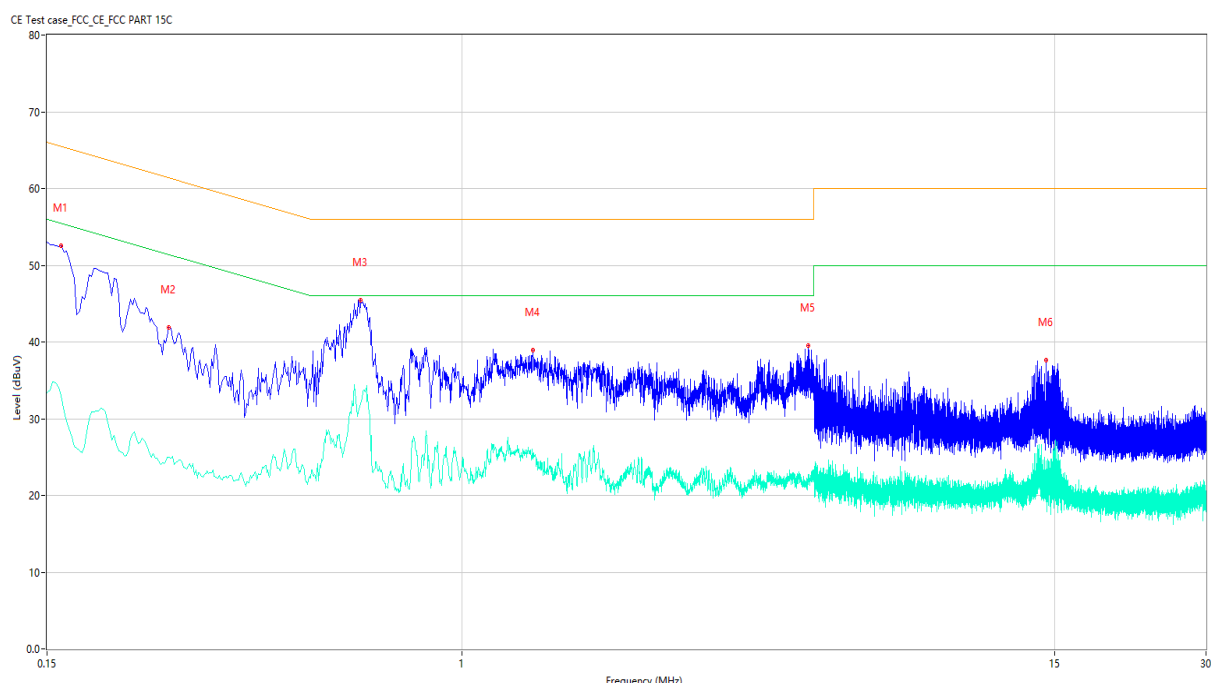
Note 1: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

