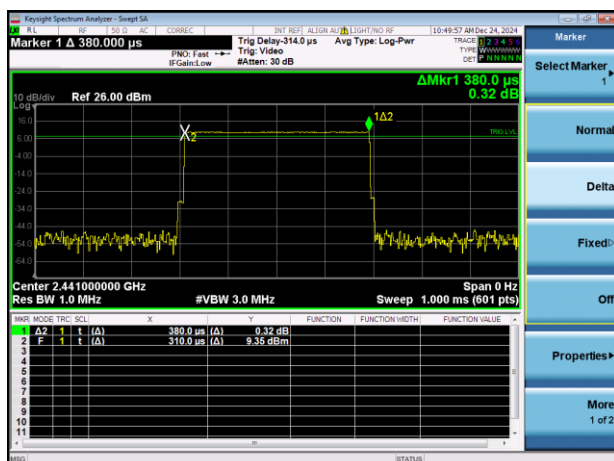
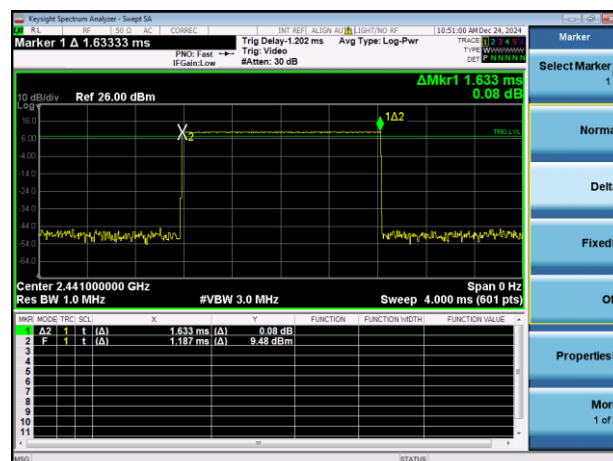


Test Plots

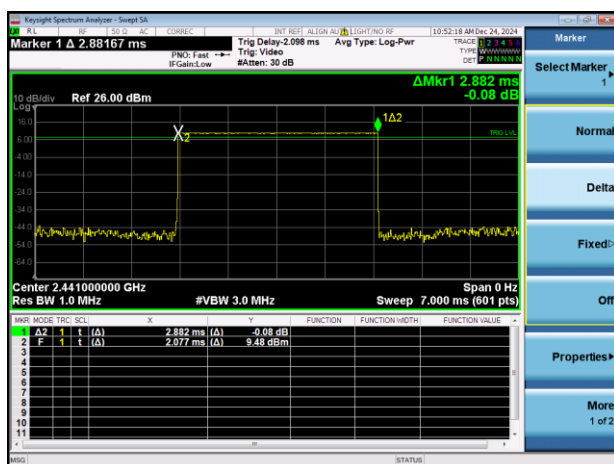
GFSK DH1



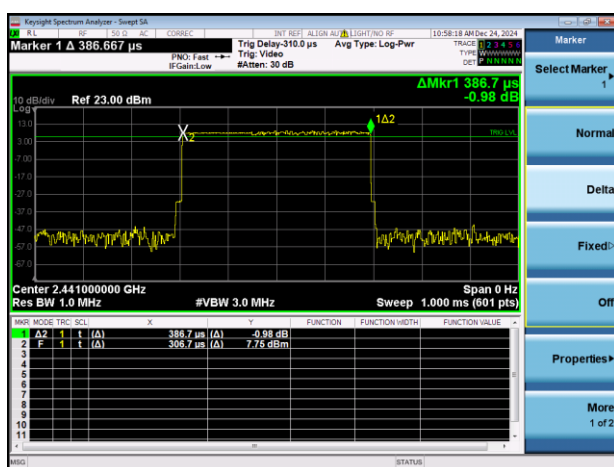
GFSK DH3



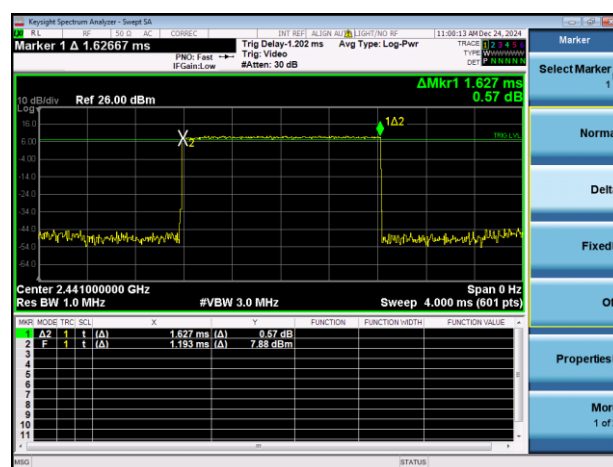
GFSK DH5



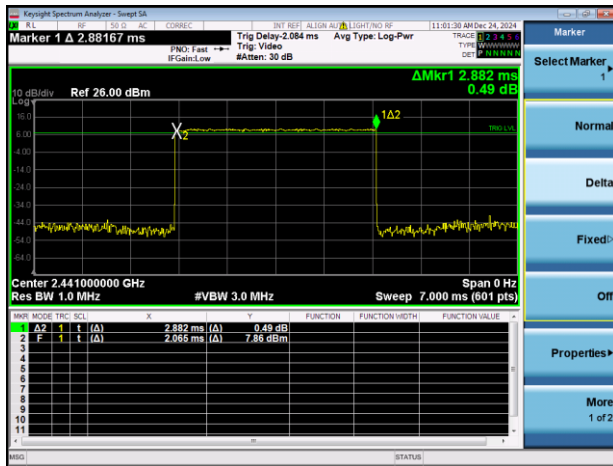
8-DPSK DH1



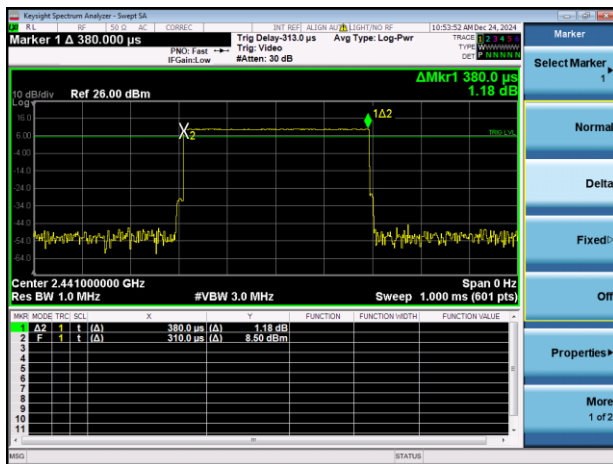
8-DPSK DH3



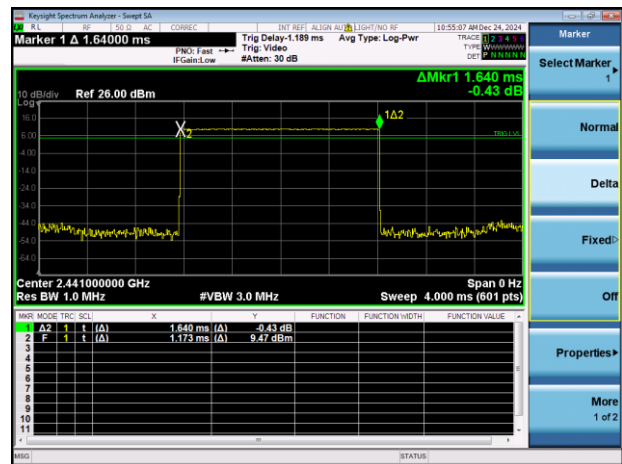
8-DPSK DH5



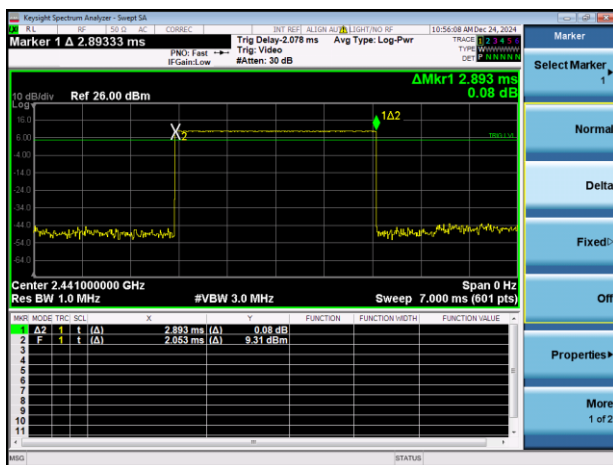
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5



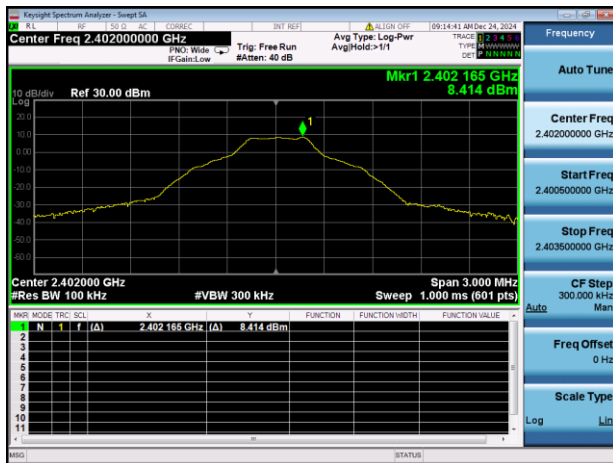
A.6 Conducted Spurious Emissions & Authorized-band band-edge

