

Appendix for NB-IOT Band 5

Product Name: Remote Street Lighting Controller

Model No: AGIL LCU 302

Appendix A: Average Power Output Data

Test Result

Band	OpMode	SCS	BW	Modulation	Channel	Tones	Conducted POWER(dBm)	Verdict
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20401	1@0	20.66	PASS
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20401	1@47	20.57	PASS
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20525	1@0	20.68	PASS
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20525	1@47	20.55	PASS
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20649	1@0	20.49	PASS
Band 5	Stand-Al one	3.75kHz	NaN	BPSK	20649	1@47	20.35	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20401	1@0	20.70	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20401	1@47	20.63	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20525	1@0	20.68	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20525	1@47	20.61	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20649	1@0	20.57	PASS
Band 5	Stand-Al one	3.75kHz	NaN	QPSK	20649	1@47	20.39	PASS
Band 5	Stand-Al one	15kHz	NaN	BPSK	20401	1@0	20.66	PASS
Band 5	Stand-Al one	15kHz	NaN	BPSK	20401	1@11	20.69	PASS
Band 5	Stand-Al one	15kHz	NaN	BPSK	20525	1@0	20.83	PASS
Band 5	Stand-Al one	15kHz	NaN	BPSK	20525	1@11	20.85	PASS
Band 5	Stand-Al one	15kHz	NaN	BPSK	20649	1@0	20.70	PASS

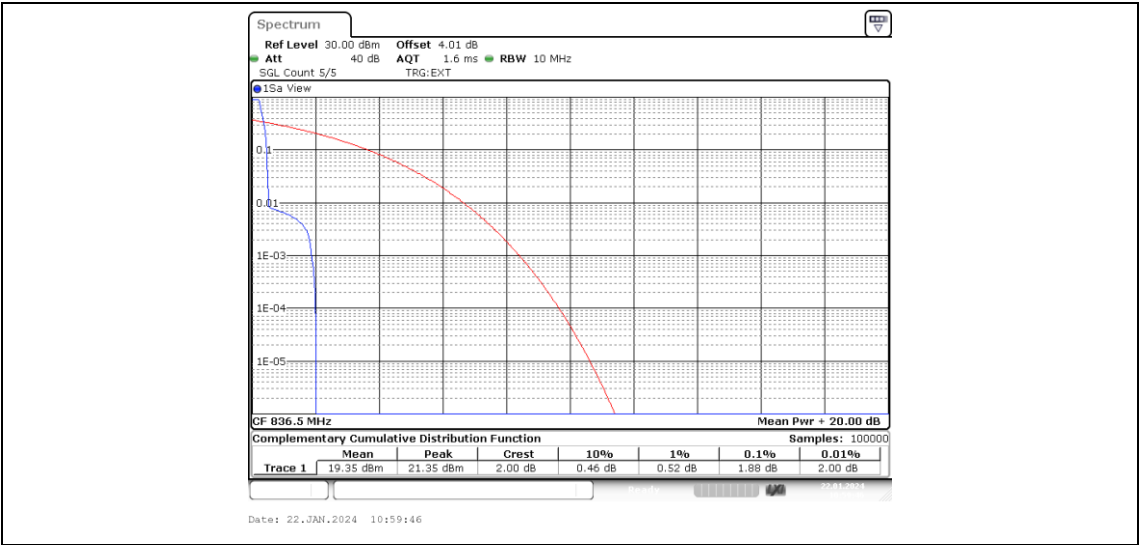
Band 5	Stand-Al one	15kHz	NaN	BPSK	20649	1@11	20.57	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20401	1@0	20.97	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20401	1@11	20.81	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20401	3@3	20.84	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20525	1@0	20.92	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20525	1@11	20.95	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20525	3@3	20.84	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20649	1@0	20.80	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20649	1@11	20.67	PASS
Band 5	Stand-Al one	15kHz	NaN	QPSK	20649	3@3	20.72	PASS

Appendix B: Peak-to-Average Ratio(CCDF)

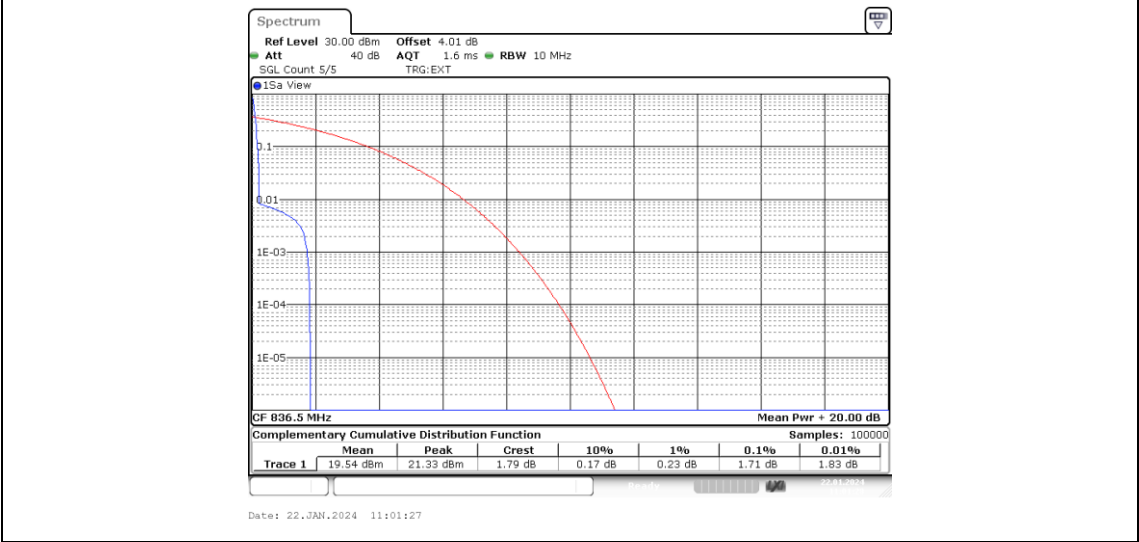
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20525	1@0	1.88	<=13	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20525	1@47	1.71	<=13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	0.55	<=13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@47	1.42	<=13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	1@0	1.42	<=13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	1@11	1.51	<=13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	3@3	3.45	<=13	PASS

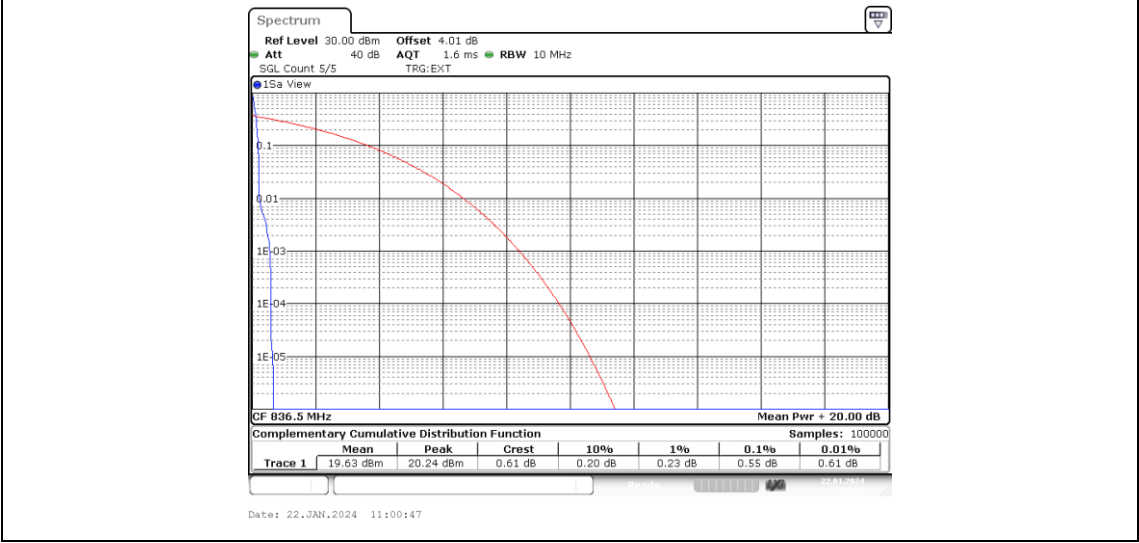
Test Graphs

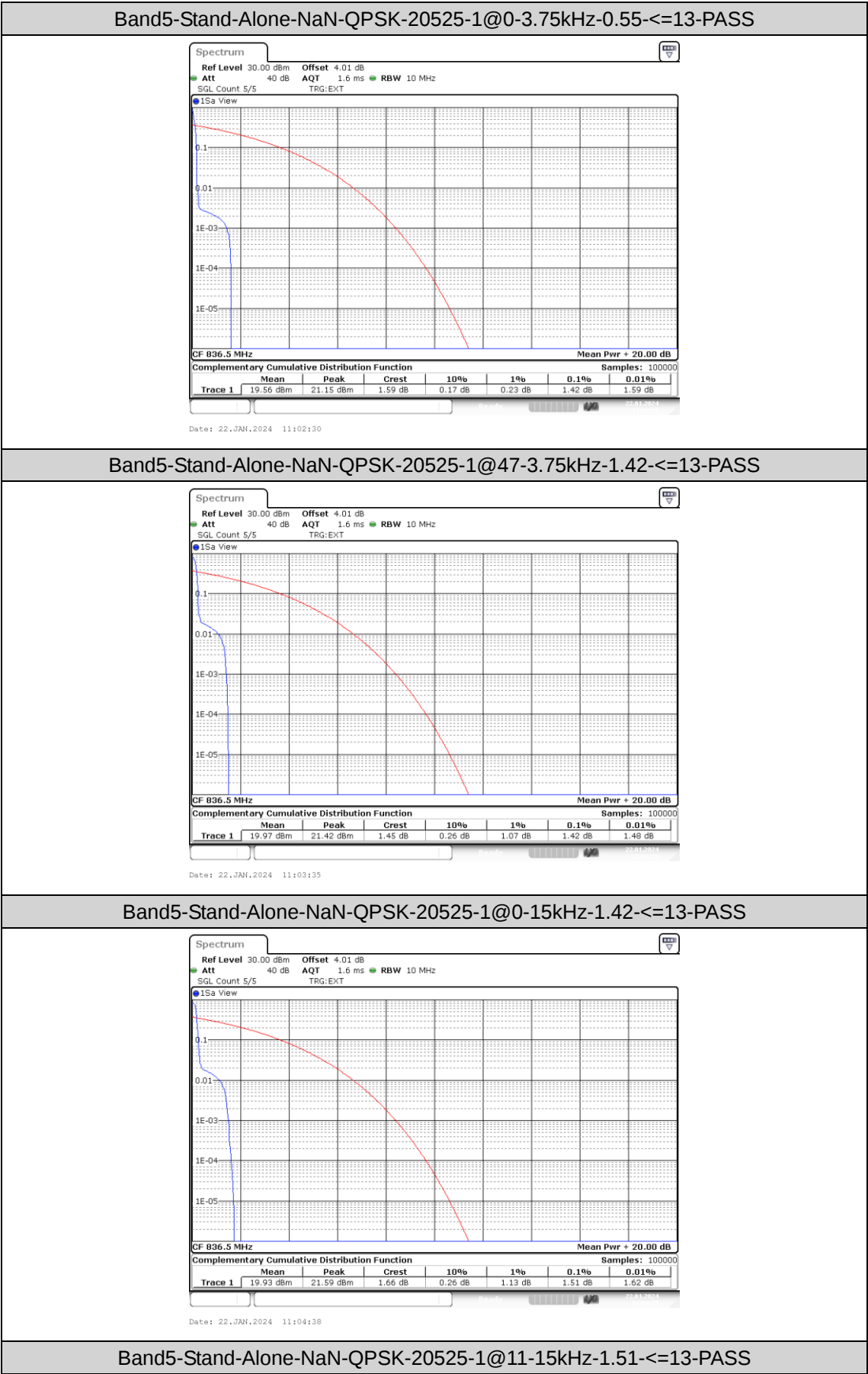


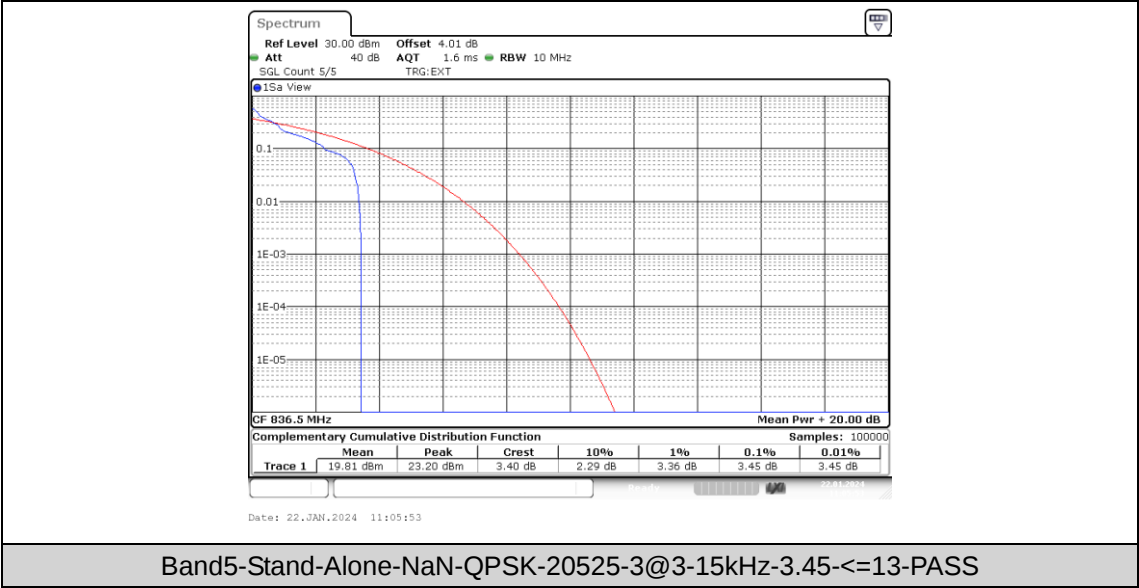
Band5-Stand-Alone-NaN-BPSK-20525-1@0-3.75kHz-1.88-<=13-PASS



Band5-Stand-Alone-NaN-BPSK-20525-1@47-3.75kHz-1.71-<=13-PASS







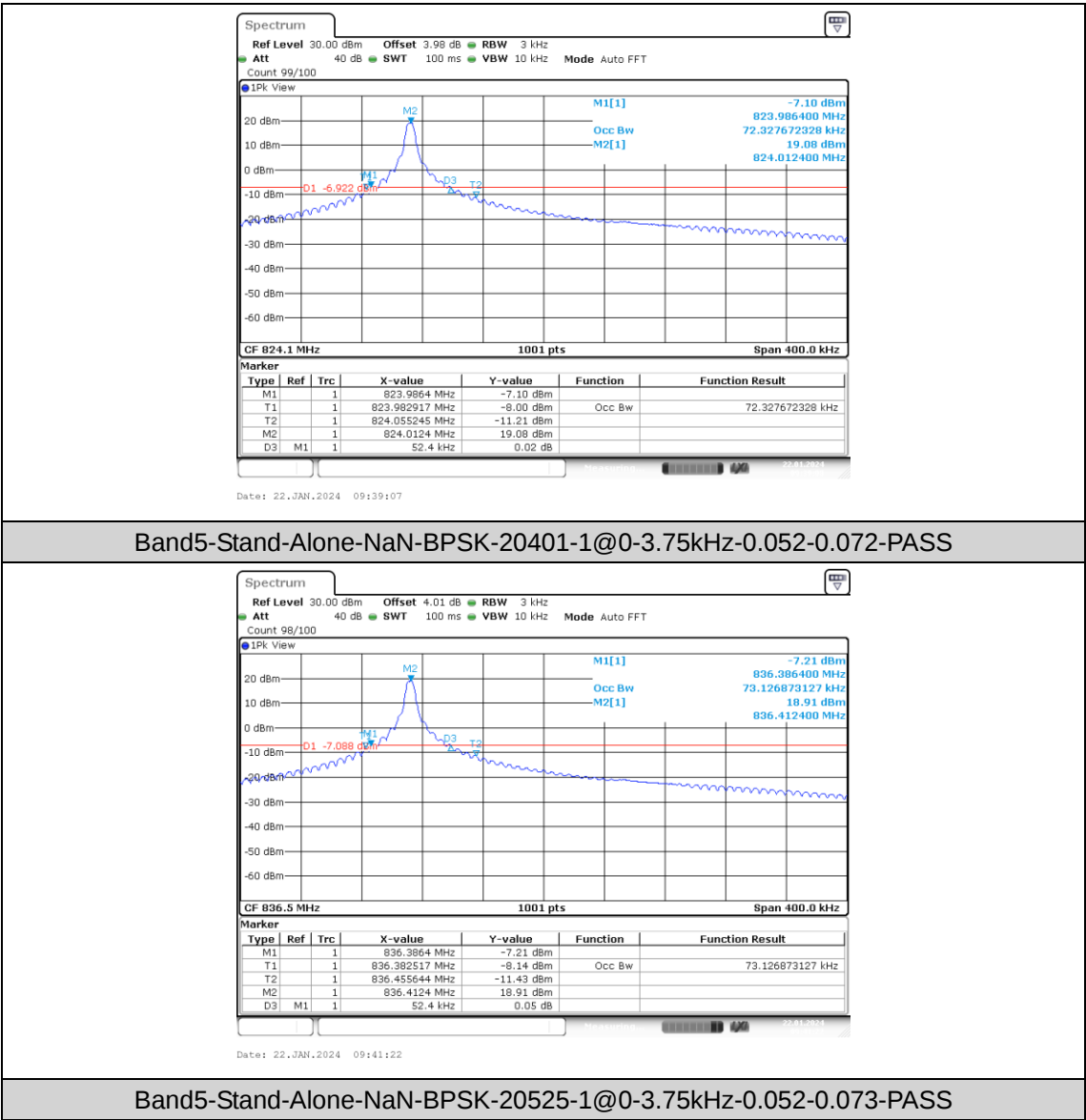
Appendix C: Emission Bandwidth

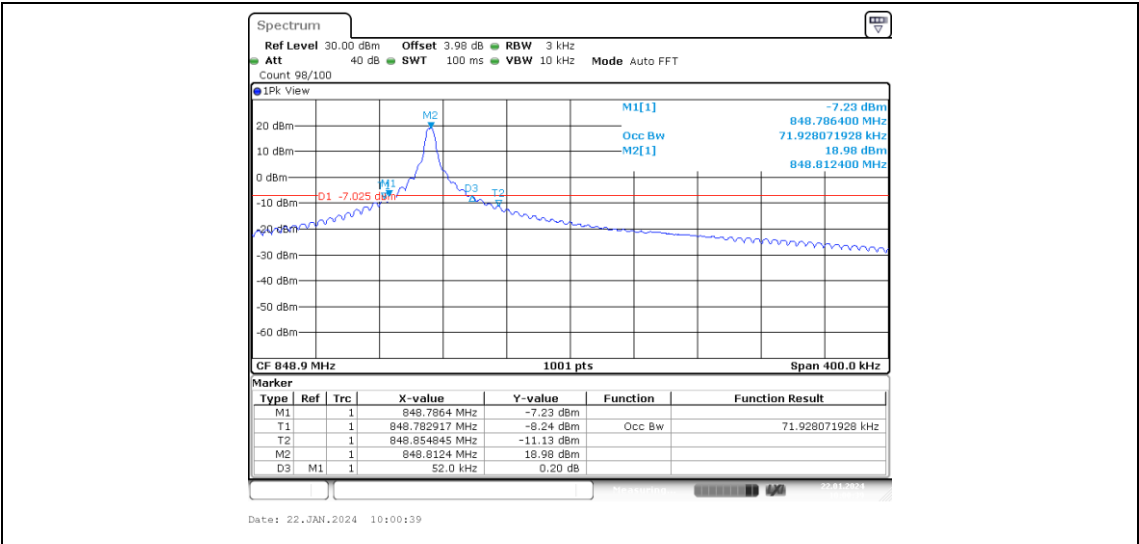
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20401	1@0	0.072	0.052	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20525	1@0	0.073	0.052	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20649	1@0	0.072	0.052	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	0.086	0.052	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	0.086	0.052	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	0.085	0.052	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	0.131	0.107	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	12@0	0.184	0.250	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@0	0.131	0.107	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	12@0	0.184	0.250	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	0.131	0.107	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	12@0	0.184	0.250	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	1@0	0.129	0.118	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	0.184	0.250	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	1@0	0.129	0.118	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	12@0	0.184	0.250	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	1@0	0.129	0.118	PASS

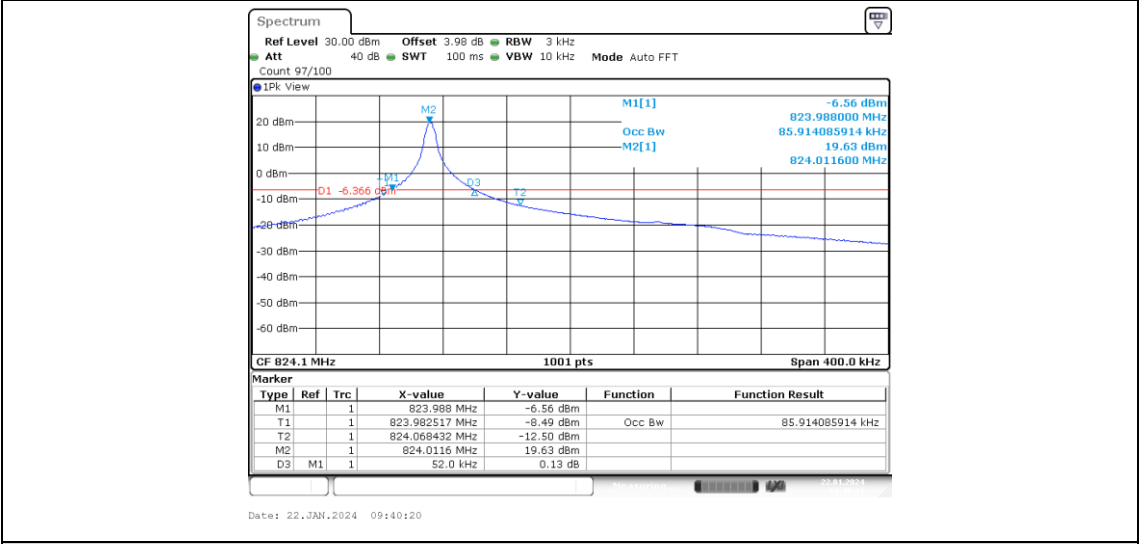
Band5	Stand-Al one	15kHz	NaN	QPSK	20649	12@0	0.184	0.250	PASS
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Test Graphs

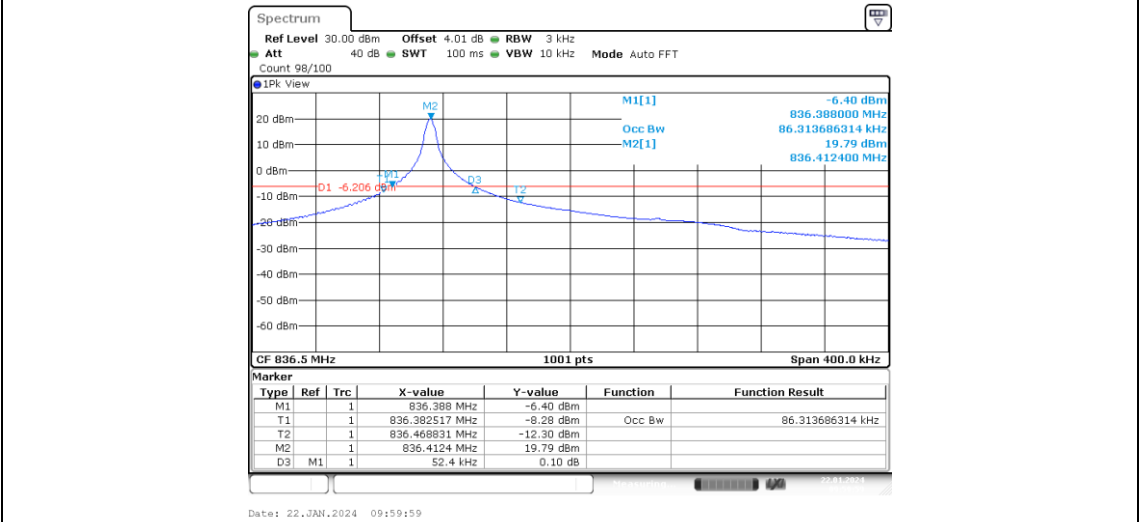




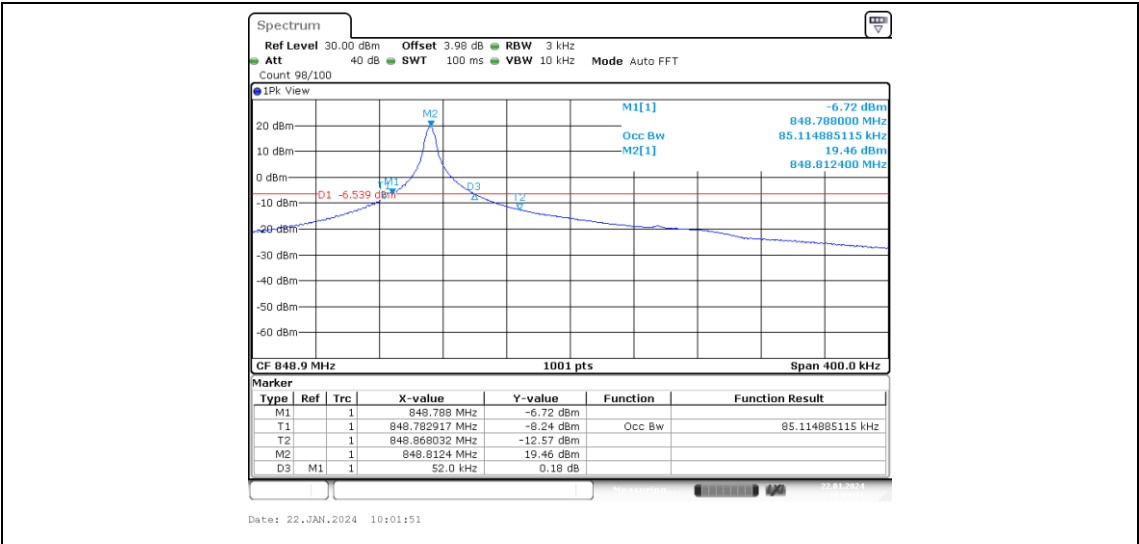
Band5-Stand-Alone-NaN-BPSK-20649-1@0-3.75kHz-0.052-0.072-PASS



