

Appendix for NB-IOT Band 4

Product Name: NBloT Meter Interface Unit

Model No: AGIL WRPMIU 301

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	23.82	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	19951	1@47	23.80	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20175	1@0	23.73	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20175	1@47	23.19	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20399	1@0	23.26	PASS
Band 4	Stand-Al one	3.75kHz	NaN	BPSK	20399	1@47	23.27	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	19951	1@0	23.83	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	19951	1@47	23.81	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20175	1@0	23.20	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20175	1@47	23.22	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20399	1@0	23.30	PASS
Band 4	Stand-Al one	3.75kHz	NaN	QPSK	20399	1@47	23.30	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	19951	1@0	23.85	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	19951	1@11	23.40	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20175	1@0	23.26	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20175	1@11	23.25	PASS
Band 4	Stand-Al one	15kHz	NaN	BPSK	20399	1@0	23.35	PASS

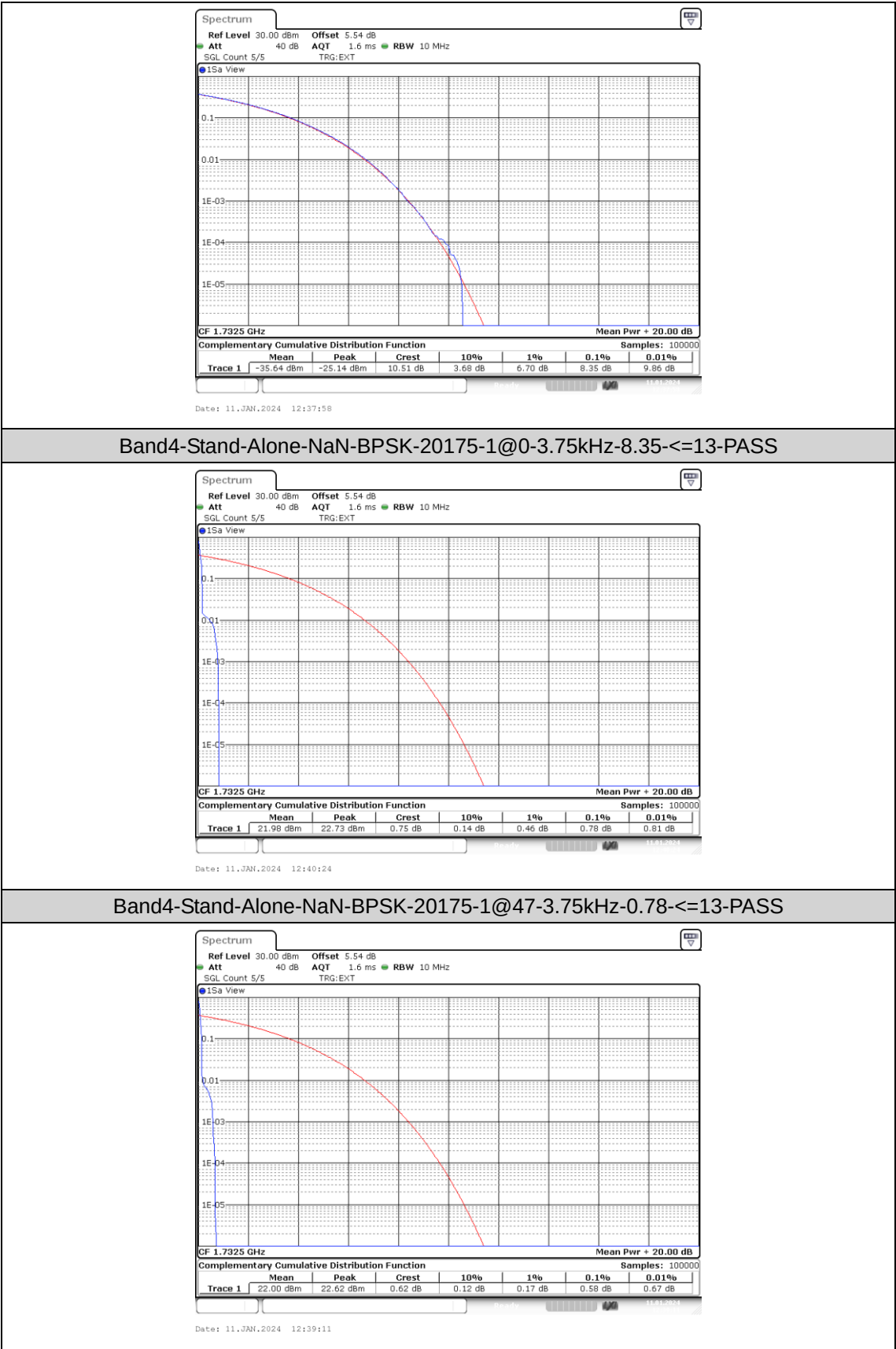
Band 4	Stand-Al one	15kHz	NaN	BPSK	20399	1@11	23.36	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	1@0	23.47	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	1@11	23.47	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	19951	3@3	23.15	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	1@0	23.33	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	1@11	23.31	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20175	3@3	22.99	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	1@0	23.46	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	1@11	23.45	PASS
Band 4	Stand-Al one	15kHz	NaN	QPSK	20399	3@3	23.05	PASS

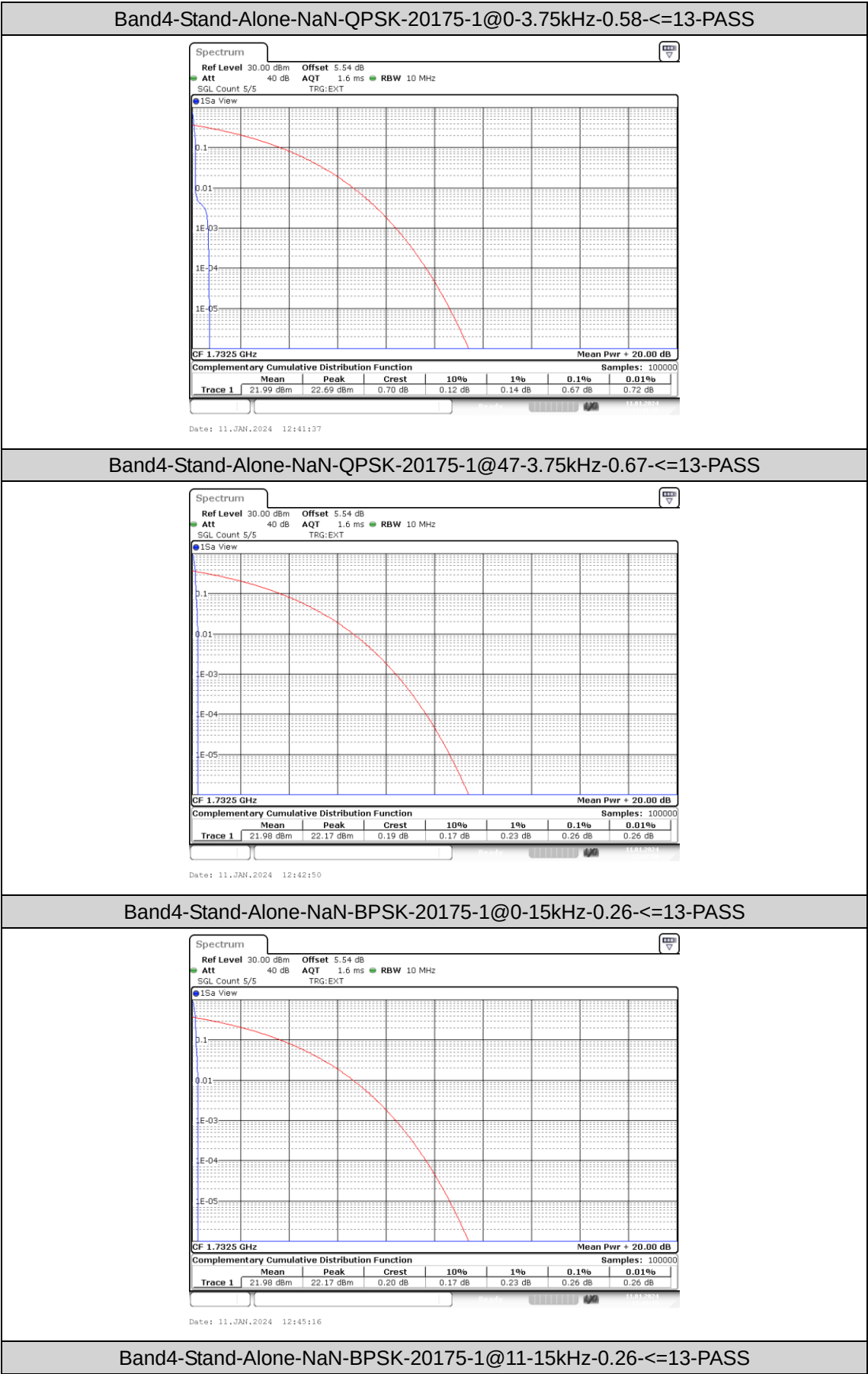
Appendix B: Peak-to-Average Ratio(CCDF)

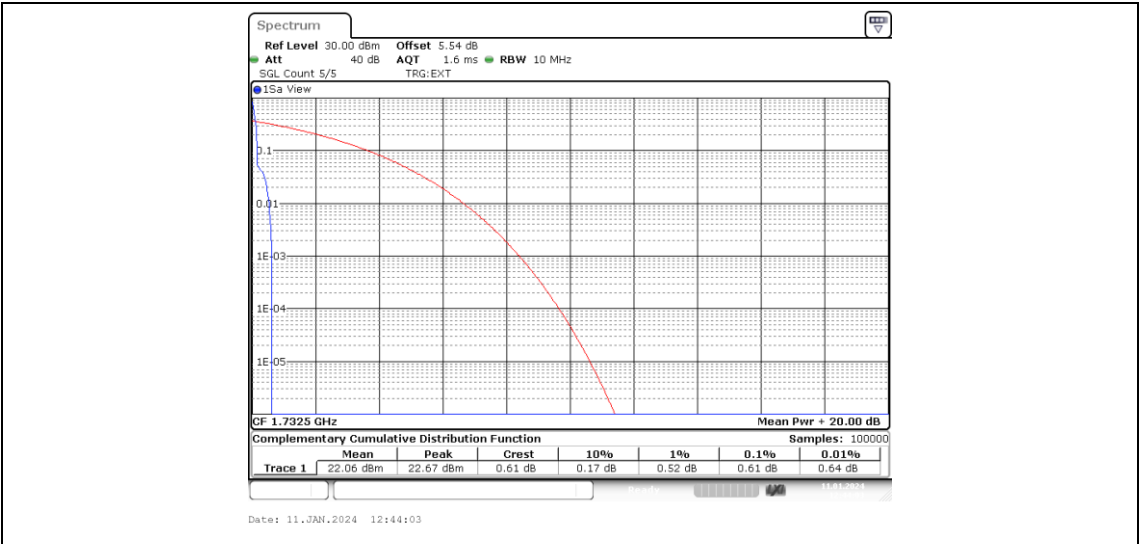
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@0	8.35	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@47	0.78	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.58	<=13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	0.67	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.26	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	0.26	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@0	0.61	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@11	0.55	<=13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	3@3	1.28	<=13	PASS

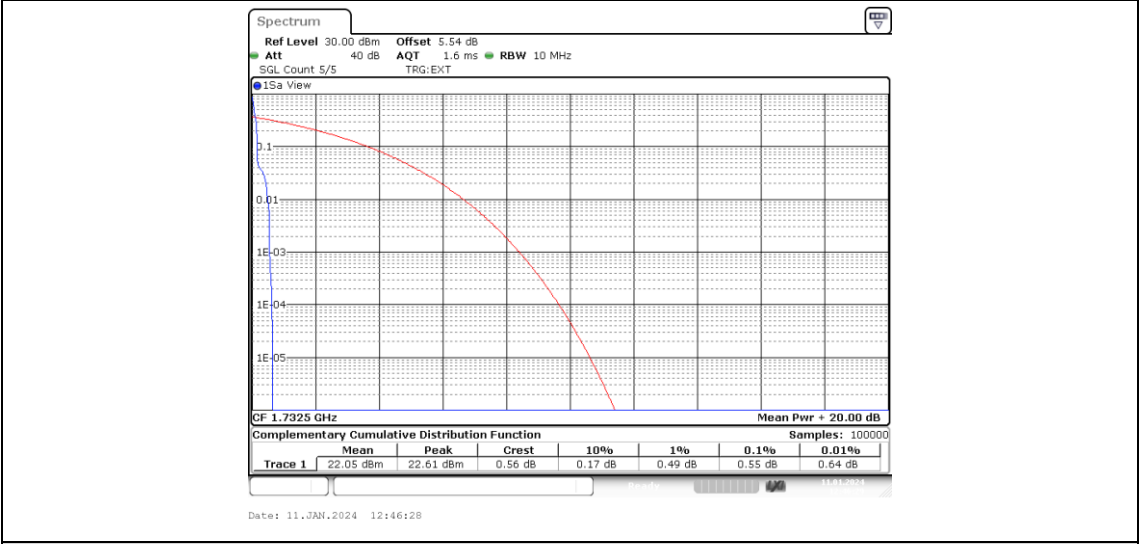
Test Graphs



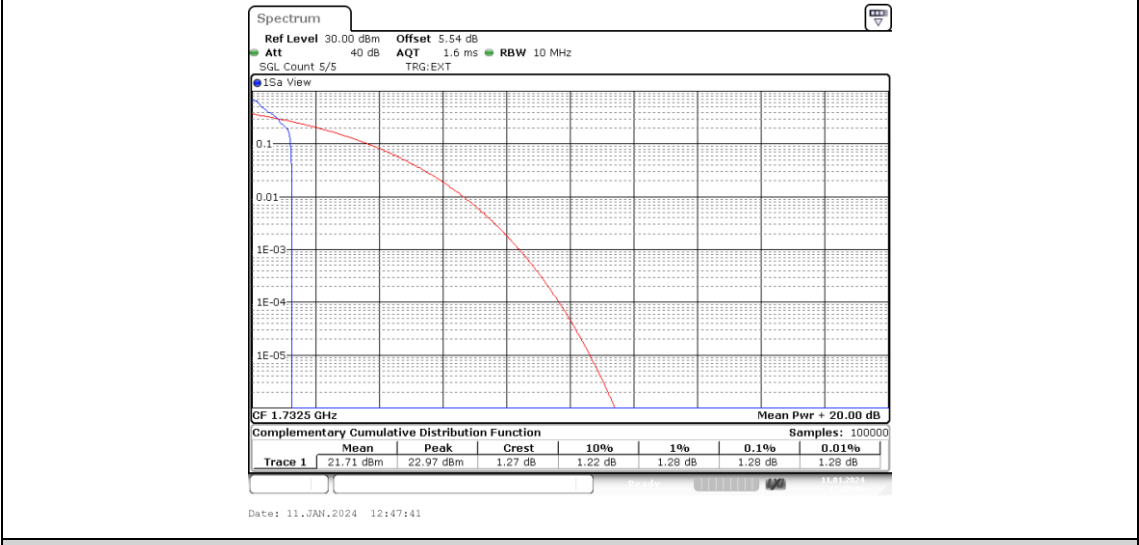




Band4-Stand-Alone-NaN-QPSK-20175-1@0-15kHz-0.61-<=13-PASS



Band4-Stand-Alone-NaN-QPSK-20175-1@11-15kHz-0.55-<=13-PASS



Band4-Stand-Alone-NaN-QPSK-20175-3@3-15kHz-1.28-<=13-PASS

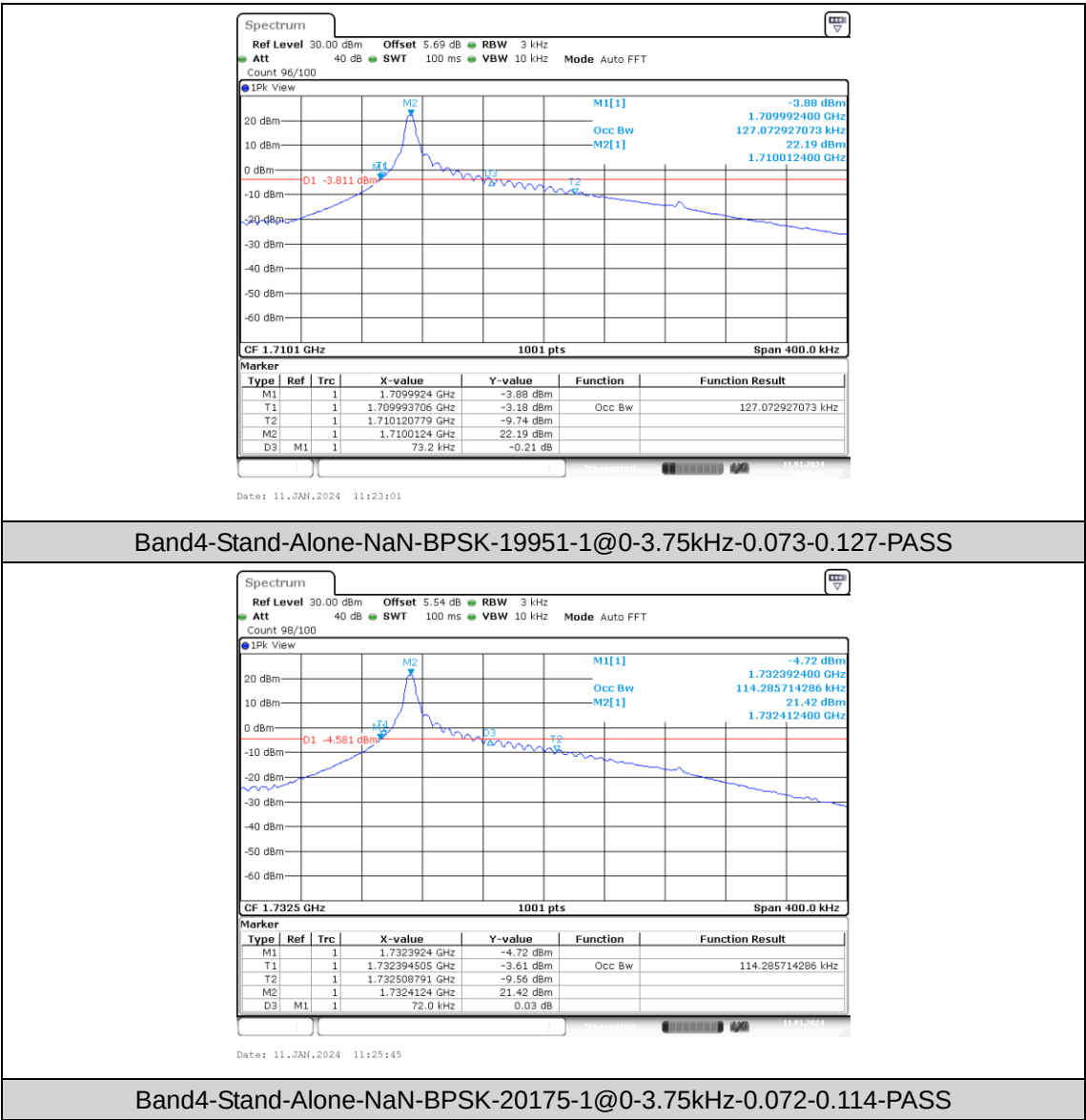
Appendix C: Emission Bandwidth

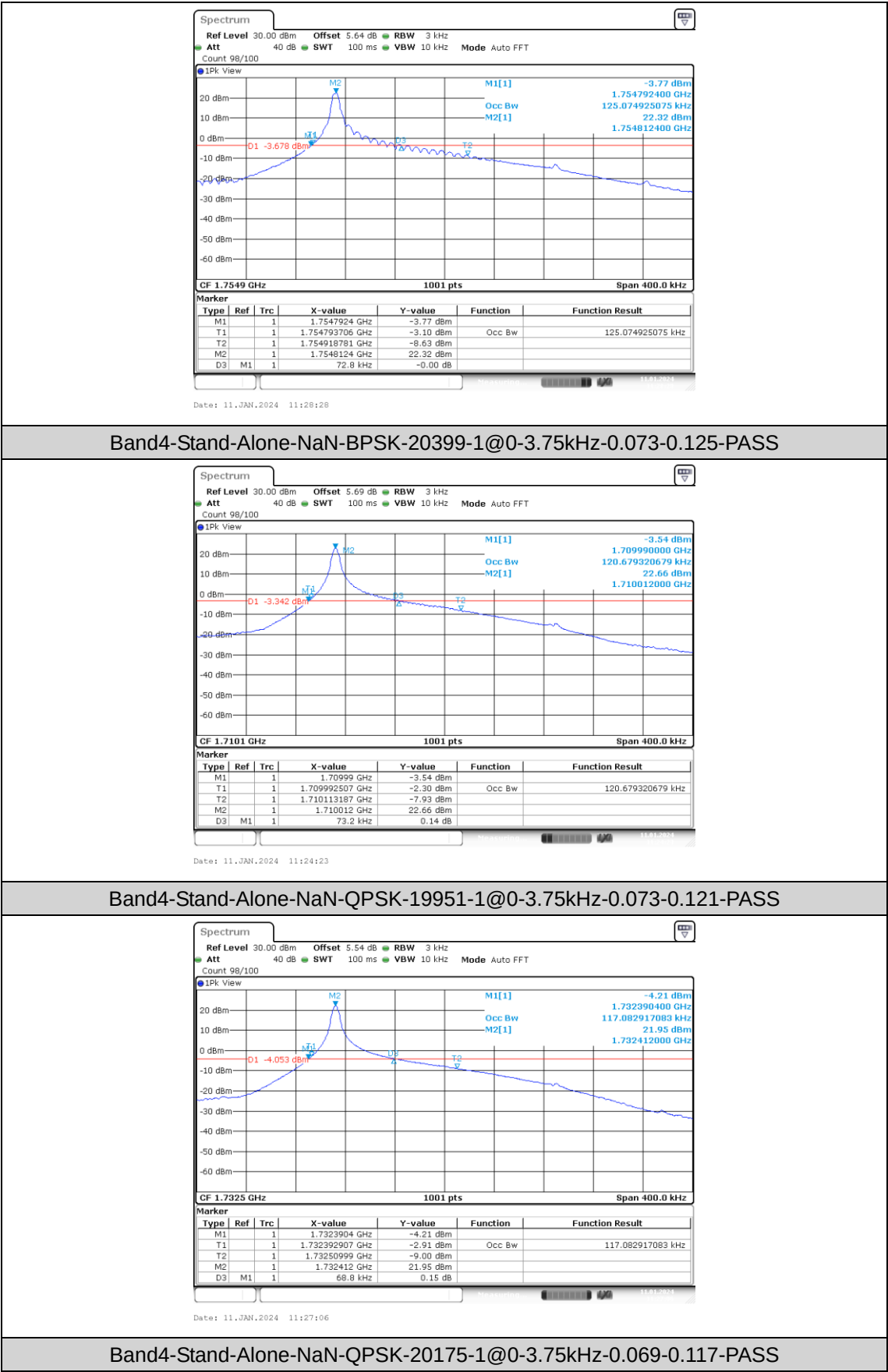
Test Result

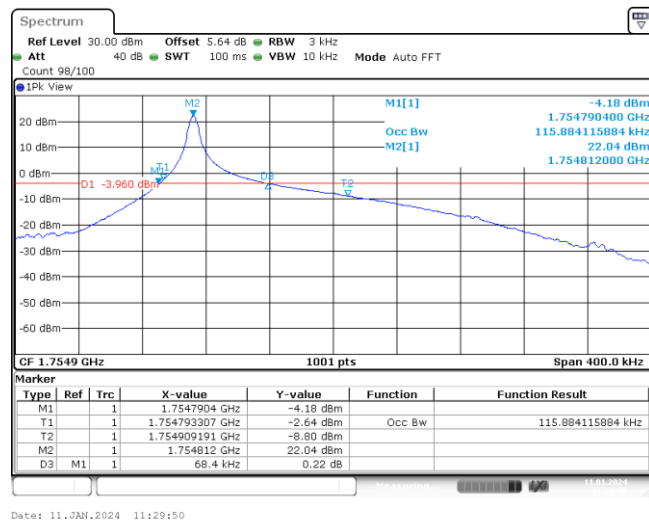
Band	OpMode	SCS	BW	Modu	Channel	Tones	OBW(MHz)	EBW(MHz)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@0	0.127	0.073	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20175	1@0	0.114	0.072	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@0	0.125	0.073	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	0.121	0.073	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.117	0.069	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.116	0.068	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.121	0.125	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	12@0	0.179	0.250	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.115	0.125	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	12@0	0.178	0.237	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.114	0.124	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	12@0	0.177	0.236	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@0	0.144	0.174	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.179	0.250	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	1@0	0.143	0.161	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.178	0.237	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@0	0.139	0.161	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	0.177	0.236	PASS