Test Data

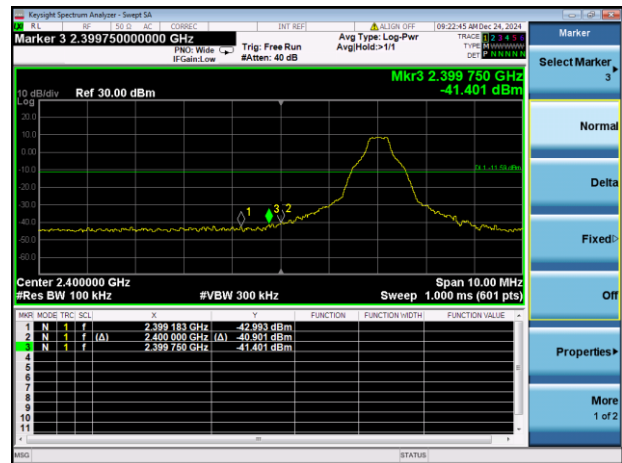
GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-26.75	8.41	-11.59	Pass
Middle	-26.69	9.44	-10.56	Pass
High	-26.62	9.02	-10.98	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-26.98	6.51	-13.49	Pass
Middle	-25.18	7.91	-12.09	Pass
High	-27.90	7.52	-12.48	Pass
Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-26.94	9.72	-10.28	Pass
8-DPSK	-26.32	7.66	-12.34	Pass

Test Plots

GFSK LOW CHANNEL, CARRIER LEVEL

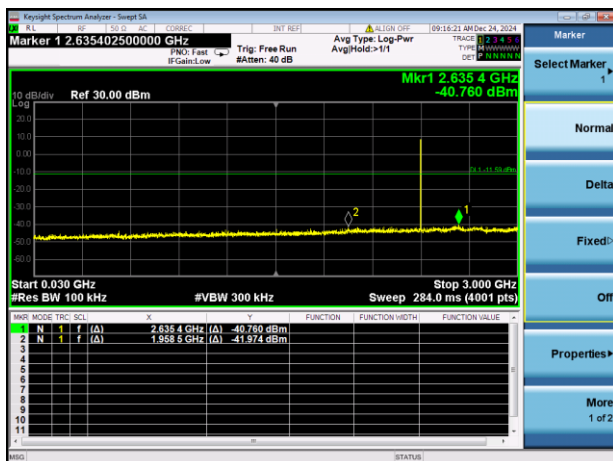


GFSK LOW CHANNEL, BAND EDGE



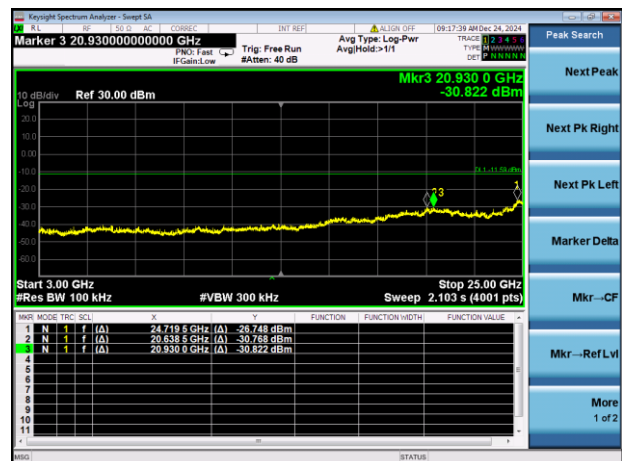
GFSK LOW CHANNEL, SPURIOUS

30 MHz ~ 3 GHz

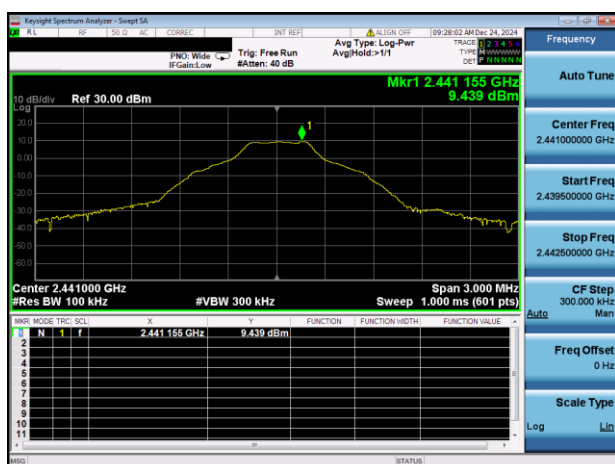
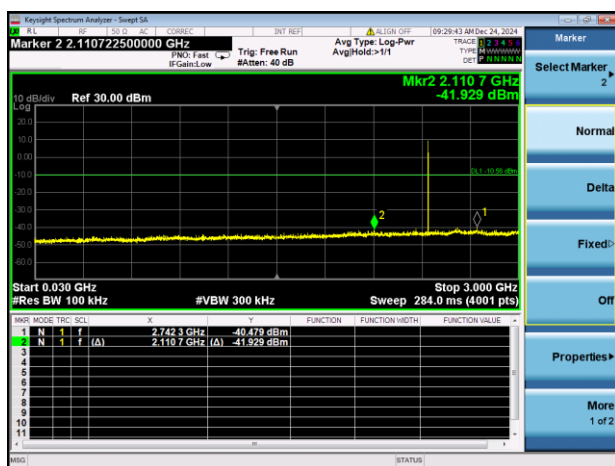
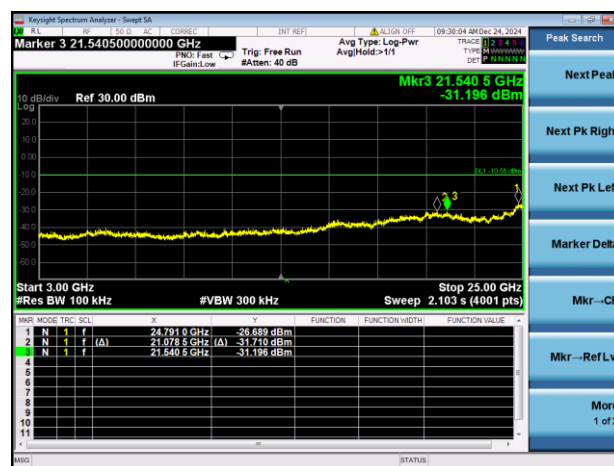


GFSK LOW CHANNEL, SPURIOUS

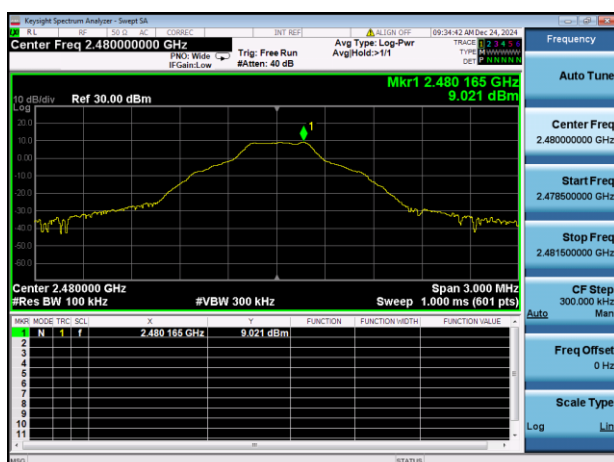
3 GHz ~ 25 GHz



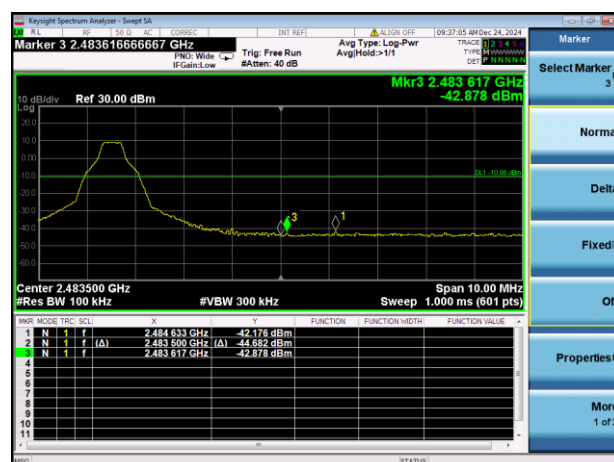
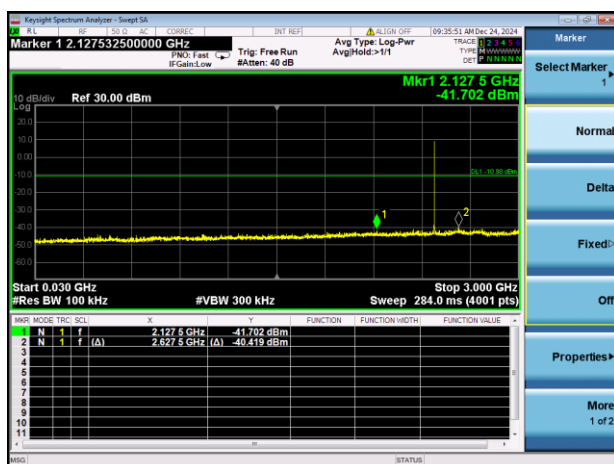
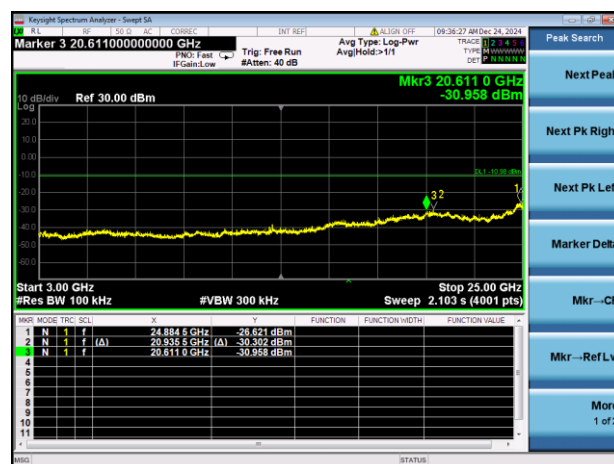
GFSK MIDDLE CHANNEL, CARRIER LEVEL