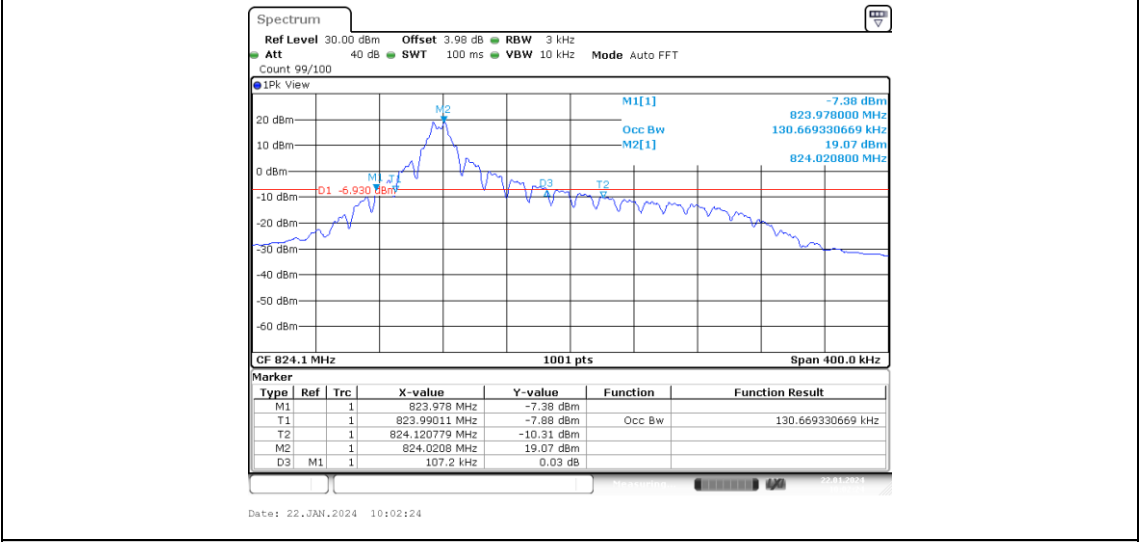
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz-0.052-0.086-PASS



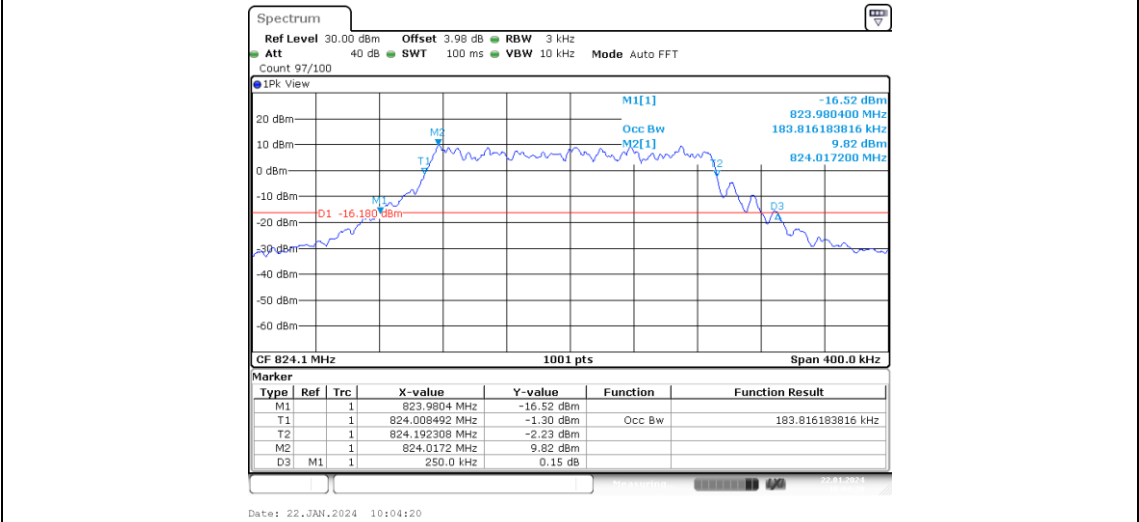
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-0.052-0.086-PASS



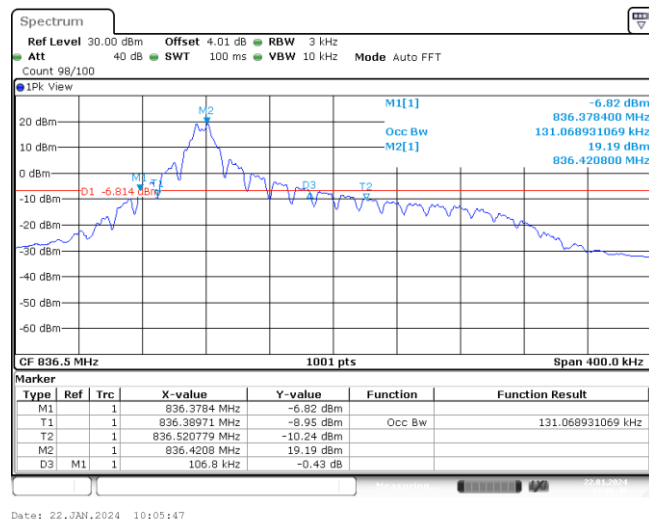
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-0.052-0.085-PASS



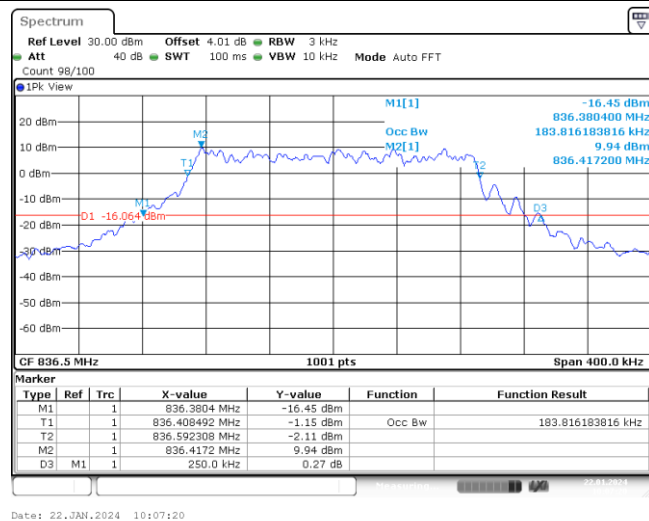
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-0.107-0.131-PASS



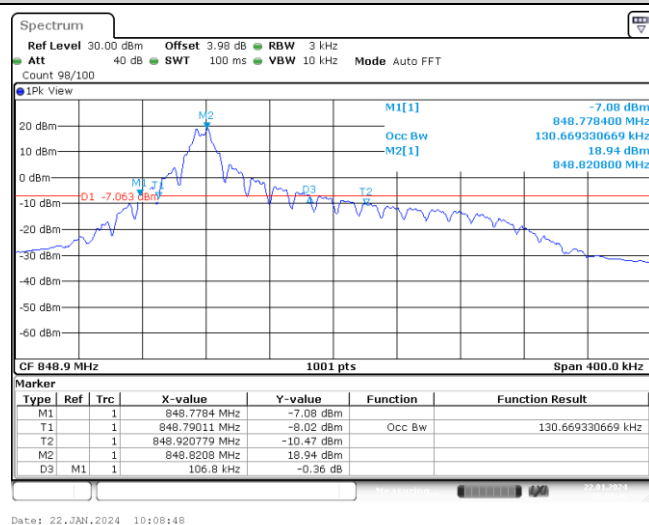
Band5-Stand-Alone-NaN-BPSK-20401-12@0-15kHz-0.250-0.184-PASS



Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-0.107-0.131-PASS



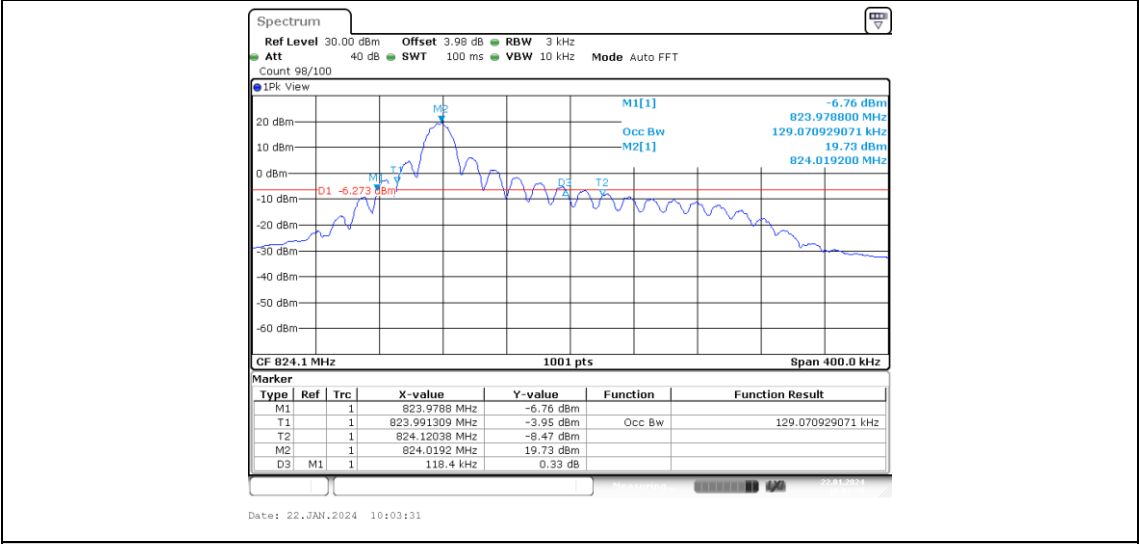
Band5-Stand-Alone-NaN-BPSK-20525-12@0-15kHz-0.250-0.184-PASS



Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-0.107-0.131-PASS



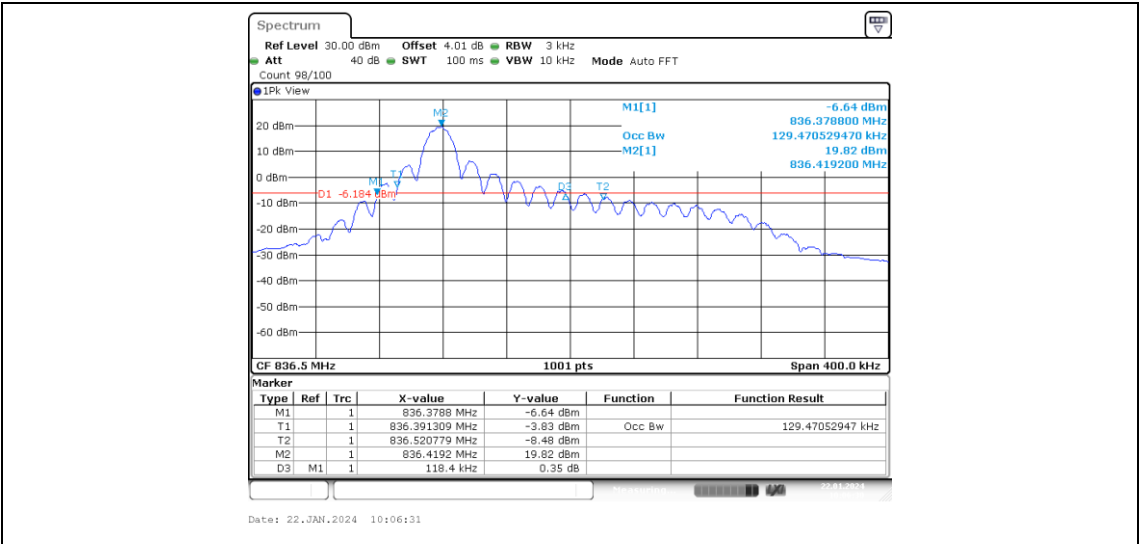
Band5-Stand-Alone-NaN-BPSK-20649-12@0-15kHz-0.250-0.184-PASS



Band5-Stand-Alone-NaN-QPSK-20401-1@0-15kHz-0.118-0.129-PASS



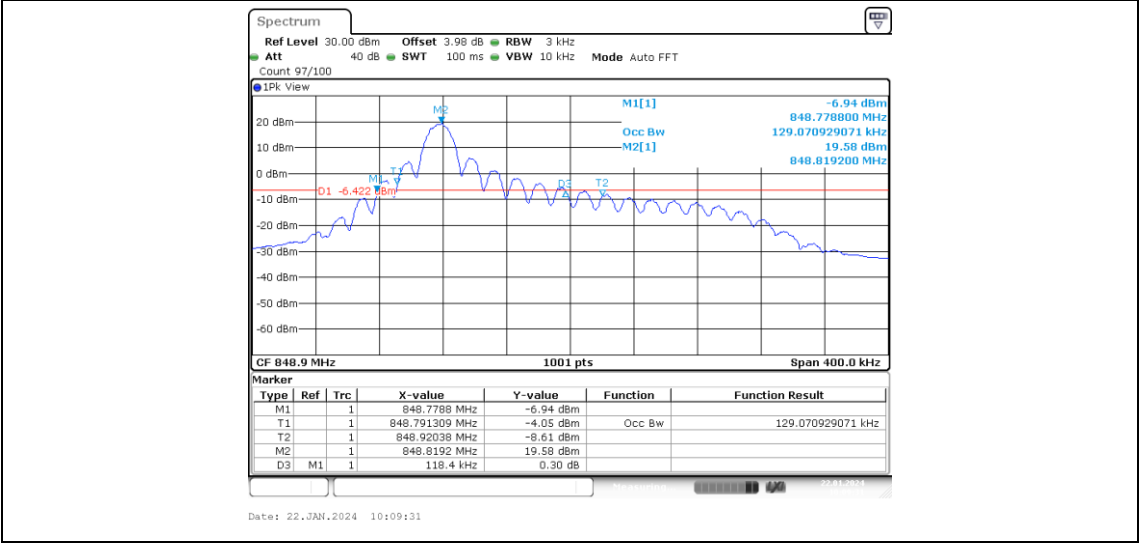
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-0.250-0.184-PASS



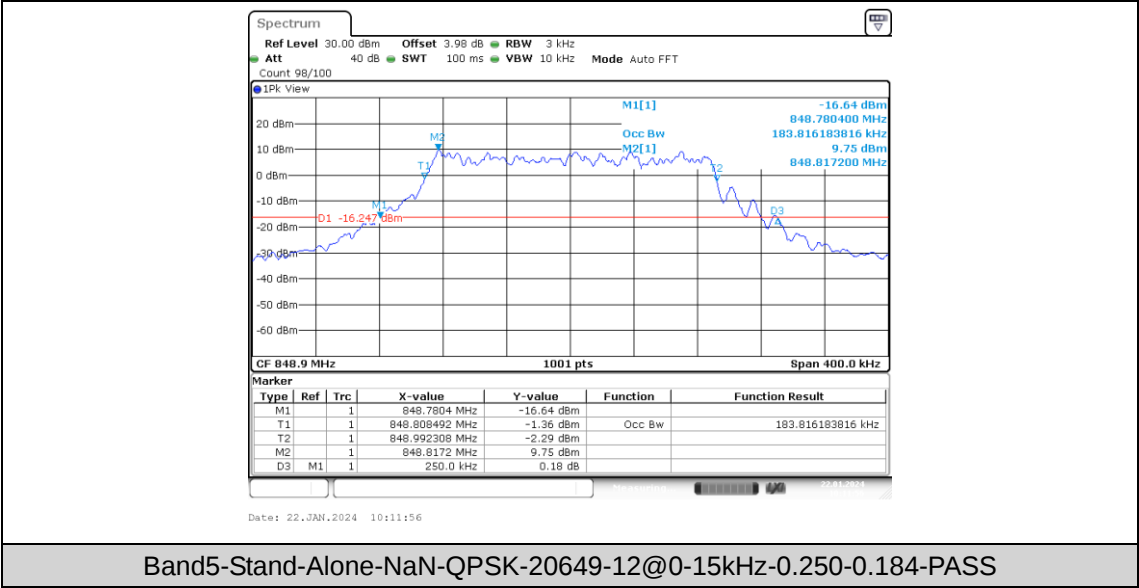
Band5-Stand-Alone-NaN-QPSK-20525-1@0-15kHz-0.118-0.129-PASS



Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-0.250-0.184-PASS



Band5-Stand-Alone-NaN-QPSK-20649-1@0-15kHz-0.118-0.129-PASS



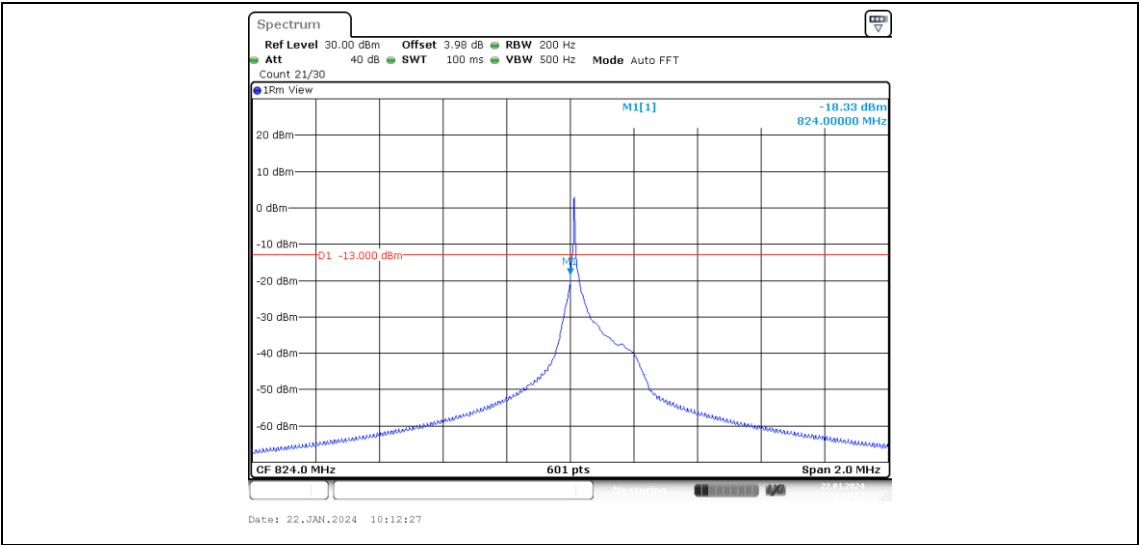
Appendix D: Band Edge

Test Result

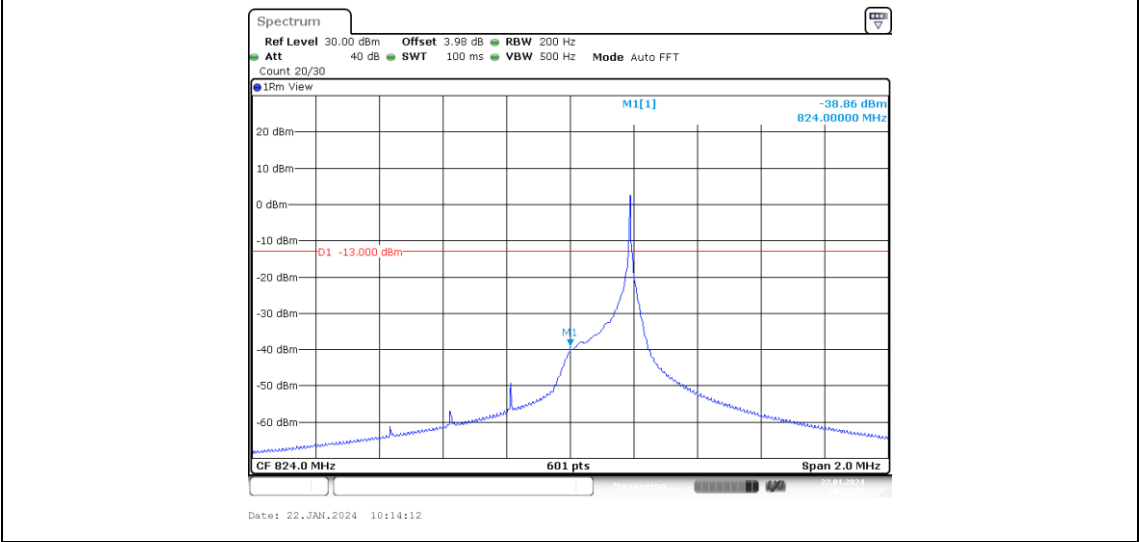
Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Verdict
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20401	1@0	-18.33	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20401	1@47	-38.86	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20649	1@0	-39.97	PASS
Band5	Stand-Alone	3.75kHz	NaN	BPSK	20649	1@47	-18.83	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	-19.80	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@47	-39.26	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	-41.35	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@47	-20.11	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	-16.86	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@11	-35.67	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	12@0	-28.42	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	-36.33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@11	-17.55	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	12@0	-23.43	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	1@0	-19.35	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	1@11	-37.95	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	-27.6	PASS

							8	
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	1@0	-37.2 4	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	1@11	-18.4 6	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	12@0	-22.4 0	PASS

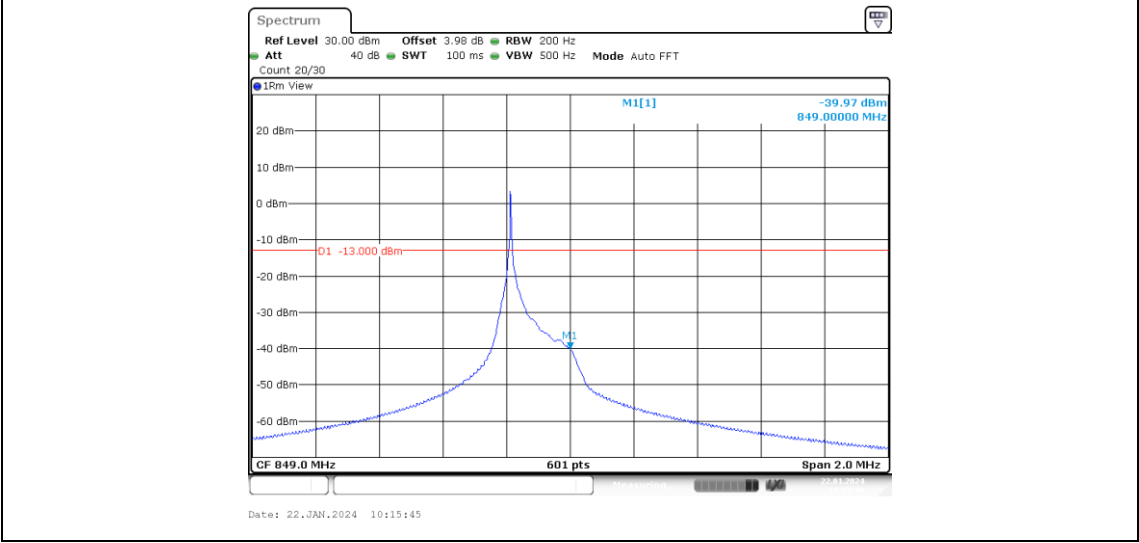
Test Graphs



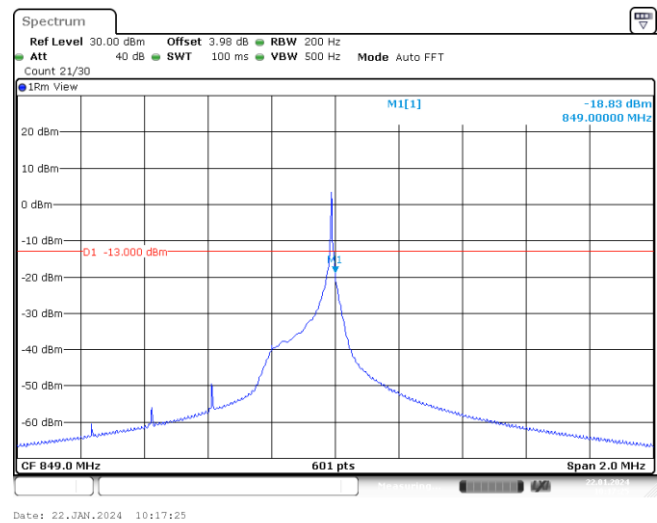
Band5-Stand-Alone-NaN-BPSK-20401-1@0-3.75kHz--18.33-PASS



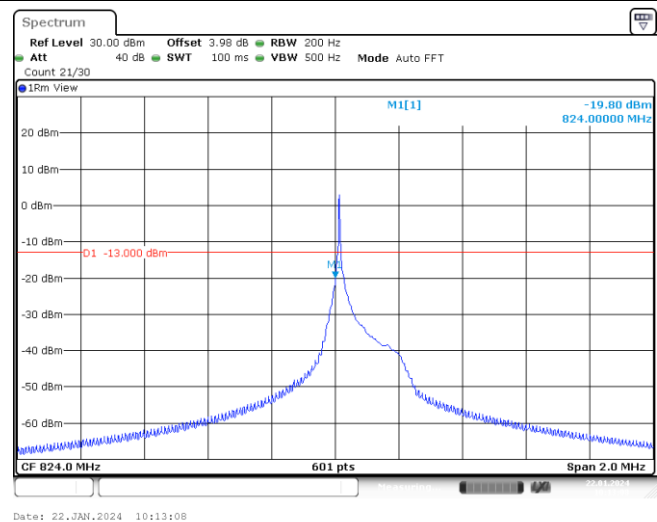
Band5-Stand-Alone-NaN-BPSK-20401-1@47-3.75kHz--38.86-PASS



