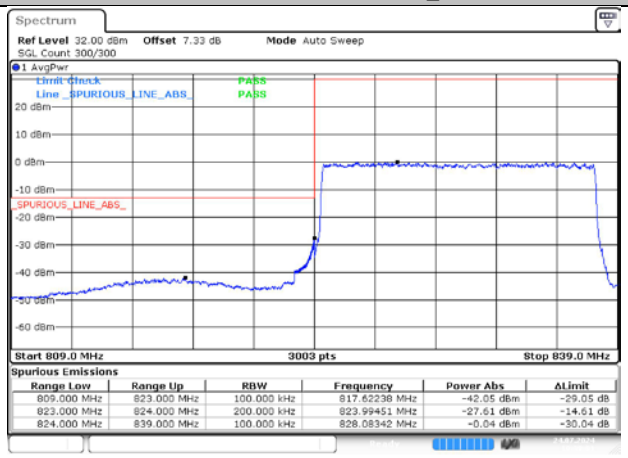
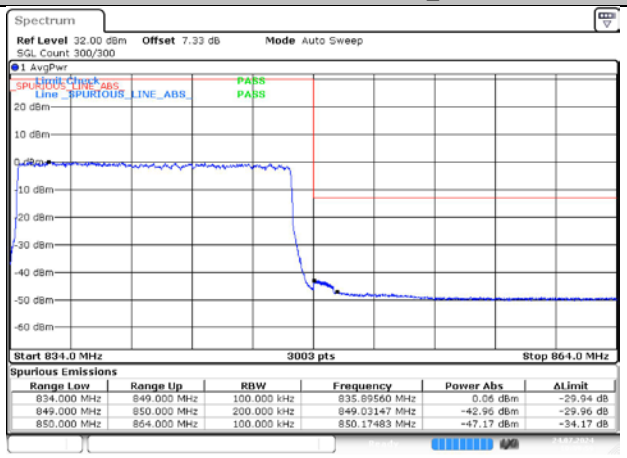
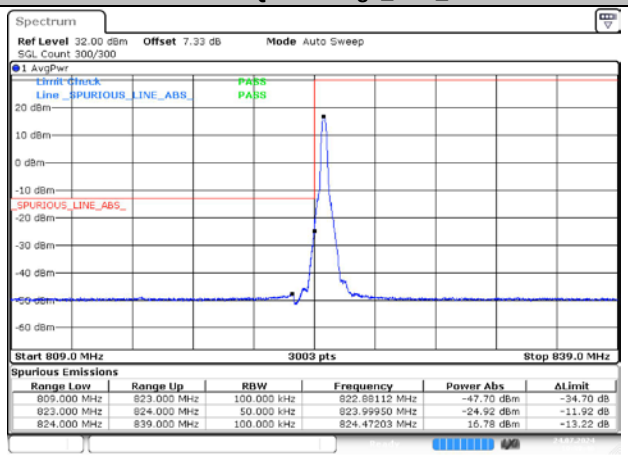
LCH / DFT-Pi2BPSK / Outer_Full