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

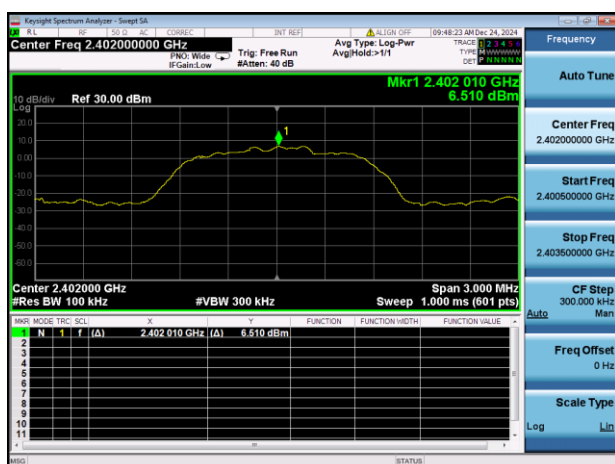
GFSK HIGH CHANNEL, CARRIER LEVEL



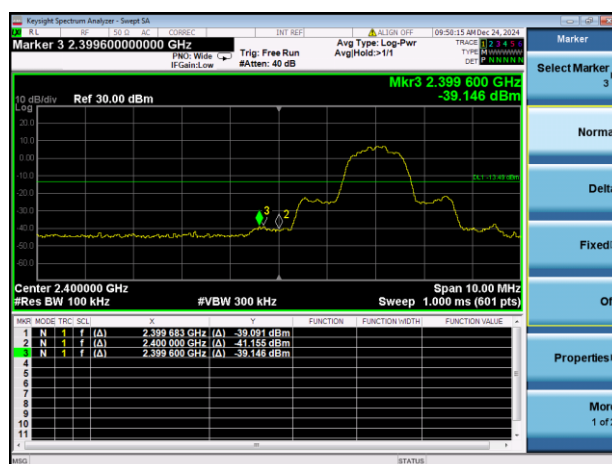
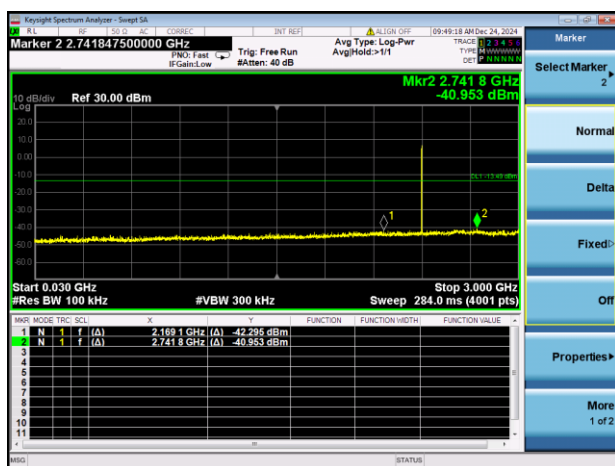
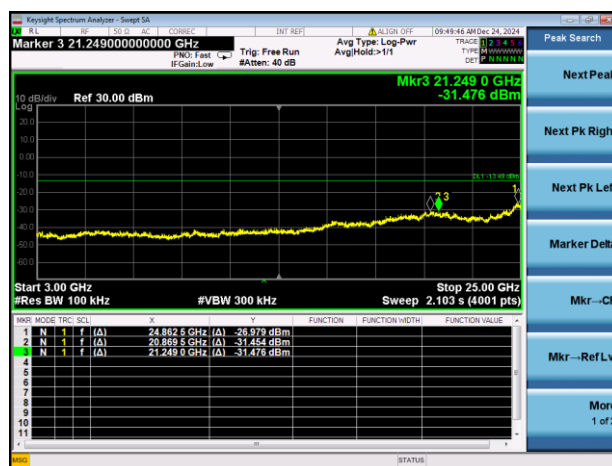
GFSK HIGH CHANNEL, BAND EDGE

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

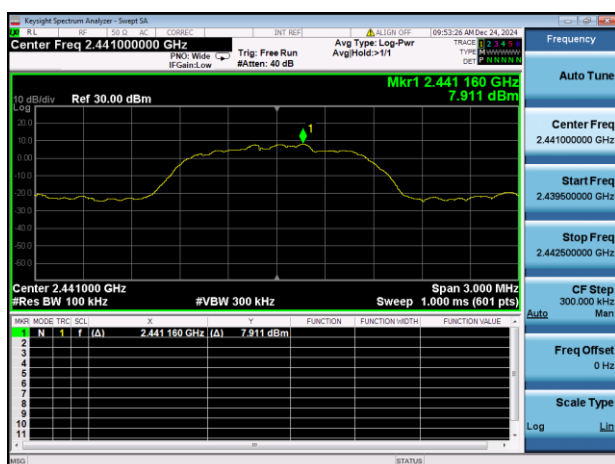
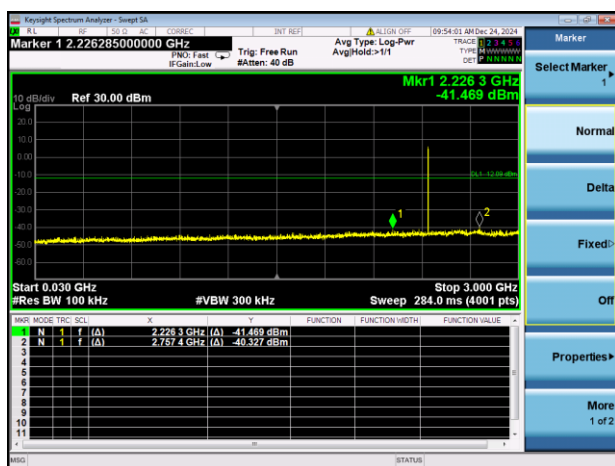
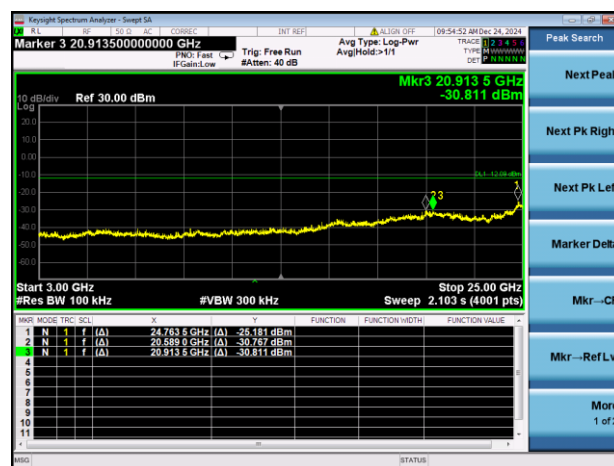
8-DPSK LOW CHANNEL, CARRIER LEVEL



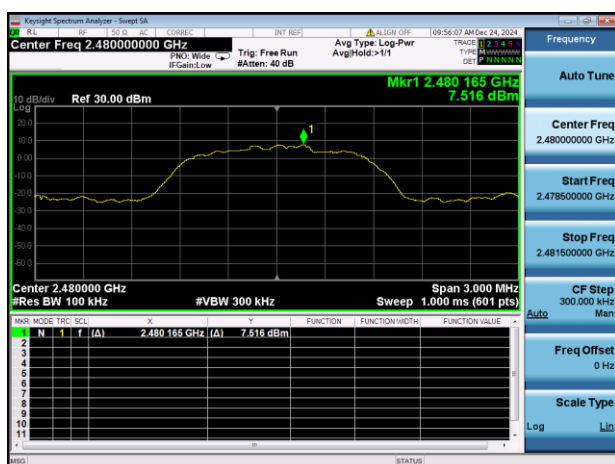
8-DPSK LOW CHANNEL, BAND EDGE

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

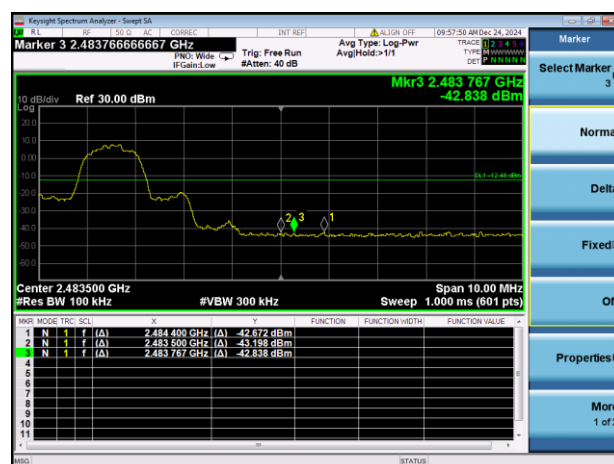
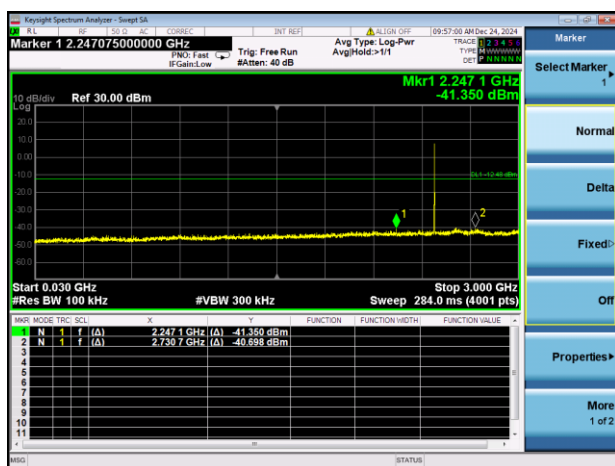
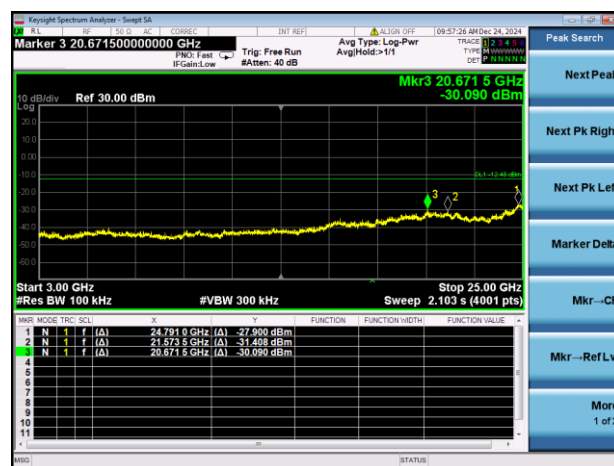
8-DPSK MIDDLE CHANNEL, CARRIER LEVEL