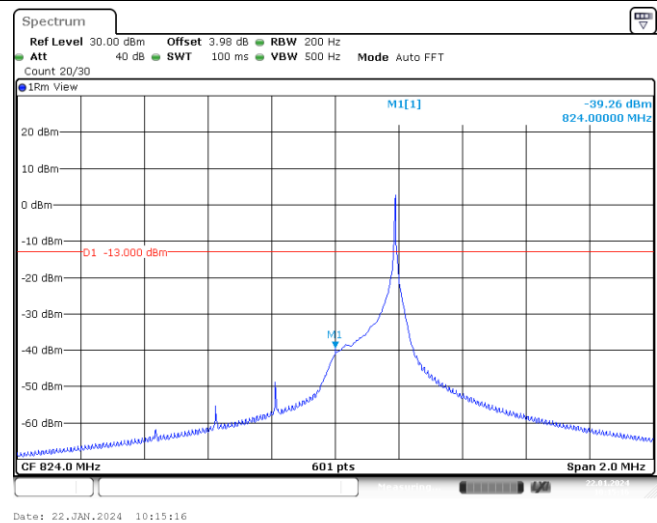
Band5-Stand-Alone-NaN-BPSK-20649-1@0-3.75kHz--39.97-PASS



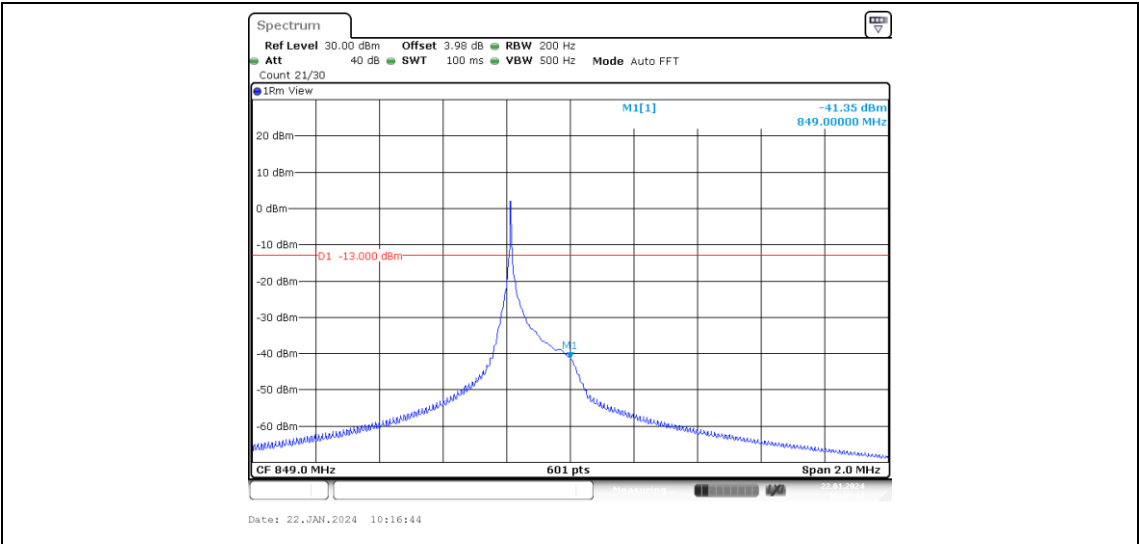
Band5-Stand-Alone-NaN-BPSK-20649-1@47-3.75kHz--18.83-PASS



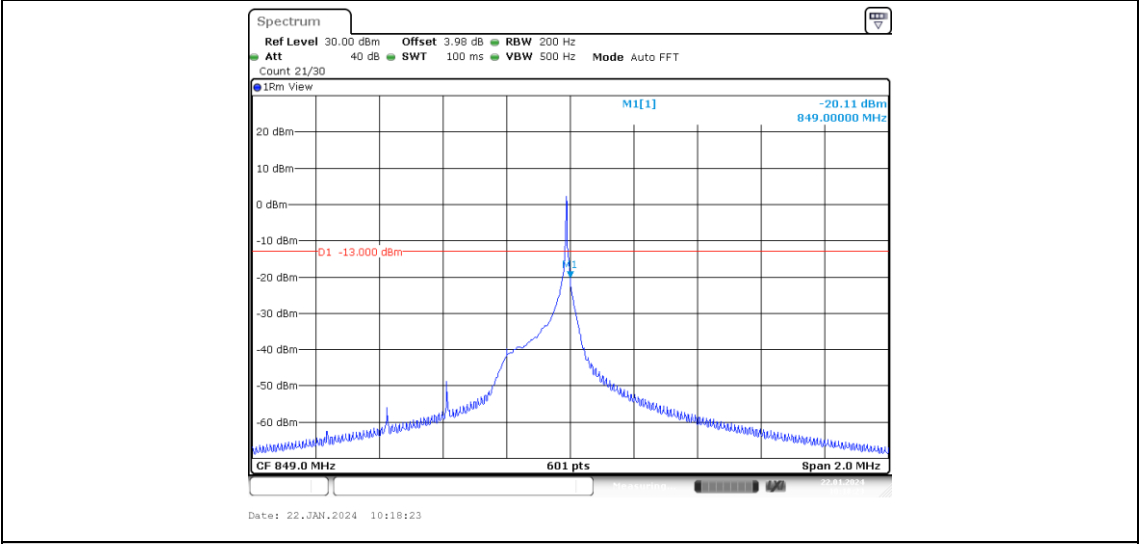
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz--19.80-PASS



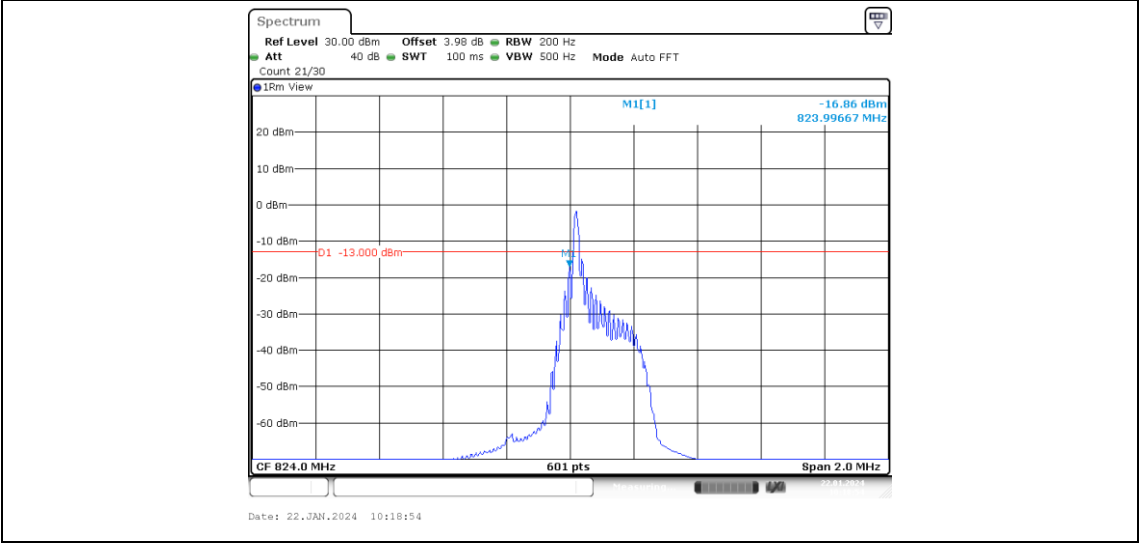
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz--39.26-PASS



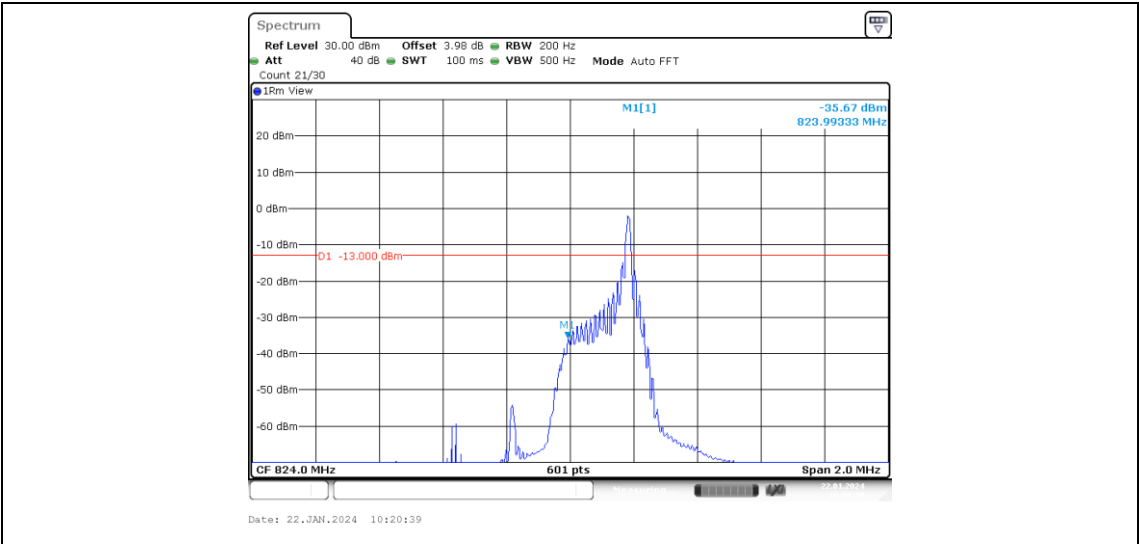
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz--41.35-PASS



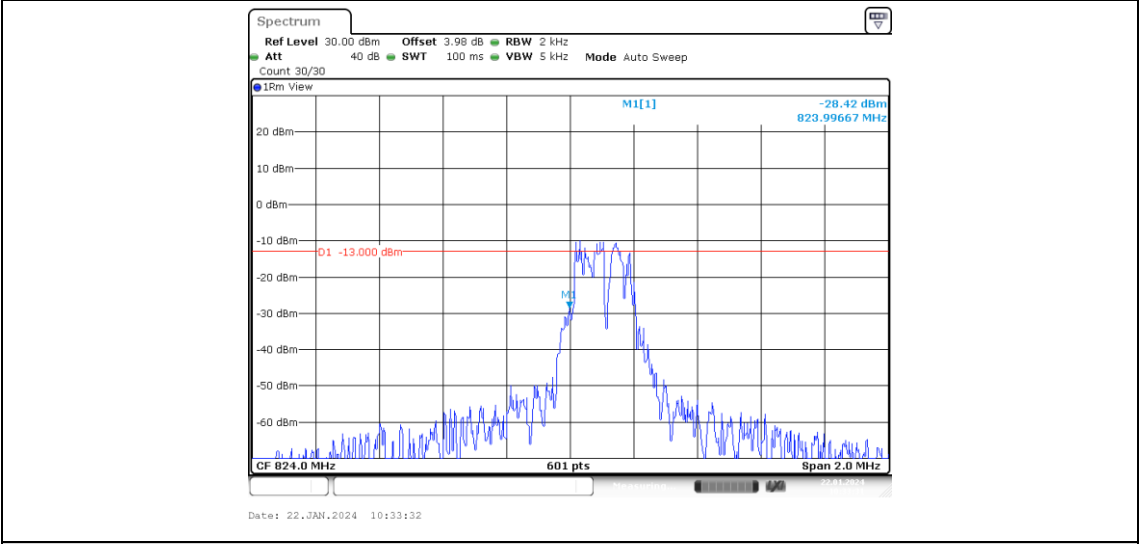
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz--20.11-PASS



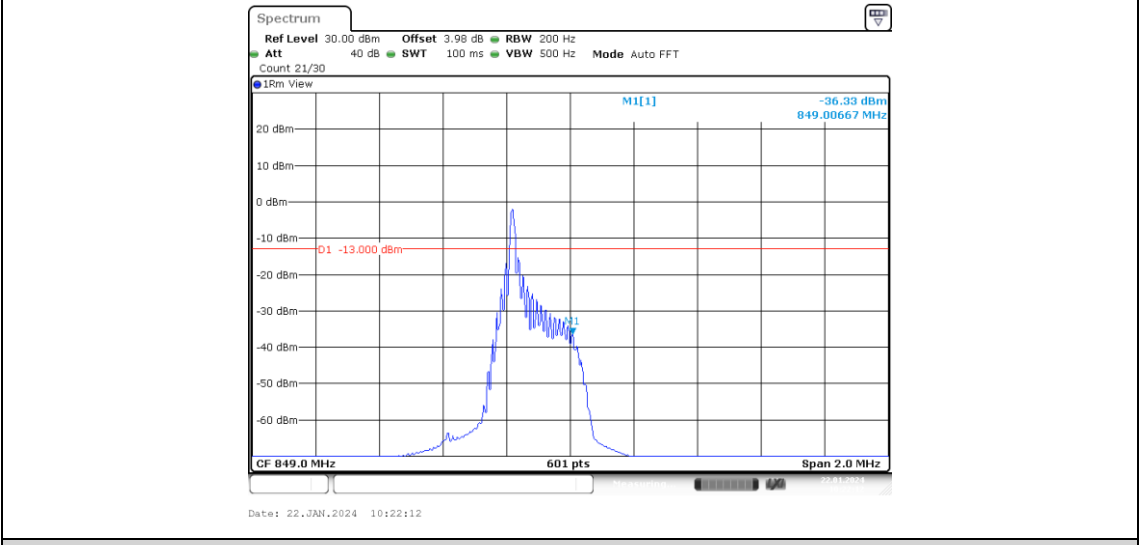
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz--16.86-PASS



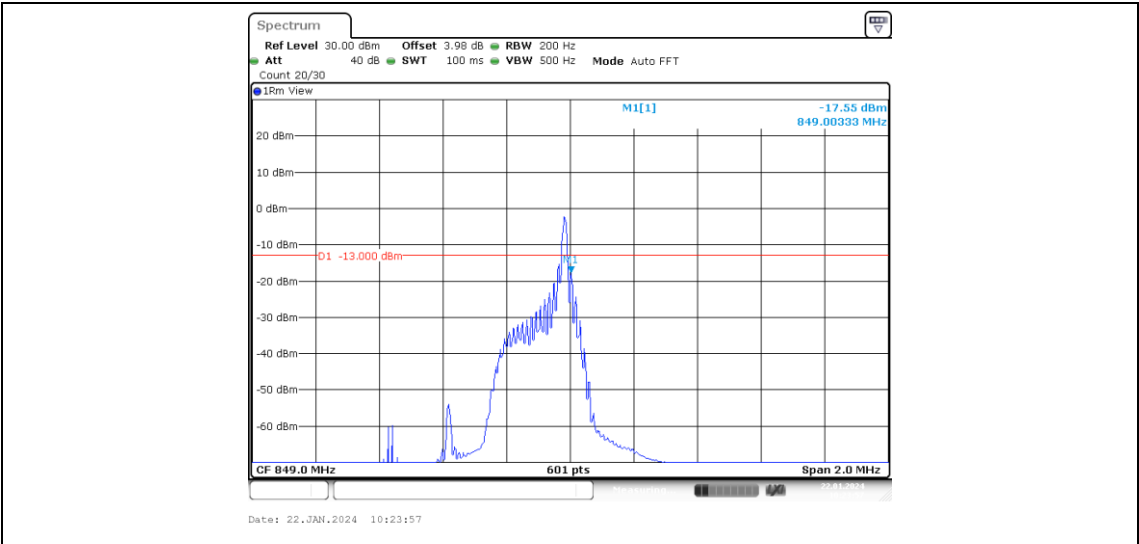
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz--35.67-PASS



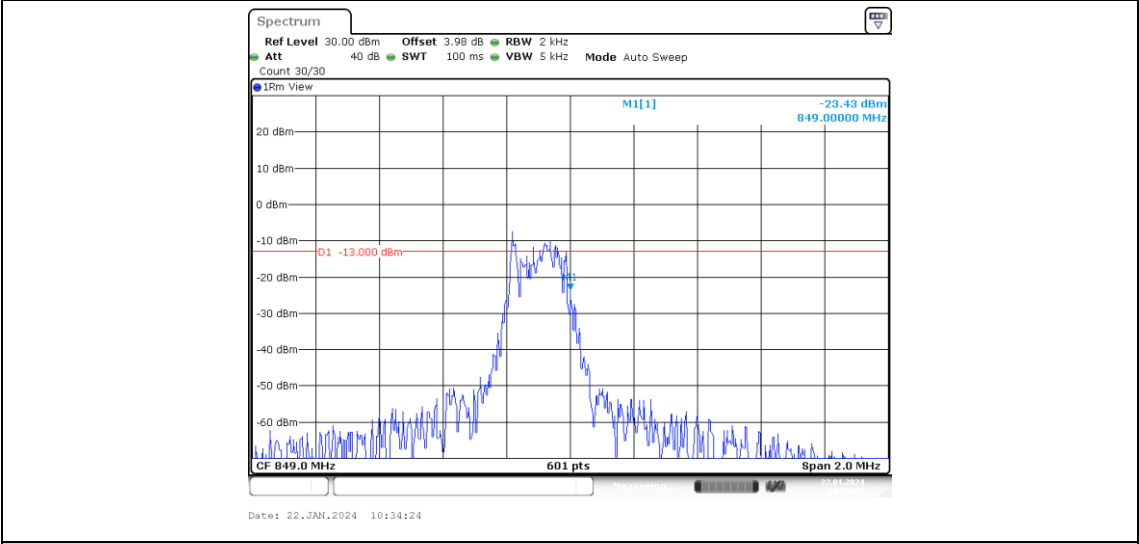
Band5-Stand-Alone-NaN-BPSK-20401-12@0-15kHz--28.42-PASS



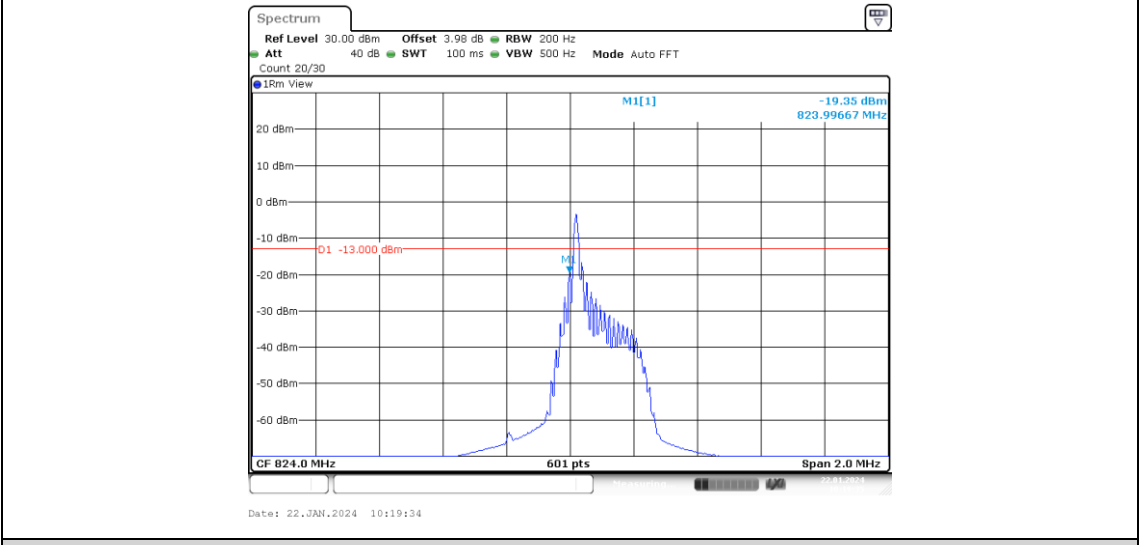
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz--36.33-PASS



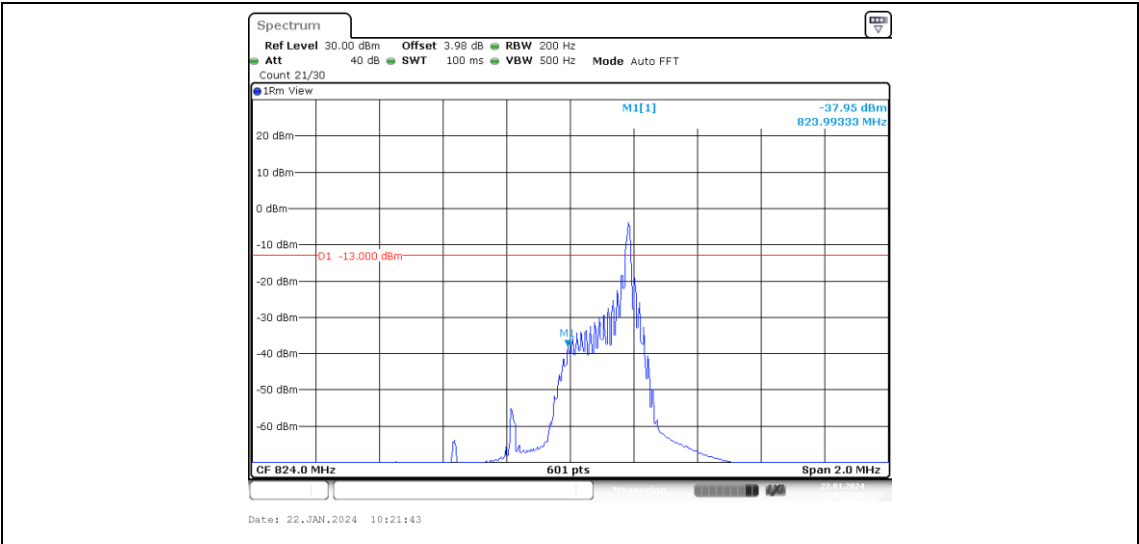
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz--17.55-PASS



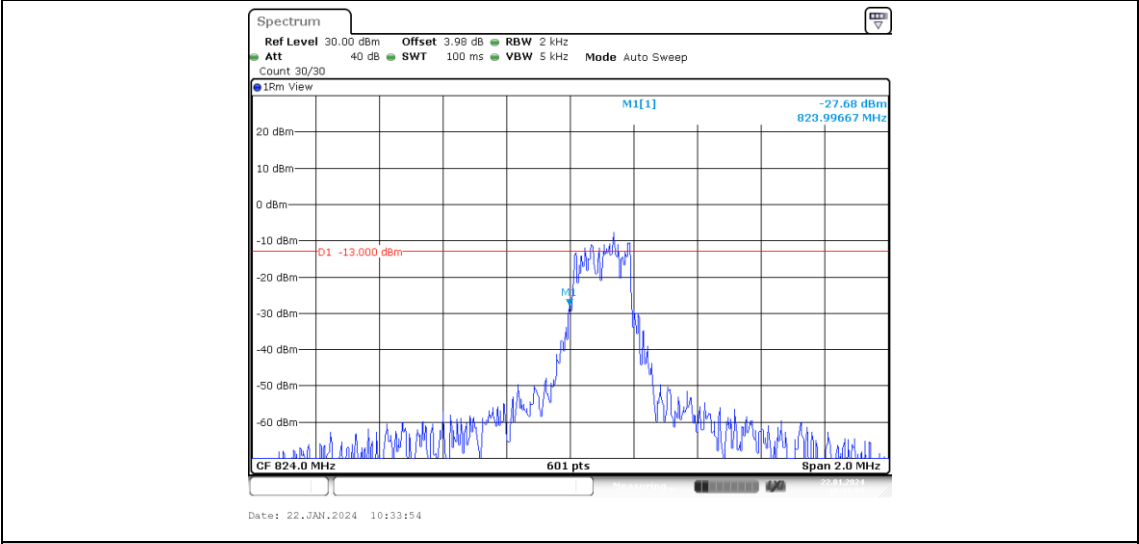
Band5-Stand-Alone-NaN-BPSK-20649-12@0-15kHz--23.43-PASS



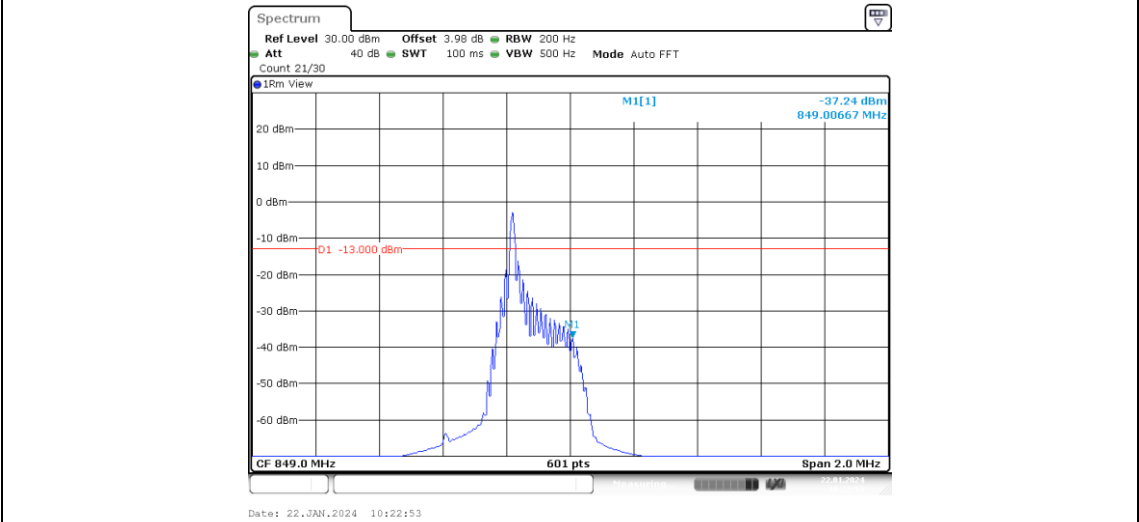
Band5-Stand-Alone-NaN-QPSK-20401-1@0-15kHz--19.35-PASS



