

Appendix for NB-IOT Band 4

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 4	Stand-Al one	3.75kHz	NaN	BPSK	19951	1@0	21.58	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	19951	1@47	21.54	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20175	1@0	21.13	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20175	1@47	21.08	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20399	1@0	21.59	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20399	1@47	21.69	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	19951	1@0	21.57	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	19951	1@47	21.50	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20175	1@0	21.18	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20175	1@47	21.11	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20399	1@0	21.69	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20399	1@47	21.62	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	19951	1@0	21.22	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	19951	1@11	21.44	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20175	1@0	20.77	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20175	1@11	21.03	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20399	1@0	21.56	PASS

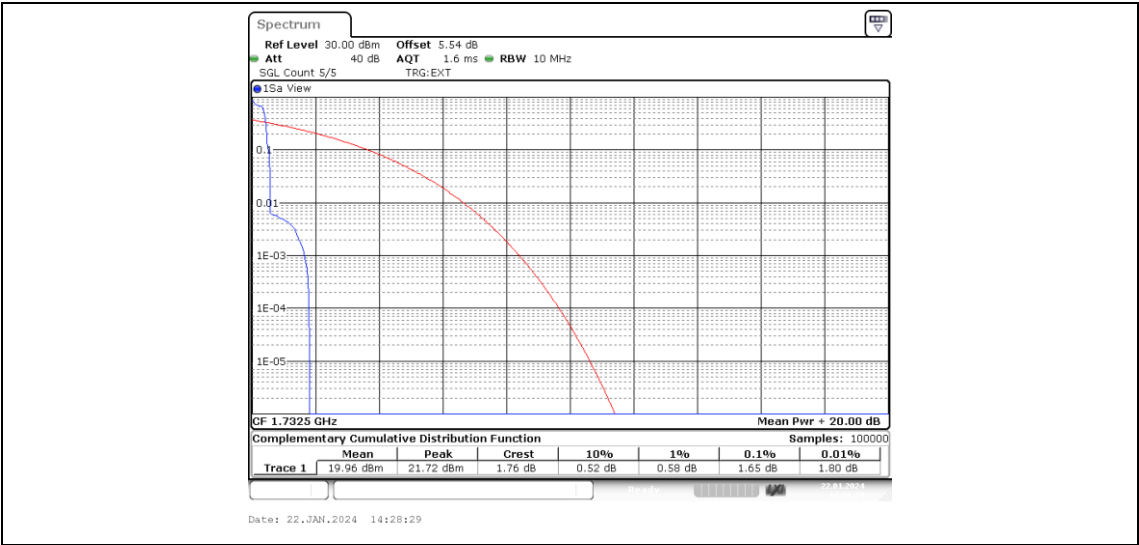
Band 4	Stand-Al one	15kHz	NaN	BPSK	20399	1@11	21.69	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	1@0	21.63	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	1@11	21.50	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	3@3	21.22	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	1@0	21.17	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	1@11	21.16	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	3@3	21.22	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	1@0	21.85	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	1@11	21.87	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	3@3	21.69	PASS

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

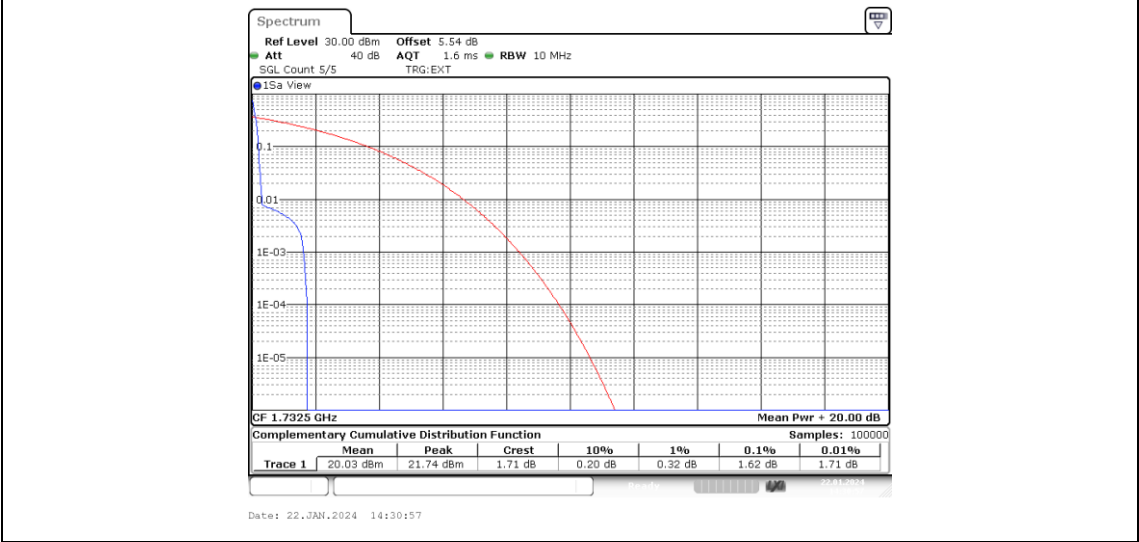
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@0	1.65	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@47	1.62	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	1.39	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	1.3	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	1.33	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	1.33	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@0	1.33	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@11	1.33	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	3@3	2.96	<=13	PASS

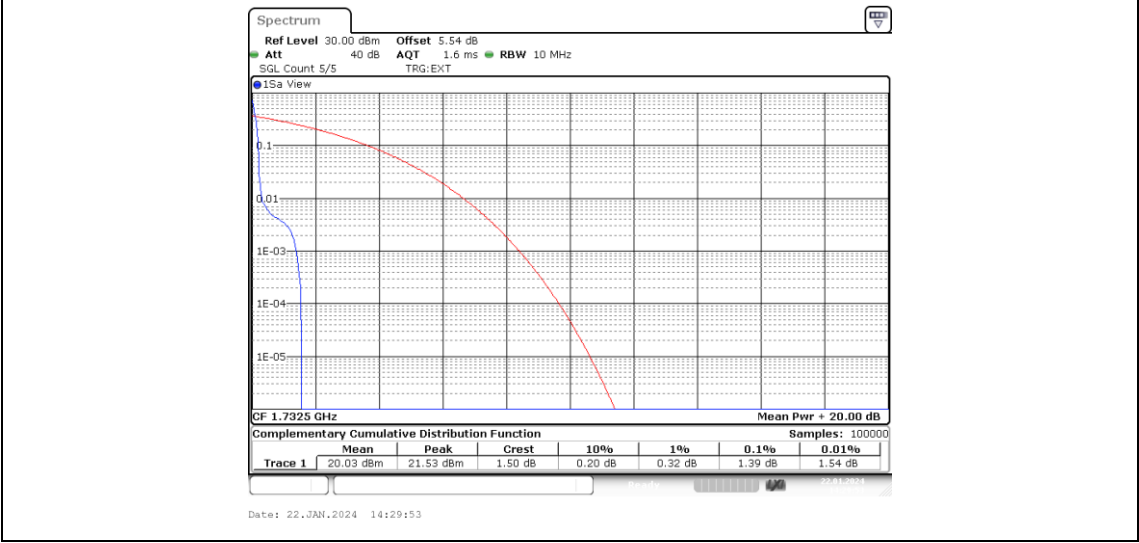
Test Graphs

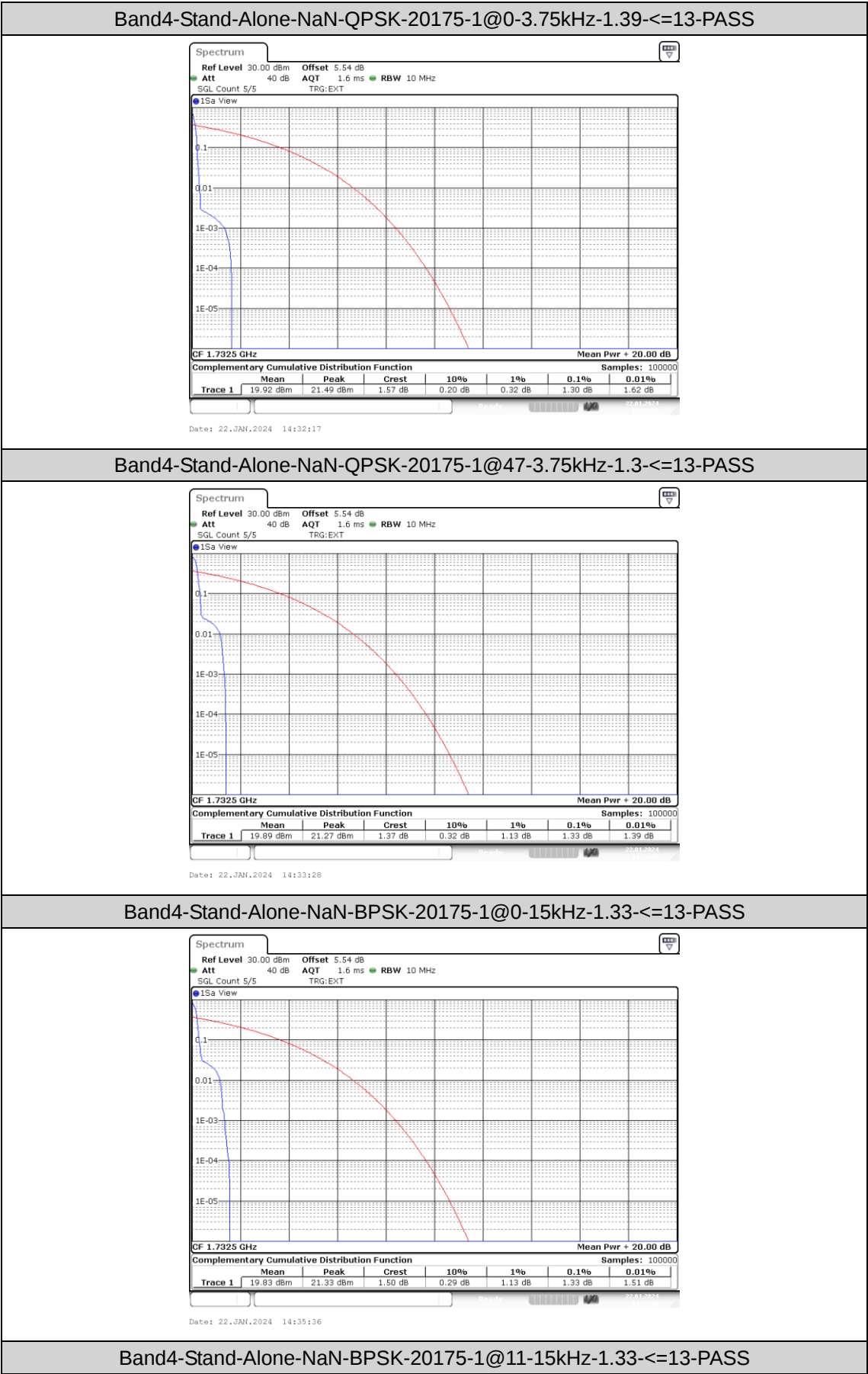


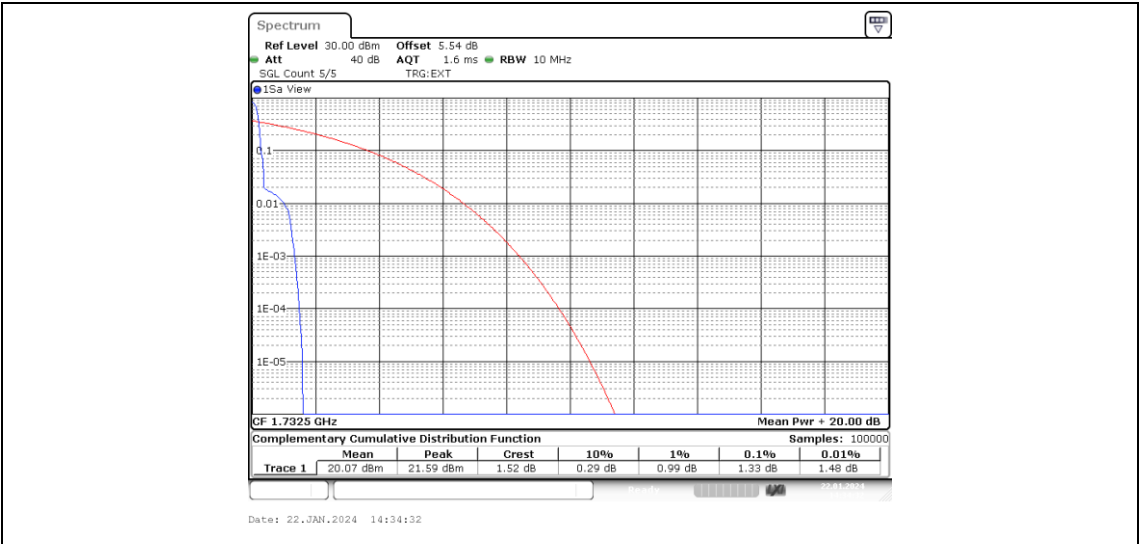
Band4-Stand-Alone-NaN-BPSK-20175-1@0-3.75kHz-1.65-<=13-PASS



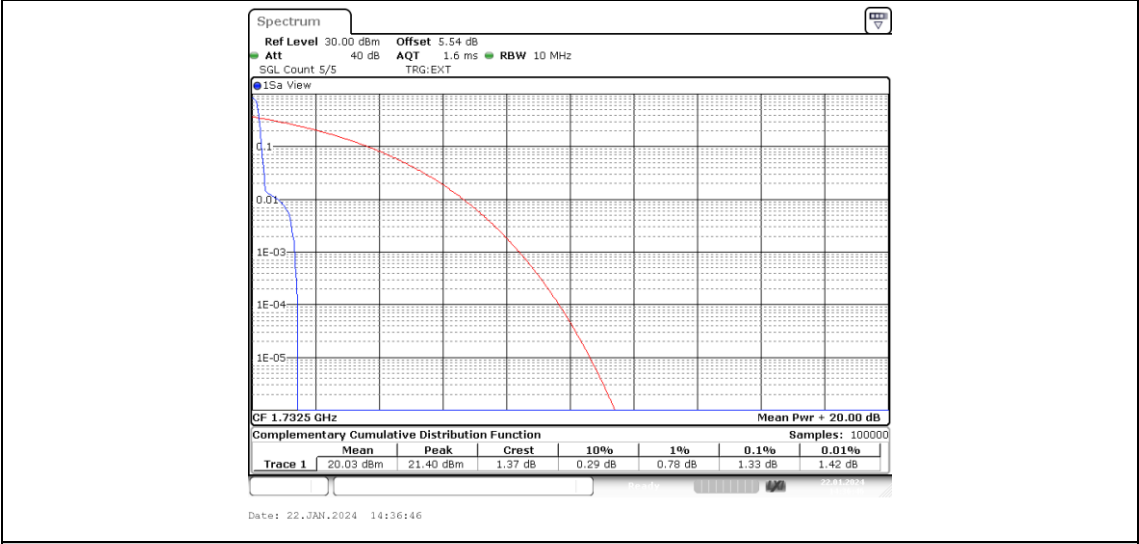
Band4-Stand-Alone-NaN-BPSK-20175-1@47-3.75kHz-1.62-<=13-PASS



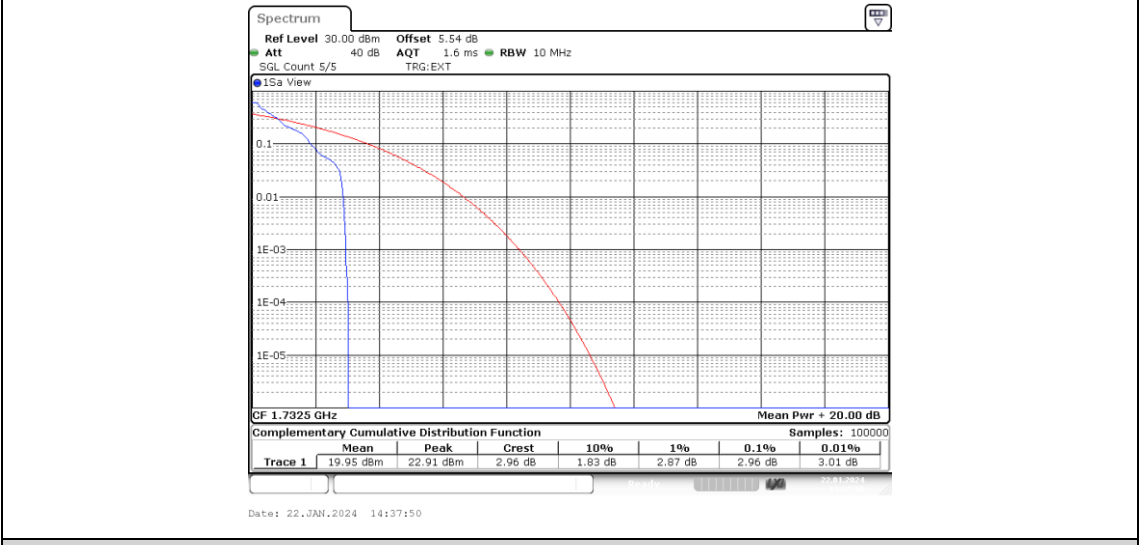




Band4-Stand-Alone-NaN-QPSK-20175-1@0-15kHz-1.33-<=13-PASS



Band4-Stand-Alone-NaN-QPSK-20175-1@11-15kHz-1.33-<=13-PASS



Band4-Stand-Alone-NaN-QPSK-20175-3@3-15kHz-2.96-<=13-PASS

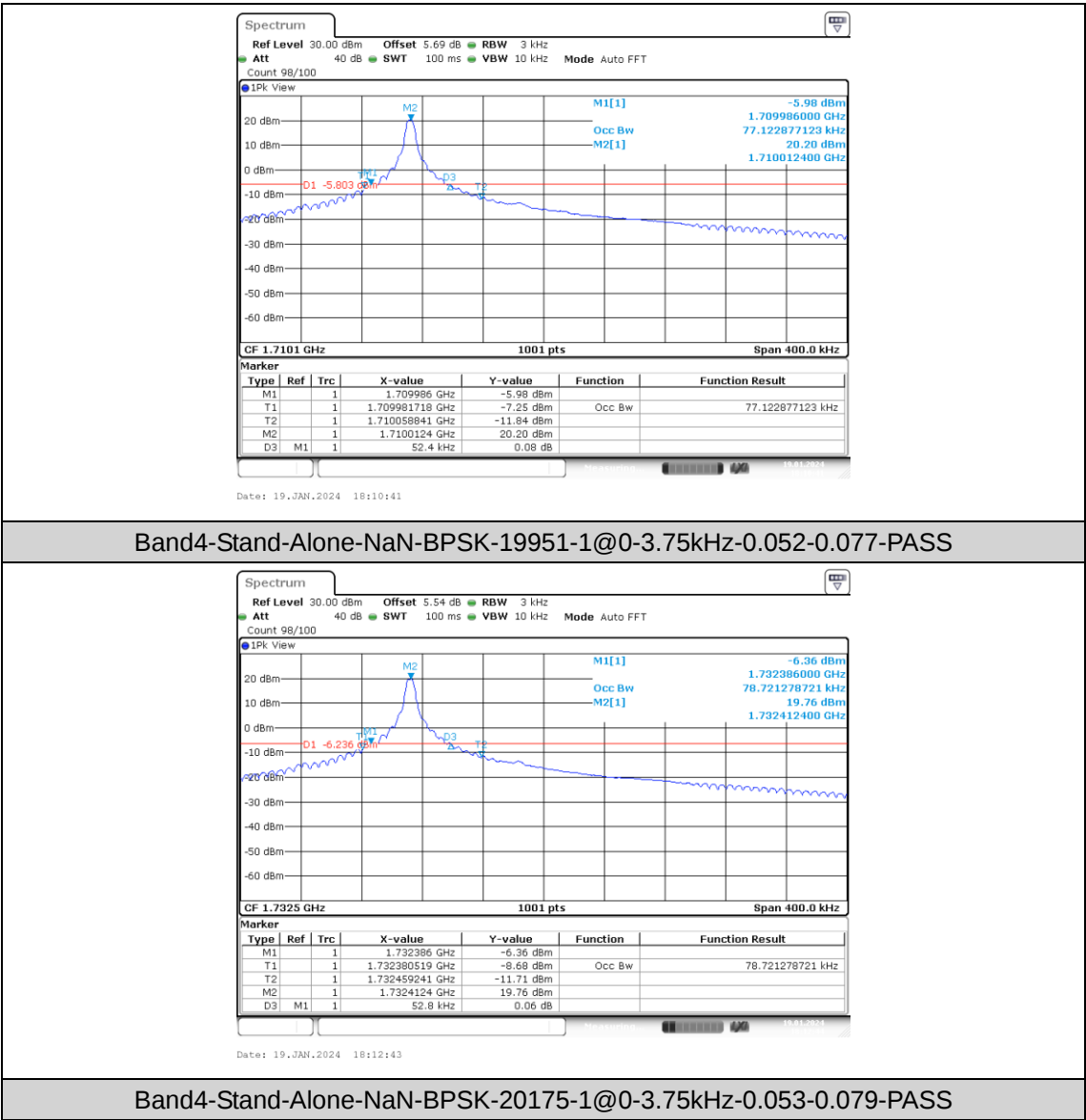
Appendix C: Emission Bandwidth

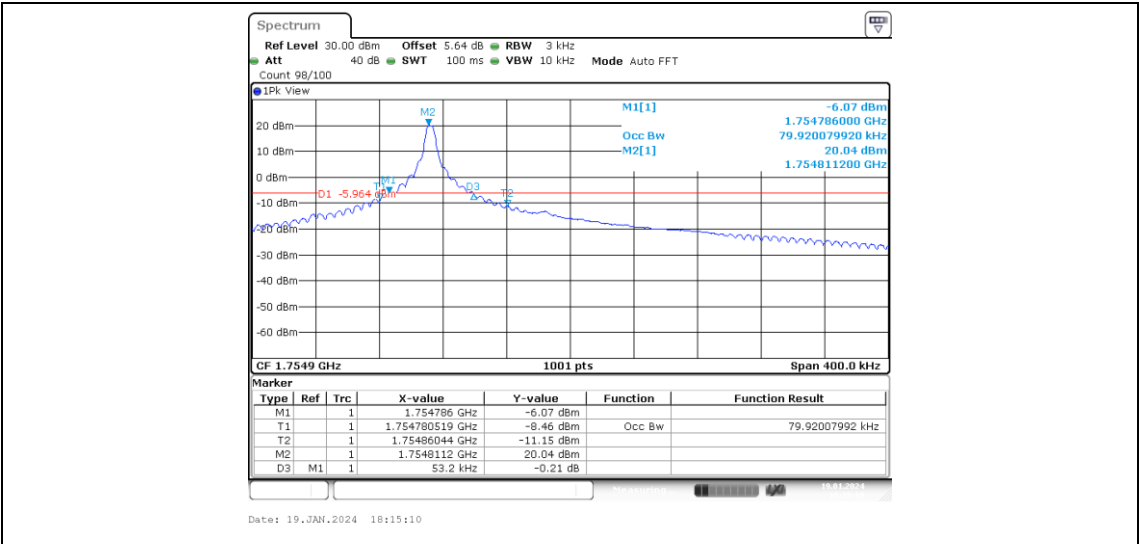
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@0	0.077	0.052	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@0	0.079	0.053	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@0	0.08	0.053	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	0.093	0.055	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.092	0.056	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.094	0.055	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.133	0.107	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	12@0	0.185	0.252	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.134	0.107	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	12@0	0.185	0.251	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.133	0.107	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	12@0	0.185	0.251	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@0	0.134	0.119	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.185	0.253	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@0	0.134	0.119	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.185	0.251	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@0	0.133	0.119	PASS

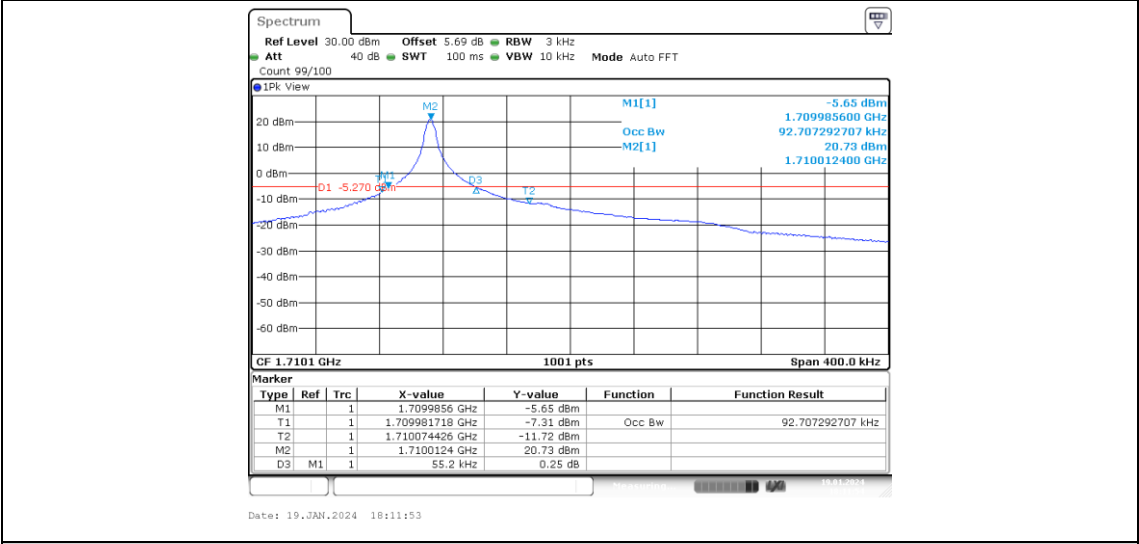
Band4	Stand-Al one	15kHz	NaN	QPSK	20399	12@0	0.185	0.251	PASS
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Test Graphs