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

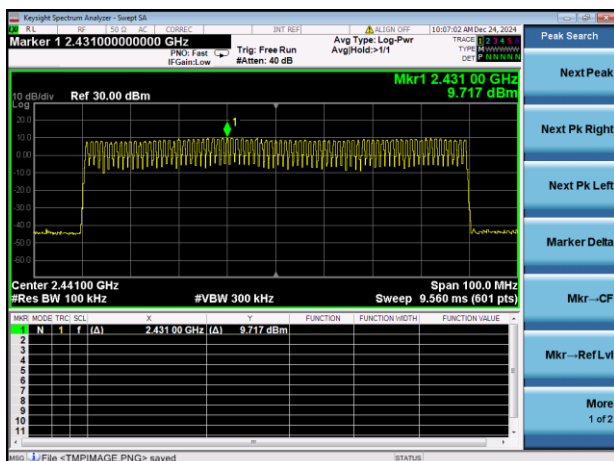
8-DPSK HIGH CHANNEL, CARRIER LEVEL



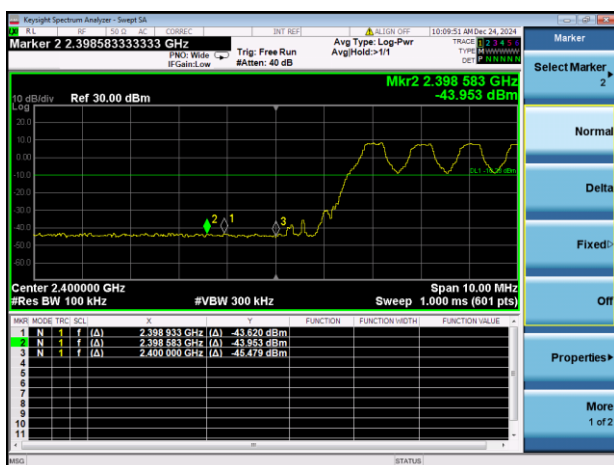
8-DPSK HIGH CHANNEL, BAND EDGE

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

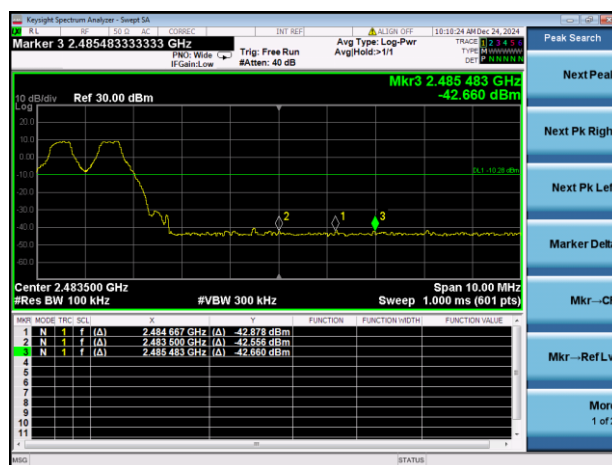
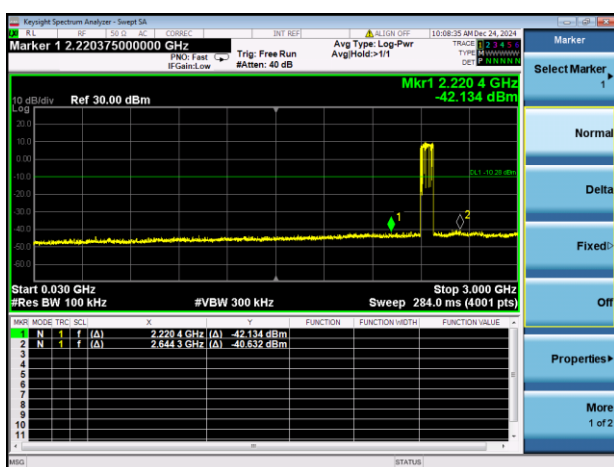
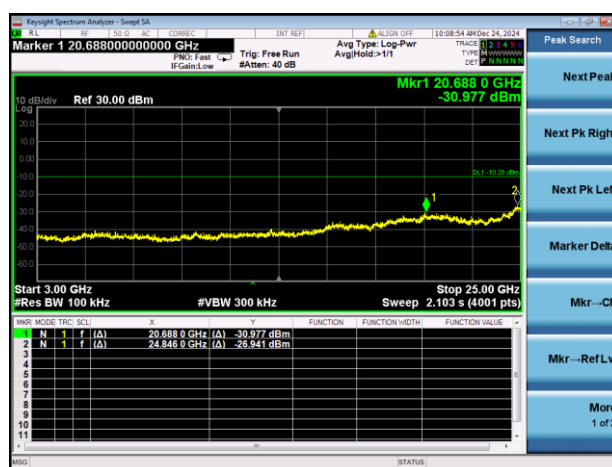
GFSK HOPPING, CARRIER LEVEL



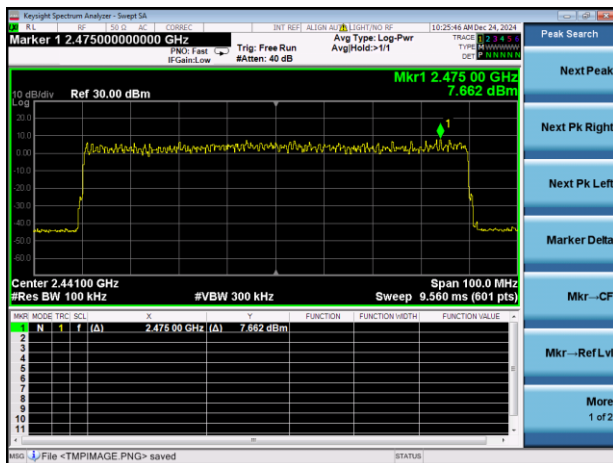
GFSK HOPPING BAND EDGE (LOW)



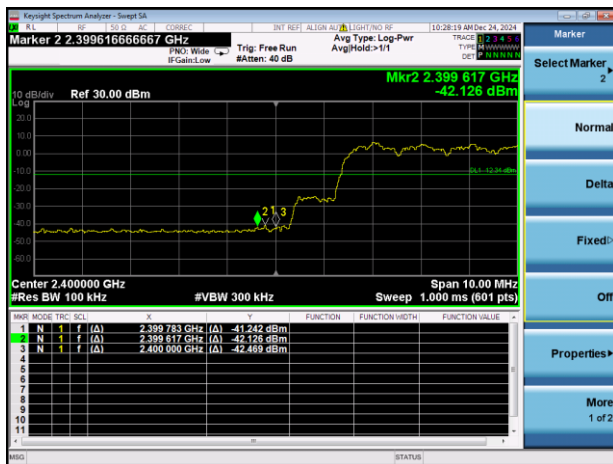
GFSK HOPPING BAND EDGE (HIGH)

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

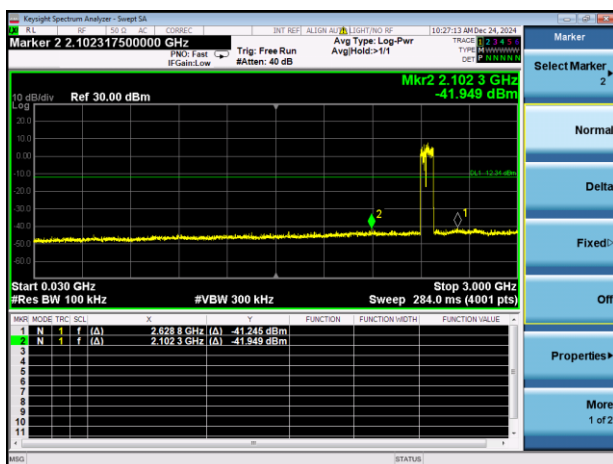
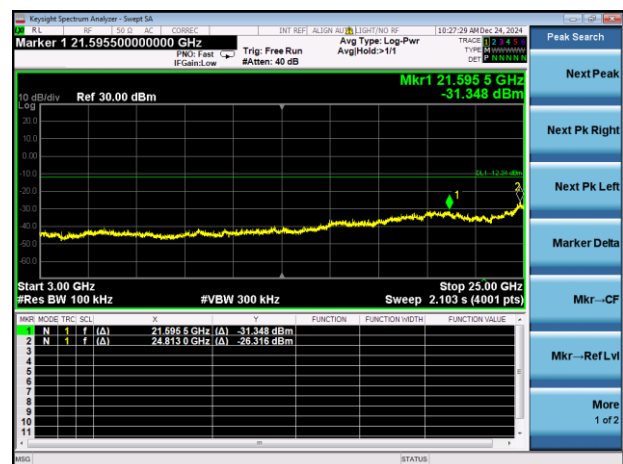
8-DPSK HOPPING, CARRIER LEVEL