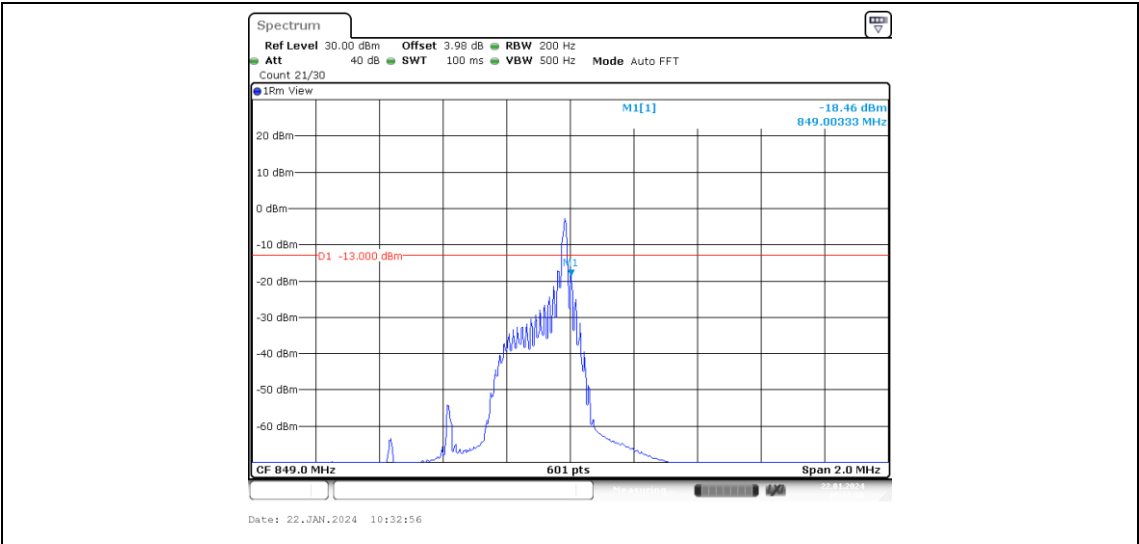
Band5-Stand-Alone-NaN-QPSK-20401-1@11-15kHz--37.95-PASS



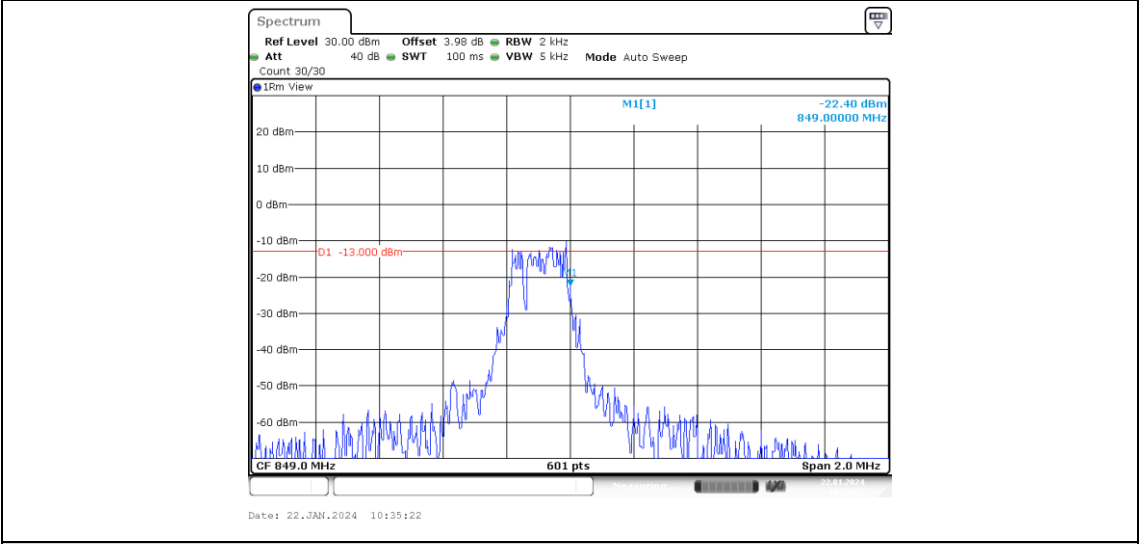
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz--27.68-PASS



Band5-Stand-Alone-NaN-QPSK-20649-1@0-15kHz--37.24-PASS



Band5-Stand-Alone-NaN-QPSK-20649-1@11-15kHz--18.46-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz--22.40-PASS

Appendix E: Conducted Spurious Emission

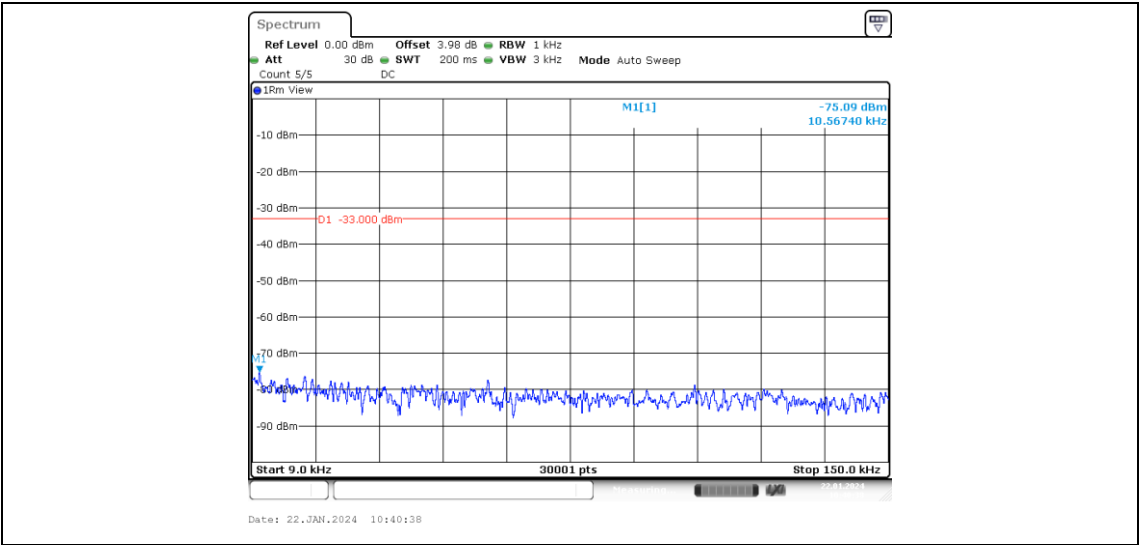
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Freq Start [MHz]	Freq Stop [MHz]	Result (dBm)	Limit (dBm)	Verdict
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	0.009	0.15	-75.09	-33	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	0.15	30	-74.5	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	30	1000	-64.62	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@0	1000	10000	-50.16	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@47	0.009	0.15	-74.89	-33	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@47	0.15	30	-72.73	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@47	30	1000	-64.65	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20401	1@47	1000	10000	-50.4	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	0.009	0.15	-76.24	-33	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	0.15	30	-66.38	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	30	1000	-64.7	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@0	1000	10000	-49.87	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@47	0.009	0.15	-75.54	-33	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@47	0.15	30	-76.52	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@47	30	1000	-64.47	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20525	1@47	1000	10000	-50.08	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	0.009	0.15	-75.41	-33	PASS

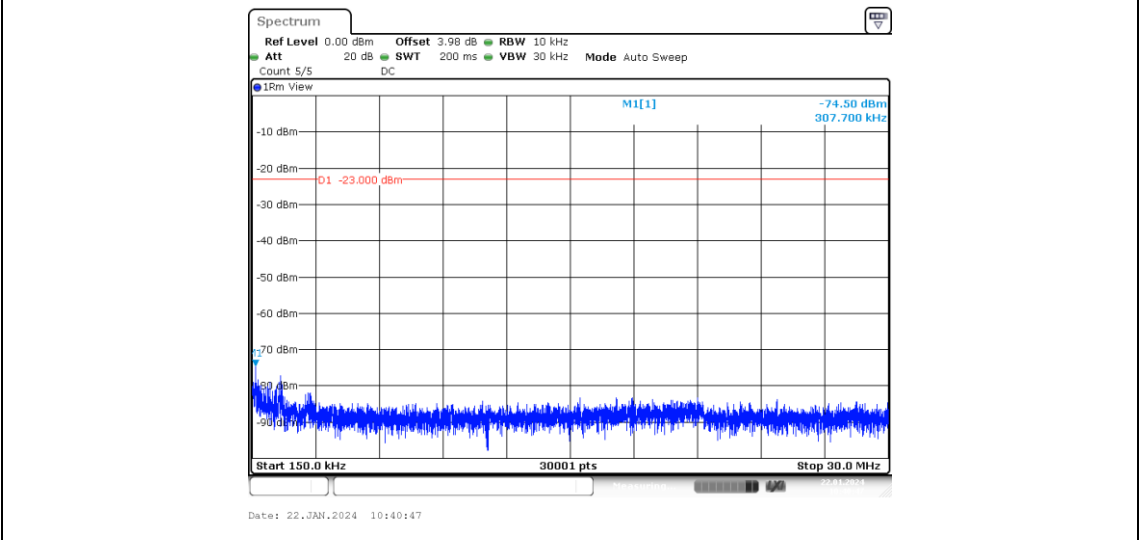
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	0.15	30	-68.79	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	30	1000	-64.24	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@0	1000	10000	-50.42	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@47	0.009	0.15	-75.84	-33	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@47	0.15	30	-66.56	-23	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@47	30	1000	-64.48	-13	PASS
Band5	Stand-Alone	3.75kHz	NaN	QPSK	20649	1@47	1000	10000	-50.19	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	0.009	0.15	-75.29	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	0.15	30	-73.29	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	30	1000	-64.56	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@0	1000	10000	-50.29	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@11	0.009	0.15	-75.51	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@11	0.15	30	-74.38	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@11	30	1000	-64.56	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20401	1@11	1000	10000	-50.01	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@0	0.009	0.15	-76.58	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@0	0.15	30	-65.6	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@0	30	1000	-64.02	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@0	1000	10000	-50.02	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@11	0.009	0.15	-75.84	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@11	0.15	30	-76.18	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@11	30	1000	-64.43	-13	PASS

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Band5	Stand-Alone	15kHz	NaN	BPSK	20525	1@11	1000	1000 0	-49.95	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	0.009	0.15	-74.9	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	0.15	30	-65.33	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	30	1000	-64.68	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@0	1000	1000 0	-50.06	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@11	0.009	0.15	-76.09	-33	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@11	0.15	30	-68.16	-23	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@11	30	1000	-62.86	-13	PASS
Band5	Stand-Alone	15kHz	NaN	BPSK	20649	1@11	1000	1000 0	-50.15	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	0.009	0.15	-76.07	-33	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	0.15	30	-70.31	-23	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	30	1000	-64.57	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20401	12@0	1000	1000 0	-50.05	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	12@0	0.009	0.15	-75.28	-33	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	12@0	0.15	30	-74.22	-23	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	12@0	30	1000	-64.39	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20525	12@0	1000	1000 0	-50.2	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	12@0	0.009	0.15	-75.33	-33	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	12@0	0.15	30	-73.63	-23	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	12@0	30	1000	-64.5	-13	PASS
Band5	Stand-Alone	15kHz	NaN	QPSK	20649	12@0	1000	1000 0	-50.19	-13	PASS

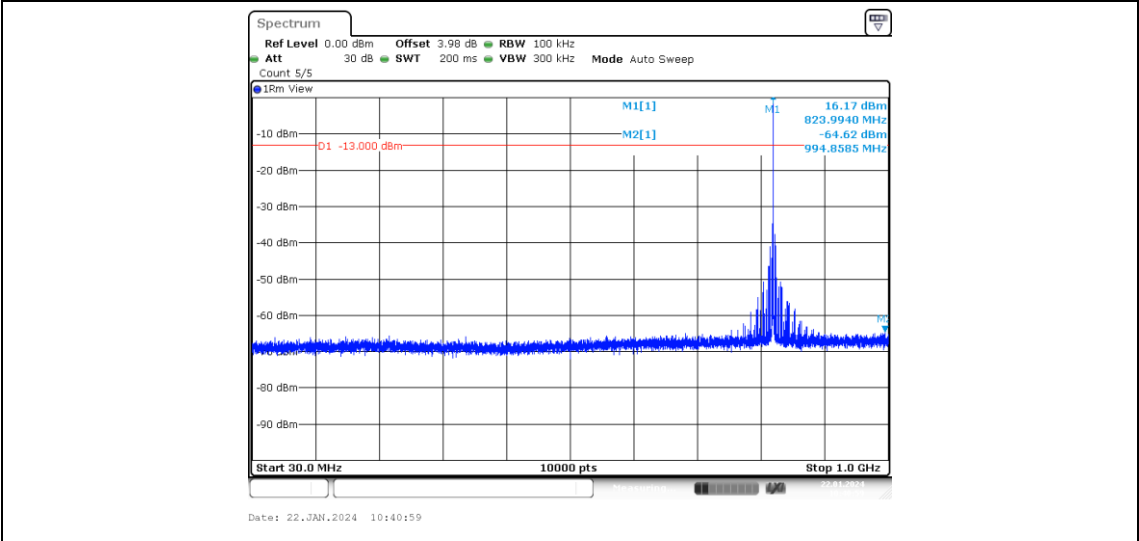
Test Graphs

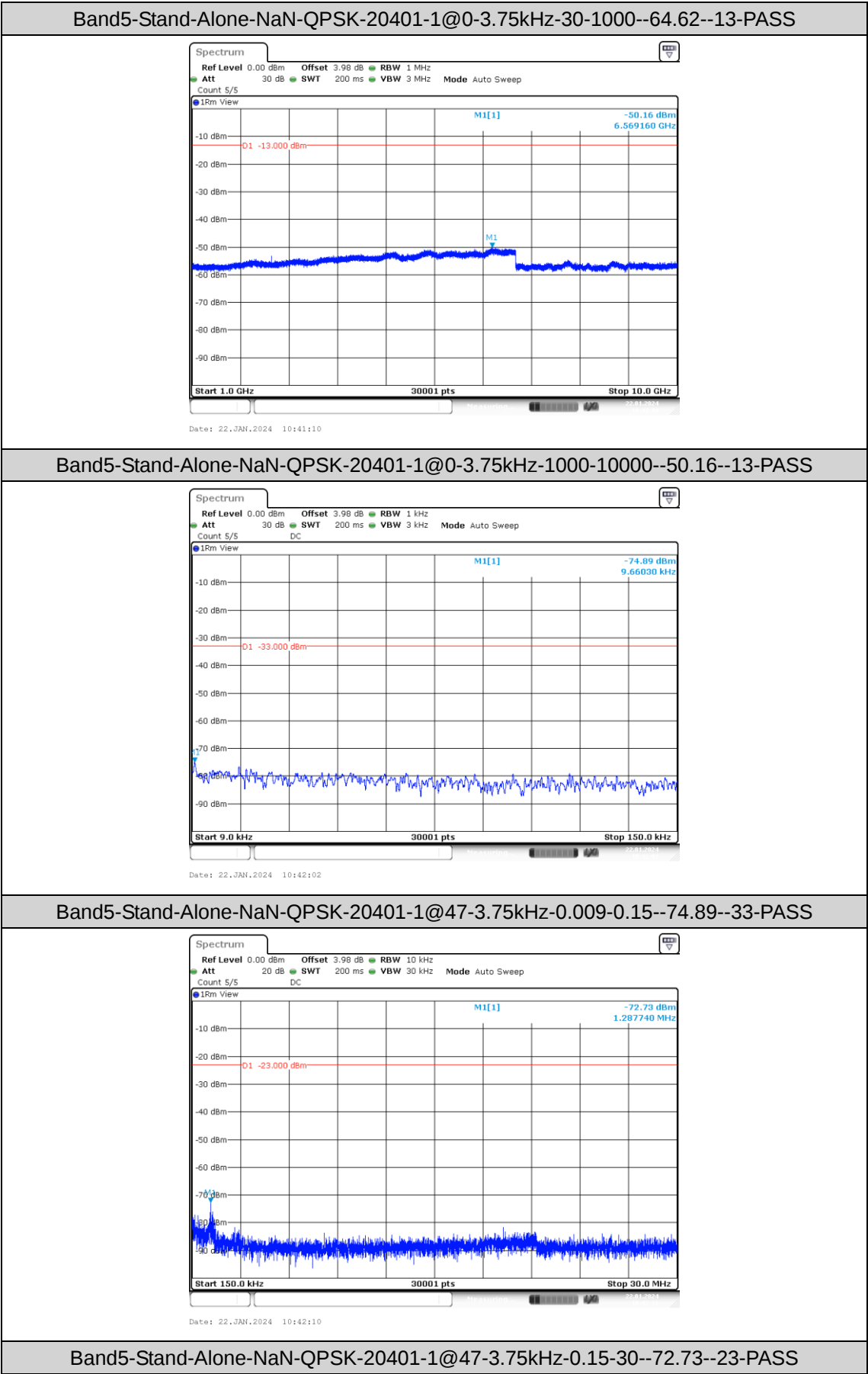


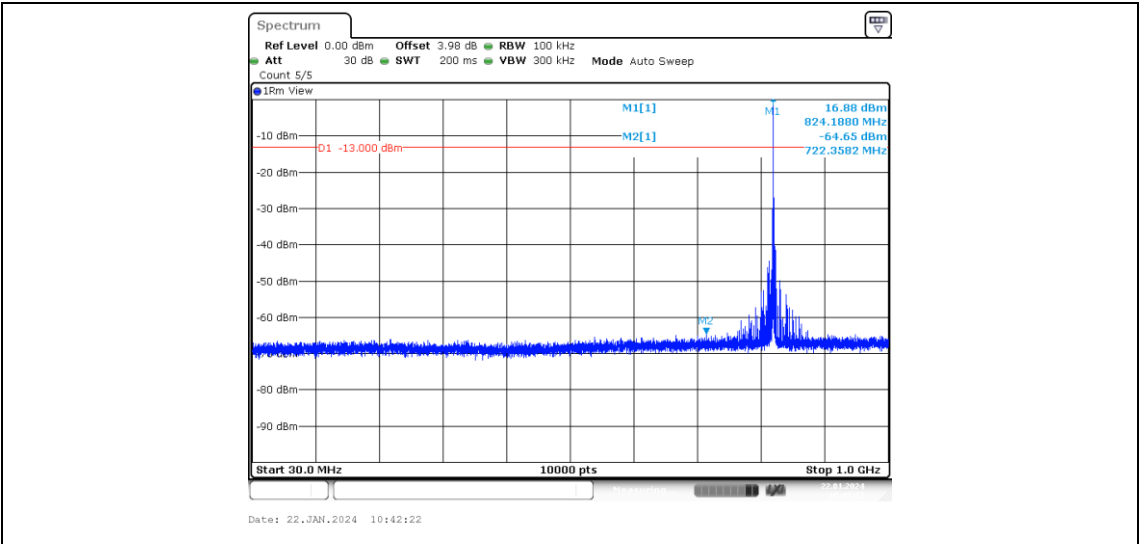
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz-0.009-0.15--75.09--33-PASS



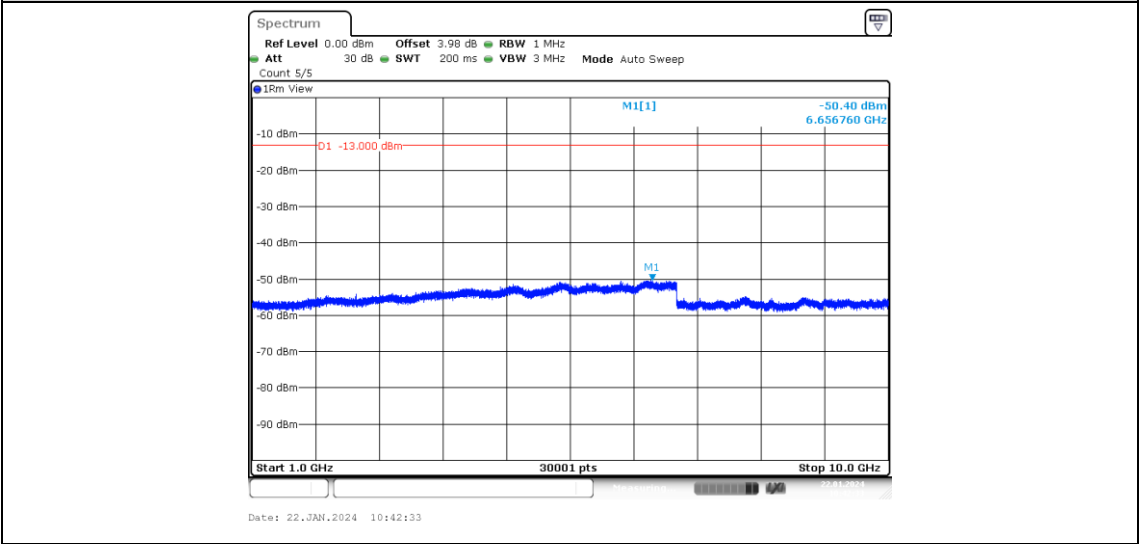
Band5-Stand-Alone-NaN-QPSK-20401-1@0-3.75kHz-0.15-30--74.5--23-PASS



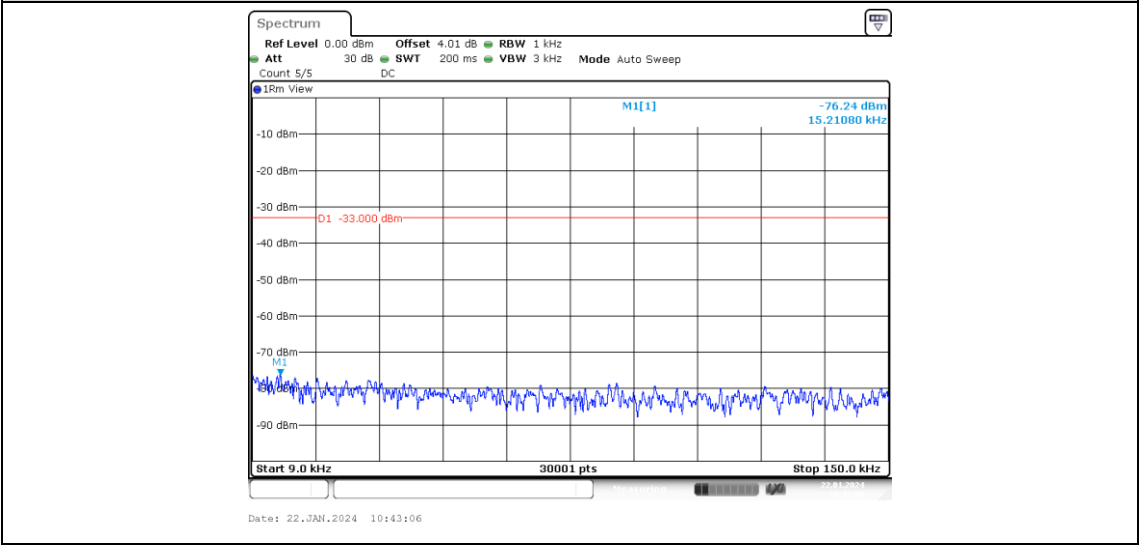




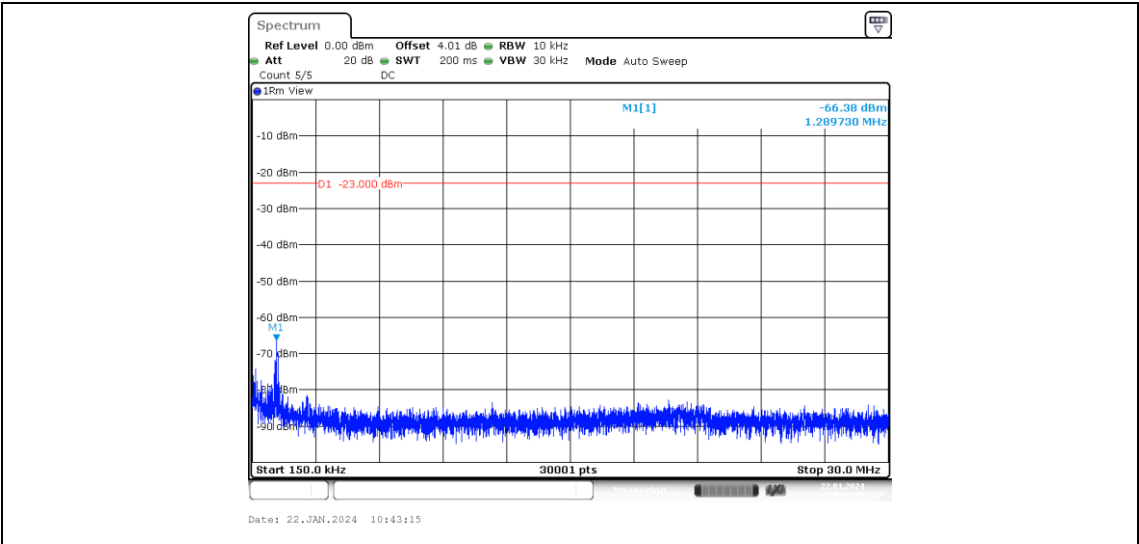
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-30-1000--64.65--13-PASS



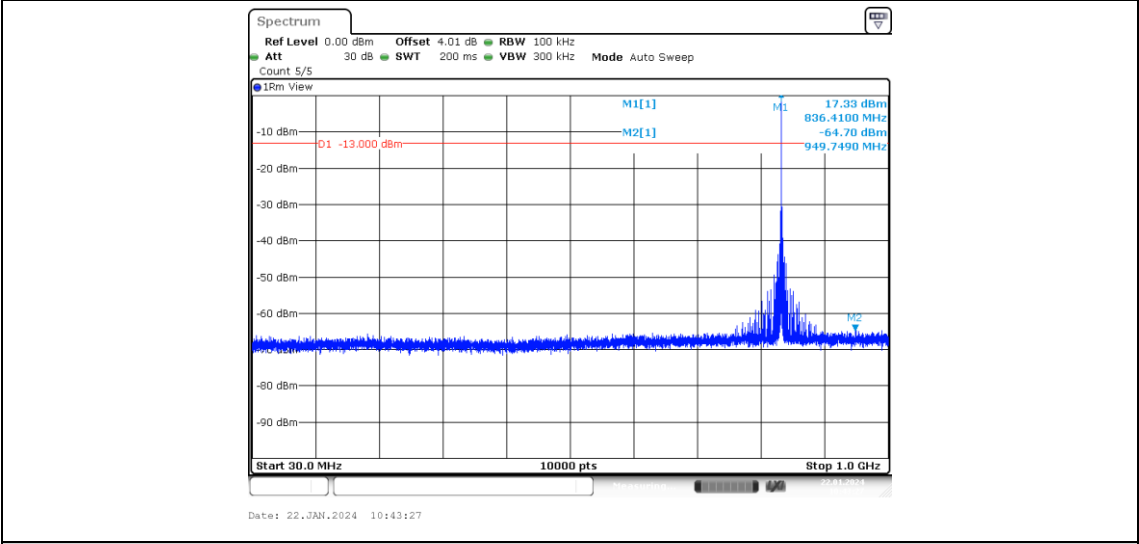
Band5-Stand-Alone-NaN-QPSK-20401-1@47-3.75kHz-1000-10000--50.4--13-PASS