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

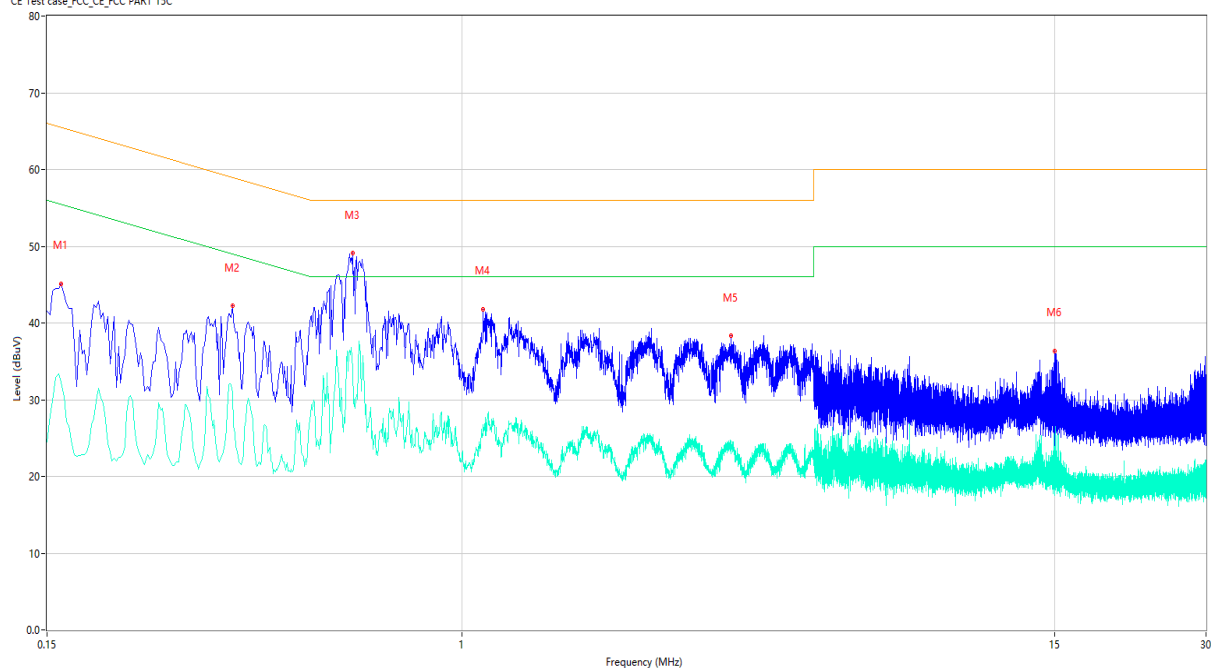
PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.160	52.57	9.82	65.46	12.89	Peak	L	Pass
1**	0.160	33.05	9.82	55.46	22.41	AV	L	Pass
2	0.262	41.91	9.77	61.37	19.46	Peak	L	Pass
2**	0.262	24.99	9.77	51.37	26.38	AV	L	Pass
3	0.630	45.46	9.73	56.00	10.54	Peak	L	Pass
3**	0.630	32.04	9.73	46.00	13.96	AV	L	Pass
4	1.382	38.88	9.73	56.00	17.12	Peak	L	Pass
4**	1.382	25.10	9.73	46.00	20.90	AV	L	Pass
5	4.862	39.51	9.59	56.00	16.49	Peak	L	Pass
5**	4.862	21.82	9.59	46.00	24.18	AV	L	Pass
6	14.442	37.60	8.95	60.00	22.40	Peak	L	Pass
6**	14.442	23.72	8.95	50.00	26.28	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	0.160	45.14	9.73	65.46	20.32	Peak	N	Pass
1**	0.160	32.35	9.73	55.46	23.11	AV	N	Pass
2	0.350	42.21	9.74	58.96	16.75	Peak	N	Pass
2**	0.350	30.83	9.74	48.96	18.13	AV	N	Pass
3	0.606	49.12	9.73	56.00	6.88	Peak	N	Pass
3**	0.606	34.10	9.73	46.00	11.90	AV	N	Pass
4	1.102	41.81	9.73	56.00	14.19	Peak	N	Pass
4**	1.102	26.72	9.73	46.00	19.28	AV	N	Pass
5	3.418	38.33	9.68	56.00	17.67	Peak	N	Pass
5**	3.418	24.56	9.68	46.00	21.44	AV	N	Pass
6	14.998	36.38	8.98	60.00	23.62	Peak	N	Pass
6**	14.998	23.88	8.98	50.00	26.12	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.

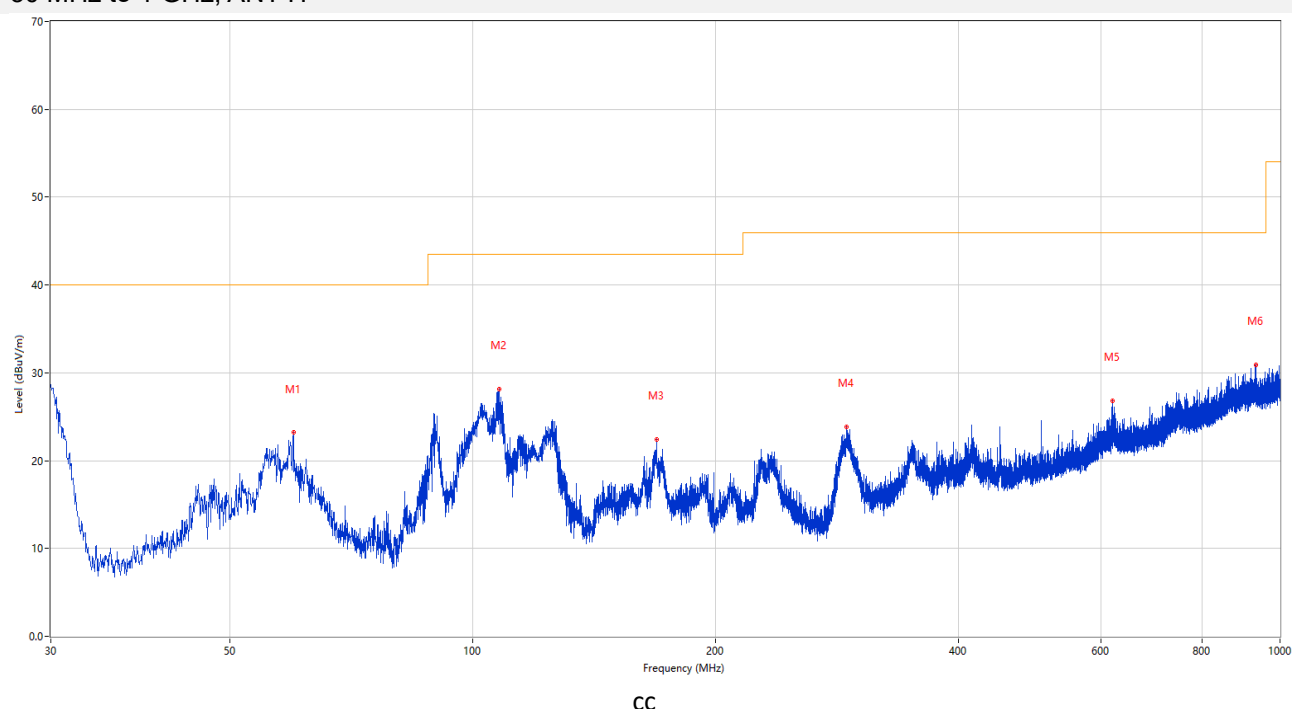
Note 3: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested.