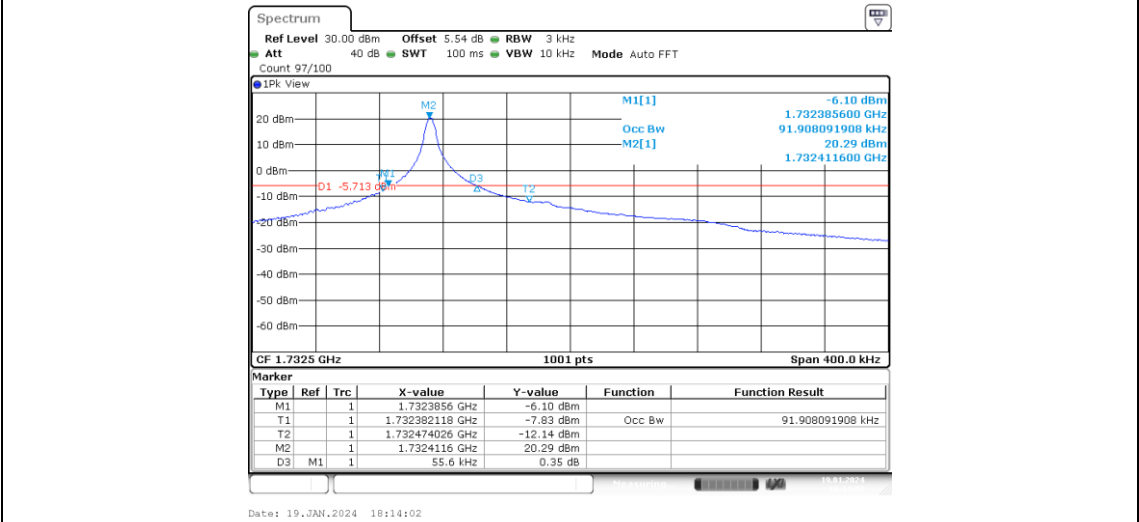




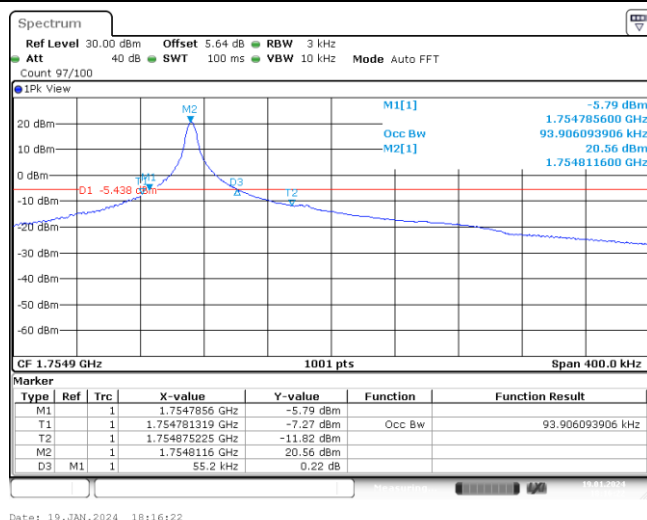
Band4-Stand-Alone-NaN-BPSK-20399-1@0-3.75kHz-0.053-0.08-PASS



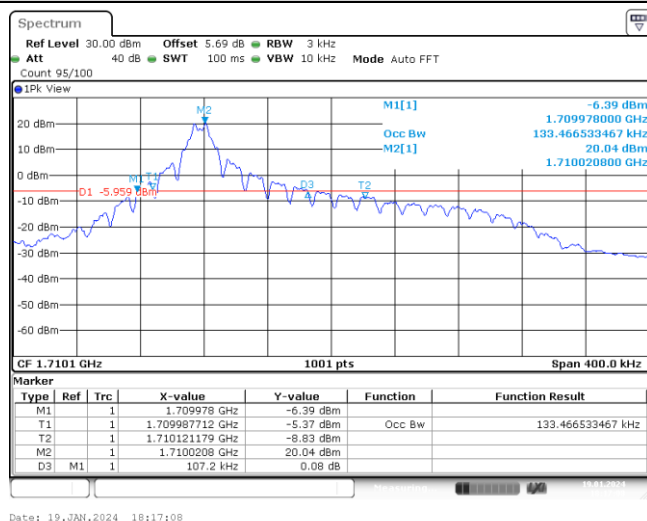
Band4-Stand-Alone-NaN-QPSK-19951-1@0-3.75kHz-0.055-0.093-PASS



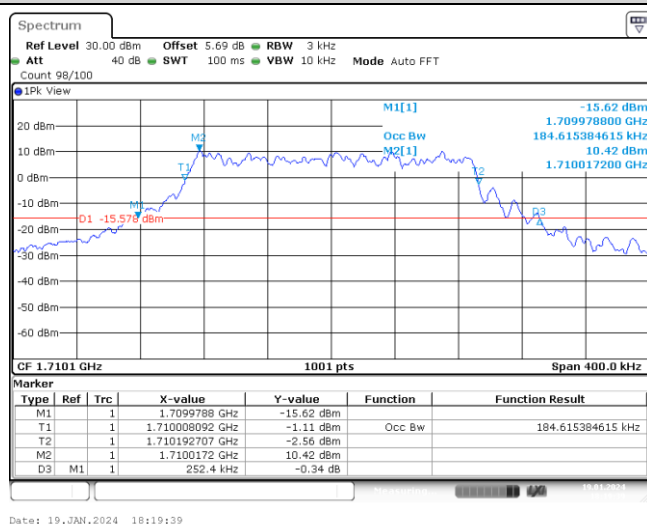
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-0.056-0.092-PASS



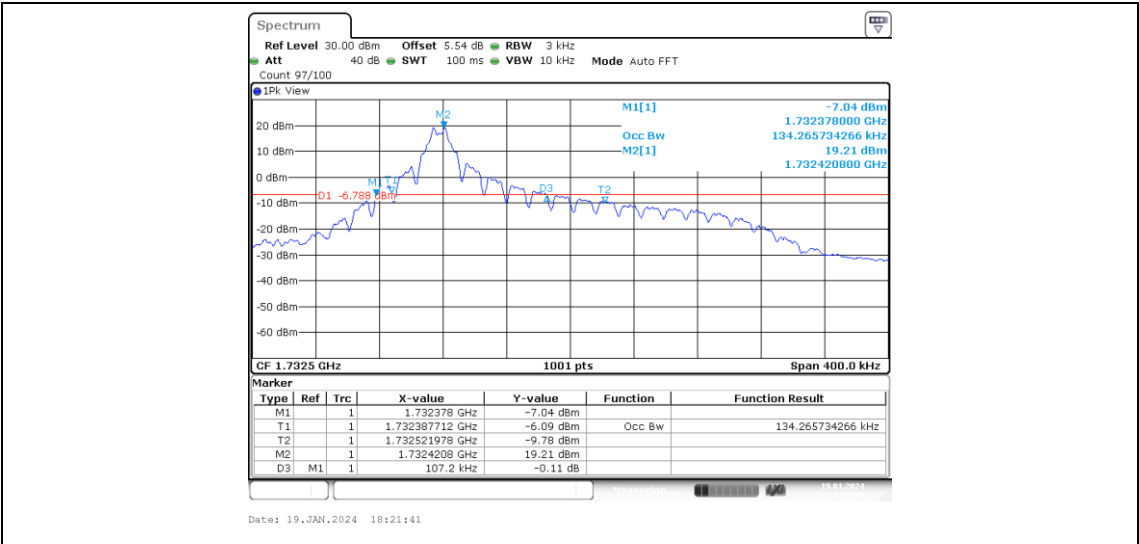
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.055-0.094-PASS



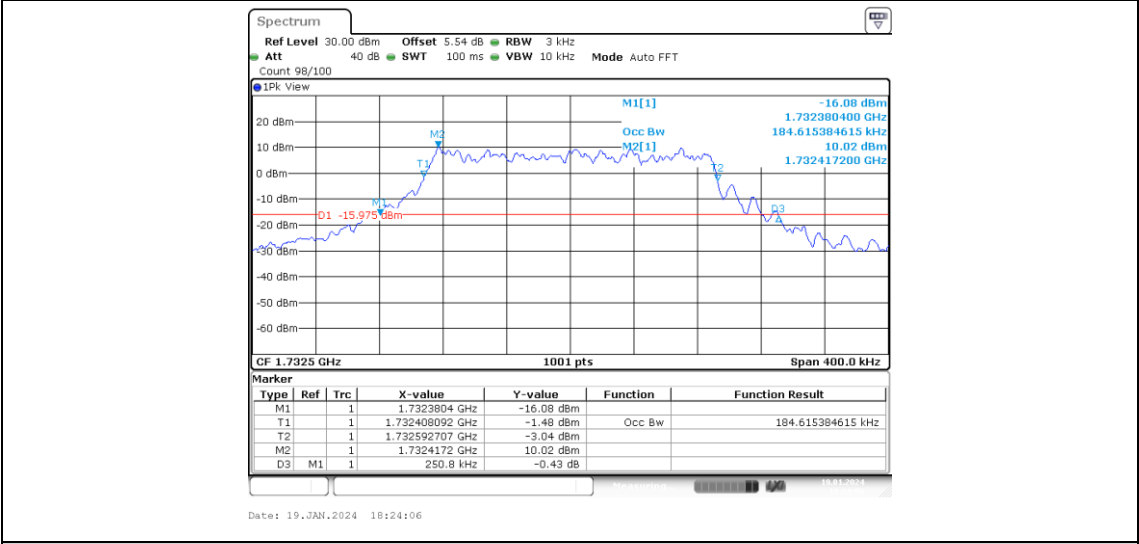
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.107-0.133-PASS



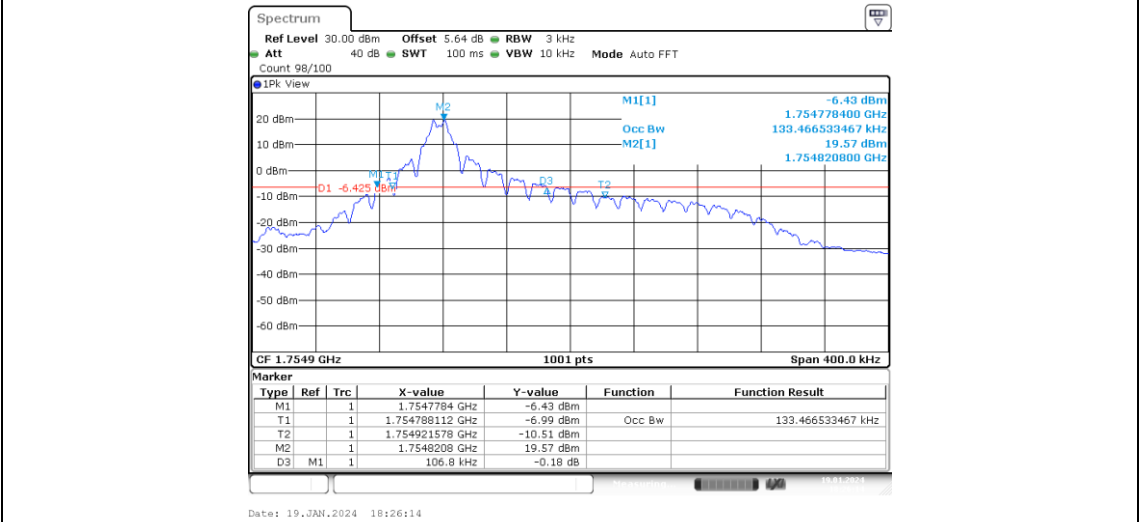
Band4-Stand-Alone-NaN-BPSK-19951-12@0-15kHz-0.252-0.185-PASS



Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-0.107-0.134-PASS



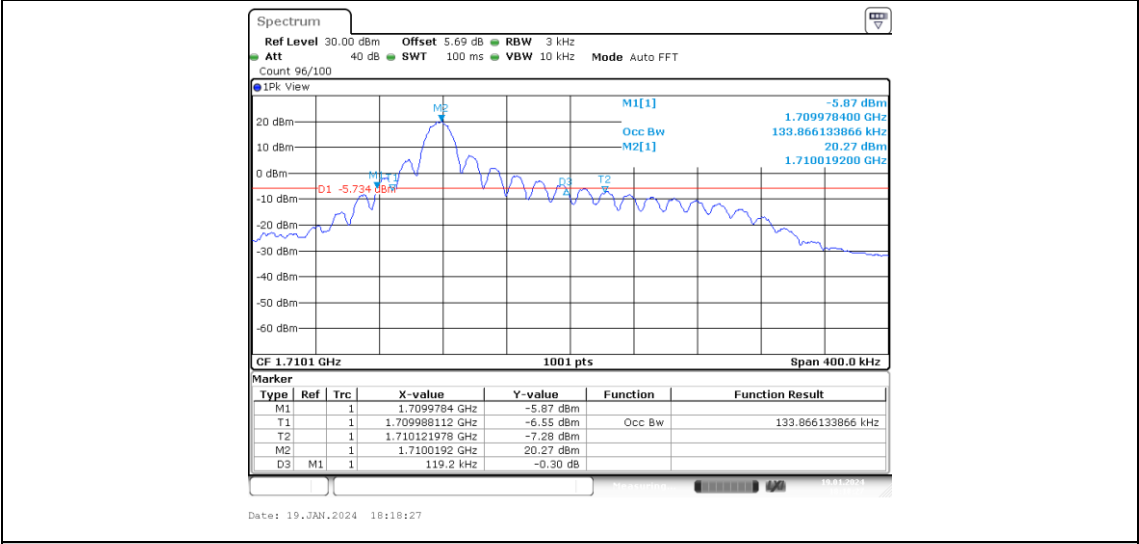
Band4-Stand-Alone-NaN-BPSK-20175-12@0-15kHz-0.251-0.185-PASS



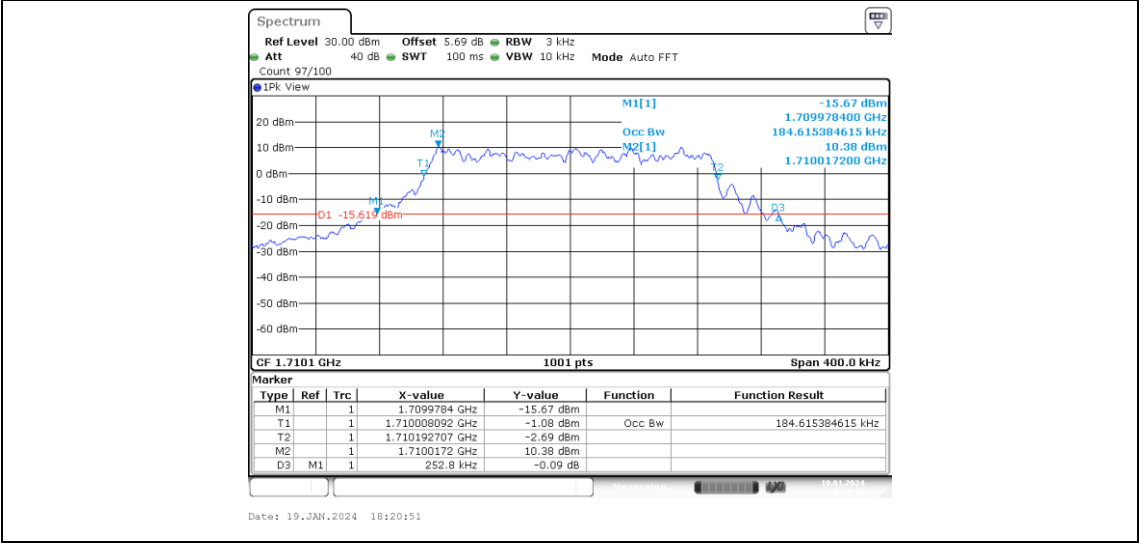
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-0.107-0.133-PASS



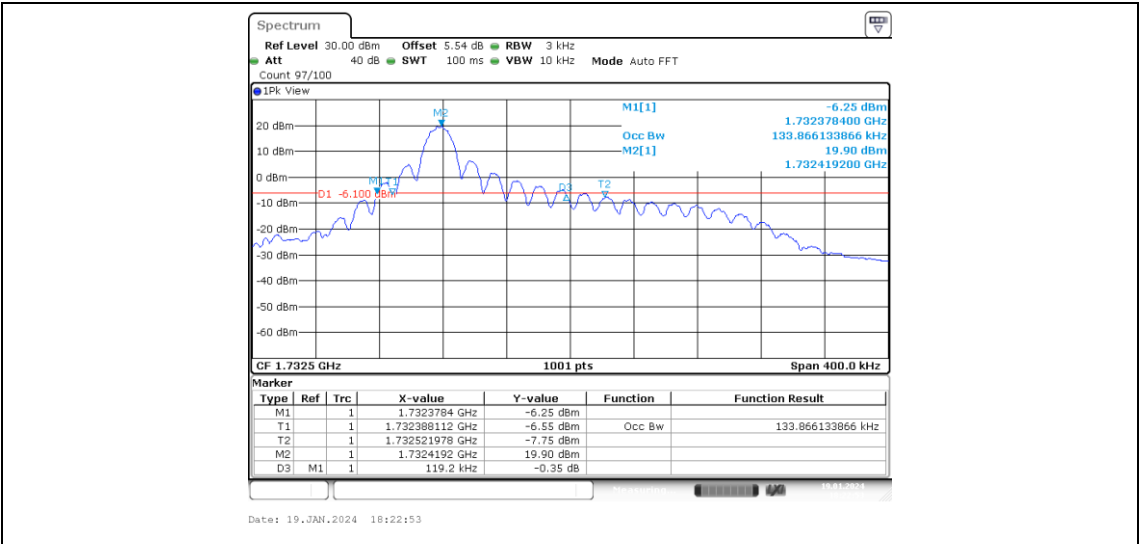
Band4-Stand-Alone-NaN-BPSK-20399-12@0-15kHz-0.251-0.185-PASS



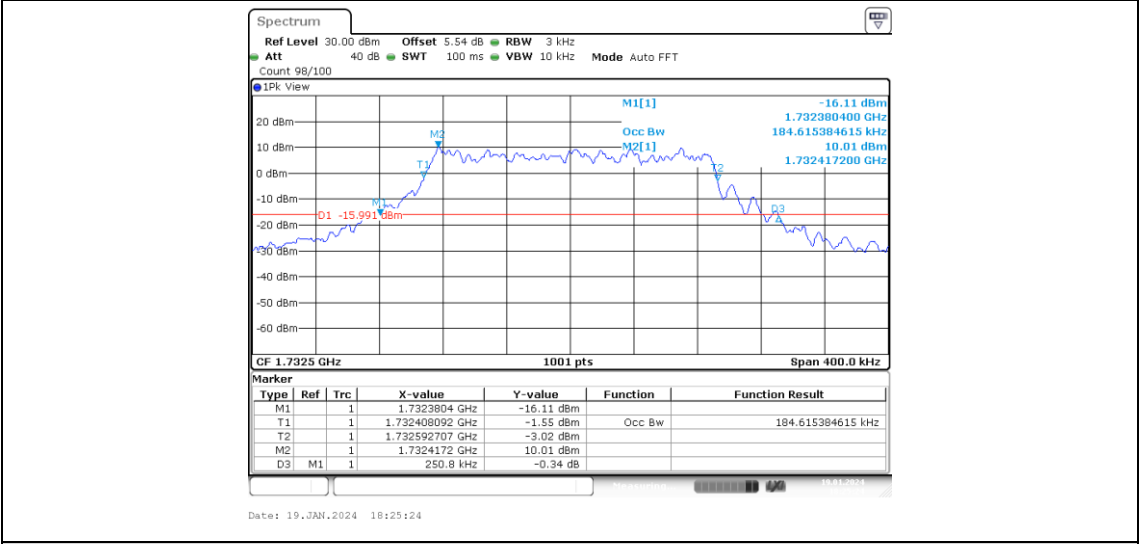
Band4-Stand-Alone-NaN-QPSK-19951-1@0-15kHz-0.119-0.134-PASS



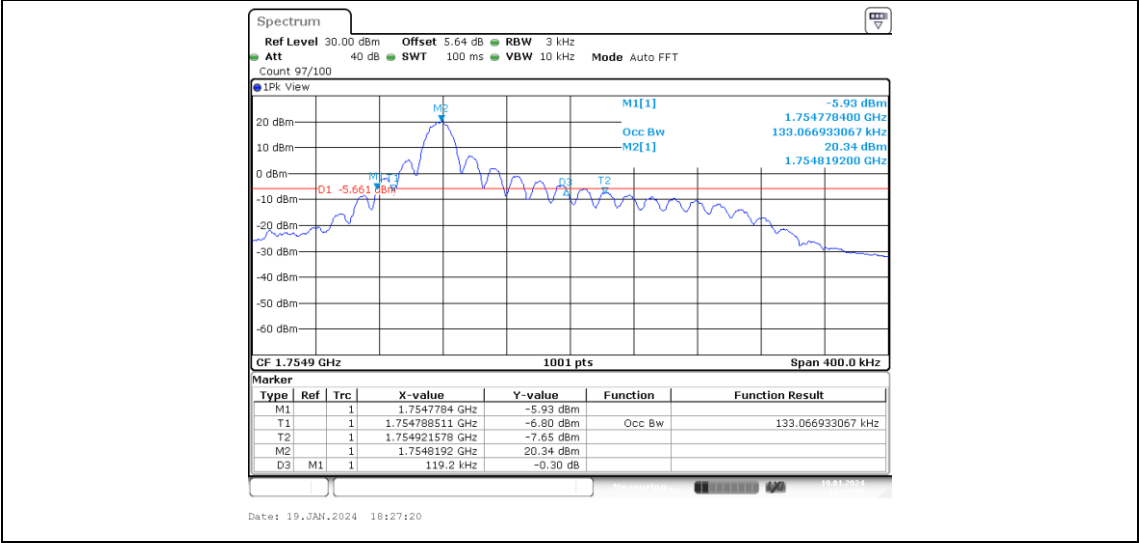
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-0.253-0.185-PASS



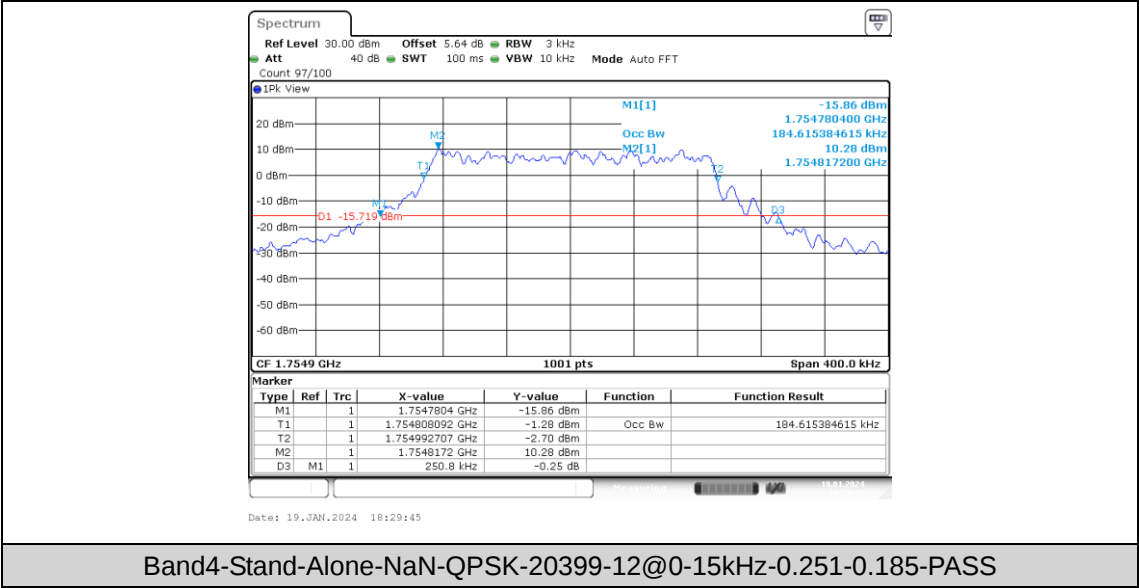
Band4-Stand-Alone-NaN-QPSK-20175-1@0-15kHz-0.119-0.134-PASS



Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.251-0.185-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@0-15kHz-0.119-0.133-PASS



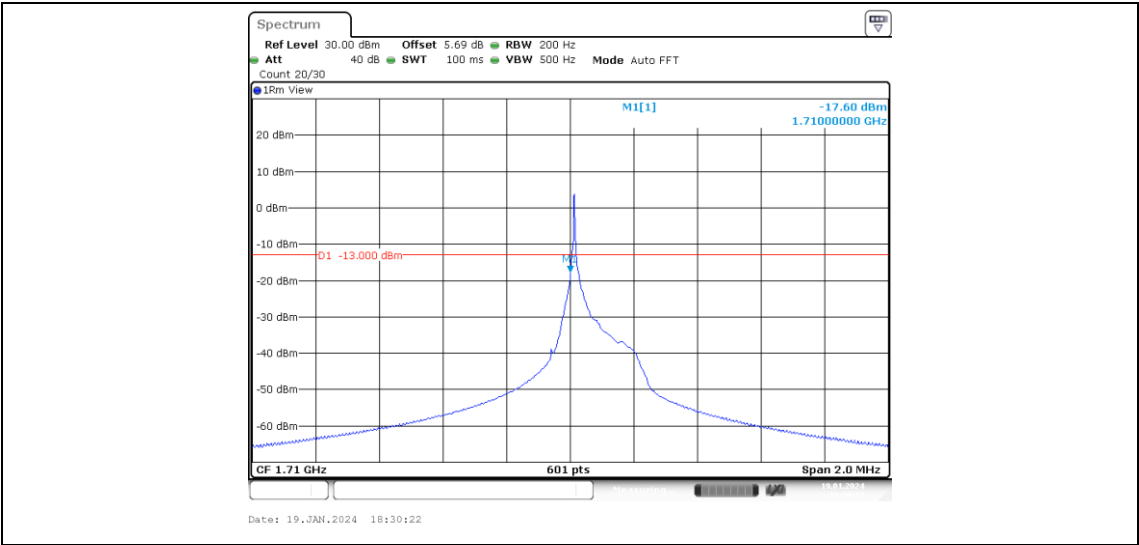
Appendix D: Band Edge

Test Result

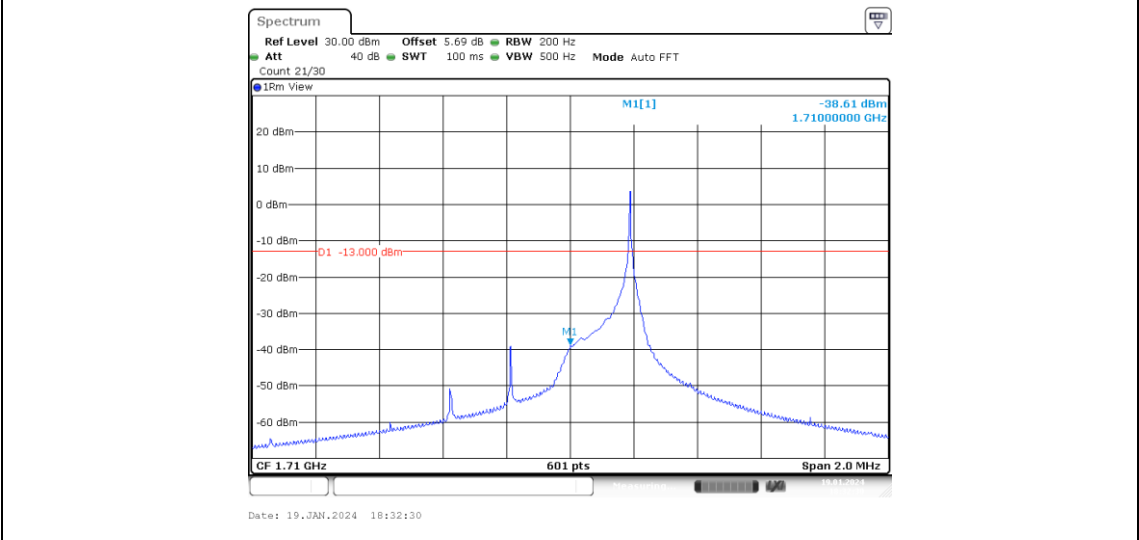
Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@0	-17.60	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@47	-38.61	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@0	-39.24	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@47	-17.69	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	-19.13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	-39.14	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	-40.51	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	-18.57	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	-15.91	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	-35.39	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	12@0	-29.19	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	-35.99	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	-16.59	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	12@0	-26.50	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@0	-18.54	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@11	-36.72	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	-25.3	PASS