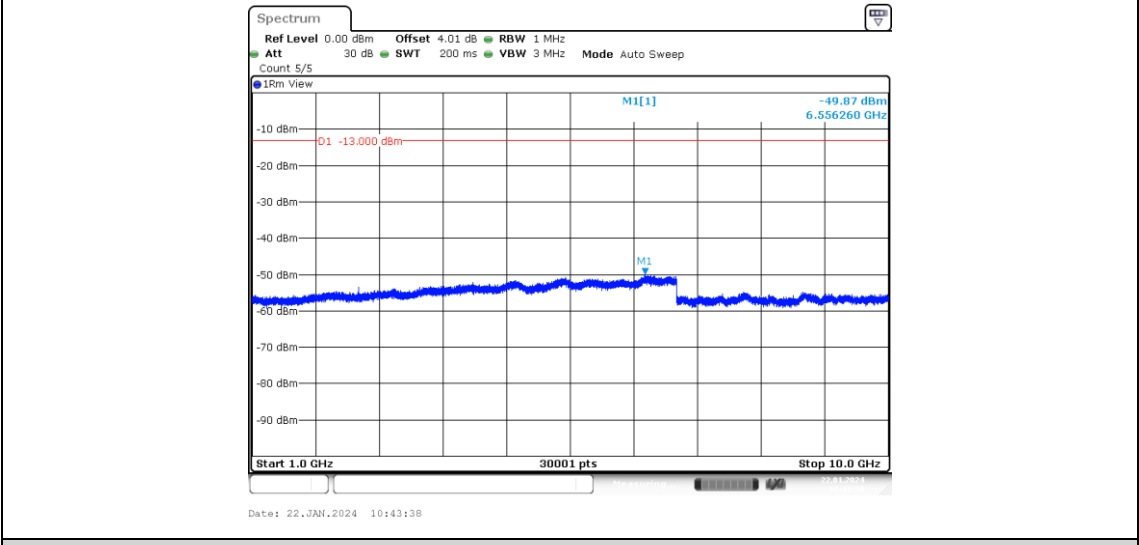
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-0.009-0.15--76.24--33-PASS



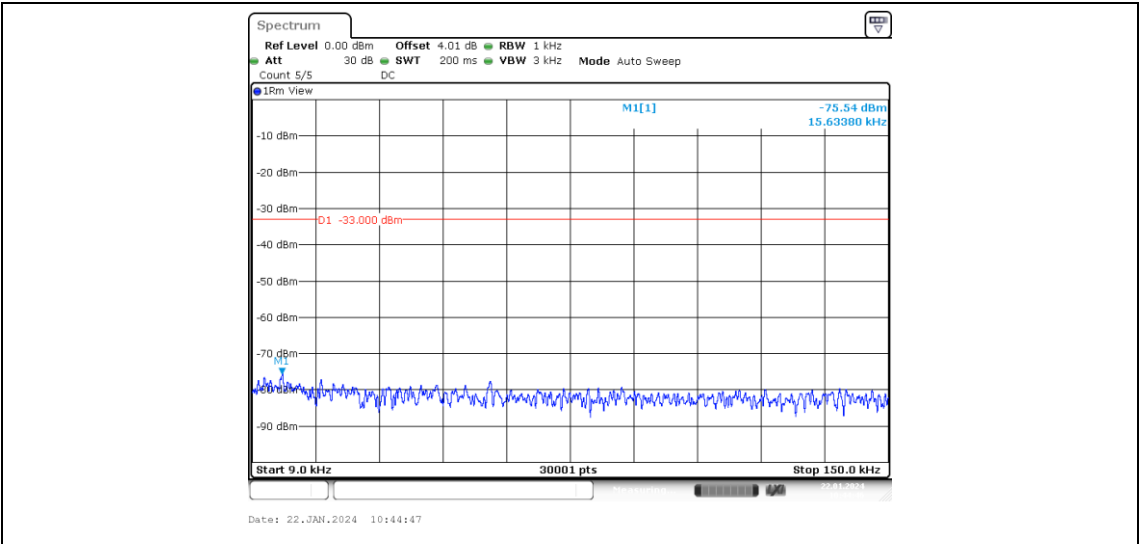
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-0.15-30--66.38--23-PASS



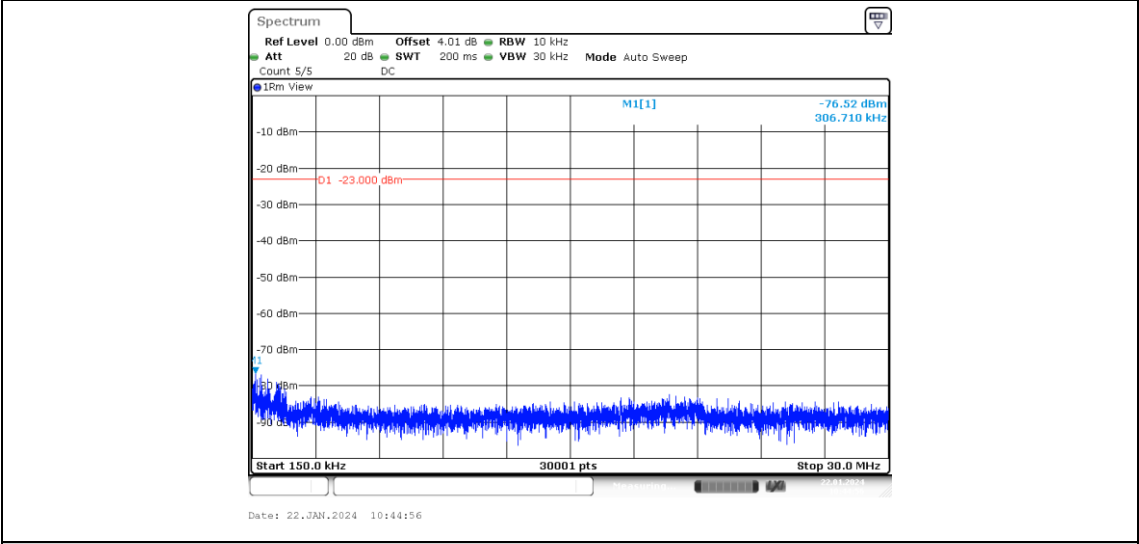
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-30-1000--64.7--13-PASS



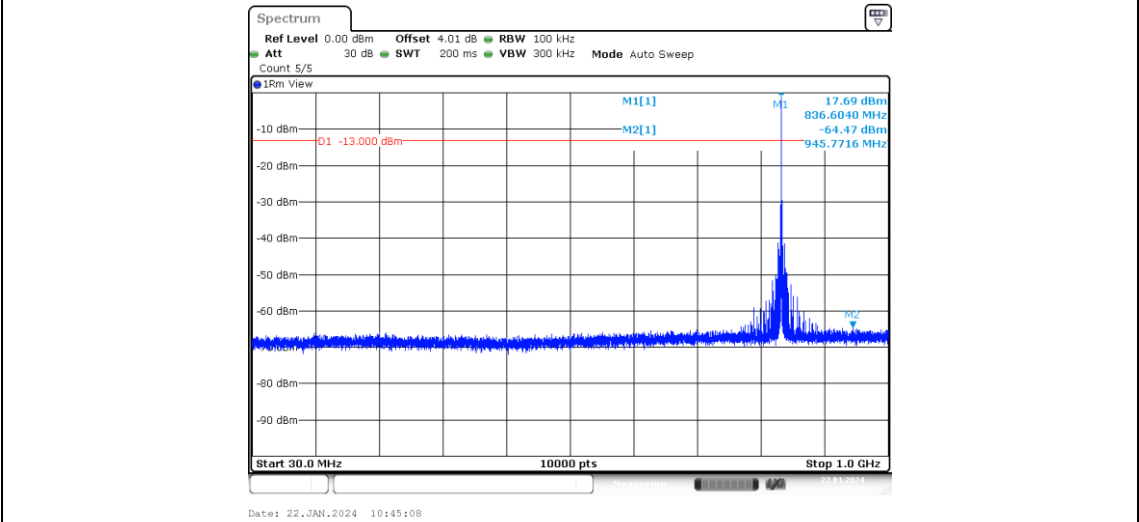
Band5-Stand-Alone-NaN-QPSK-20525-1@0-3.75kHz-1000-10000--49.87--13-PASS



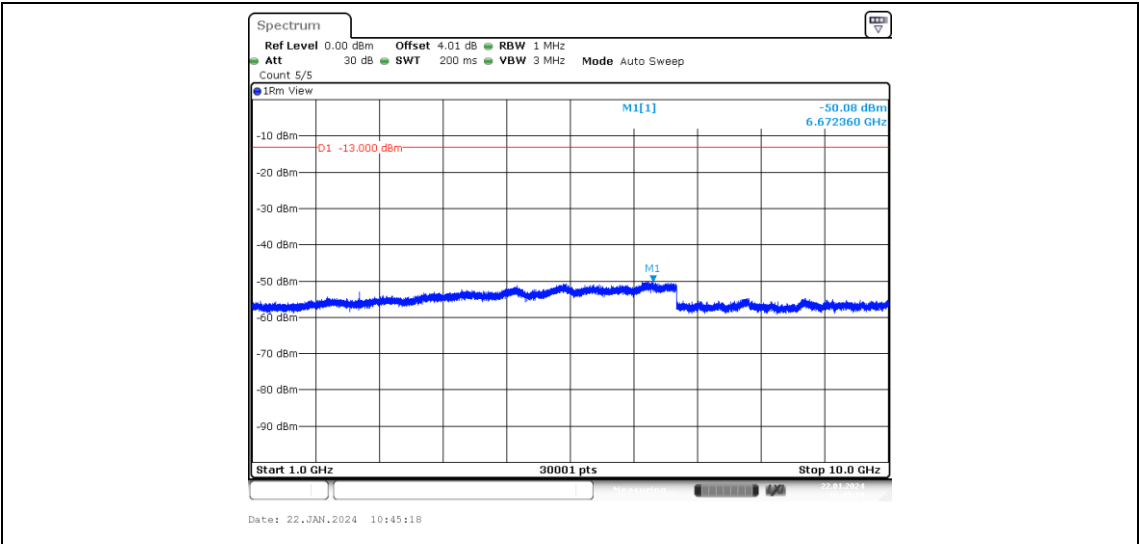
Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-0.009-0.15--75.54--33-PASS



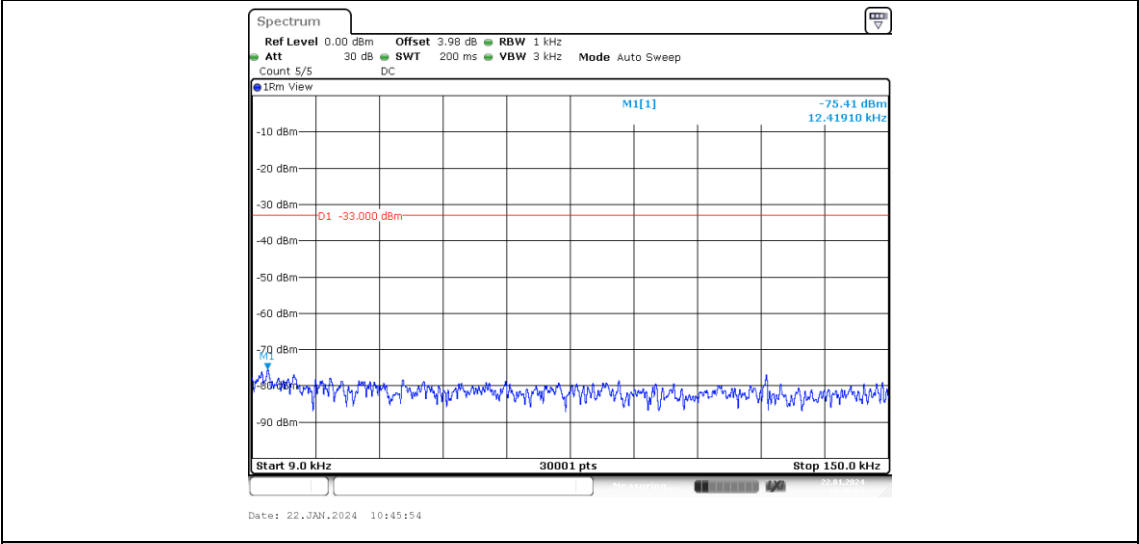
Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-0.15-30--76.52--23-PASS



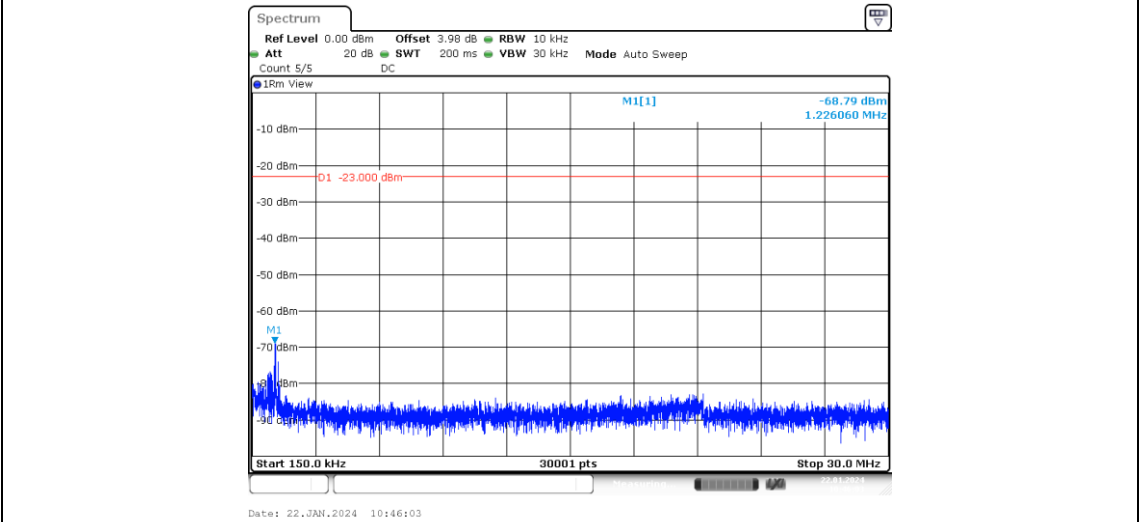
Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-30-1000--64.47--13-PASS



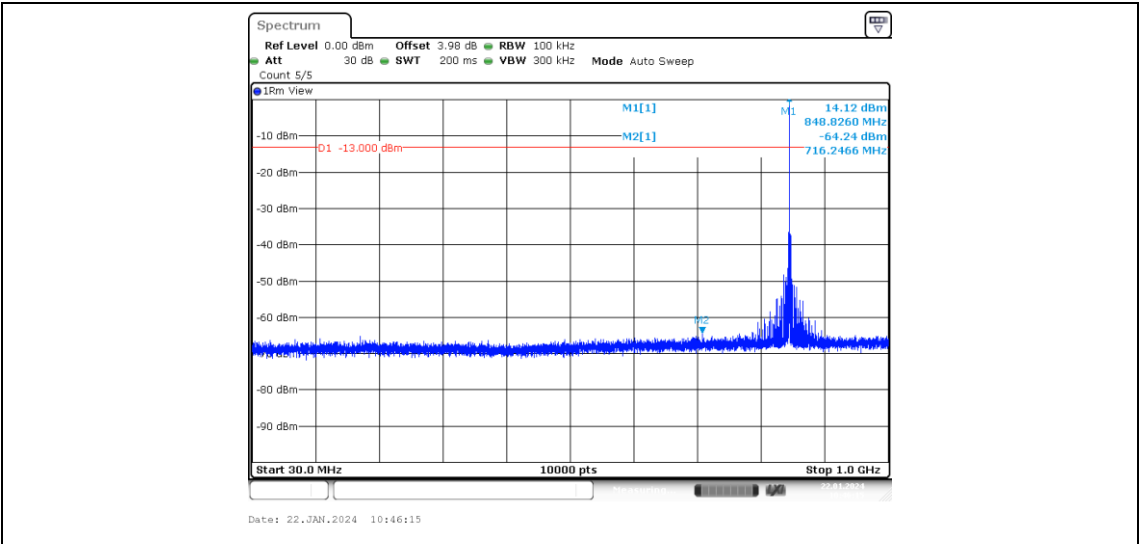
Band5-Stand-Alone-NaN-QPSK-20525-1@47-3.75kHz-1000-10000--50.08--13-PASS



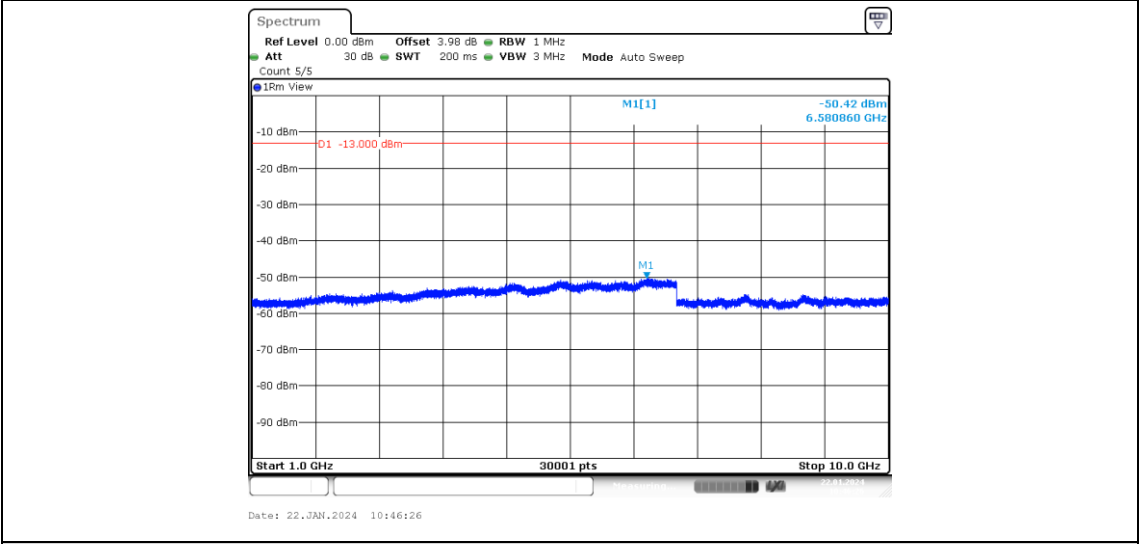
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-0.009-0.15--75.41--33-PASS



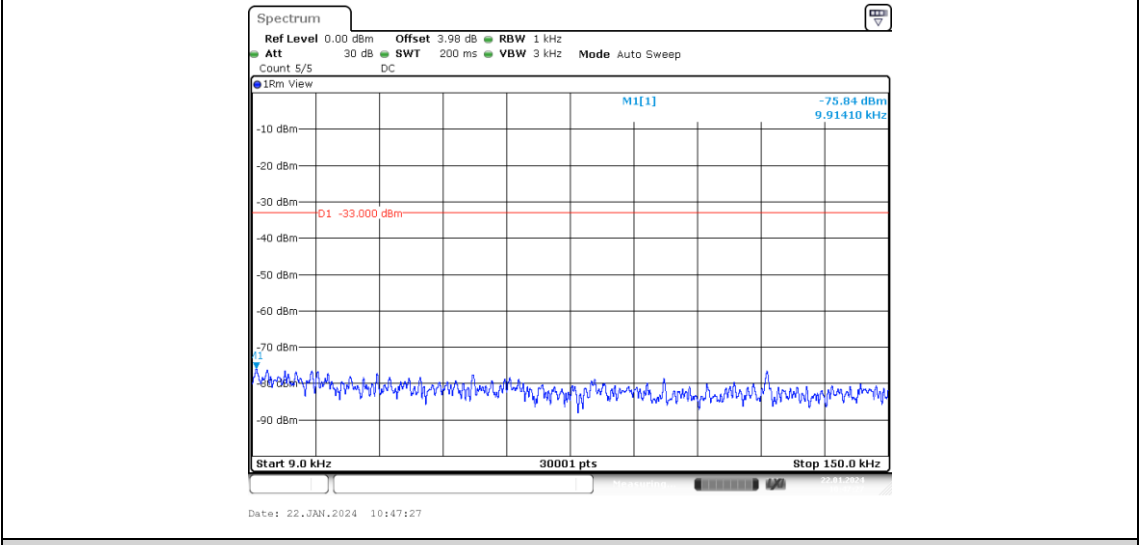
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-0.15-30--68.79--23-PASS



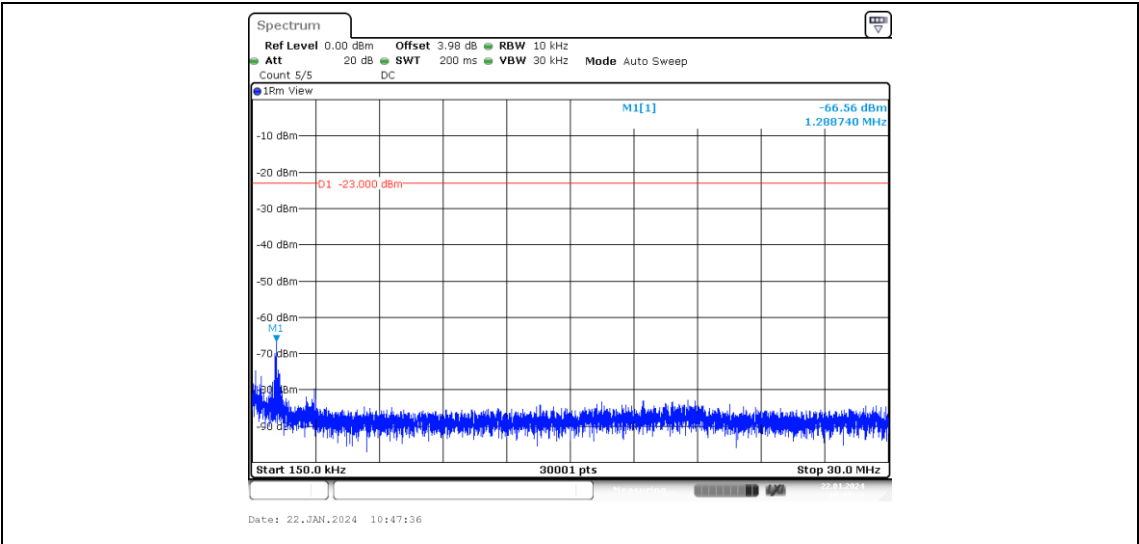
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-30-1000--64.24--13-PASS



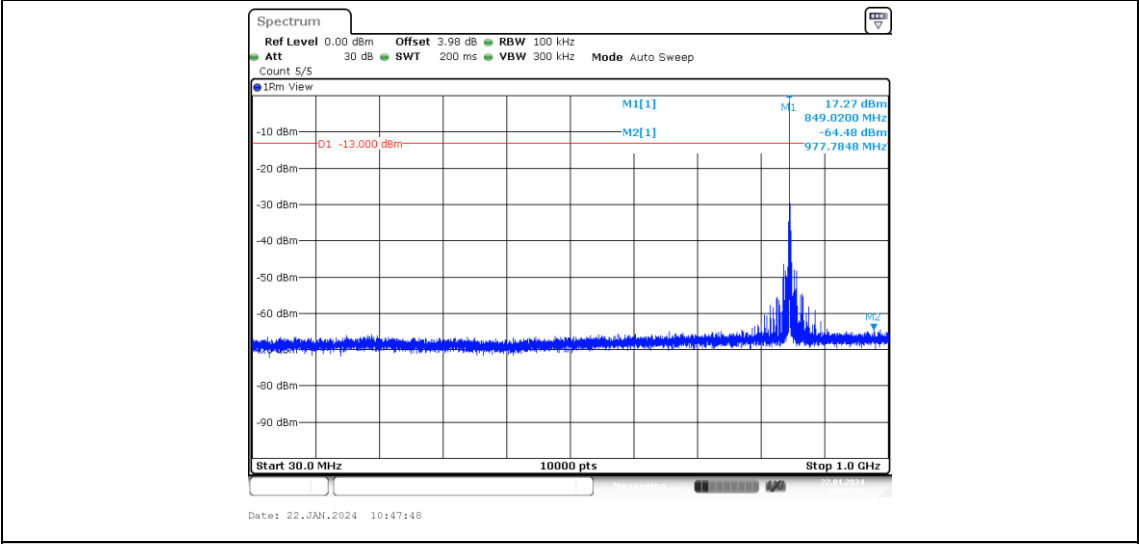
Band5-Stand-Alone-NaN-QPSK-20649-1@0-3.75kHz-1000-10000--50.42--13-PASS



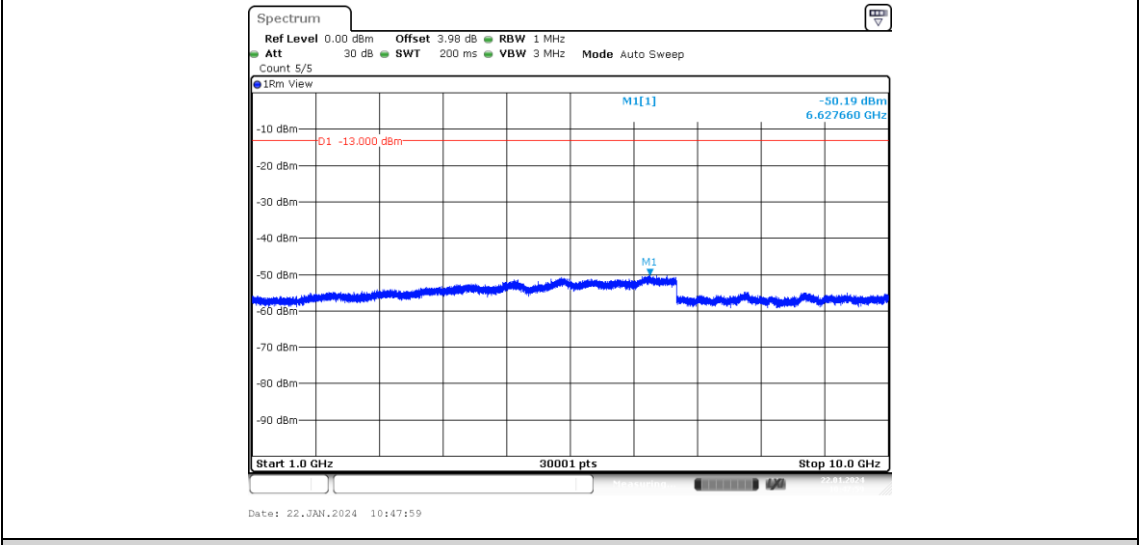
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-0.009-0.15--75.84--33-PASS