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	59.925	23.19	-26.01	40.0	16.81	Peak	12.00	100	Horizontal	Pass
2	107.697	28.17	-26.40	43.5	15.33	Peak	86.00	100	Horizontal	Pass
3	168.807	22.41	-28.42	43.5	21.09	Peak	68.00	100	Horizontal	Pass
4	290.203	23.84	-23.20	46.0	22.16	Peak	2.00	100	Horizontal	Pass
5	620.633	26.86	-14.44	46.0	19.14	Peak	121.00	200	Horizontal	Pass
6	934.670	30.93	-8.91	46.0	15.07	Peak	12.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

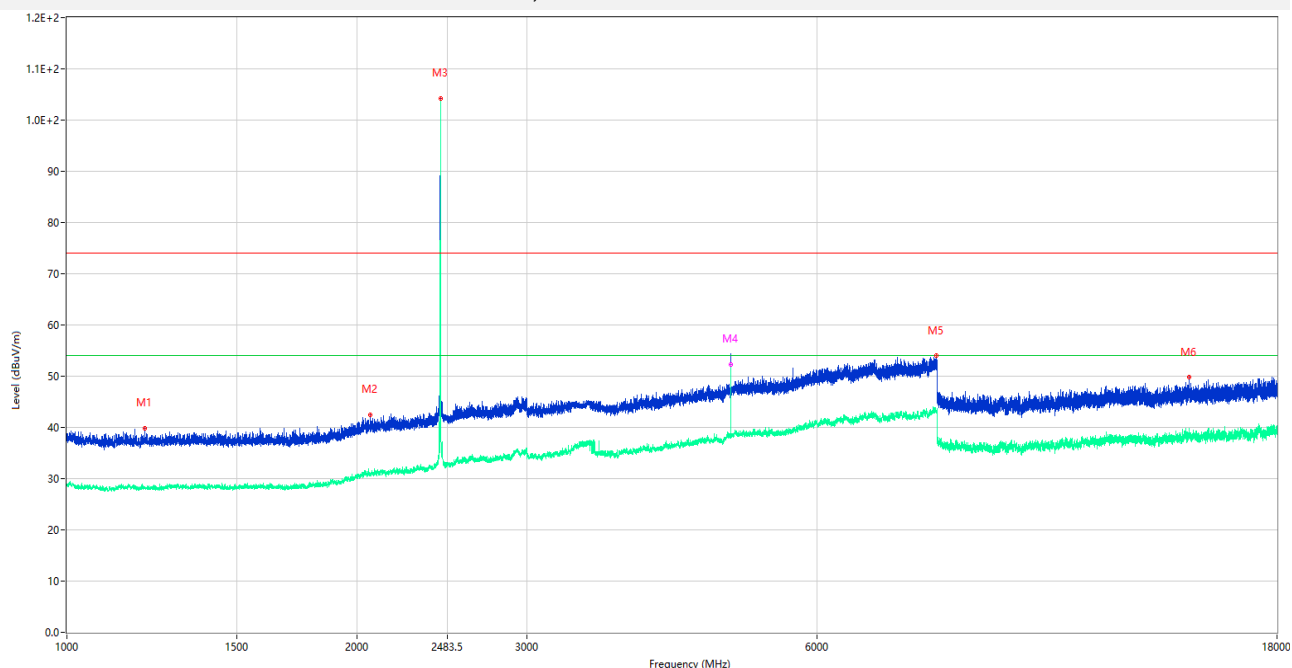


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.776	35.55	-29.05	40.0	4.45	Peak	108.00	100	Vertical	Pass
2	58.761	32.44	-25.75	40.0	7.56	Peak	66.00	200	Vertical	Pass
3	90.819	36.90	-27.84	43.5	6.60	Peak	96.00	100	Vertical	Pass
4	168.613	22.05	-28.42	43.5	21.45	Peak	120.00	100	Vertical	Pass
5	292.239	27.71	-23.19	46.0	18.29	Peak	120.00	100	Vertical	Pass
6	625.047	26.04	-14.54	46.0	19.96	Peak	326.00	100	Vertical	Pass