							4	
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@0	-36.6 6	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@11	-17.9 5	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	-21.9 3	PASS

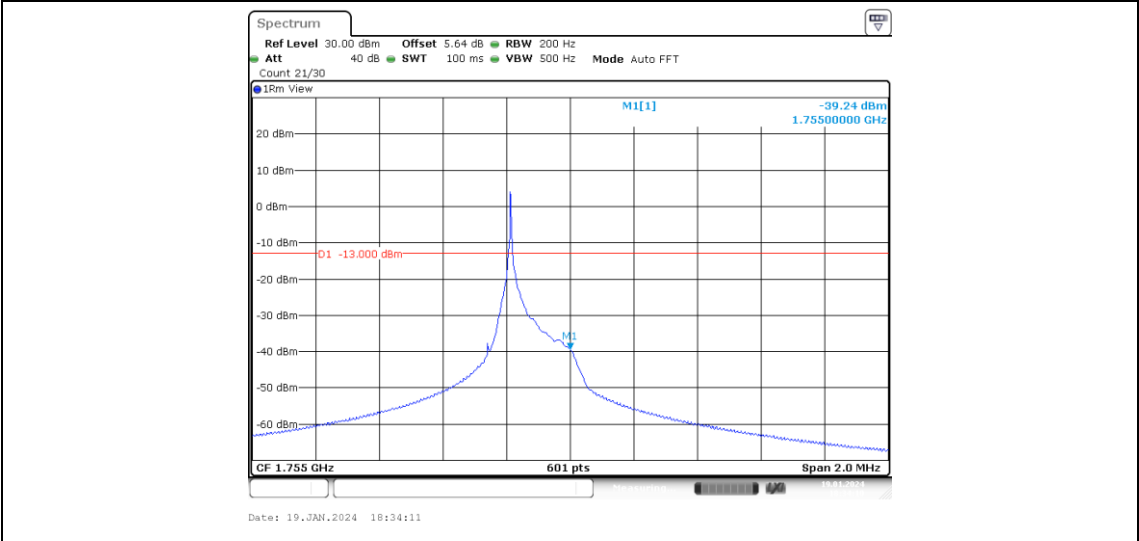
Test Graphs

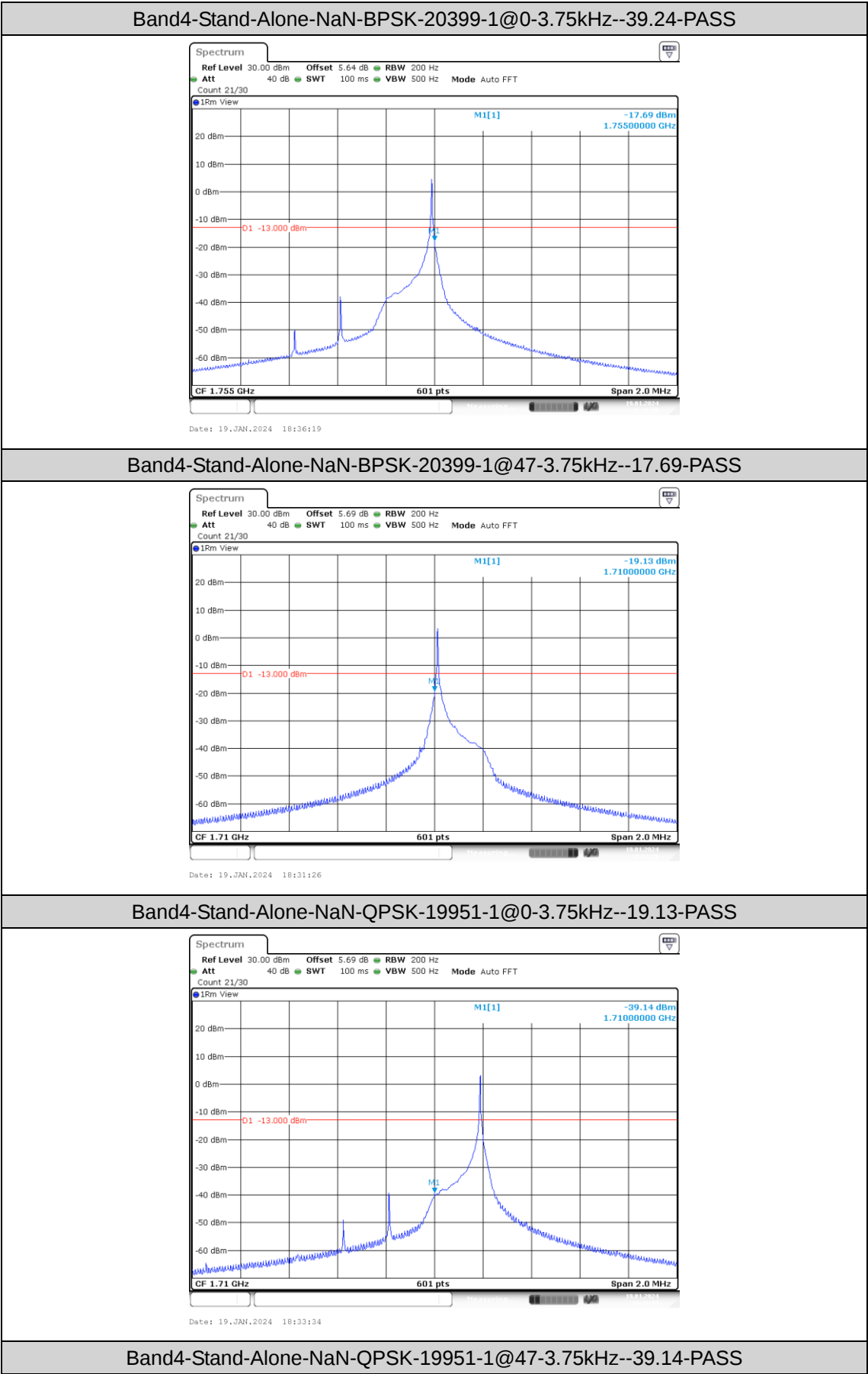


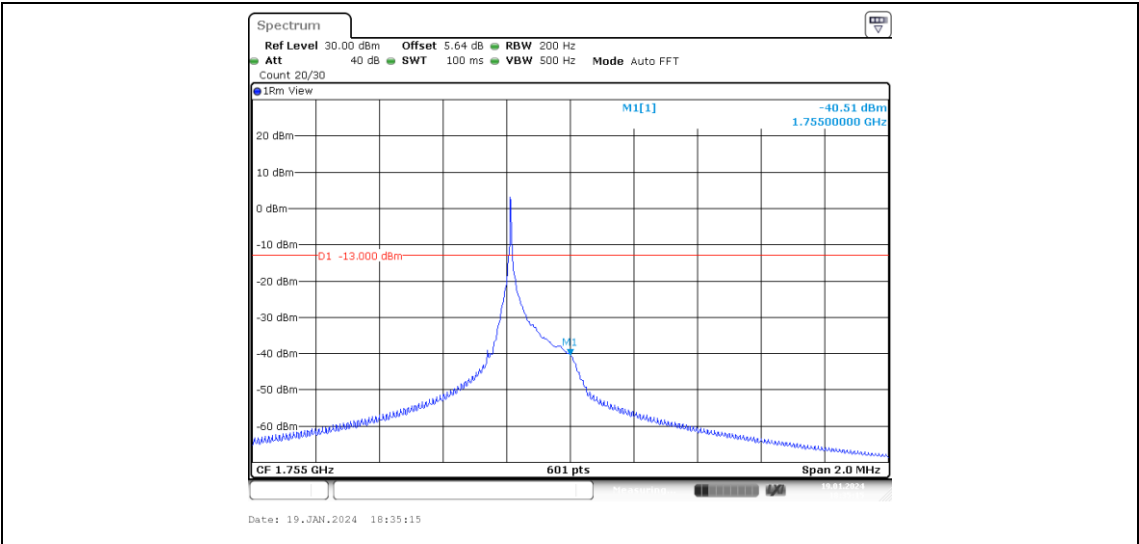
Band4-Stand-Alone-NaN-BPSK-19951-1@0-3.75kHz--17.60-PASS



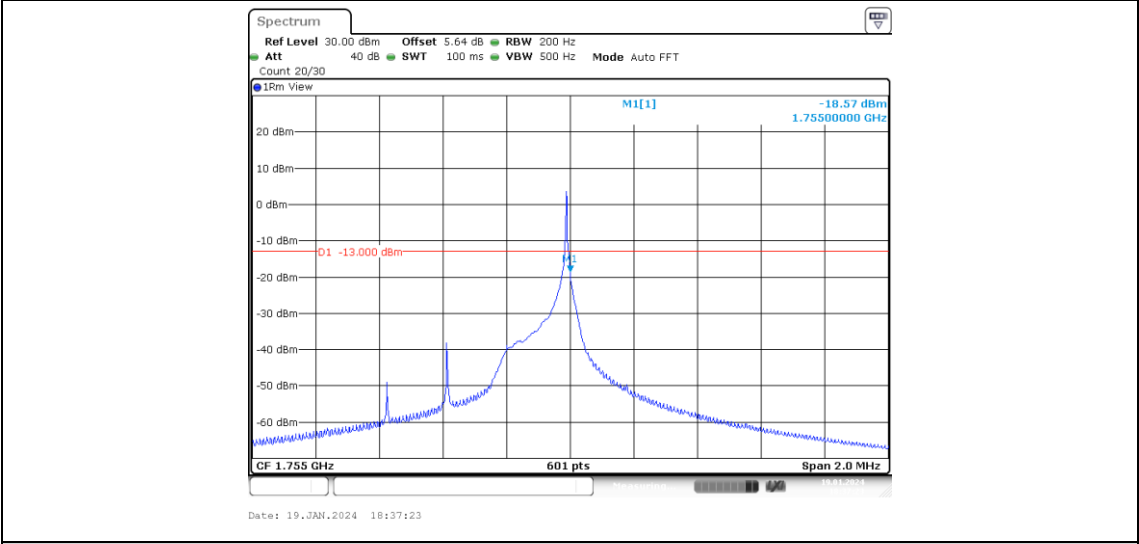
Band4-Stand-Alone-NaN-BPSK-19951-1@47-3.75kHz--38.61-PASS



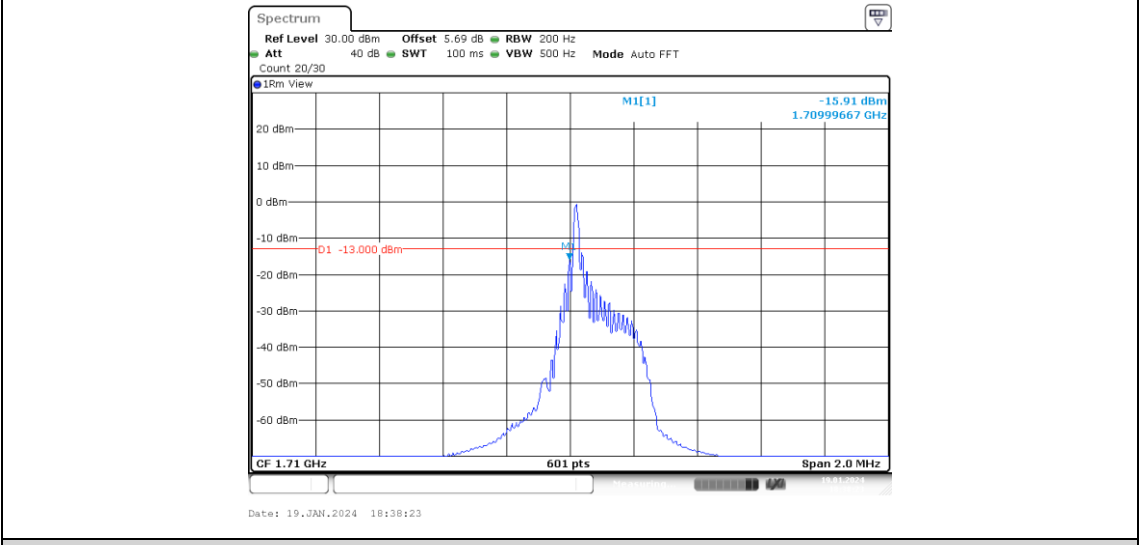




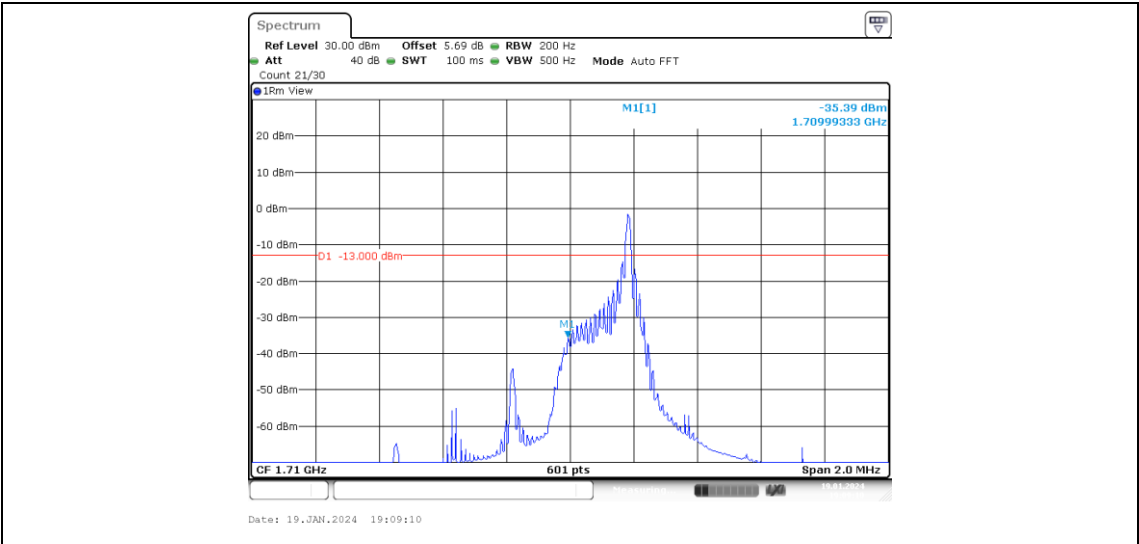
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz--40.51-PASS



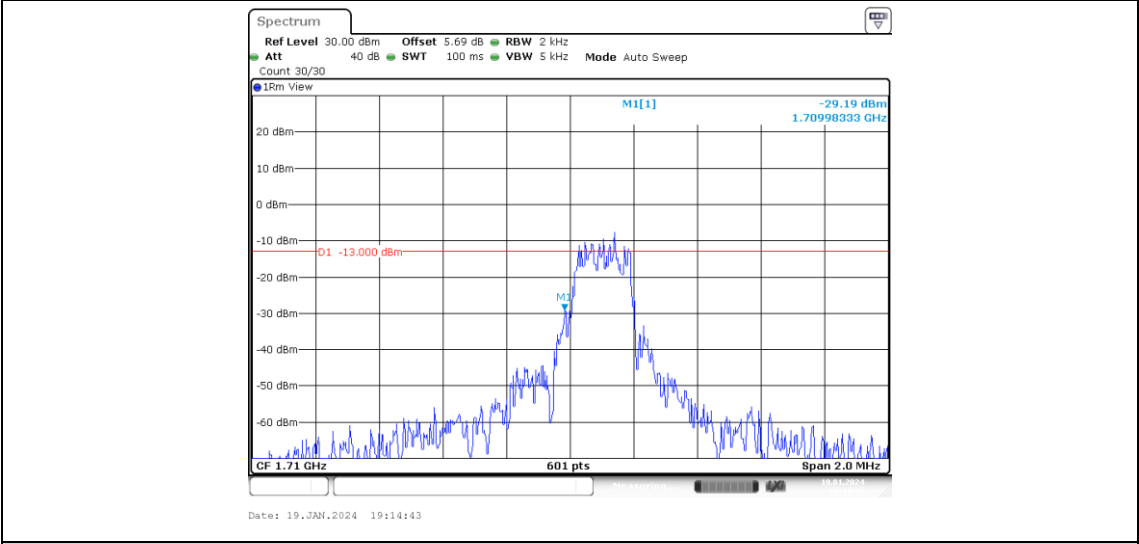
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz--18.57-PASS



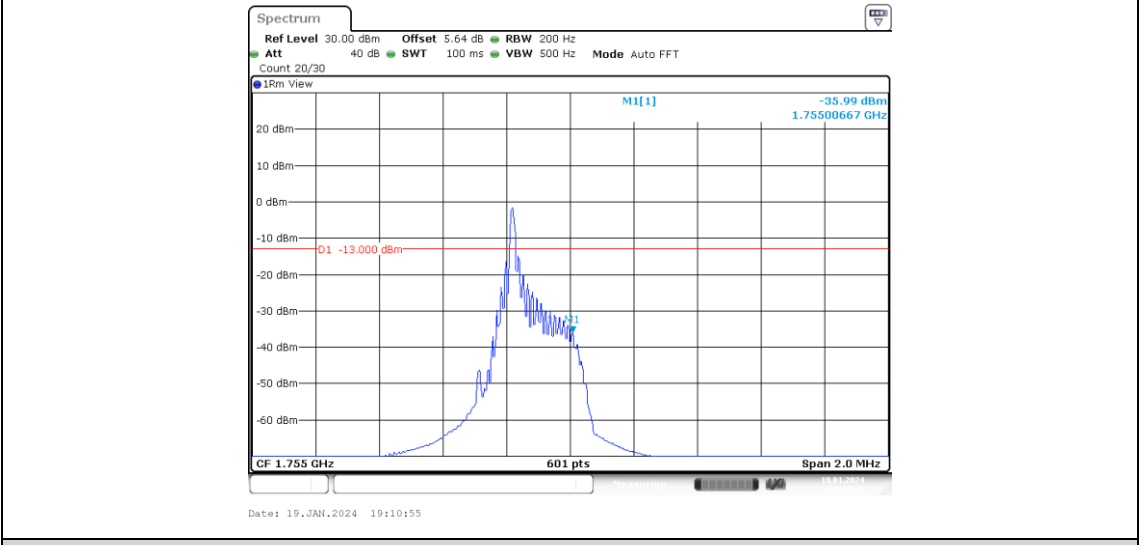
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz--15.91-PASS



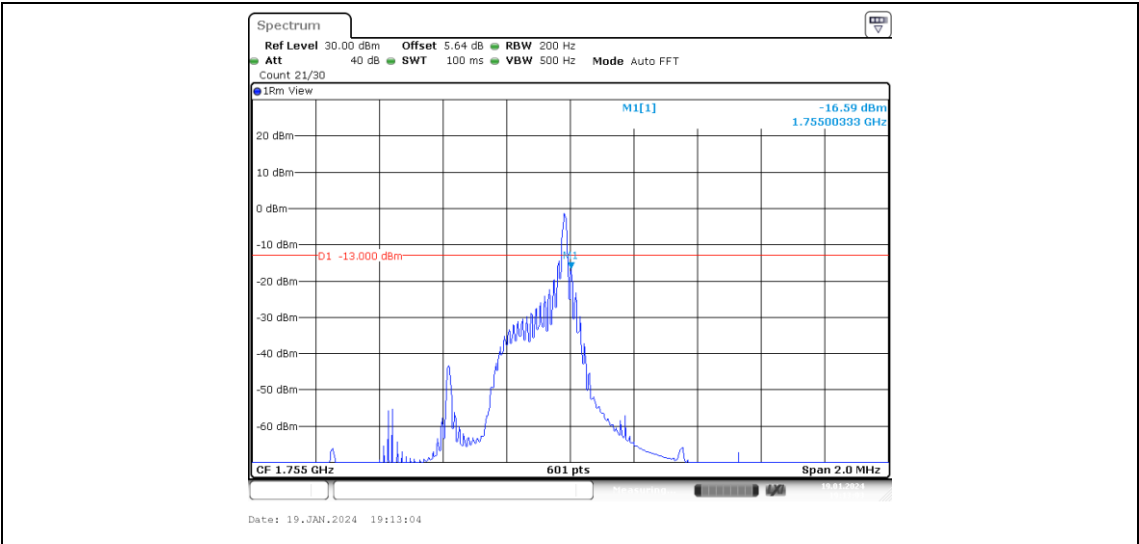
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz--35.39-PASS



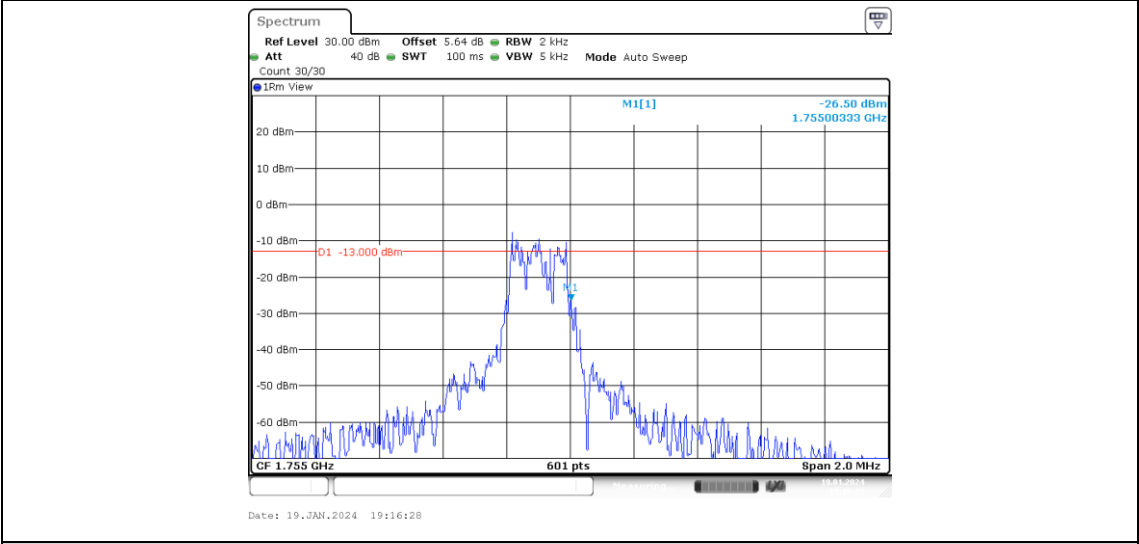
Band4-Stand-Alone-NaN-BPSK-19951-12@0-15kHz--29.19-PASS



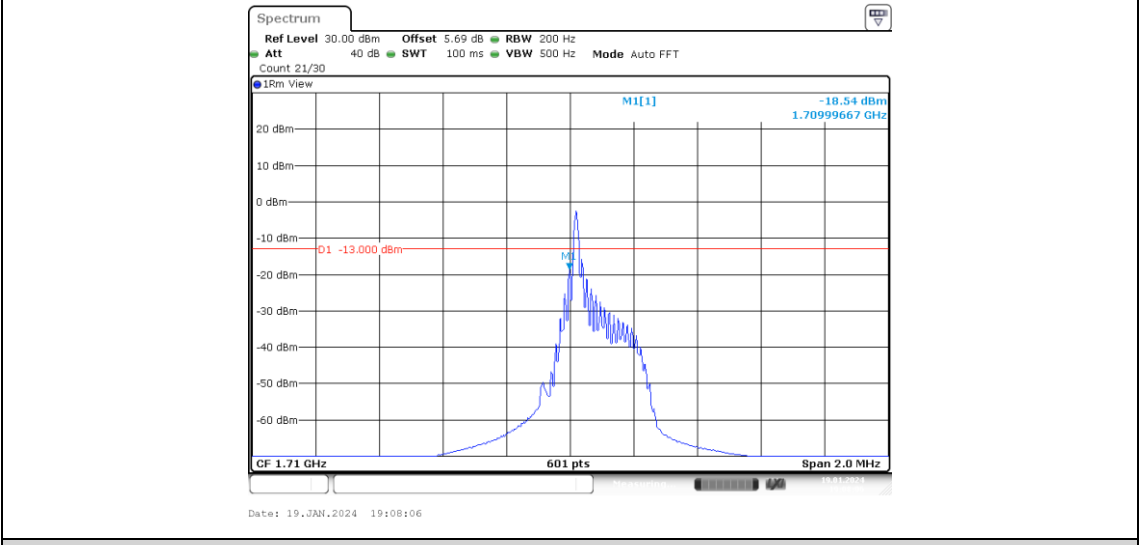
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz--35.99-PASS



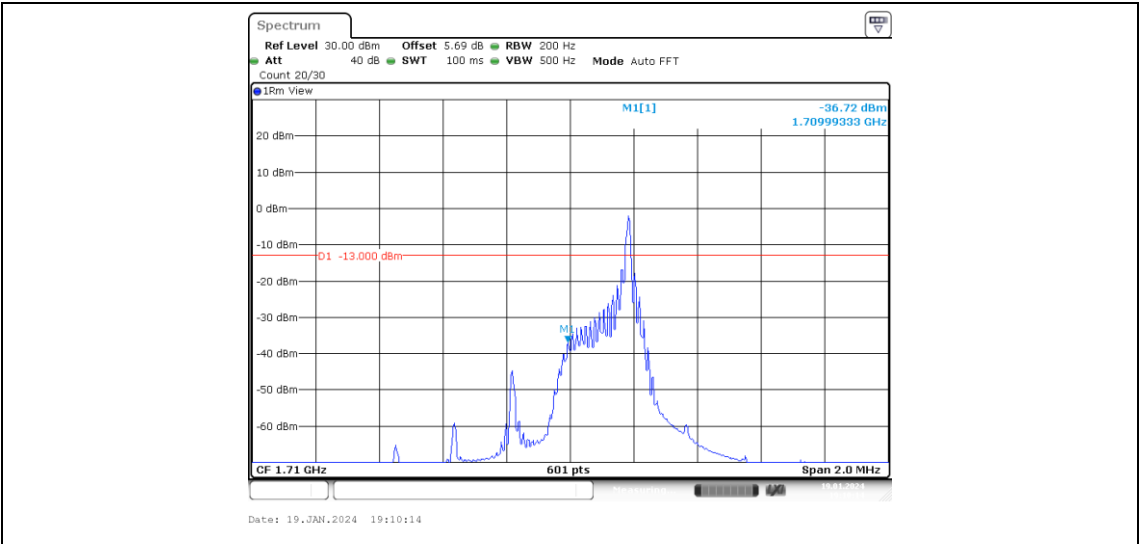
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz--16.59-PASS



