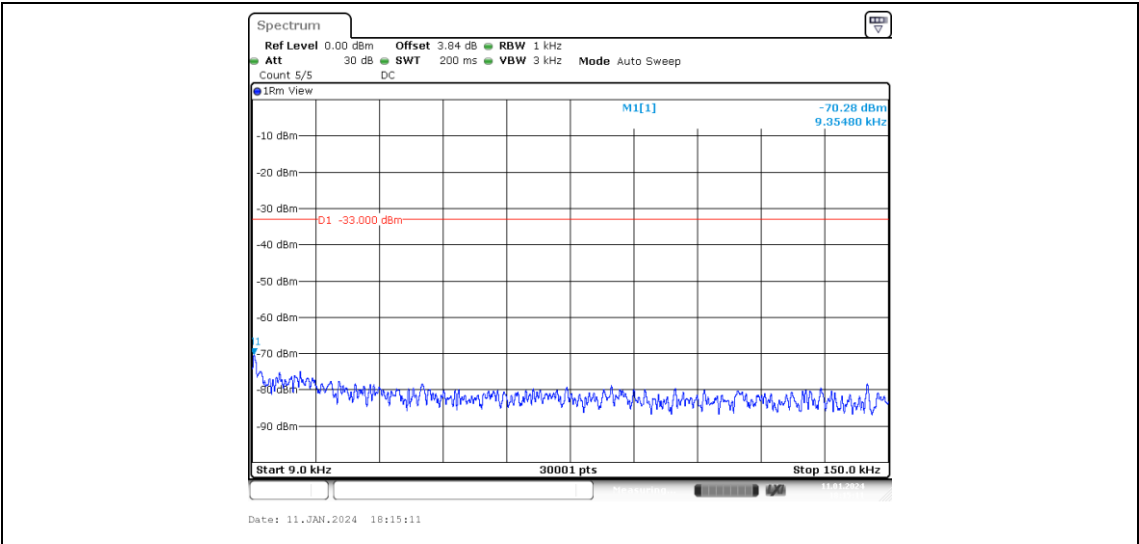
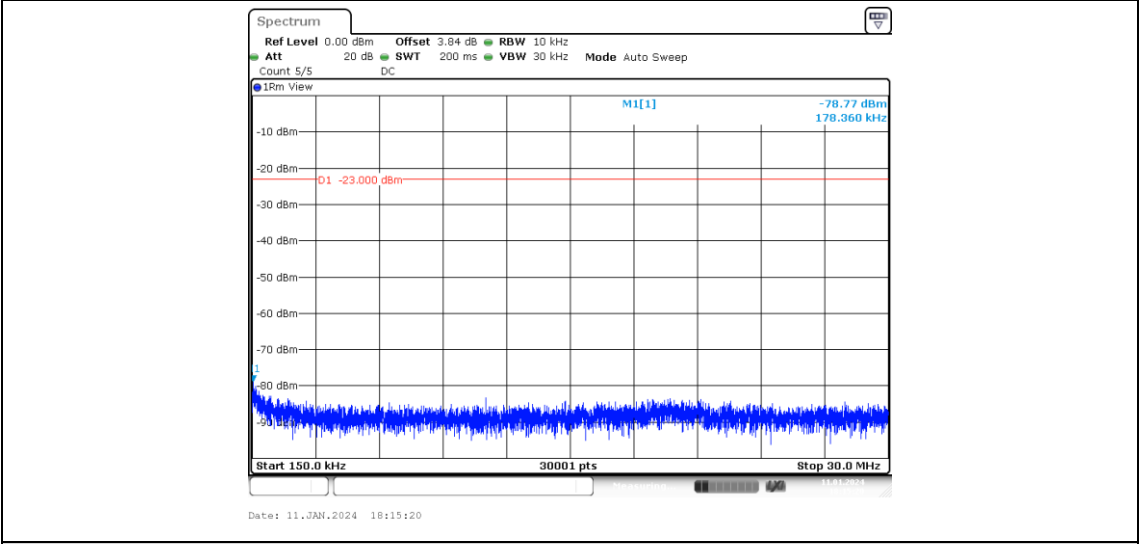
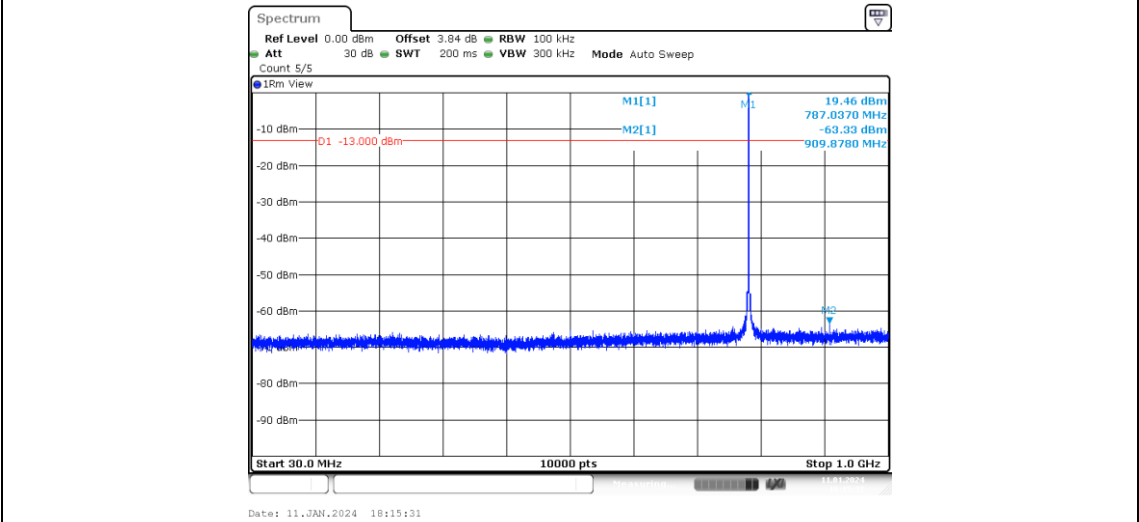




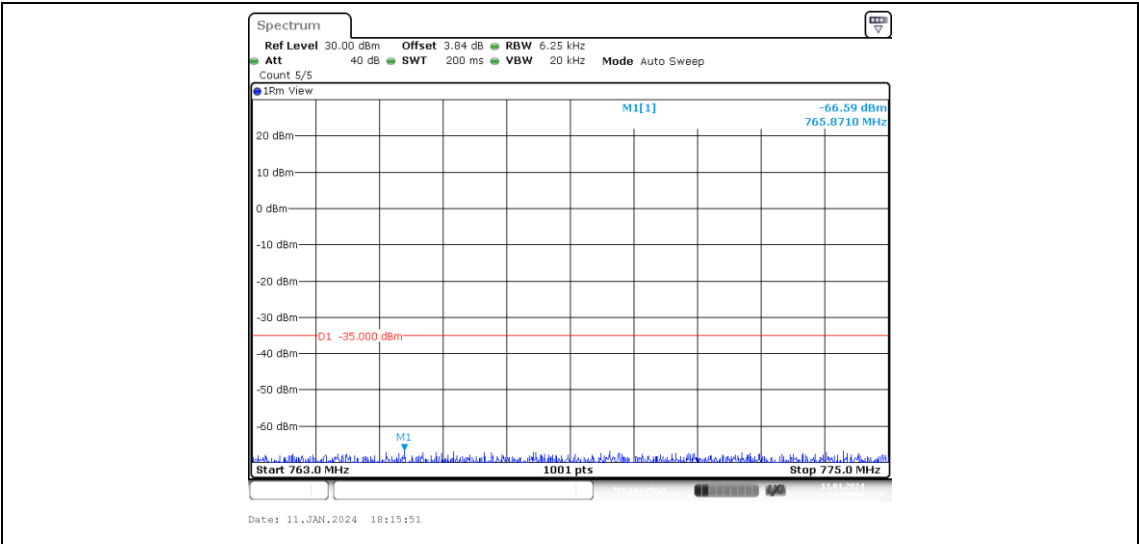
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-0.009-0.15--70.28--33-PASS



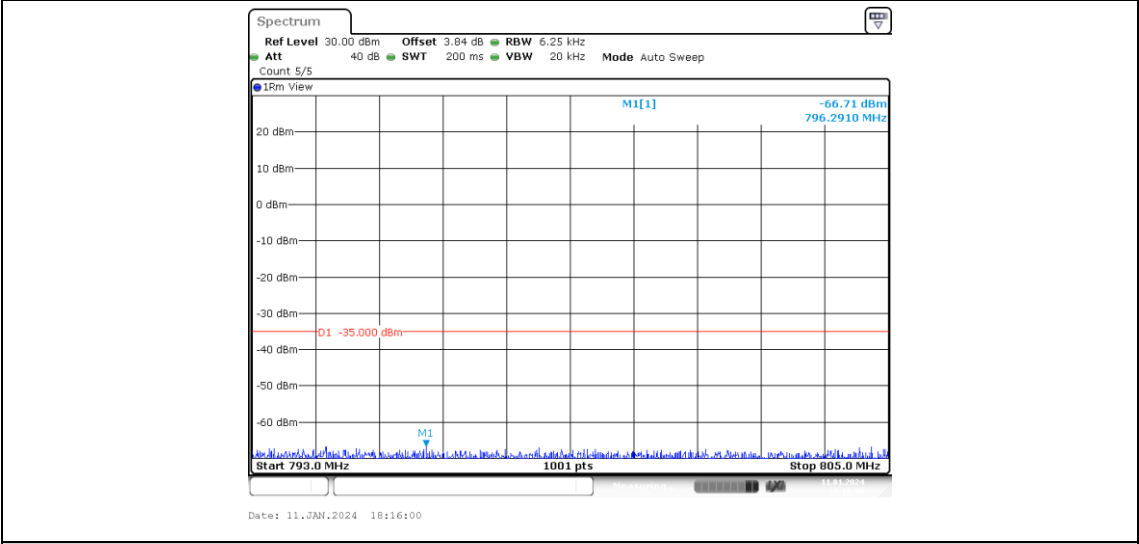
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-0.15-30--78.77--23-PASS



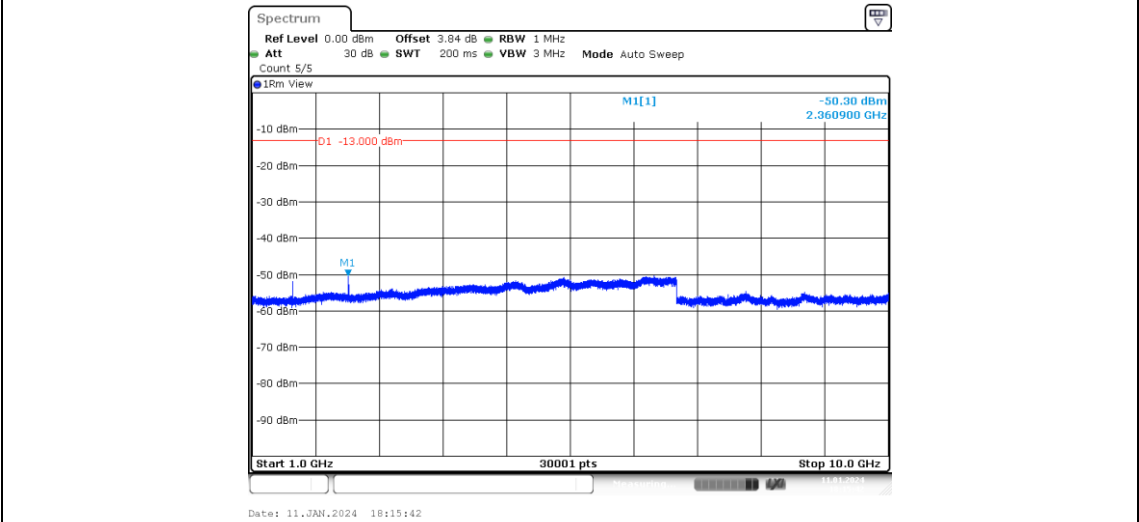
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-30-1000--63.33--13-PASS



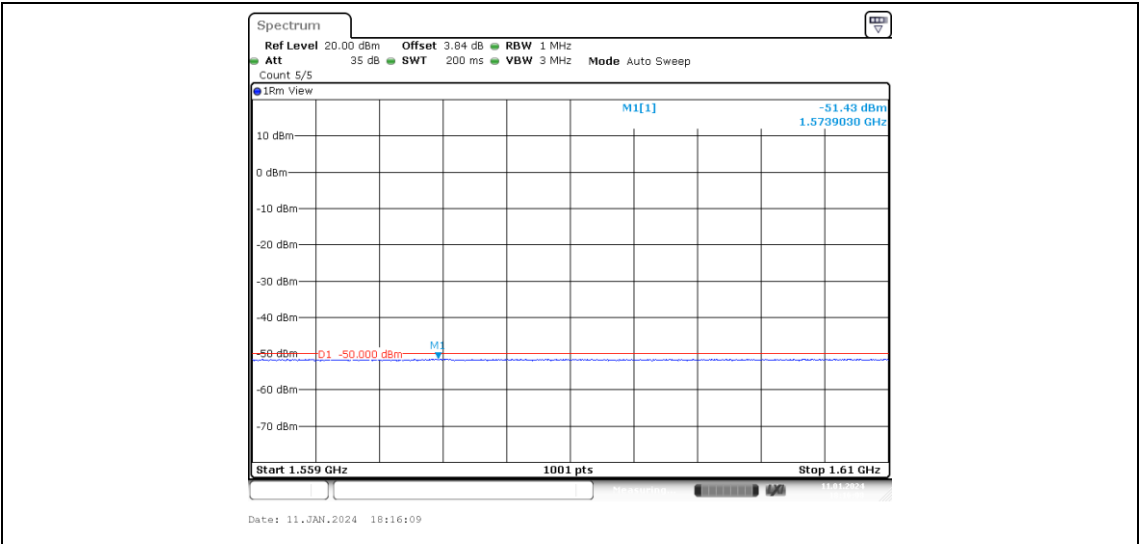
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-763-775--66.59--35-PASS