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

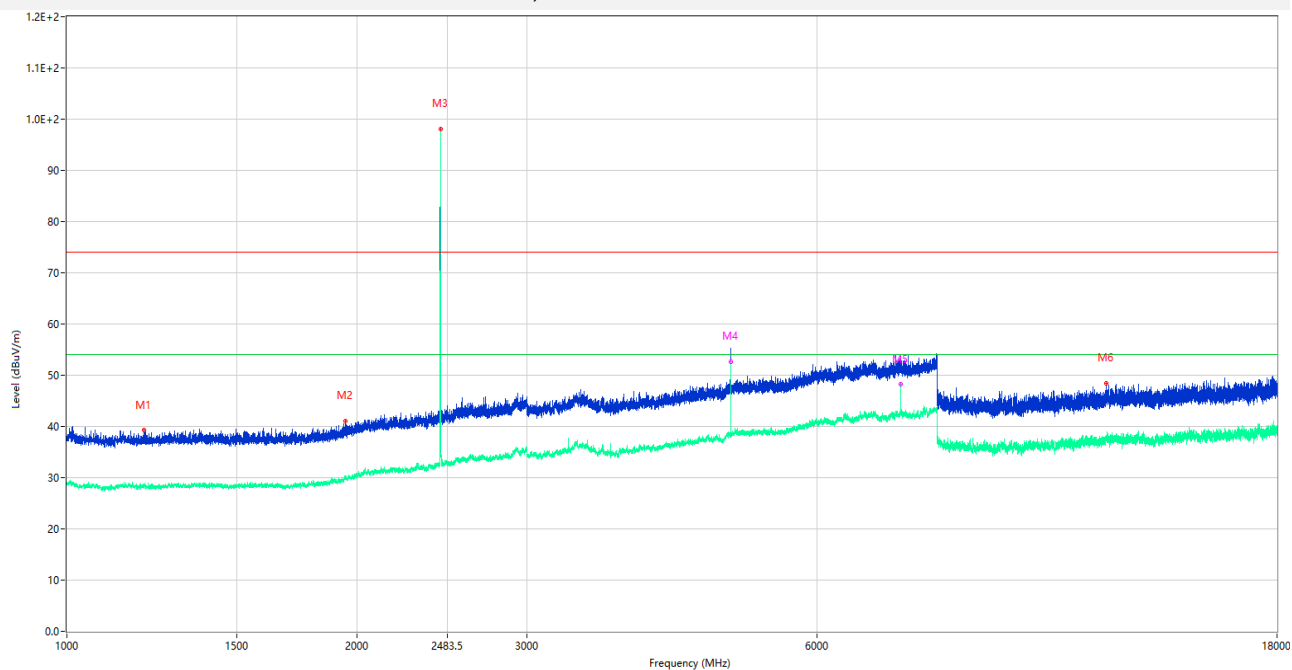
Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



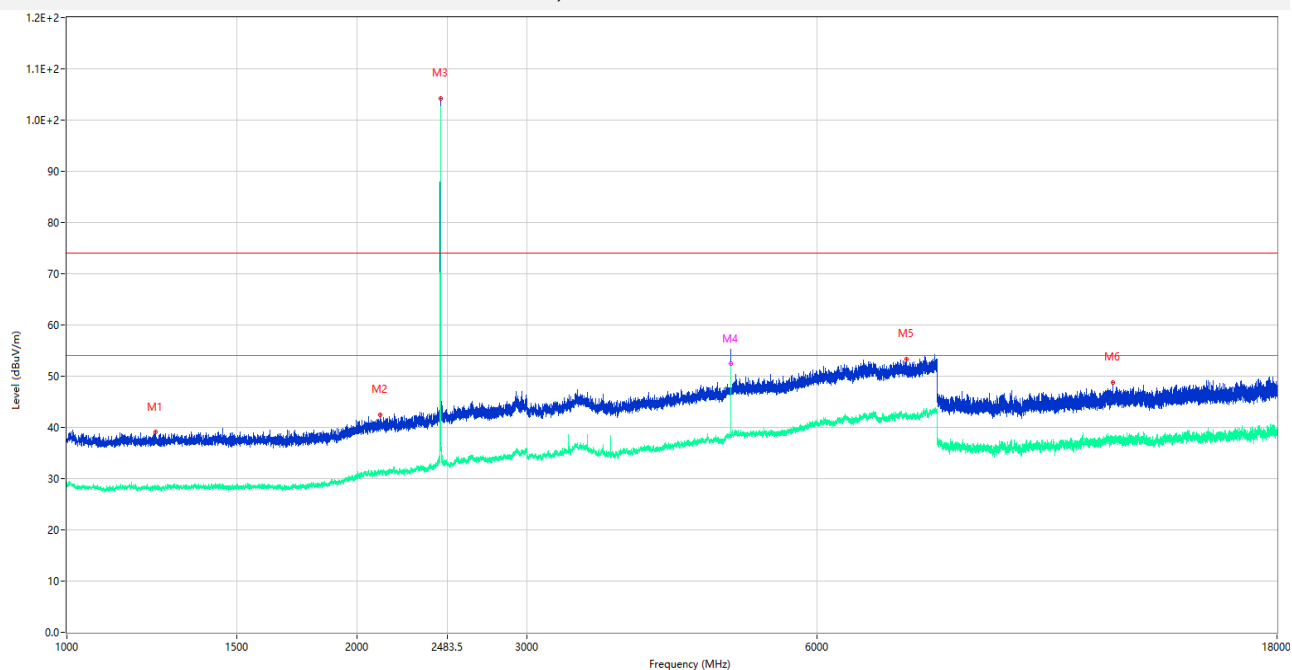
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1204.250	39.83	-15.77	74.0	34.17	Peak	322.00	150	Horizontal	Pass
1**	1204.250	28.30	-15.77	54.0	25.70	AV	322.00	150	Horizontal	Pass
2	2063.250	42.48	-13.84	74.0	31.52	Peak	145.00	150	Horizontal	Pass
2**	2063.250	30.70	-13.84	54.0	23.30	AV	145.00	150	Horizontal	Pass
3	2440.750	104.28	-12.38	74.0	-30.28	Peak	10.00	150	Horizontal	N/A
3**	2440.750	102.77	-12.38	54.0	-48.77	AV	10.00	150	Horizontal	N/A
4	4882.000	57.25	-2.31	74.0	16.75	Peak	360.00	150	Horizontal	Pass
4**	4882.000	52.66	-2.31	54.0	1.34	AV	360.00	150	Horizontal	Pass
5	7979.000	53.99	1.95	74.0	20.01	Peak	39.00	150	Horizontal	Pass
5**	7979.000	43.11	1.95	54.0	10.89	AV	39.00	150	Horizontal	Pass
6	14597.000	49.79	-2.19	74.0	24.21	Peak	360.00	150	Horizontal	Pass
6**	14597.000	39.46	-2.19	54.0	14.54	AV	360.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V