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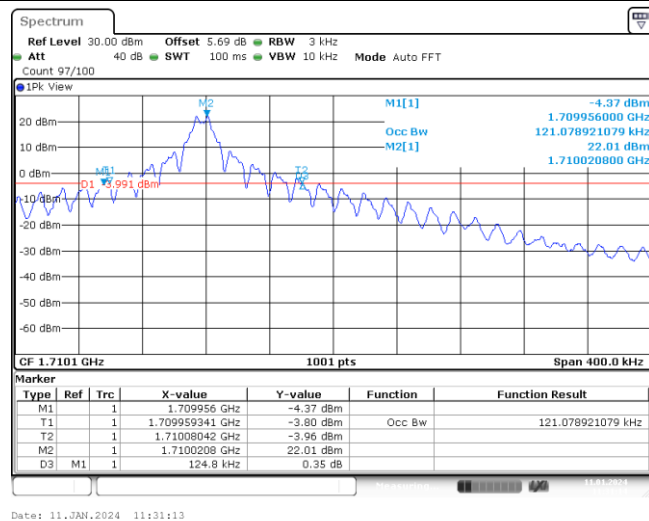
Test Graphs







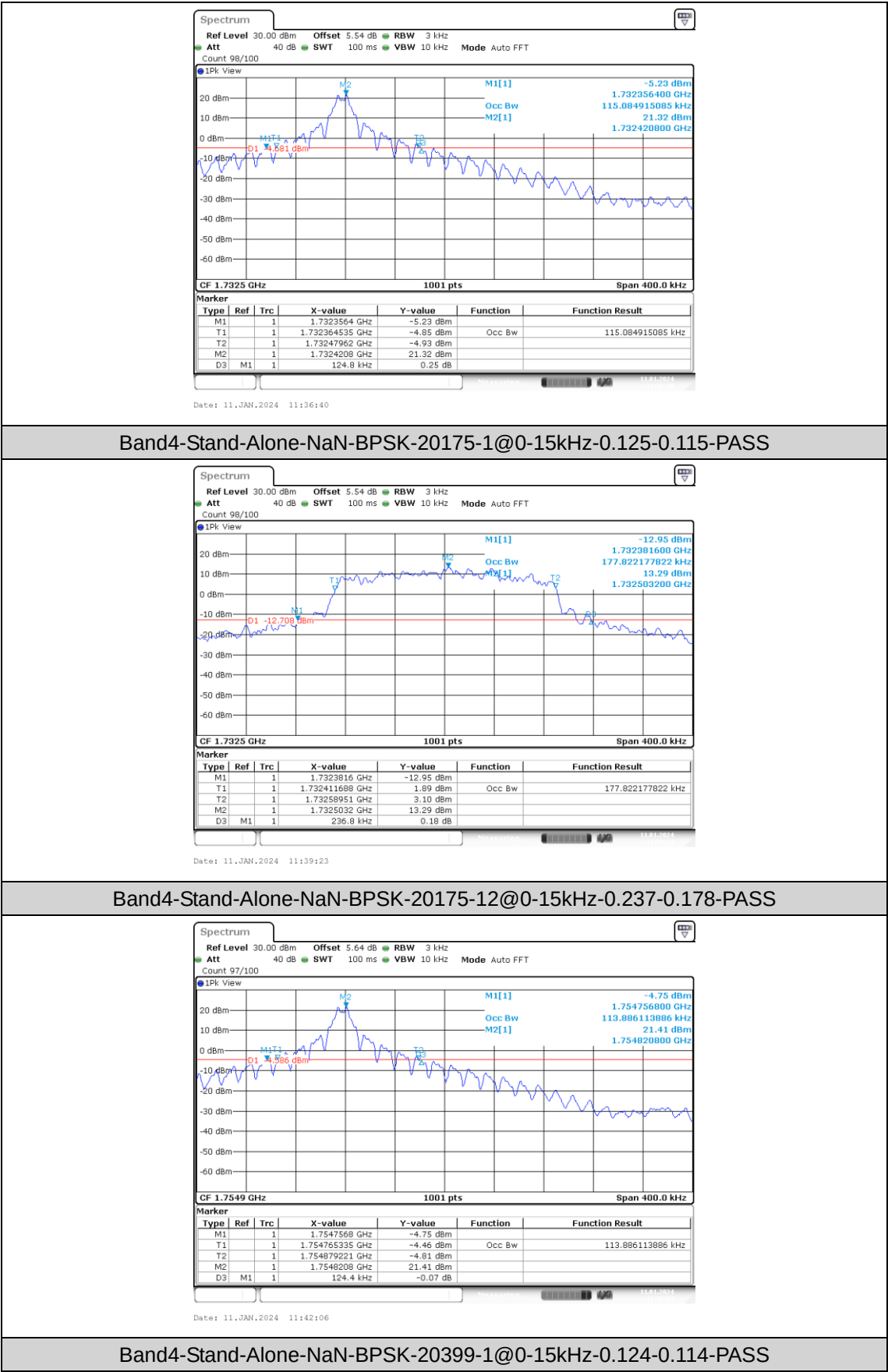
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.068-0.116-PASS



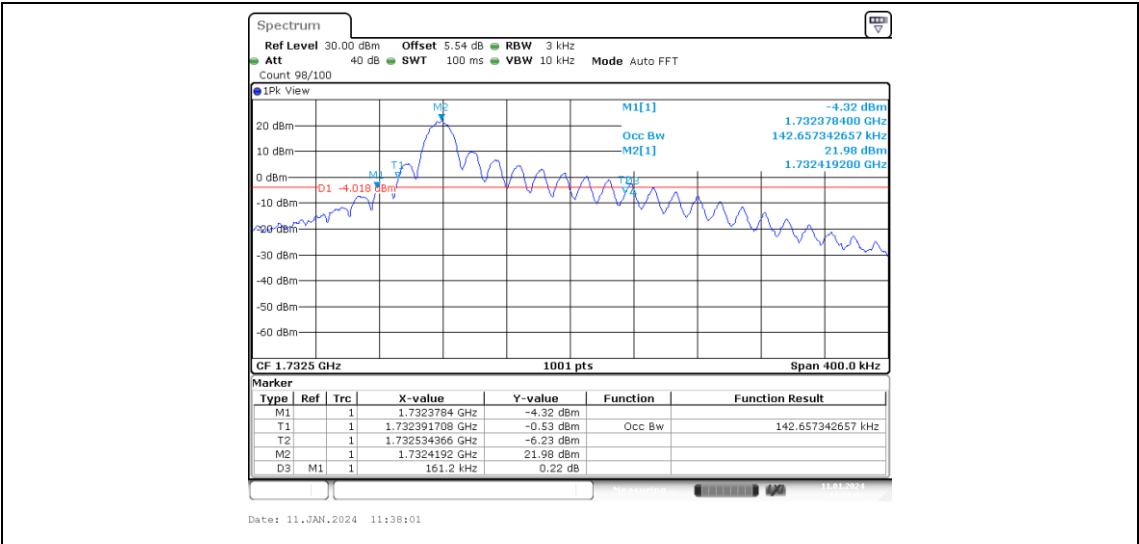
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.125-0.121-PASS



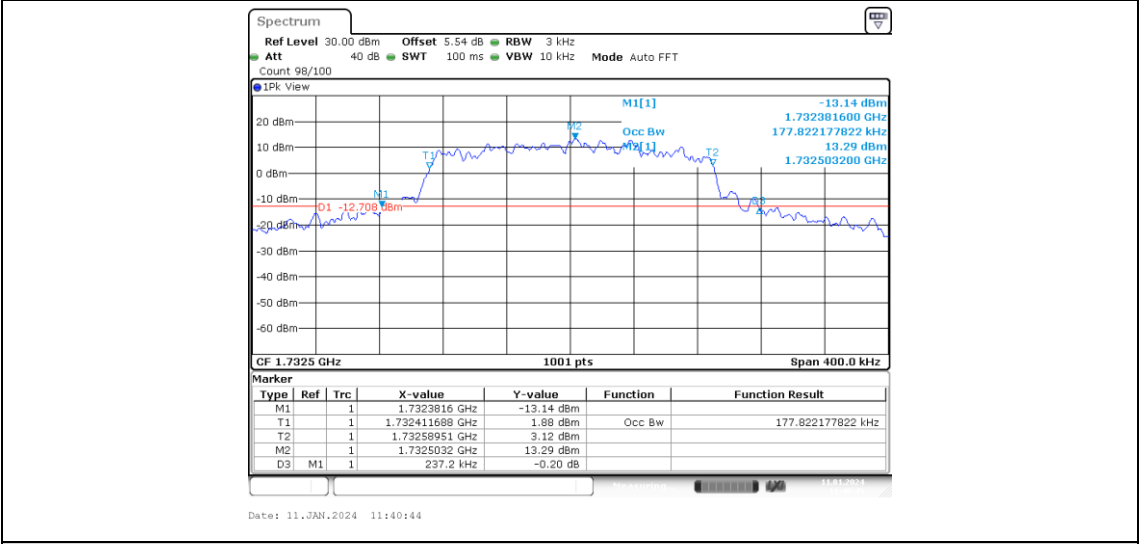
Band4-Stand-Alone-NaN-BPSK-19951-12@0-15kHz-0.250-0.179-PASS



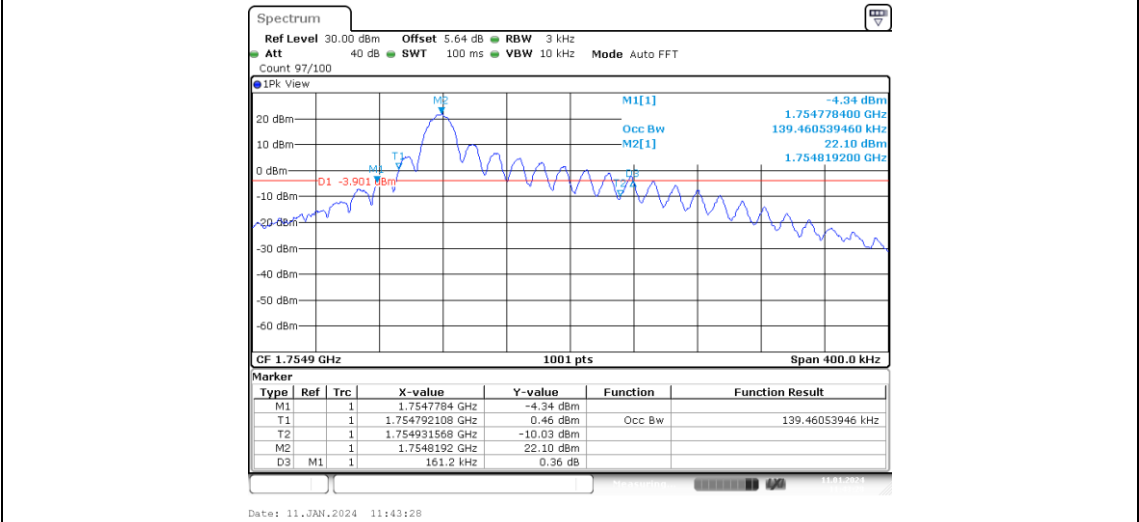




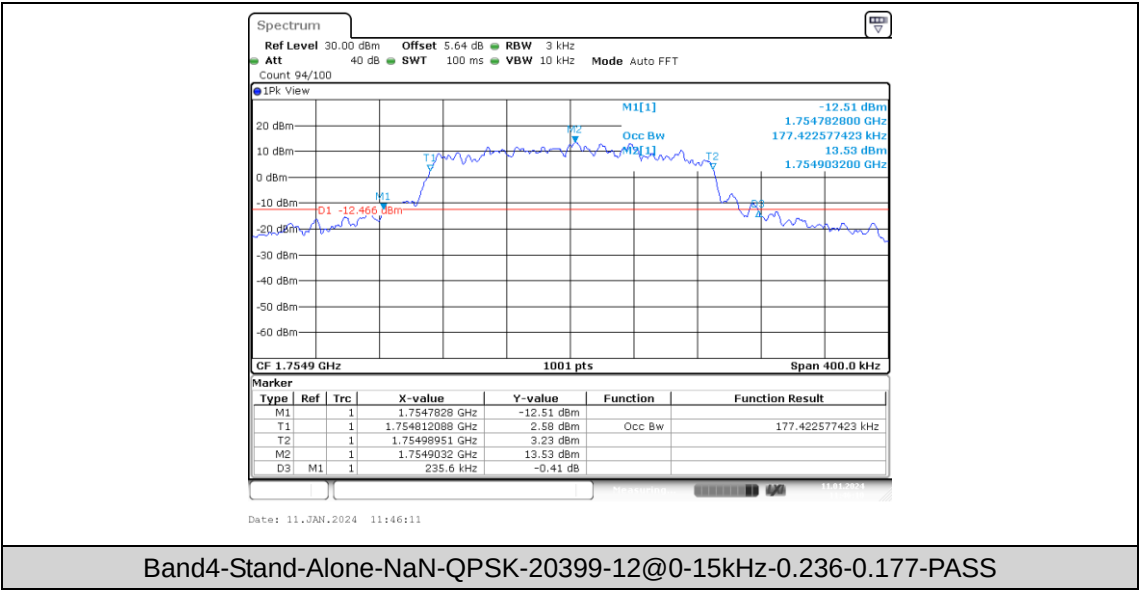
Band4-Stand-Alone-NaN-QPSK-20175-1@0-15kHz-0.161-0.143-PASS



Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.237-0.178-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@0-15kHz-0.161-0.139-PASS



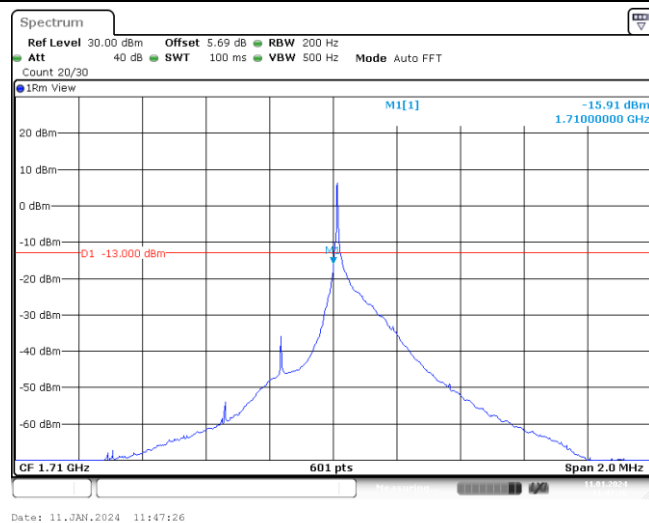
Appendix D: Band Edge

Test Result

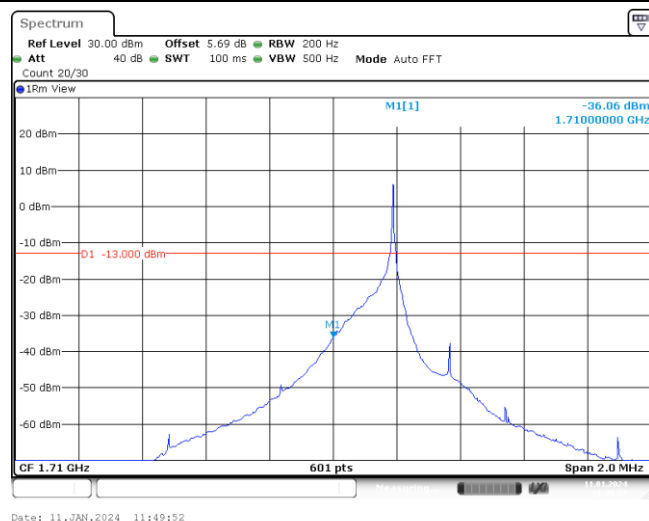
Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Verdict
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@0	-15.9 1	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	19951	1@47	-36.0 6	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@0	-38.0 4	PASS
Band4	Stand-Alone	3.75kHz	NaN	BPSK	20399	1@47	-15.9 2	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	-17.2 6	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	-39.6 6	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	-41.3 4	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	-17.7 7	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	-12.5 0	FAIL
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	-42.6 5	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	12@0	-29.7 8	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	-45.4 7	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	-14.2 5	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	12@0	-28.2 1	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@0	-17.4 5	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	1@11	-38.1 2	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	-26.1	PASS

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Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@0	-38.3 2	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	1@11	-17.5 4	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	-25.3 8	PASS

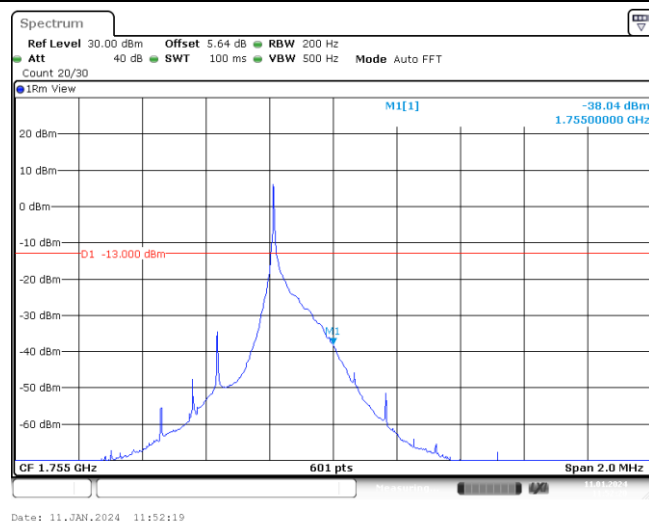
Test Graphs



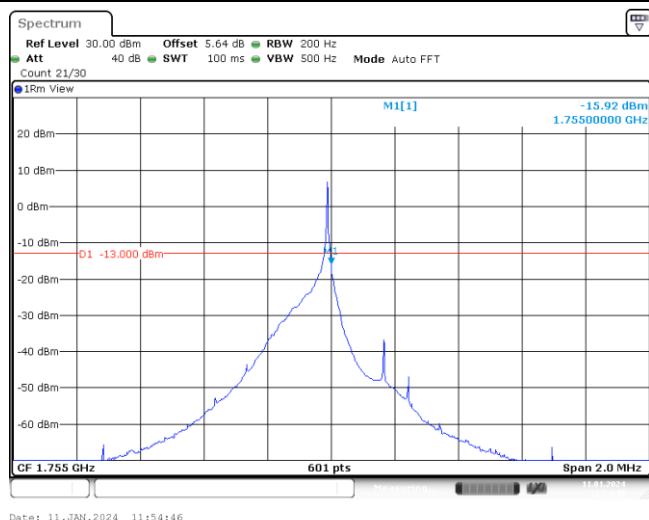
Band4-Stand-Alone-NaN-BPSK-19951-1@0-3.75kHz--15.91-PASS



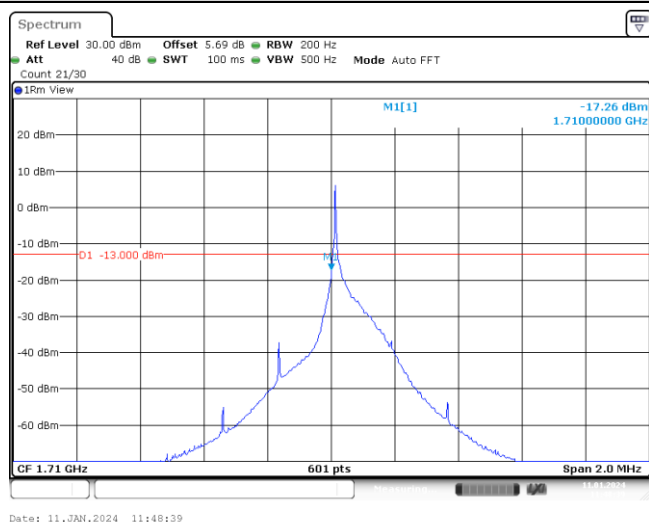
Band4-Stand-Alone-NaN-BPSK-19951-1@47-3.75kHz--36.06-PASS



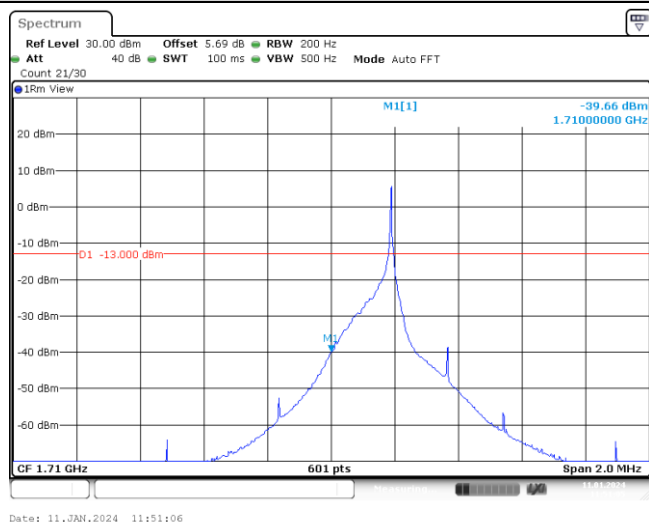
Band4-Stand-Alone-NaN-BPSK-20399-1@0-3.75kHz--38.04-PASS



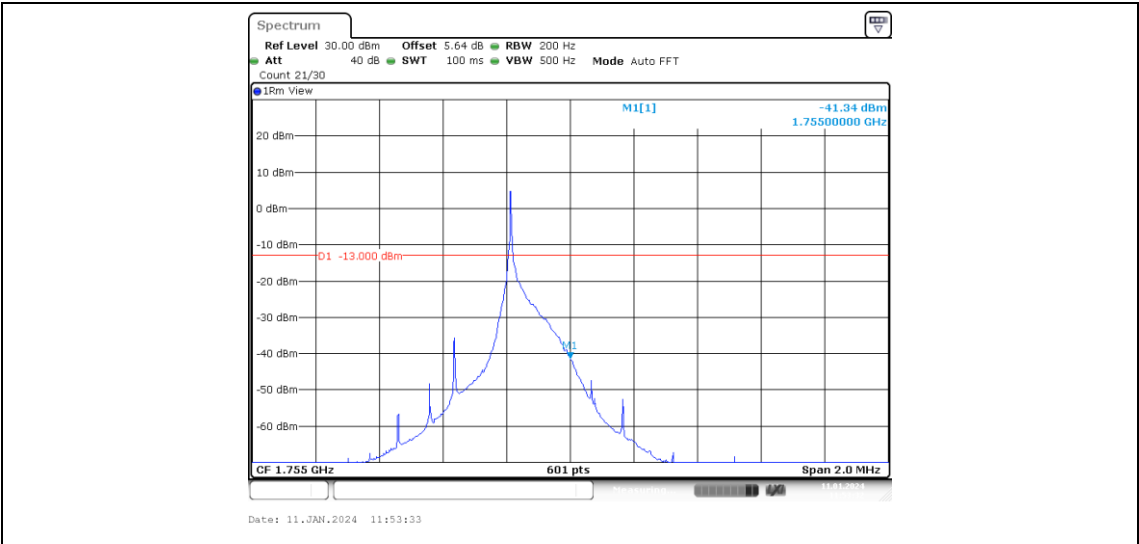
Band4-Stand-Alone-NaN-BPSK-20399-1@47-3.75kHz--15.92-PASS