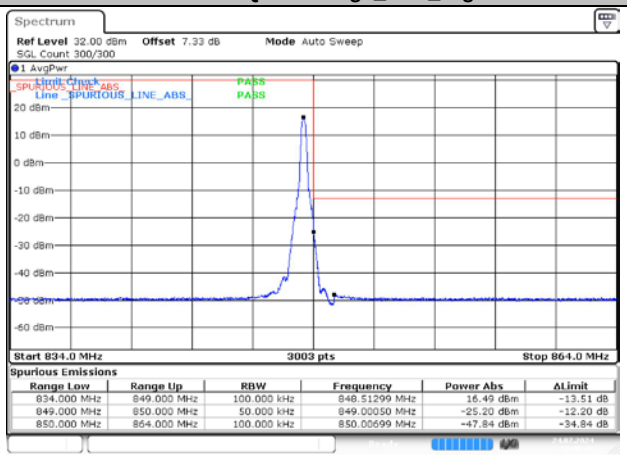
HCH / DFT-Pi2BPSK / Outer_Full



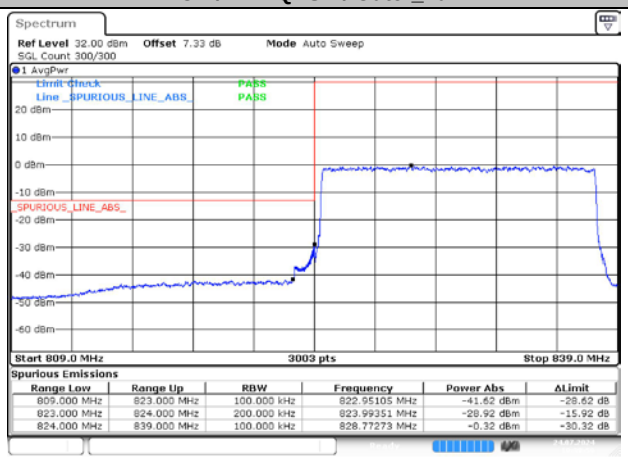
LCH / DFT-QPSK / Edge_1RB_Left



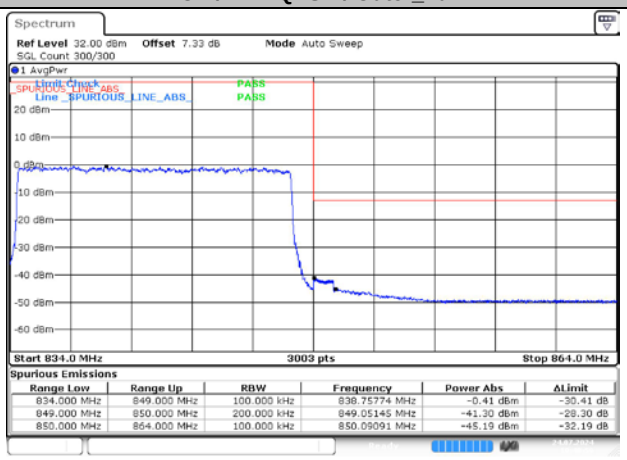
HCH / DFT-QPSK / Edge_1RB_Right



LCH / DFT-QPSK / Outer_Full

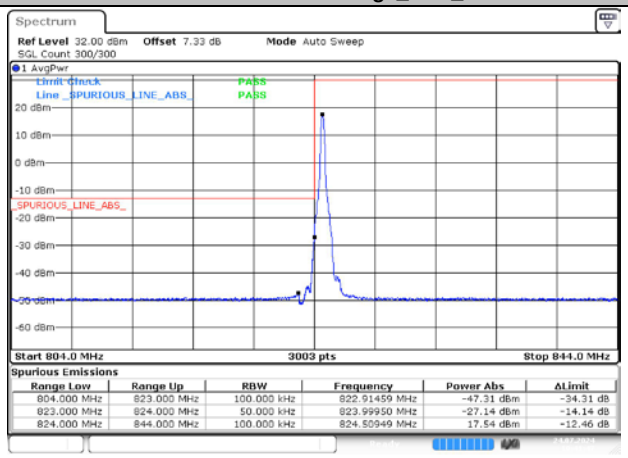


HCH / DFT-QPSK / Outer_Full



n5A / 15KHz / 20MHz

LCH / DFT-Pi2BPSK / Edge_1RB_Left

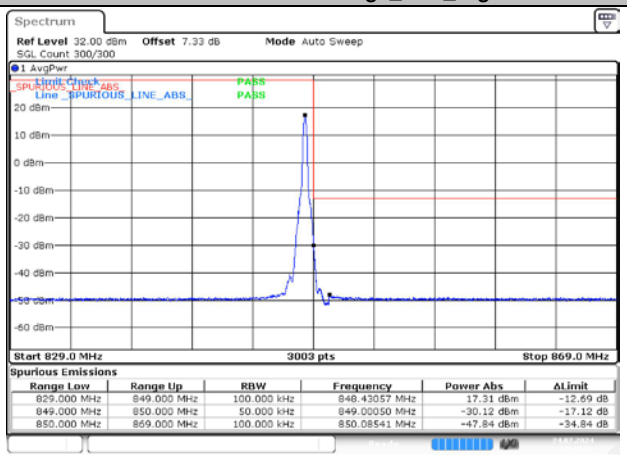


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
804.000 MHz	823.000 MHz	100.000 kHz	822.91459 MHz	-47.31 dBm	-34.31 dB
823.000 MHz	824.000 MHz	50.000 kHz	823.99950 MHz	-27.14 dBm	-14.14 dB
824.000 MHz	844.000 MHz	100.000 kHz	824.50949 MHz	17.54 dBm	-12.46 dB

Date: 24.JUL.2024 10:41:47

HCH / DFT-Pi2BPSK / Edge_1RB_Right

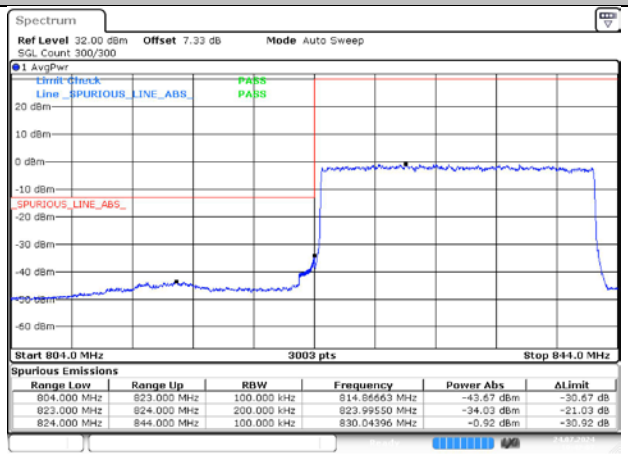


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
829.000 MHz	849.000 MHz	100.000 kHz	848.43057 MHz	17.31 dBm	-12.69 dB
849.000 MHz	850.000 MHz	50.000 kHz	849.00050 MHz	-30.12 dBm	-17.12 dB
850.000 MHz	869.000 MHz	100.000 kHz	850.08541 MHz	-47.84 dBm	-34.84 dB

Date: 24.JUL.2024 10:44:00

LCH / DFT-Pi2BPSK / Outer_Full

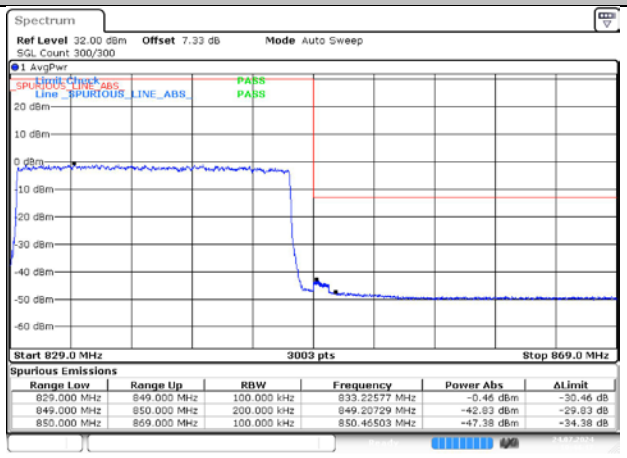


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
804.000 MHz	823.000 MHz	100.000 kHz	814.86663 MHz	-43.67 dBm	-30.67 dB
823.000 MHz	824.000 MHz	200.000 kHz	823.99550 MHz	-34.03 dBm	-21.03 dB
824.000 MHz	844.000 MHz	100.000 kHz	830.04396 MHz	-0.92 dBm	-30.92 dB

Date: 24.JUL.2024 10:42:07

HCH / DFT-Pi2BPSK / Outer_Full

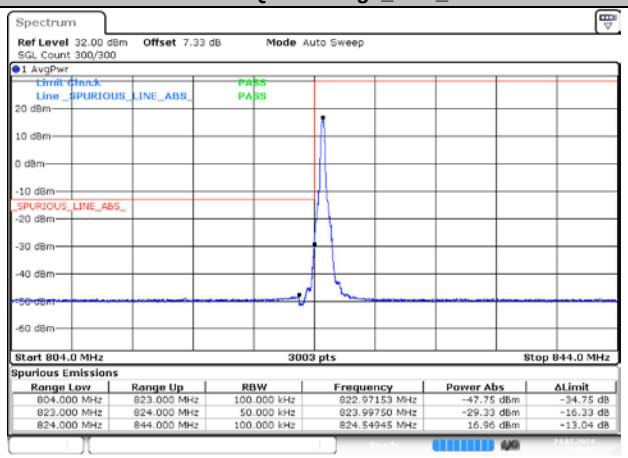


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
829.000 MHz	849.000 MHz	100.000 kHz	833.22577 MHz	-0.46 dBm	-30.46 dB
849.000 MHz	850.000 MHz	200.000 kHz	849.20729 MHz	-42.83 dBm	-29.83 dB
850.000 MHz	869.000 MHz	100.000 kHz	850.46503 MHz	-47.38 dBm	-34.38 dB