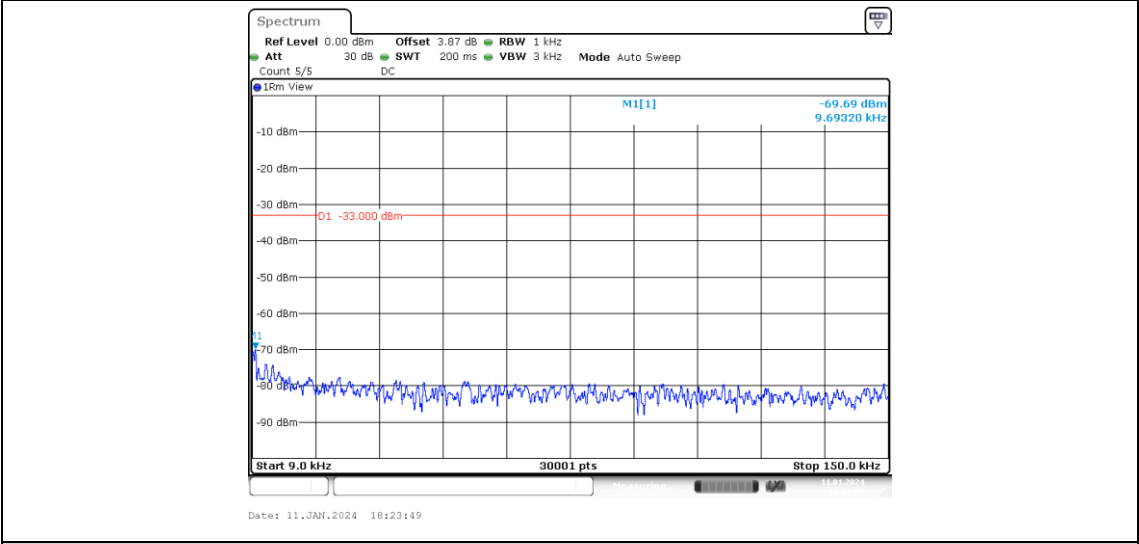
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-793-805--66.71--35-PASS



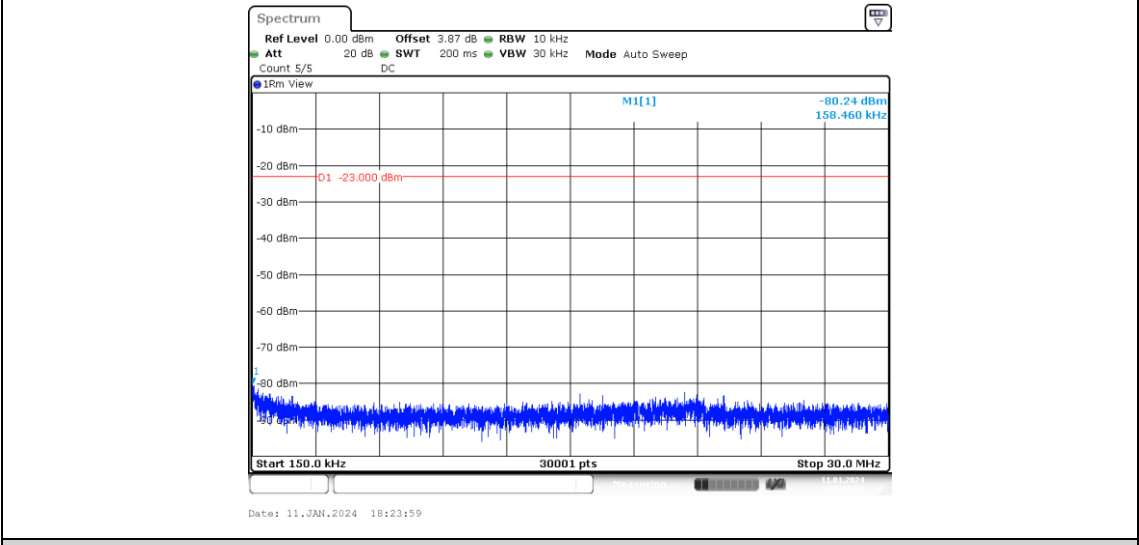
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-1000-10000--50.3--13-PASS



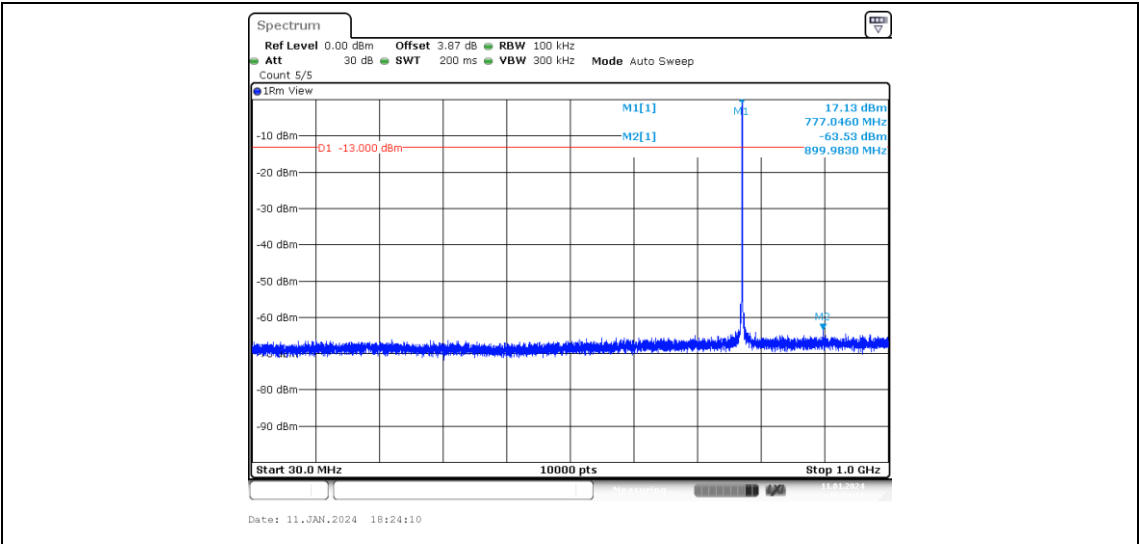
Band13-Stand-Alone-NaN-QPSK-23279-1@47-3.75kHz-1559-1610--51.43--50-PASS



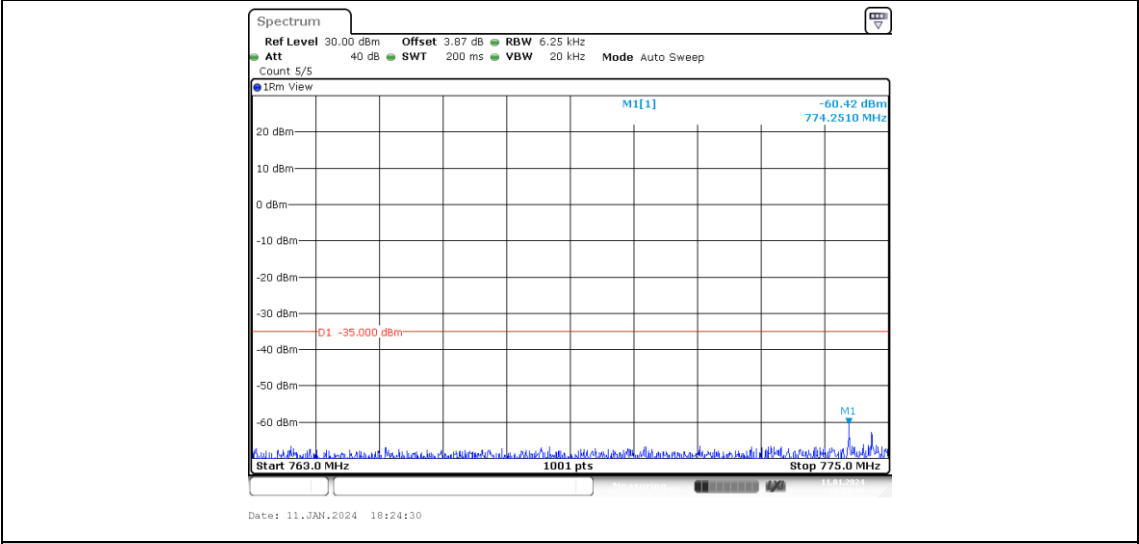
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-0.009-0.15--69.69--33-PASS



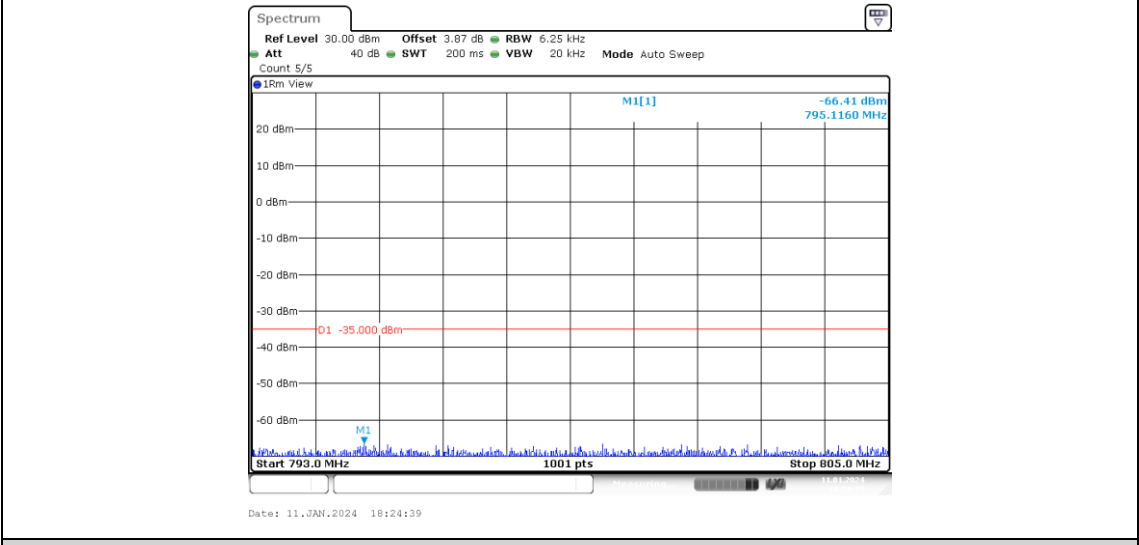
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-0.15-30--80.24--23-PASS



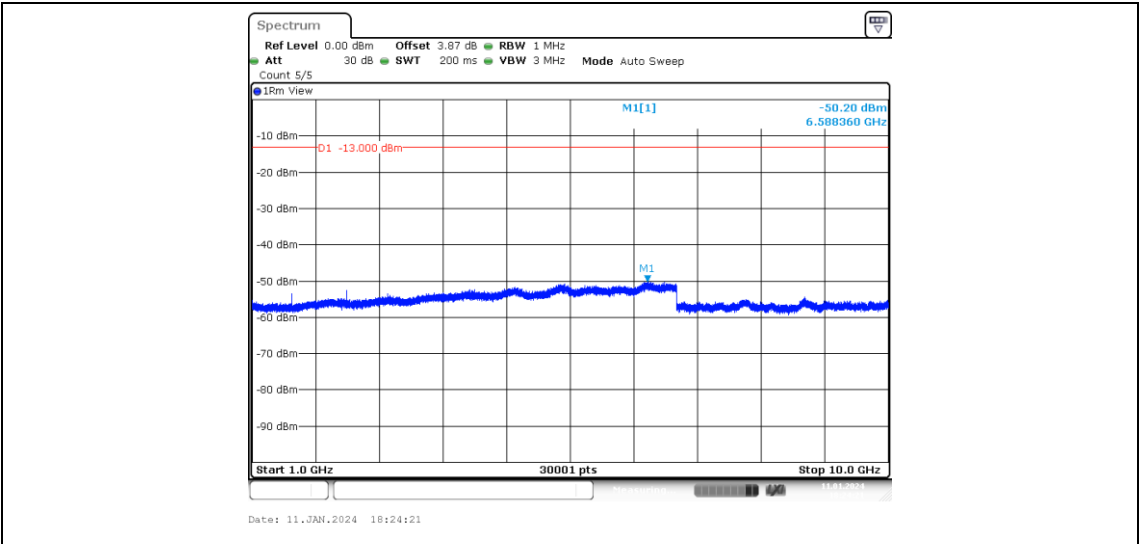
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-30-1000--63.53--13-PASS



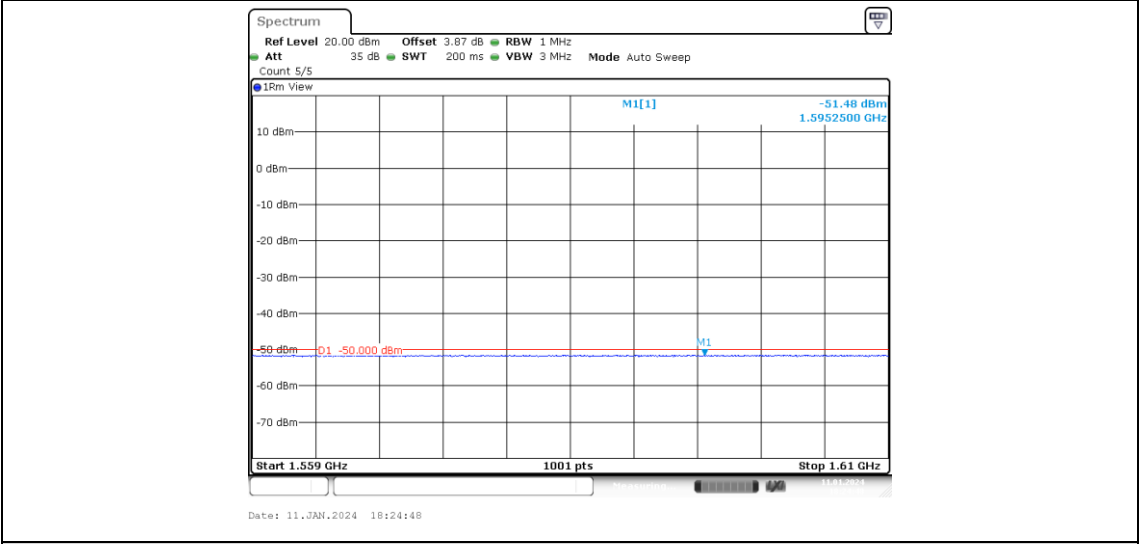
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-763-775--60.42--35-PASS