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

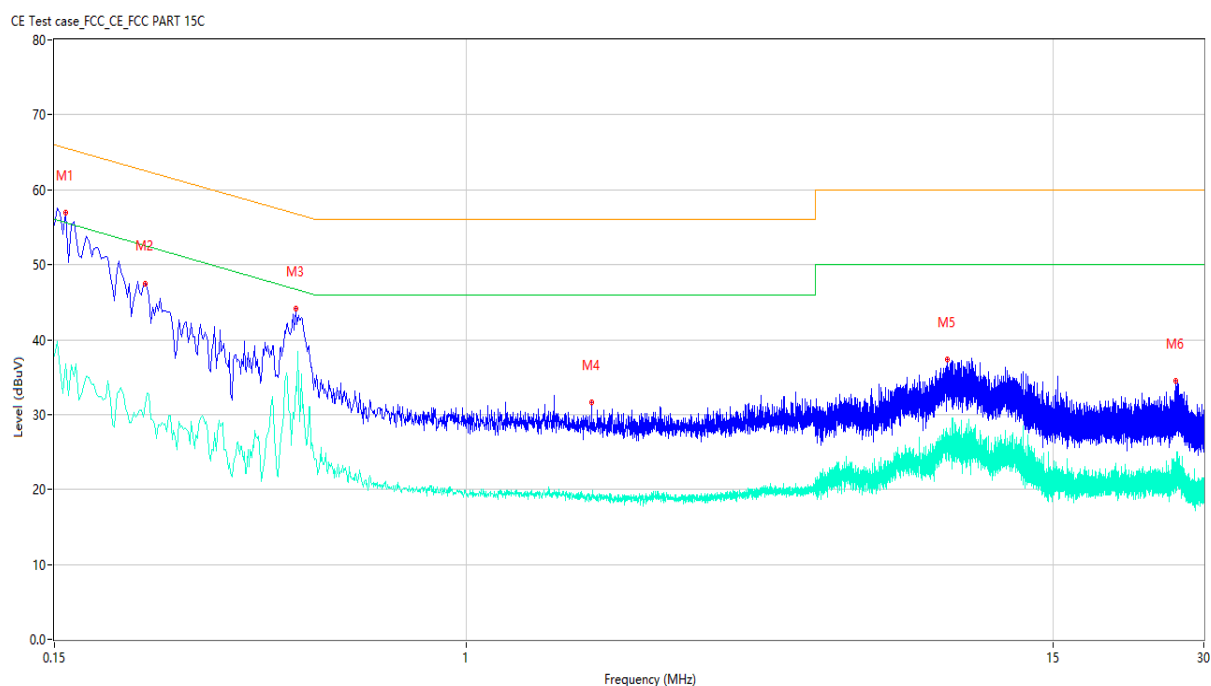
Note 1: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

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

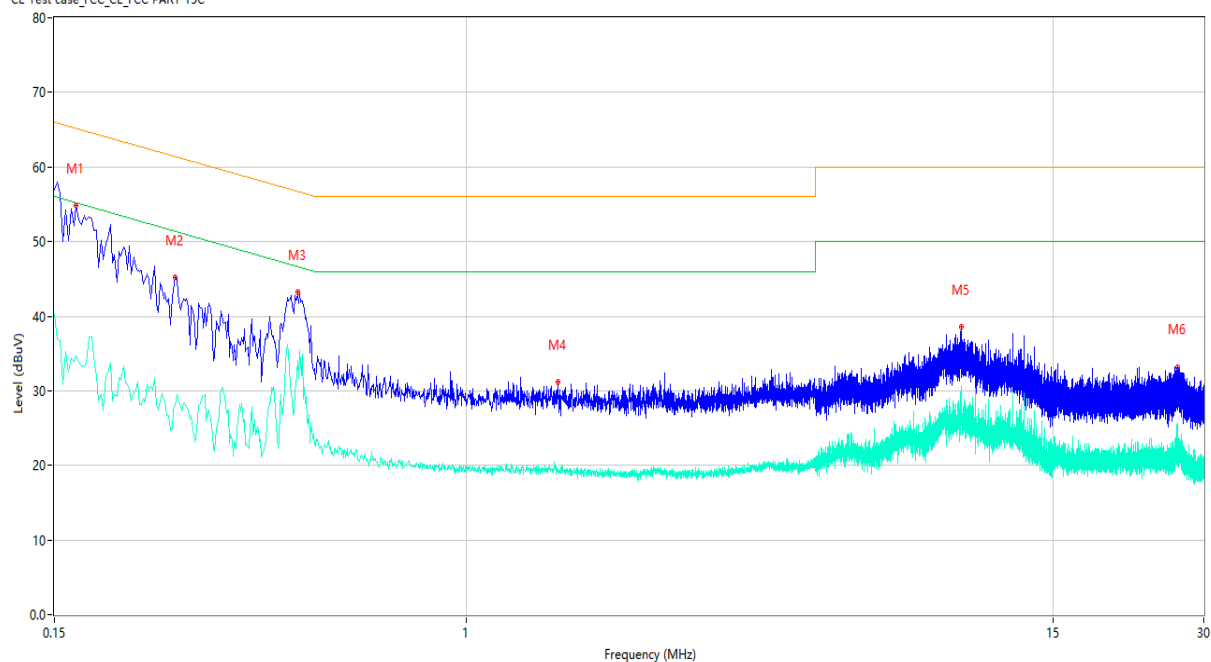
PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	56.93	9.75	65.57	8.64	Peak	L	Pass
1**	0.158	36.71	9.75	55.57	18.86	AV	L	Pass
2	0.228	47.53	9.74	62.52	14.99	Peak	L	Pass
2**	0.228	31.31	9.74	52.52	21.21	AV	L	Pass
3	0.456	44.12	9.74	56.77	12.65	Peak	L	Pass
3**	0.456	33.68	9.74	46.77	13.09	AV	L	Pass
4	1.786	31.63	9.69	56.00	24.37	Peak	L	Pass
4**	1.786	18.68	9.69	46.00	27.32	AV	L	Pass
5	9.182	37.30	9.50	60.00	22.70	Peak	L	Pass
5**	9.182	27.60	9.50	50.00	22.40	AV	L	Pass
6	26.394	34.48	8.80	60.00	25.52	Peak	L	Pass
6**	26.394	23.65	8.80	50.00	26.35	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	0.166	54.88	9.75	65.16	10.28	Peak	N	Pass
1**	0.166	34.66	9.75	55.16	20.50	AV	N	Pass
2	0.262	45.19	9.74	61.37	16.18	Peak	N	Pass
2**	0.262	28.05	9.74	51.37	23.32	AV	N	Pass
3	0.460	43.27	9.74	56.69	13.42	Peak	N	Pass
3**	0.460	34.07	9.74	46.69	12.62	AV	N	Pass
4	1.526	31.14	9.70	56.00	24.86	Peak	N	Pass
4**	1.526	19.27	9.70	46.00	26.73	AV	N	Pass
5	9.820	38.62	9.49	60.00	21.38	Peak	N	Pass
5**	9.820	28.14	9.49	50.00	21.86	AV	N	Pass
6	26.566	33.22	8.79	60.00	26.78	Peak	N	Pass
6**	26.566	23.05	8.79	50.00	26.95	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.

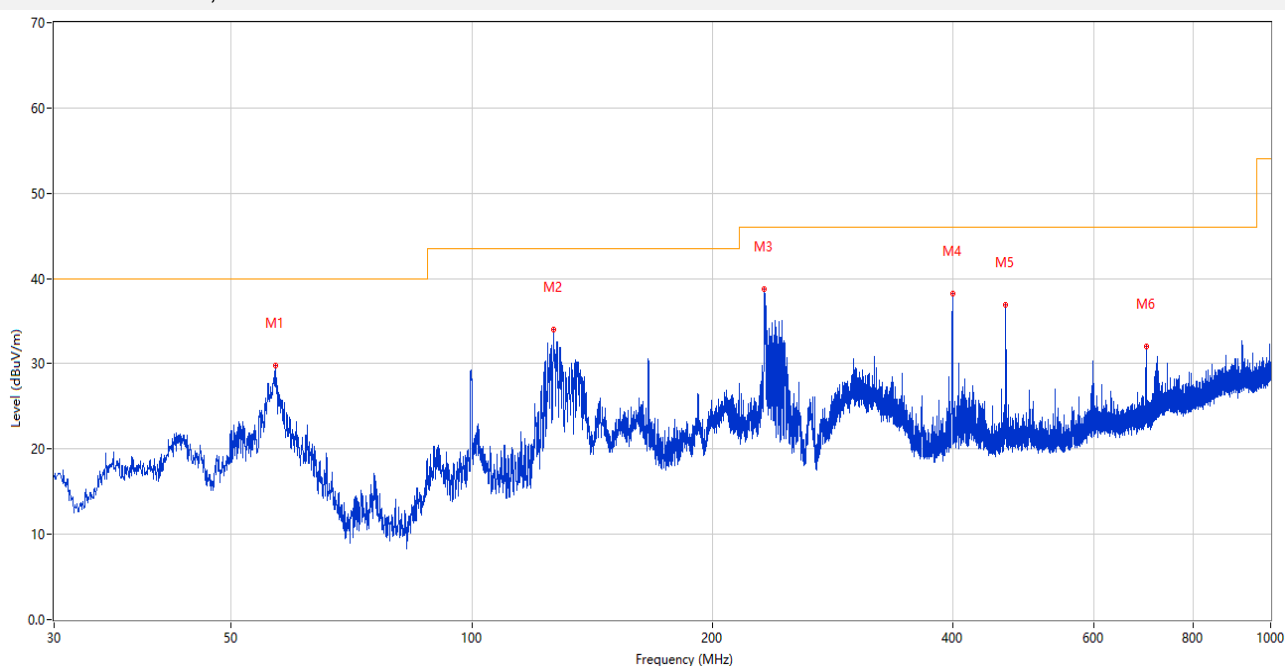
Note 3: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and DH5 mode is the worst.

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.