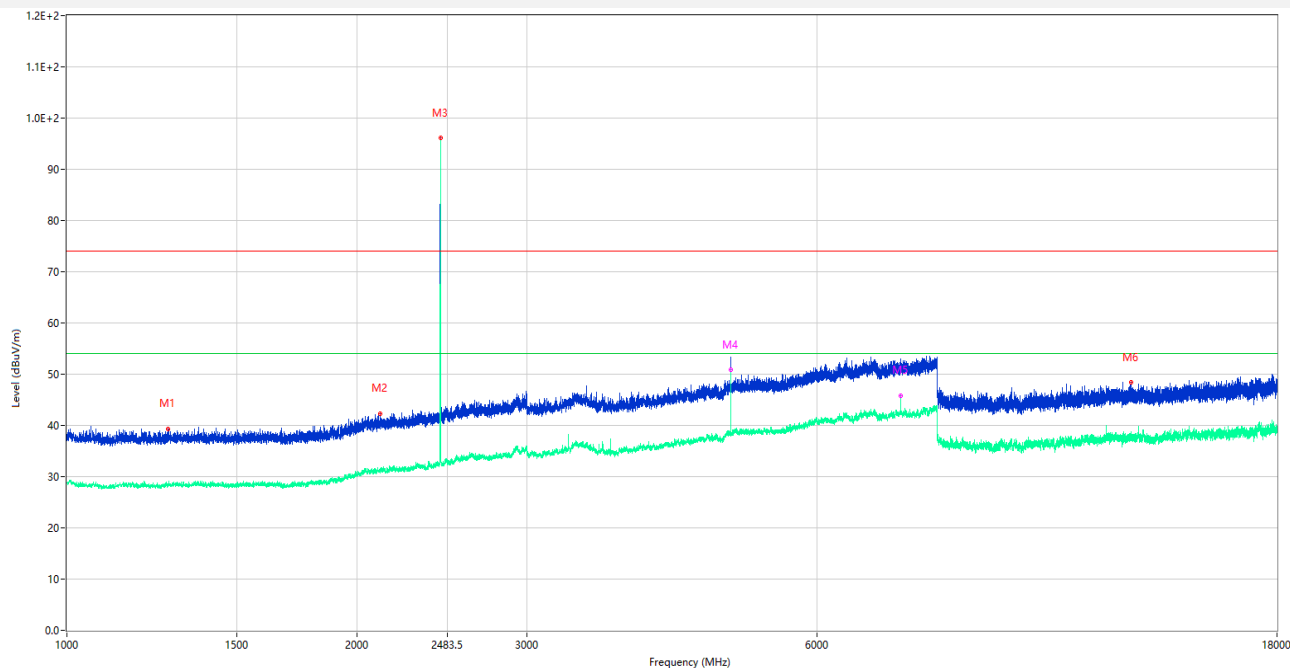
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1203.250	39.25	-15.76	74.0	34.75	Peak	69.00	150	Vertical	Pass
1**	1203.250	28.30	-15.76	54.0	25.70	AV	69.00	150	Vertical	Pass
2	1943.250	41.08	-14.89	74.0	32.92	Peak	267.00	150	Vertical	Pass
2**	1943.250	29.97	-14.89	54.0	24.03	AV	267.00	150	Vertical	Pass
3	2440.750	98.12	-12.38	74.0	-24.12	Peak	180.00	150	Vertical	N/A
3**	2440.750	96.62	-12.38	54.0	-42.62	AV	180.00	150	Vertical	N/A
4	4882.000	55.18	-2.31	74.0	18.82	Peak	21.00	150	Vertical	Pass
4**	4882.000	52.64	-2.31	54.0	1.36	AV	21.00	150	Vertical	Pass
5	7323.000	53.39	0.70	74.0	20.61	Peak	0.00	150	Vertical	Pass
5**	7323.000	48.19	0.70	54.0	5.81	AV	0.00	150	Vertical	Pass
6	11973.500	48.46	-3.10	74.0	25.54	Peak	322.00	150	Vertical	Pass
6**	11973.500	37.87	-3.10	54.0	16.13	AV	322.00	150	Vertical	Pass