Date: 24.JUL.2024 10:44:17

LCH / DFT-QPSK / Edge_1RB_Left

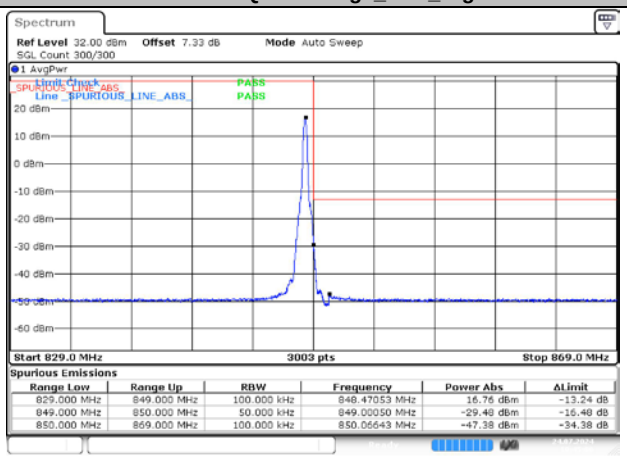


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
804.000 MHz	823.000 MHz	100.000 kHz	822.97153 MHz	-47.75 dBm	-34.75 dB
823.000 MHz	824.000 MHz	50.000 kHz	823.99750 MHz	-29.33 dBm	-16.33 dB
824.000 MHz	844.000 MHz	100.000 kHz	824.54945 MHz	16.96 dBm	-13.04 dB

Date: 24.JUL.2024 10:42:48

HCH / DFT-QPSK / Edge_1RB_Right

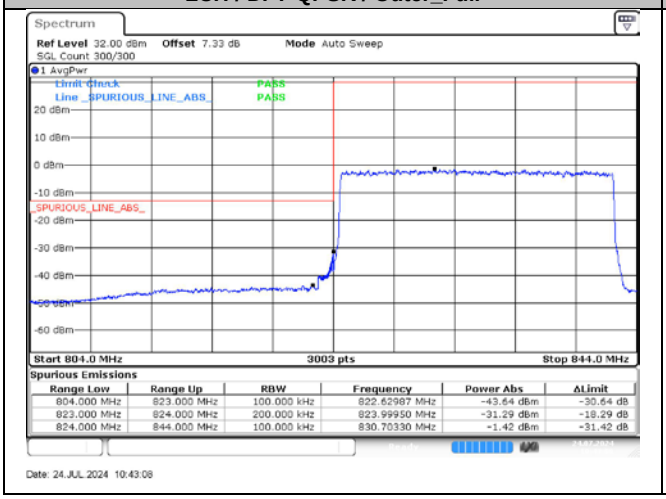


Spurious Emissions

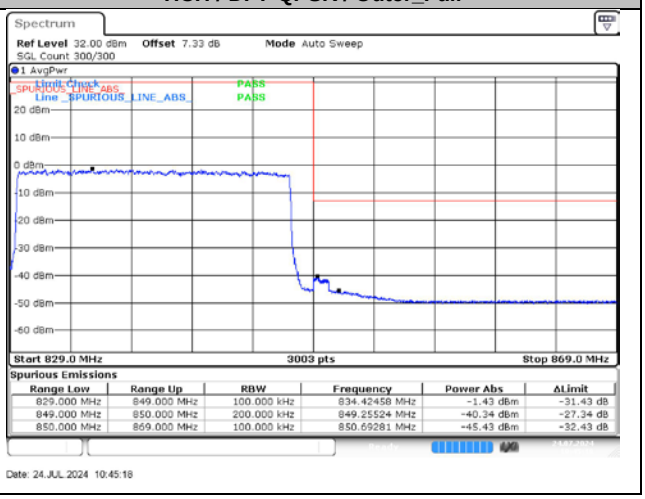
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
829.000 MHz	849.000 MHz	100.000 kHz	848.47053 MHz	16.76 dBm	-13.24 dB
849.000 MHz	850.000 MHz	50.000 kHz	849.00050 MHz	-29.48 dBm	-16.48 dB
850.000 MHz	869.000 MHz	100.000 kHz	850.06643 MHz	-47.38 dBm	-34.38 dB