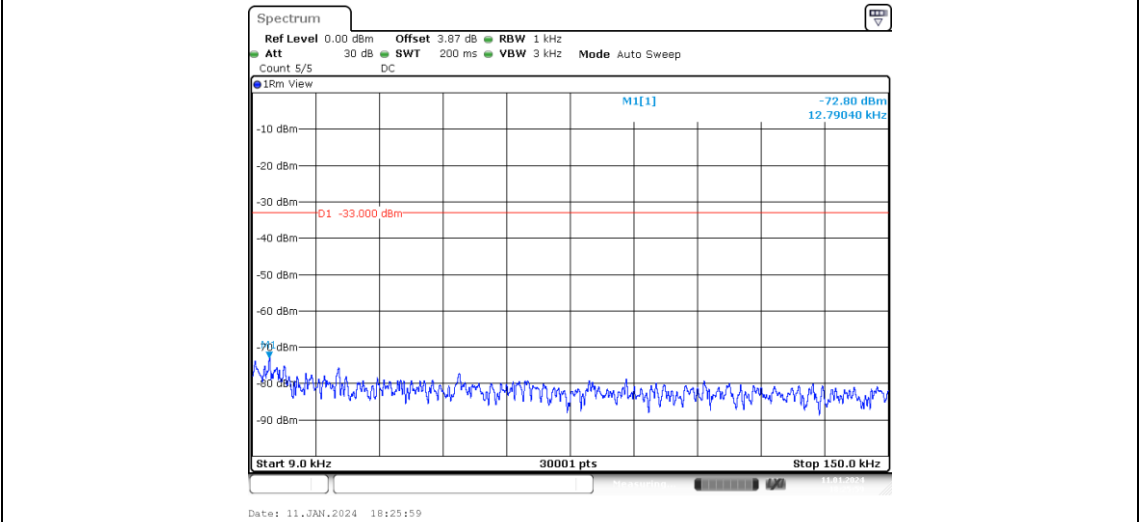
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-793-805--66.41--35-PASS



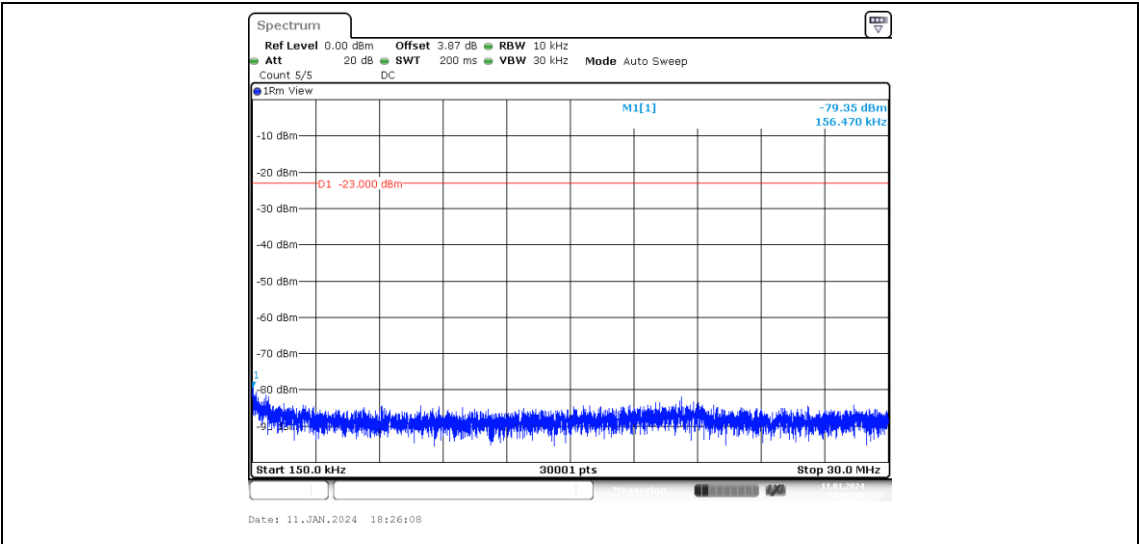
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-1000-10000--50.2--13-PASS



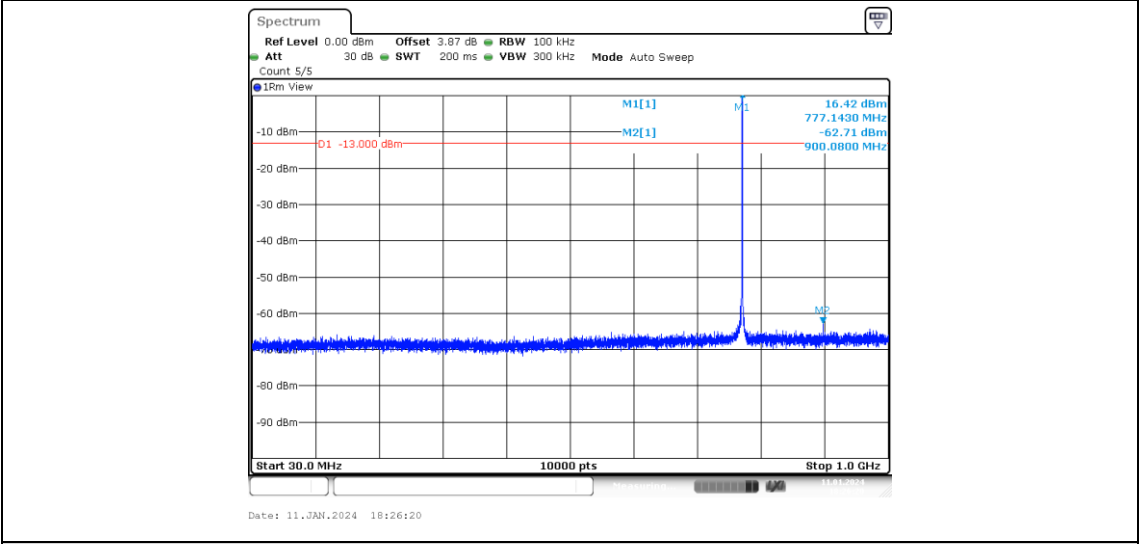
Band13-Stand-Alone-NaN-BPSK-23181-1@0-15kHz-1559-1610--51.48--50-PASS



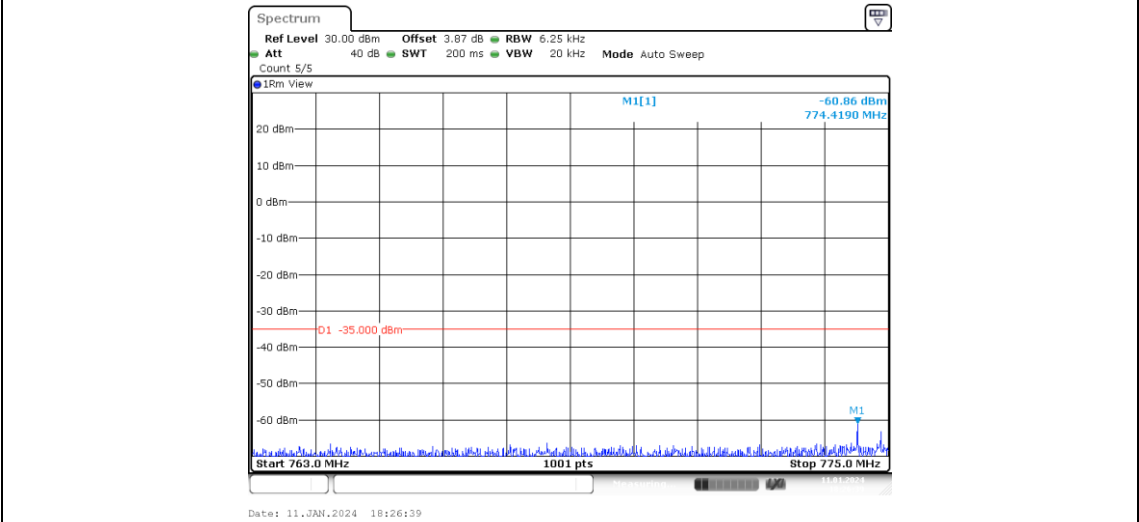
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-0.009-0.15--72.8--33-PASS



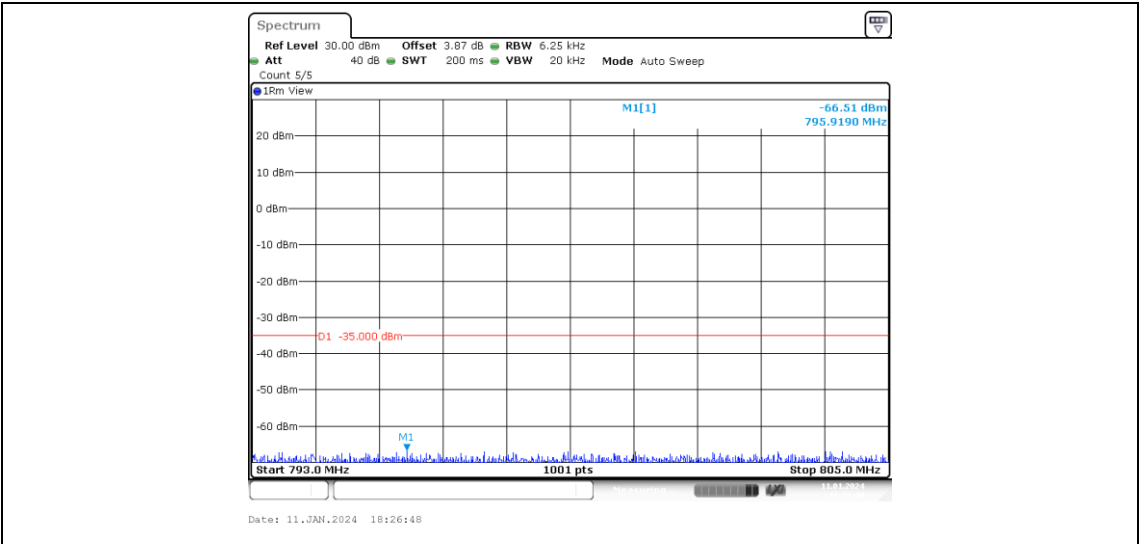
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-0.15-30--79.35--23-PASS



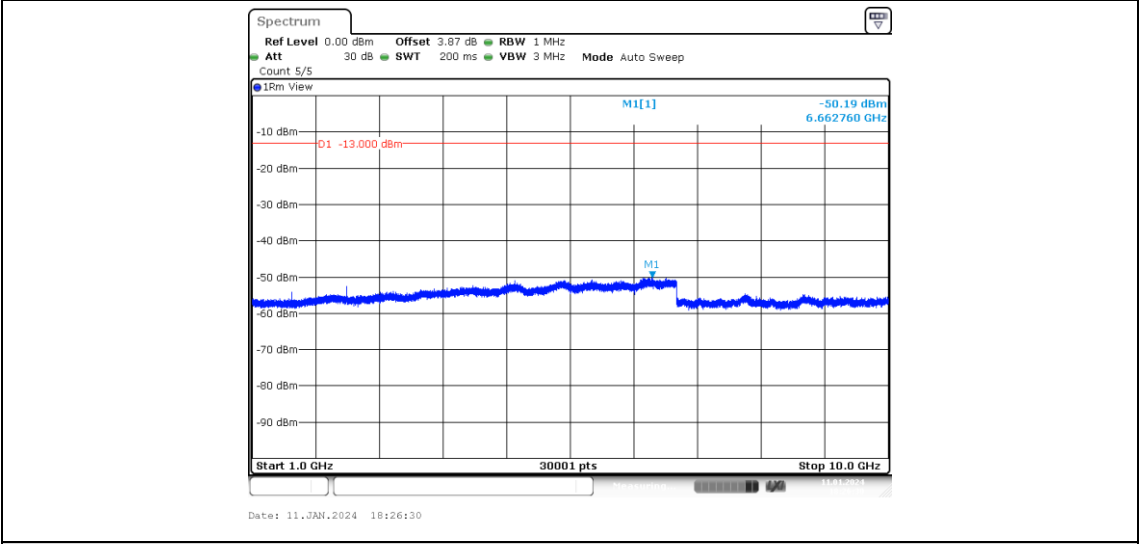
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-30-1000--62.71--13-PASS



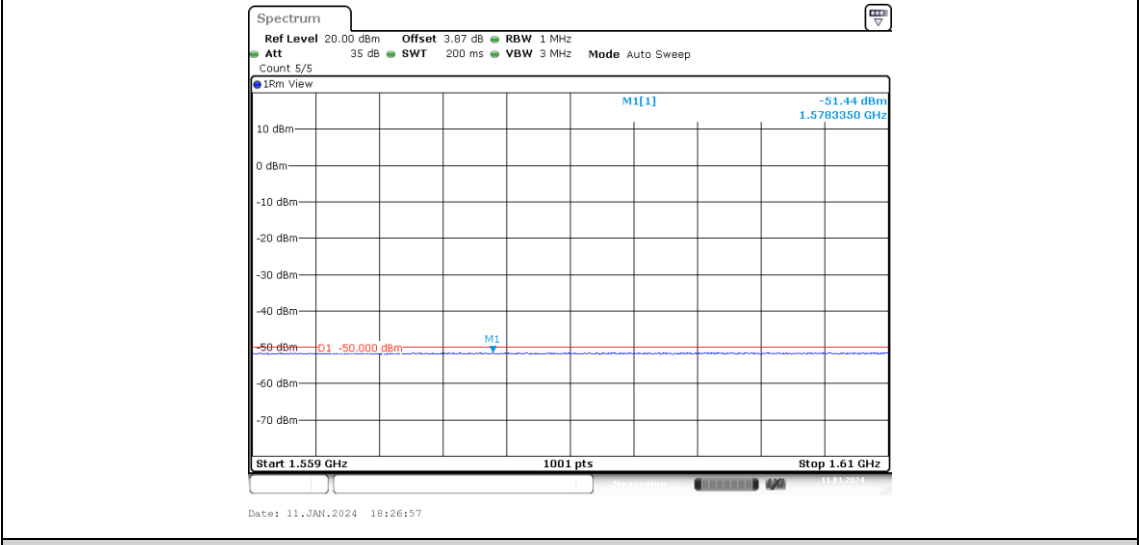
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-763-775--60.86--35-PASS