8-DPSK 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	1236.750	39.05	-16.01	74.0	34.95	Peak	294.00	150	Horizontal	Pass
1**	1236.750	28.04	-16.01	54.0	25.96	AV	294.00	150	Horizontal	Pass
2	2113.000	42.48	-13.58	74.0	31.52	Peak	188.00	150	Horizontal	Pass
2**	2113.000	31.16	-13.58	54.0	22.84	AV	188.00	150	Horizontal	Pass
3	2440.750	104.22	-12.38	74.0	-30.22	Peak	31.00	150	Horizontal	N/A
3**	2440.750	101.27	-12.38	54.0	-47.27	AV	31.00	150	Horizontal	N/A
4	4882.500	57.28	-2.31	74.0	16.72	Peak	347.00	150	Horizontal	Pass
4**	4882.500	52.51	-2.31	54.0	1.49	AV	347.00	150	Horizontal	Pass
5	7424.500	53.37	1.08	74.0	20.63	Peak	332.00	150	Horizontal	Pass
5**	7424.500	42.19	1.08	54.0	11.81	AV	332.00	150	Horizontal	Pass
6	12163.500	48.81	-3.09	74.0	25.19	Peak	32.00	150	Horizontal	Pass
6**	12163.500	37.35	-3.09	54.0	16.65	AV	32.00	150	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1274.000	39.36	-15.83	74.0	34.64	Peak	322.00	150	Vertical	Pass
1**	1274.000	28.29	-15.83	54.0	25.71	AV	322.00	150	Vertical	Pass
2	2114.250	42.34	-13.56	74.0	31.66	Peak	139.00	150	Vertical	Pass
2**	2114.250	31.62	-13.56	54.0	22.38	AV	139.00	150	Vertical	Pass
3	2441.000	96.07	-12.39	74.0	-22.07	Peak	187.00	150	Vertical	N/A
3**	2441.000	95.34	-12.39	54.0	-41.34	AV	187.00	150	Vertical	N/A
4	4882.500	52.40	-2.31	74.0	21.60	Peak	1.00	150	Vertical	Pass
4**	4882.500	50.82	-2.31	54.0	3.18	AV	1.00	150	Vertical	Pass
5	7323.500	52.87	0.70	74.0	21.13	Peak	360.00	150	Vertical	Pass
5**	7323.500	45.83	0.70	54.0	8.17	AV	360.00	150	Vertical	Pass
6	12692.000	48.39	-2.92	74.0	25.61	Peak	38.00	150	Vertical	Pass
6**	12692.000	37.55	-2.92	54.0	16.45	AV	38.00	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.