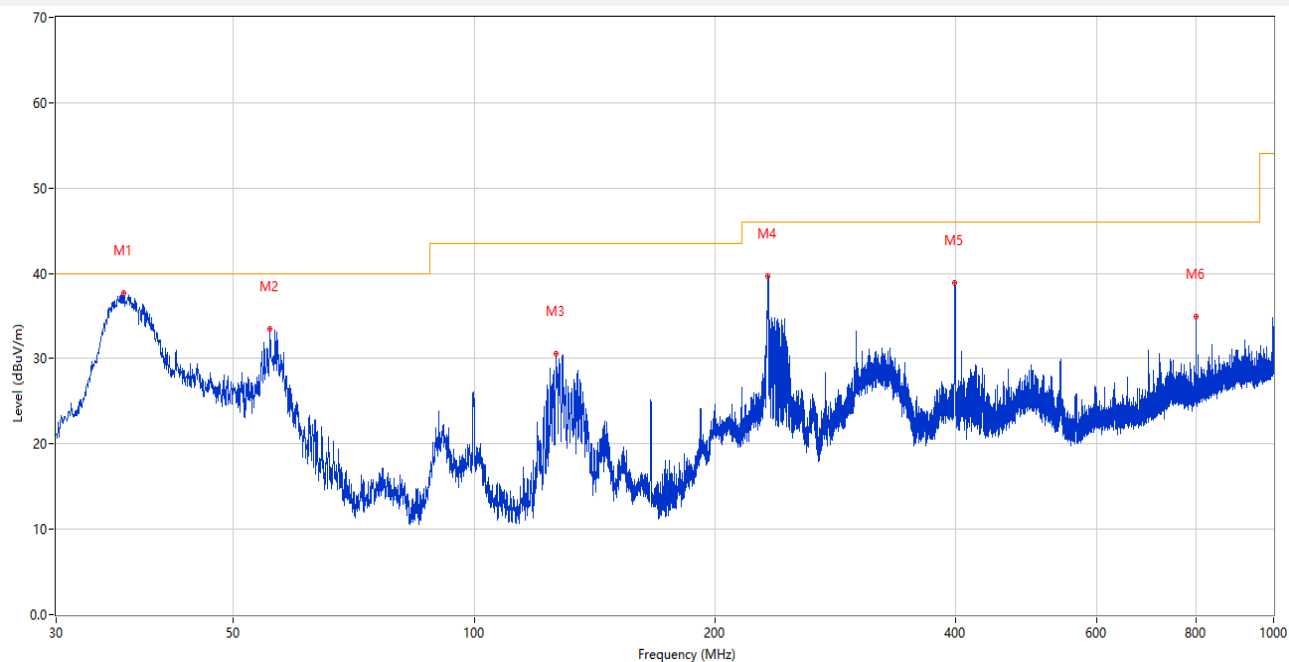
Test Data and Plots

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	56.772	29.81	-25.36	40.0	10.19	Peak	169.00	200	Horizontal	Pass
2	126.660	33.98	-28.86	43.5	9.52	Peak	42.00	200	Horizontal	Pass
3	232.584	38.76	-24.83	46.0	7.24	Peak	144.00	100	Horizontal	Pass
4	399.909	38.23	-20.43	46.0	7.77	Peak	186.00	200	Horizontal	Pass
5	465.384	36.88	-19.28	46.0	9.12	Peak	180.00	100	Horizontal	Pass
6	698.572	32.03	-13.79	46.0	13.97	Peak	139.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V

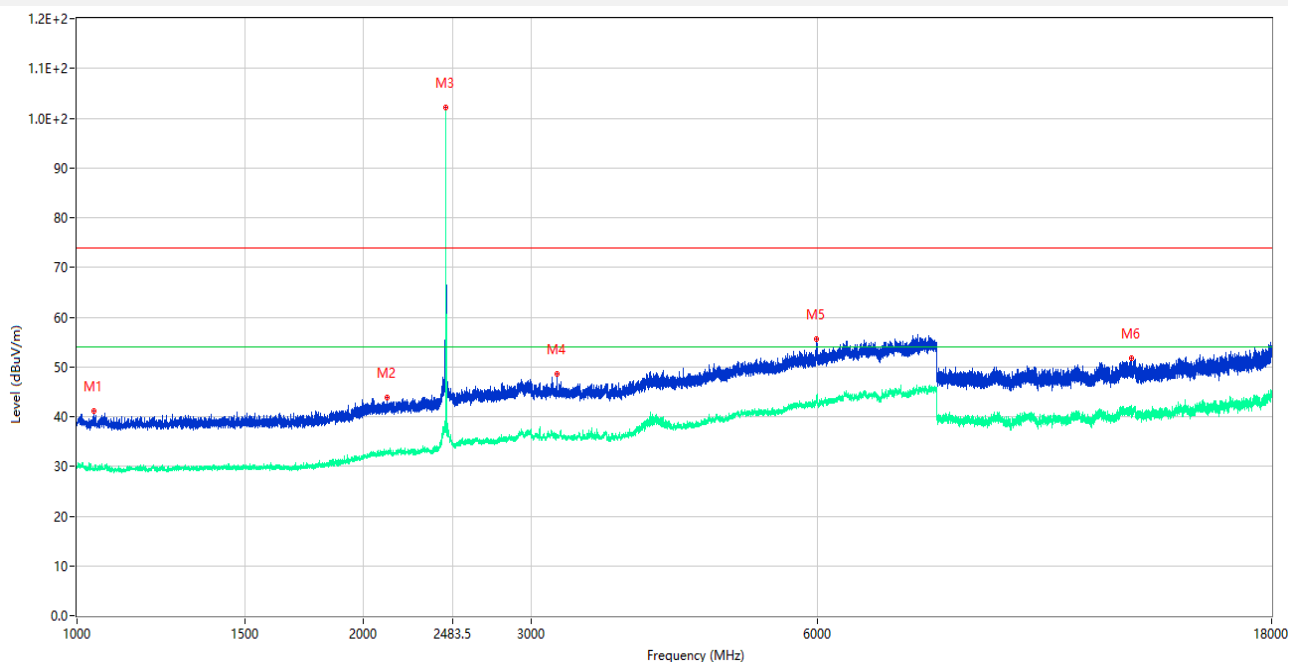


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	36.450	37.76	-27.24	40.0	2.24	Peak	75.00	100	Vertical	Pass
2	55.559	33.53	-25.15	40.0	6.47	Peak	87.00	100	Vertical	Pass
3	126.660	30.56	-28.86	43.5	12.94	Peak	150.00	200	Vertical	Pass
4	233.264	39.72	-24.81	46.0	6.28	Peak	144.00	100	Vertical	Pass
5	399.522	38.85	-20.44	46.0	7.15	Peak	1.00	100	Vertical	Pass
6	799.792	34.88	-11.66	46.0	11.12	Peak	118.00	100	Vertical	Pass

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

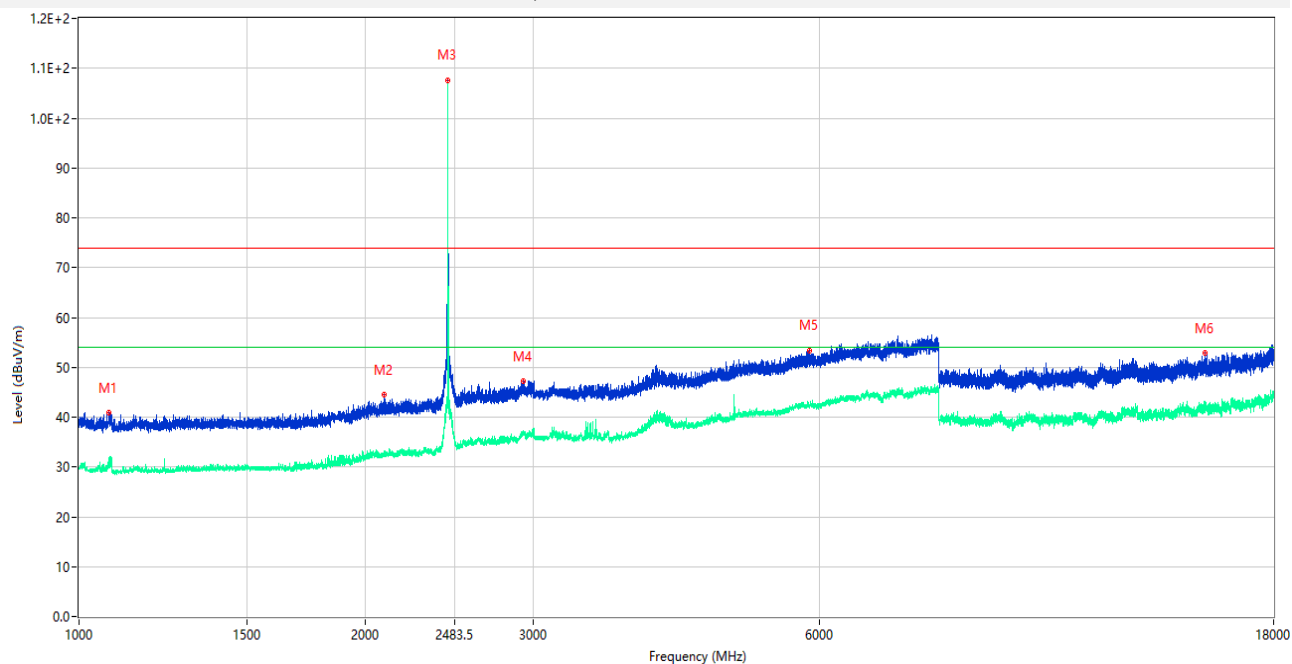
Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