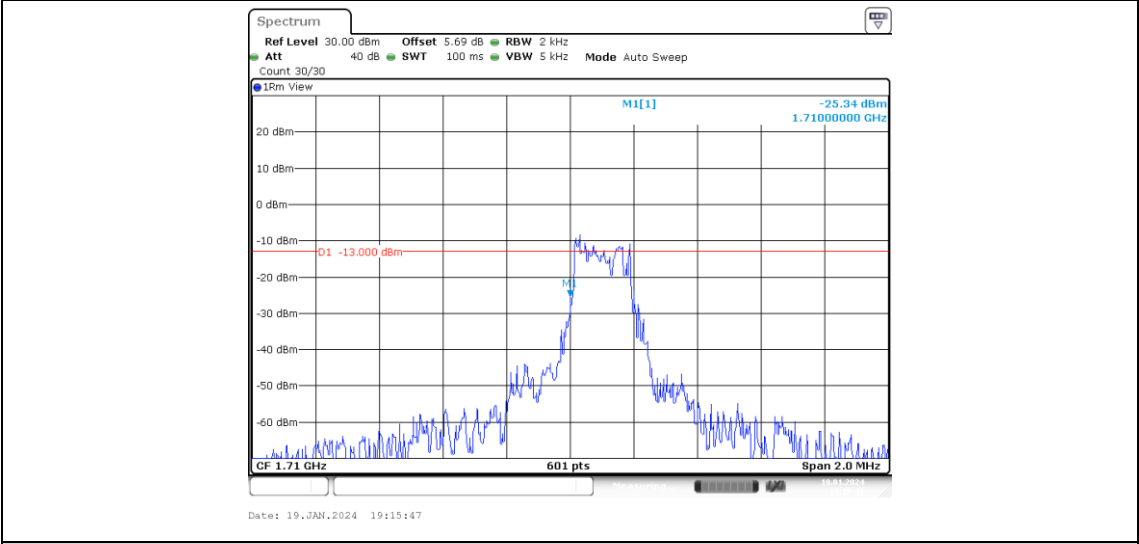
Band4-Stand-Alone-NaN-BPSK-20399-12@0-15kHz--26.50-PASS



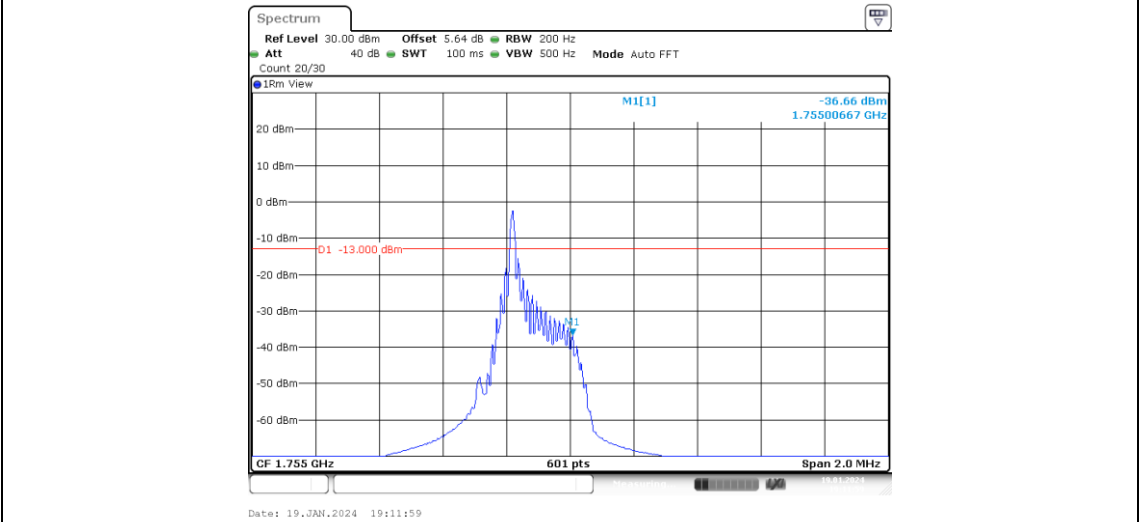
Band4-Stand-Alone-NaN-QPSK-19951-1@0-15kHz--18.54-PASS



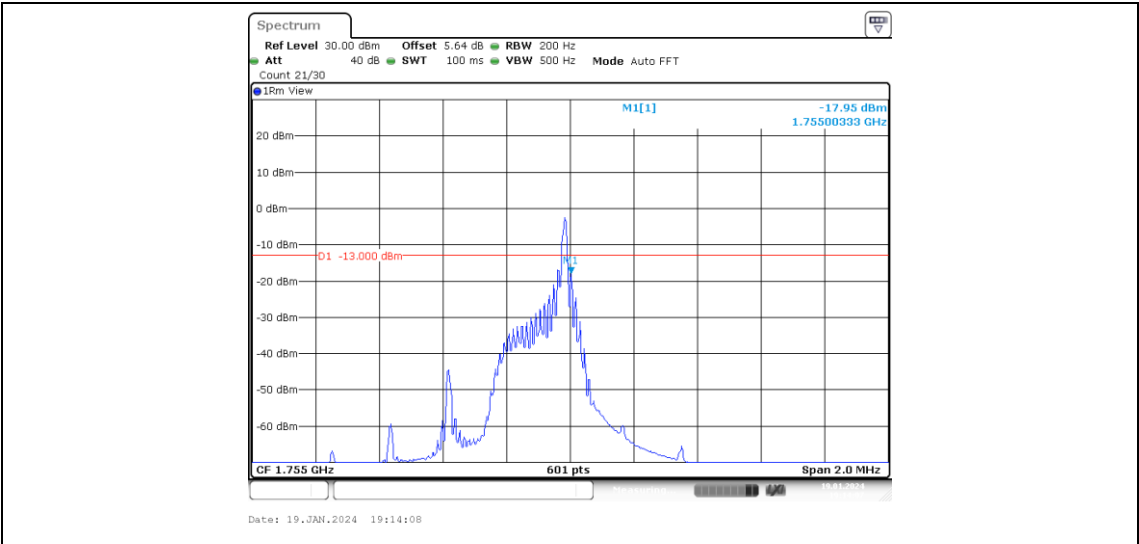
Band4-Stand-Alone-NaN-QPSK-19951-1@11-15kHz--36.72-PASS



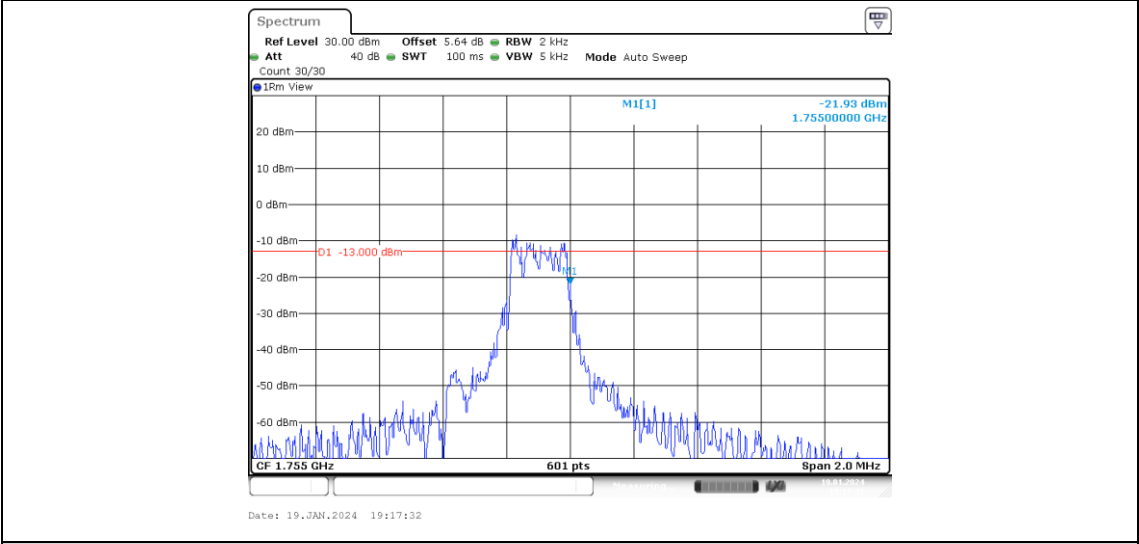
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz--25.34-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@0-15kHz--36.66-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@11-15kHz--17.95-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz--21.93-PASS

Appendix E: Conducted Spurious Emission

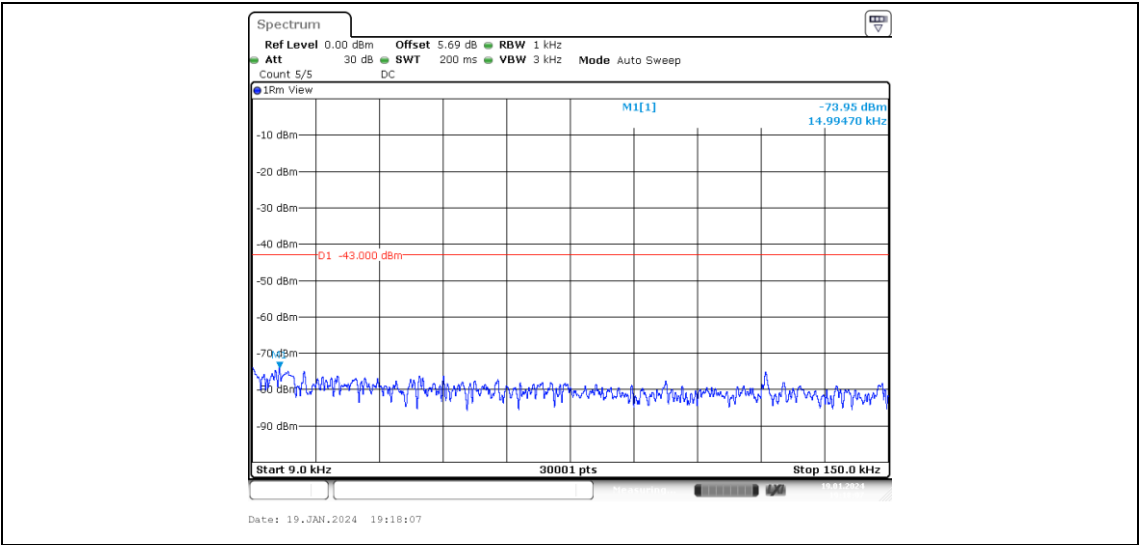
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Freq Start [MHz]	Freq Stop [MHz]	Result (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	0.009	0.15	-73.95	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	0.15	30	-70.66	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	30	1000	-55.04	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	1000	20000	-44.03	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	0.009	0.15	-74.12	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	0.15	30	-63.29	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	30	1000	-55.02	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	1000	20000	-43.78	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.009	0.15	-73.44	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.15	30	-62.11	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	30	1000	-55.23	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	1000	20000	-44.07	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	0.009	0.15	-73.06	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	0.15	30	-66.76	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	30	1000	-55.19	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	1000	20000	-43.75	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.009	0.15	-74.26	-43	PASS

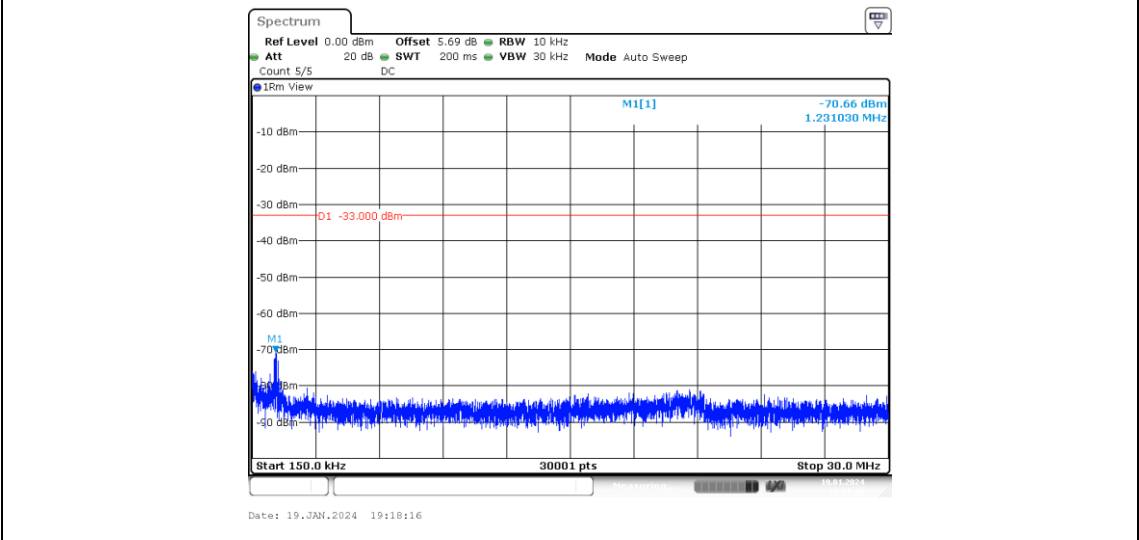
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.15	30	-69.01	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	30	1000	-55.15	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	1000	2000 0	-43.16	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	0.009	0.15	-74.13	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	0.15	30	-64.79	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	30	1000	-55.15	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	1000	2000 0	-43.8	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.009	0.15	-73.63	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.15	30	-68.25	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	30	1000	-55.16	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	1000	2000 0	-45.85	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	0.009	0.15	-74.32	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	0.15	30	-70.13	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	30	1000	-55.19	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	1000	2000 0	-45.25	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.009	0.15	-73.78	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.15	30	-72.81	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	30	1000	-55.27	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	1000	2000 0	-46.17	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	0.009	0.15	-73.84	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	0.15	30	-71.18	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	30	1000	-55.32	-13	PASS

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Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	1000	20000	-45.7	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.009	0.15	-75.14	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.15	30	-61.93	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	30	1000	-55.07	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	1000	20000	-46.27	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	0.009	0.15	-72.8	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	0.15	30	-64.98	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	30	1000	-55.23	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	1000	20000	-44.71	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.009	0.15	-74.66	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.15	30	-67.62	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	30	1000	-55.04	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	1000	20000	-47.73	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.009	0.15	-73.65	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.15	30	-69.58	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	30	1000	-55.22	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	1000	20000	-47.77	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	0.009	0.15	-74.04	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	0.15	30	-72.43	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	30	1000	-55.12	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	1000	20000	-47.32	-13	PASS

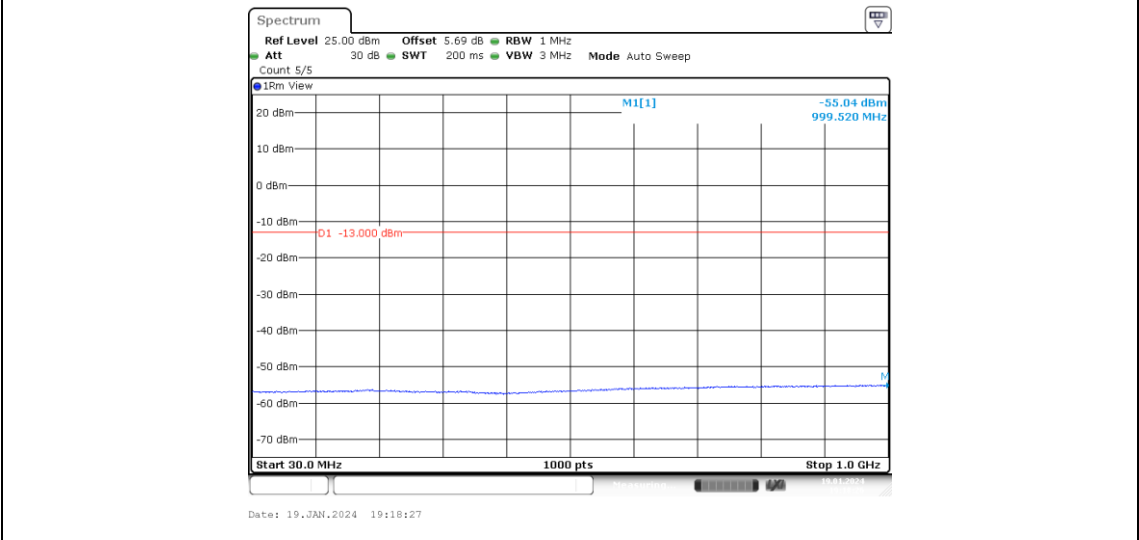
Test Graphs

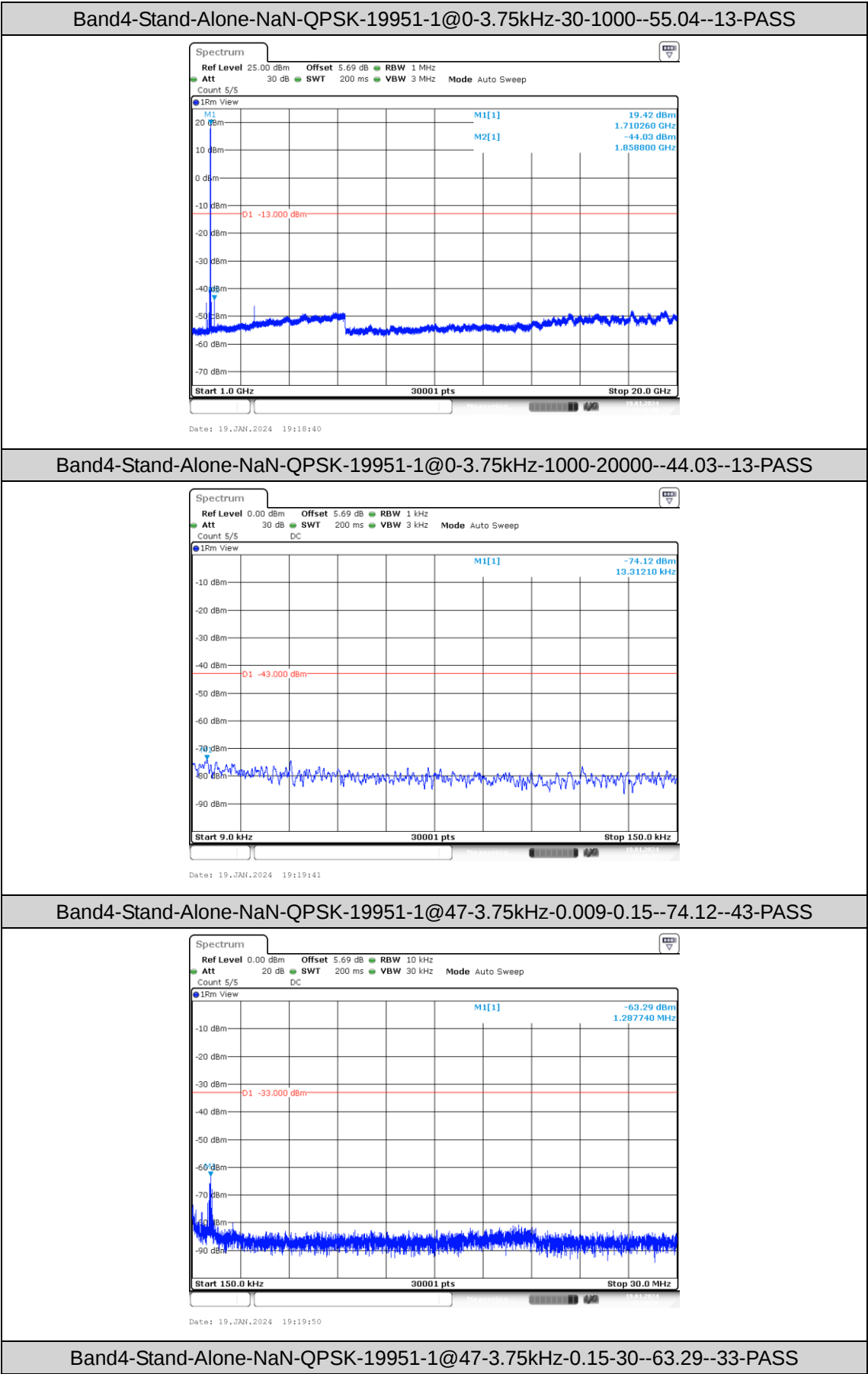


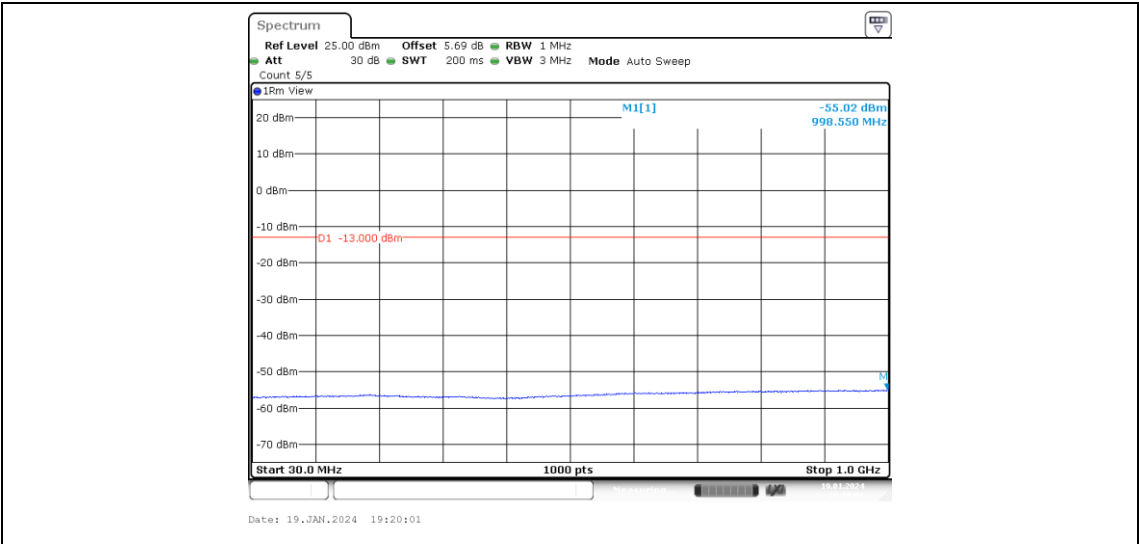
Band4-Stand-Alone-Na-N-QPSK-19951-1@0-3.75kHz-0.009-0.15--73.95--43-PASS



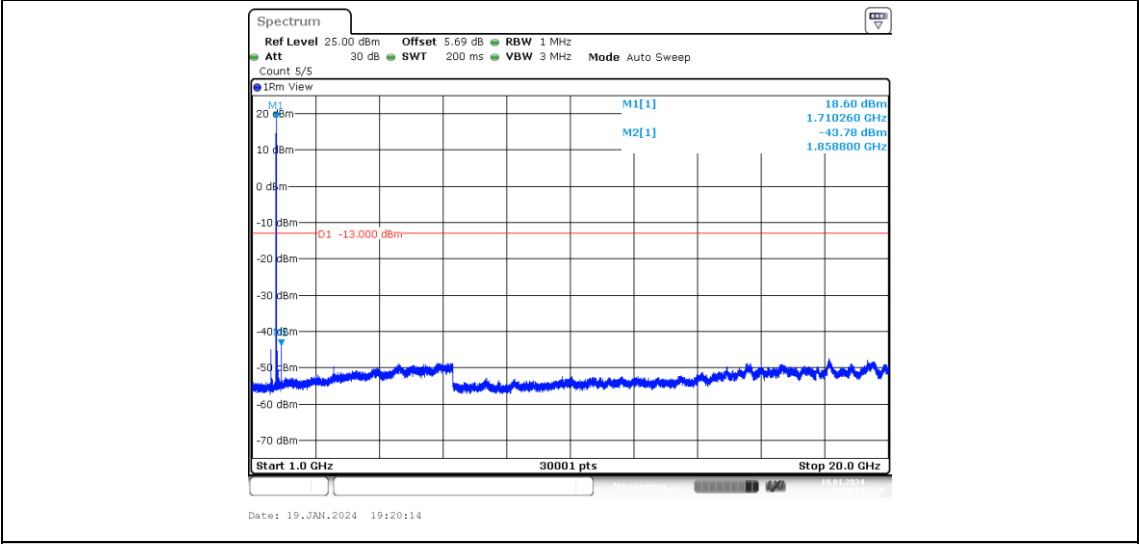
Band4-Stand-Alone-Na-N-QPSK-19951-1@0-3.75kHz-0.15-30--70.66--33-PASS