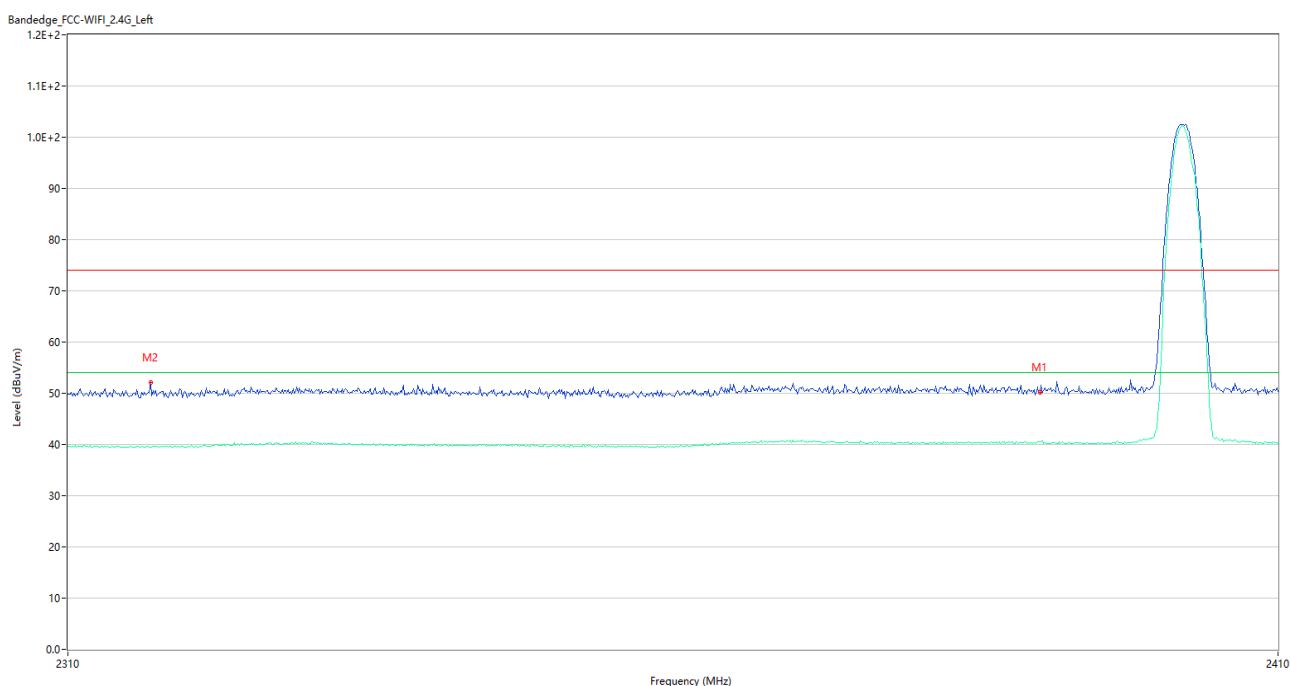
Note 2: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

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.

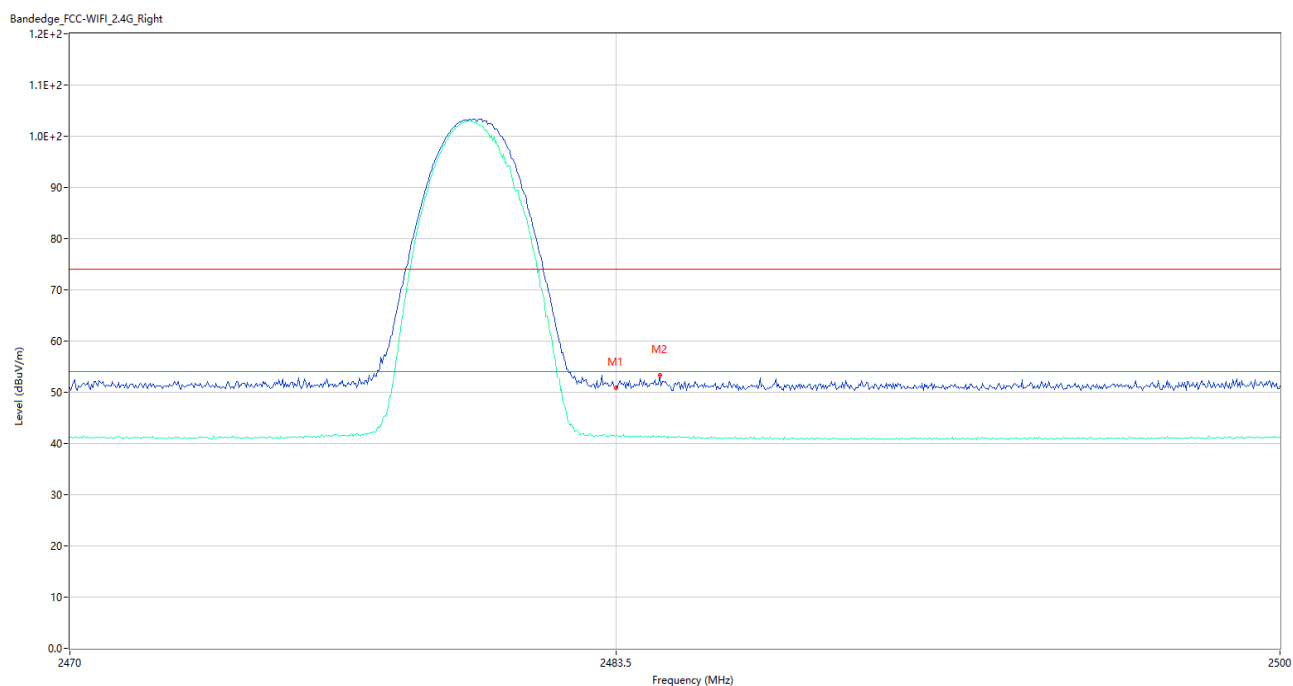
Test Data and Plots

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	50.11	-4.87	74.0	23.89	Peak	18.15	150	Horizontal	Pass
1**	2390.000	40.44	-4.87	54.0	13.56	AV	18.15	150	Horizontal	Pass
2	2316.700	52.04	-5.19	74.0	21.96	Peak	315.00	150	Horizontal	Pass
2**	2316.700	39.45	-5.19	54.0	14.55	AV	315.00	150	Horizontal	Pass