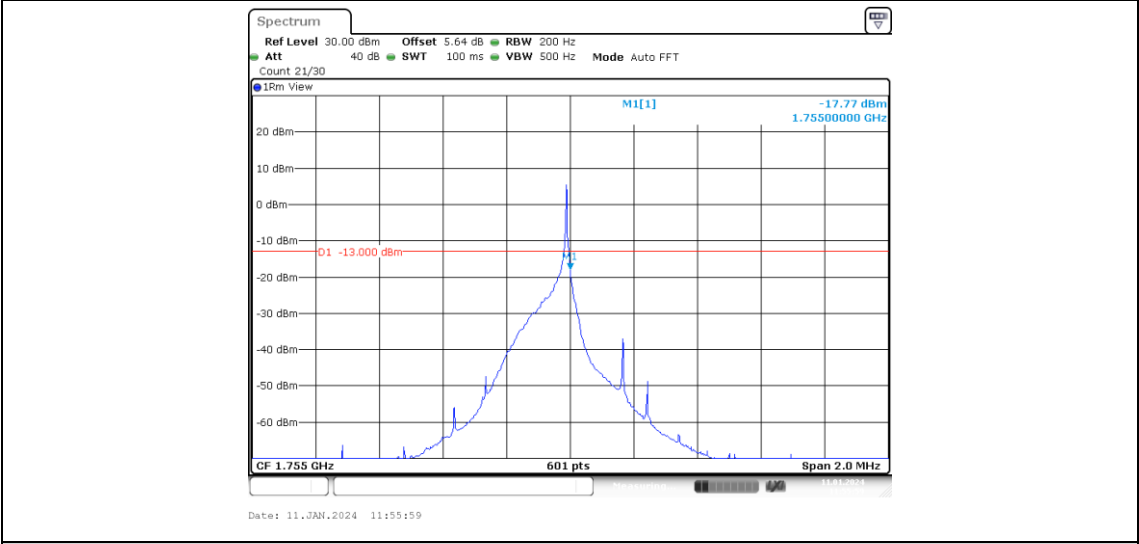
Band4-Stand-Alone-NaN-QPSK-19951-1@0-3.75kHz--17.26-PASS



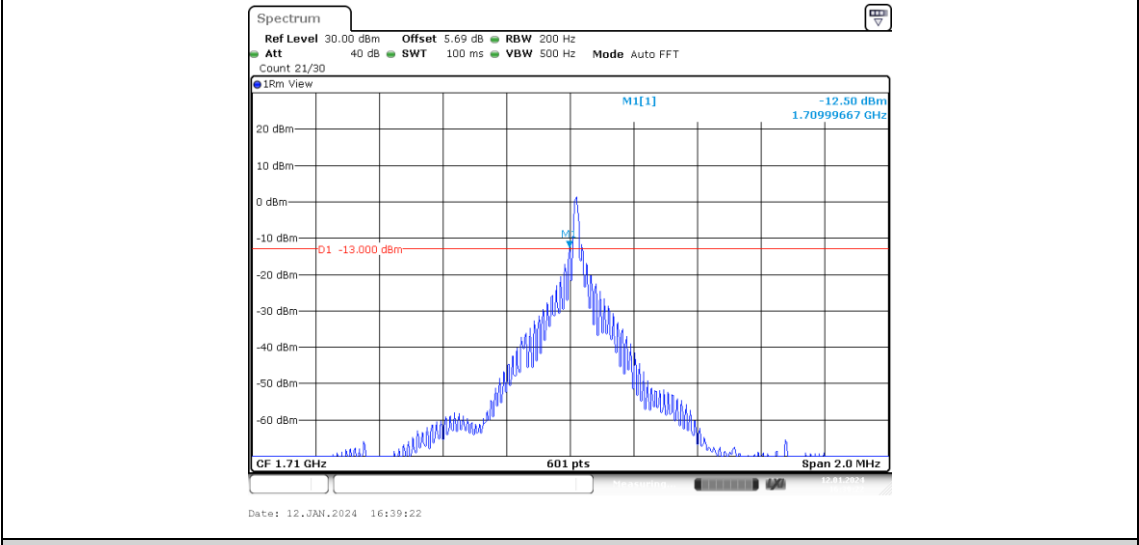
Band4-Stand-Alone-NaN-QPSK-19951-1@47-3.75kHz--39.66-PASS



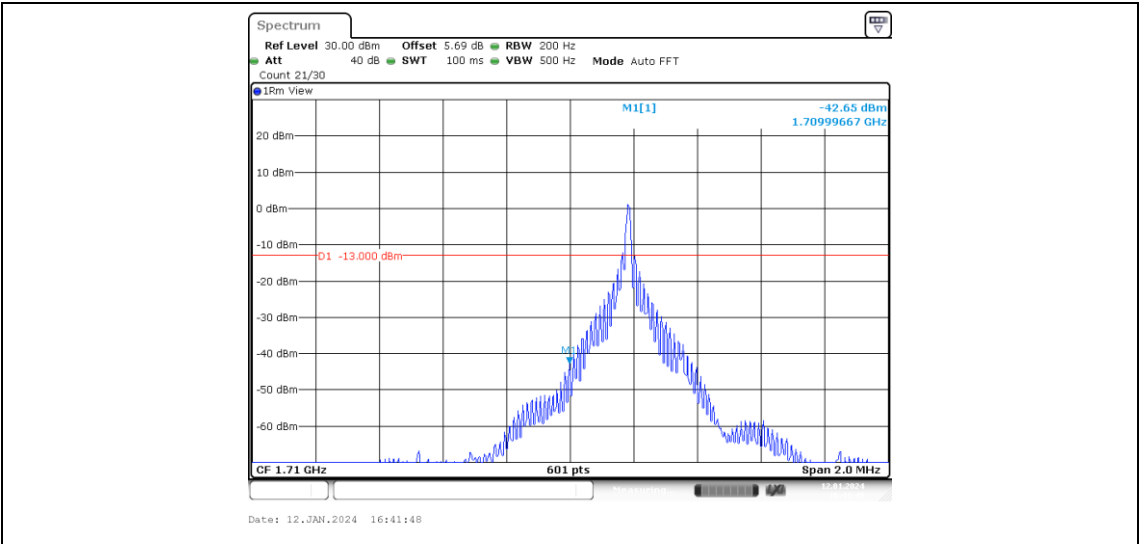
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz--41.34-PASS



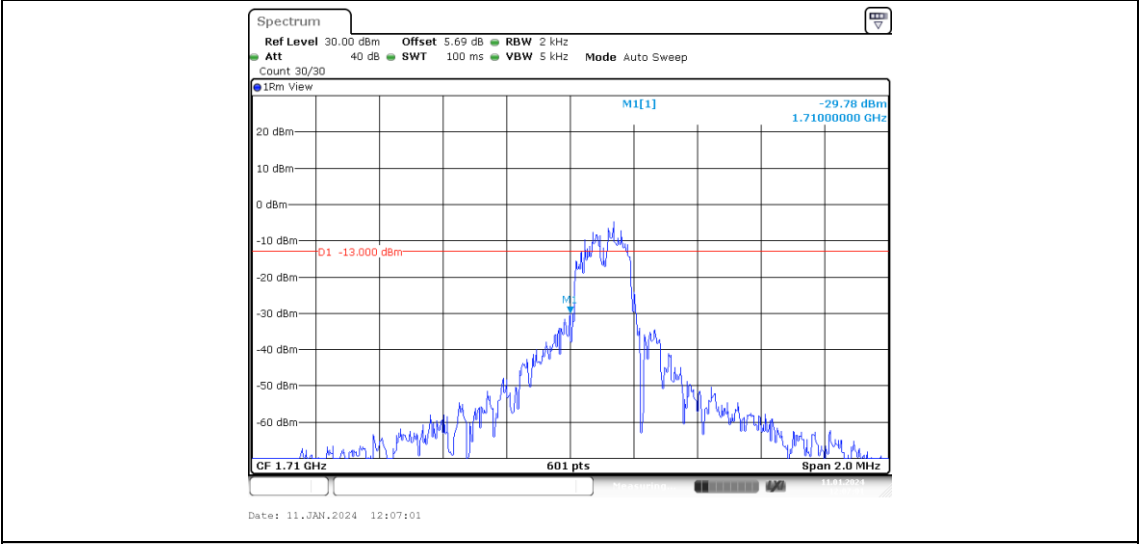
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz--17.77-PASS



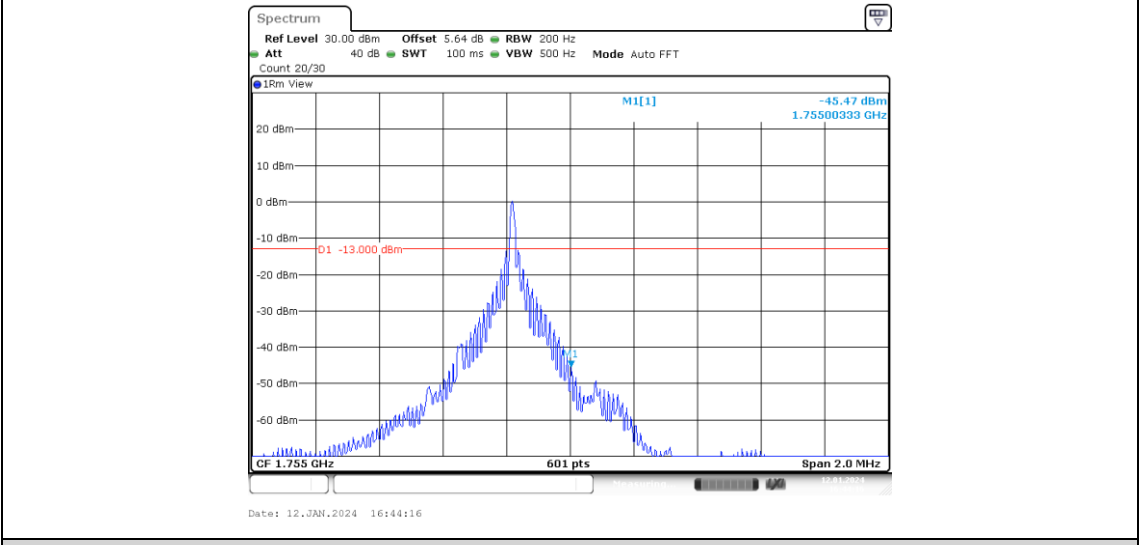
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz--12.50-FAIL



Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz--42.65-PASS



Band4-Stand-Alone-NaN-BPSK-19951-12@0-15kHz--29.78-PASS



Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz--45.47-PASS



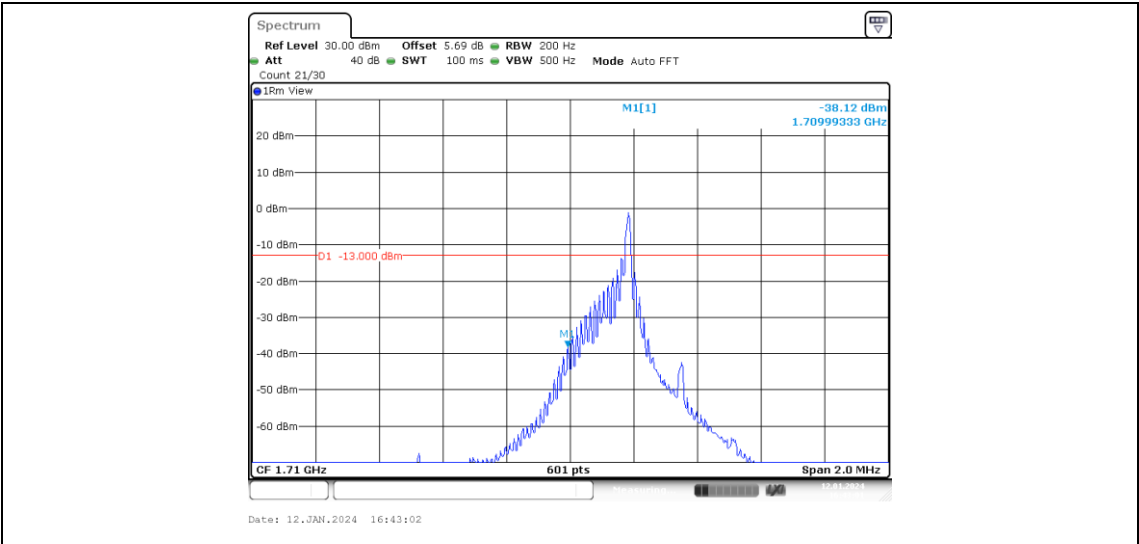
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz--14.25-PASS



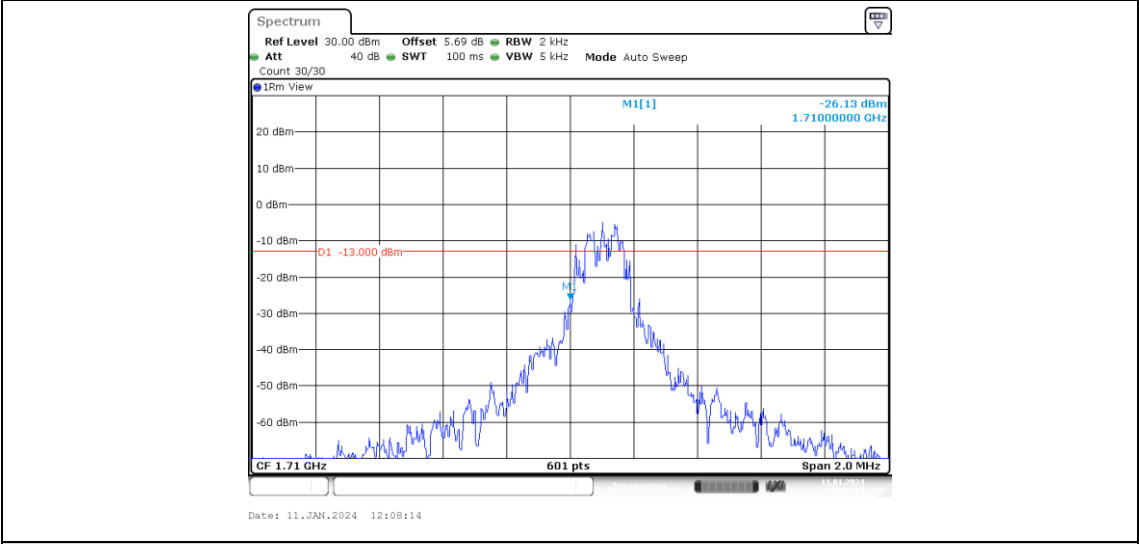
Band4-Stand-Alone-NaN-BPSK-20399-12@0-15kHz--28.21-PASS



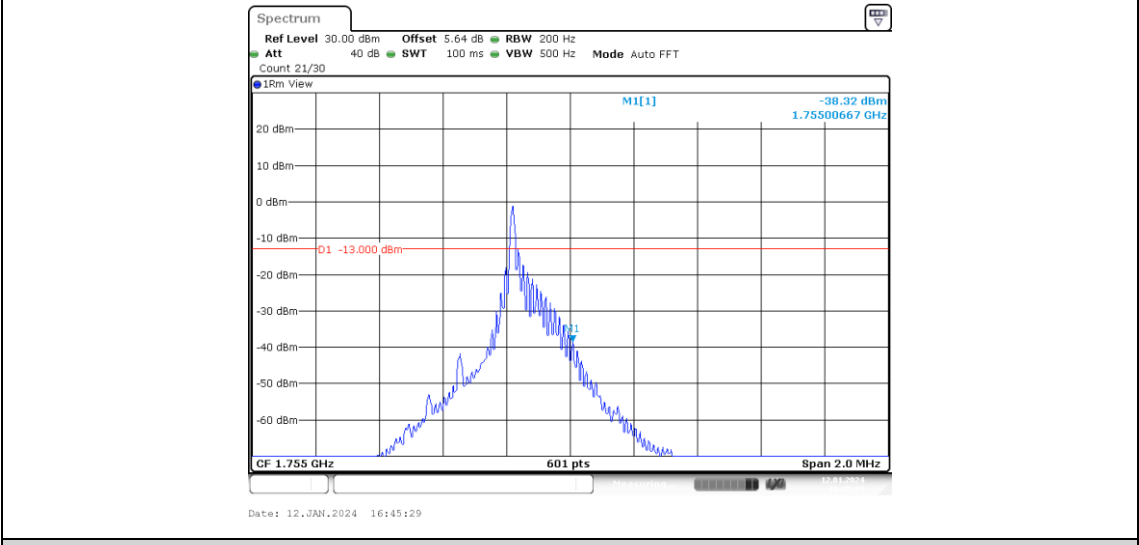
Band4-Stand-Alone-NaN-QPSK-19951-1@0-15kHz--17.45-PASS



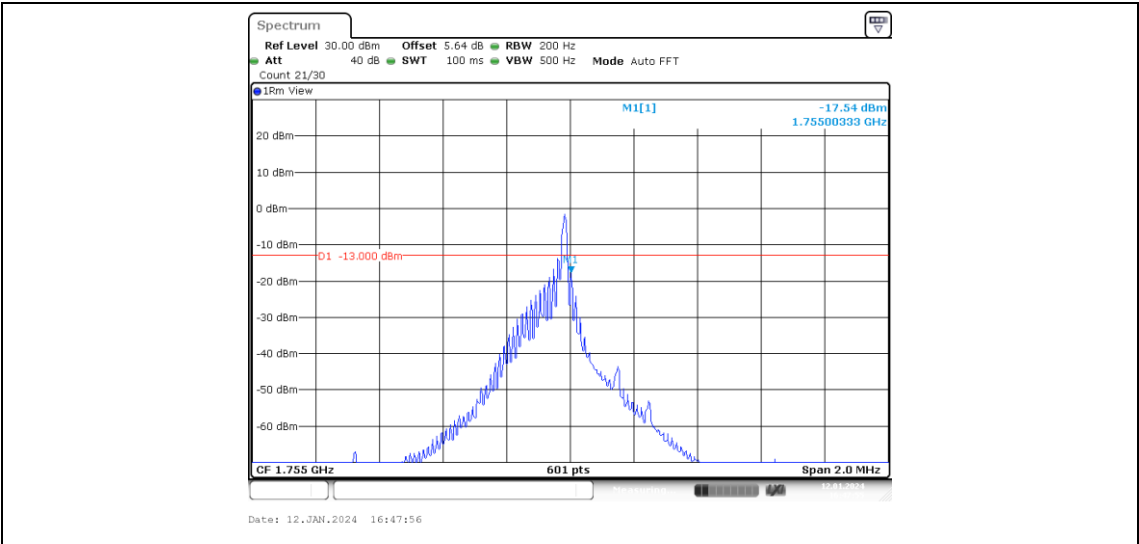
Band4-Stand-Alone-NaN-QPSK-19951-1@11-15kHz--38.12-PASS



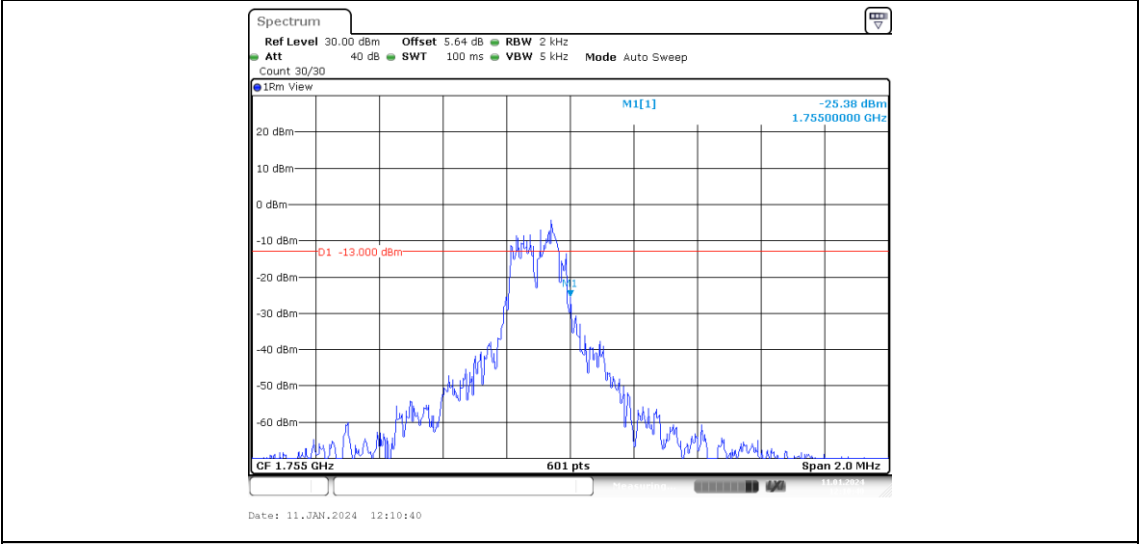
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz--26.13-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@0-15kHz--38.32-PASS



Band4-Stand-Alone-NaN-QPSK-20399-1@11-15kHz--17.54-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz--25.38-PASS

Appendix E: Conducted Spurious Emission

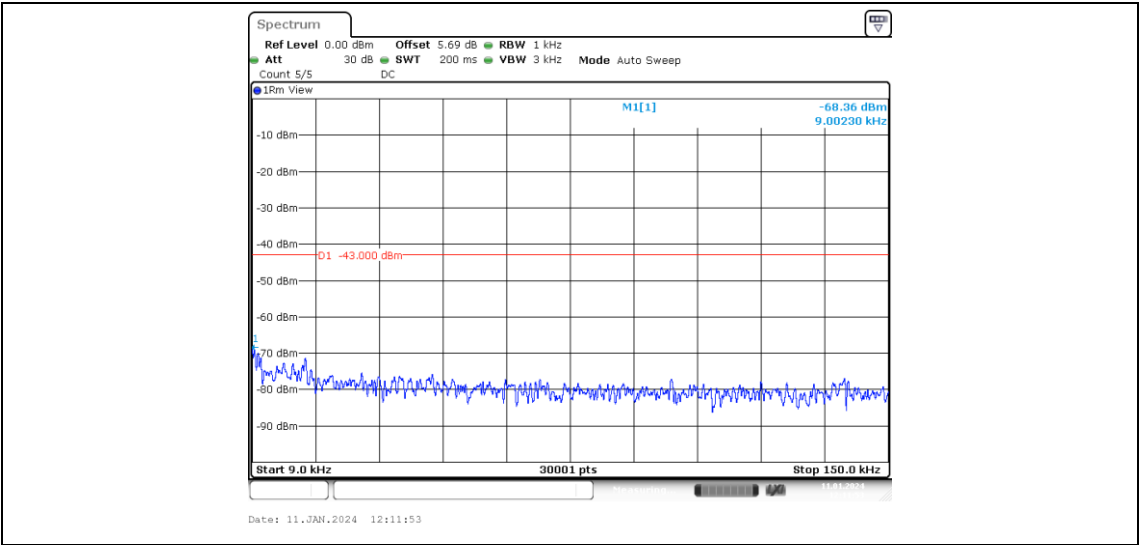
Test Result

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	-68.36	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	0.15	30	-77.05	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	30	1000	-55.06	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@0	1000	20000	-47.3	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	0.009	0.15	-71.42	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	0.15	30	-75.77	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	30	1000	-54.96	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	19951	1@47	1000	20000	-47.19	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.009	0.15	-68.85	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	0.15	30	-76.04	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	30	1000	-55.2	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@0	1000	20000	-47.81	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	0.009	0.15	-69.82	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	0.15	30	-76.32	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	30	1000	-55.15	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20175	1@47	1000	20000	-47.69	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.009	0.15	-68.77	-43	PASS