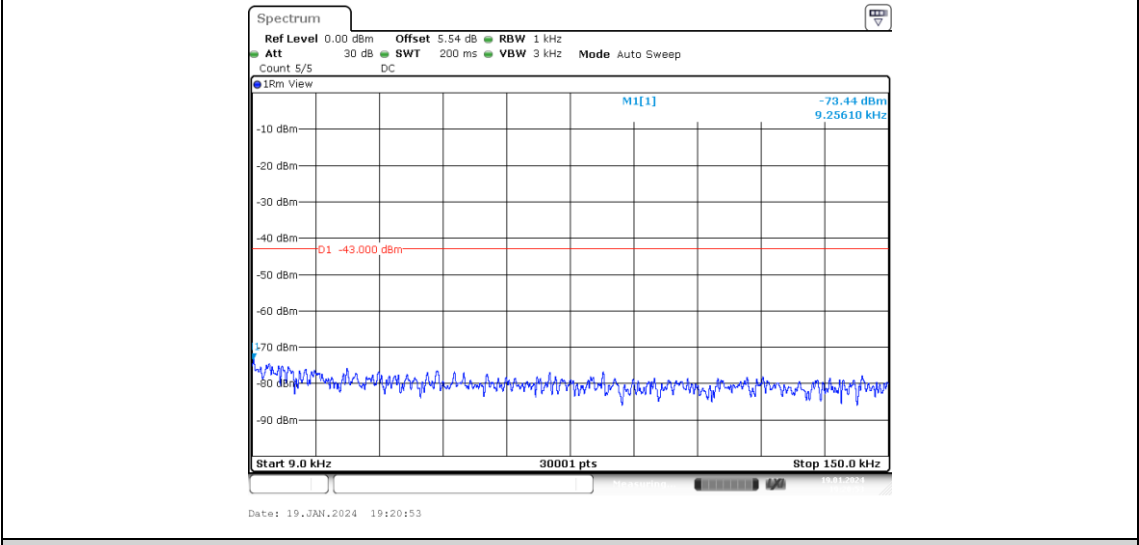




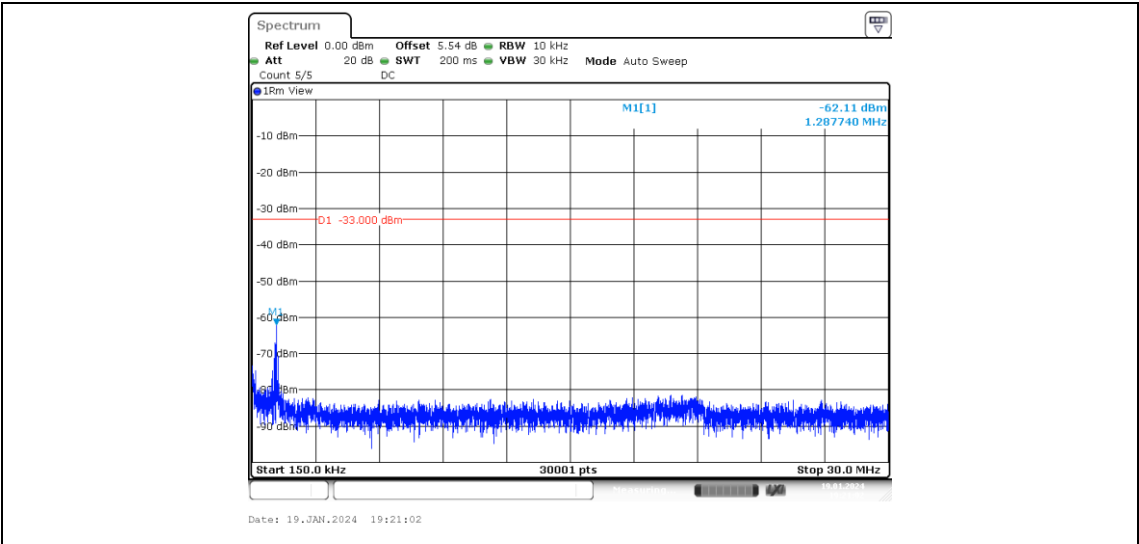
Band4-Stand-Alone-NaN-QPSK-19951-1@47-3.75kHz-30-1000--55.02--13-PASS



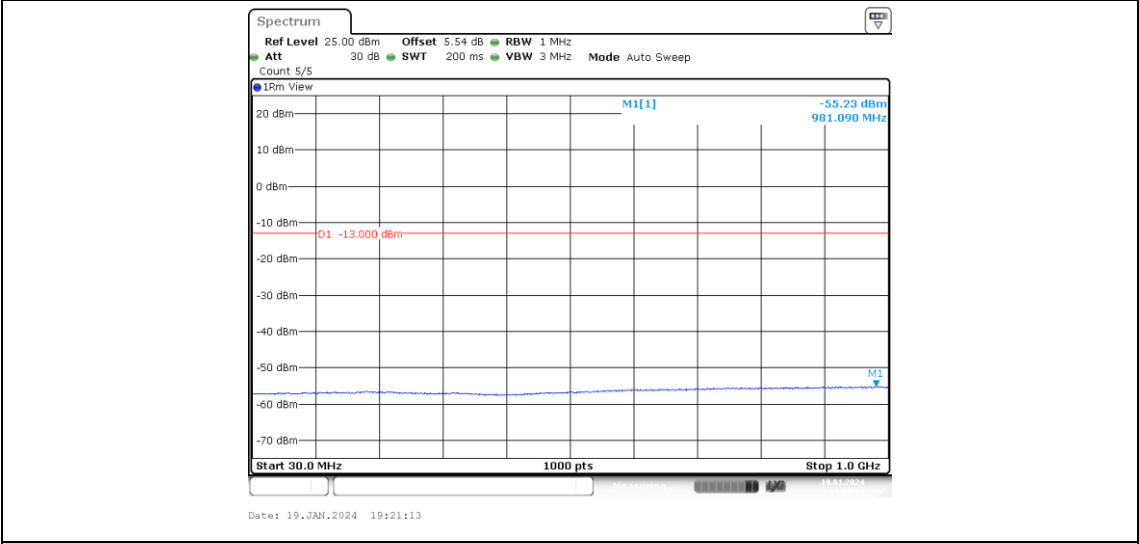
Band4-Stand-Alone-NaN-QPSK-19951-1@47-3.75kHz-1000-20000--43.78--13-PASS



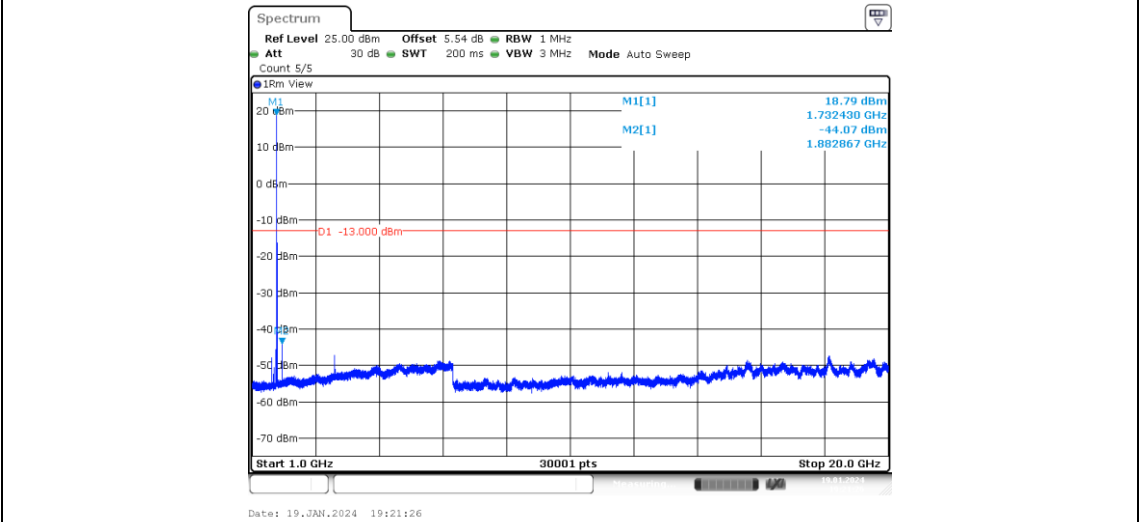
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-0.009-0.15--73.44--43-PASS



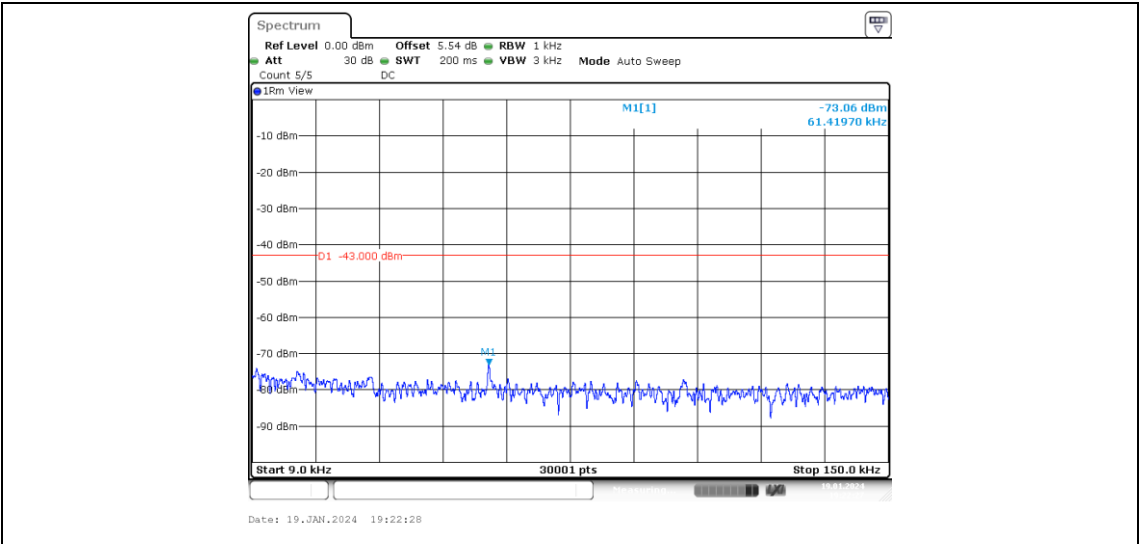
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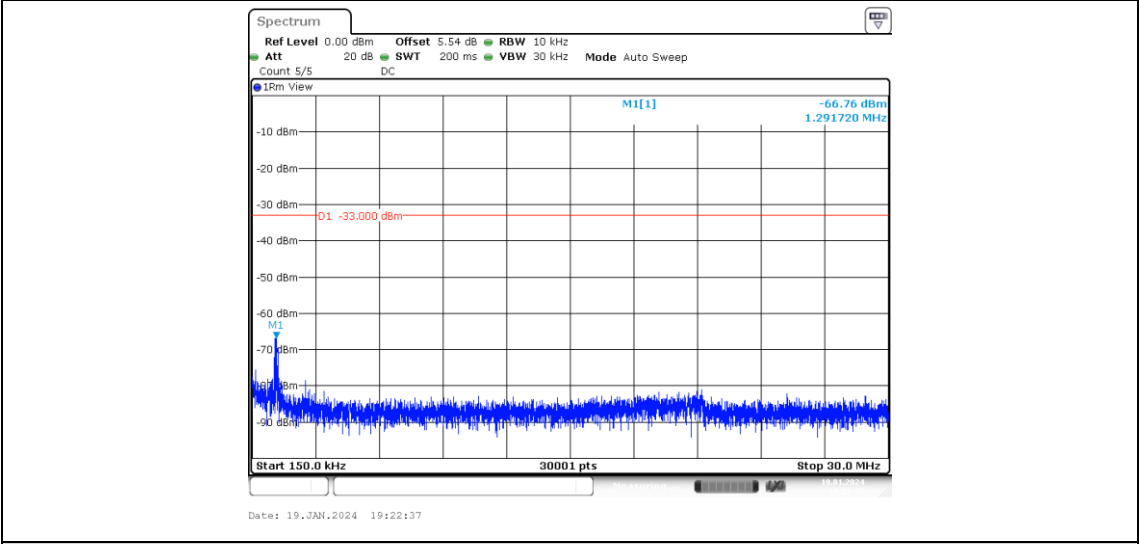
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-30-1000--55.23--13-PASS



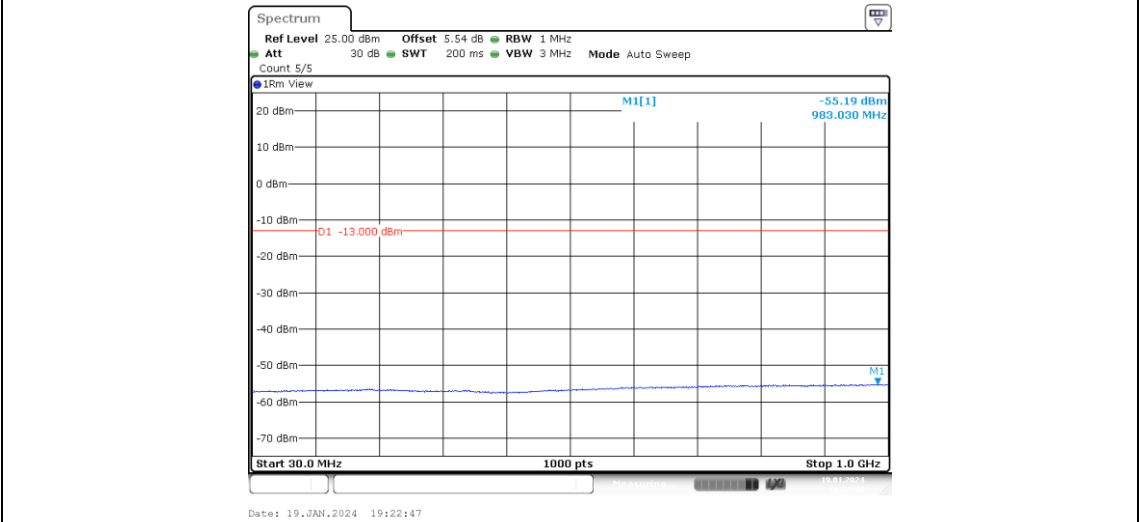
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-1000-20000--44.07--13-PASS



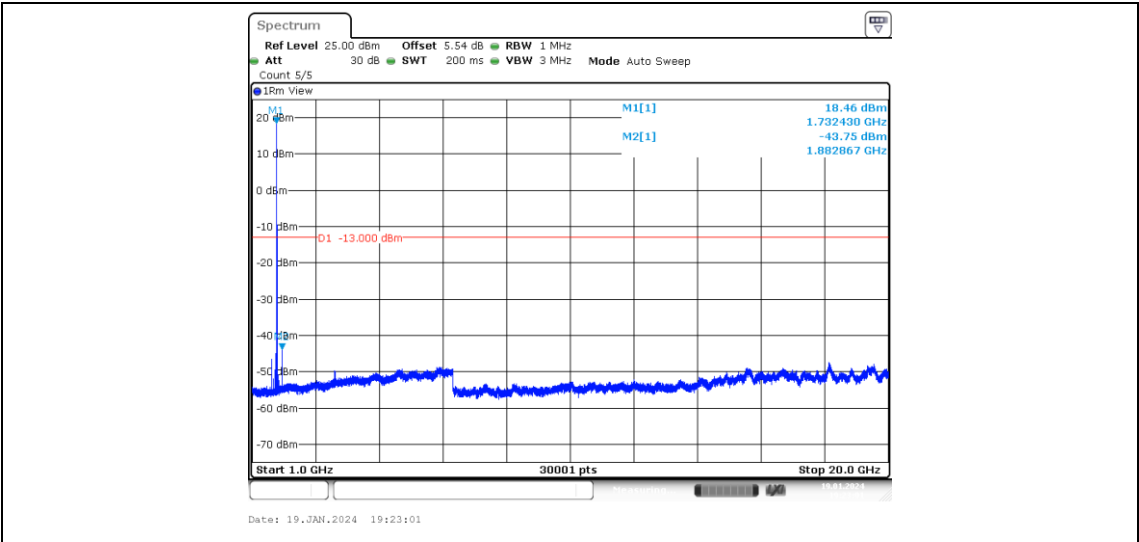
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-0.009-0.15--73.06--43-PASS



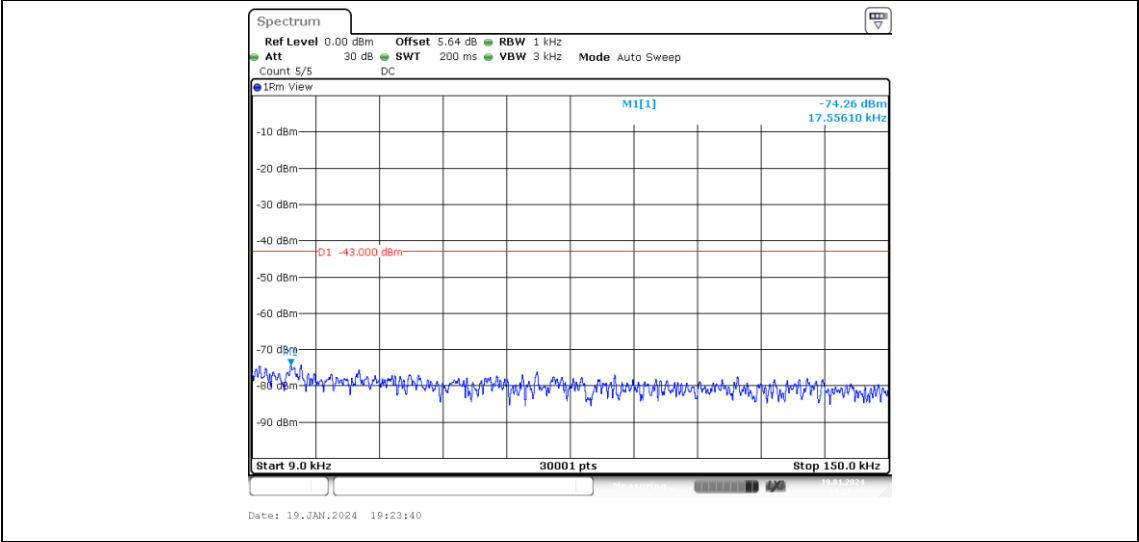
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-0.15-30--66.76--33-PASS



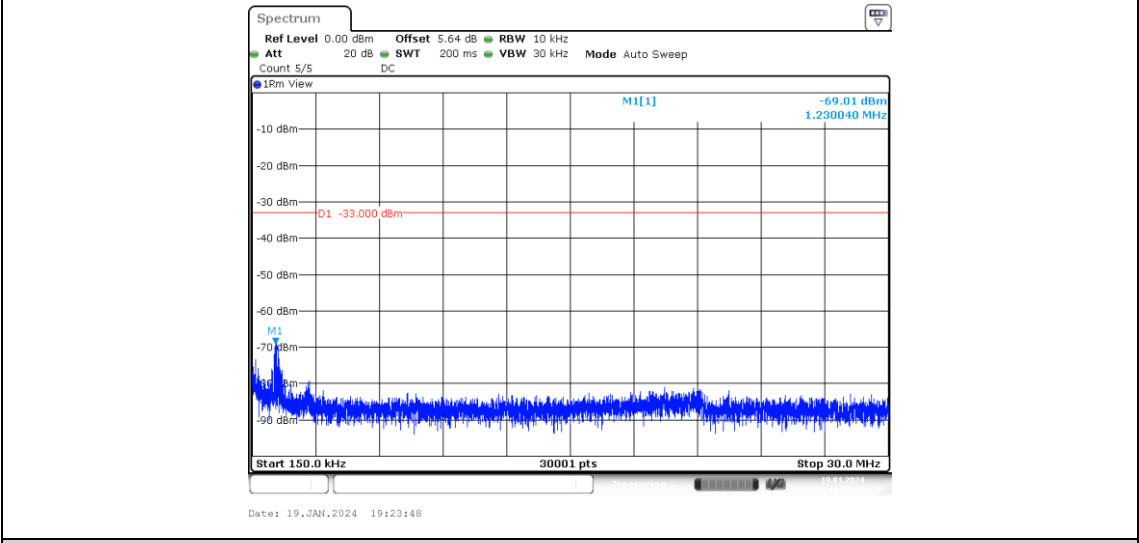
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-30-1000--55.19--13-PASS



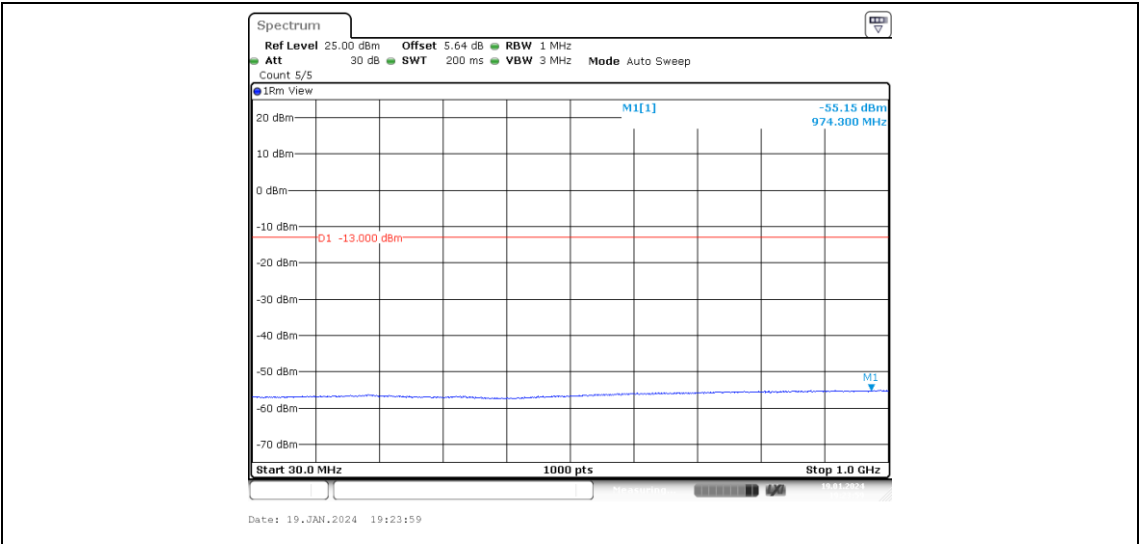
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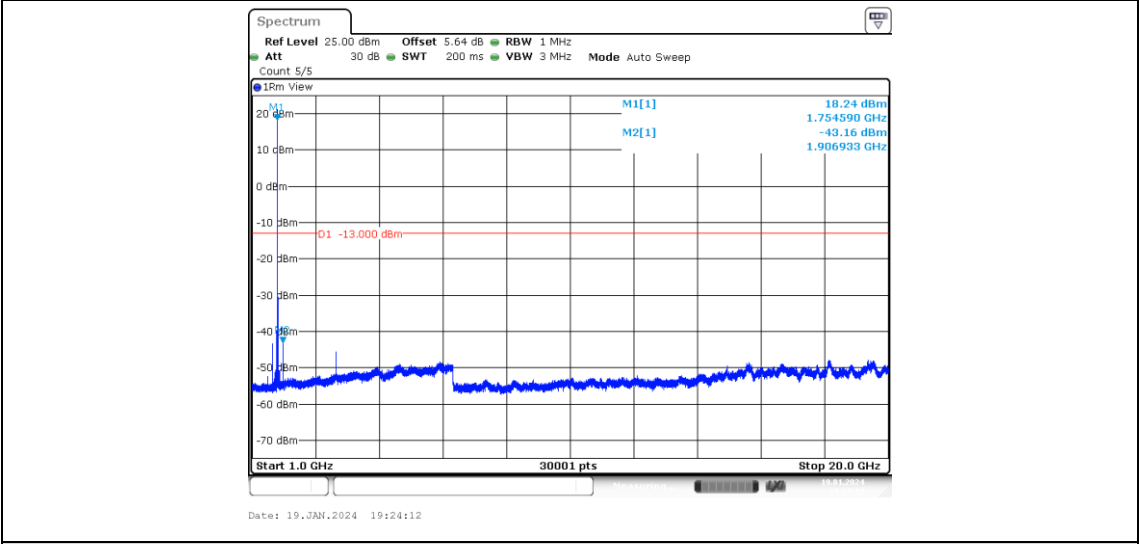
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.009-0.15--74.26--43-PASS



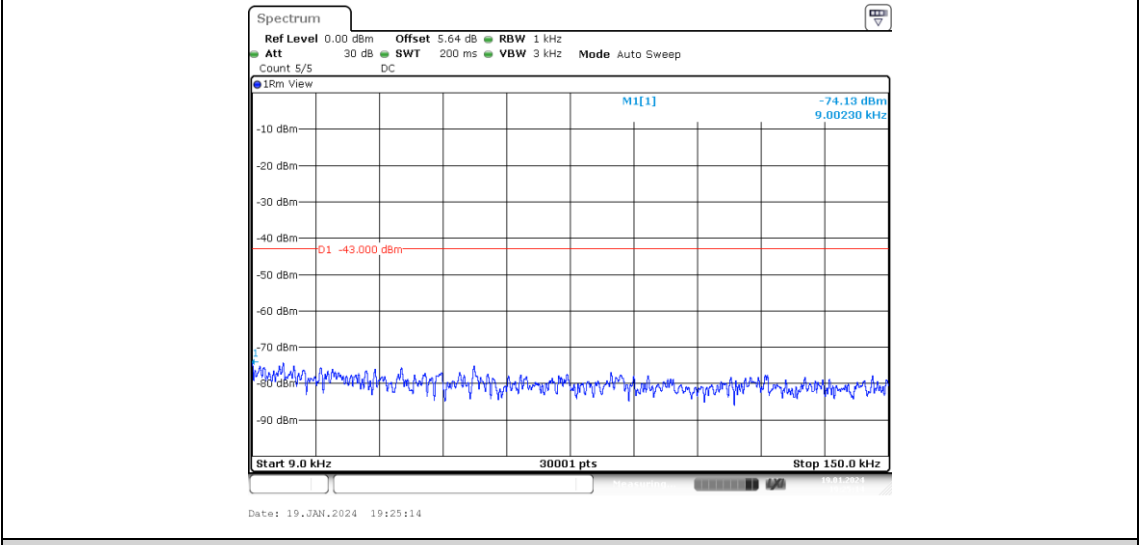
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.15-30--69.01--33-PASS



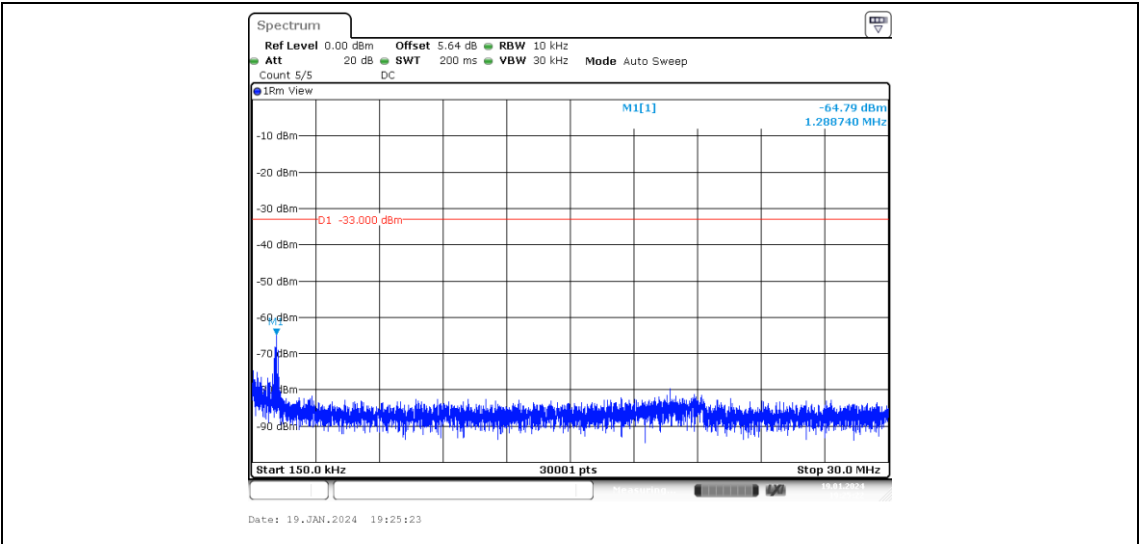
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-30-1000--55.15--13-PASS