Date: 24.JUL.2024 10:45:01

LCH / DFT-QPSK / Outer_Full



HCH / DFT-QPSK / Outer_Full

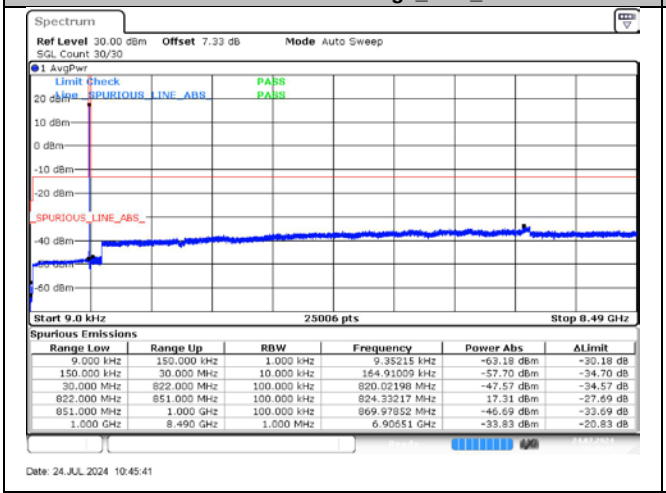


6. Conducted Spurious Emission

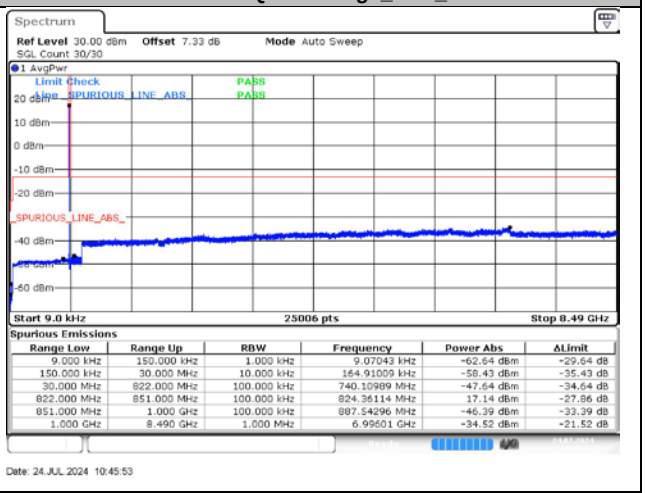
6.1. Test Plots

n5A / 15KHz / 5MHz

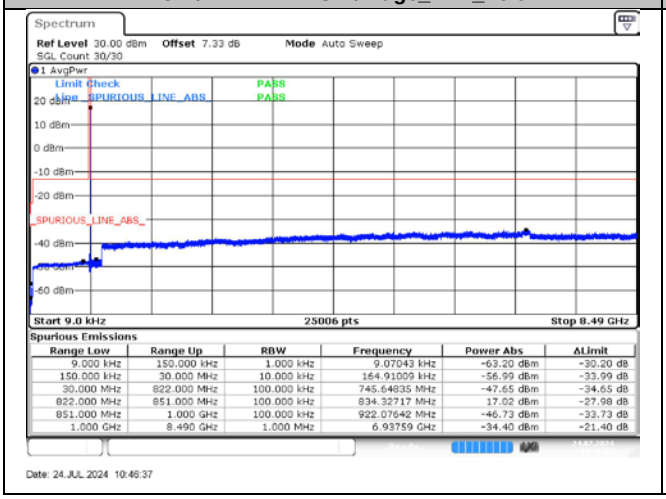
LCH / DFT-Pi2BPSK / Edge_1RB_Left



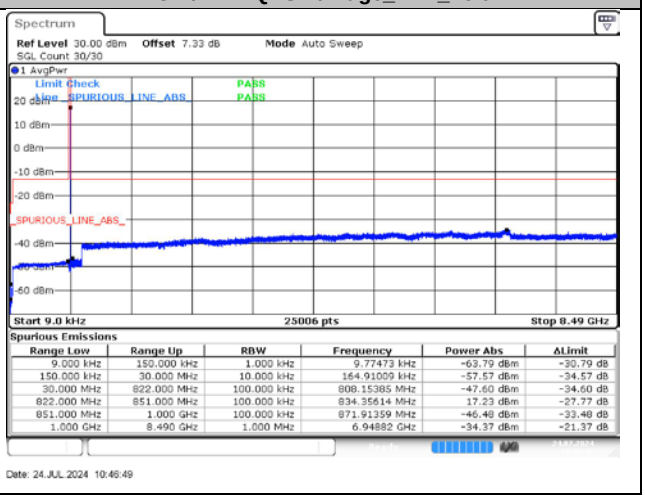
LCH / DFT-QPSK / Edge_1RB_Left



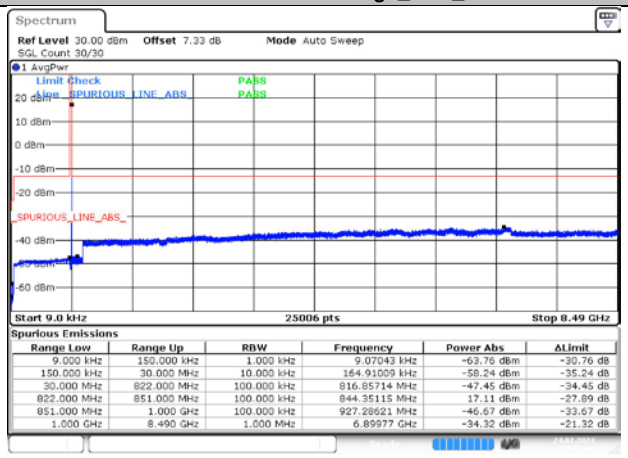
MCH / DFT-Pi2BPSK / Edge_1RB_Left



MCH / DFT-QPSK / Edge_1RB_Left



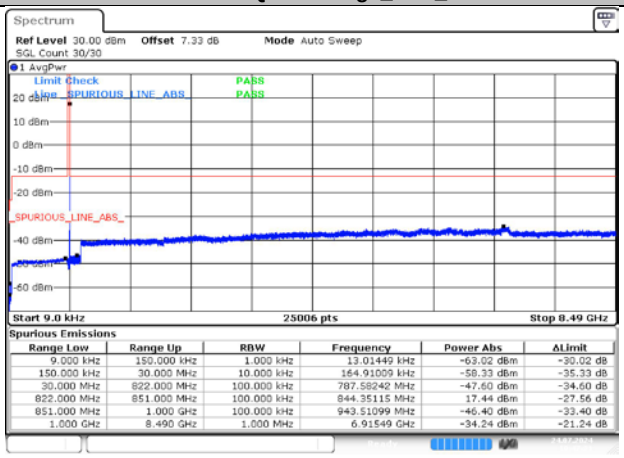
HCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-63.76 dBm	-30.76 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.24 dBm	-35.24 dB
30.000 MHz	822.000 MHz	100.000 kHz	816.85714 MHz	-47.45 dBm	-34.45 dB
822.000 MHz	851.000 MHz	100.000 kHz	844.35115 MHz	17.11 dBm	-27.89 dB
851.000 MHz	1.000 GHz	100.000 kHz	927.28621 MHz	-46.67 dBm	-33.67 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.89977 GHz	-34.32 dBm	-21.32 dB

HCH / DFT-QPSK / Edge_1RB_Left

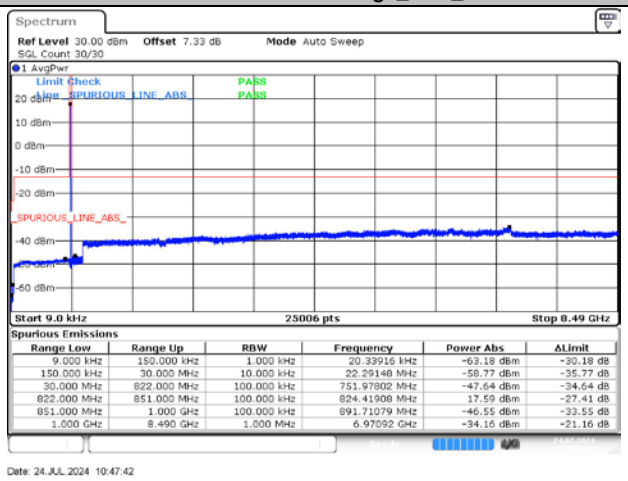


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	13.01449 kHz	-63.02 dBm	-30.02 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.33 dBm	-35.33 dB
30.000 MHz	822.000 MHz	100.000 kHz	787.58242 MHz	-47.60 dBm	-34.60 dB
822.000 MHz	851.000 MHz	100.000 kHz	844.35115 MHz	17.44 dBm	-27.56 dB
851.000 MHz	1.000 GHz	100.000 kHz	943.51099 MHz	-46.40 dBm	-33.40 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.91549 GHz	-34.24 dBm	-21.24 dB

n5A / 15KHz / 10MHz

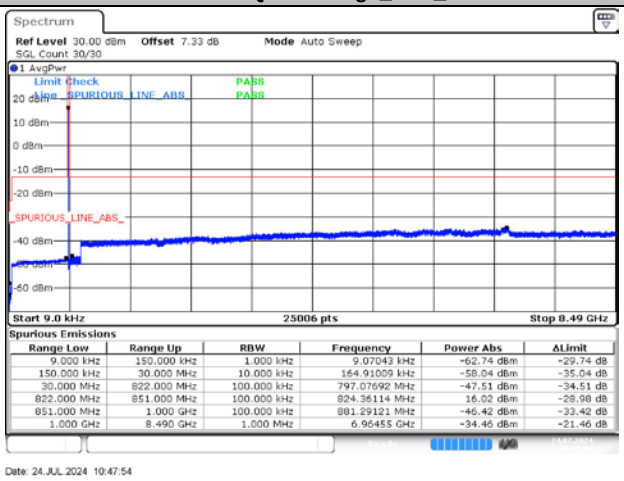
LCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	20.33916 kHz	-63.18 dBm	-30.18 dB
150.000 kHz	30.000 MHz	10.000 kHz	22.29148 MHz	-58.77 dBm	-35.77 dB
30.000 MHz	822.000 MHz	100.000 kHz	751.97802 MHz	-47.64 dBm	-34.64 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.41908 MHz	17.59 dBm	-27.41 dB
851.000 MHz	1.000 GHz	100.000 kHz	891.71079 MHz	-46.55 dBm	-33.55 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.97092 GHz	-34.16 dBm	-21.16 dB