GFSK HIGH CHANNEL



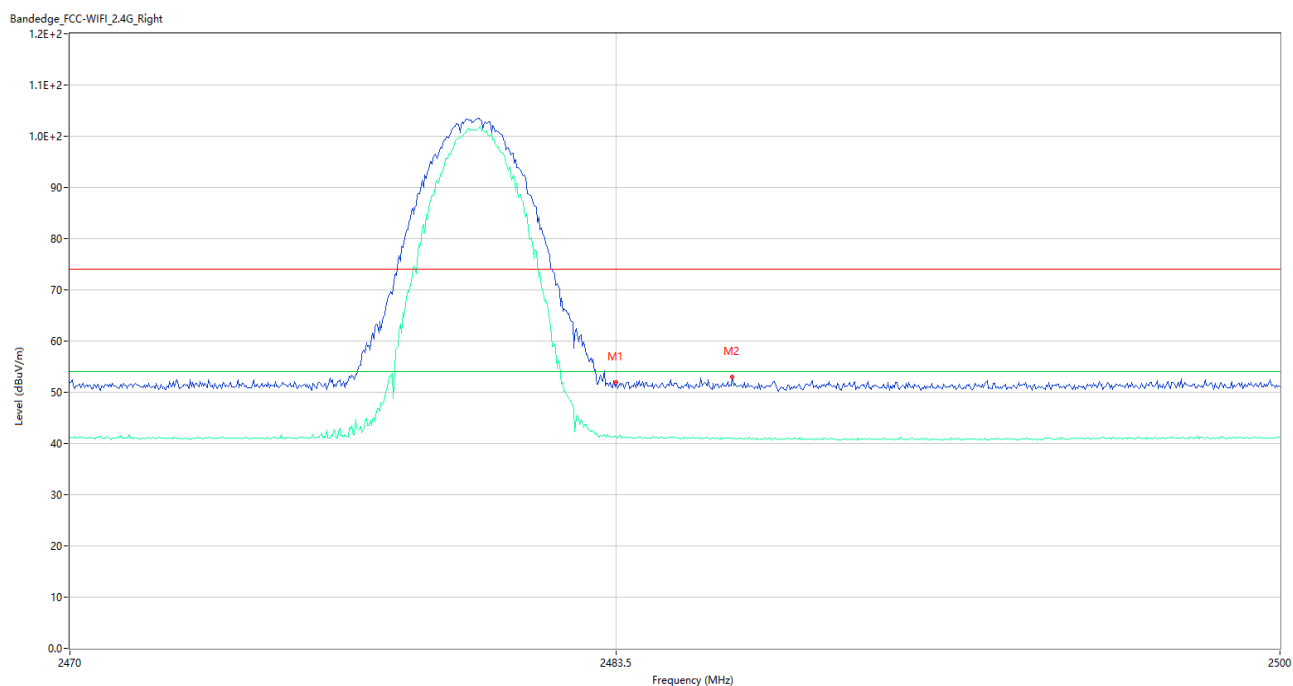
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	50.95	-3.78	74.0	23.05	Peak	8.00	150	Horizontal	Pass
1**	2483.500	41.58	-3.78	54.0	12.42	AV	8.00	150	Horizontal	Pass
2	2484.580	53.30	-3.78	74.0	20.70	Peak	360.00	150	Horizontal	Pass
2**	2484.580	41.36	-3.78	54.0	12.64	AV	360.00	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	50.29	-4.87	74.0	23.71	Peak	285.80	150	Horizontal	Pass
1**	2390.000	40.16	-4.87	54.0	13.84	AV	285.80	150	Horizontal	Pass
2	2375.600	52.31	-4.17	74.0	21.69	Peak	110.00	150	Horizontal	Pass
2**	2375.600	40.37	-4.17	54.0	13.63	AV	110.00	150	Horizontal	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	52.01	-3.78	74.0	21.99	Peak	5.00	150	Horizontal	Pass
1**	2483.500	41.19	-3.78	54.0	12.81	AV	5.00	150	Horizontal	Pass
2	2486.380	52.92	-3.79	74.0	21.08	Peak	118.00	150	Horizontal	Pass
2**	2486.380	41.09	-3.79	54.0	12.91	AV	118.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH2530291-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2530291-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH2530291-AI.PDF”.

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--END OF REPORT--