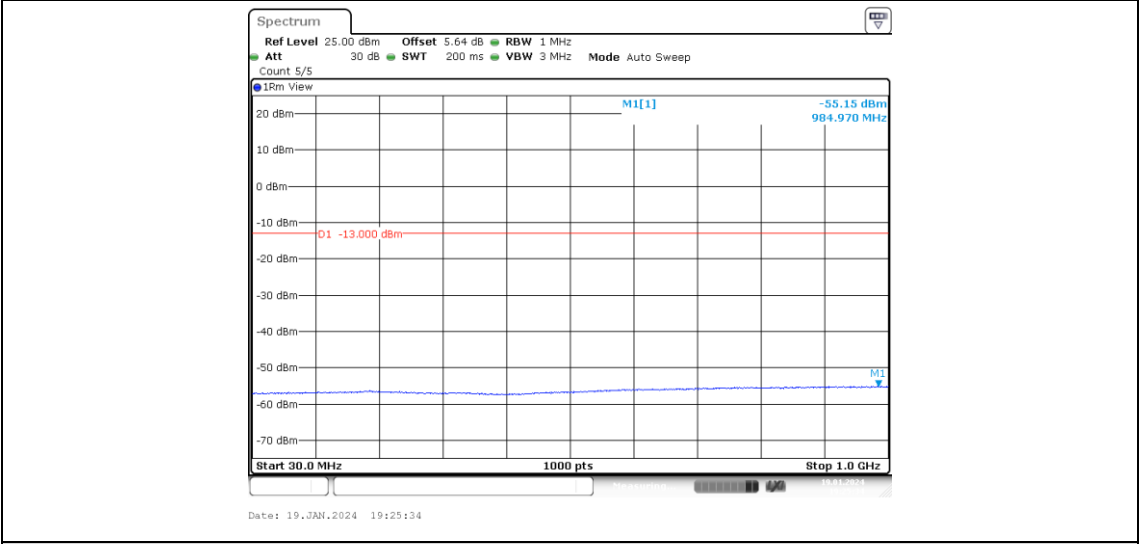
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-1000-20000--43.16--13-PASS



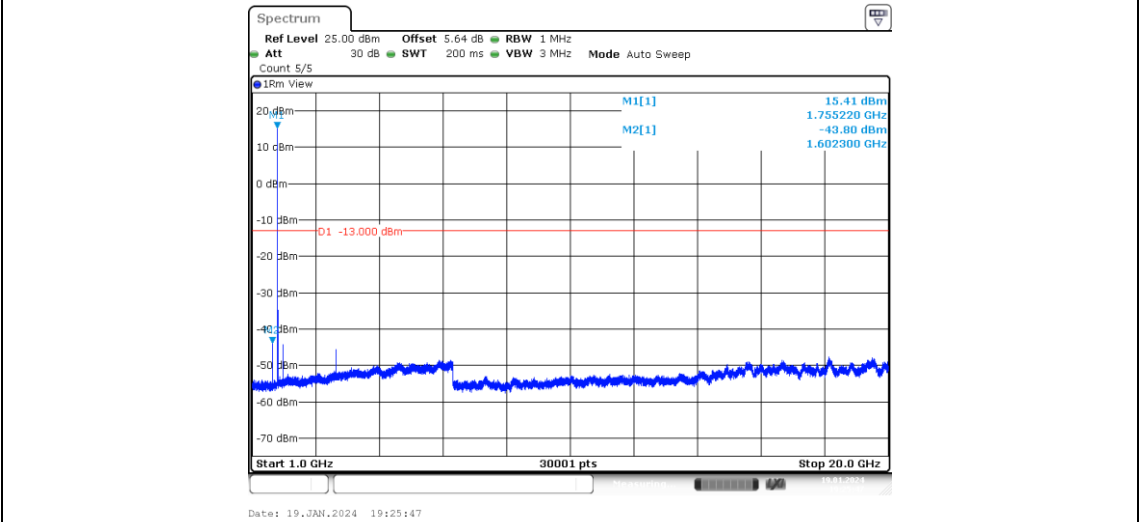
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-0.009-0.15--74.13--43-PASS



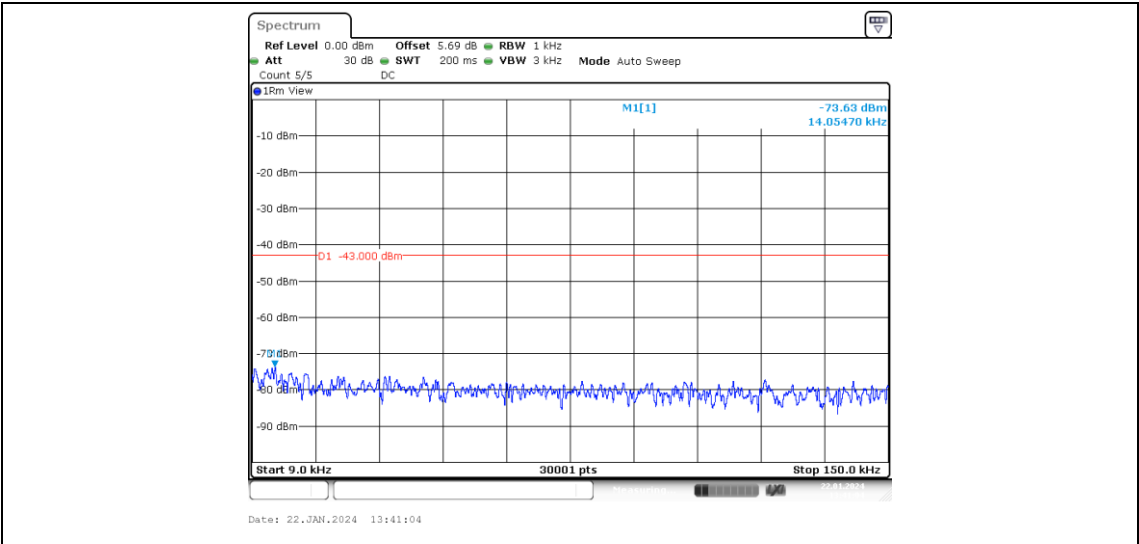
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-0.15-30--64.79--33-PASS



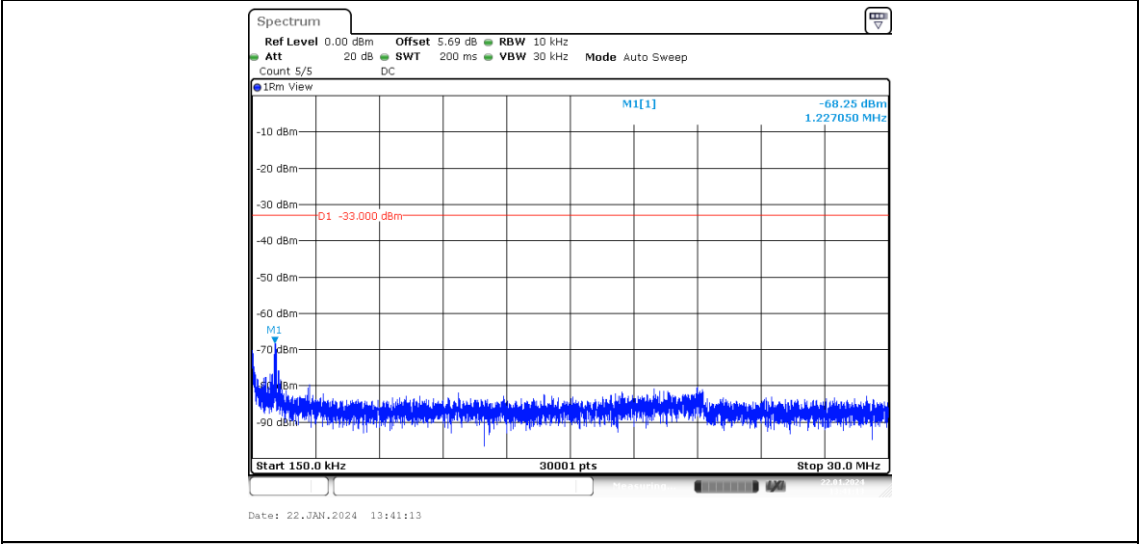
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-30-1000--55.15--13-PASS



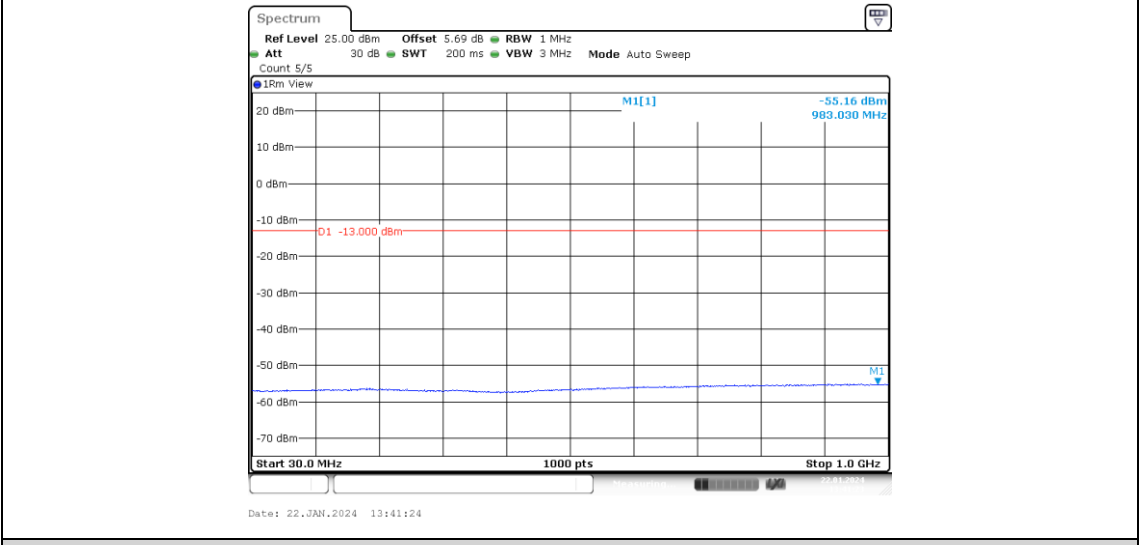
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-1000-20000--43.8--13-PASS



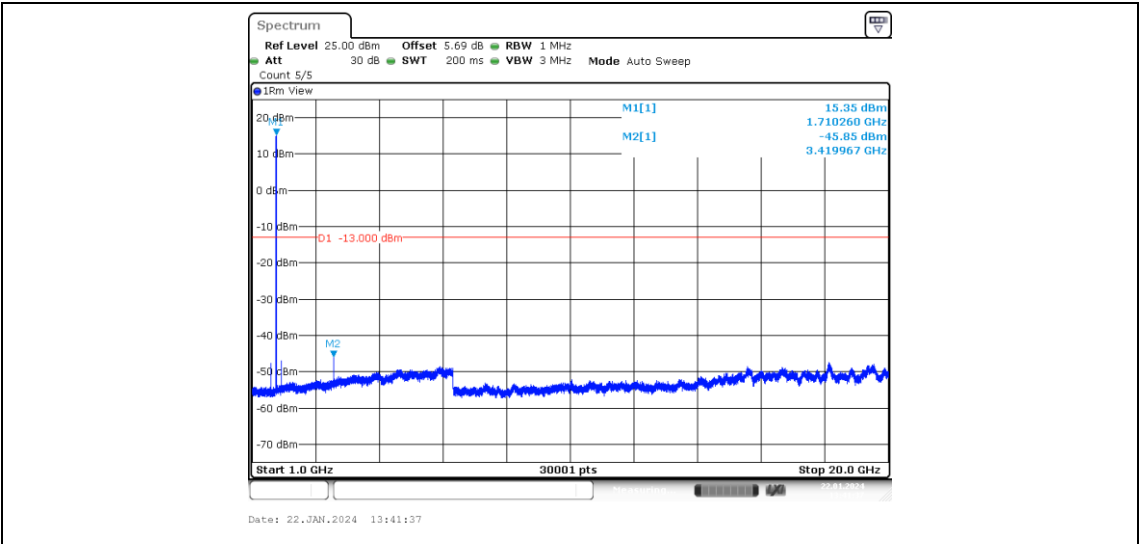
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.009-0.15--73.63--43-PASS



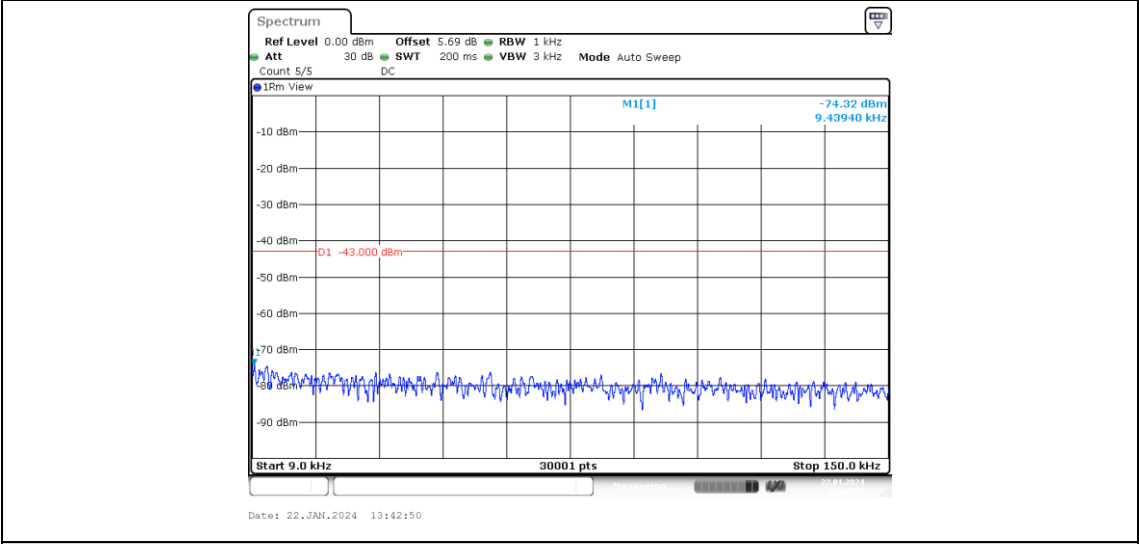
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.15-30--68.25--33-PASS



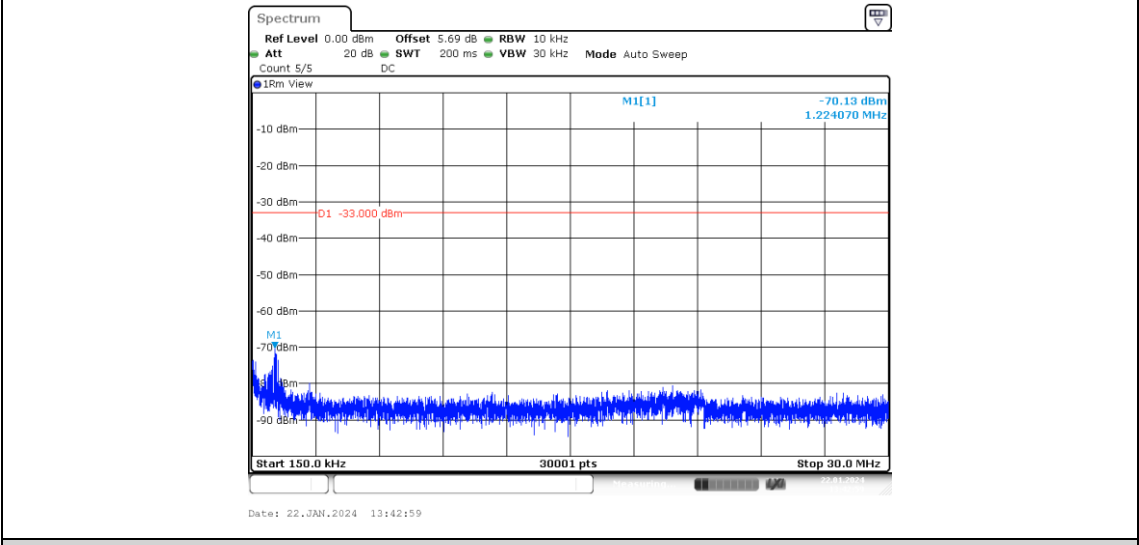
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-30-1000--55.16--13-PASS



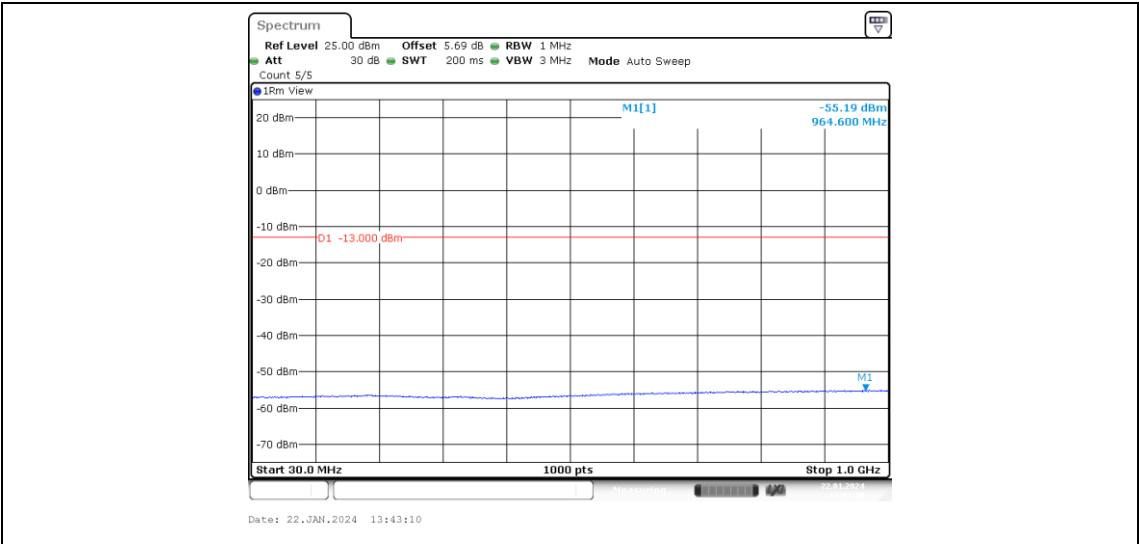
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-1000-20000--45.85--13-PASS



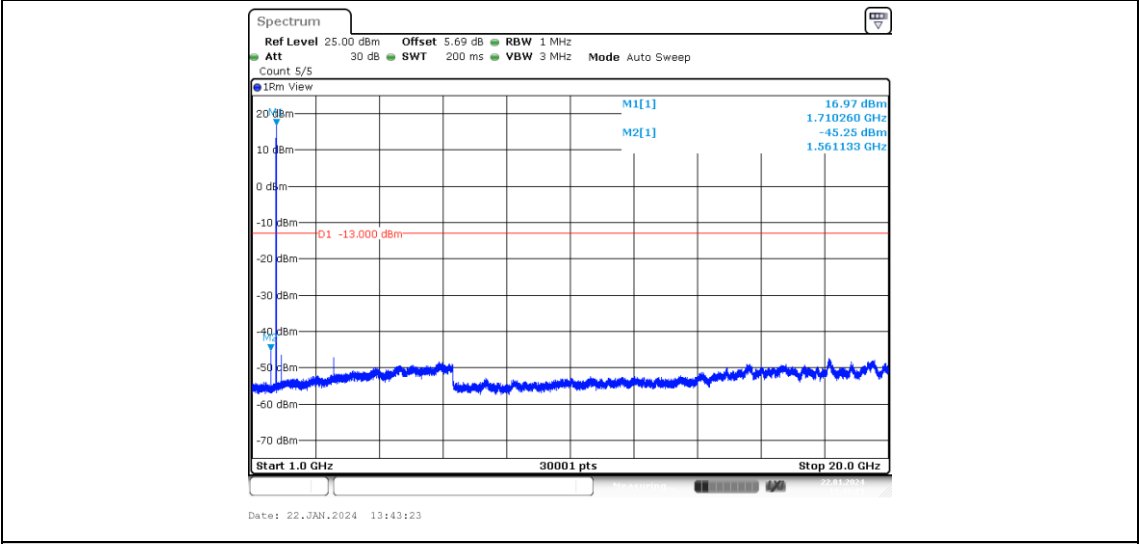
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-0.009-0.15--74.32--43-PASS



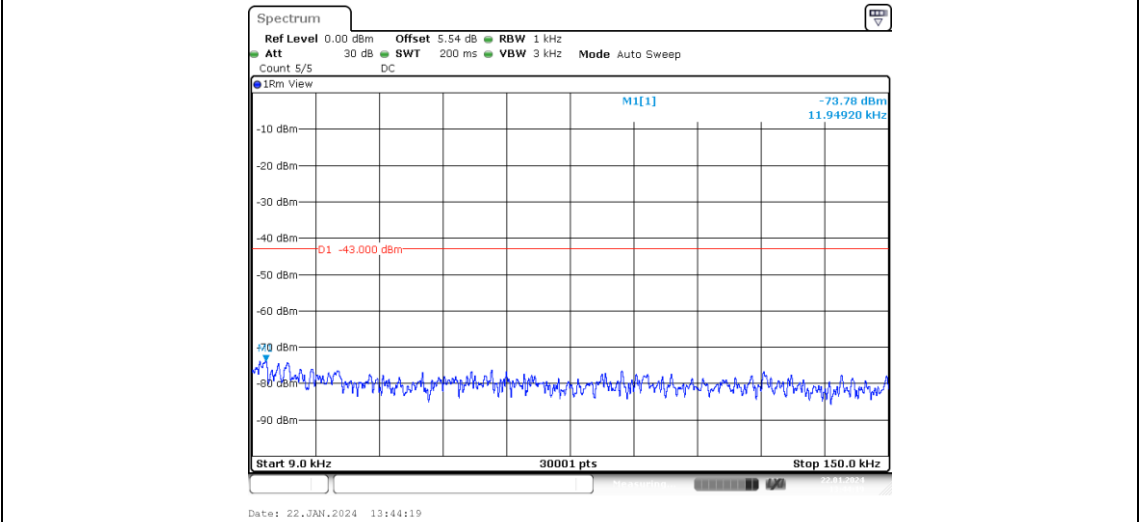
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-0.15-30--70.13--33-PASS



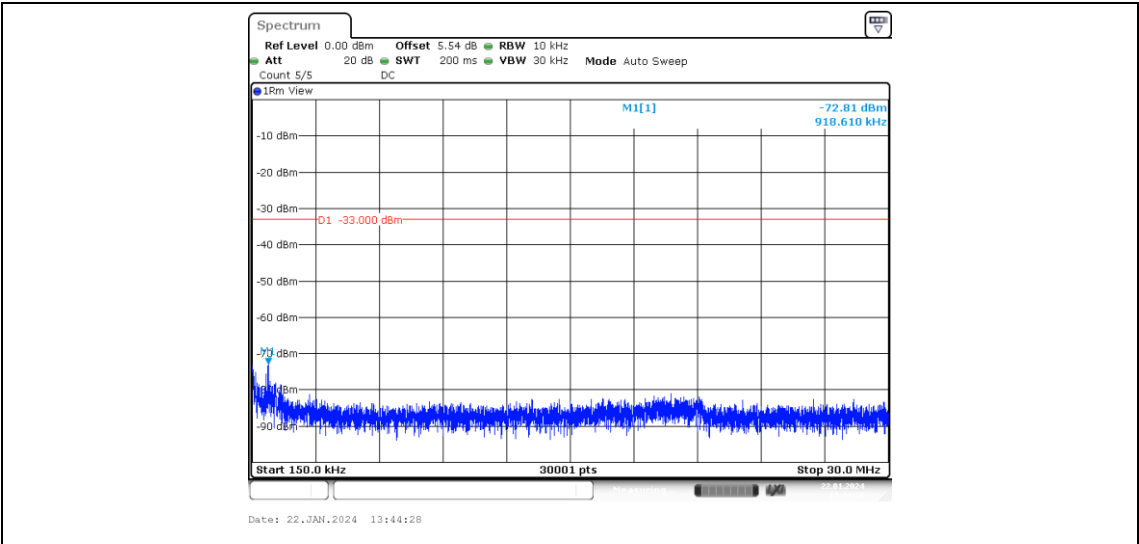
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-30-1000--55.19--13-PASS



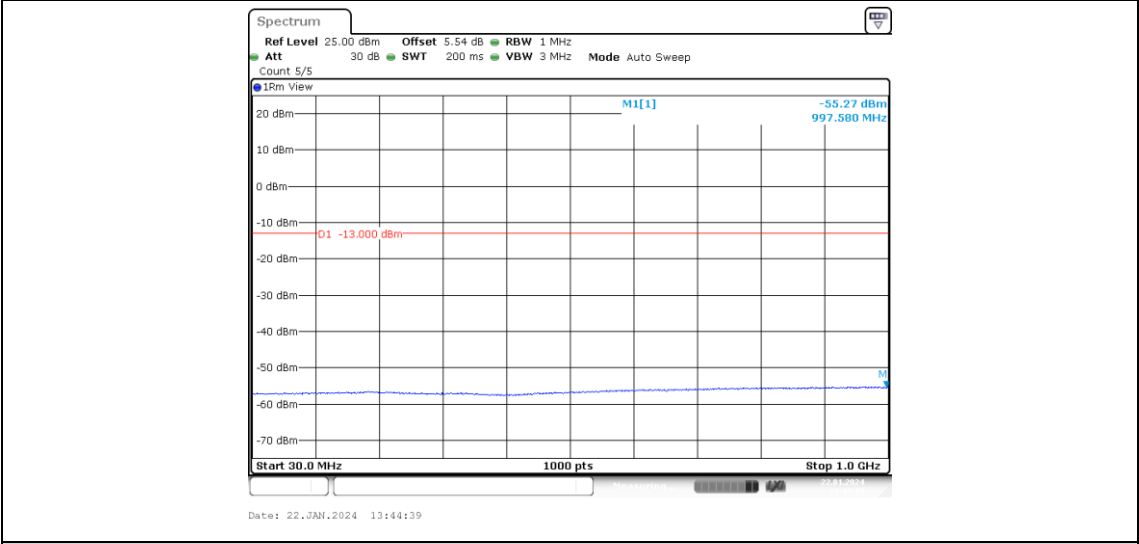
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-1000-20000--45.25--13-PASS