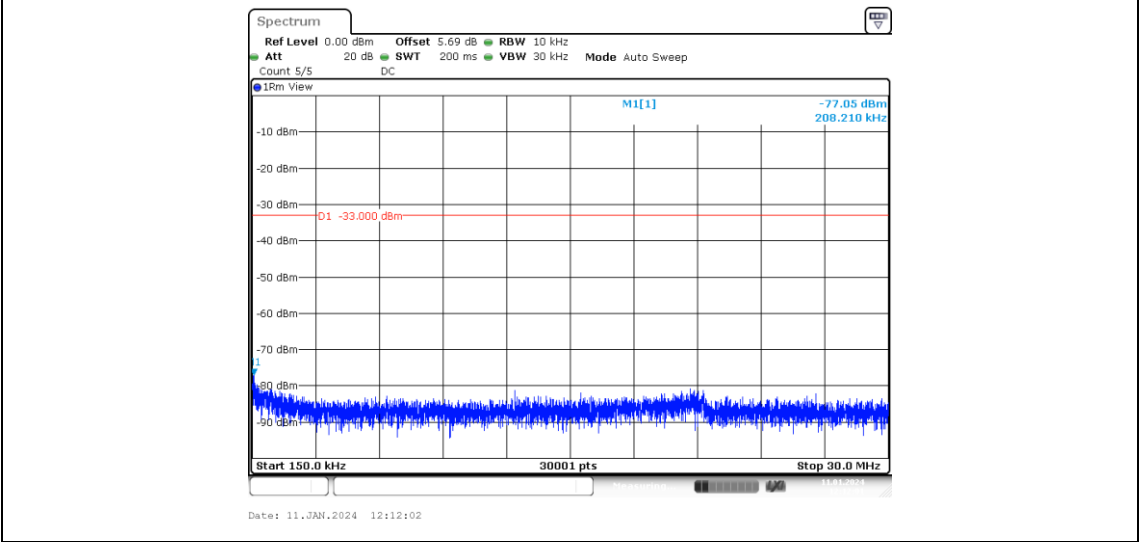
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	0.15	30	-75.81	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	30	1000	-55.12	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@0	1000	20000	-45.79	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	0.009	0.15	-70.48	-43	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	0.15	30	-75.92	-33	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	30	1000	-55.05	-13	PASS
Band4	Stand-Alone	3.75kHz	NaN	QPSK	20399	1@47	1000	20000	-46.09	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.009	0.15	-69.19	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	0.15	30	-79.07	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	30	1000	-55.03	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@0	1000	20000	-47.42	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	0.009	0.15	-71.86	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	0.15	30	-77.36	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	30	1000	-55.07	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	19951	1@11	1000	20000	-47.45	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.009	0.15	-72.89	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	0.15	30	-78.54	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	30	1000	-55.17	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@0	1000	20000	-47.42	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	0.009	0.15	-72.96	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	0.15	30	-78.78	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	30	1000	-55.18	-13	PASS

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Band4	Stand-Alone	15kHz	NaN	BPSK	20175	1@11	1000	20000	-47.66	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.009	0.15	-71.23	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	0.15	30	-73.72	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	30	1000	-55.09	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@0	1000	20000	-47.69	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	0.009	0.15	-70.06	-43	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	0.15	30	-74.99	-33	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	30	1000	-55.12	-13	PASS
Band4	Stand-Alone	15kHz	NaN	BPSK	20399	1@11	1000	20000	-47.63	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.009	0.15	-71.1	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	0.15	30	-67.66	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	30	1000	-55.02	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	19951	12@0	1000	20000	-47.34	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.009	0.15	-72.47	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	0.15	30	-69.24	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	30	1000	-55.23	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20175	12@0	1000	20000	-47.93	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	0.009	0.15	-69.21	-43	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	0.15	30	-66.92	-33	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	30	1000	-55.15	-13	PASS
Band4	Stand-Alone	15kHz	NaN	QPSK	20399	12@0	1000	20000	-47.89	-13	PASS

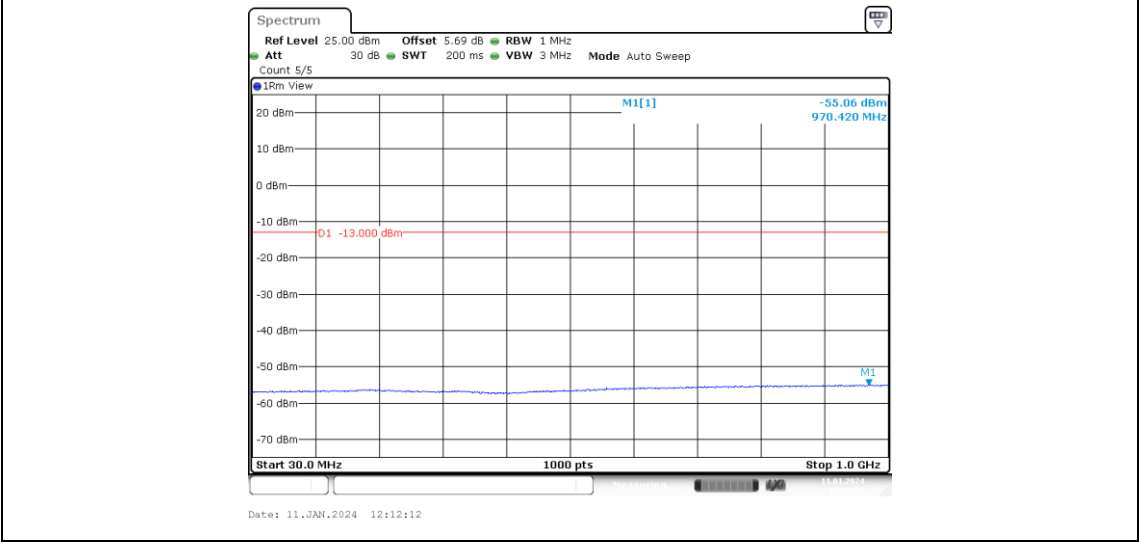
Test Graphs

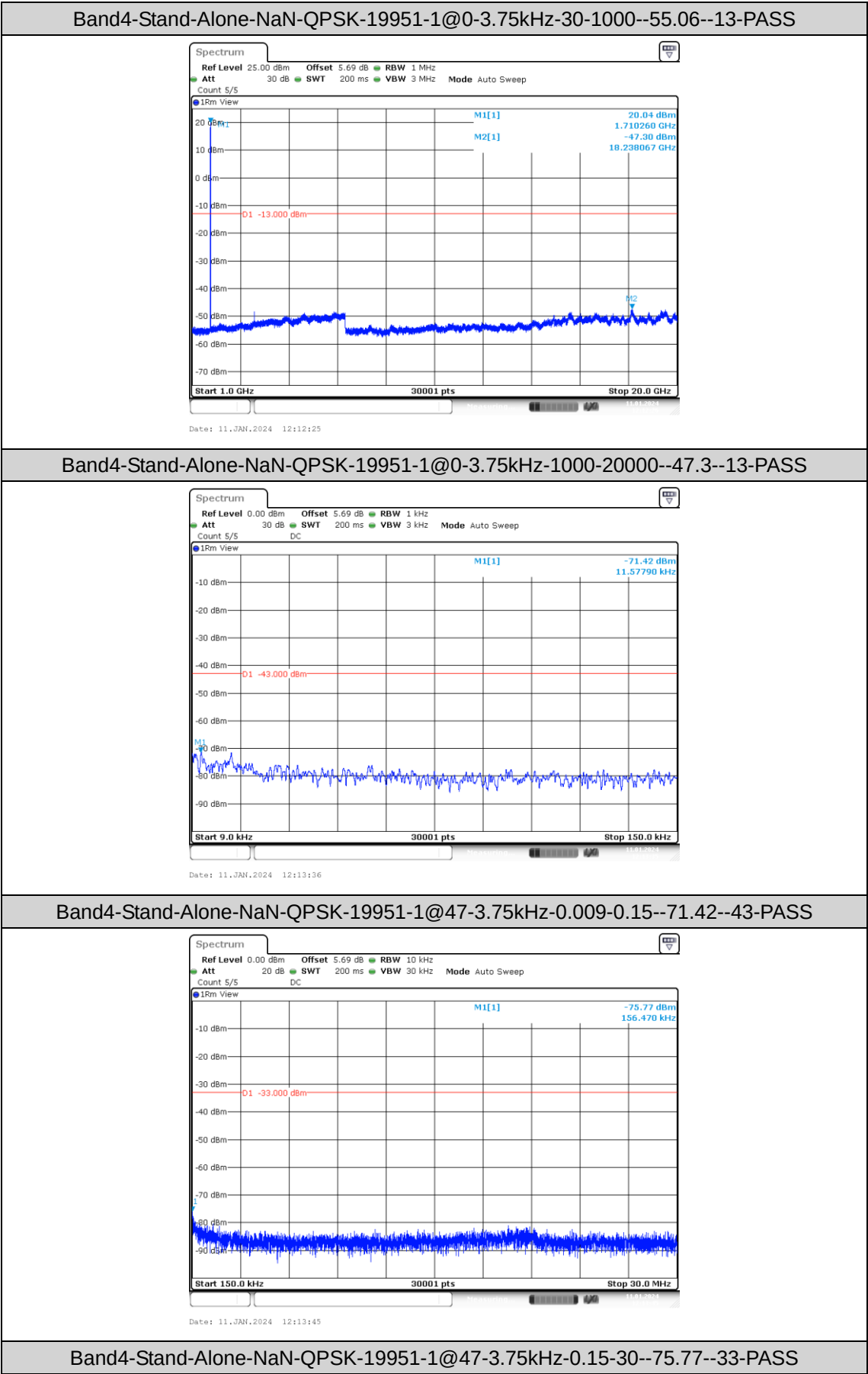


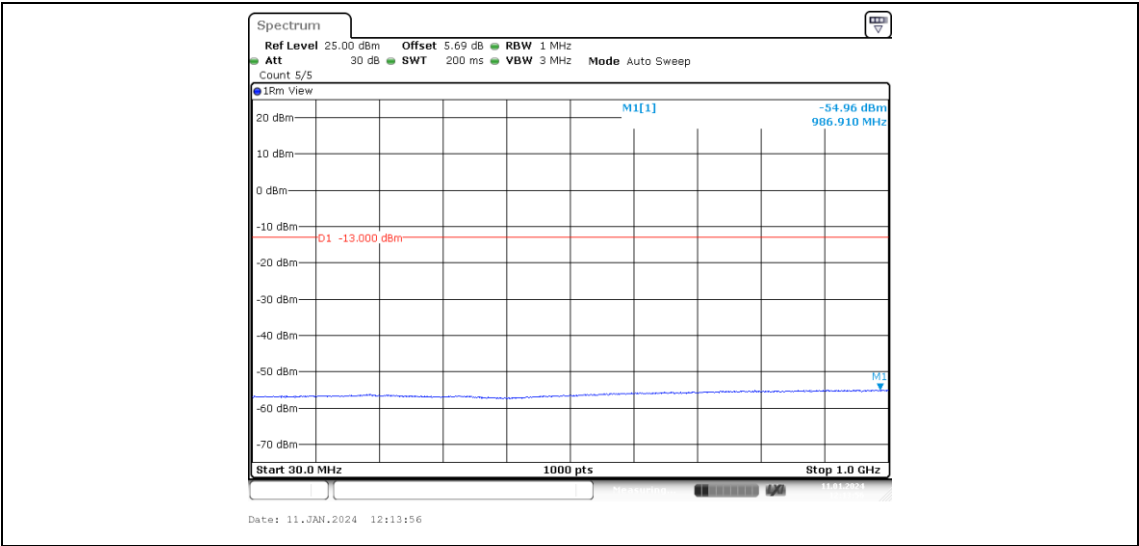
Band4-Stand-Alone-NaN-QPSK-19951-1@0-3.75kHz-0.009-0.15--68.36--43-PASS



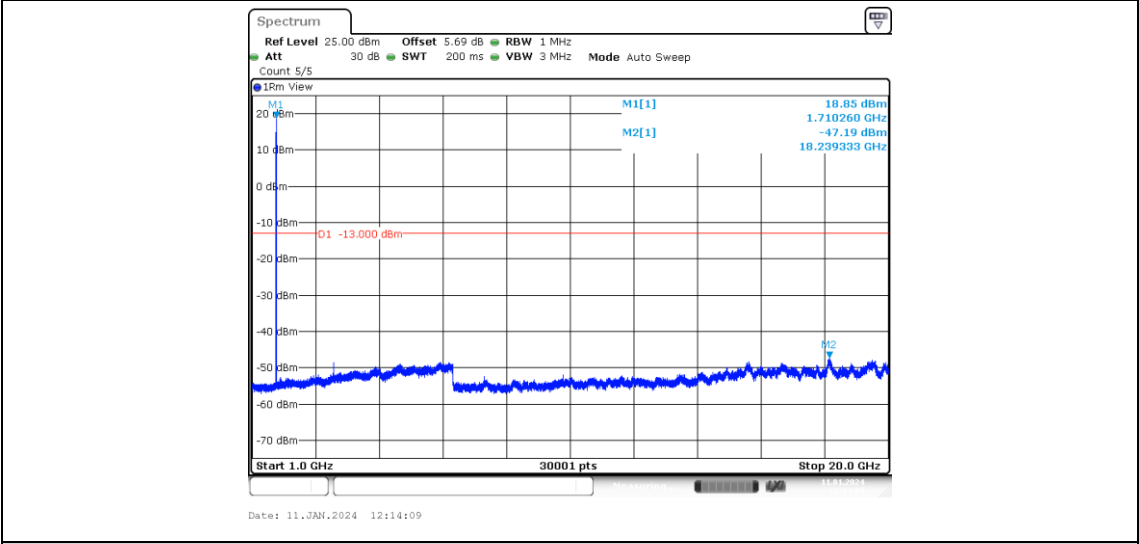
Band4-Stand-Alone-NaN-QPSK-19951-1@0-3.75kHz-0.15-30--77.05--33-PASS



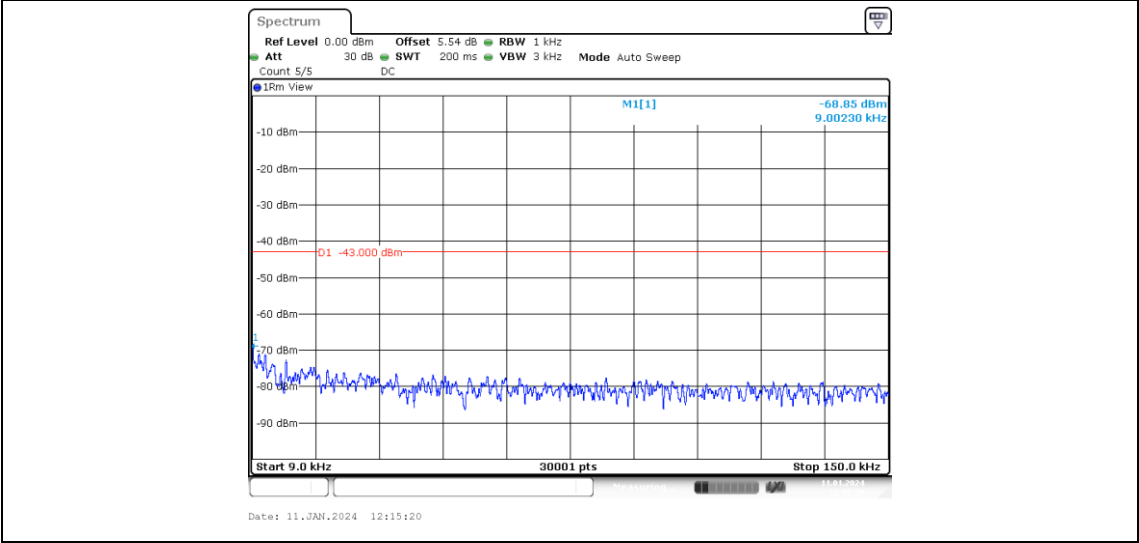




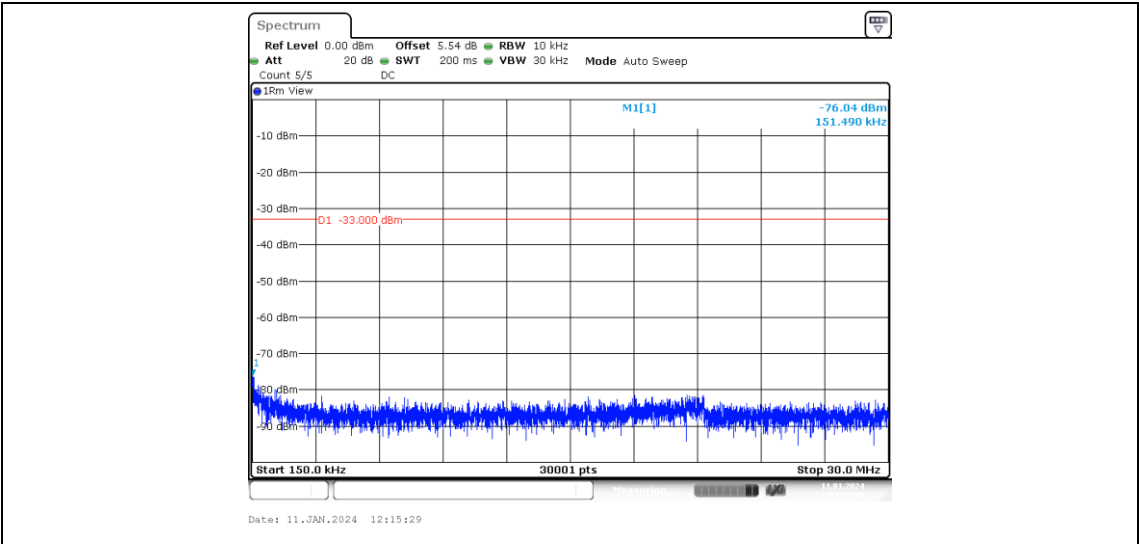
Band4-Stand-Alone-NaN-QPSK-19951-1@47-3.75kHz-30-1000--54.96--13-PASS



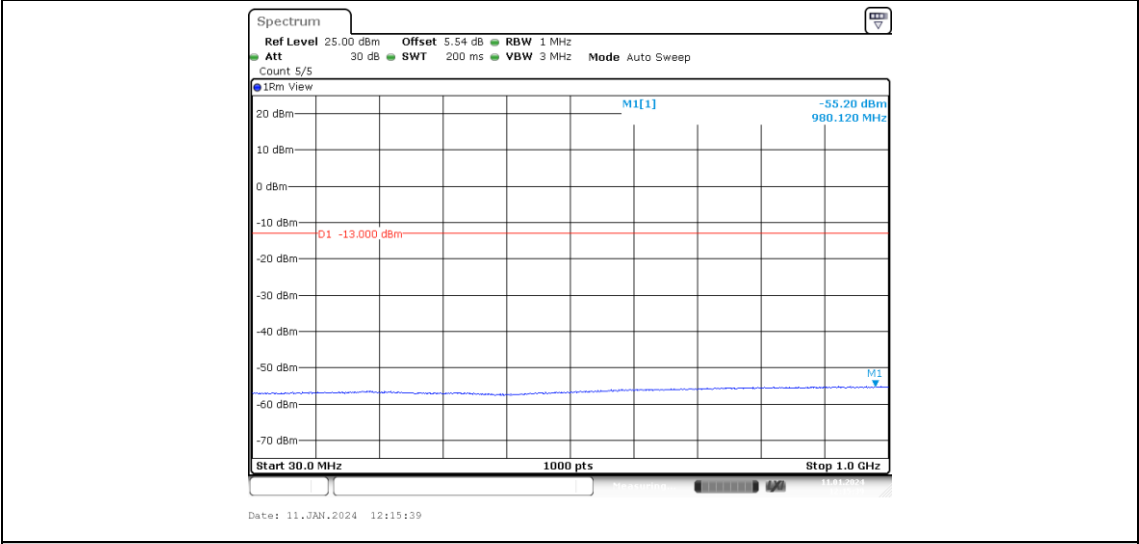
Band4-Stand-Alone-NaN-QPSK-19951-1@47-3.75kHz-1000-20000--47.19--13-PASS



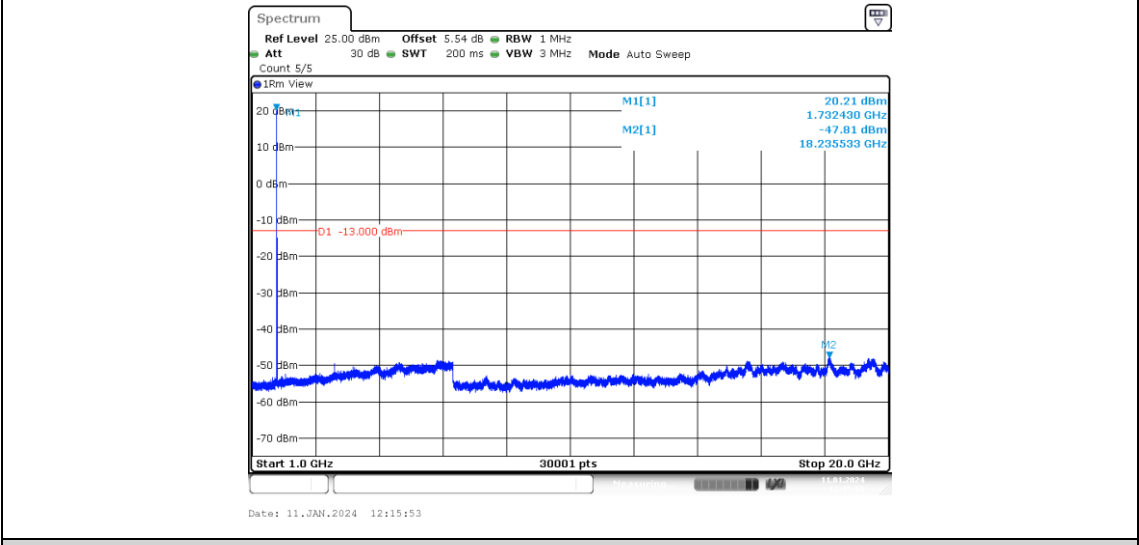
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-0.009-0.15--68.85--43-PASS



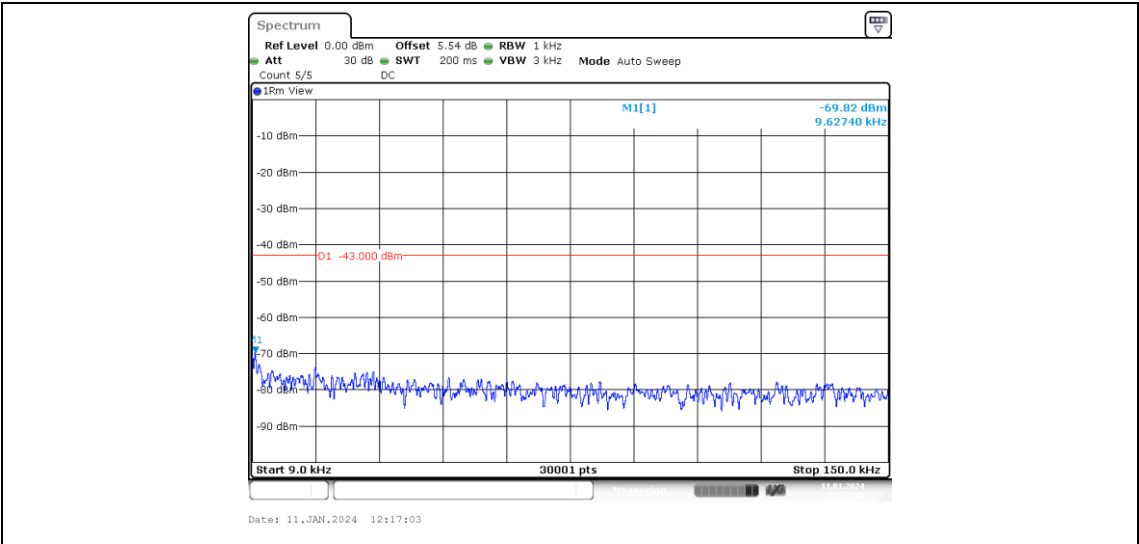
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-0.15-30--76.04--33-PASS