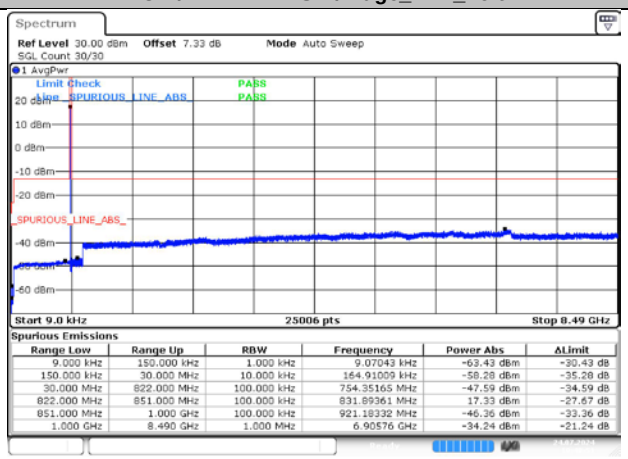
LCH / DFT-QPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-62.74 dBm	-29.74 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.04 dBm	-35.04 dB
30.000 MHz	822.000 MHz	100.000 kHz	797.07692 MHz	-47.51 dBm	-34.51 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.36114 MHz	16.02 dBm	-28.98 dB
851.000 MHz	1.000 GHz	100.000 kHz	881.29121 MHz	-46.42 dBm	-33.42 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.96455 GHz	-34.46 dBm	-21.46 dB

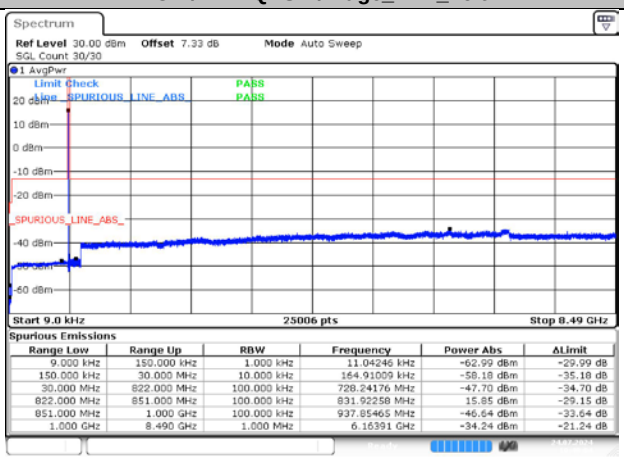
MCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-63.43 dBm	-30.43 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.28 dBm	-35.28 dB
30.000 MHz	822.000 MHz	100.000 kHz	754.35165 MHz	-47.59 dBm	-34.59 dB
822.000 MHz	851.000 MHz	100.000 kHz	831.89361 MHz	17.33 dBm	-27.67 dB
851.000 MHz	1.000 GHz	100.000 kHz	921.18332 MHz	-46.36 dBm	-33.36 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.90576 GHz	-34.24 dBm	-21.24 dB

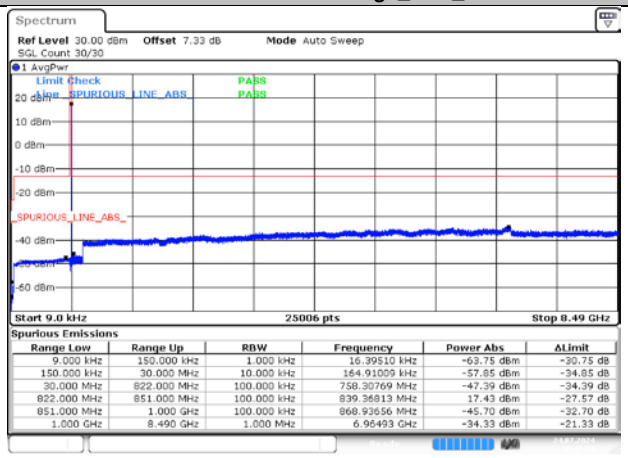
MCH / DFT-QPSK / Edge_1RB_Left



Spurious Emissions

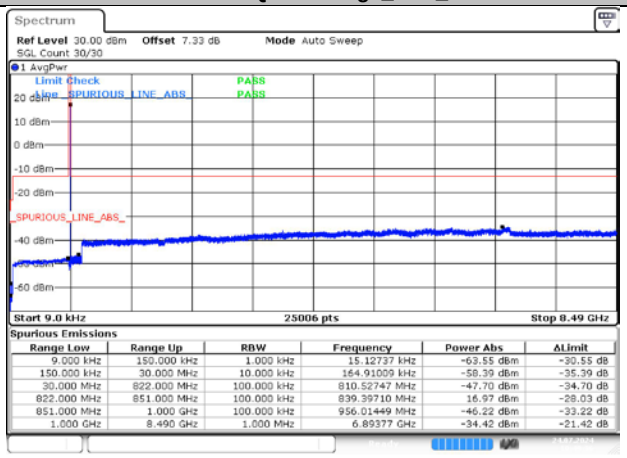
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	11.04246 kHz	-62.99 dBm	-29.99 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.18 dBm	-35.18 dB
30.000 MHz	822.000 MHz	100.000 kHz	728.24176 MHz	-47.70 dBm	-34.70 dB
822.000 MHz	851.000 MHz	100.000 kHz	831.92258 MHz	15.85 dBm	-29.15 dB
851.000 MHz	1.000 GHz	100.000 kHz	937.85465 MHz	-46.64 dBm	-33.64 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.16391 GHz	-34.24 dBm	-21.24 dB