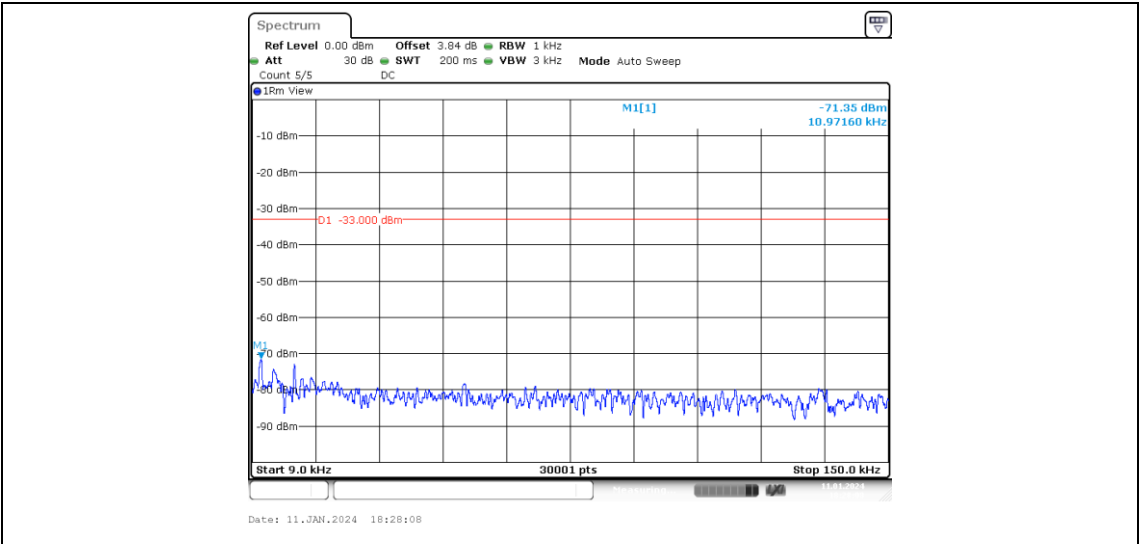
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-793-805--66.51--35-PASS



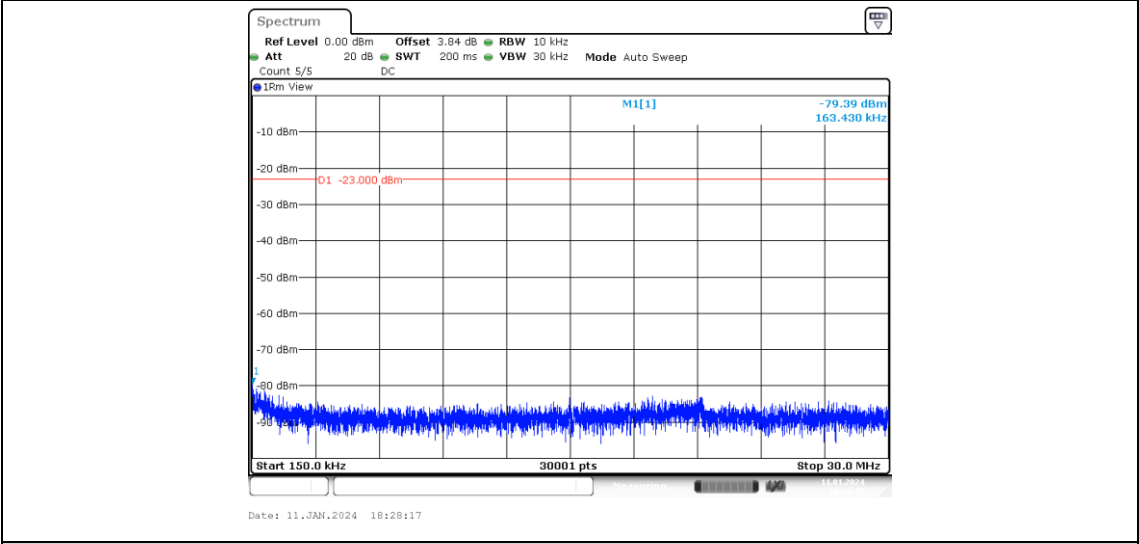
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-1000-10000--50.19--13-PASS



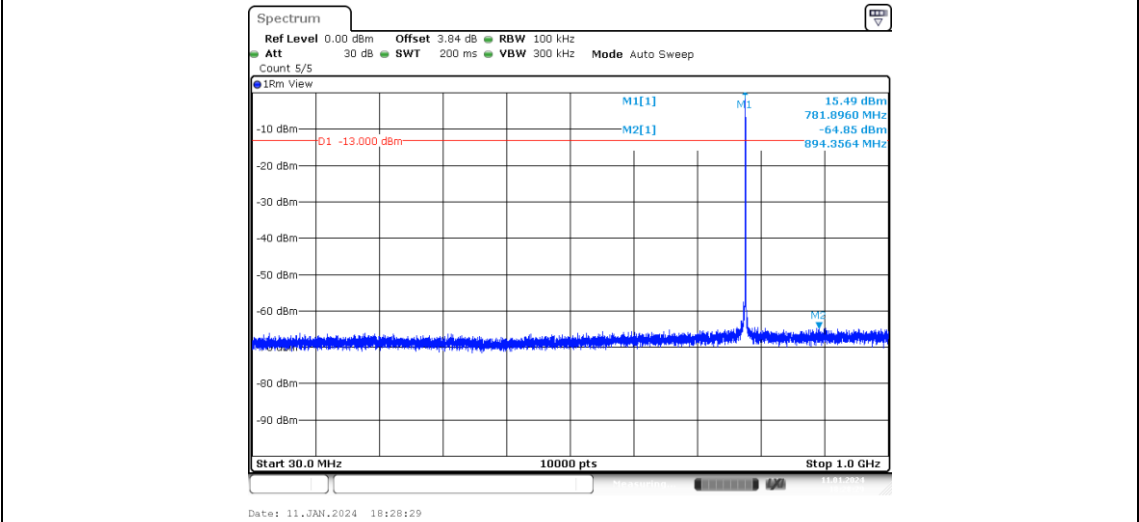
Band13-Stand-Alone-NaN-BPSK-23181-1@11-15kHz-1559-1610--51.44--50-PASS



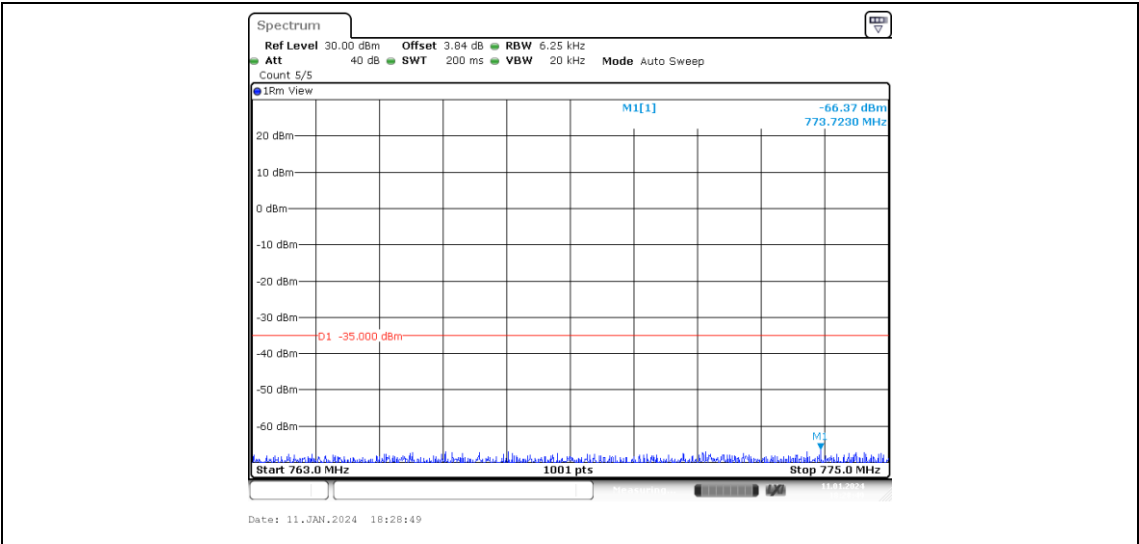
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-0.009-0.15--71.35--33-PASS



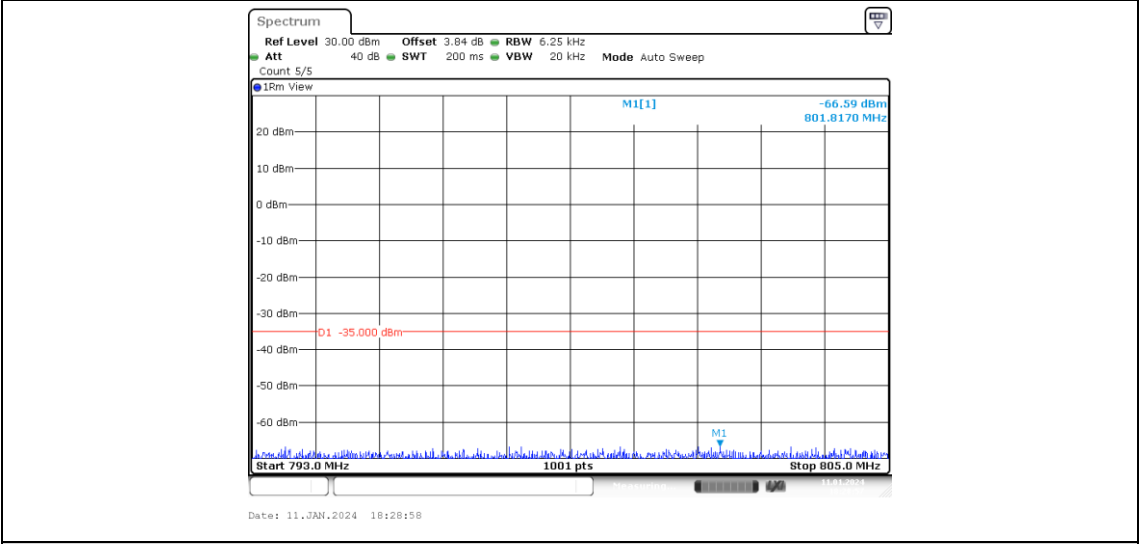
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-0.15-30--79.39--23-PASS



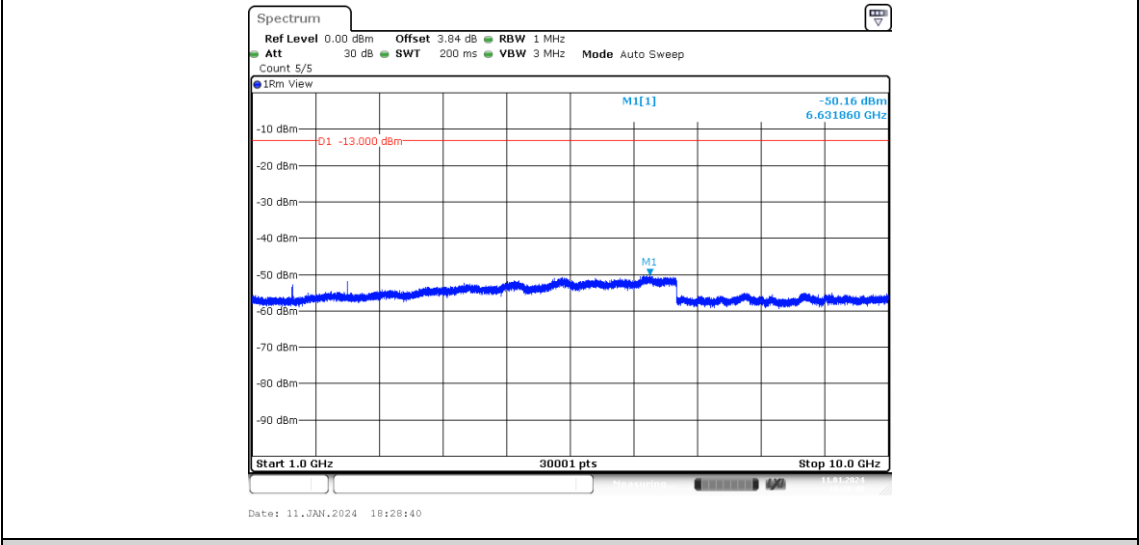
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-30-1000--64.85--13-PASS



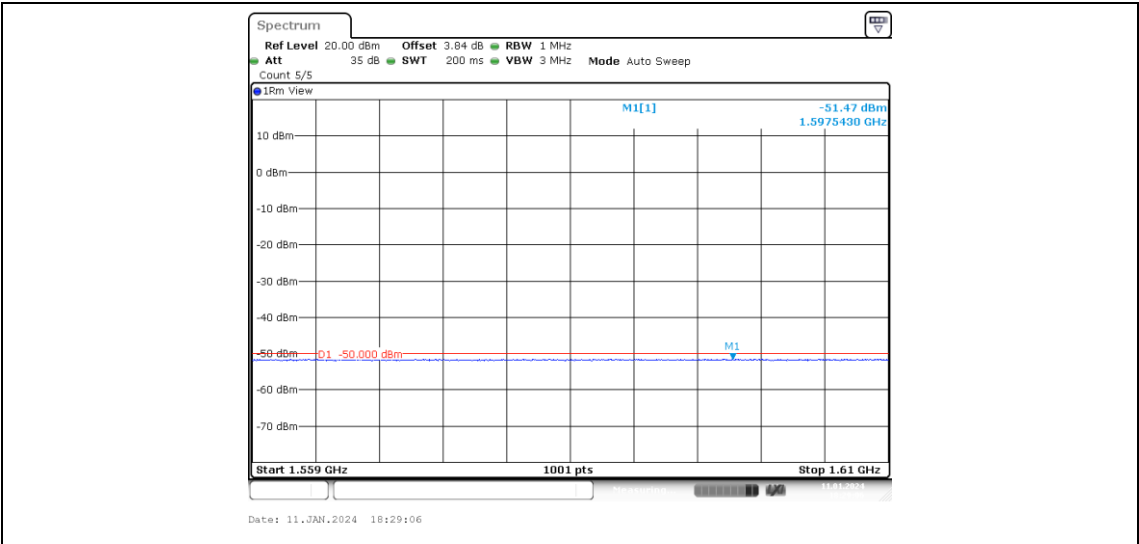
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-763-775--66.37--35-PASS