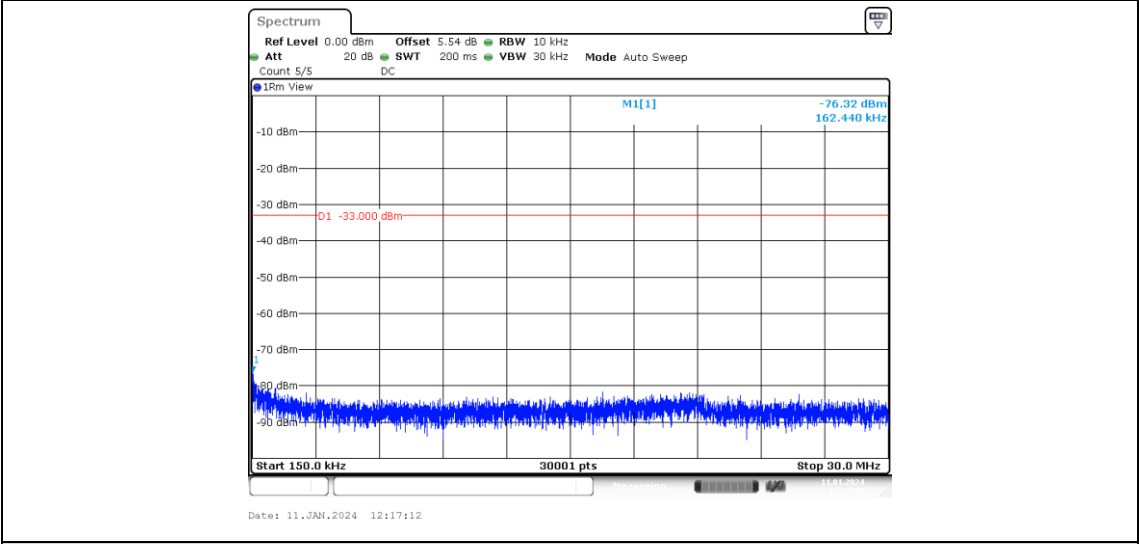
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-30-1000--55.2--13-PASS



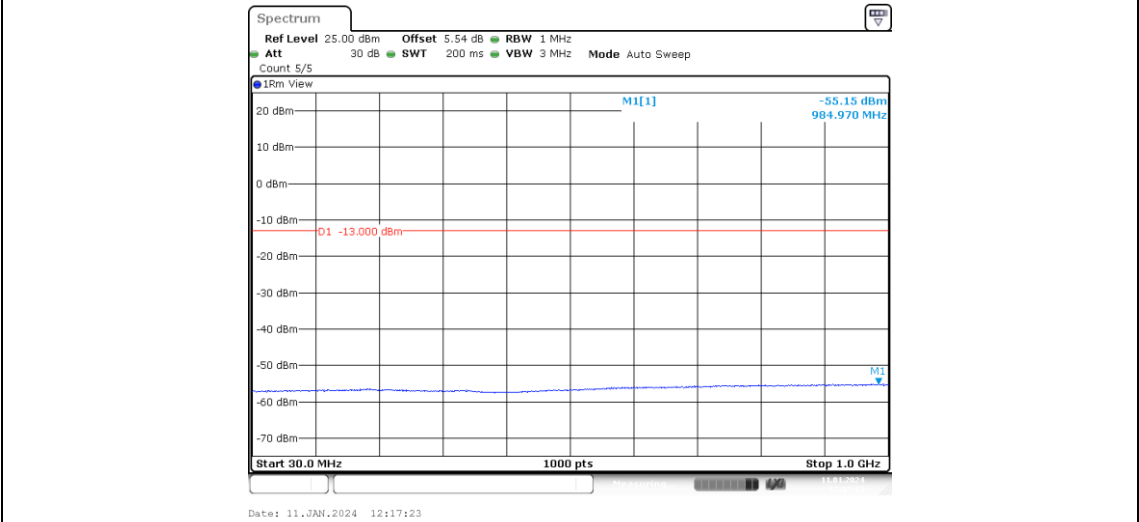
Band4-Stand-Alone-NaN-QPSK-20175-1@0-3.75kHz-1000-20000--47.81--13-PASS



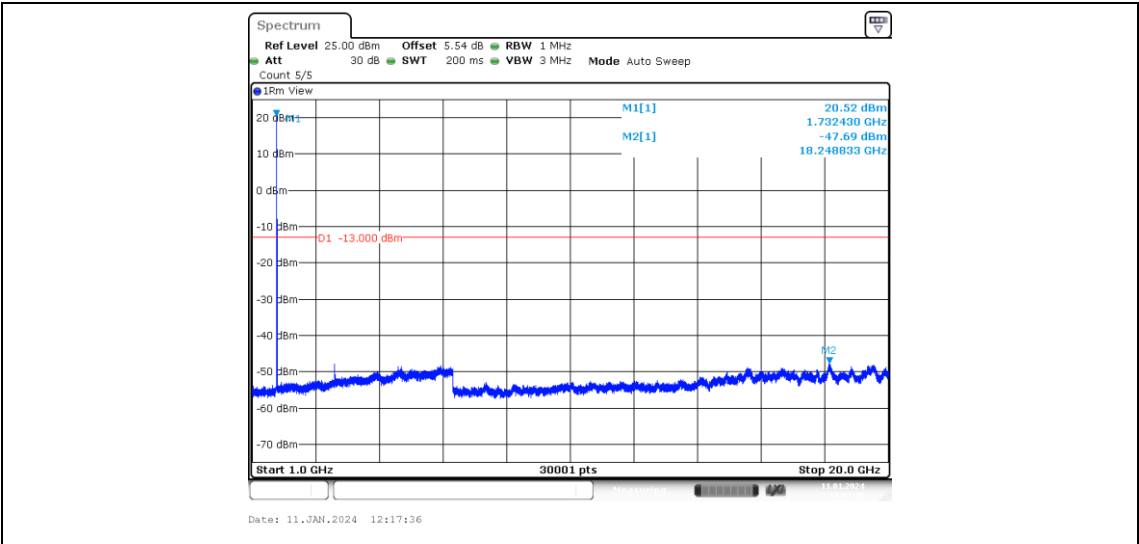
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-0.009-0.15--69.82--43-PASS



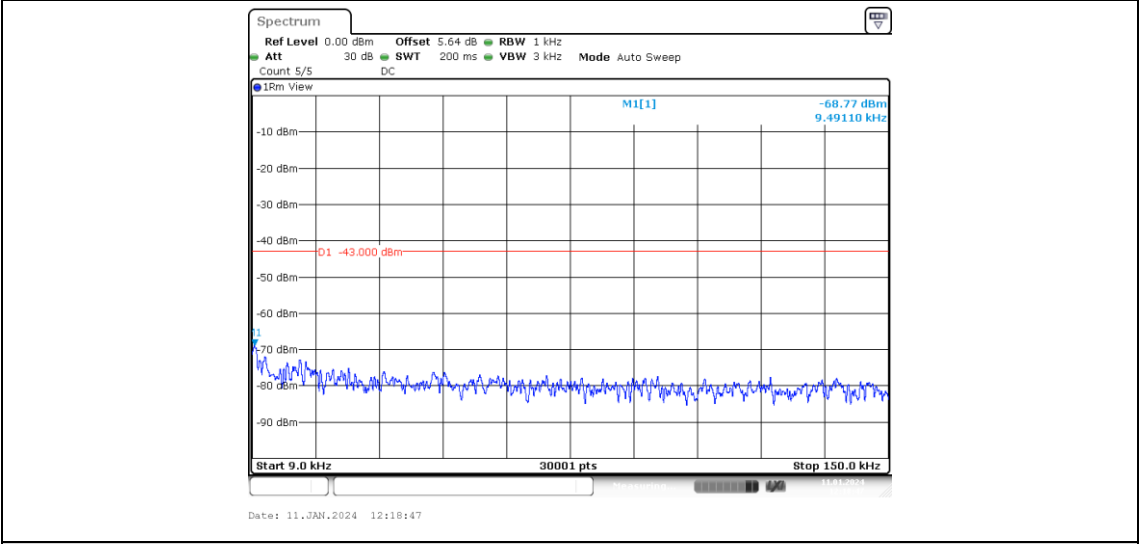
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-0.15-30--76.32--33-PASS



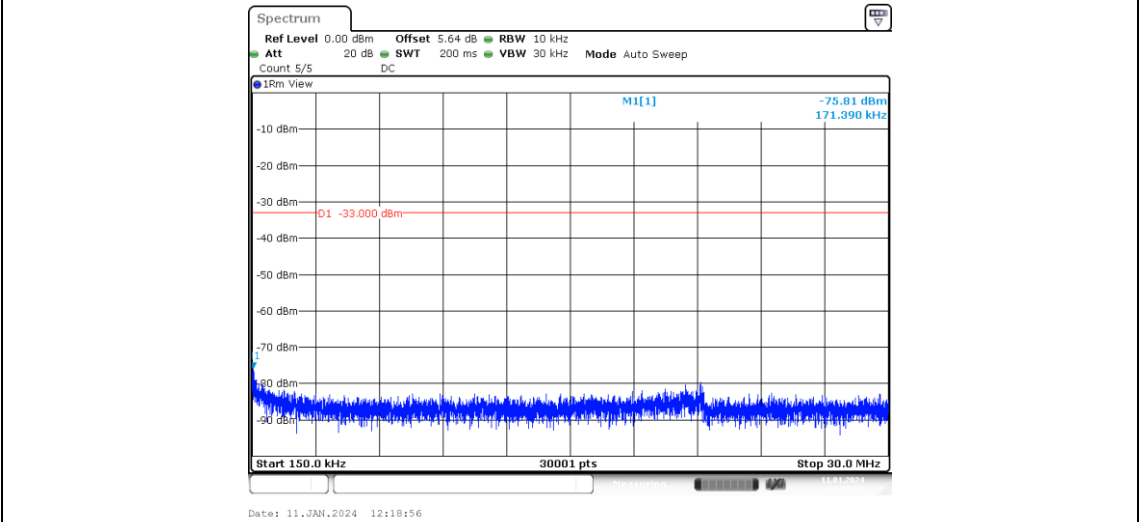
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-30-1000--55.15--13-PASS



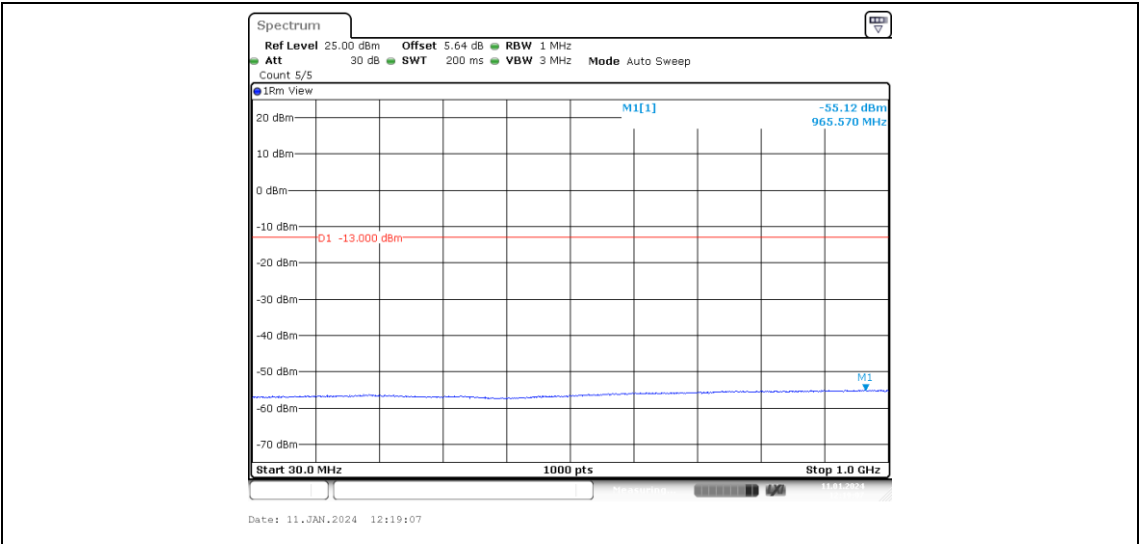
Band4-Stand-Alone-NaN-QPSK-20175-1@47-3.75kHz-1000-20000--47.69--13-PASS



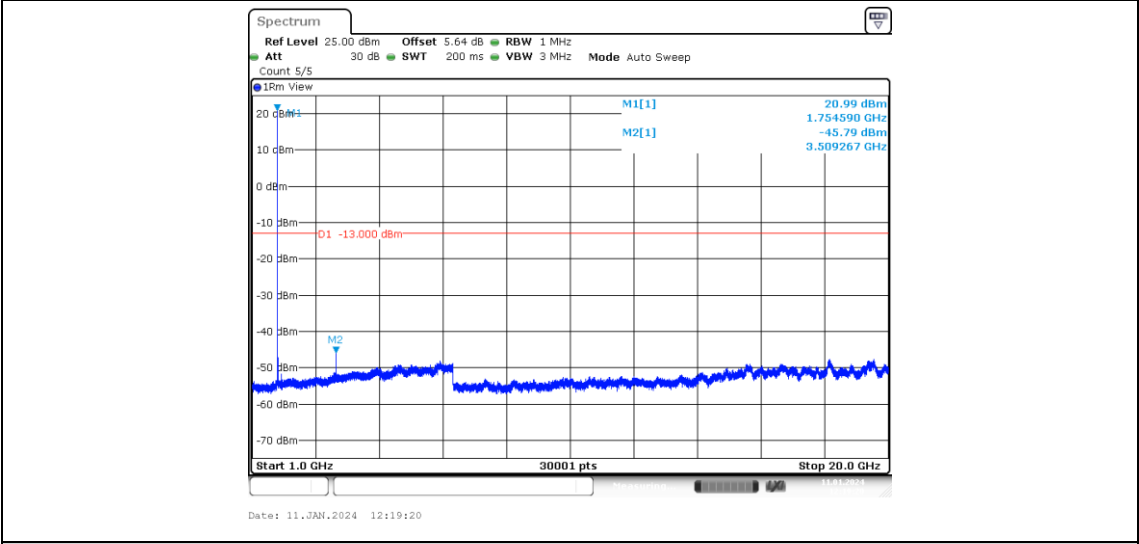
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.009-0.15--68.77--43-PASS



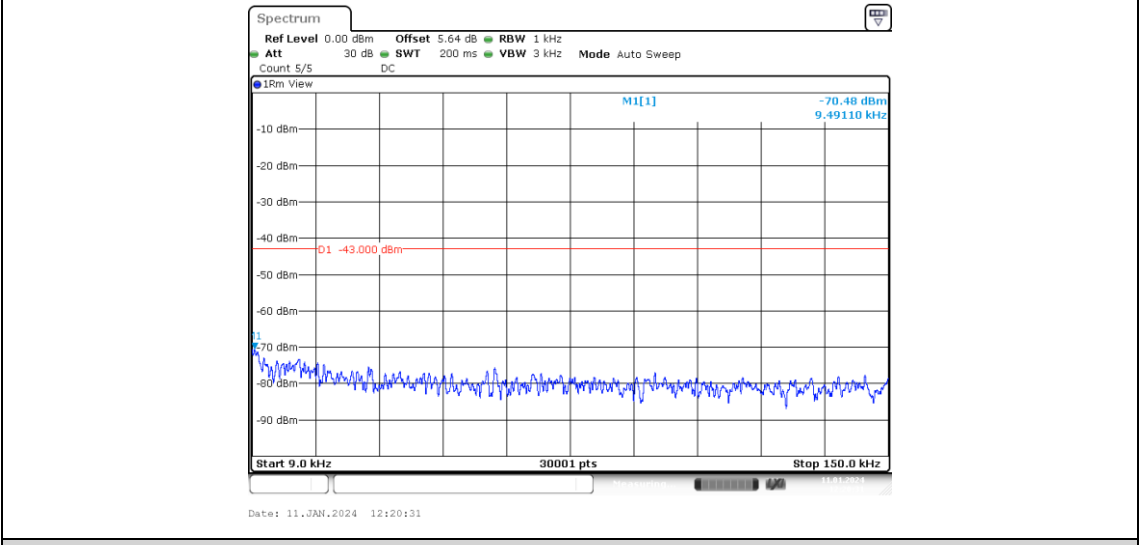
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-0.15-30--75.81--33-PASS



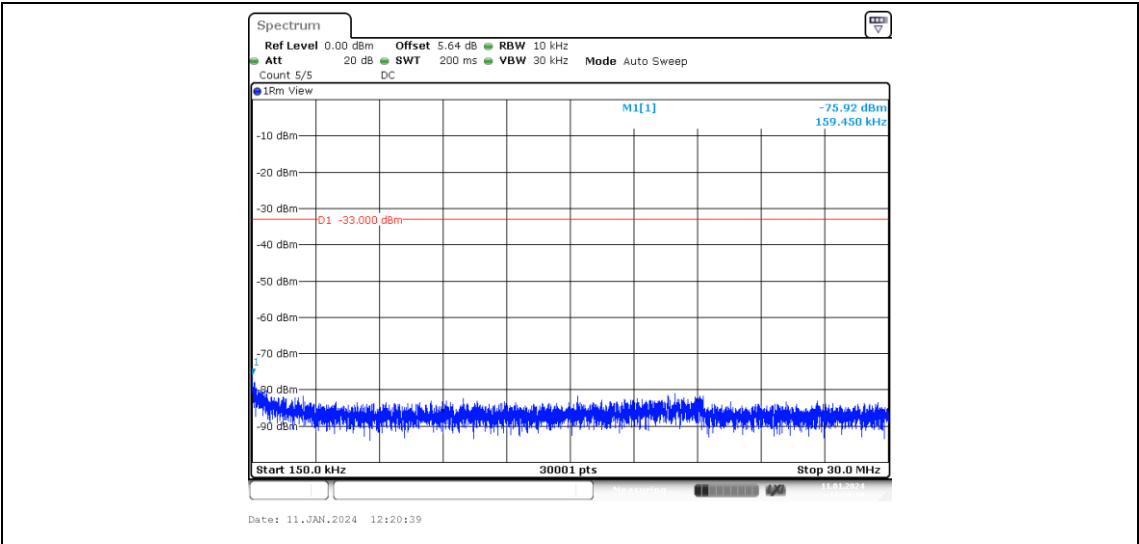
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-30-1000--55.12--13-PASS



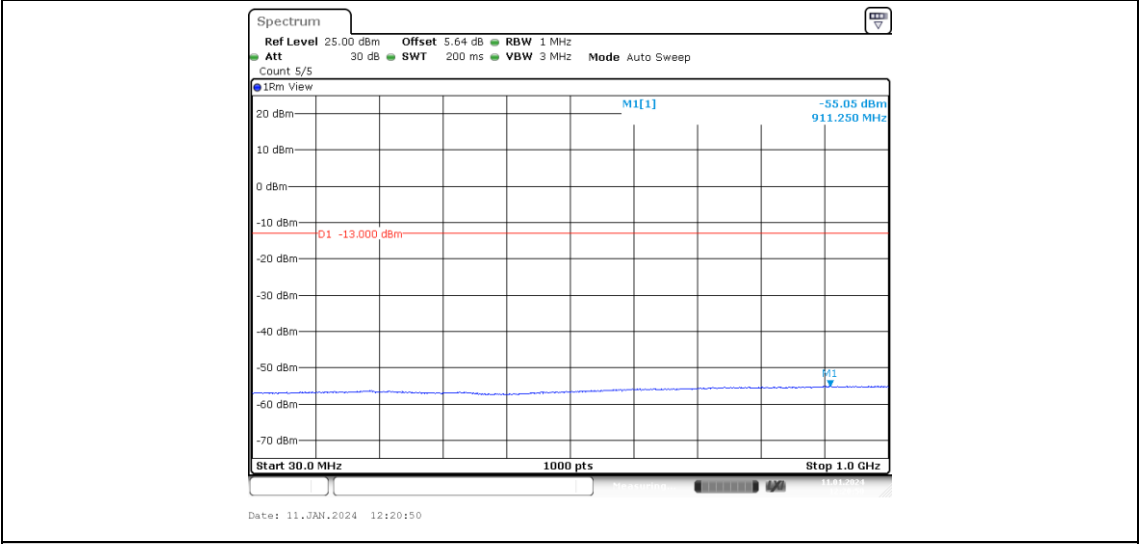
Band4-Stand-Alone-NaN-QPSK-20399-1@0-3.75kHz-1000-20000--45.79--13-PASS



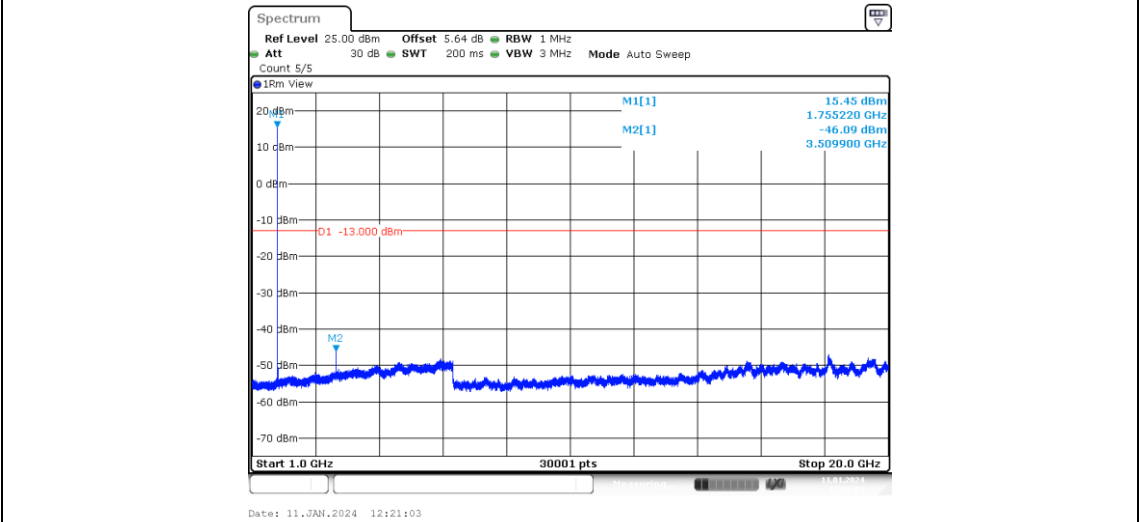
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-0.009-0.15--70.48--43-PASS



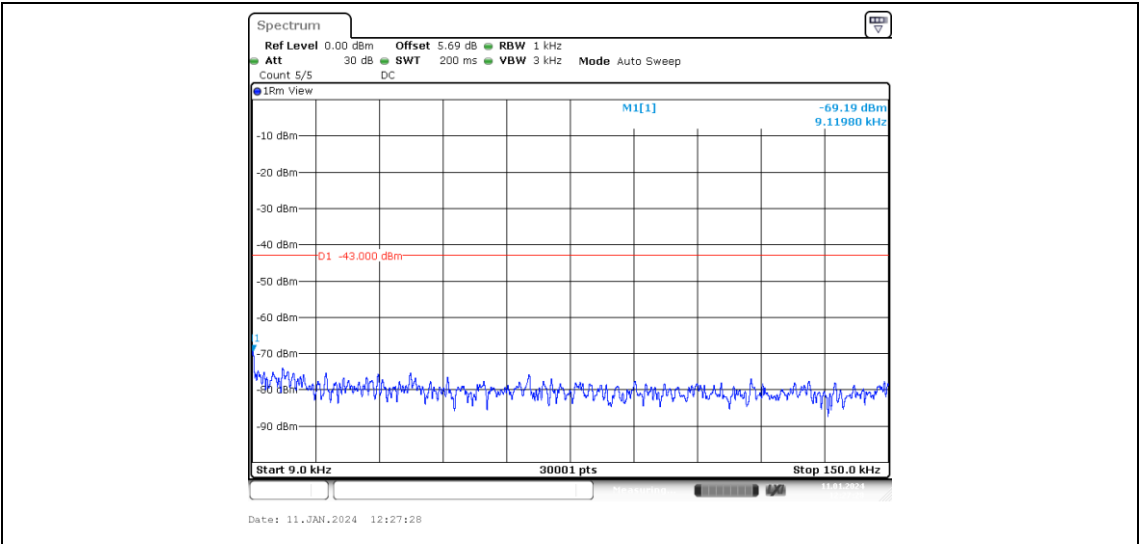
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-0.15-30--75.92--33-PASS