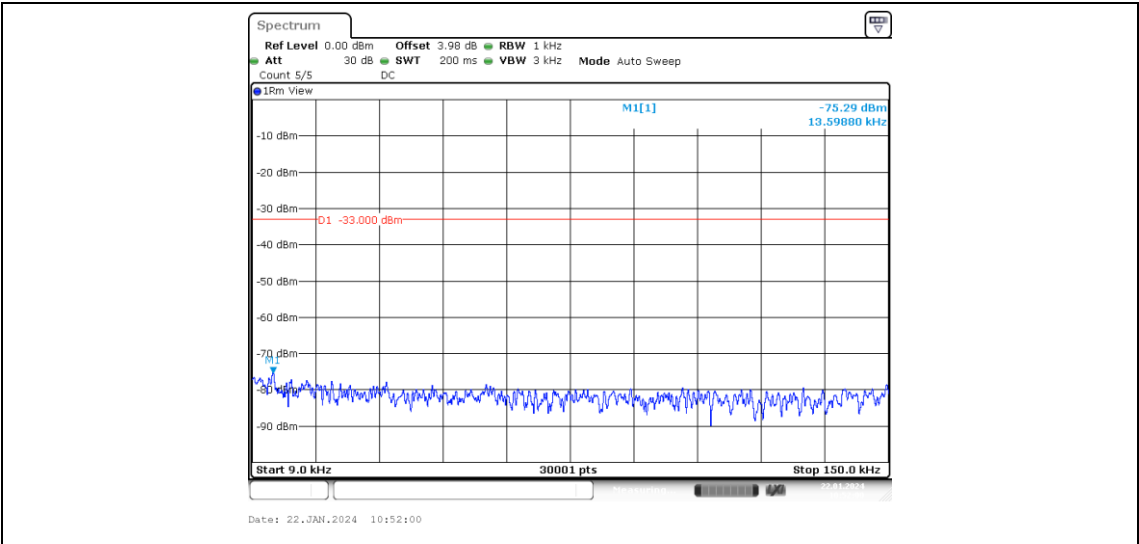
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-0.15-30--66.56--23-PASS



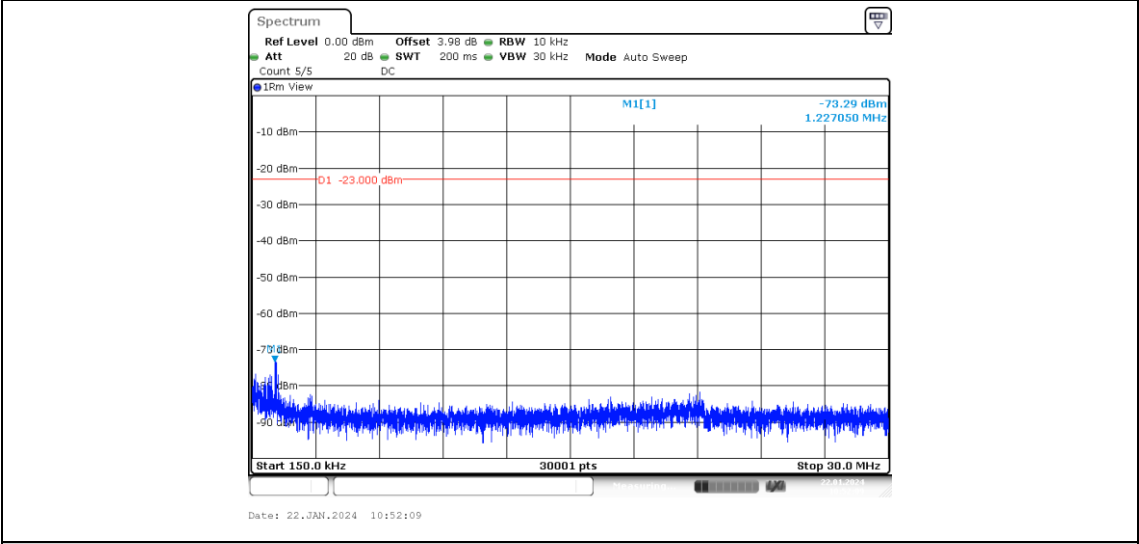
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-30-1000--64.48--13-PASS



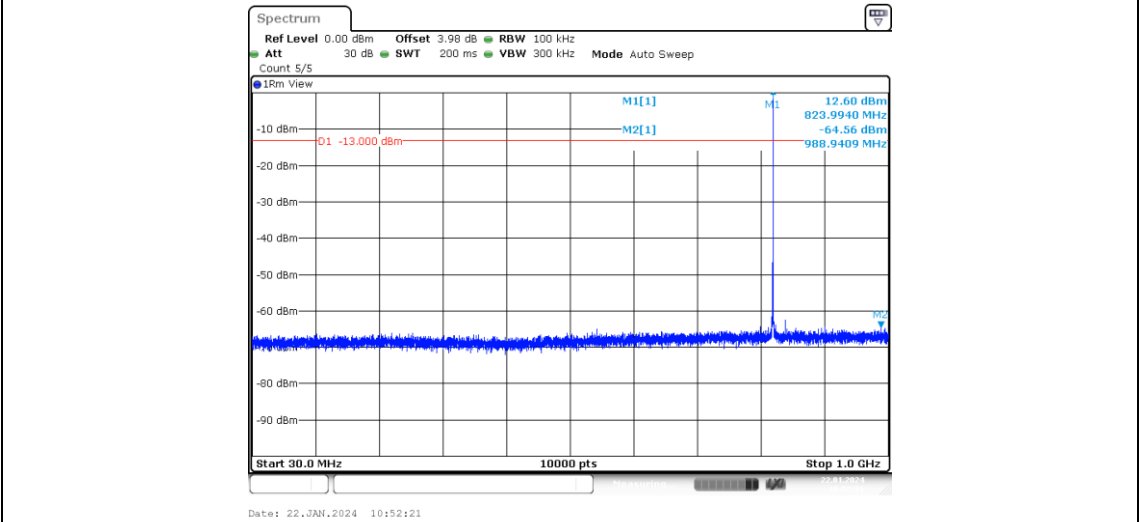
Band5-Stand-Alone-NaN-QPSK-20649-1@47-3.75kHz-1000-10000--50.19--13-PASS



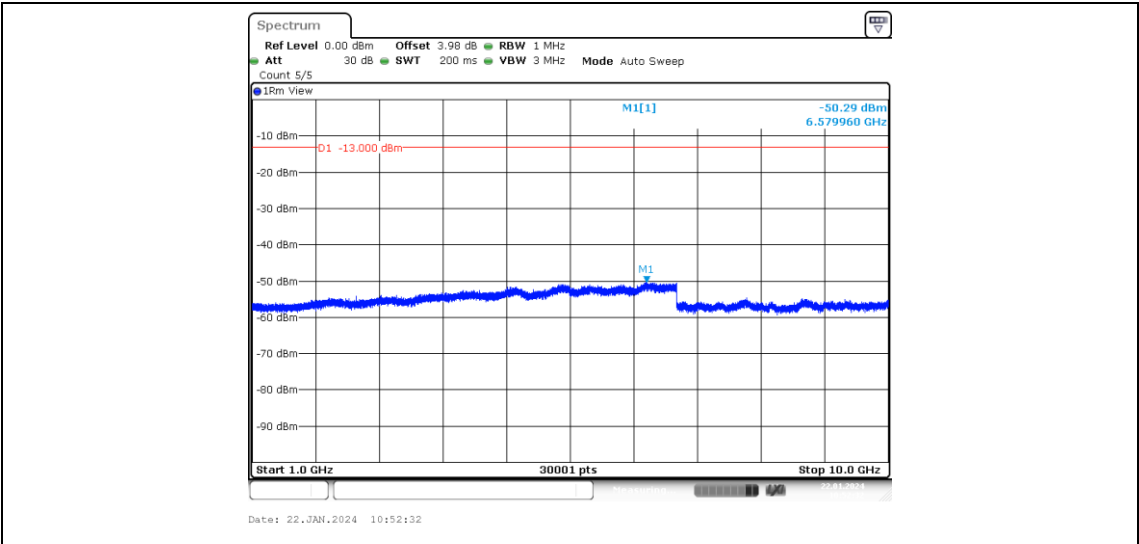
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-0.009-0.15--75.29--33-PASS



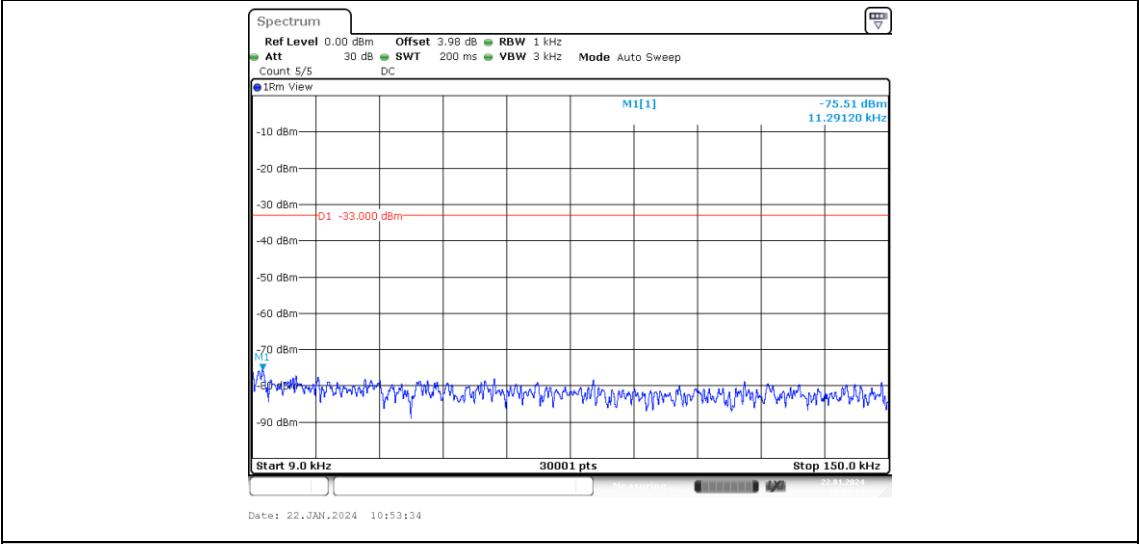
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-0.15-30--73.29--23-PASS



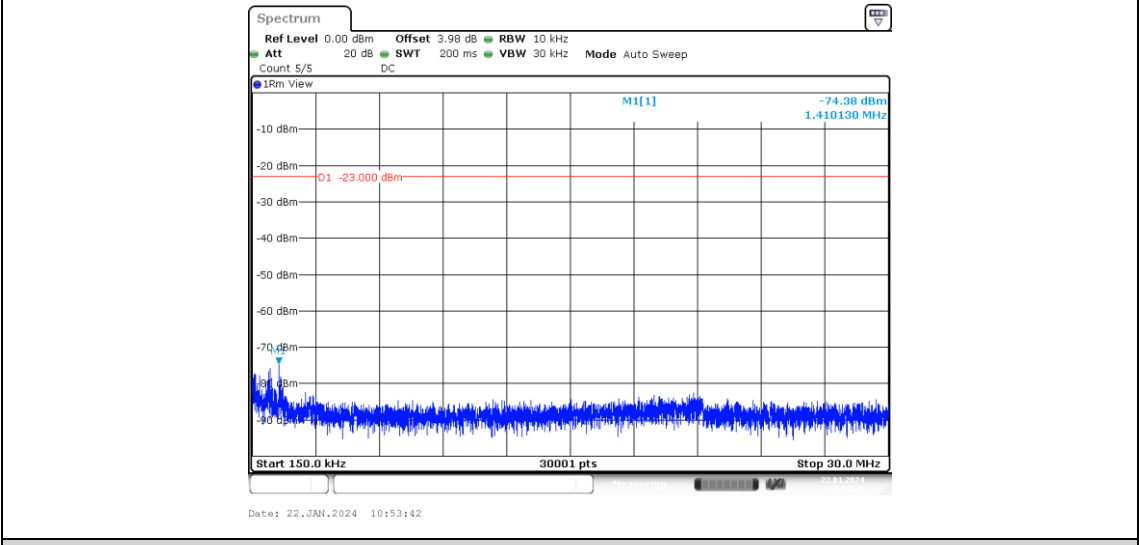
Band5-Stand-Alone-NaN-BPSK-20401-1@0-15kHz-30-1000--64.56--13-PASS



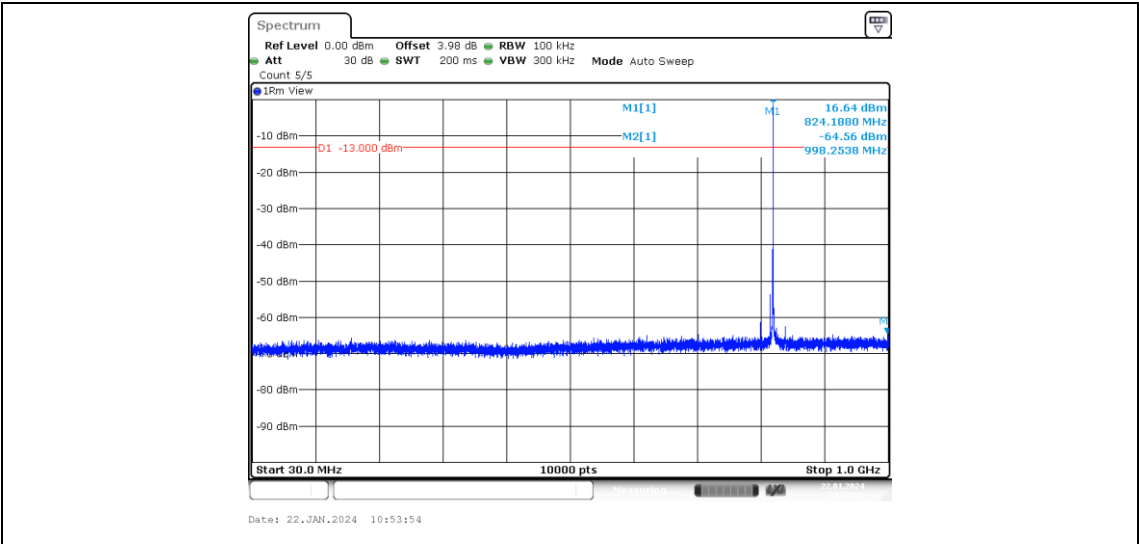
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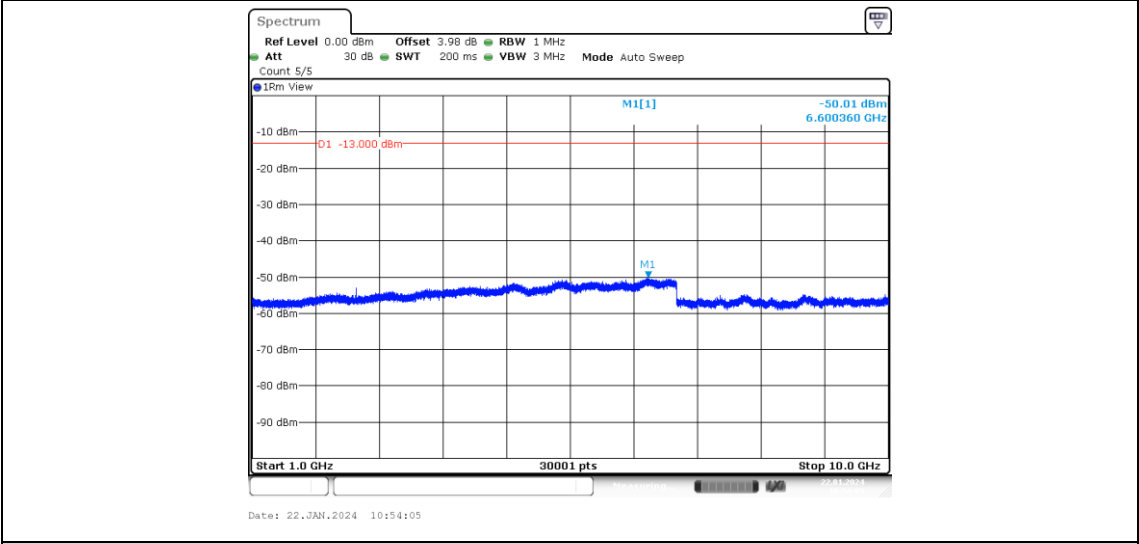
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-0.009-0.15--75.51--33-PASS



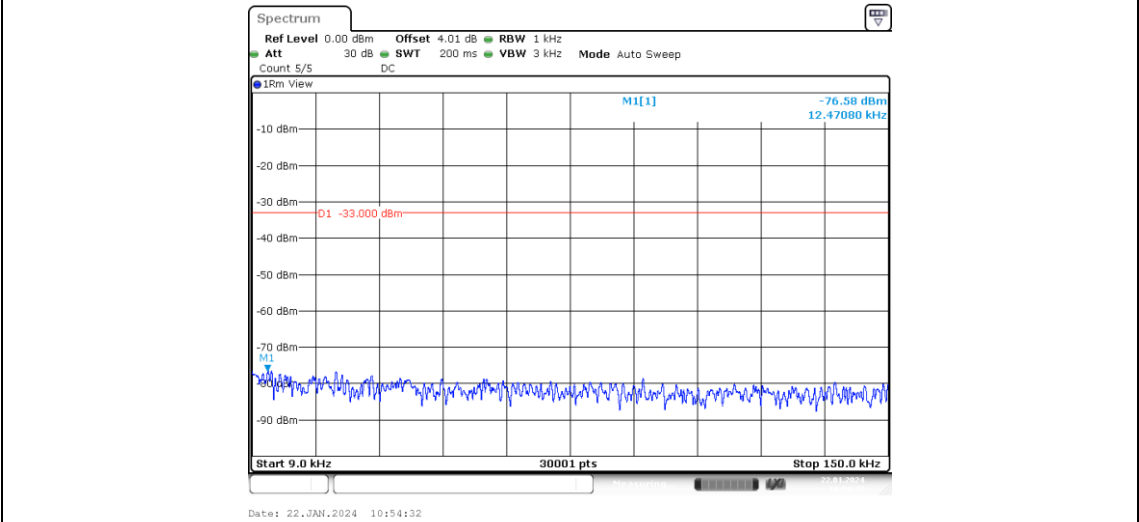
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-0.15-30--74.38--23-PASS



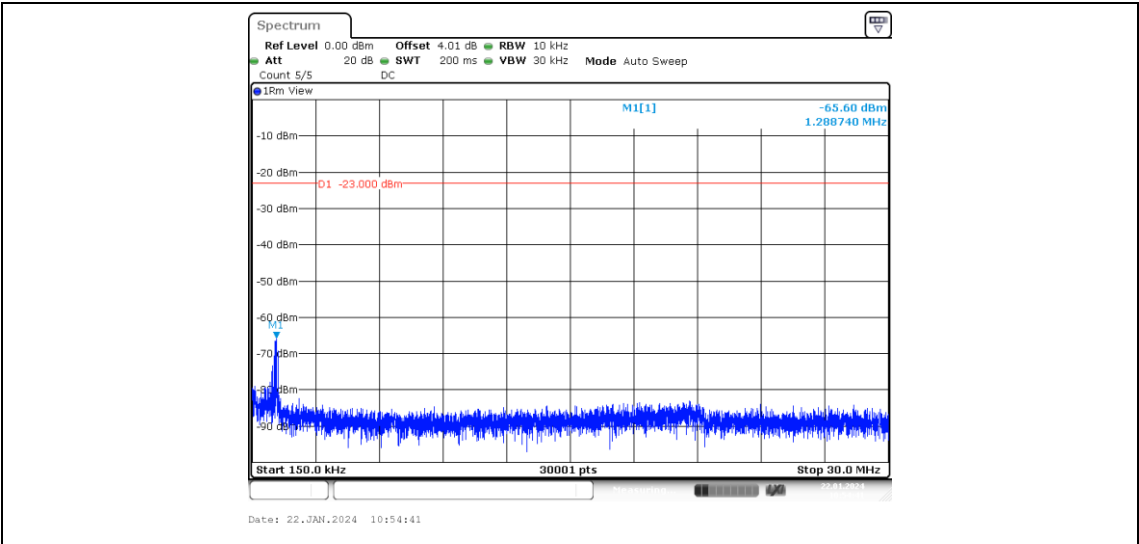
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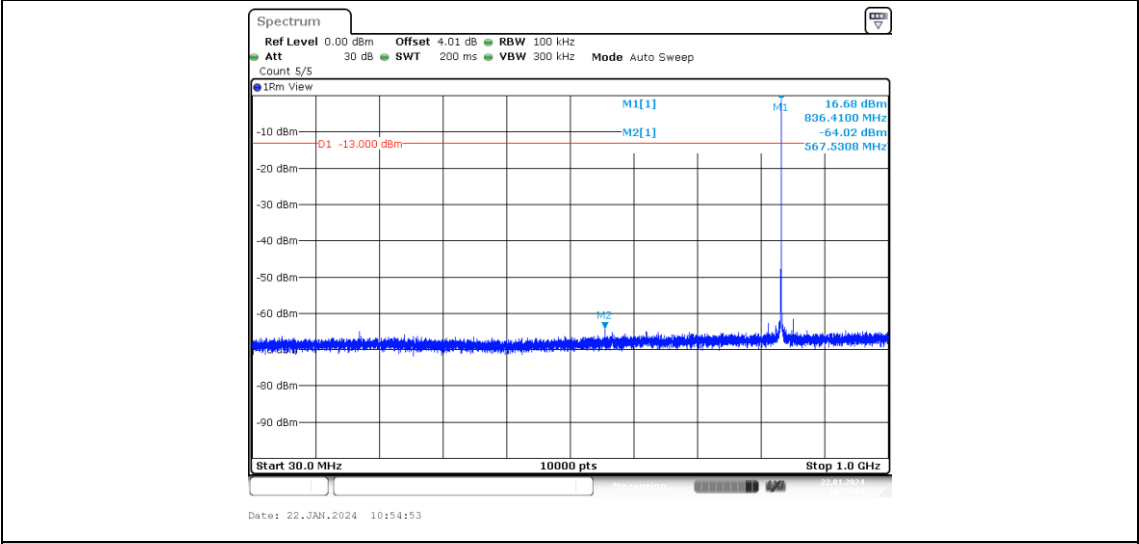
Band5-Stand-Alone-NaN-BPSK-20401-1@11-15kHz-1000-10000--50.01--13-PASS



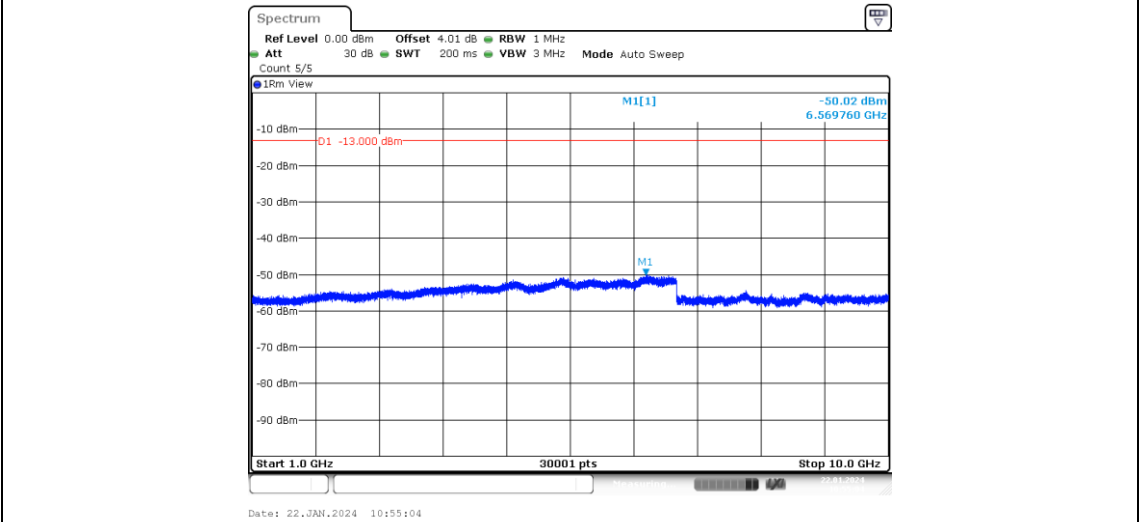
Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-0.009-0.15--76.58--33-PASS