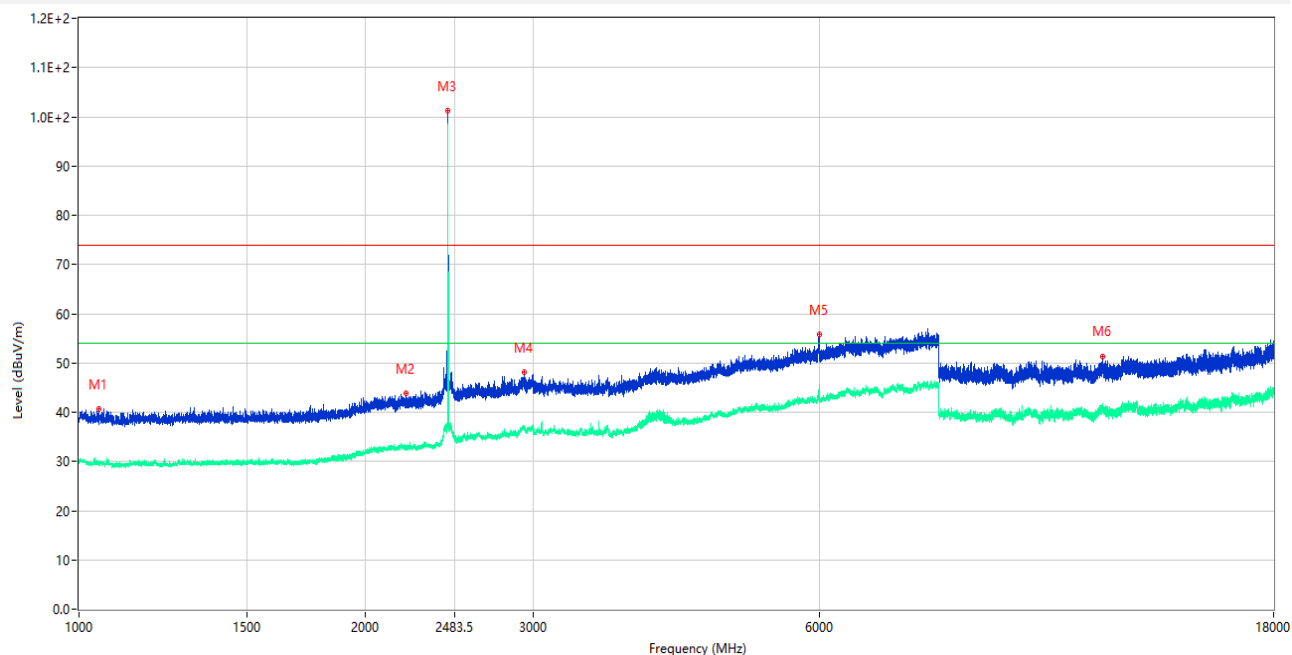
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1040.500	41.08	-14.52	74.0	32.92	Peak	144.00	150	Horizontal	Pass
1**	1040.500	29.55	-14.52	54.0	24.45	AV	144.00	150	Horizontal	Pass
2	2116.500	43.77	-12.31	74.0	30.23	Peak	246.00	150	Horizontal	Pass
2**	2116.500	32.62	-12.31	54.0	21.38	AV	246.00	150	Horizontal	Pass
3	2441.000	102.20	-11.39	74.0	-28.20	Peak	120.00	150	Horizontal	N/A
3**	2441.000	101.15	-11.39	54.0	-47.15	AV	120.00	150	Horizontal	N/A
4	3193.000	48.55	-6.56	74.0	25.45	Peak	190.00	150	Horizontal	Pass
4**	3193.000	35.64	-6.56	54.0	18.36	AV	190.00	150	Horizontal	Pass
5	5987.000	55.59	1.31	74.0	18.41	Peak	190.00	150	Horizontal	Pass
5**	5987.000	43.47	1.31	54.0	10.53	AV	190.00	150	Horizontal	Pass
6	12824.001	51.72	-0.29	74.0	22.28	Peak	321.00	150	Horizontal	Pass
6**	12824.001	41.02	-0.29	54.0	12.98	AV	321.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V



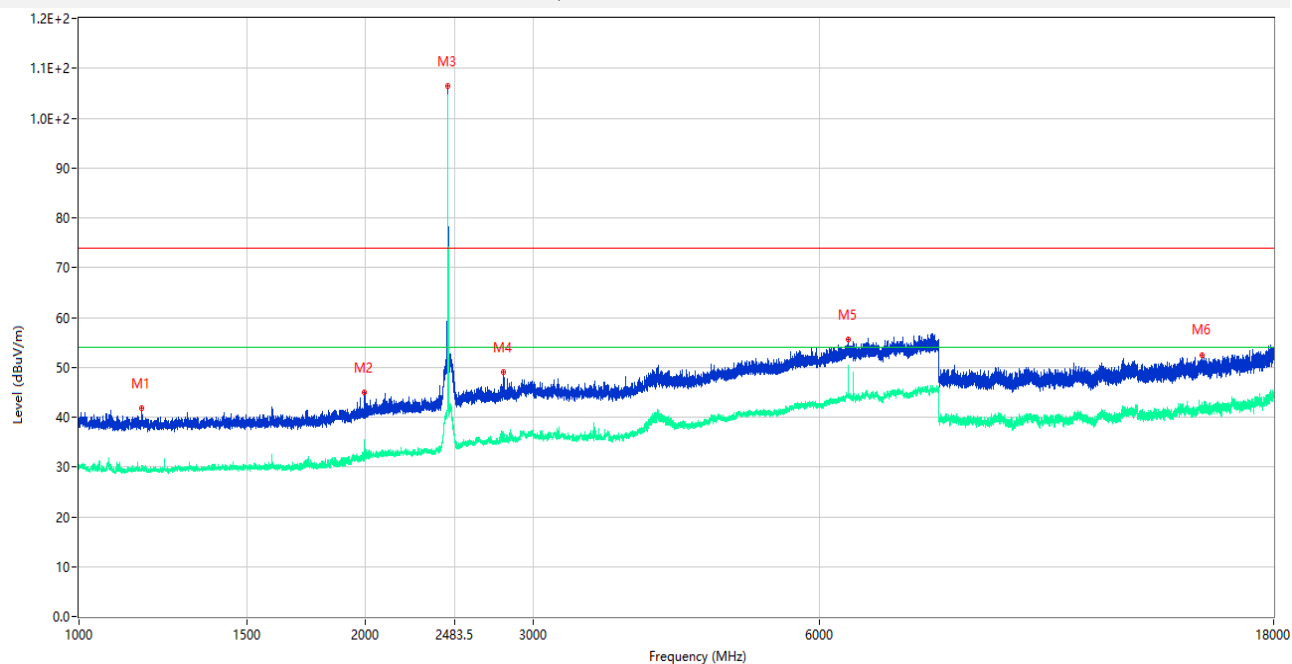
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1075.250	40.97	-14.42	74.0	33.03	Peak	145.00	150	Vertical	Pass
1**	1075.250	31.87	-14.42	54.0	22.13	AV	145.00	150	Vertical	Pass
2	2092.250	44.43	-12.44	74.0	29.57	Peak	130.00	150	Vertical	Pass
2**	2092.250	32.39	-12.44	54.0	21.61	AV	130.00	150	Vertical	Pass
3	2441.000	107.23	-11.39	74.0	-33.23	Peak	242.00	150	Vertical	N/A
3**	2441.000	106.15	-11.39	54.0	-52.15	AV	242.00	150	Vertical	N/A
4	2931.250	47.25	-6.82	74.0	26.75	Peak	134.00	150	Vertical	Pass
4**	2931.250	36.89	-6.82	54.0	17.11	AV	134.00	150	Vertical	Pass
5	5855.500	53.34	0.36	74.0	20.66	Peak	349.00	150	Vertical	Pass
5**	5855.500	41.79	0.36	54.0	12.21	AV	349.00	150	Vertical	Pass
6	15264.500	52.80	2.12	74.0	21.20	Peak	40.00	150	Vertical	Pass
6**	15264.500	42.12	2.12	54.0	11.88	AV	40.00	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	1048.250	40.63	-14.56	74.0	33.37	Peak	151.00	150	Horizontal	Pass
1**	1048.250	29.92	-14.56	54.0	24.08	AV	151.00	150	Horizontal	Pass
2	2205.500	43.74	-12.11	74.0	30.26	Peak	175.00	150	Horizontal	Pass
2**	2205.500	33.14	-12.11	54.0	20.86	AV	175.00	150	Horizontal	Pass
3	2440.750	101.19	-11.38	74.0	-27.19	Peak	123.00	150	Horizontal	N/A
3**	2440.750	96.65	-11.38	54.0	-42.65	AV	123.00	150	Horizontal	N/A
4	2934.500	48.13	-6.88	74.0	25.87	Peak	113.00	150	Horizontal	Pass
4**	2934.500	36.94	-6.88	54.0	17.06	AV	113.00	150	Horizontal	Pass
5	5993.500	55.79	1.49	74.0	18.21	Peak	150.00	150	Horizontal	Pass
5**	5993.500	43.65	1.49	54.0	10.35	AV	150.00	150	Horizontal	Pass
6	11902.500	51.40	-0.79	74.0	22.60	Peak	349.00	150	Horizontal	Pass
6**	11902.500	40.21	-0.79	54.0	13.79	AV	349.00	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	1163.750	41.76	-14.52	74.0	32.24	Peak	154.00	150	Vertical	Pass
1**	1163.750	29.36	-14.52	54.0	24.64	AV	154.00	150	Vertical	Pass
2	1993.000	44.93	-13.43	74.0	29.07	Peak	150.00	150	Vertical	Pass
2**	1993.000	31.58	-13.43	54.0	22.42	AV	150.00	150	Vertical	Pass
3	2441.000	106.48	-11.39	74.0	-32.48	Peak	242.00	150	Vertical	N/A
3**	2441.000	103.94	-11.39	54.0	-49.94	AV	242.00	150	Vertical	N/A
4	2791.500	49.12	-8.53	74.0	24.88	Peak	127.00	150	Vertical	Pass
4**	2791.500	36.23	-8.53	54.0	17.77	AV	127.00	150	Vertical	Pass
5	6432.000	55.57	2.03	74.0	18.43	Peak	169.00	150	Vertical	Pass
5**	6432.000	48.52	2.03	54.0	5.48	AV	169.00	150	Vertical	Pass
6	15143.999	52.53	0.48	74.0	21.47	Peak	0.00	150	Vertical	Pass
6**	15143.999	41.73	0.48	54.0	12.27	AV	0.00	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.