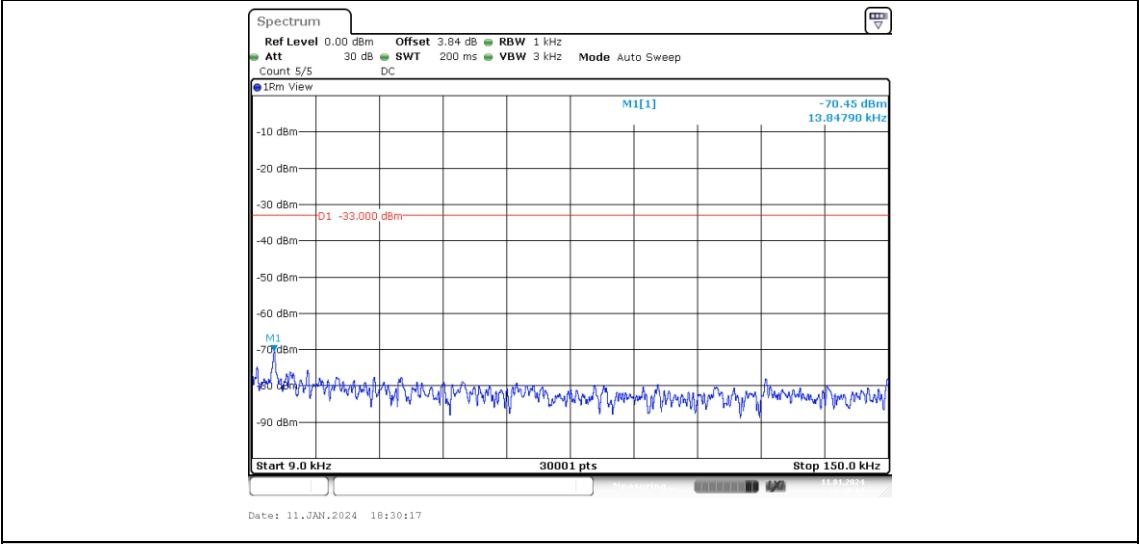
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-793-805--66.59--35-PASS



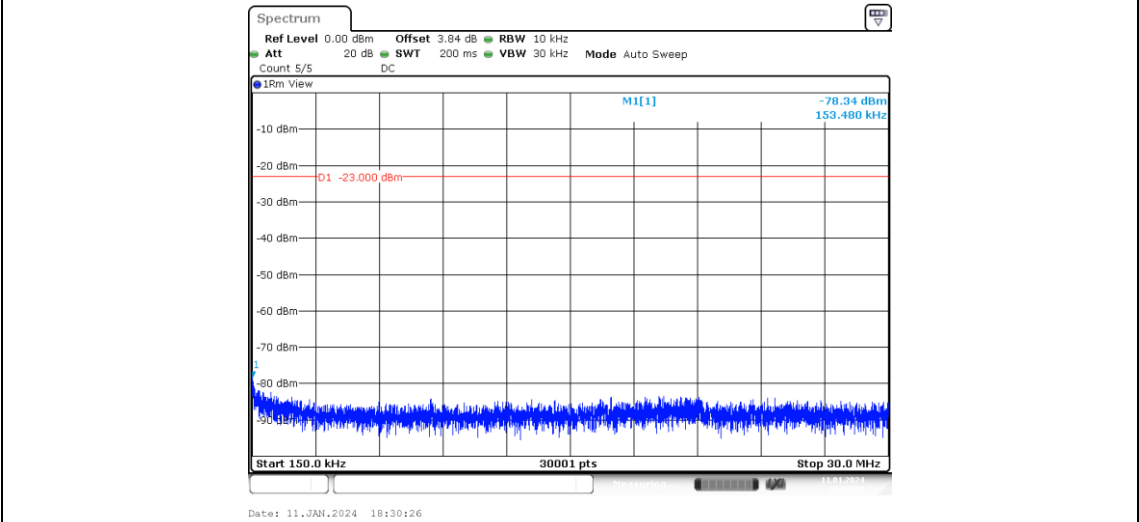
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-1000-10000--50.16--13-PASS



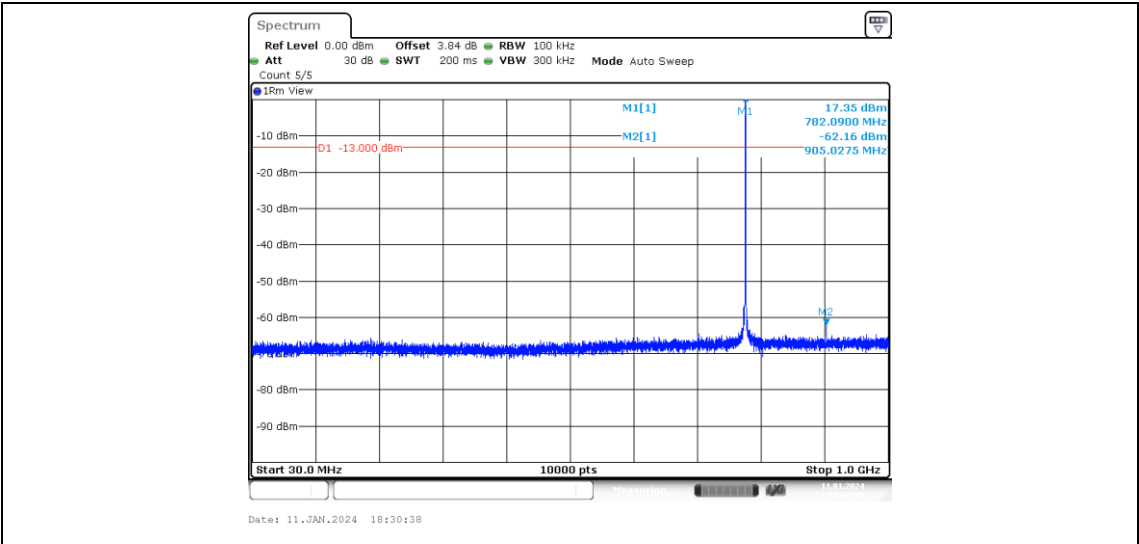
Band13-Stand-Alone-NaN-BPSK-23230-1@0-15kHz-1559-1610--51.47--50-PASS



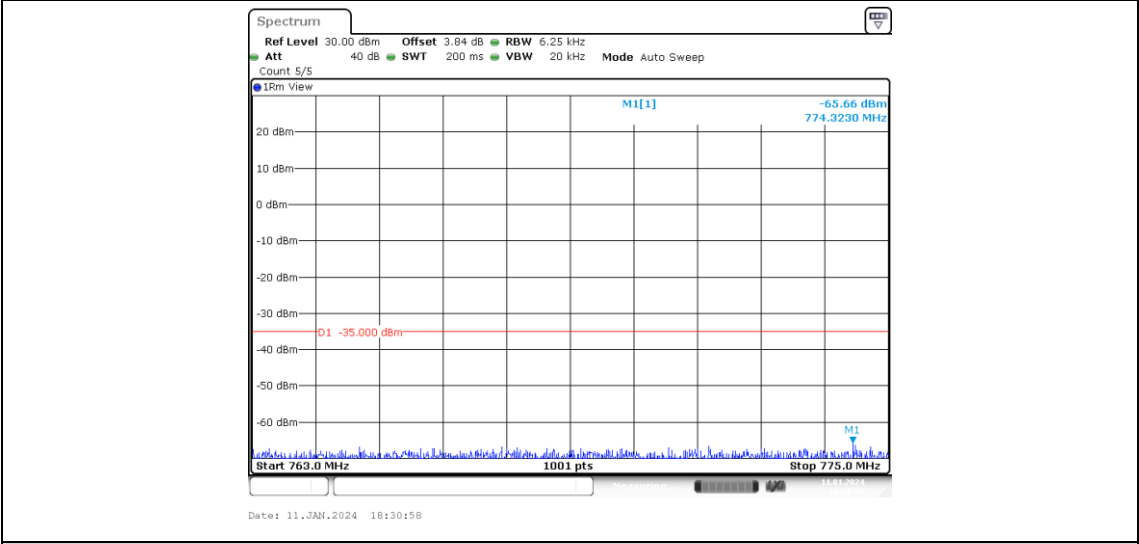
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-0.009-0.15--70.45--33-PASS



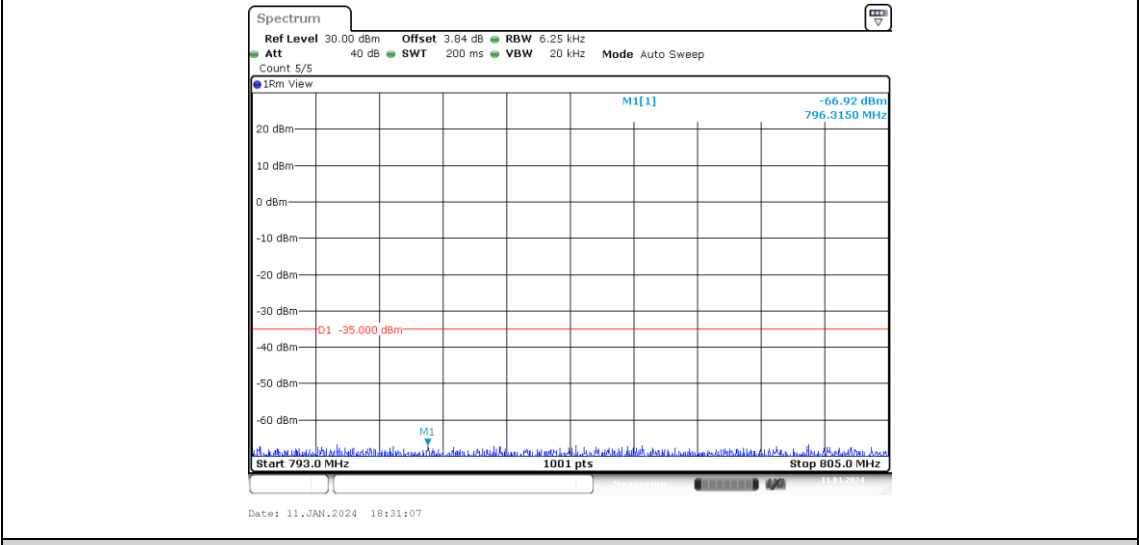
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-0.15-30--78.34--23-PASS



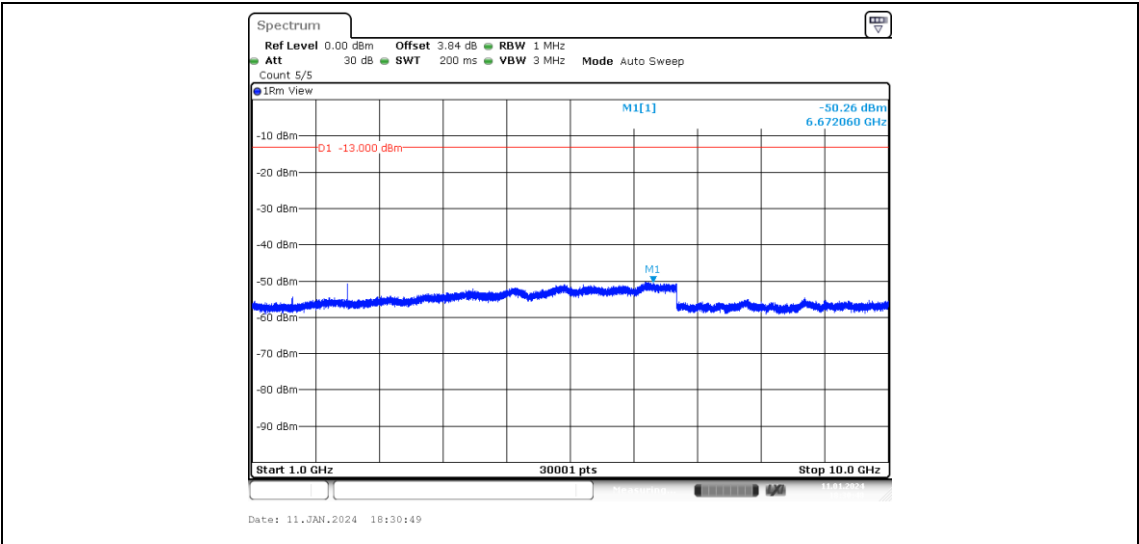
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-30-1000--62.16--13-PASS



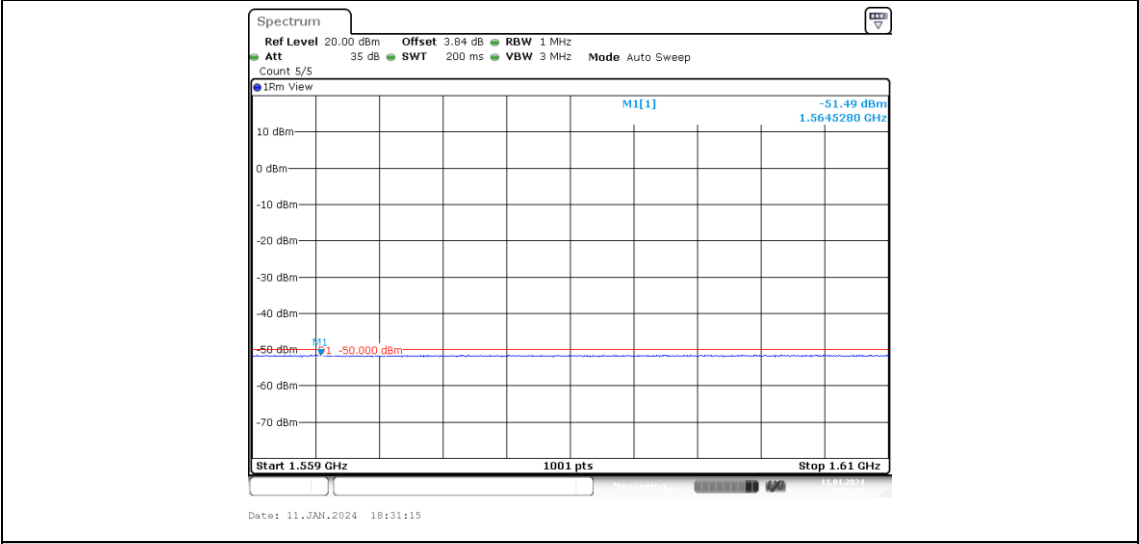
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-763-775--65.66--35-PASS