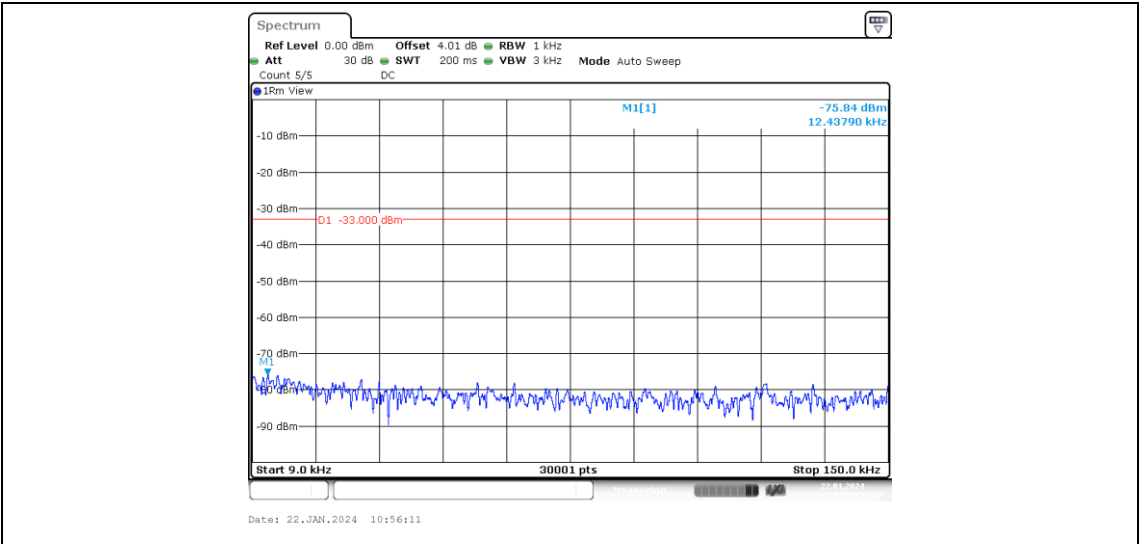
Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-0.15-30--65.6--23-PASS



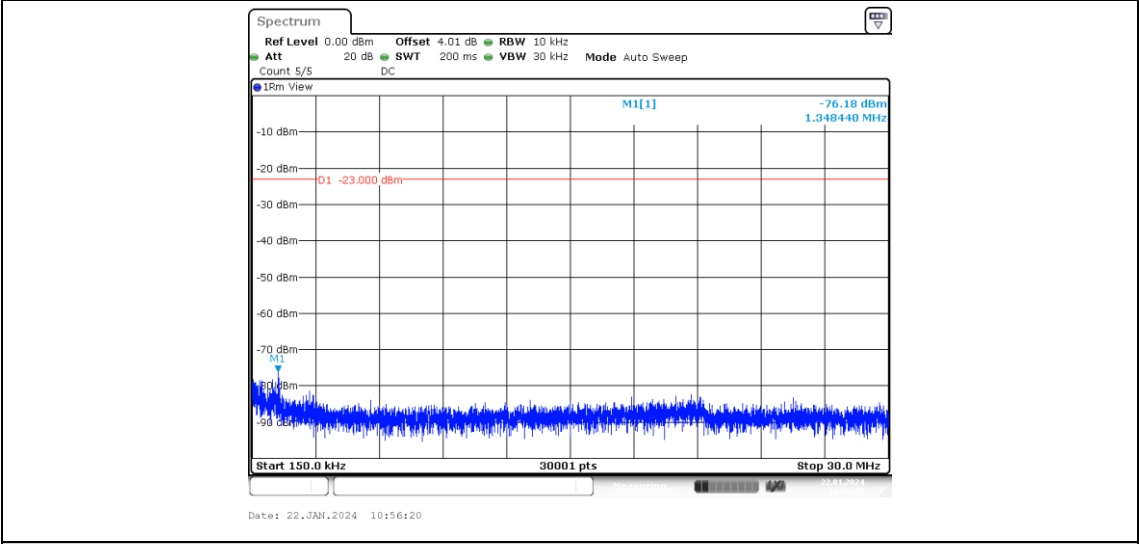
Band5-Stand-Alone-NaN-BPSK-20525-1@0-15kHz-30-1000--64.02--13-PASS



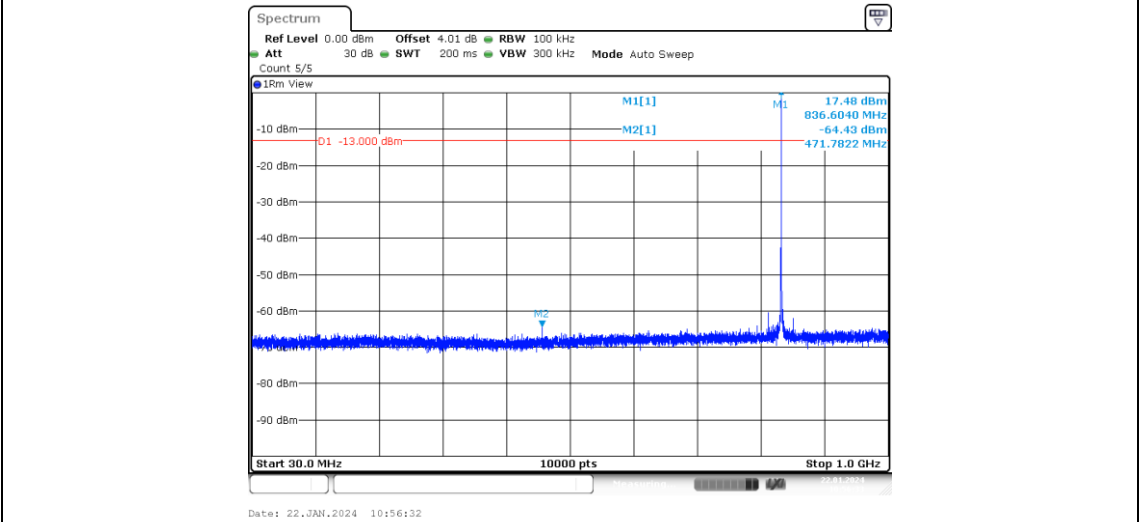
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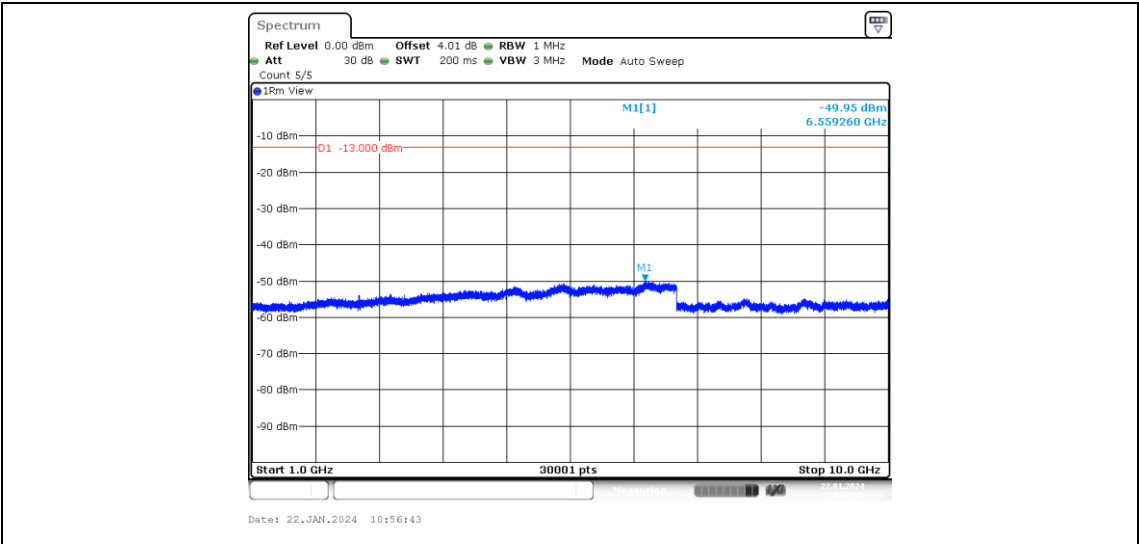
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-0.009-0.15--75.84--33-PASS



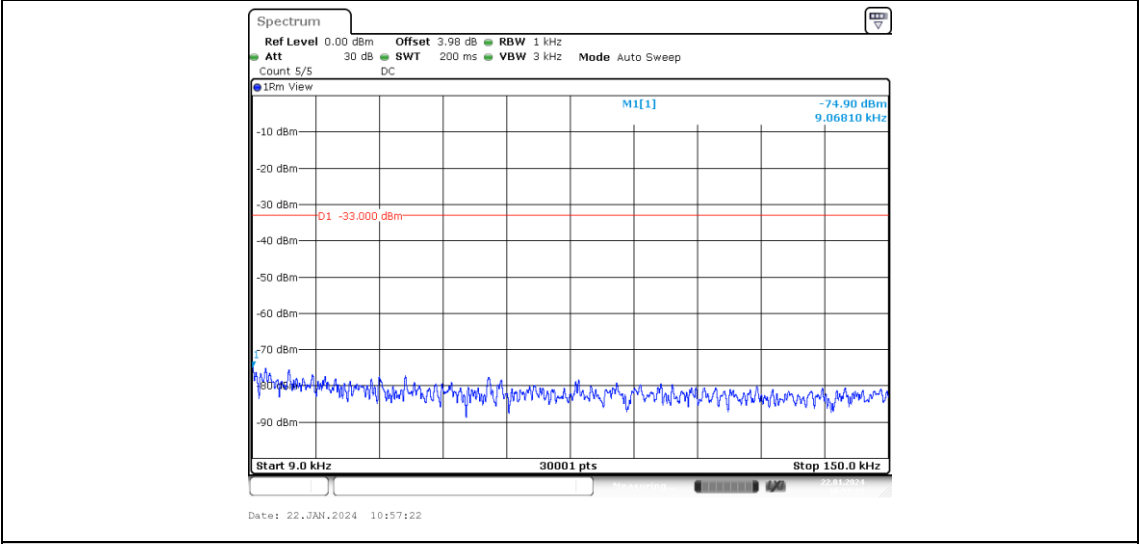
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-0.15-30--76.18--23-PASS



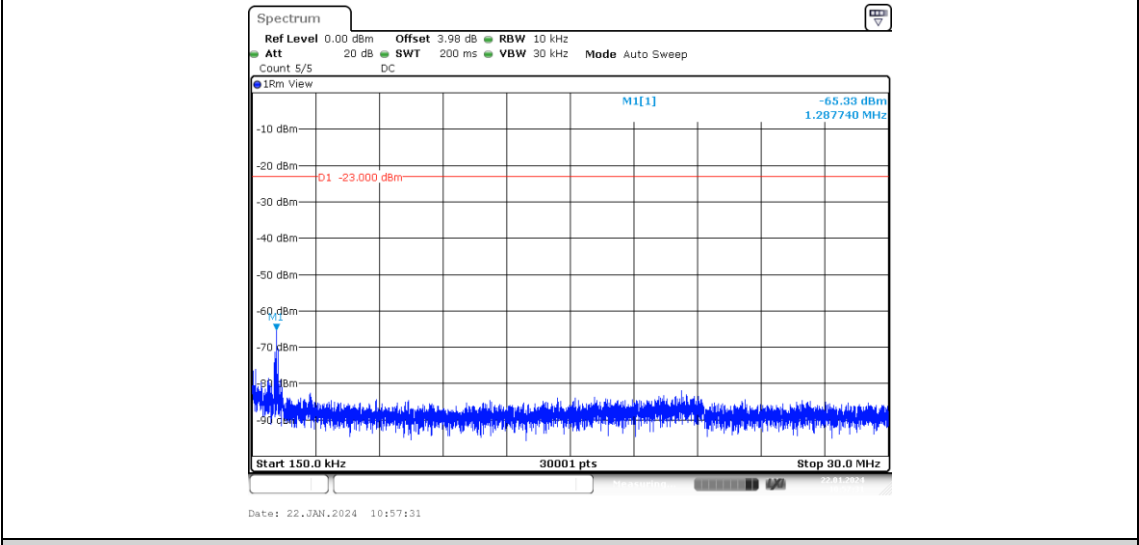
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-30-1000--64.43--13-PASS



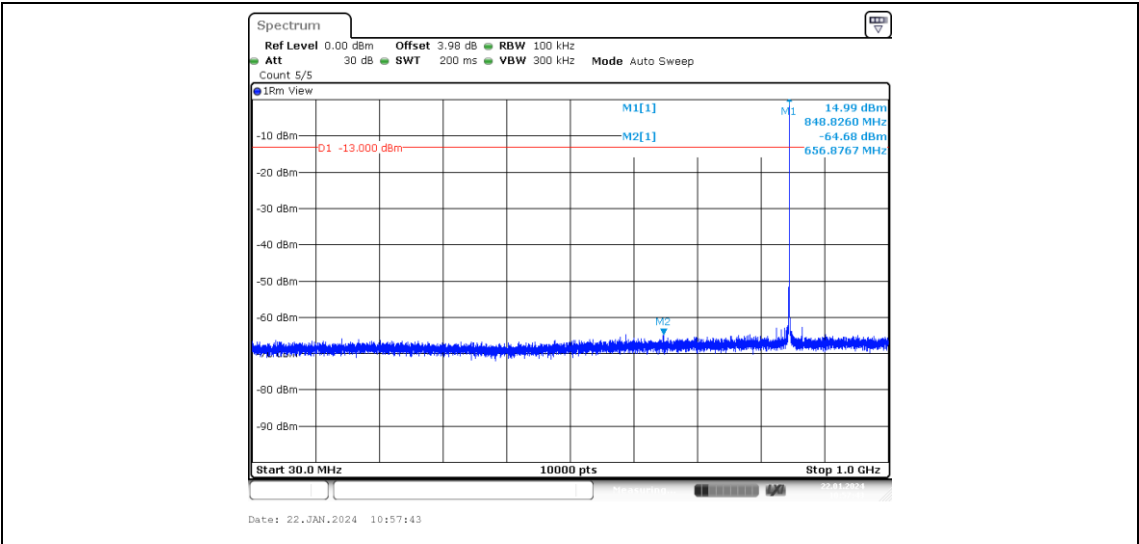
Band5-Stand-Alone-NaN-BPSK-20525-1@11-15kHz-1000-10000--49.95--13-PASS



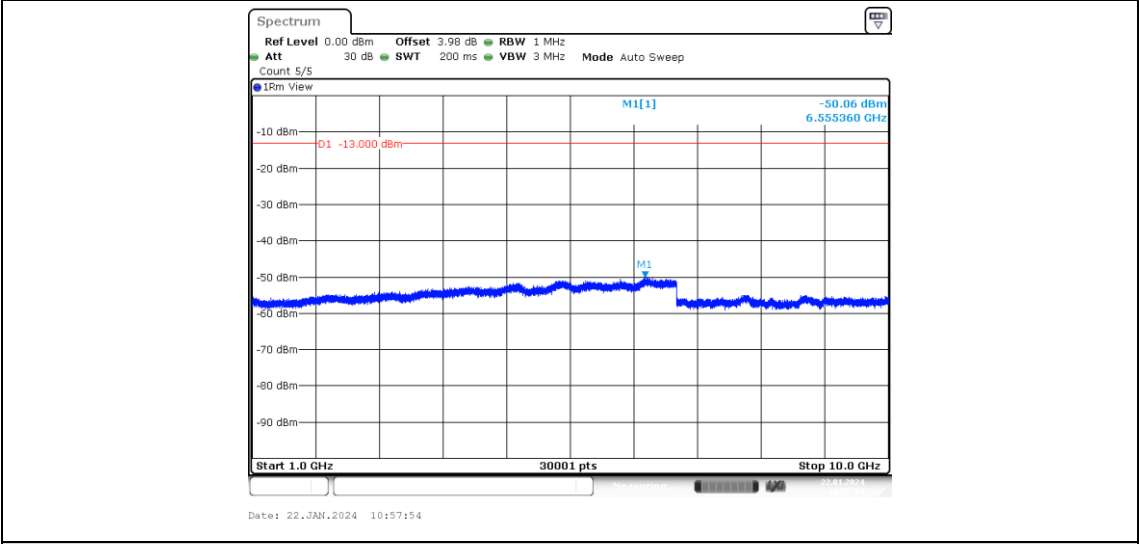
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-0.009-0.15--74.9--33-PASS



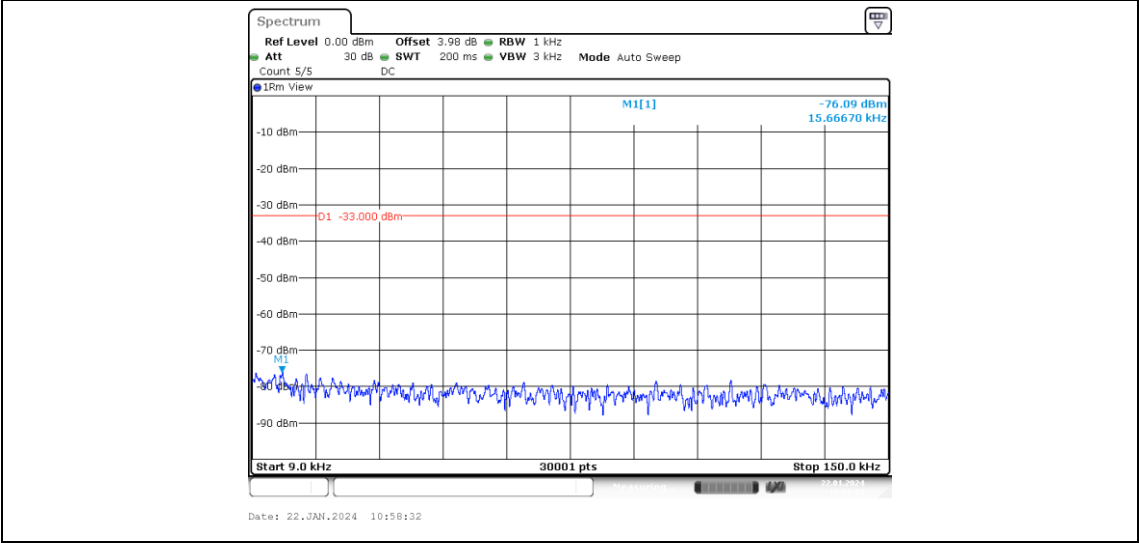
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-0.15-30--65.33--23-PASS



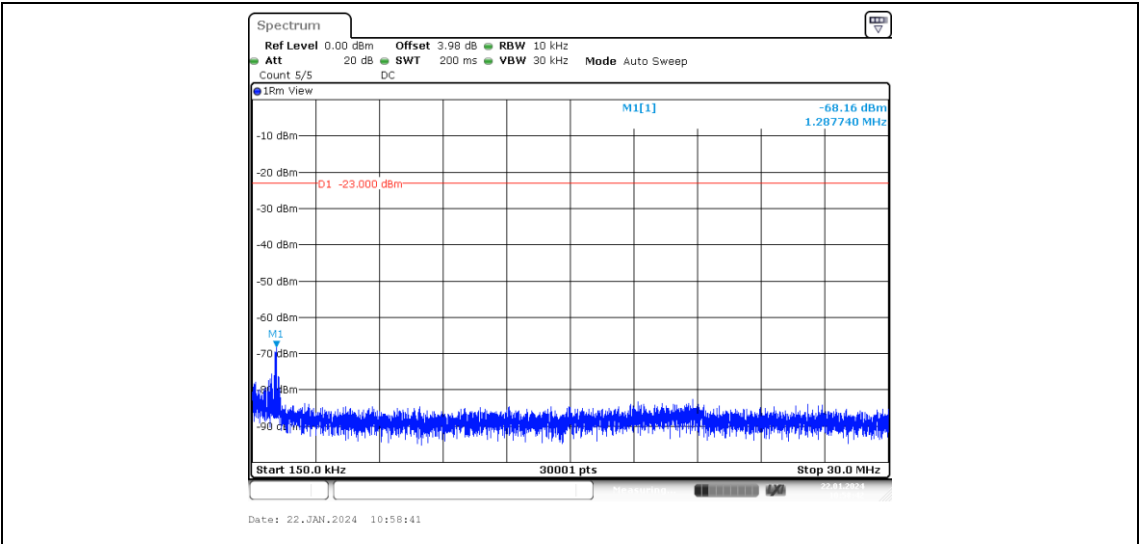
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-30-1000--64.68--13-PASS



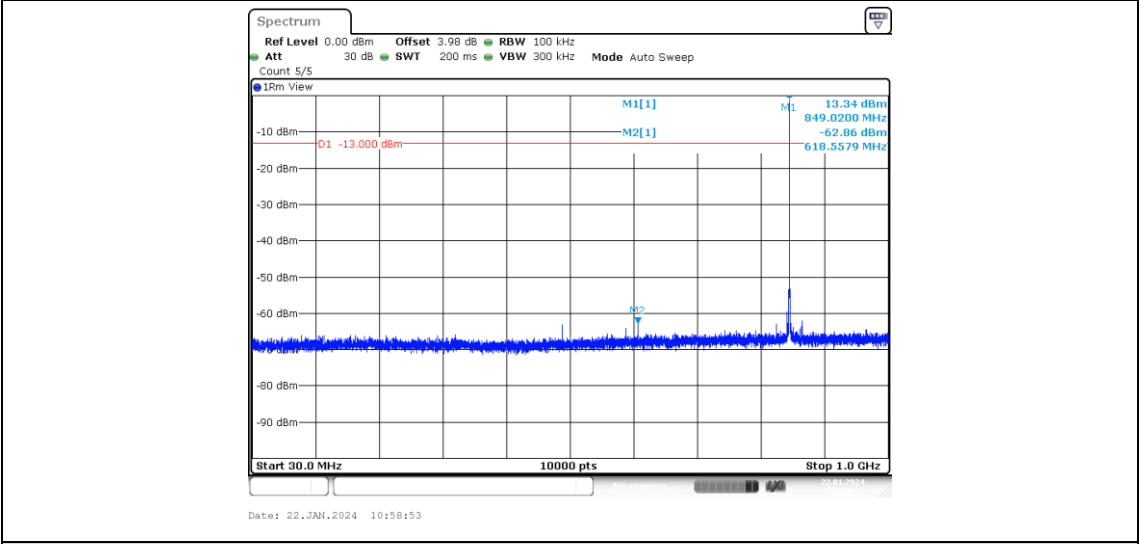
Band5-Stand-Alone-NaN-BPSK-20649-1@0-15kHz-1000-10000--50.06--13-PASS



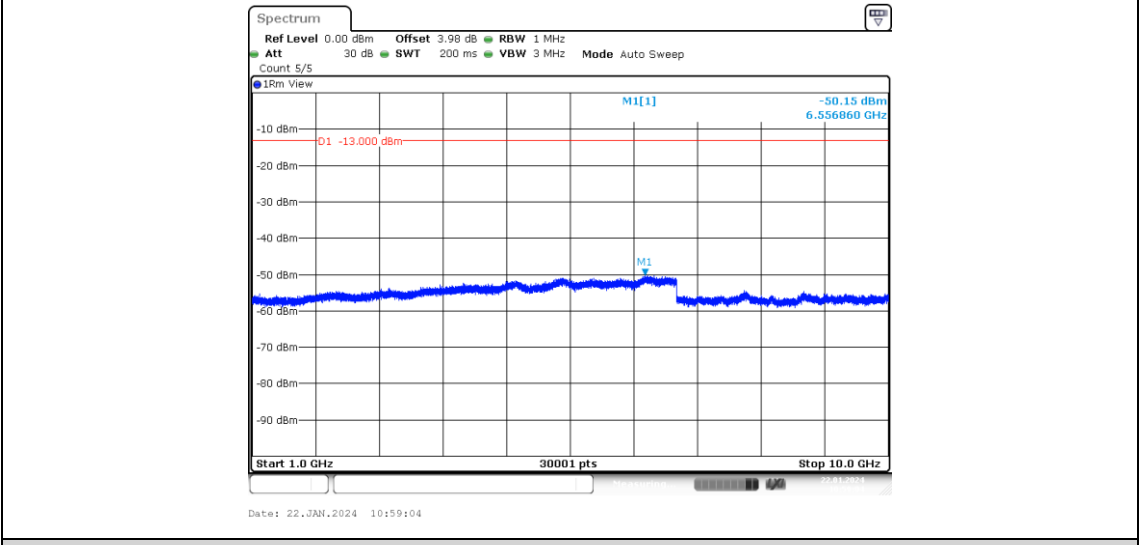
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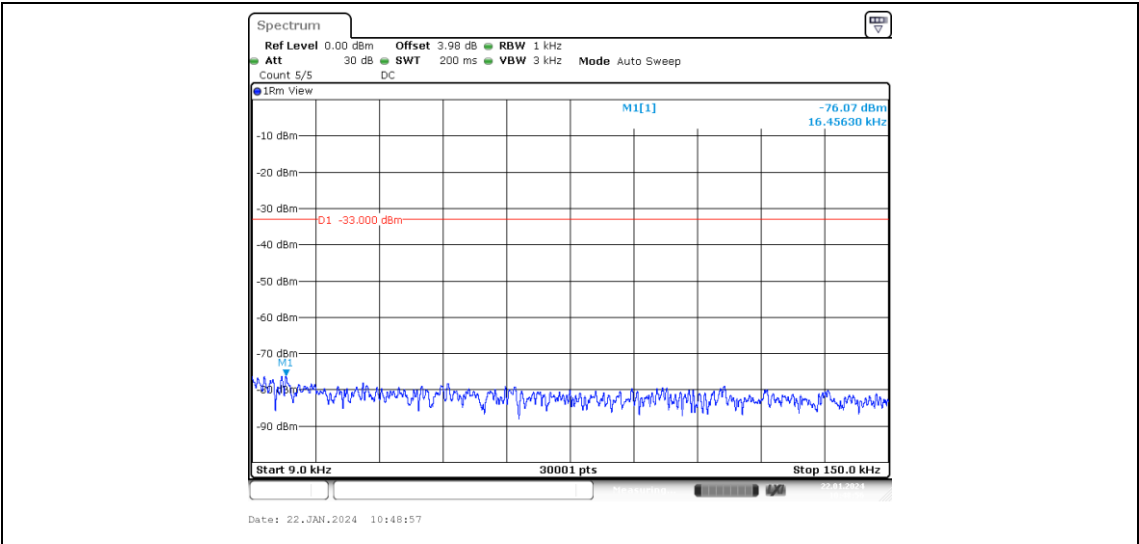
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-0.15-30--68.16--23-PASS