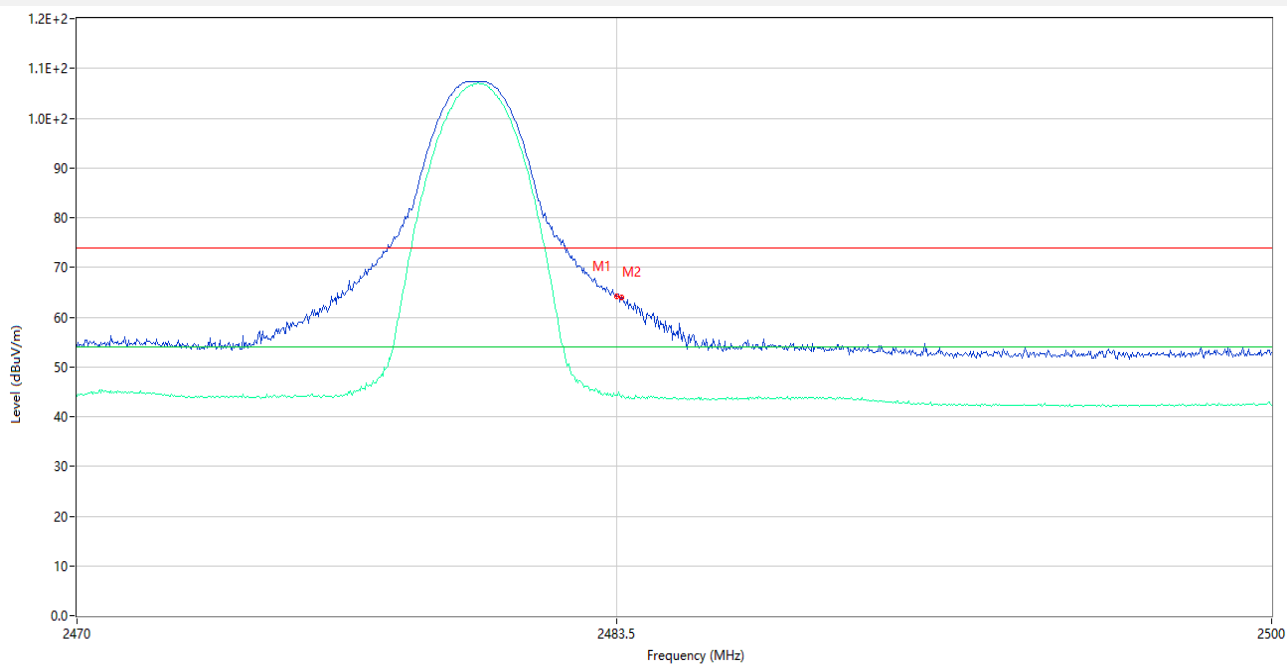
Test Data and Plots

GFSK LOW CHANNEL



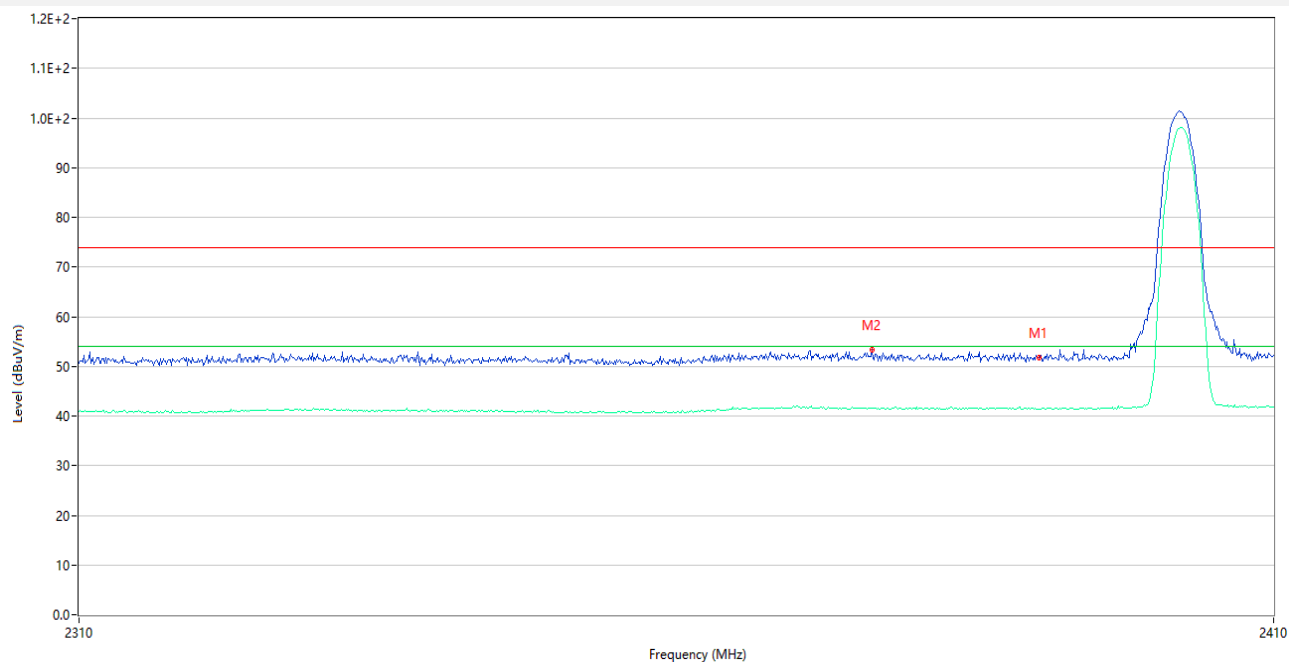
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2390.000	50.93	-3.73	74.0	23.07	Peak	33.99	150	Vertical	Pass
1**	2390.000	41.63	-3.73	54.0	12.37	AV	33.99	150	Vertical	Pass
2	2344.200	53.20	-3.47	74.0	20.80	Peak	221.00	150	Vertical	Pass
2**	2344.200	41.06	-3.47	54.0	12.94	AV	221.00	150	Vertical	Pass

GFSK HIGH CHANNEL



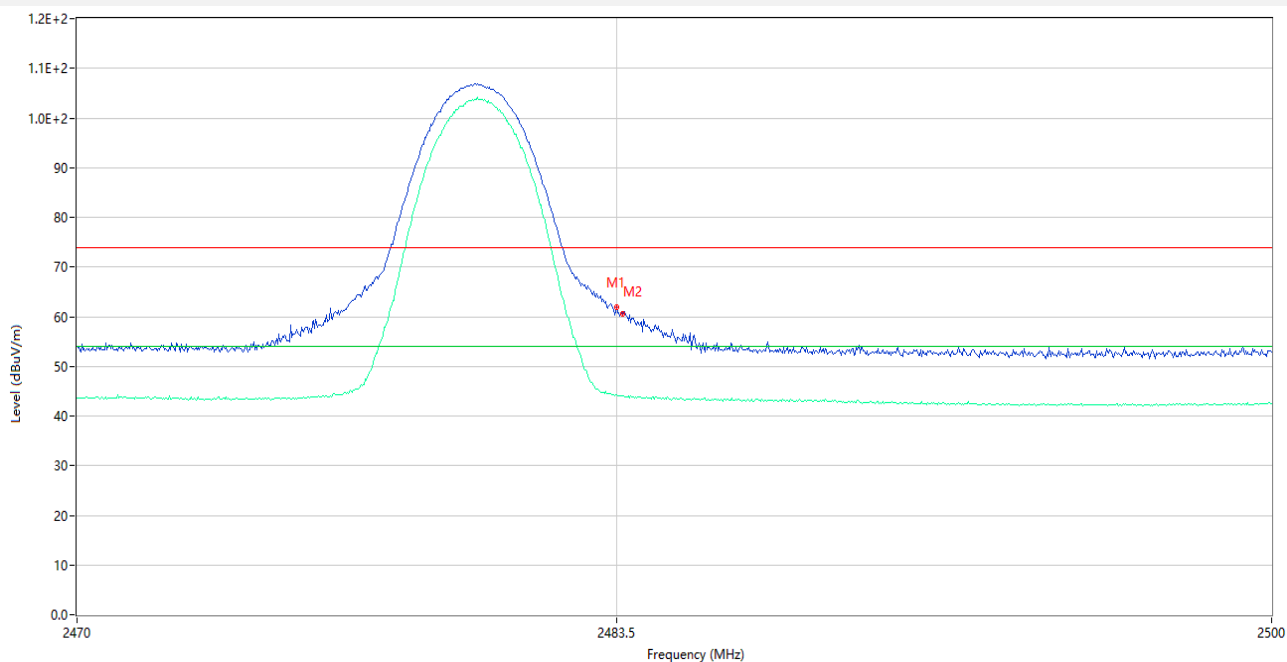
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	64.01	-2.60	74.0	9.99	Peak	241.00	150	Vertical	Pass
1**	2483.500	44.40	-2.60	54.0	9.60	AV	241.00	150	Vertical	Pass
2	2483.620	64.01	-2.60	74.0	9.99	Peak	346.00	150	Vertical	Pass
2**	2483.620	43.94	-2.60	54.0	10.06	AV	346.00	150	Vertical	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	51.79	-3.73	74.0	22.21	Peak	264.89	150	Vertical	Pass
1**	2390.000	41.34	-3.73	54.0	12.66	AV	264.89	150	Vertical	Pass
2	2375.900	53.24	-2.99	74.0	20.76	Peak	180.00	150	Vertical	Pass
2**	2375.900	41.53	-2.99	54.0	12.47	AV	180.00	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	61.97	-2.60	74.0	12.03	Peak	239.00	150	Vertical	Pass
1**	2483.500	44.21	-2.60	54.0	9.79	AV	239.00	150	Vertical	Pass
2	2483.650	60.50	-2.60	74.0	13.50	Peak	247.00	150	Vertical	Pass
2**	2483.650	44.04	-2.60	54.0	9.96	AV	247.00	150	Vertical	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SH24B0903-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SH24B0903-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SH24B0903-AI.PDF”.

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--END OF REPORT--