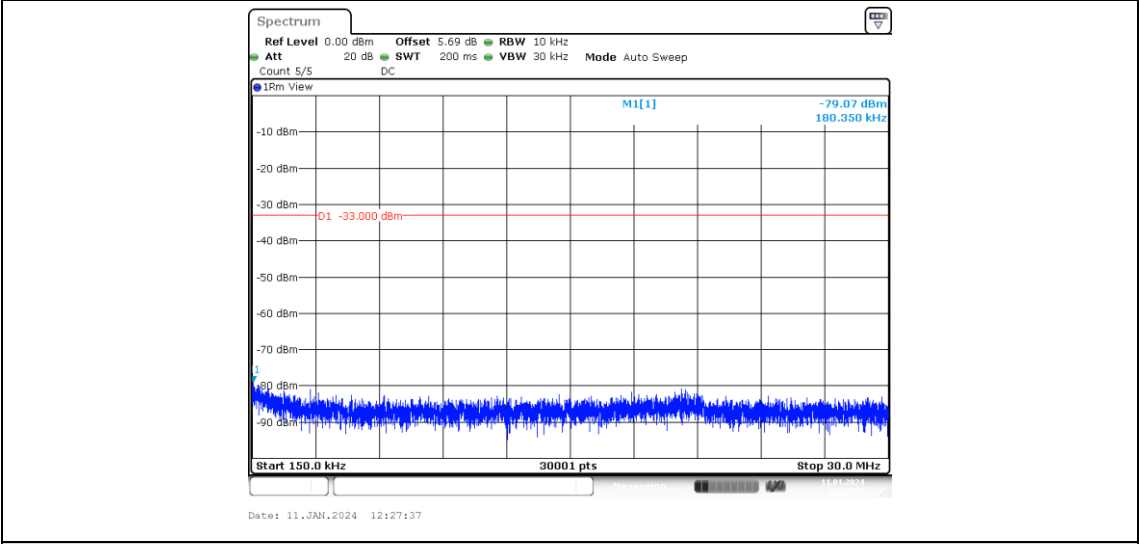
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-30-1000--55.05--13-PASS



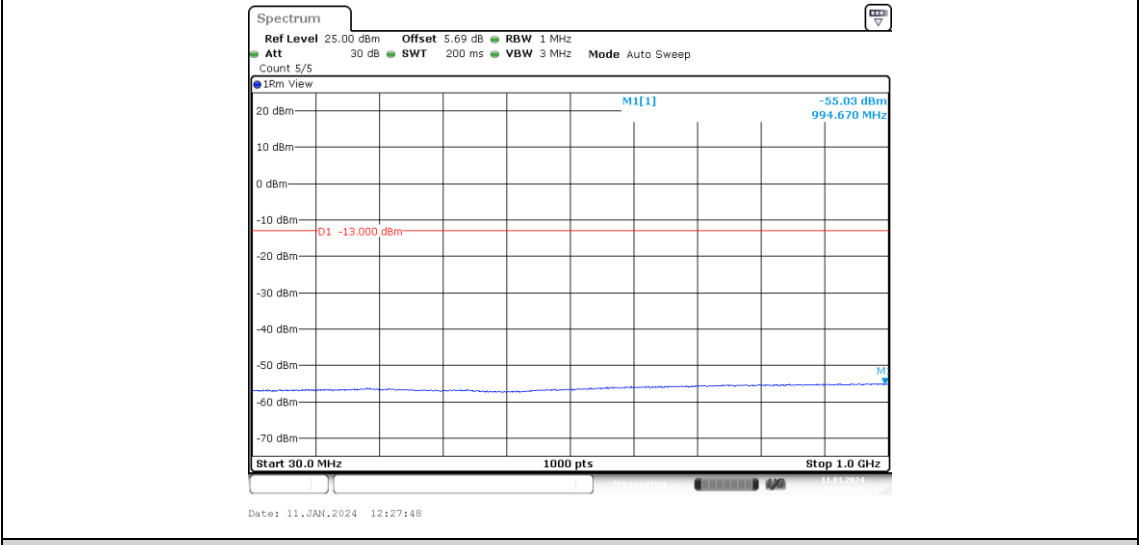
Band4-Stand-Alone-NaN-QPSK-20399-1@47-3.75kHz-1000-20000--46.09--13-PASS



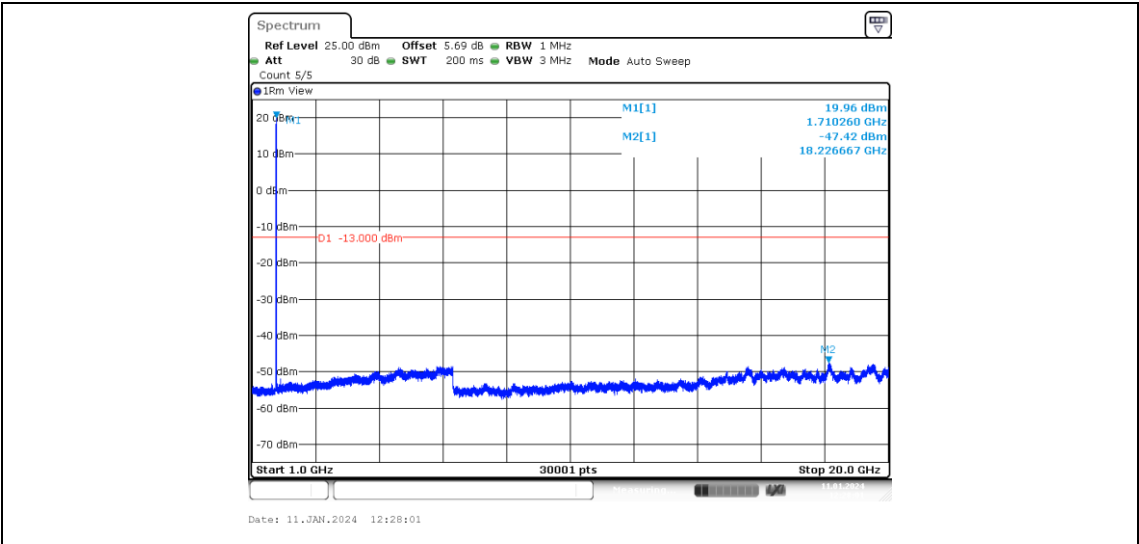
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.009-0.15--69.19--43-PASS



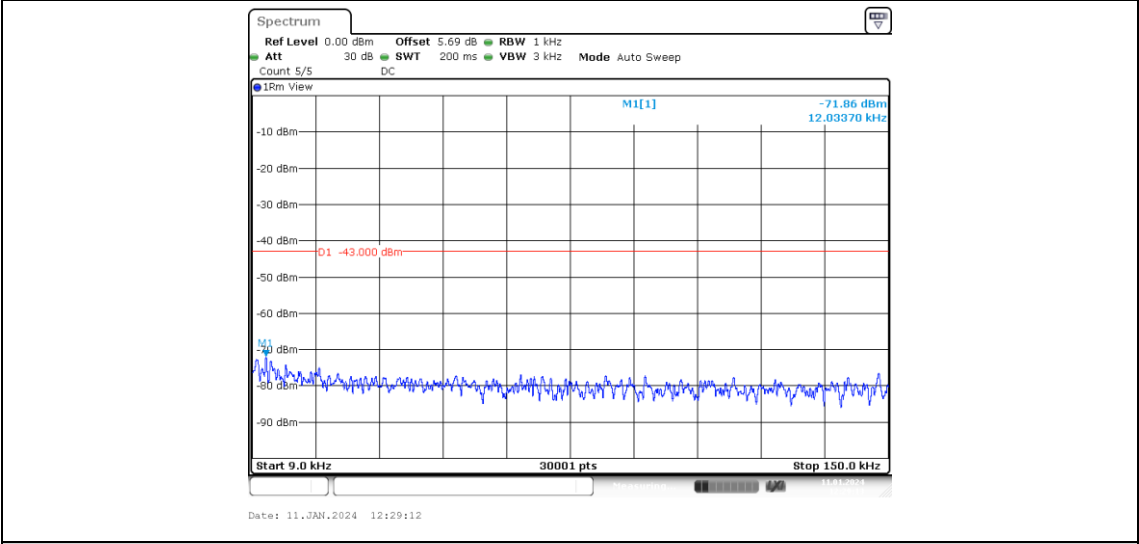
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-0.15-30--79.07--33-PASS



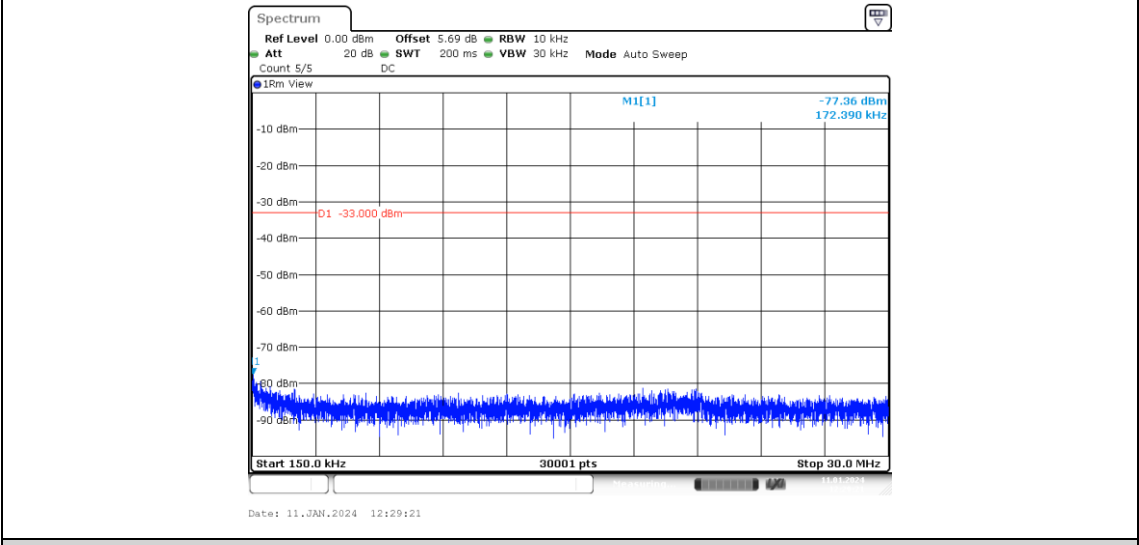
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-30-1000--55.03--13-PASS



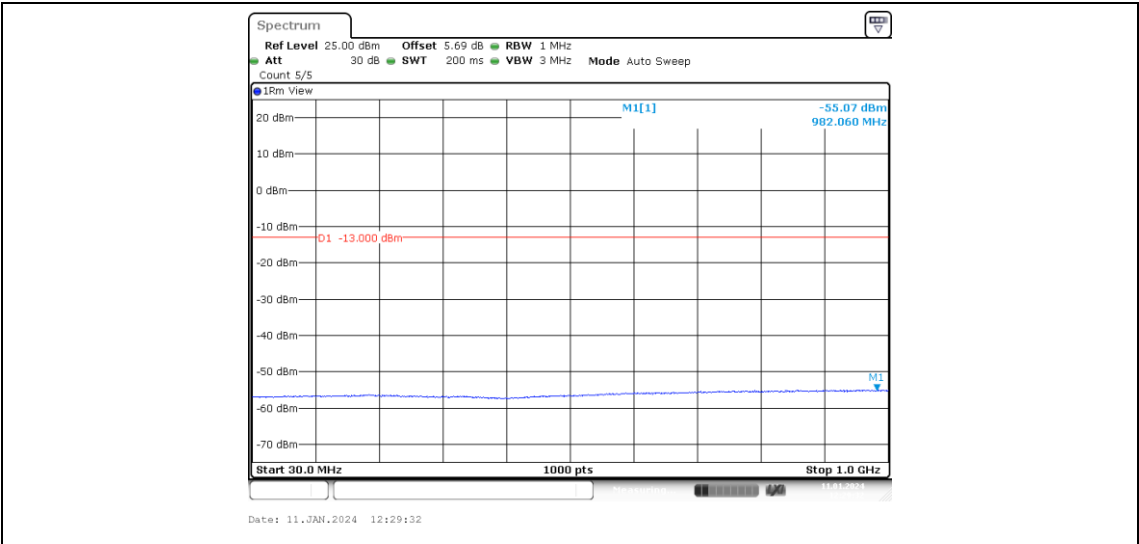
Band4-Stand-Alone-NaN-BPSK-19951-1@0-15kHz-1000-20000--47.42--13-PASS



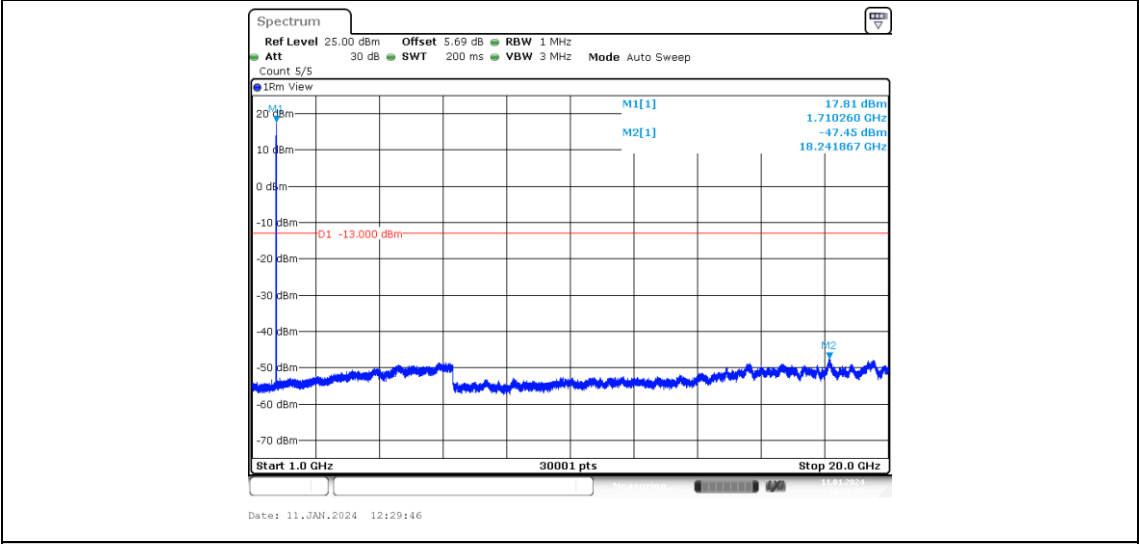
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-0.009-0.15--71.86--43-PASS



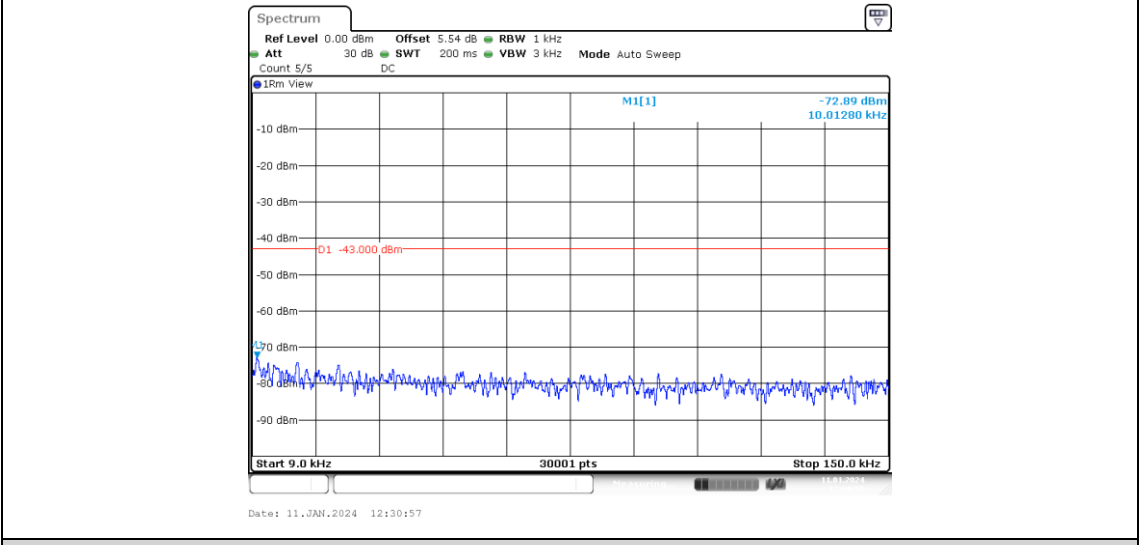
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-0.15-30--77.36--33-PASS



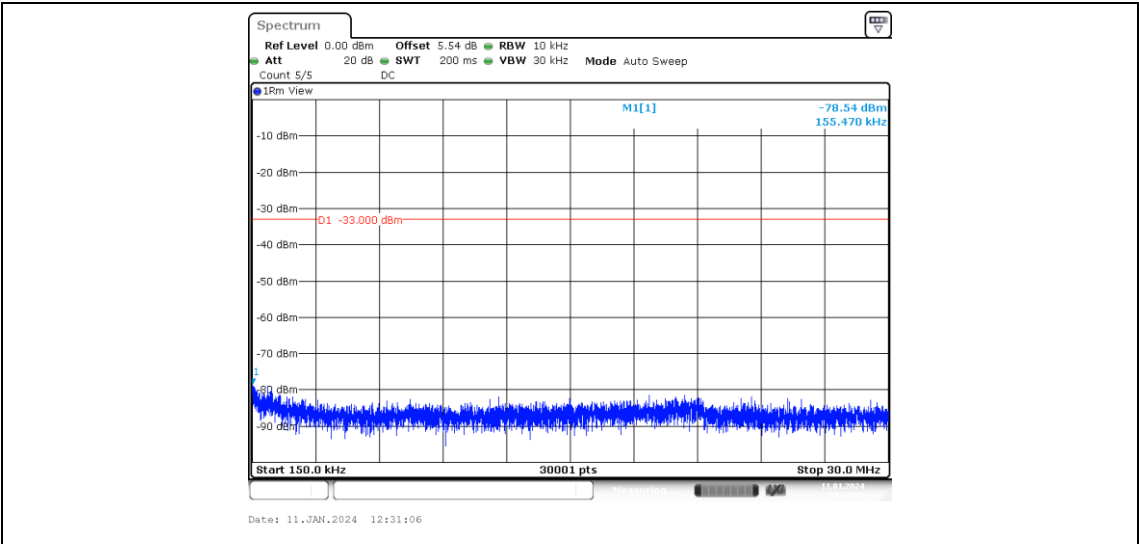
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-30-1000--55.07--13-PASS



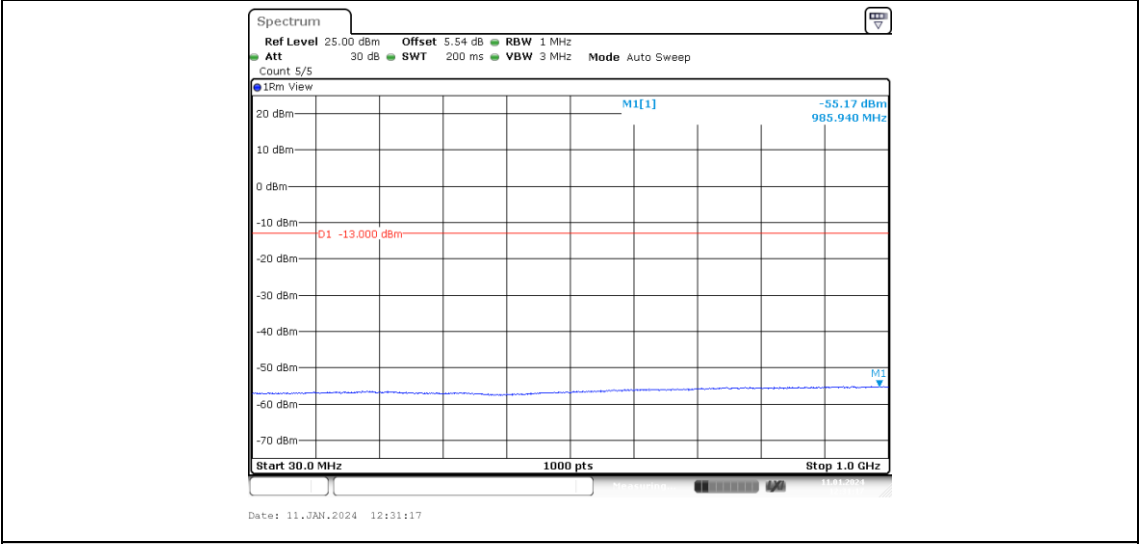
Band4-Stand-Alone-NaN-BPSK-19951-1@11-15kHz-1000-20000--47.45--13-PASS



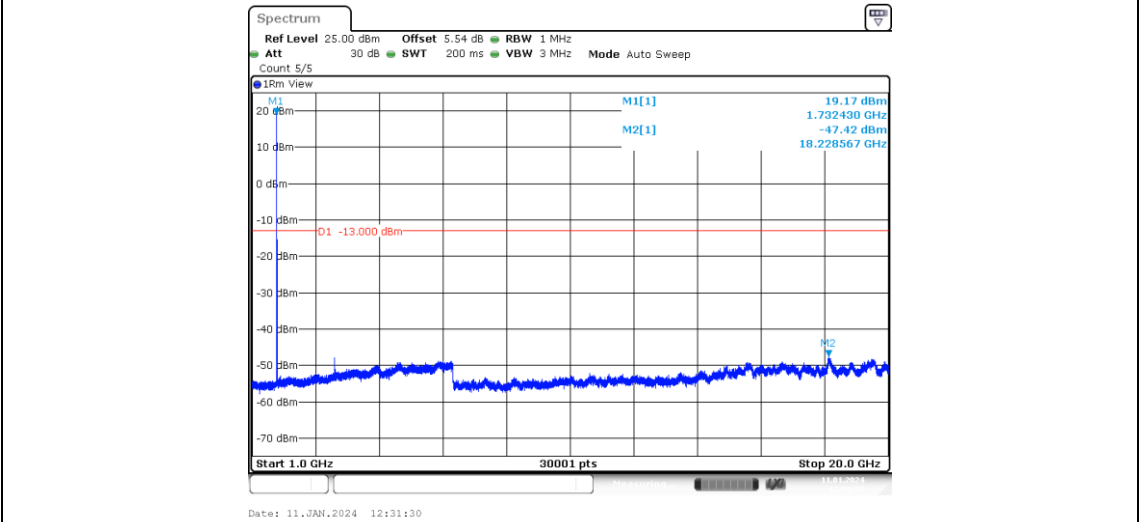
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-0.009-0.15--72.89--43-PASS



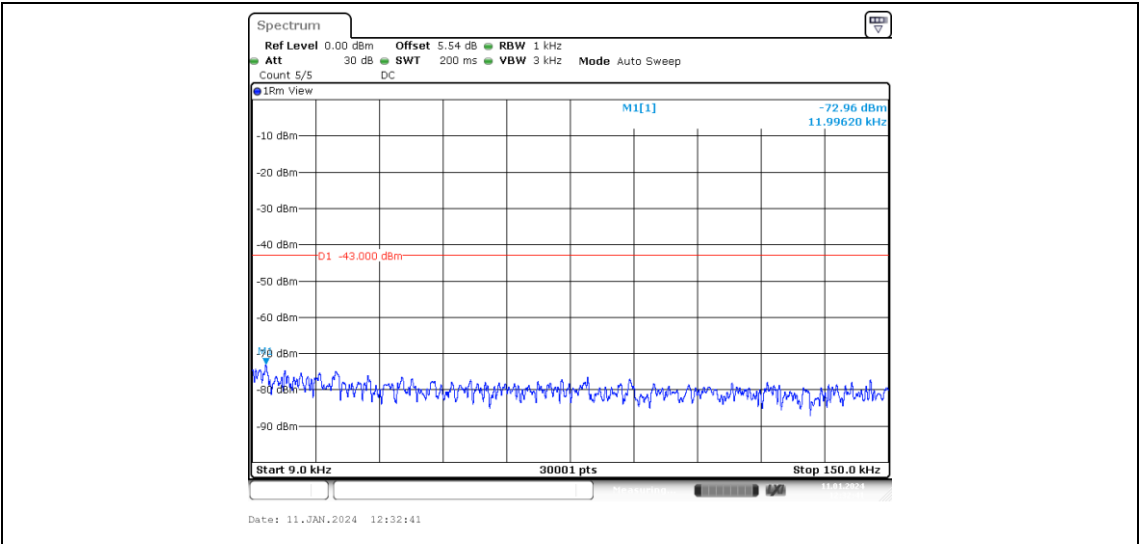
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-0.15-30--78.54--33-PASS