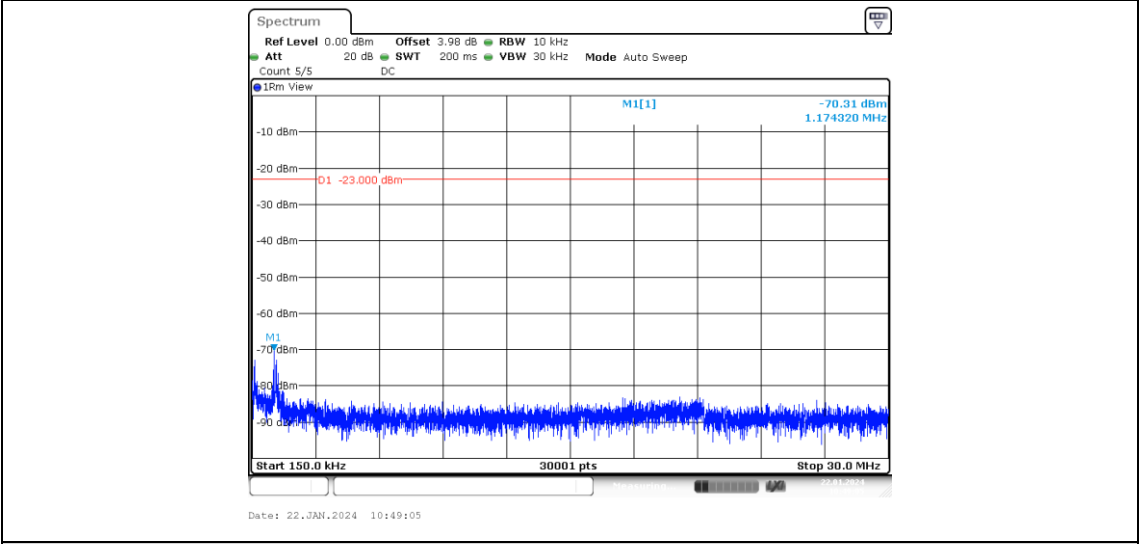
Band5-Stand-Alone-NaN-BPSK-20649-1@11-15kHz-30-1000--62.86--13-PASS



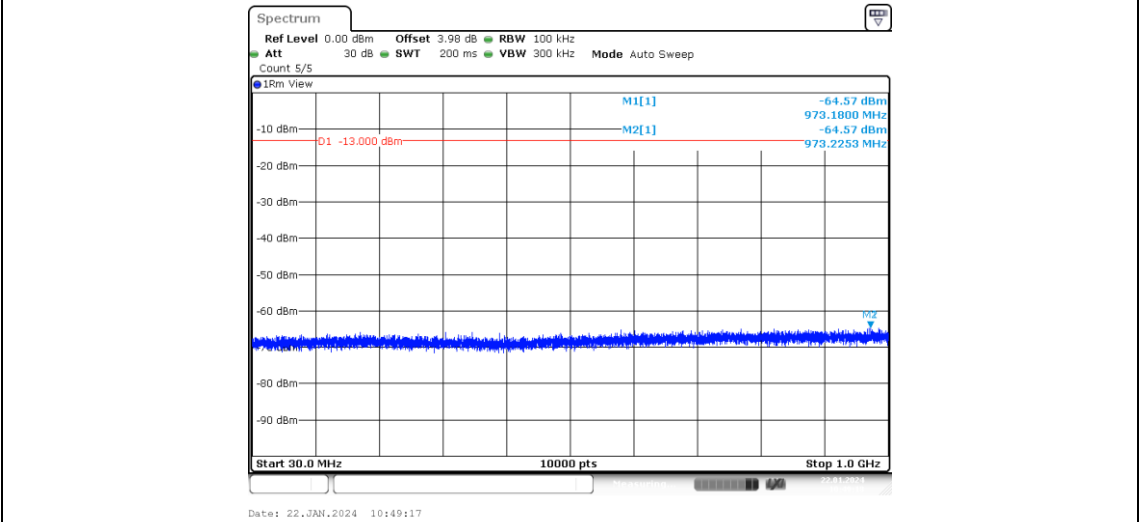
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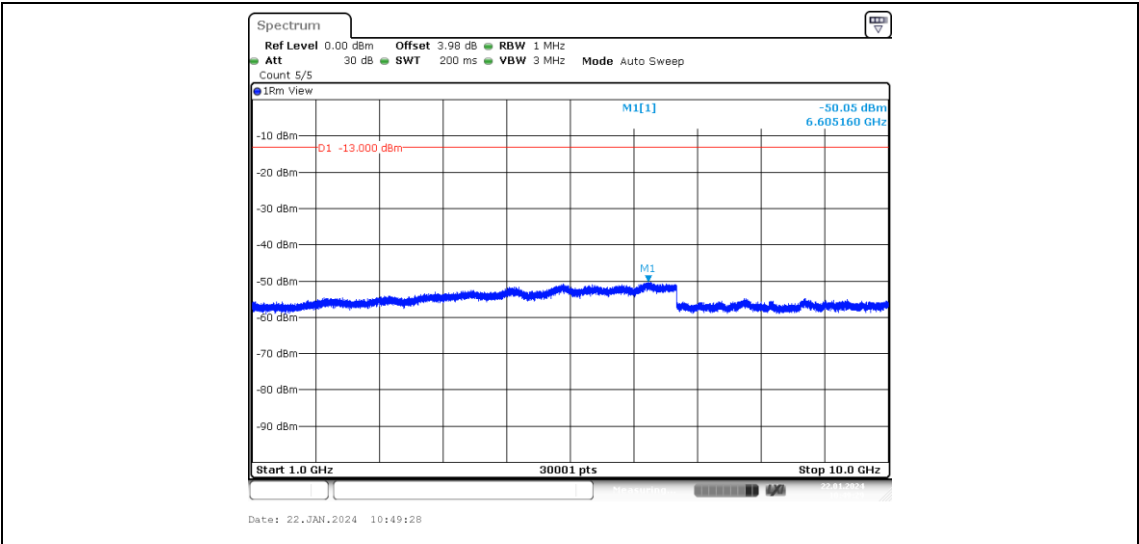
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-0.009-0.15--76.07--33-PASS



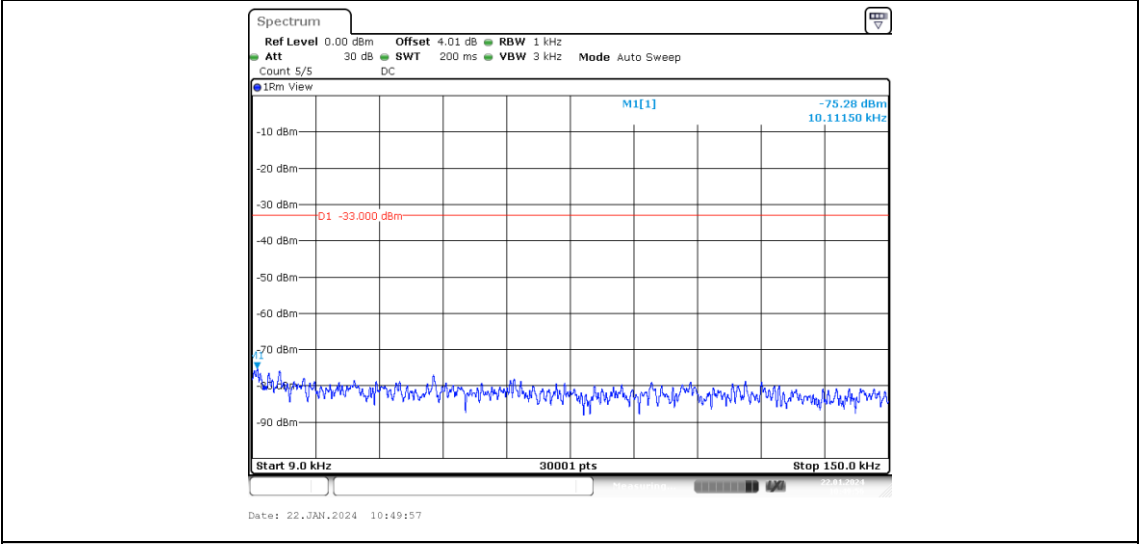
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-0.15-30--70.31--23-PASS



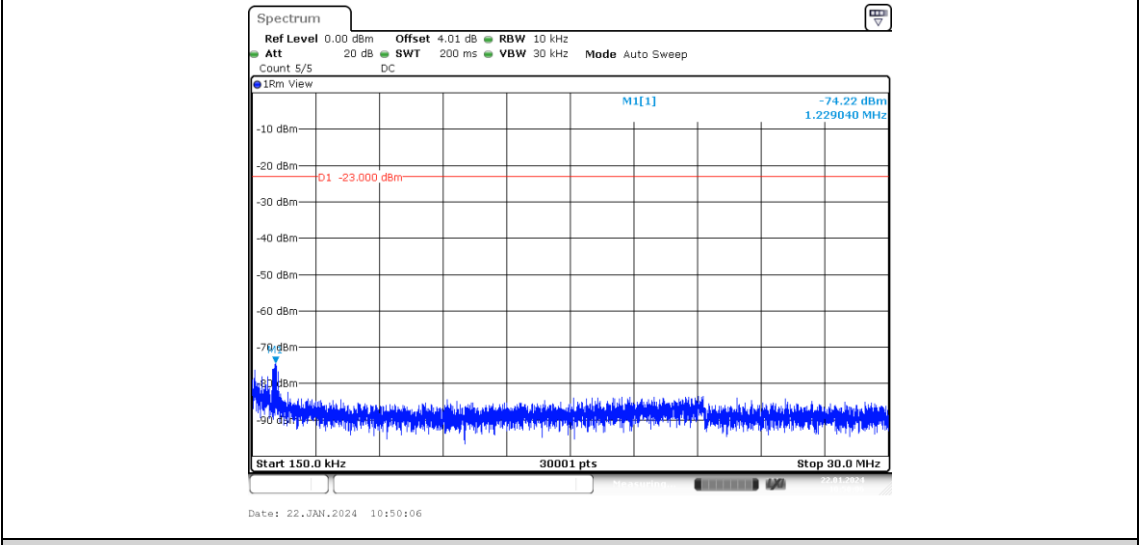
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-30-1000--64.57--13-PASS



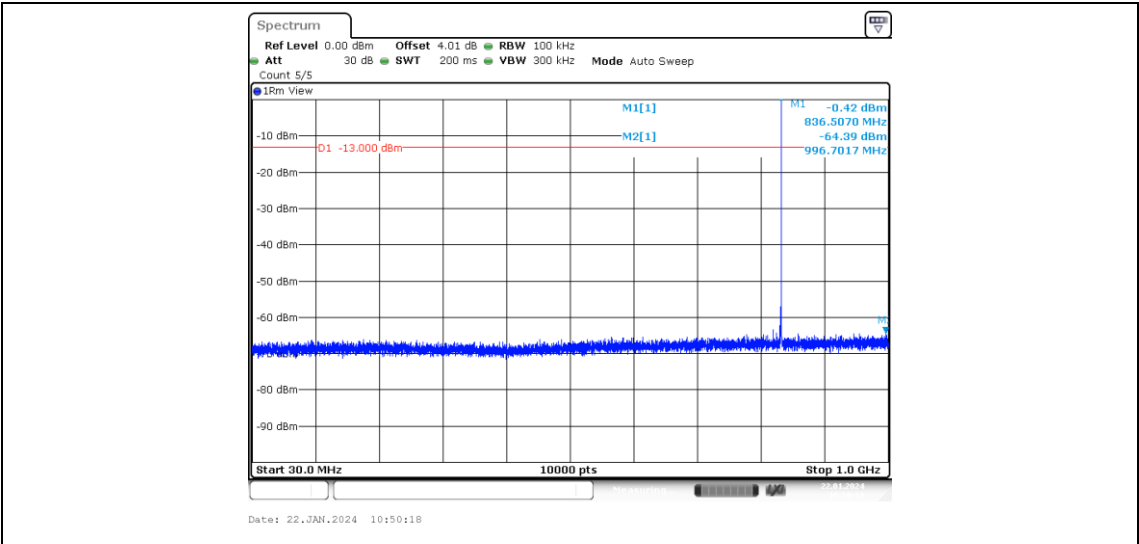
Band5-Stand-Alone-NaN-QPSK-20401-12@0-15kHz-1000-10000--50.05--13-PASS



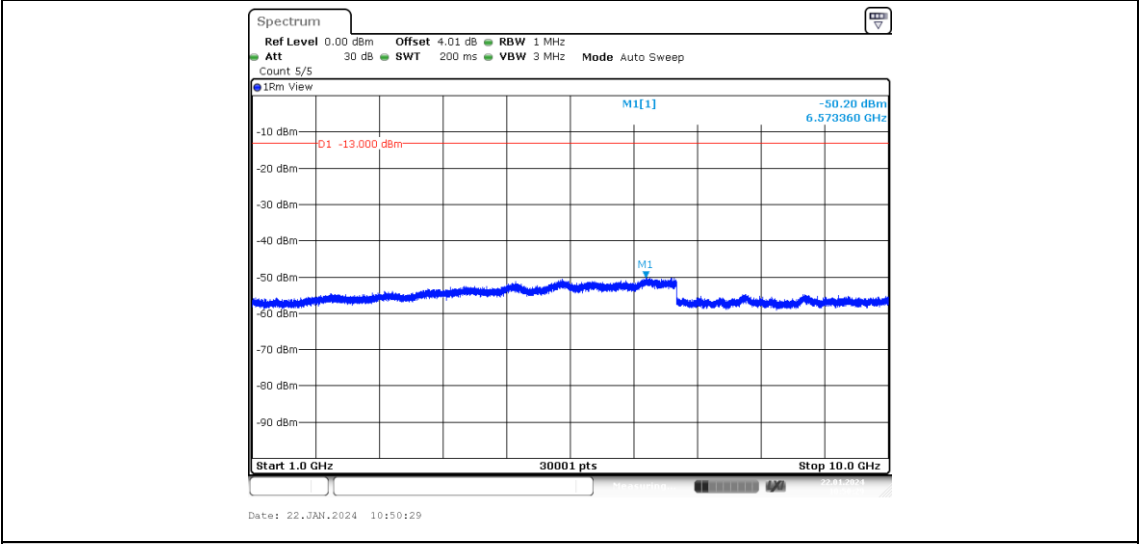
Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-0.009-0.15--75.28--33-PASS



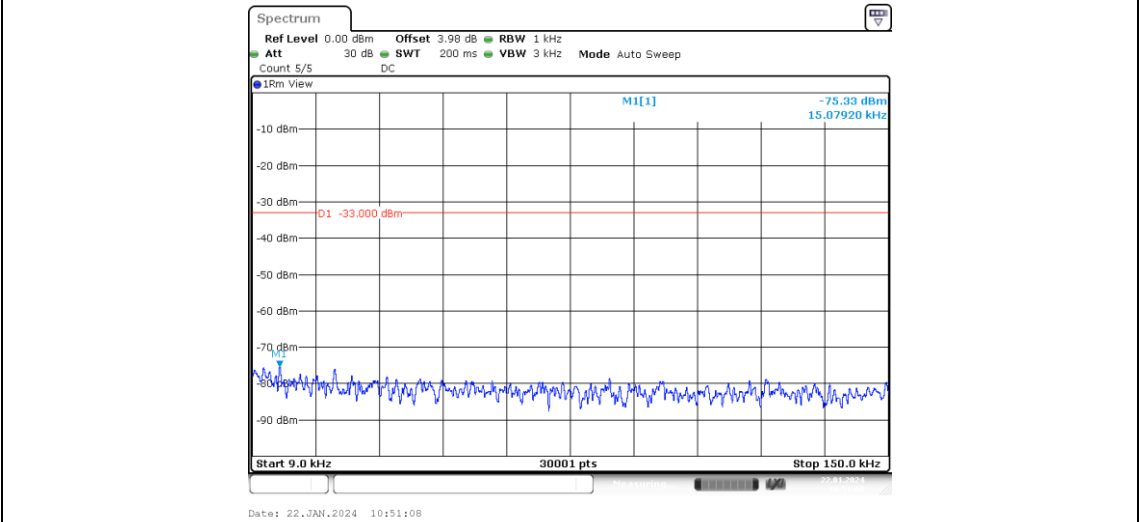
Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-0.15-30--74.22--23-PASS



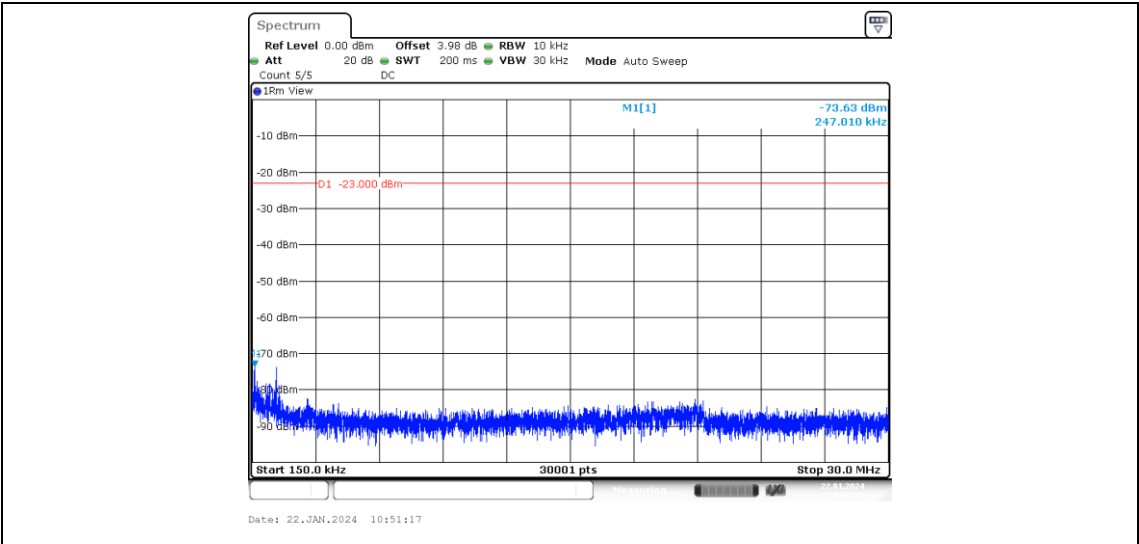
Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-30-1000--64.39--13-PASS



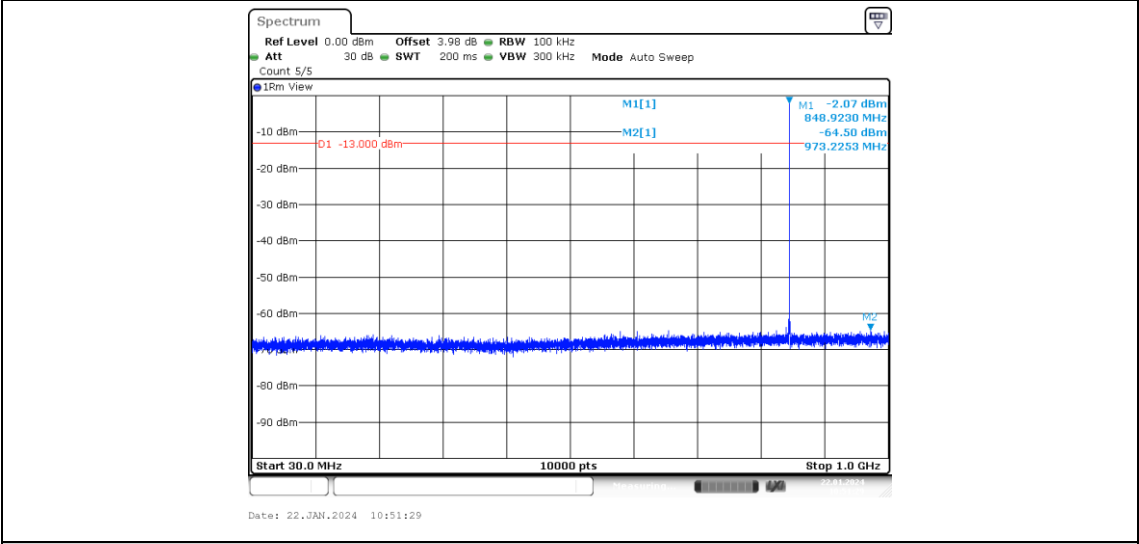
Band5-Stand-Alone-NaN-QPSK-20525-12@0-15kHz-1000-10000--50.2--13-PASS



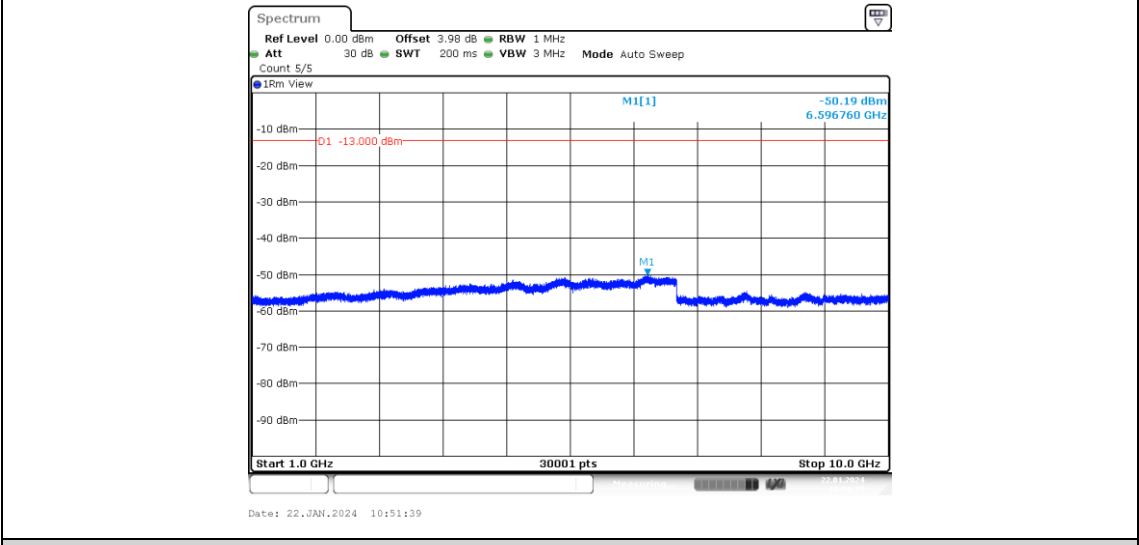
Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-0.009-0.15--75.33--33-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-0.15-30--73.63--23-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-30-1000--64.5--13-PASS



Band5-Stand-Alone-NaN-QPSK-20649-12@0-15kHz-1000-10000--50.19--13-PASS

Appendix F: Frequency Stability

Test Result

Voltage												
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 0	VH	NT	-14.03	-0.016772	±2.5	PASS
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 0	VL	NT	-13.48	-0.016115	±2.5	PASS
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 0	VN	NT	-12.16	-0.014537	±2.5	PASS
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 47	VH	NT	-13.82	-0.016521	±2.5	PASS
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 47	VL	NT	-14.49	-0.017322	±2.5	PASS
Band 5	Stand-Alone	3.75 kHz	NaN	QPSK	20525	1 @ 47	VN	NT	-13.65	-0.016318	±2.5	PASS
Band 5	Stand-Alone	15k Hz	NaN	QPSK	20525	1 @ 0	VH	NT	-16.54	-0.019773	±2.5	PASS
Band 5	Stand-Alone	15k Hz	NaN	QPSK	20525	1 @ 0	VL	NT	-13.50	-0.016139	±2.5	PASS
Band 5	Stand-Alone	15k Hz	NaN	QPSK	20525	1 @ 0	VN	NT	-14.68	-0.017549	±2.5	PASS
Band 5	Stand-Alone	15k Hz	NaN	QPSK	20525	1 @ 11	VH	NT	-13.99	-0.016724	±2.5	PASS
Band 5	Stand-Alone	15k Hz	NaN	QPSK	20525	1 @ 11	VL	NT	-13.92	-0.016641	±2.5	PASS
Ba	Stand-	15k	NaN	QPS	205	1	VN	NT	-14.2	-0.01	±2.	PA

nd 5	Alone	Hz		K	25	@1 1			8	7071	5	SS
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Temperature												
Band	OpMode	Bandwidth	Modulation	Channel	Tones	SCS	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	50	-11.16	-0.013341	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	-20	-13.18	-0.015756	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	-10	-12.92	-0.015445	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	0	-12.35	-0.014764	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	10	-12.72	-0.015206	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	20	-13.22	-0.015804	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	30	-12.33	-0.014740	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	40	-12.07	-0.014429	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 0	NV	-30	-14.79	-0.017681	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 47	NV	30	-12.35	-0.014764	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @ 47	NV	20	-11.30	-0.013509	±2.5	PASS
Band5	Stand-Alone	3.75k Hz	NaN	QPSK	20525	1 @	NV	10	-11.64	-0.013915	±2.5	PASS

					5	47						
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	0	-10.9 3	-0.01 3066	±2. 5	PA SS
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	-10	-11.5 9	-0.01 3855	±2. 5	PA SS
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	40	-10.1 0	-0.01 2074	±2. 5	PA SS
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	-30	-11.2 4	-0.01 3437	±2. 5	PA SS
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	50	-11.4 7	-0.01 3712	±2. 5	PA SS
Ba nd5	Stand- Alone	3.75k Hz	NaN	QP SK	20 52 5	1 @ 47	NV	-20	-12.1 9	-0.01 4573	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	50	-14.6 5	-0.01 7513	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	-20	-12.8 0	-0.01 5302	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	-10	-13.5 0	-0.01 6139	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	0	-14.3 2	-0.01 7119	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	10	-15.3 1	-0.01 8302	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	20	-11.7 6	-0.01 4059	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	30	-13.9 9	-0.01 6724	±2. 5	PA SS
Ba nd5	Stand- Alone	15kH z	NaN	QP SK	20 52 5	1 @ 0	NV	40	-14.6 3	-0.01 7490	±2. 5	PA SS

Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @ 0	NV	-30	-12.9 9	-0.01 5529	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	40	-12.5 3	-0.01 4979	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	30	-13.4 0	-0.01 6019	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	20	-10.8 1	-0.01 2923	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	10	-11.9 4	-0.01 4274	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	0	-13.6 0	-0.01 6258	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	-10	-15.0 6	-0.01 8004	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	-30	-12.3 2	-0.01 4728	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	50	-13.6 3	-0.01 6294	±2. 5	PA SS
Ba nd5	Stand- Alone	15kHz	NaN	QP SK	20 52 5	1 @1 1	NV	-20	-13.6 0	-0.01 6258	±2. 5	PA SS