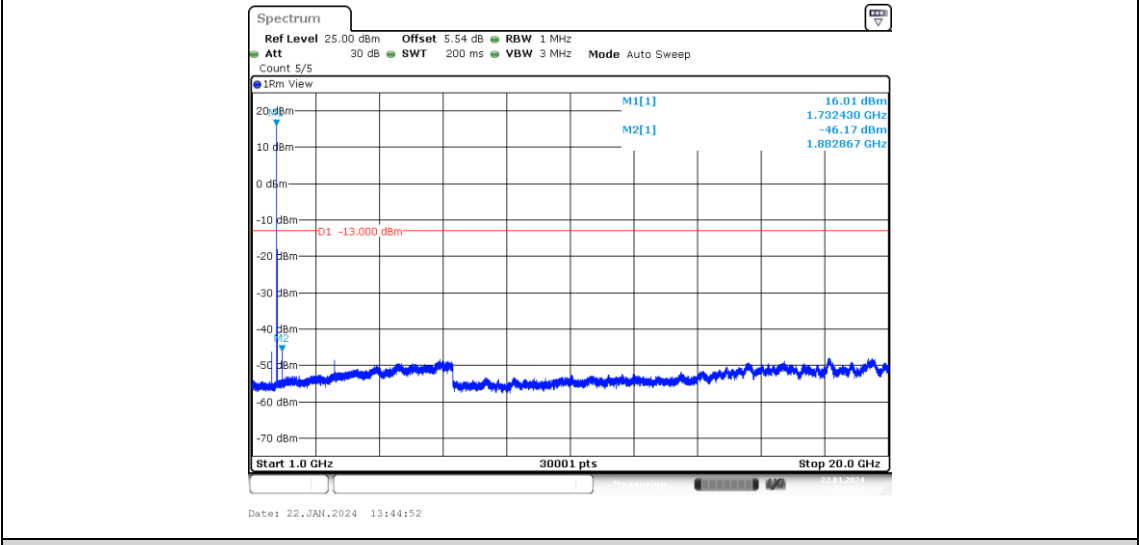
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-0.009-0.15--73.78--43-PASS



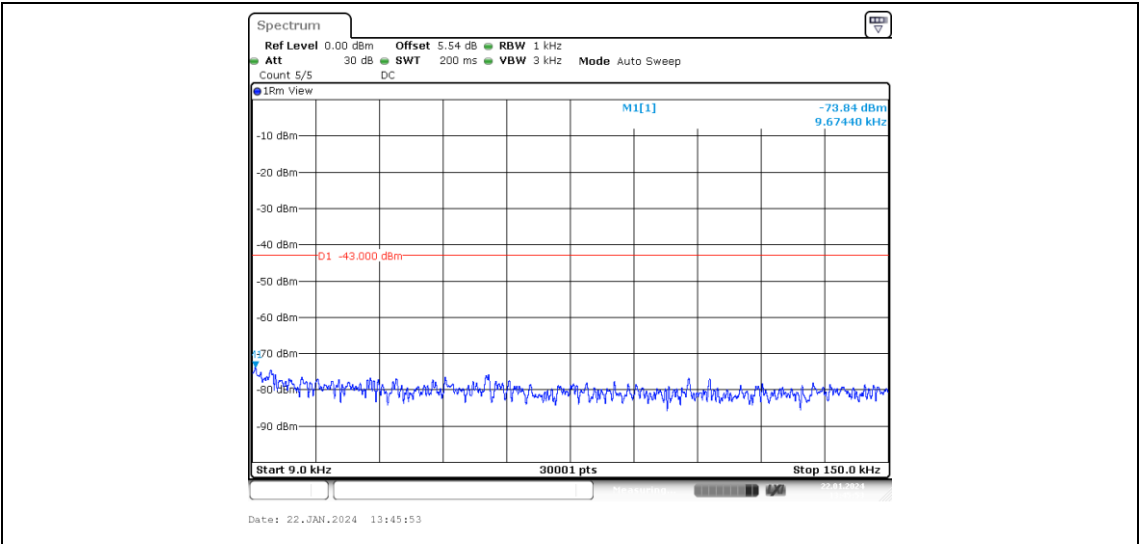
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-0.15-30--72.81--33-PASS



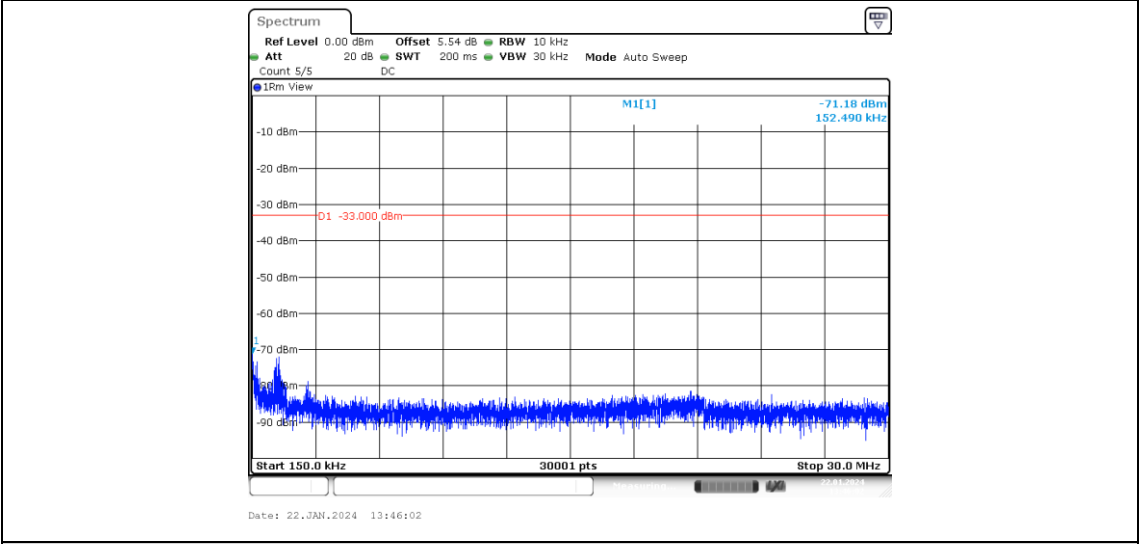
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-30-1000--55.27--13-PASS



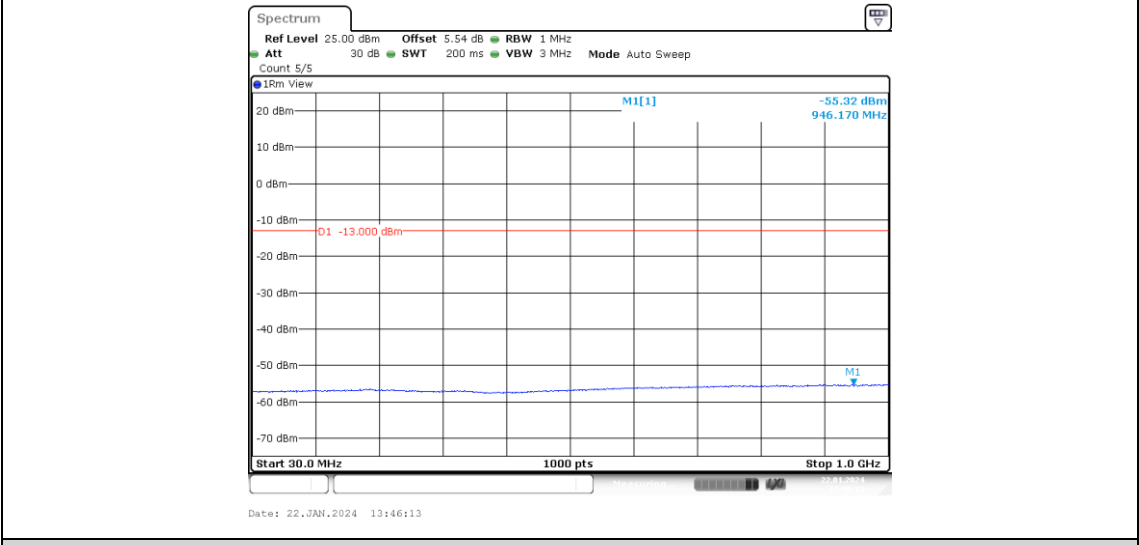
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-1000-20000--46.17--13-PASS



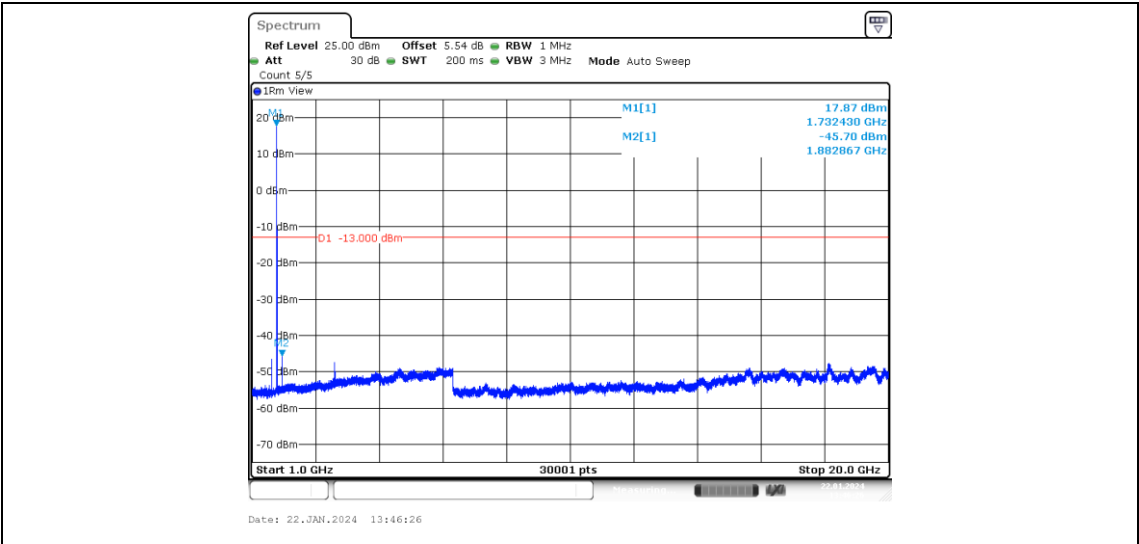
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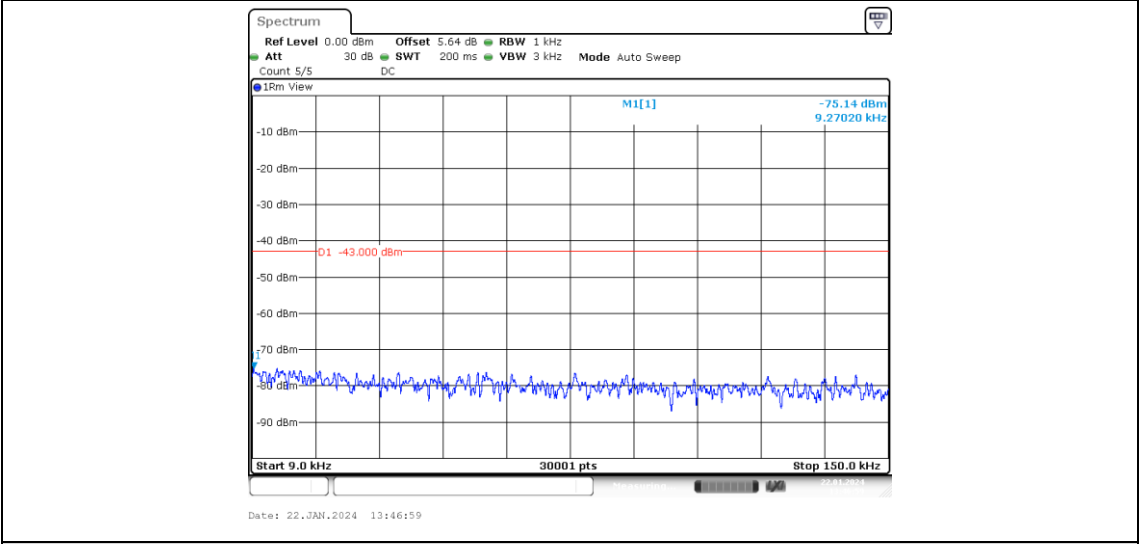
Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-0.15-30--71.18--33-PASS



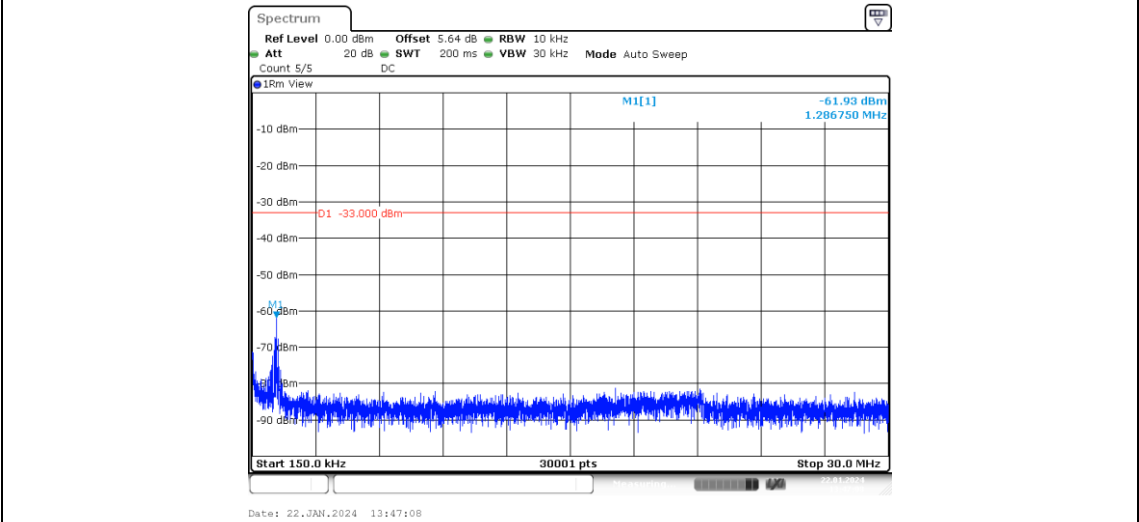
Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-30-1000--55.32--13-PASS



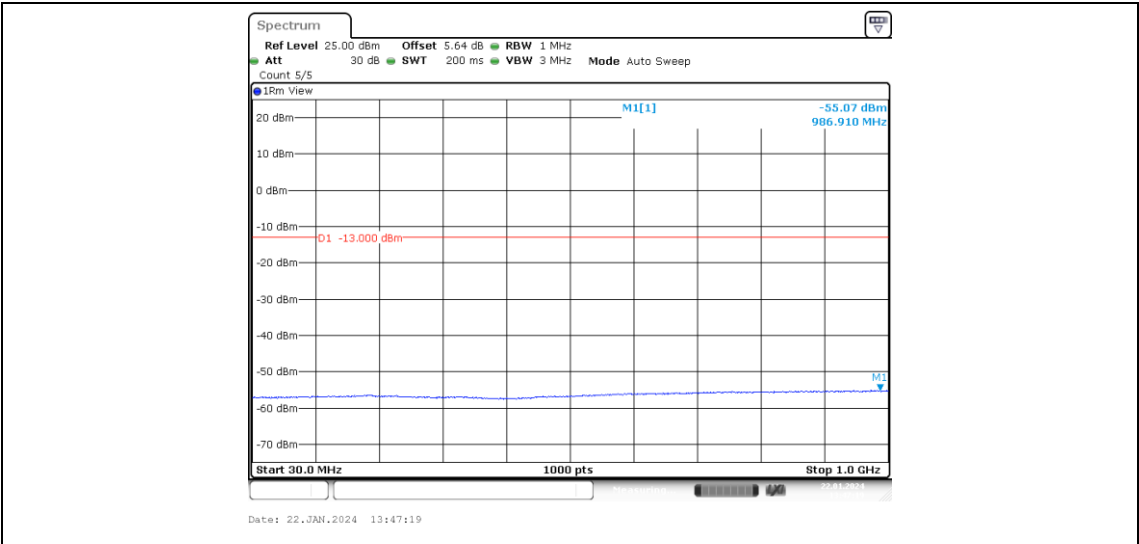
Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-1000-20000--45.7--13-PASS



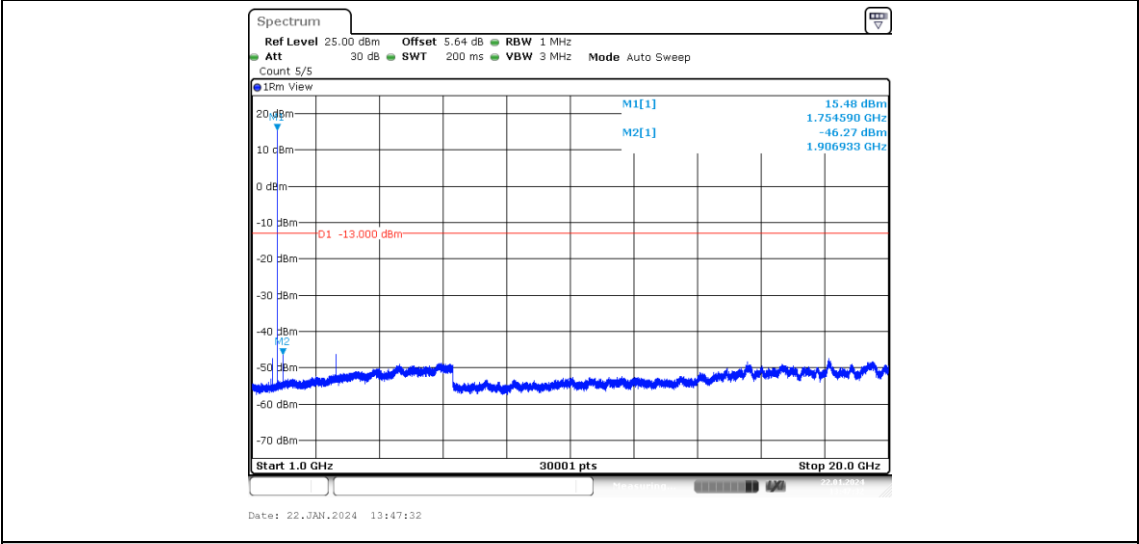
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-0.009-0.15--75.14--43-PASS



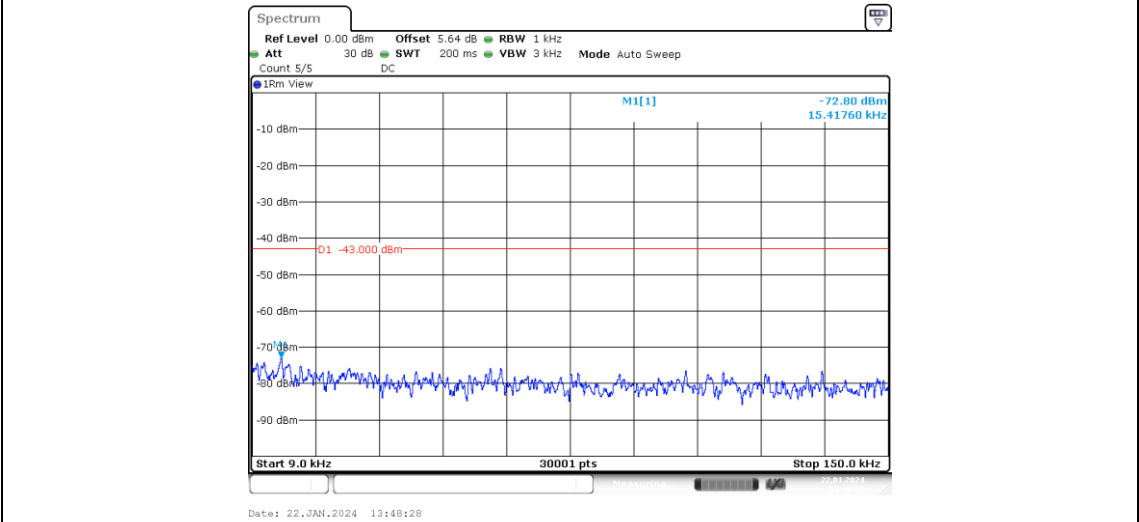
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-0.15-30--61.93--33-PASS



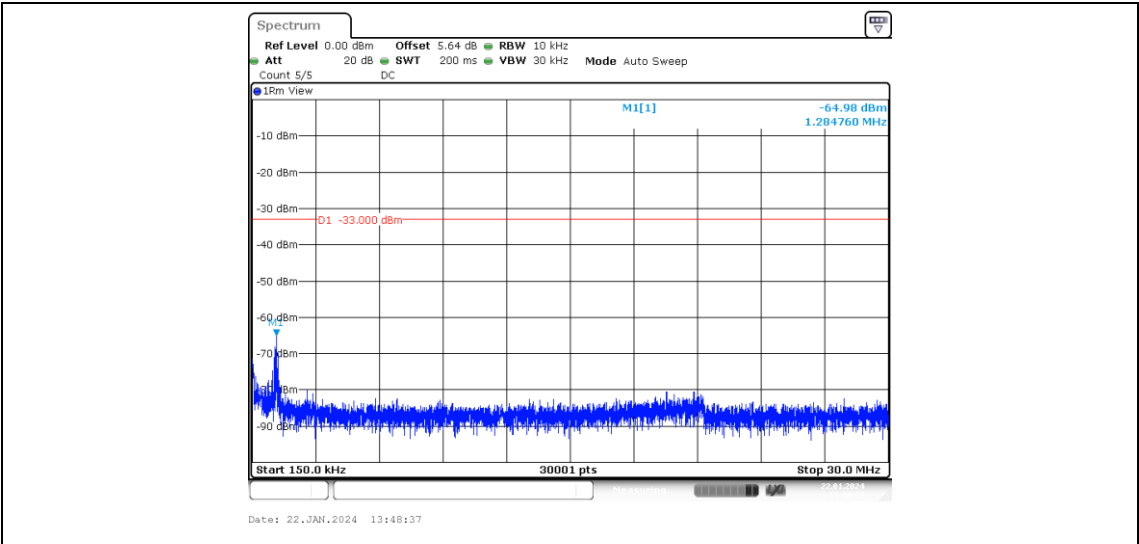
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-30-1000--55.07--13-PASS



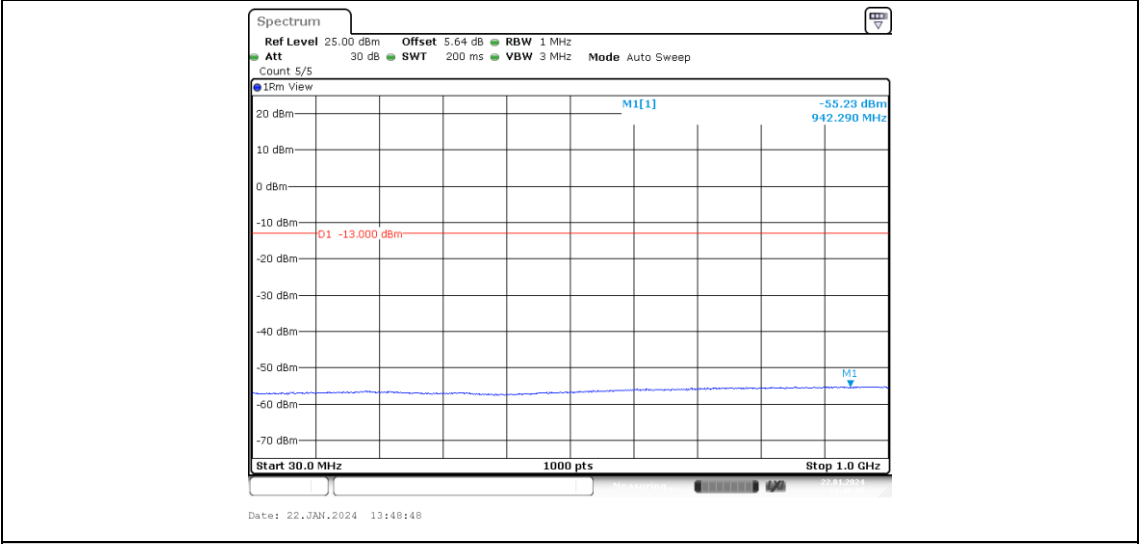
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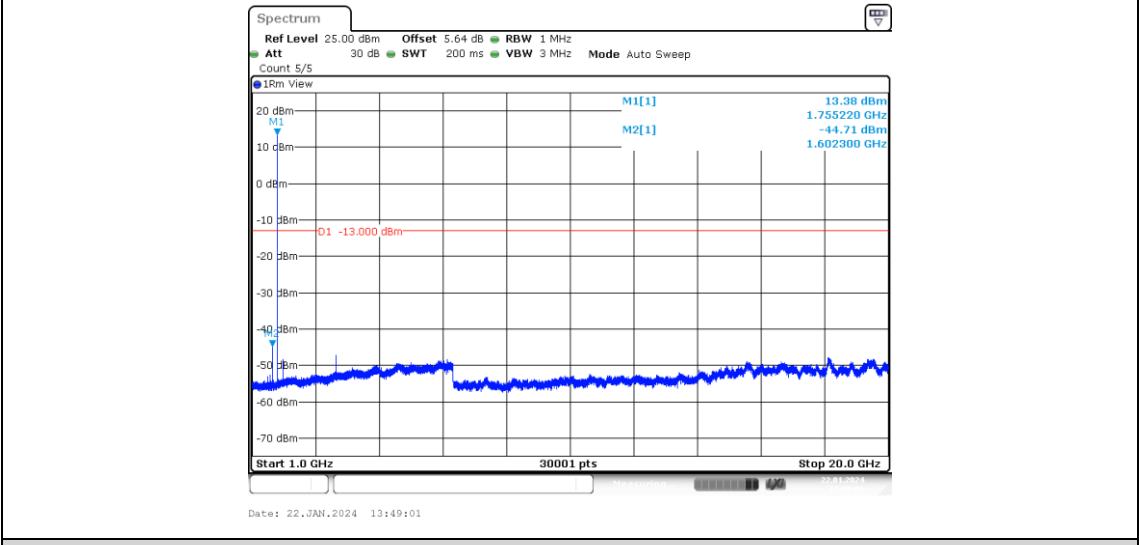
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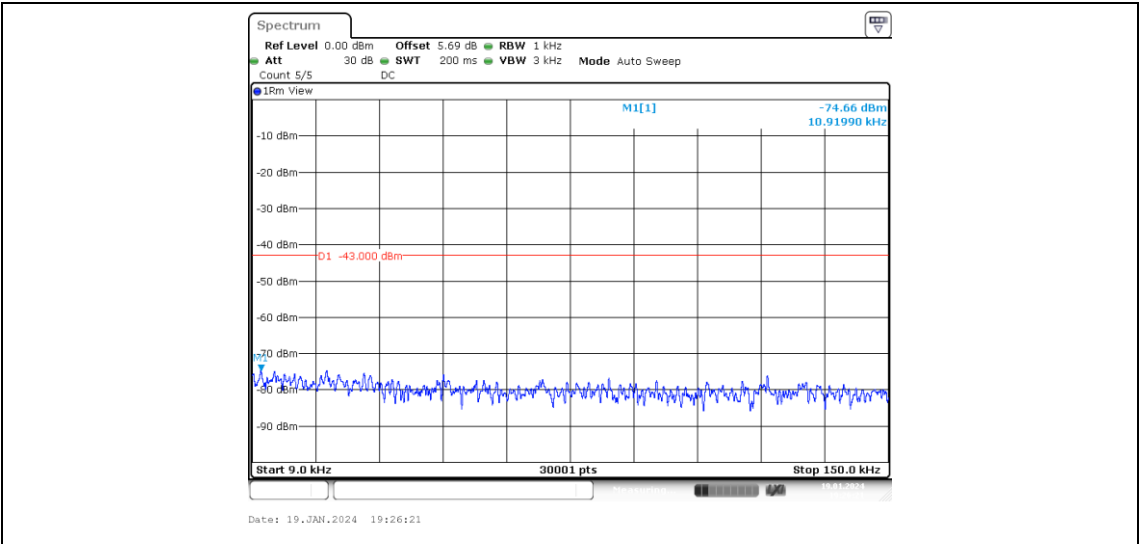
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-0.15-30--64.98--33-PASS