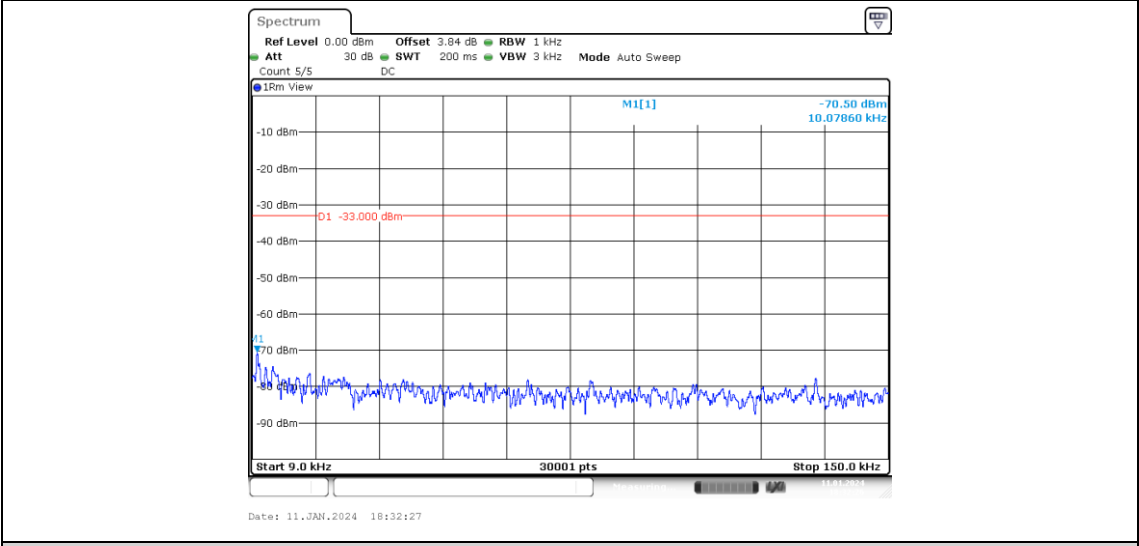
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-793-805--66.92--35-PASS



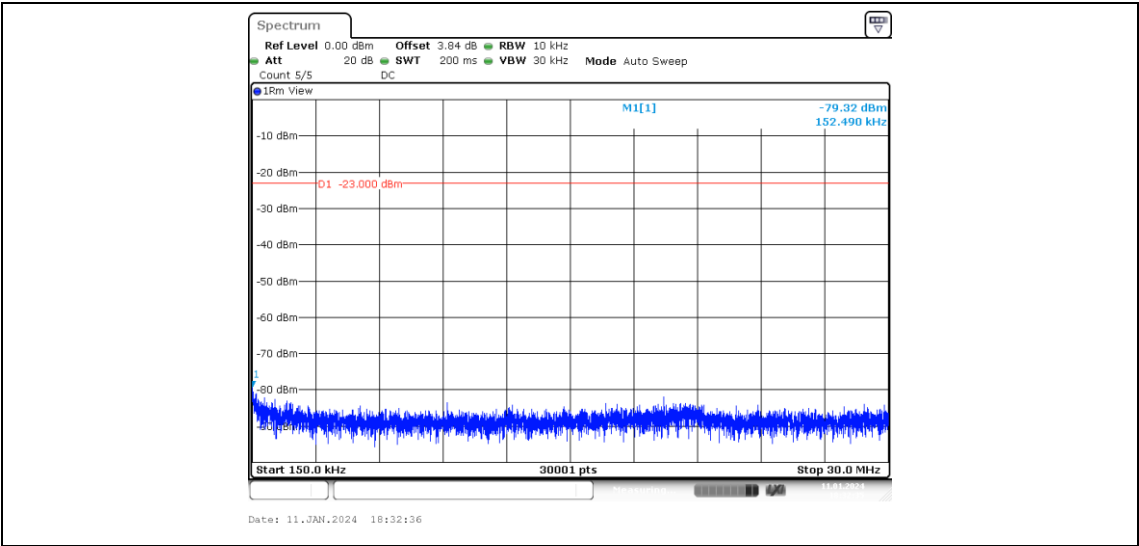
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-1000-10000--50.26--13-PASS



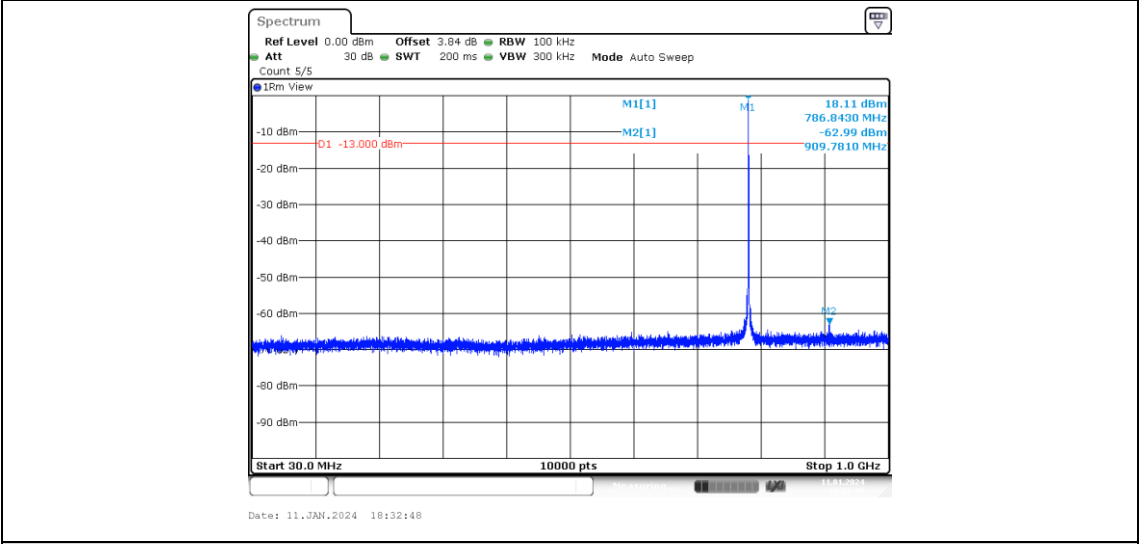
Band13-Stand-Alone-NaN-BPSK-23230-1@11-15kHz-1559-1610--51.49--50-PASS



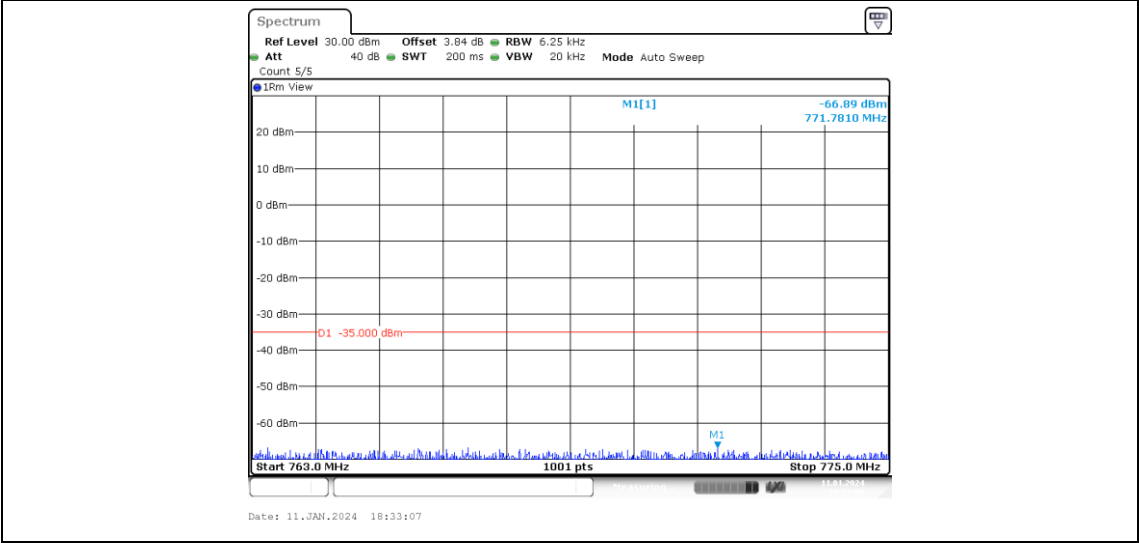
Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-0.009-0.15--70.5--33-PASS



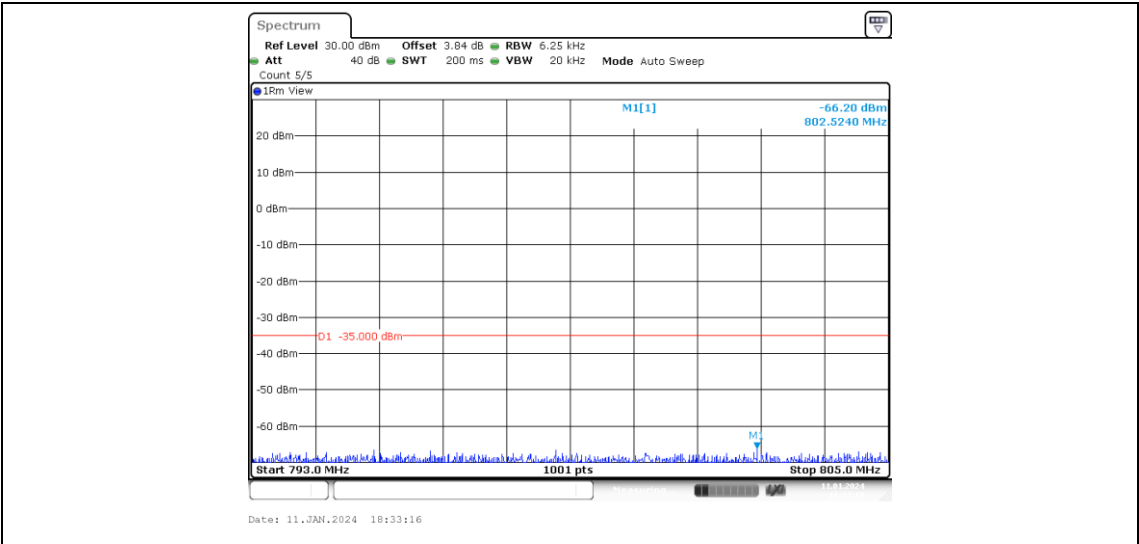
Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-0.15-30--79.32--23-PASS



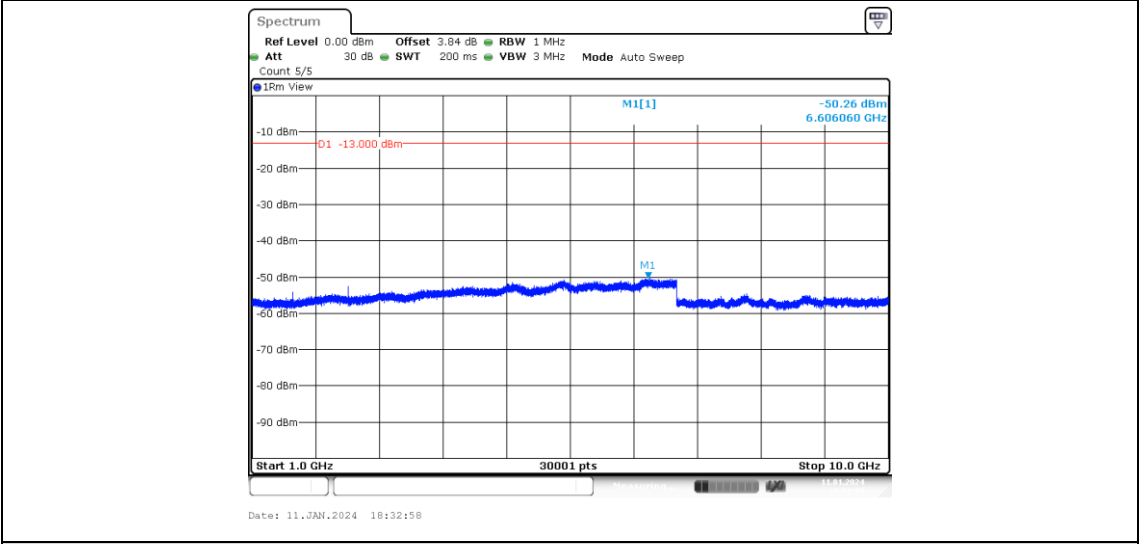
Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-30-1000--62.99--13-PASS



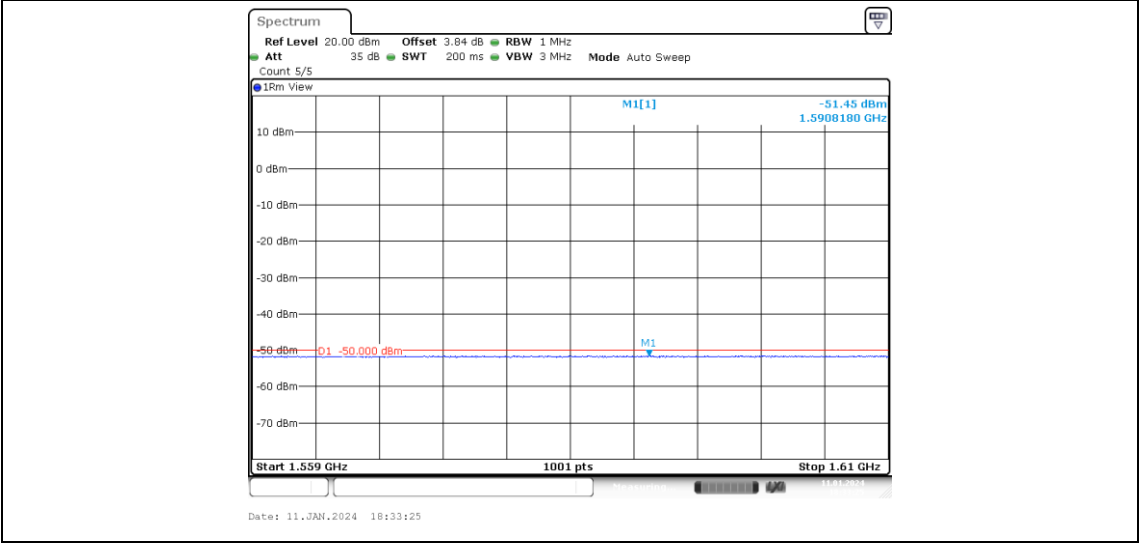
Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-763-775--66.89--35-PASS