HCH / DFT-Pi2BPSK / Edge_1RB_Left



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	16.39510 kHz	-63.75 dBm	-30.75 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-57.85 dBm	-34.85 dB
30.000 MHz	822.000 MHz	100.000 kHz	758.30769 MHz	-47.39 dBm	-34.39 dB
822.000 MHz	851.000 MHz	100.000 kHz	839.36813 MHz	17.43 dBm	-27.57 dB
851.000 MHz	1.000 GHz	100.000 kHz	868.93656 MHz	-45.70 dBm	-32.70 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.96493 GHz	-34.33 dBm	-21.33 dB

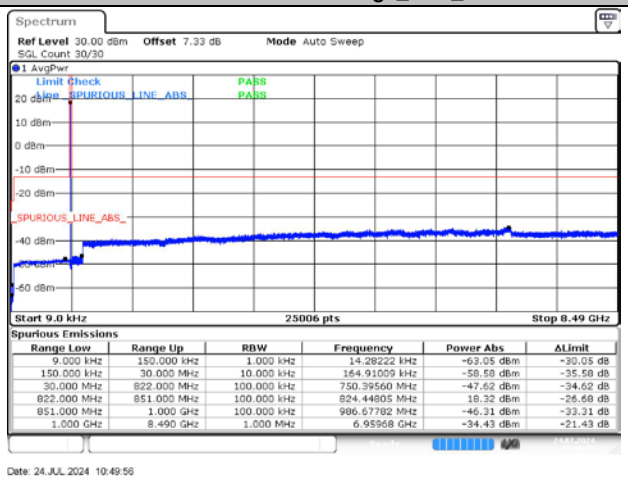
HCH / DFT-QPSK / Edge_1RB_Left



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	15.12737 kHz	-63.55 dBm	-30.55 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.39 dBm	-35.39 dB
30.000 MHz	822.000 MHz	100.000 kHz	810.52747 MHz	-47.70 dBm	-34.70 dB
822.000 MHz	851.000 MHz	100.000 kHz	839.39710 MHz	16.97 dBm	-28.03 dB
851.000 MHz	1.000 GHz	100.000 kHz	956.01449 MHz	-46.22 dBm	-33.22 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.89377 GHz	-34.42 dBm	-21.42 dB

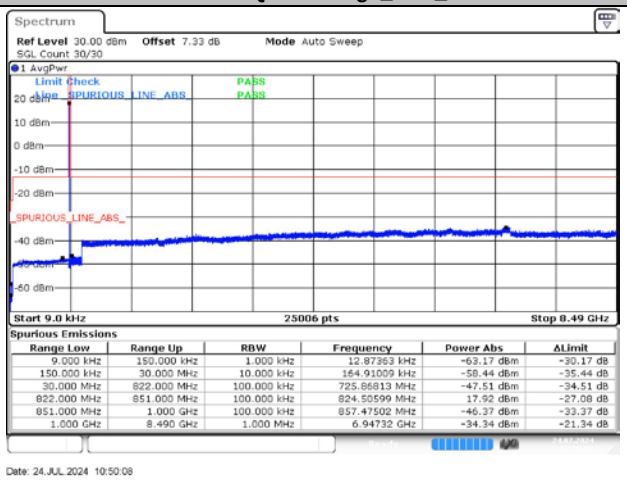
n5A / 15KHz / 15MHz

LCH / DFT-Pi2BPSK / Edge_1RB_Left



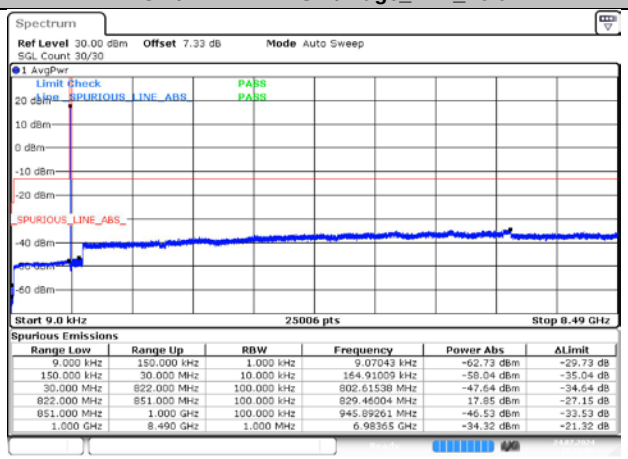
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	14.28222 kHz	-63.05 dBm	-30.05 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.58 dBm	-35.58 dB
30.000 MHz	822.000 MHz	100.000 kHz	750.39560 MHz	-47.62 dBm	-34.62 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.44805 MHz	18.32 dBm	-26.68 dB
851.000 MHz	1.000 GHz	100.000 kHz	986.67782 MHz	-46.31 dBm	-33.31 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.95968 GHz	-34.43 dBm	-21.43 dB

LCH / DFT-QPSK / Edge_1RB_Left



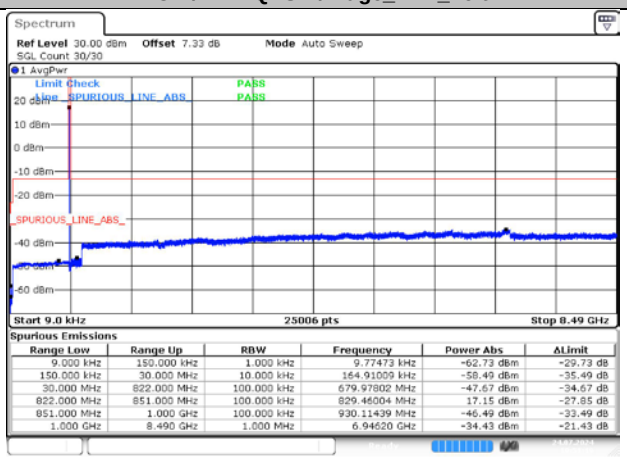
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	12.87363 kHz	-63.17 dBm	-30.17 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.44 dBm	-35.44 dB
30.000 MHz	822.000 MHz	100.000 kHz	725.86813 MHz	-47.51 dBm	-34.51 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.50599 MHz	17.92 dBm	-27.08 dB
851.000 MHz	1.000 GHz	100.000 kHz	857.47502 MHz	-46.37 dBm	-33.37 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.94732 GHz	-34.34 dBm	-21.34 dB