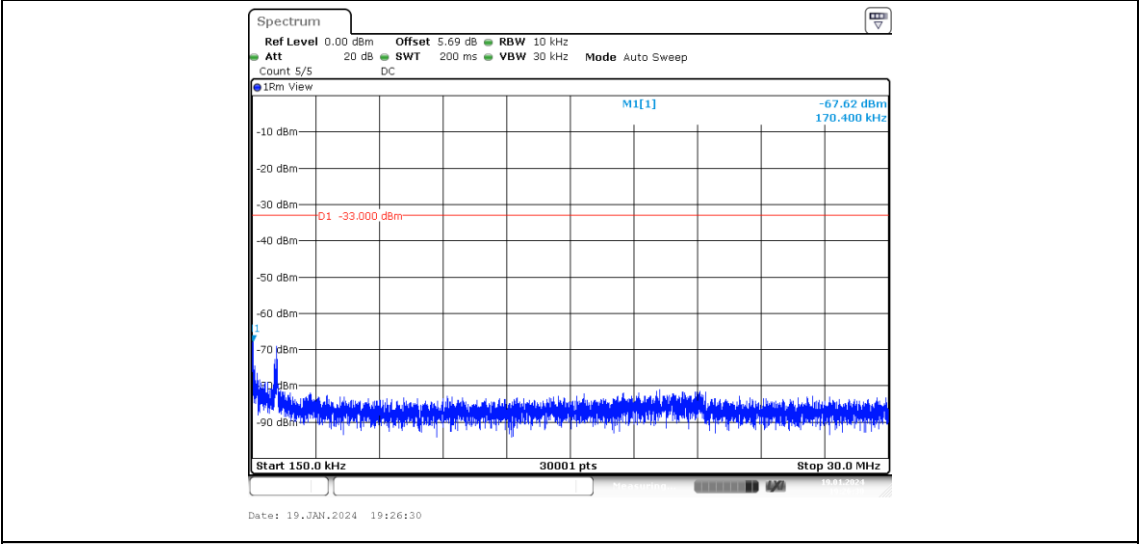
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-30-1000--55.23--13-PASS



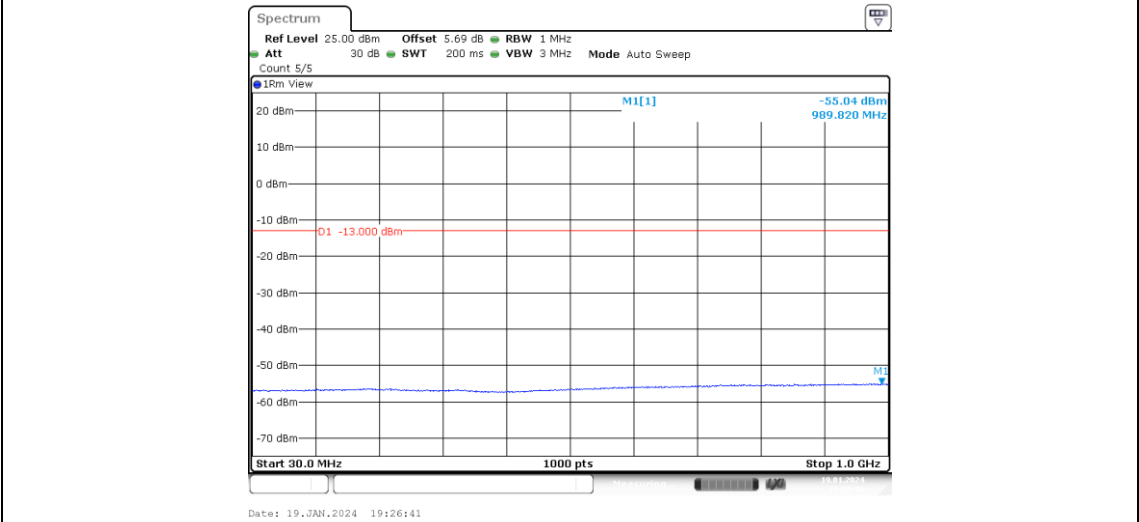
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-1000-20000--44.71--13-PASS



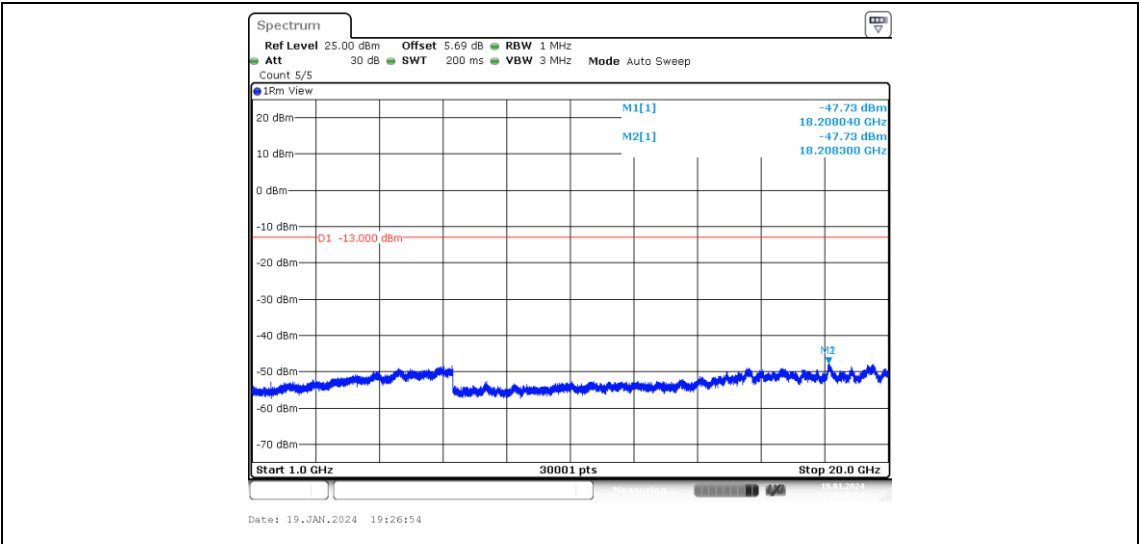
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-0.009-0.15--74.66--43-PASS



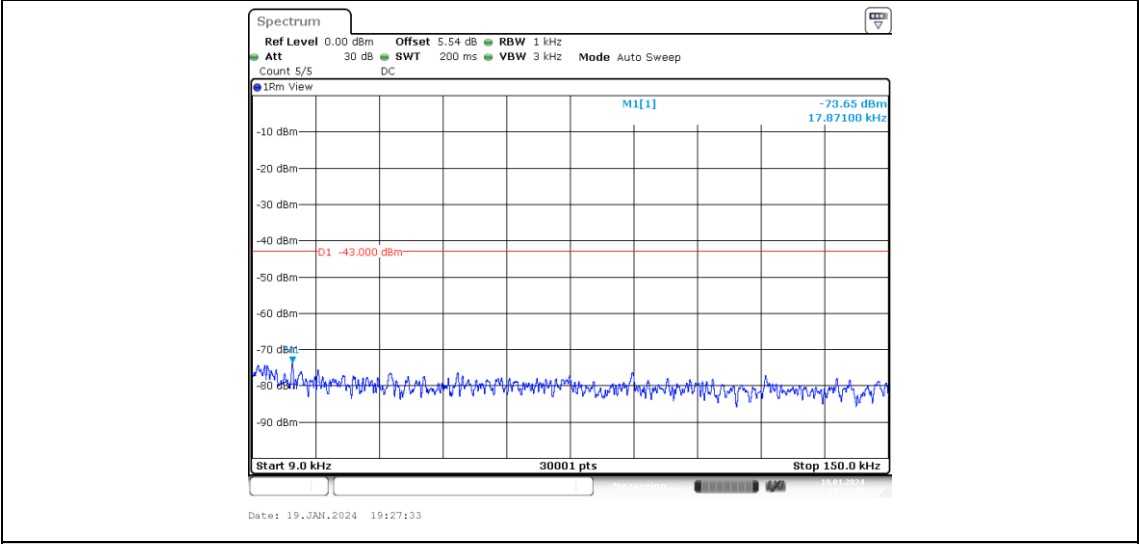
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-0.15-30--67.62--33-PASS



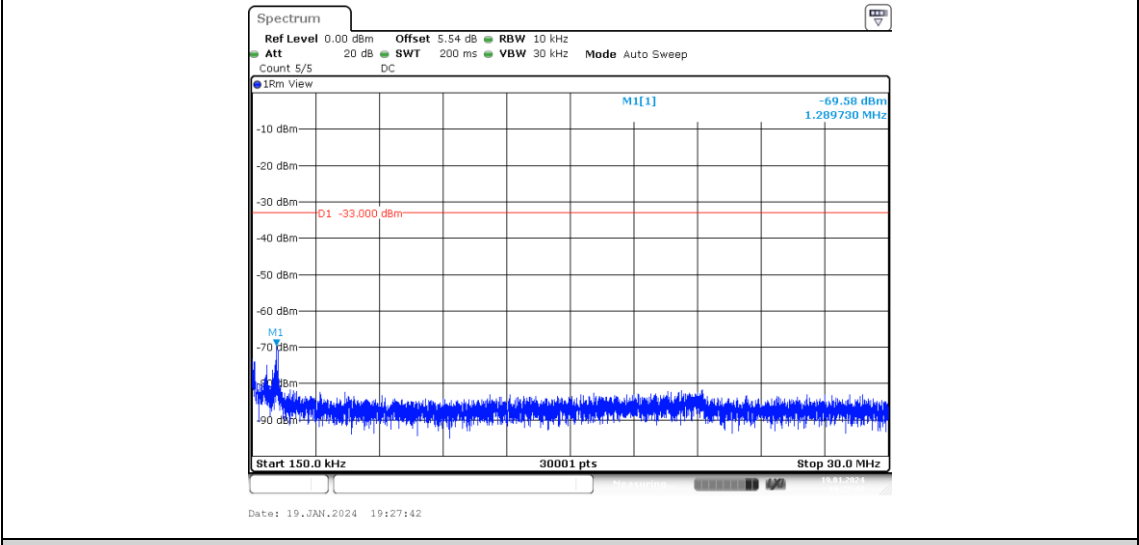
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-30-1000--55.04--13-PASS



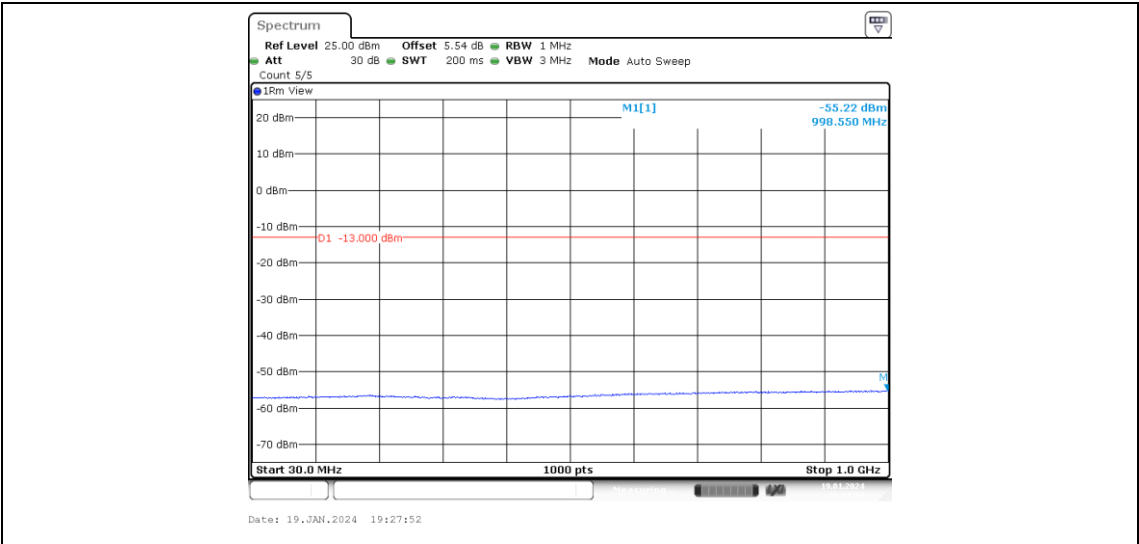
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-1000-20000--47.73--13-PASS



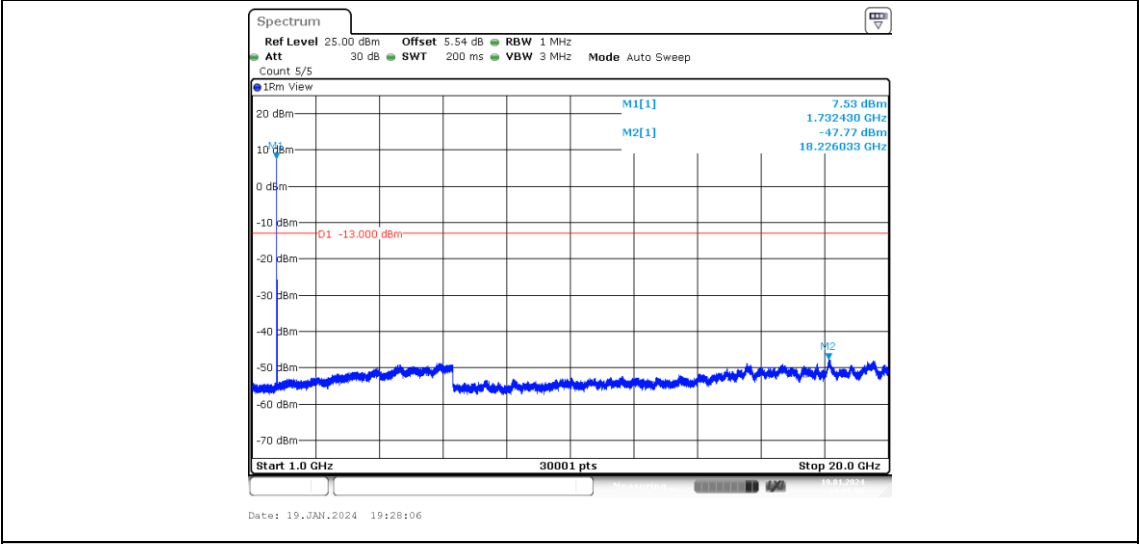
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.009-0.15--73.65--43-PASS



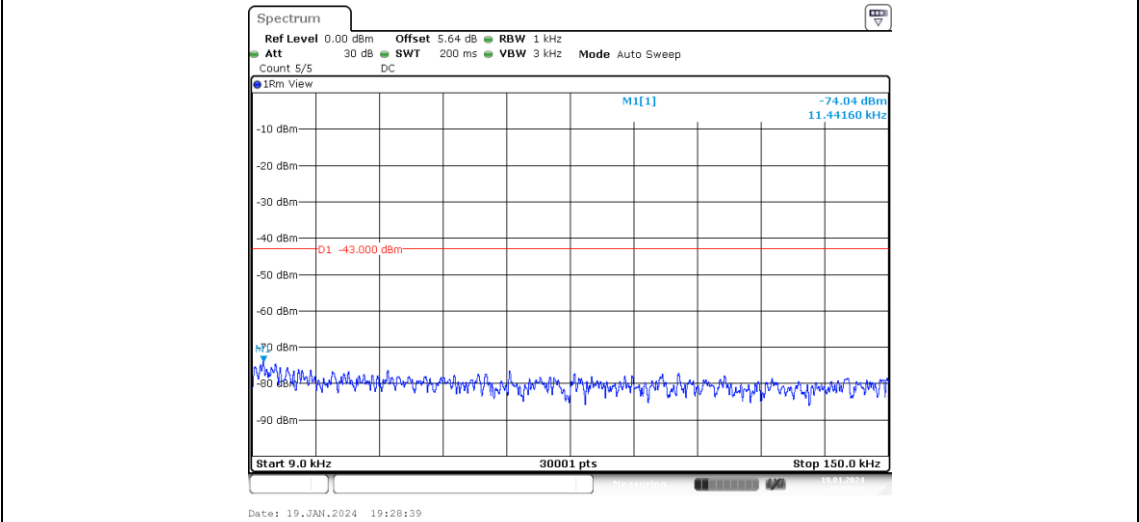
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.15-30--69.58--33-PASS



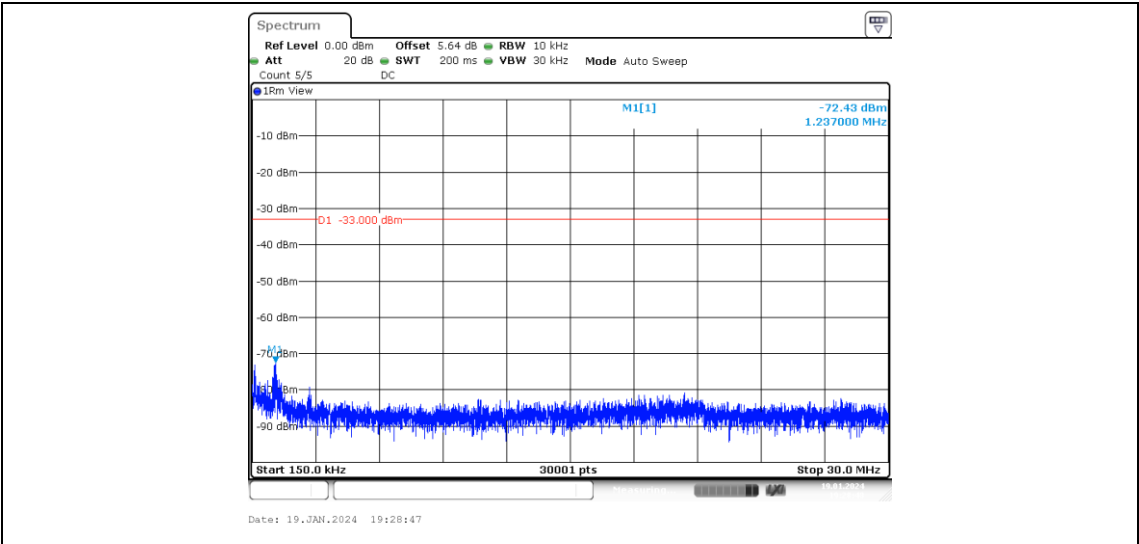
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-30-1000--55.22--13-PASS



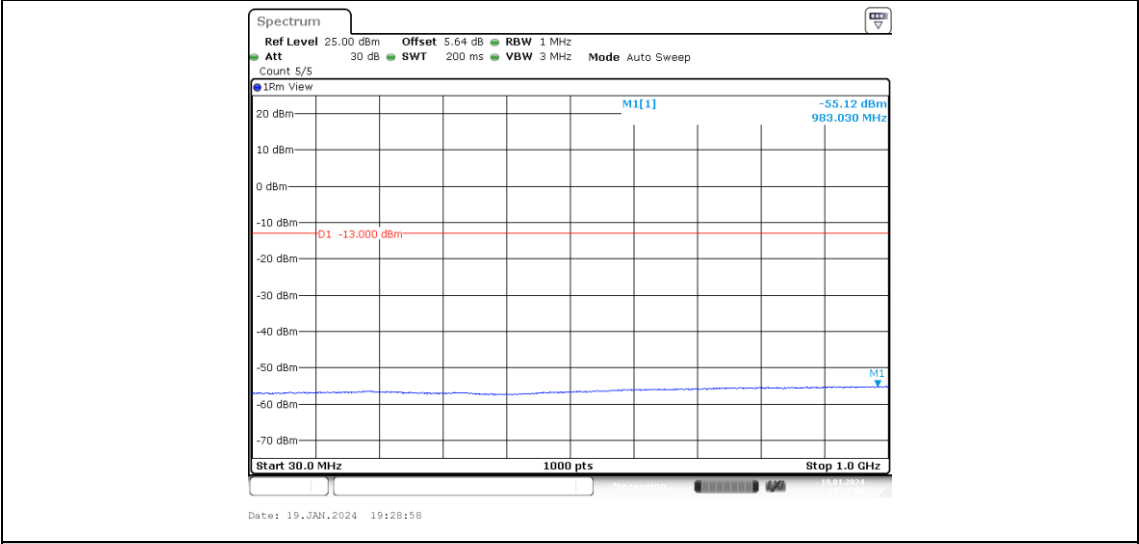
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-1000-20000--47.77--13-PASS



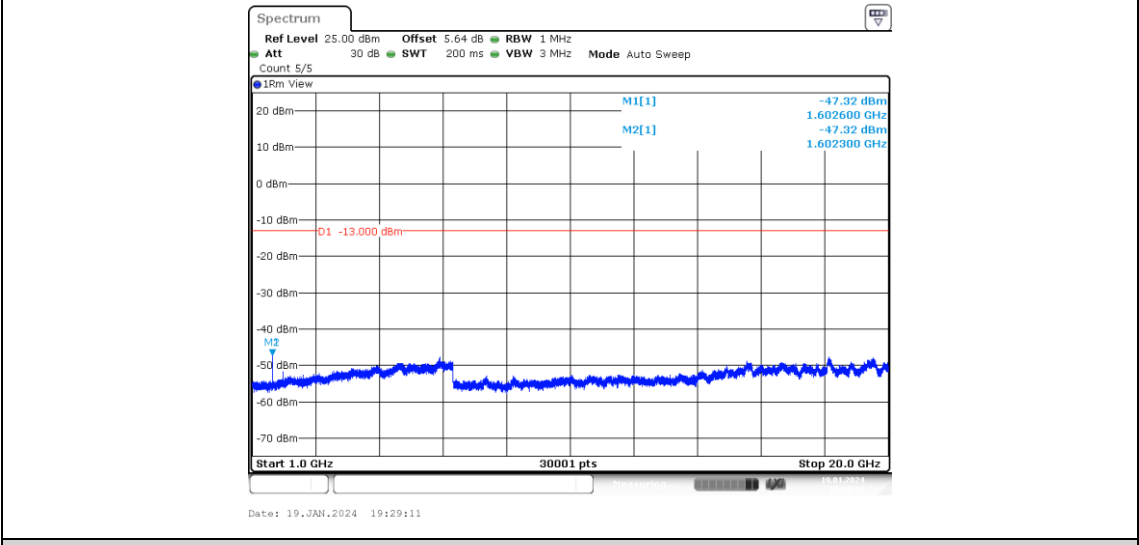
Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-0.009-0.15--74.04--43-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-0.15-30--72.43--33-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-30-1000--55.12--13-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-1000-20000--47.32--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 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 0	VH	NT	-28.71	-0.016571	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 0	VL	NT	-33.06	-0.019082	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 0	VN	NT	-31.33	-0.018084	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VH	NT	-32.06	-0.018505	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VL	NT	-32.30	-0.018644	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VN	NT	-31.97	-0.018453	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VH	NT	-30.98	-0.017882	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VL	NT	-32.60	-0.018817	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VN	NT	-25.71	-0.014840	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 11	VH	NT	-24.19	-0.013962	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 11	VL	NT	-25.33	-0.014620	±2.5	PASS
Ba	Stand-	15k	NaN	QPS	201	1	VN	NT	-25.1	-0.01	±2.	PA

nd 4	Alone	Hz		K	75	@1 1			2	4499	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
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	50	-31.84	-0.018378	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-20	-33.42	-0.019290	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-10	-32.24	-0.018609	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	0	-29.44	-0.016993	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	10	-33.50	-0.019336	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	20	-31.53	-0.018199	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	30	-30.98	-0.017882	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	40	-31.66	-0.018274	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-30	-31.70	-0.018297	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	30	-27.95	-0.016133	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	20	-25.69	-0.014828	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	10	-28.18	-0.016266	±2.5	PASS

Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	0	-24.0 8	-0.01 3899	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-10	-28.2 4	-0.01 6300	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	40	-27.7 5	-0.01 6017	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-30	-29.8 7	-0.01 7241	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	50	-24.9 2	-0.01 4384	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-20	-29.3 8	-0.01 6958	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	50	-30.0 6	-0.01 7351	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	-20	-30.9 8	-0.01 7882	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	-10	-31.6 4	-0.01 8263	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	0	-28.8 1	-0.01 6629	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	10	-27.1 4	-0.01 5665	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	20	-26.2 2	-0.01 5134	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	30	-28.9 0	-0.01 6681	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	40	-28.0 2	-0.01 6173	±2. 5	PA SS
Ba	Stand-	15kH	NaN	QP	20	1	NV	-30	-30.9	-0.01	±2.	PA

nd4	Alone	z		SK	17 5	@ 0			0	7835	5	SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	40	-27.5 2	-0.01 5885	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	30	-31.6 7	-0.01 8280	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	20	-30.7 0	-0.01 7720	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	10	-27.0 9	-0.01 5636	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	0	-27.7 1	-0.01 5994	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-10	-23.2 7	-0.01 3431	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-30	-23.5 2	-0.01 3576	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	50	-28.1 8	-0.01 6266	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-20	-29.8 4	-0.01 7224	±2. 5	PA SS