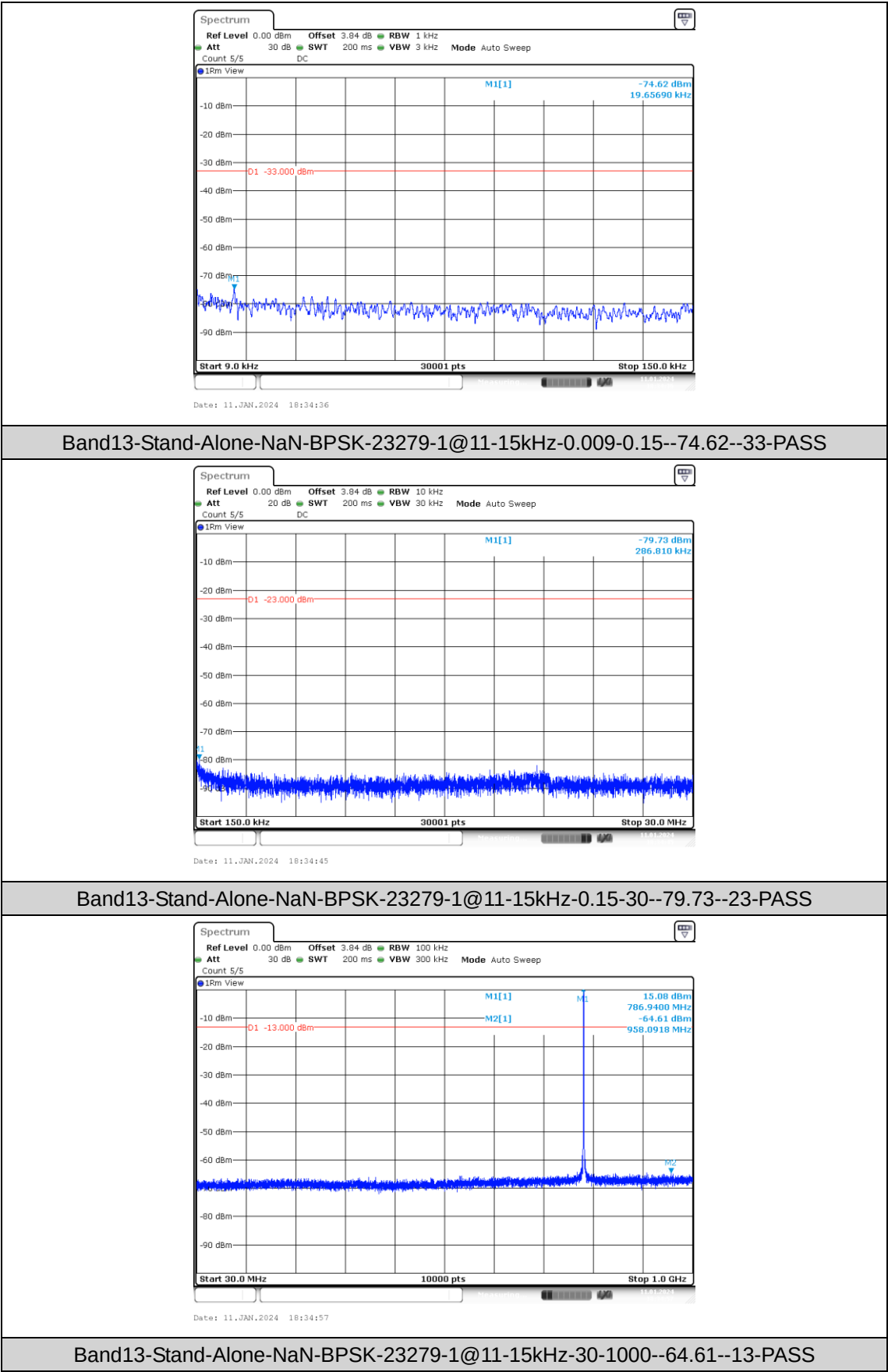
Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-793-805--66.2--35-PASS

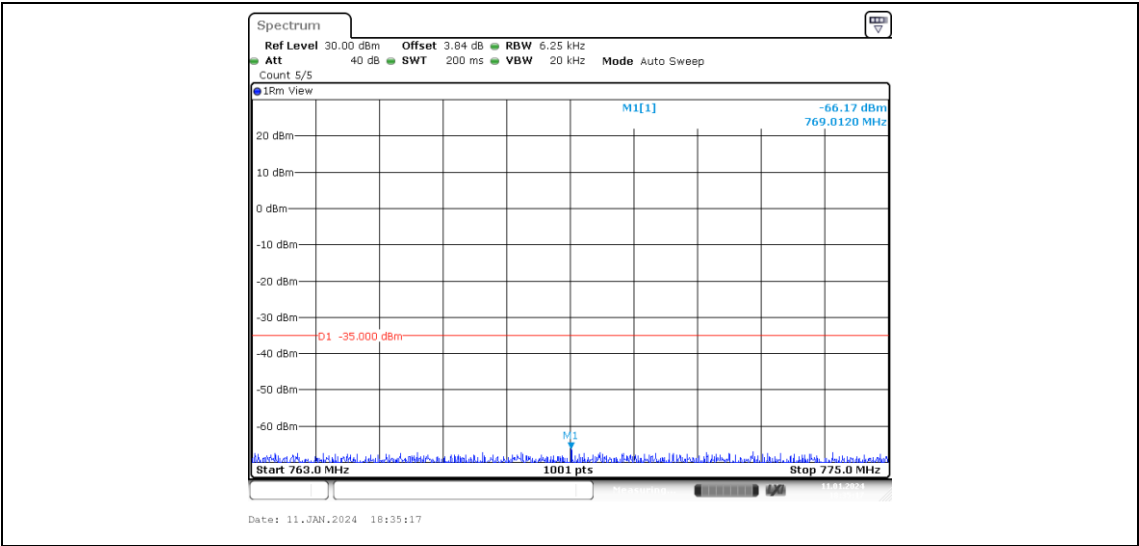


Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-1000-10000--50.26--13-PASS

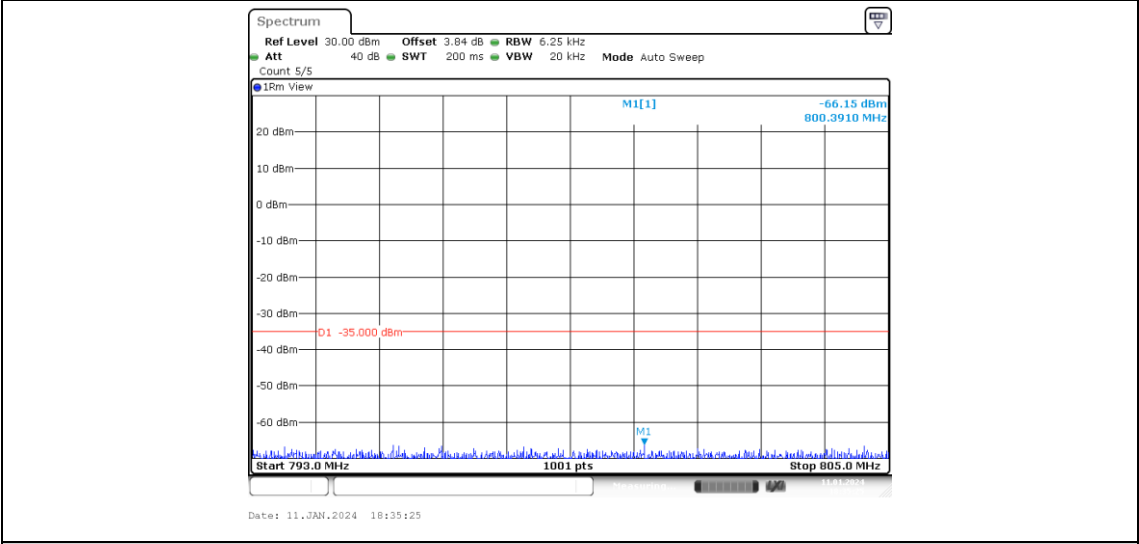


Band13-Stand-Alone-NaN-BPSK-23279-1@0-15kHz-1559-1610--51.45--50-PASS

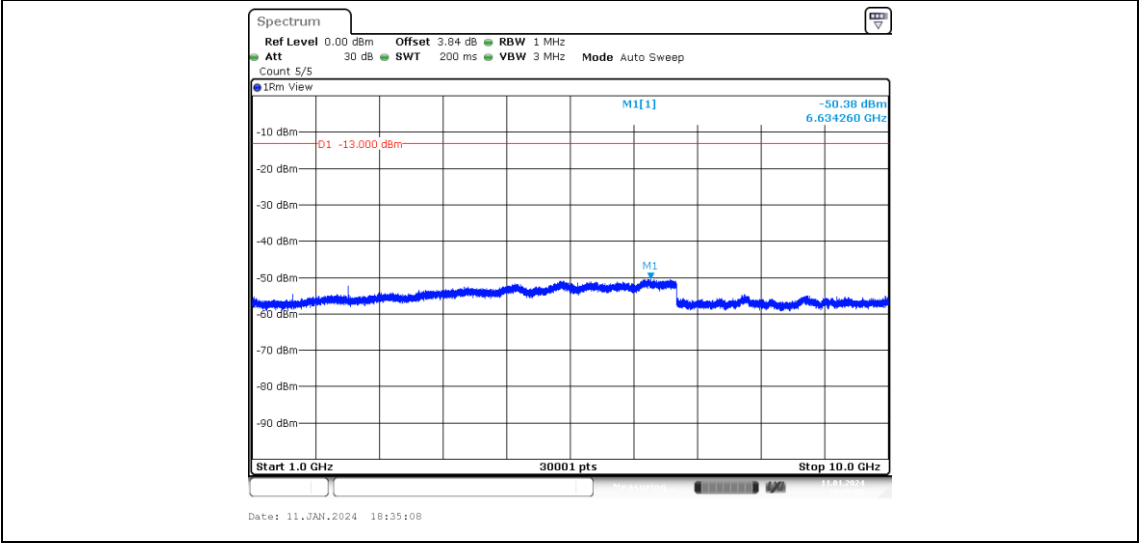




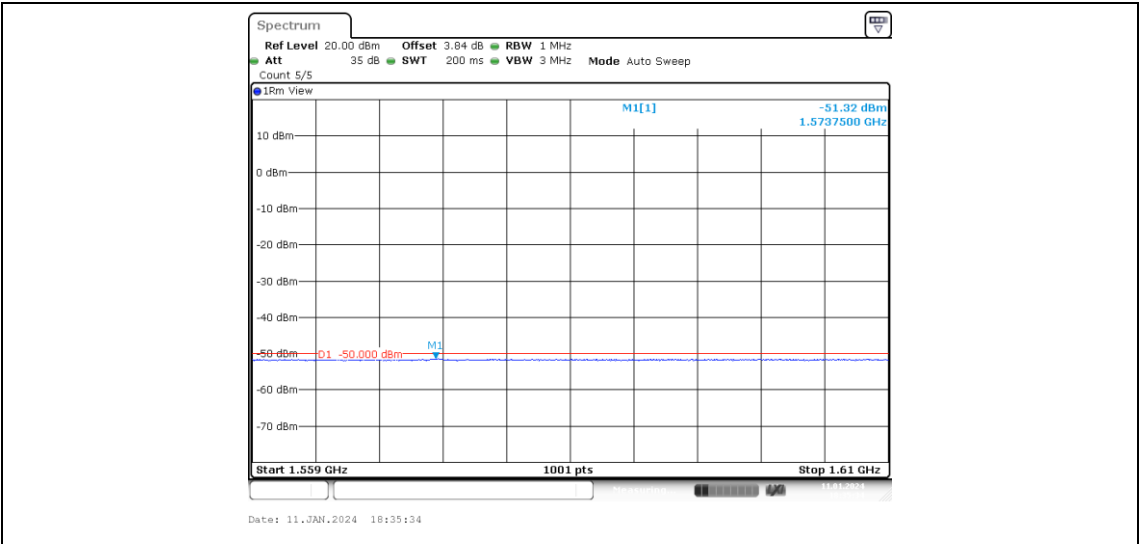
Band13-Stand-Alone-NaN-BPSK-23279-1@11-15kHz-763-775--66.17--35-PASS



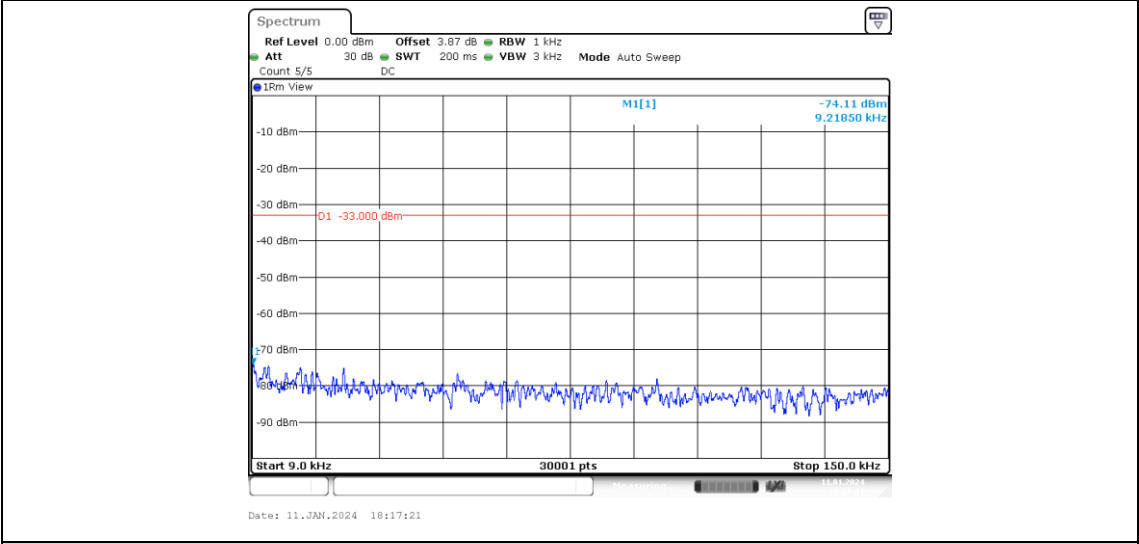
Band13-Stand-Alone-NaN-BPSK-23279-1@11-15kHz-793-805--66.15--35-PASS