MCH / DFT-Pi2BPSK / Edge_1RB_Left



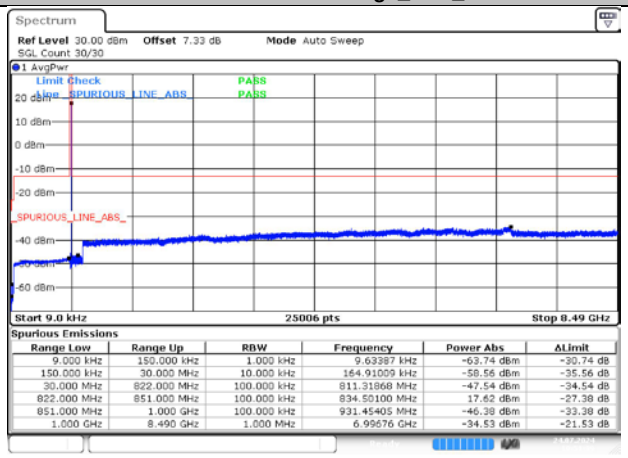
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-62.73 dBm	-29.73 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.04 dBm	-35.04 dB
30.000 MHz	822.000 MHz	100.000 kHz	802.61538 MHz	-47.64 dBm	-34.64 dB
822.000 MHz	851.000 MHz	100.000 kHz	829.46004 MHz	17.85 dBm	-27.15 dB
851.000 MHz	1.000 GHz	100.000 kHz	945.89261 MHz	-46.53 dBm	-33.53 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.98365 GHz	-34.32 dBm	-21.32 dB

MCH / DFT-QPSK / Edge_1RB_Left



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.77473 kHz	-62.73 dBm	-29.73 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.49 dBm	-35.49 dB
30.000 MHz	822.000 MHz	100.000 kHz	679.97802 MHz	-47.67 dBm	-34.67 dB
822.000 MHz	851.000 MHz	100.000 kHz	829.46004 MHz	17.15 dBm	-27.85 dB
851.000 MHz	1.000 GHz	100.000 kHz	930.11439 MHz	-46.49 dBm	-33.49 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.94620 GHz	-34.43 dBm	-21.43 dB

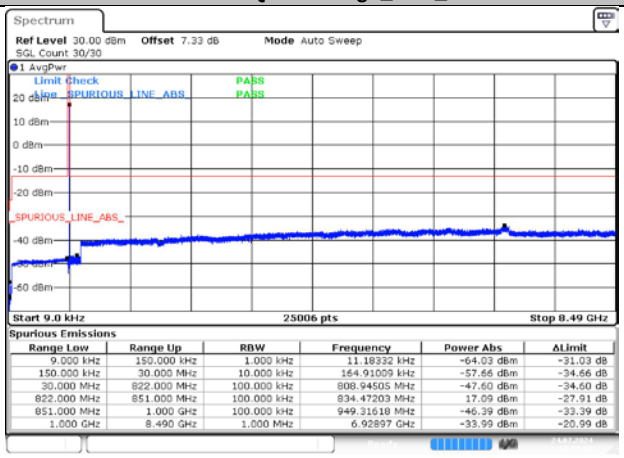
HCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.63387 kHz	-63.74 dBm	-30.74 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.56 dBm	-35.56 dB
30.000 MHz	822.000 MHz	100.000 kHz	811.31868 MHz	-47.54 dBm	-34.54 dB
822.000 MHz	851.000 MHz	100.000 kHz	834.50100 MHz	17.62 dBm	-27.38 dB
851.000 MHz	1.000 GHz	100.000 kHz	931.45405 MHz	-46.38 dBm	-33.38 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.99676 GHz	-34.53 dBm	-21.53 dB

HCH / DFT-QPSK / Edge_1RB_Left

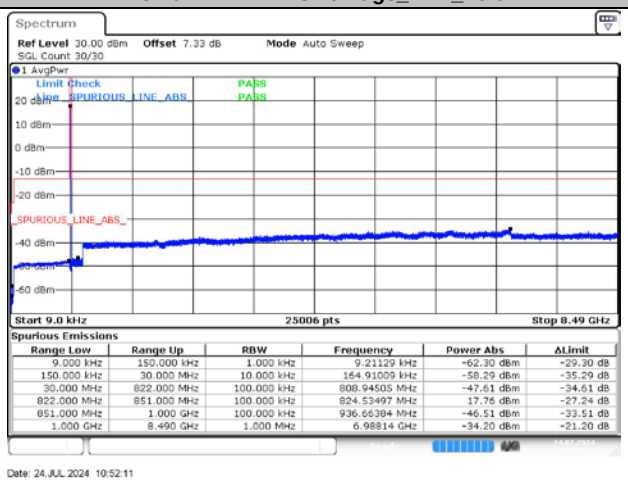


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	11.18332 kHz	-64.03 dBm	-31.03 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-57.66 dBm	-34.66 dB
30.000 MHz	822.000 MHz	100.000 kHz	808.94505 MHz	-47.60 dBm	-34.60 dB
822.000 MHz	851.000 MHz	100.000 kHz	834.47203 MHz	17.09 dBm	-27.91 dB
851.000 MHz	1.000 GHz	100.000 kHz	949.31618 MHz	-46.39 dBm	-33.39 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.92897 GHz	-33.99 dBm	-20.99 dB

n5A / 15KHz / 20MHz

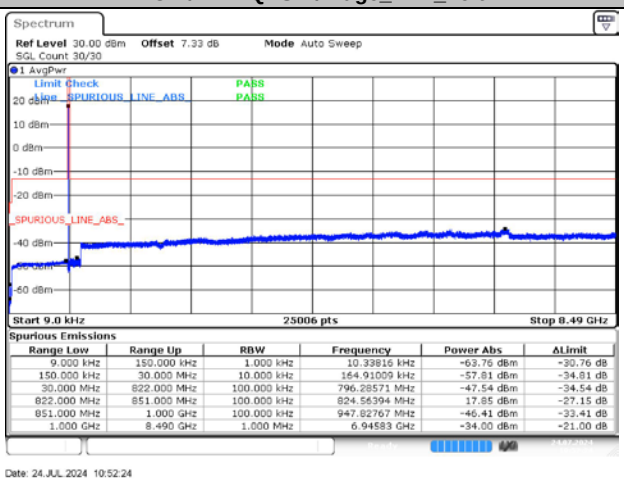
LCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.21129 kHz	-62.30 dBm	-29.30 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-58.29 dBm	-35.29 dB
30.000 MHz	822.000 MHz	100.000 kHz	808.94505 MHz	-47.61 dBm	-34.61 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.53497 MHz	17.76 dBm	-27.24 dB
851.000 MHz	1.000 GHz	100.000 kHz	936.66384 MHz	-46.51 dBm	-33.51 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.98814 GHz	-34.20 dBm	-21.20 dB