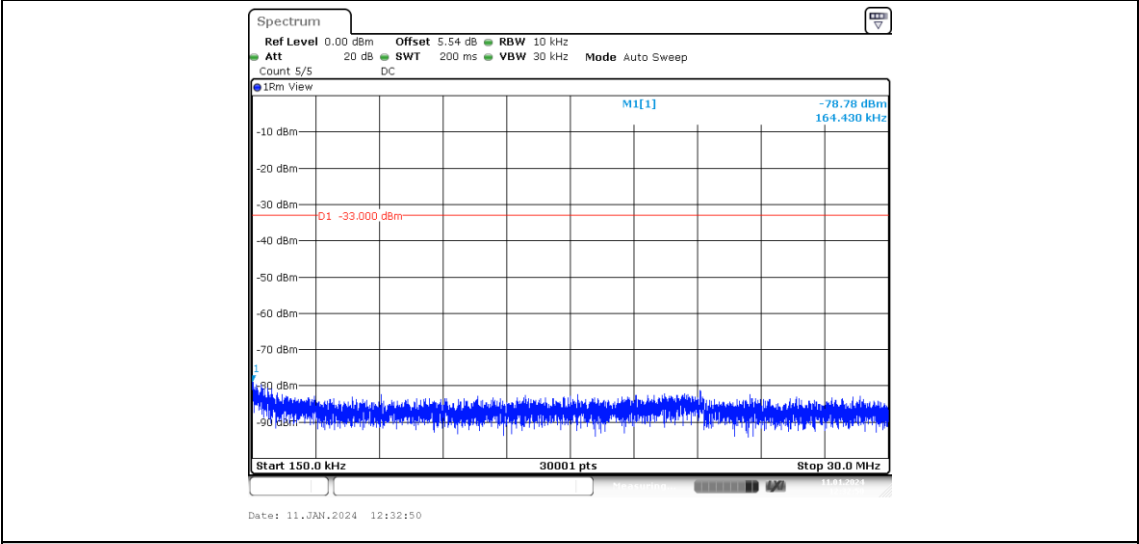
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-30-1000--55.17--13-PASS



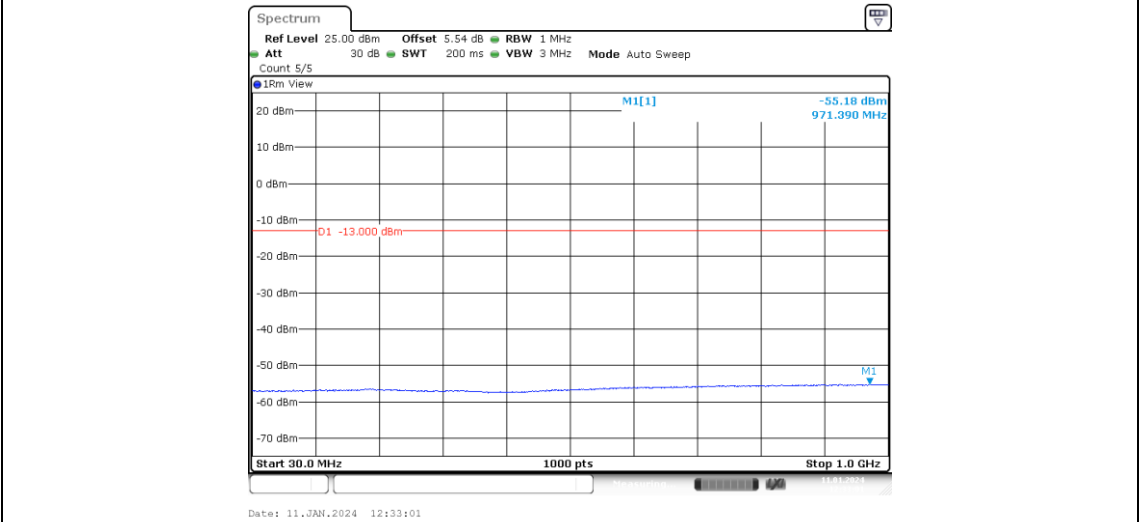
Band4-Stand-Alone-NaN-BPSK-20175-1@0-15kHz-1000-20000--47.42--13-PASS



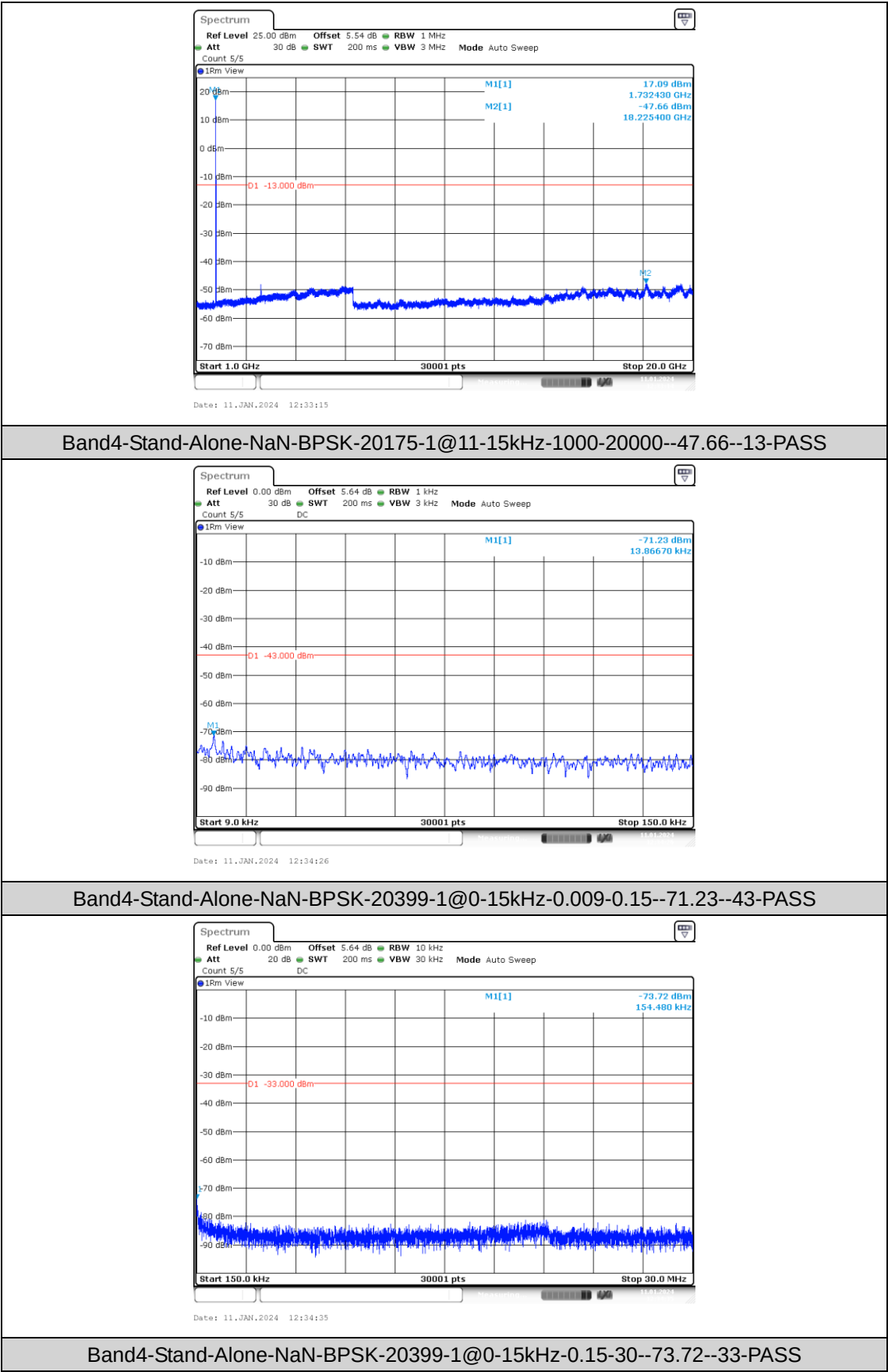
Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-0.009-0.15--72.96--43-PASS

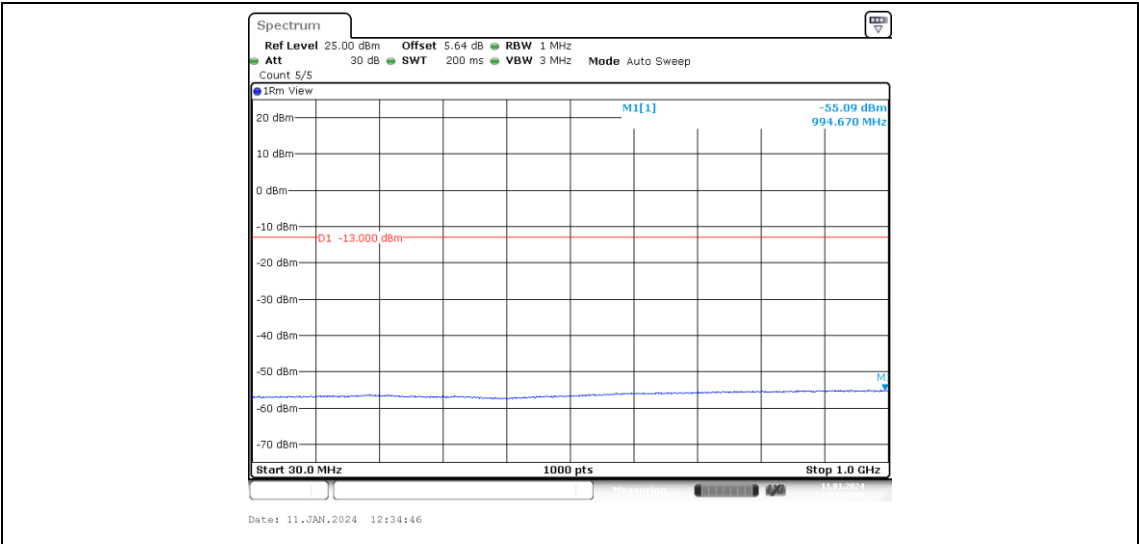


Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-0.15-30--78.78--33-PASS

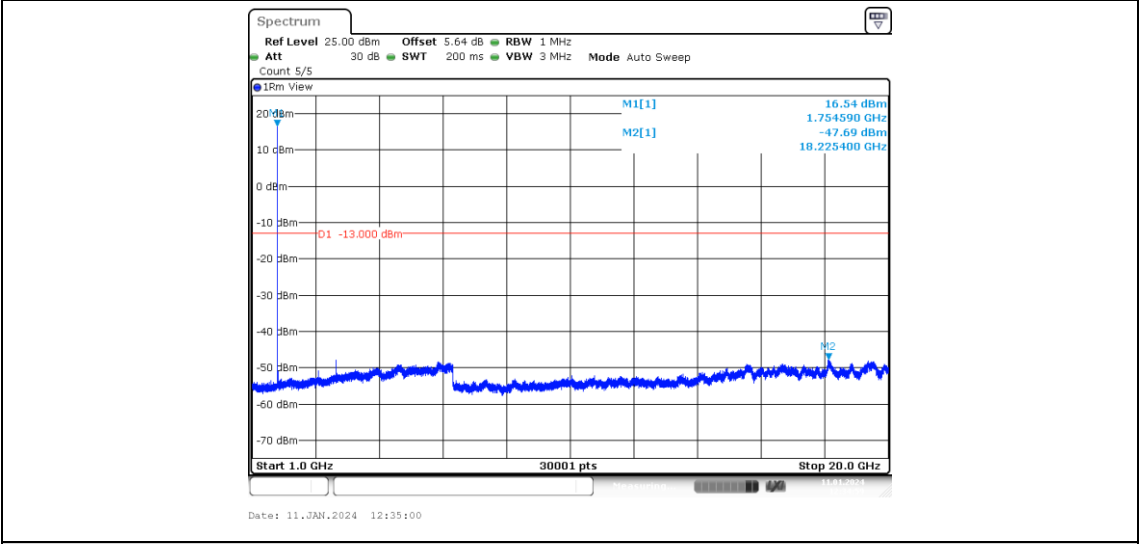


Band4-Stand-Alone-NaN-BPSK-20175-1@11-15kHz-30-1000--55.18--13-PASS

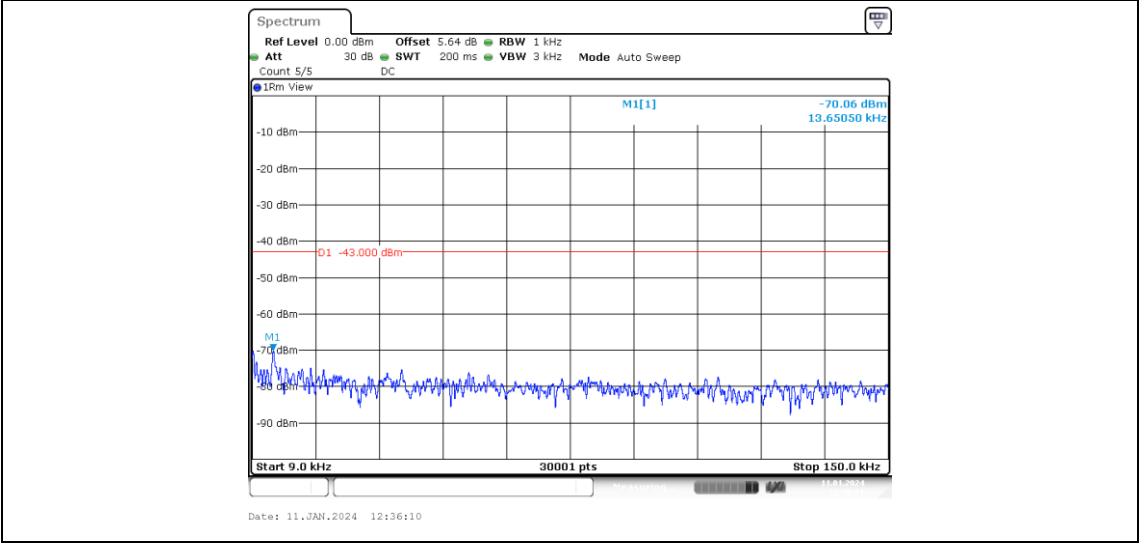




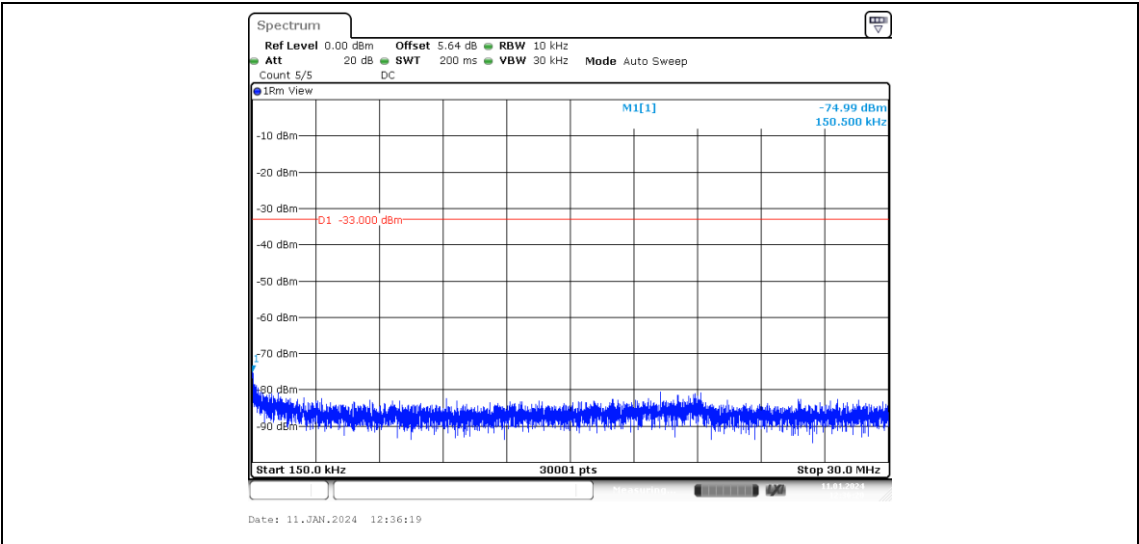
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-30-1000--55.09--13-PASS



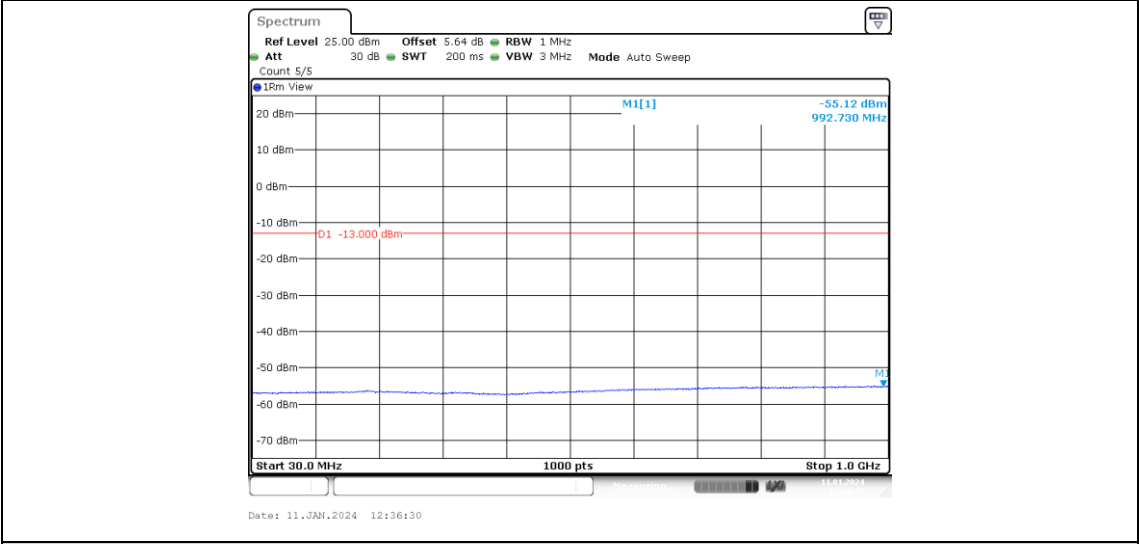
Band4-Stand-Alone-NaN-BPSK-20399-1@0-15kHz-1000-20000--47.69--13-PASS



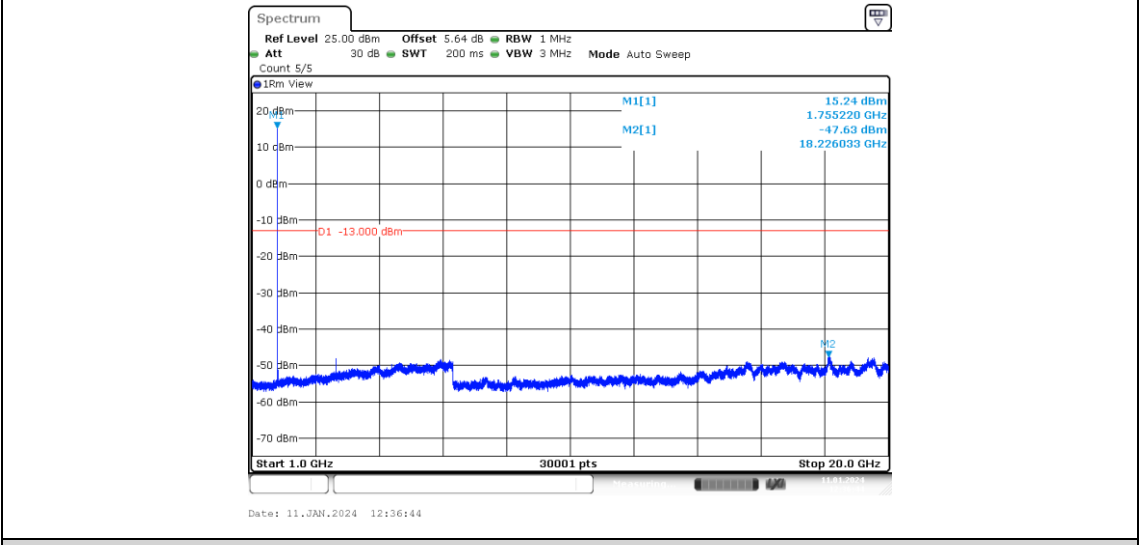
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-0.009-0.15--70.06--43-PASS



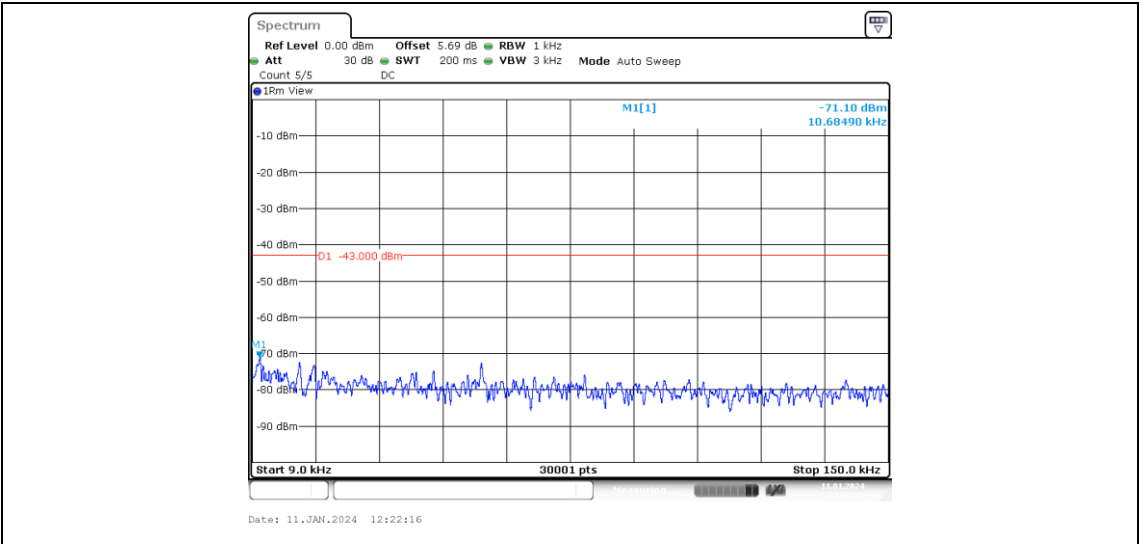
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-0.15-30--74.99--33-PASS



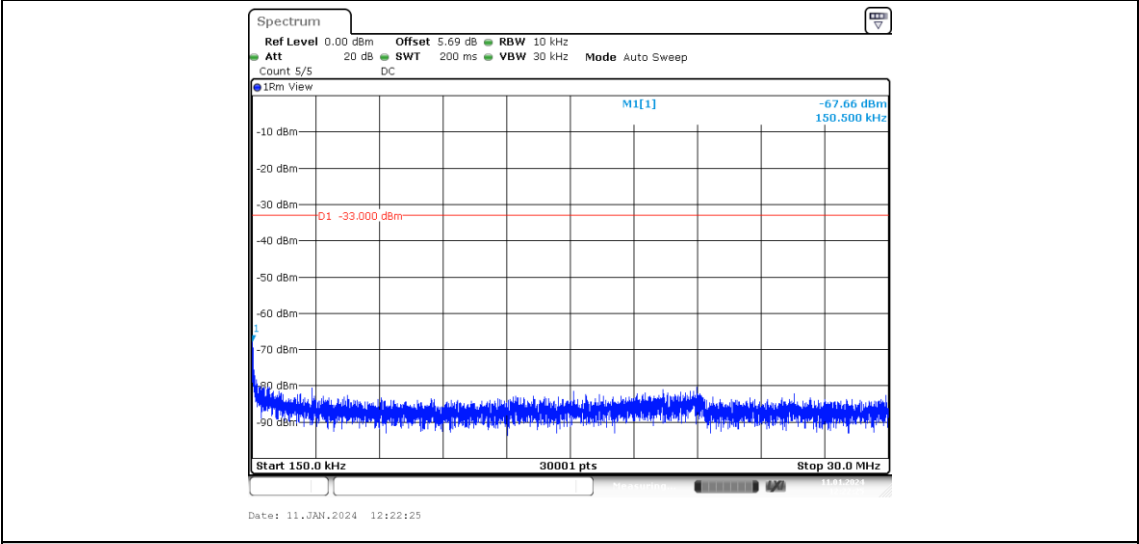
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-30-1000--55.12--13-PASS



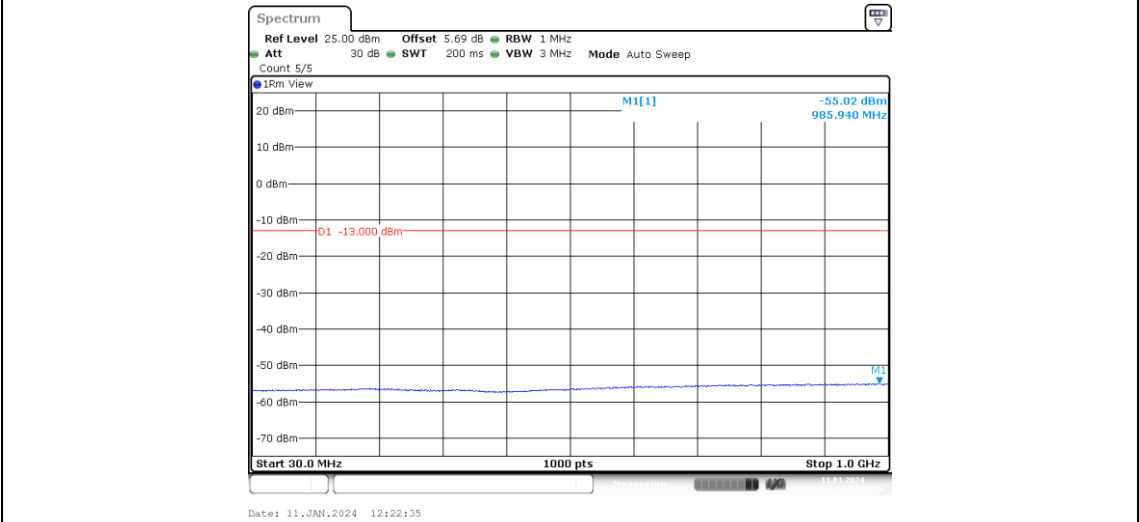
Band4-Stand-Alone-NaN-BPSK-20399-1@11-15kHz-1000-20000--47.63--13-PASS



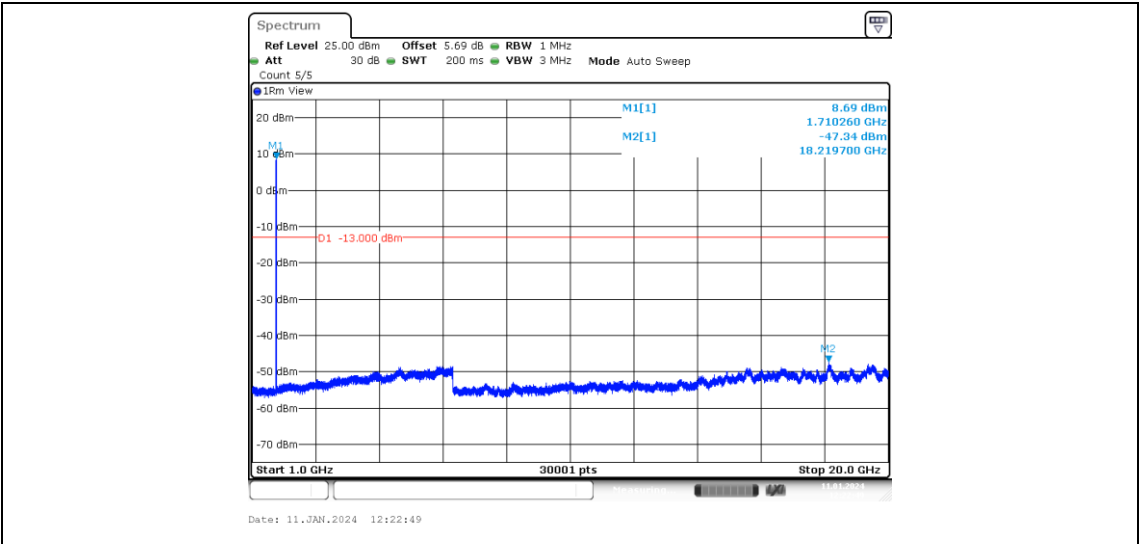
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-0.009-0.15--71.1--43-PASS



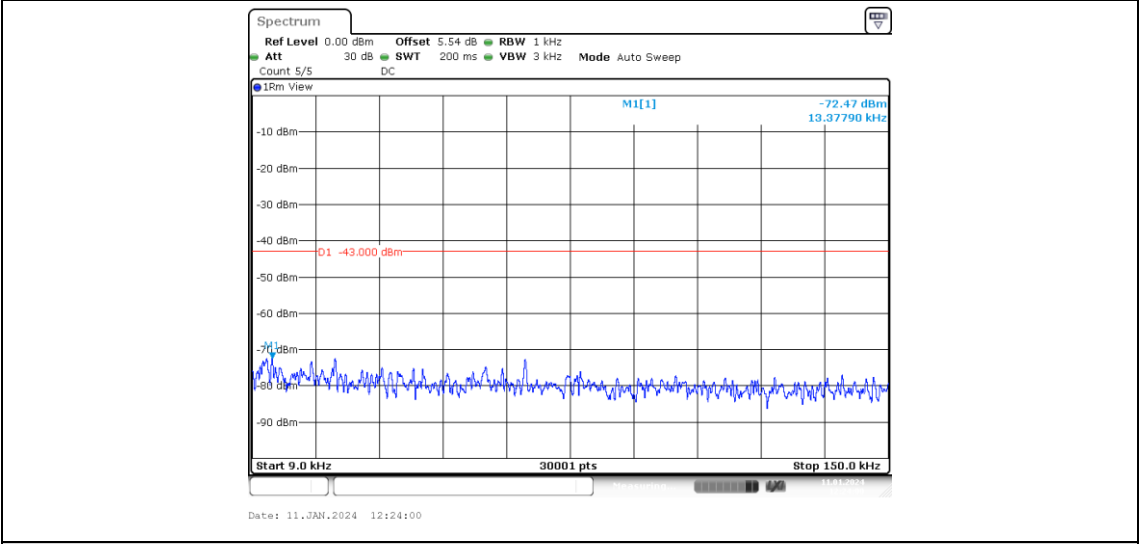
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-0.15-30--67.66--33-PASS



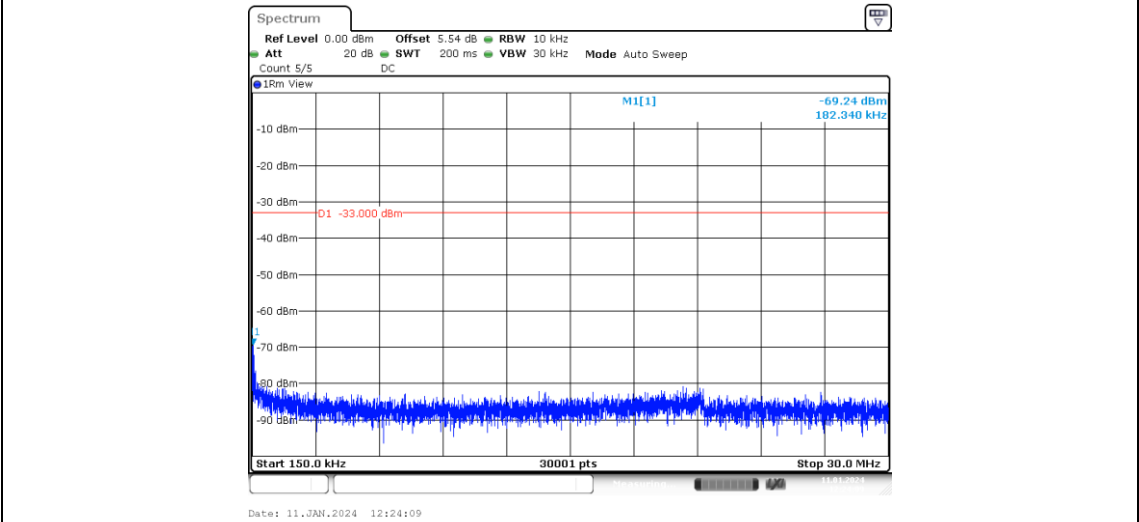
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-30-1000--55.02--13-PASS



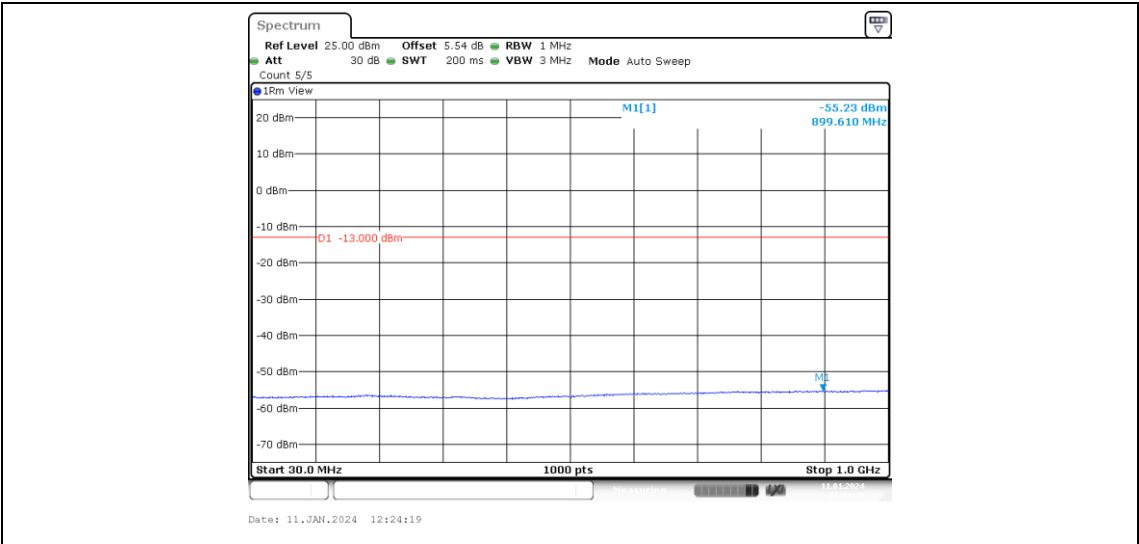
Band4-Stand-Alone-NaN-QPSK-19951-12@0-15kHz-1000-20000--47.34--13-PASS



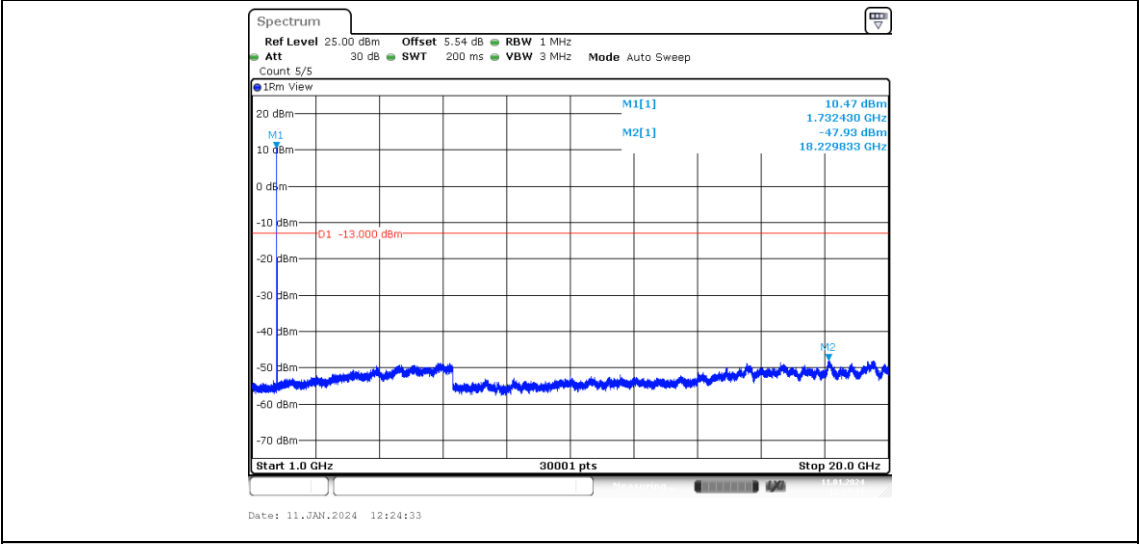
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.009-0.15--72.47--43-PASS



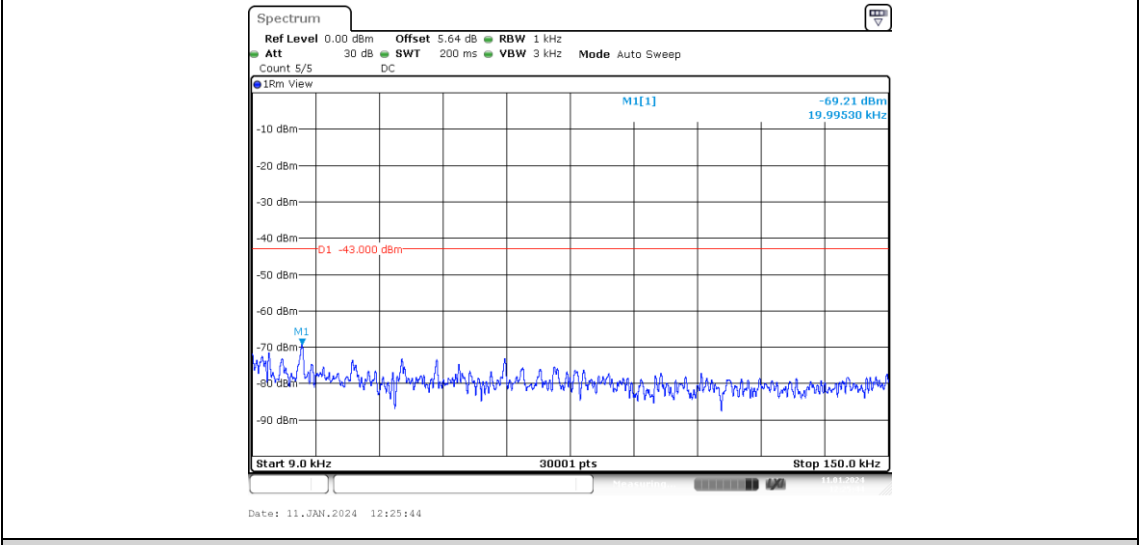
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-0.15-30--69.24--33-PASS



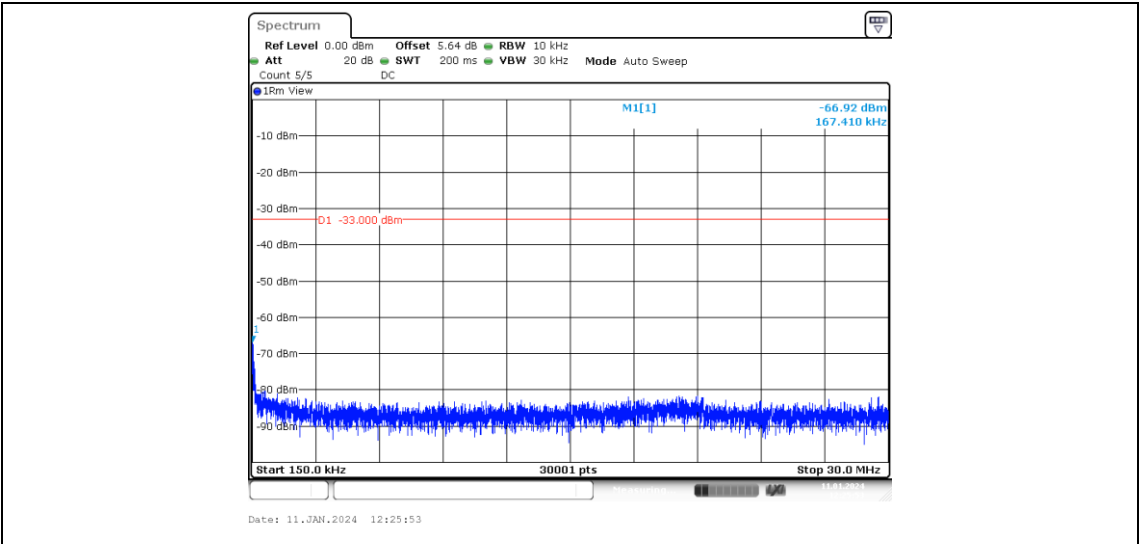
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-30-1000--55.23--13-PASS



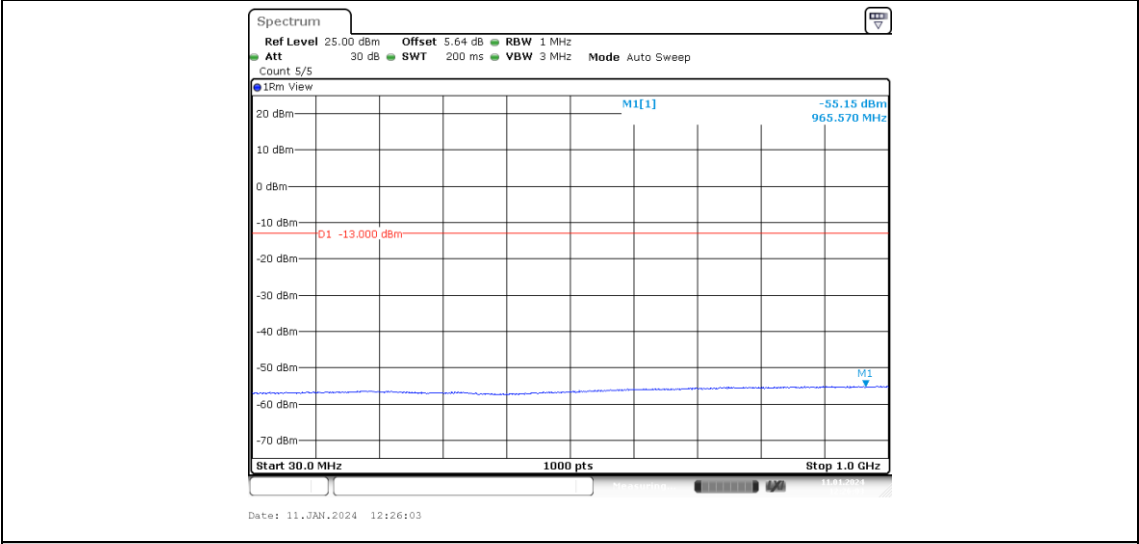
Band4-Stand-Alone-NaN-QPSK-20175-12@0-15kHz-1000-20000--47.93--13-PASS



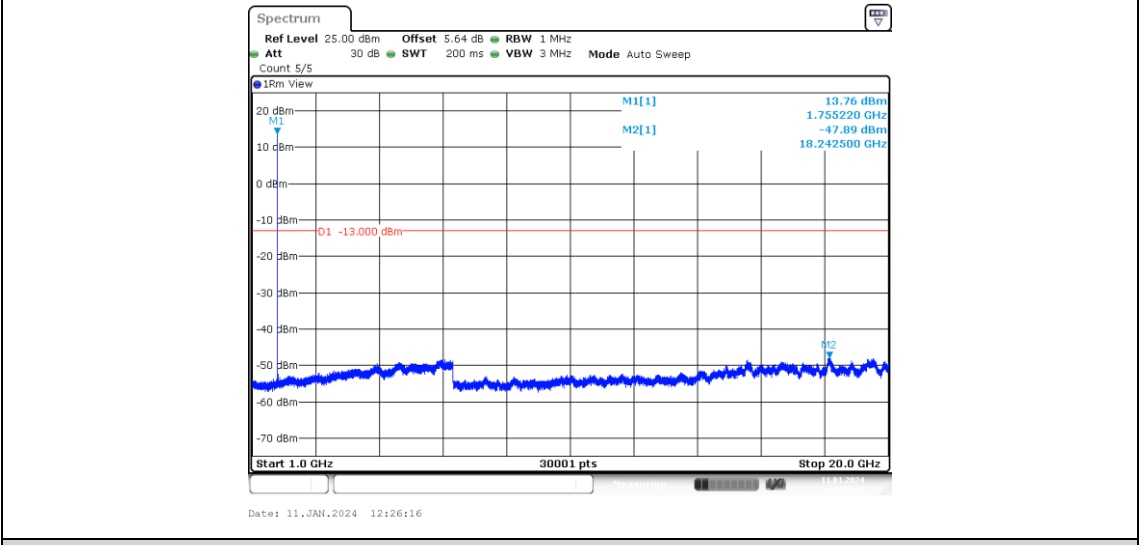
Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-0.009-0.15--69.21--43-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-0.15-30--66.92--33-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-30-1000--55.15--13-PASS



Band4-Stand-Alone-NaN-QPSK-20399-12@0-15kHz-1000-20000--47.89--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	14.82	0.008554	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 0	VL	NT	14.19	0.008190	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 0	VN	NT	-19.88	-0.011475	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VH	NT	19.83	0.011446	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VL	NT	19.94	0.011509	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	NaN	QPSK	20175	1 @ 47	VN	NT	21.63	0.012485	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VH	NT	17.98	0.010378	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VL	NT	22.97	0.013258	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 0	VN	NT	15.42	0.008900	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 11	VH	NT	26.56	0.015330	±2.5	PASS
Band 4	Stand-Alone	15k Hz	NaN	QPSK	20175	1 @ 11	VL	NT	25.13	0.014505	±2.5	PASS
Ba	Stand-	15k	NaN	QPS	201	1	VN	NT	21.1	0.012	±2.	PA

nd 4	Alone	Hz		K	75	@1 1			7	219	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	26.58	0.015342	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-20	16.49	0.009518	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-10	16.59	0.009576	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	0	18.68	0.010782	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	10	26.85	0.015498	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	20	23.55	0.013593	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	30	23.12	0.013345	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	40	21.03	0.012139	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 0	NV	-30	17.85	0.010303	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	30	23.62	0.013633	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	20	28.05	0.016190	±2.5	PASS
Band4	Stand-Alone	3.75k Hz	NaN	QPSK	20175	1 @ 47	NV	10	22.42	0.012941	±2.5	PASS

Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	0	20.4 4	0.011 798	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-10	28.2 2	0.016 289	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	40	-27.6 2	-0.01 5942	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-30	25.1 5	0.014 517	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	50	22.5 4	0.013 010	±2. 5	PA SS
Ba nd4	Stand- Alone	3.75k Hz	NaN	QP SK	20 17 5	1 @ 47	NV	-20	25.2 2	0.014 557	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	50	25.4 1	0.014 667	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	-20	17.0 9	0.009 864	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	-10	26.0 2	0.015 019	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	0	25.8 1	0.014 898	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	10	35.9 8	0.020 768	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	20	25.0 6	0.014 465	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	30	26.8 9	0.015 521	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @ 0	NV	40	23.3 2	0.013 460	±2. 5	PA SS
Ba	Stand-	15kH	NaN	QP	20	1	NV	-30	22.1	0.012	±2.	PA

nd4	Alone	z		SK	17 5	@ 0			2	768	5	SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	40	23.2 0	0.013 391	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	30	27.0 7	0.015 625	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	20	23.3 3	0.013 466	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	10	29.6 8	0.017 131	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	0	28.9 8	0.016 727	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-10	26.1 8	0.015 111	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-30	25.5 3	0.014 736	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	50	23.6 7	0.013 662	±2. 5	PA SS
Ba nd4	Stand- Alone	15kH z	NaN	QP SK	20 17 5	1 @1 1	NV	-20	28.0 7	0.016 202	±2. 5	PA SS