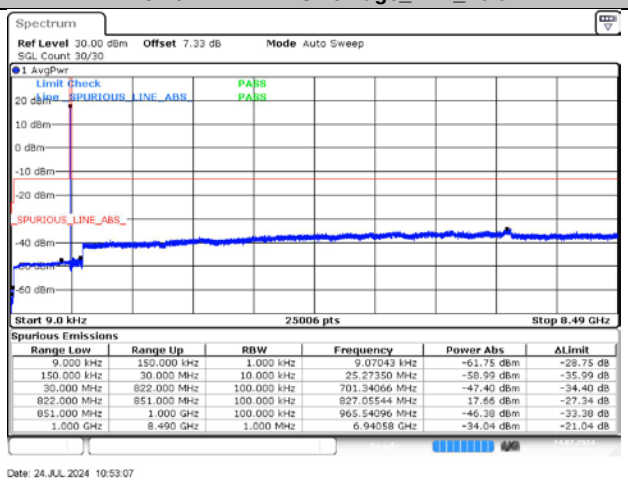
LCH / DFT-QPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	10.33816 kHz	-63.76 dBm	-30.76 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-57.81 dBm	-34.81 dB
30.000 MHz	822.000 MHz	100.000 kHz	796.28571 MHz	-47.54 dBm	-34.54 dB
822.000 MHz	851.000 MHz	100.000 kHz	824.56394 MHz	17.85 dBm	-27.15 dB
851.000 MHz	1.000 GHz	100.000 kHz	947.82767 MHz	-46.41 dBm	-33.41 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.94583 GHz	-34.00 dBm	-21.00 dB

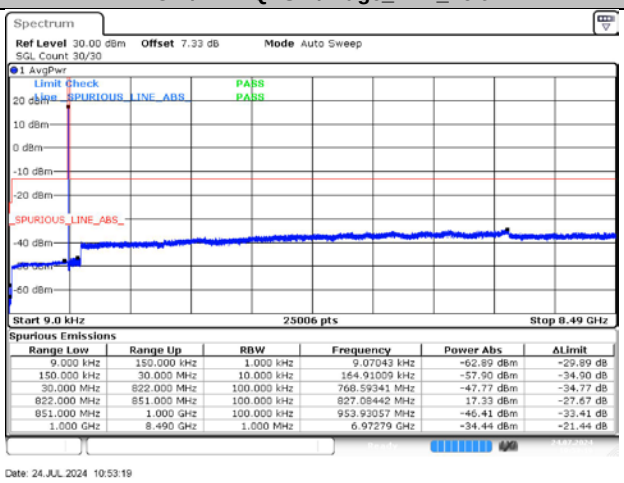
MCH / DFT-Pi2BPSK / Edge_1RB_Left



Spurious Emissions

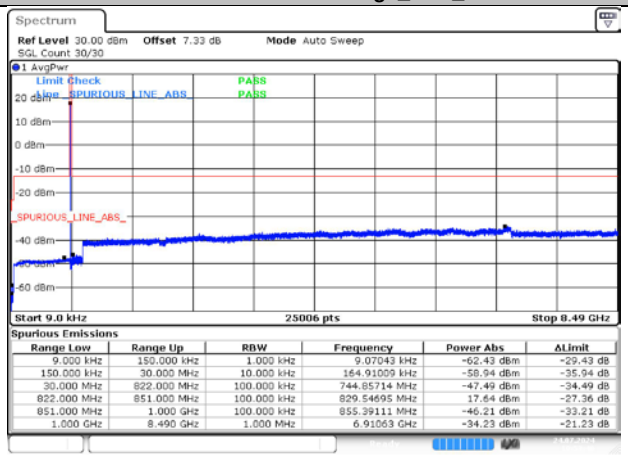
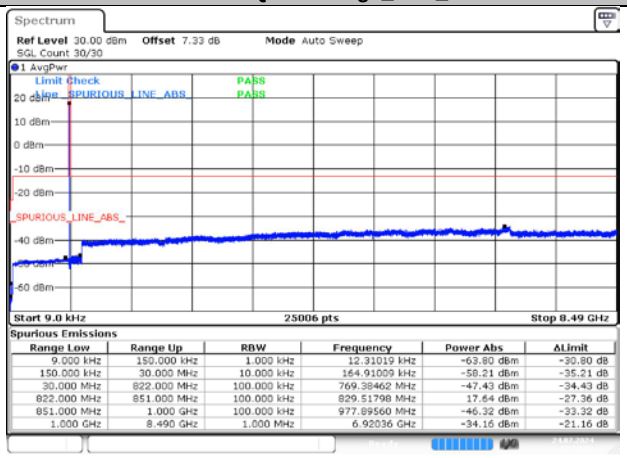
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-61.75 dBm	-28.75 dB
150.000 kHz	30.000 MHz	10.000 kHz	25.27350 MHz	-58.99 dBm	-35.99 dB
30.000 MHz	822.000 MHz	100.000 kHz	701.34066 MHz	-47.40 dBm	-34.40 dB
822.000 MHz	851.000 MHz	100.000 kHz	827.05544 MHz	17.66 dBm	-27.34 dB
851.000 MHz	1.000 GHz	100.000 kHz	965.54096 MHz	-46.38 dBm	-33.38 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.94058 GHz	-34.04 dBm	-21.04 dB

MCH / DFT-QPSK / Edge_1RB_Left



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
9.000 kHz	150.000 kHz	1.000 kHz	9.07043 kHz	-62.89 dBm	-29.89 dB
150.000 kHz	30.000 MHz	10.000 kHz	164.91009 kHz	-57.90 dBm	-34.90 dB
30.000 MHz	822.000 MHz	100.000 kHz	768.59341 MHz	-47.77 dBm	-34.77 dB
822.000 MHz	851.000 MHz	100.000 kHz	827.08442 MHz	17.33 dBm	-27.67 dB
851.000 MHz	1.000 GHz	100.000 kHz	953.93057 MHz	-46.41 dBm	-33.41 dB
1.000 GHz	8.490 GHz	1.000 MHz	6.97279 GHz	-34.44 dBm	-21.44 dB

HCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Left
	

7. Frequency Stability

7.1. Test Results

7.1.1. Frequency Error Vs Voltage

SCS	Bandwidth	Channel	RB Config	Modulation	Temperature	Voltage	Deviation Result		Verdict
							(Hz)	(ppm)	
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	LV	-7.80	-0.009325	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	NV	-9.90	-0.011835	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	HV	-9.90	-0.011835	Pass

7.1.2. Frequency Error Vs Temperature

SCS	Bandwidth	Channel	RB Config	Modulation	Temperature	Voltage	Deviation Result		Verdict
							(Hz)	(ppm)	
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-30℃	NV	-7.20	-0.008607	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-20℃	NV	-5.80	-0.006934	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-10℃	NV	-9.40	-0.011237	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	0℃	NV	-9.50	-0.011357	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	10℃	NV	-8.60	-0.010281	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	20℃	NV	-11.50	-0.013748	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	30℃	NV	-7.30	-0.008727	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	40℃	NV	-8.10	-0.009683	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	50℃	NV	-6.60	-0.007890	Pass

The End