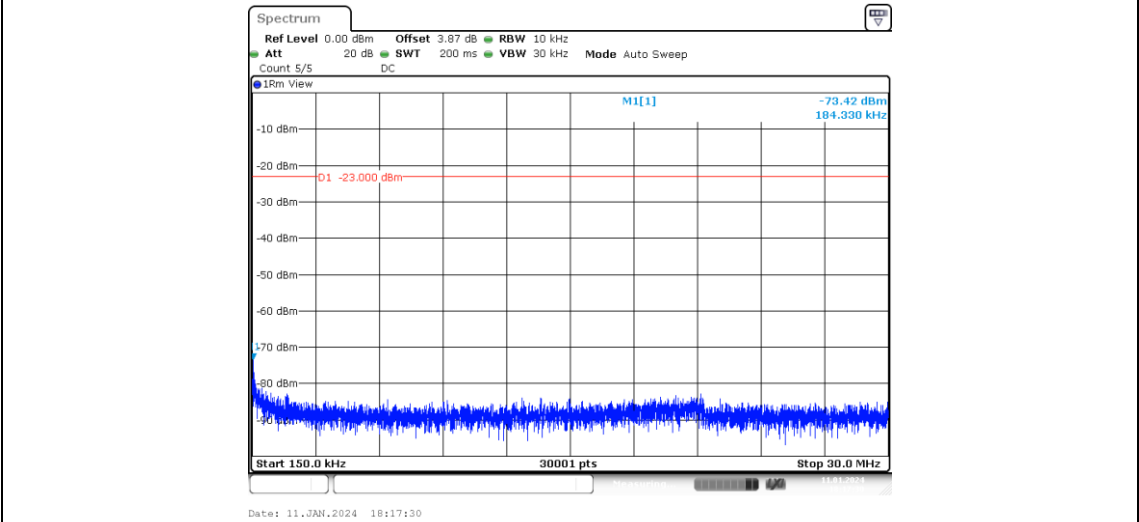
Band13-Stand-Alone-NaN-BPSK-23279-1@11-15kHz-1000-10000--50.38--13-PASS



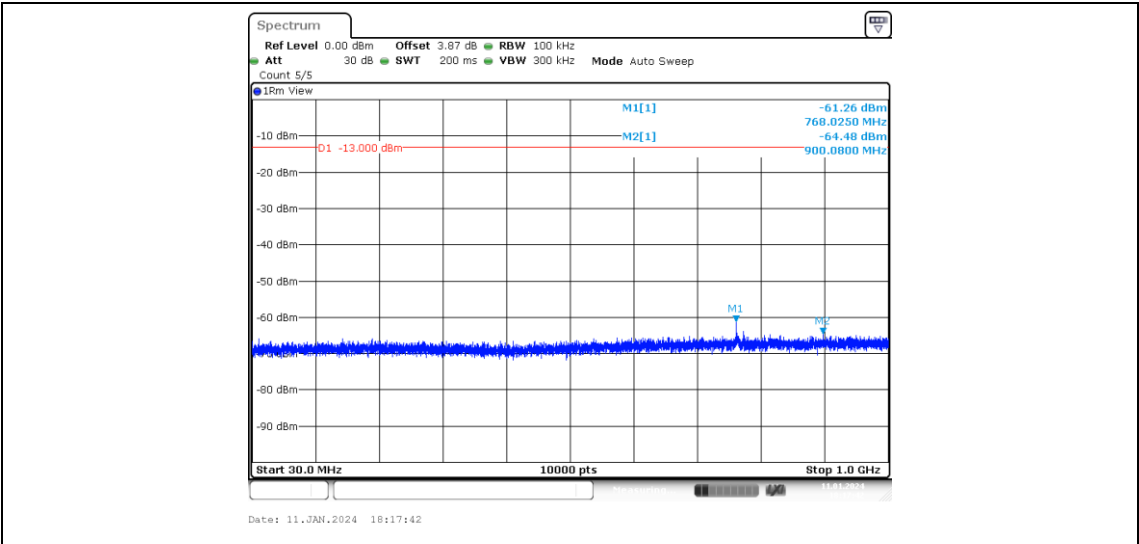
Band13-Stand-Alone-NaN-BPSK-23279-1@11-15kHz-1559-1610--51.32--50-PASS



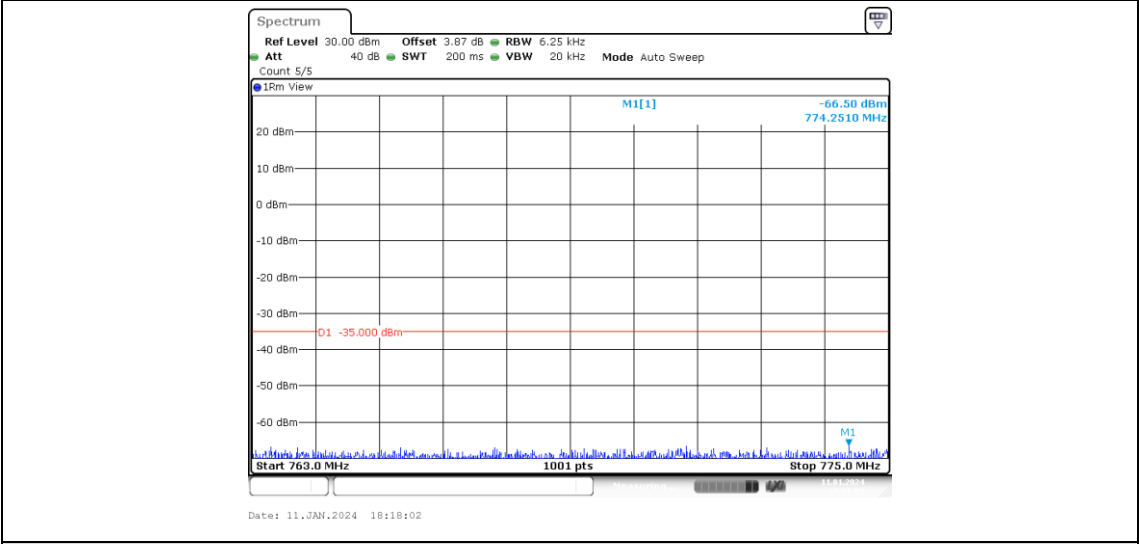
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-0.009-0.15--74.11--33-PASS



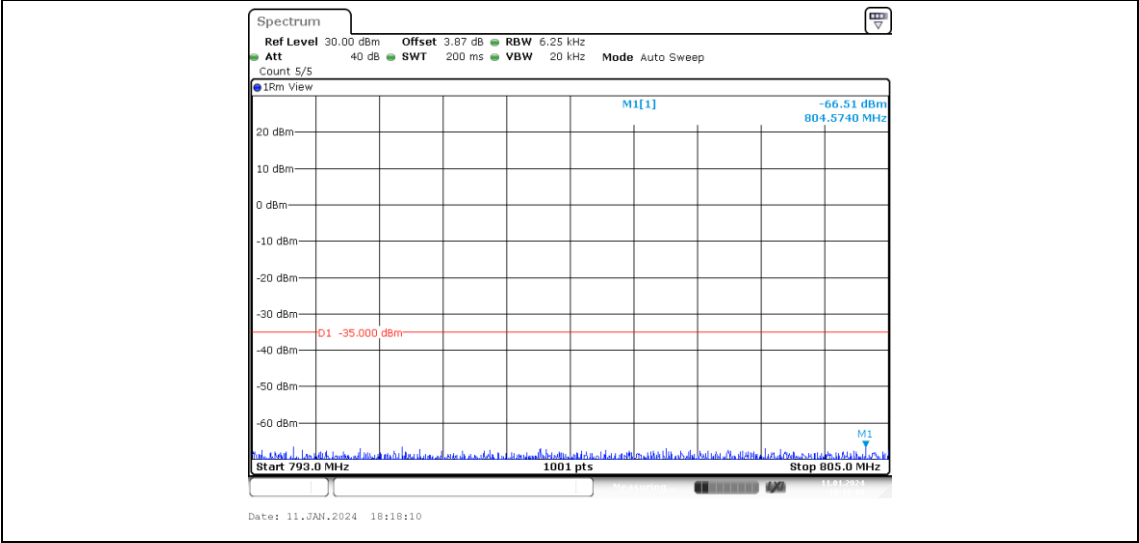
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-0.15-30--73.42--23-PASS



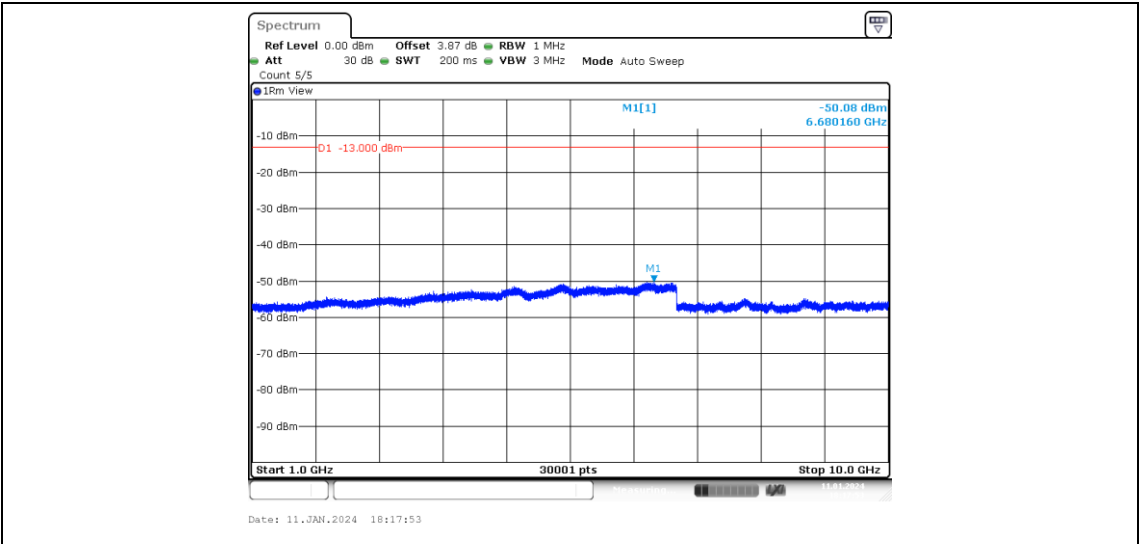
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-30-1000--64.48--13-PASS



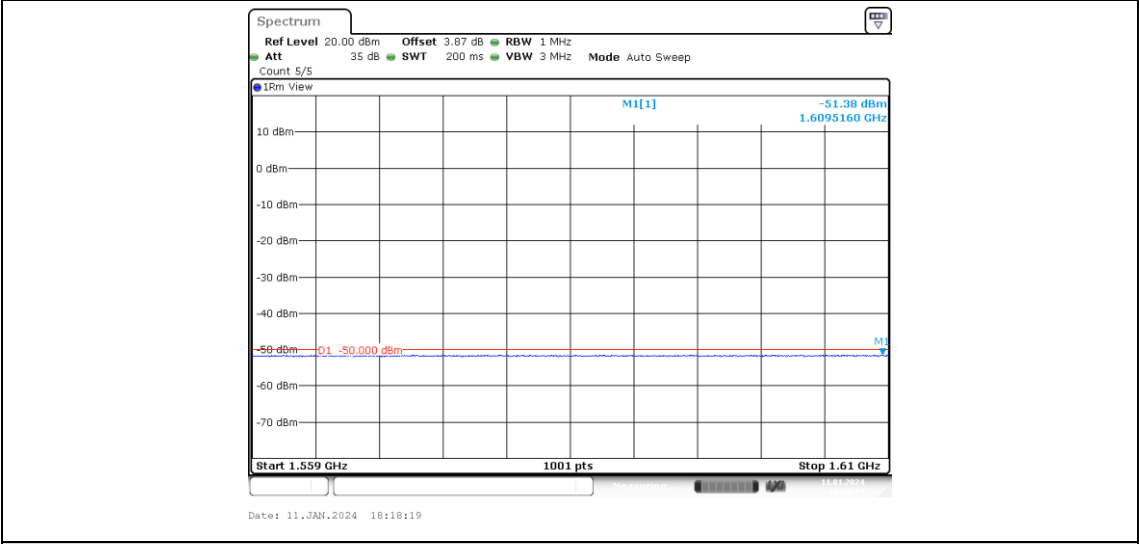
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-763-775--66.5--35-PASS



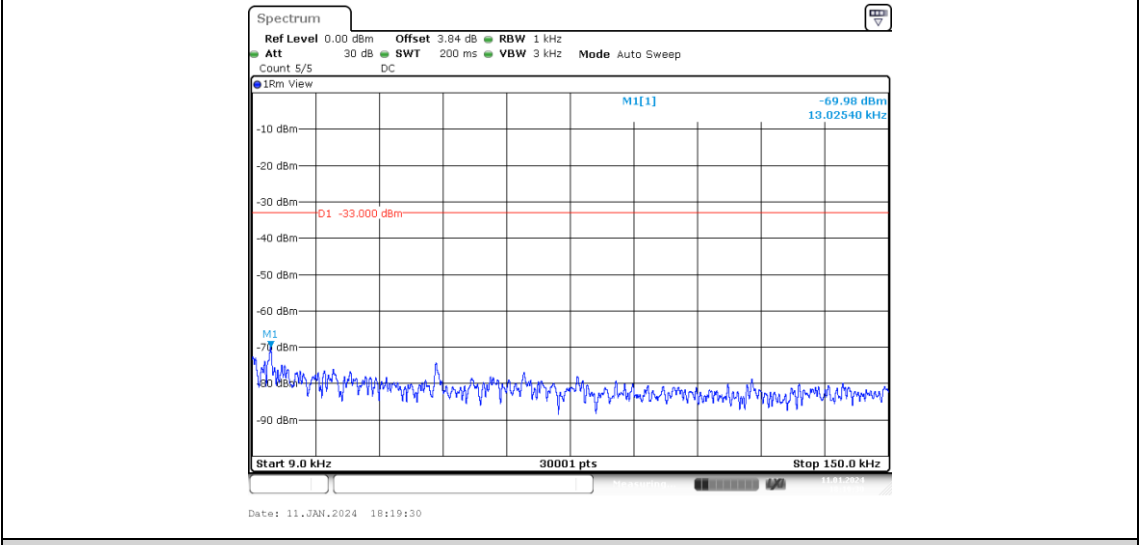
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-793-805--66.51--35-PASS



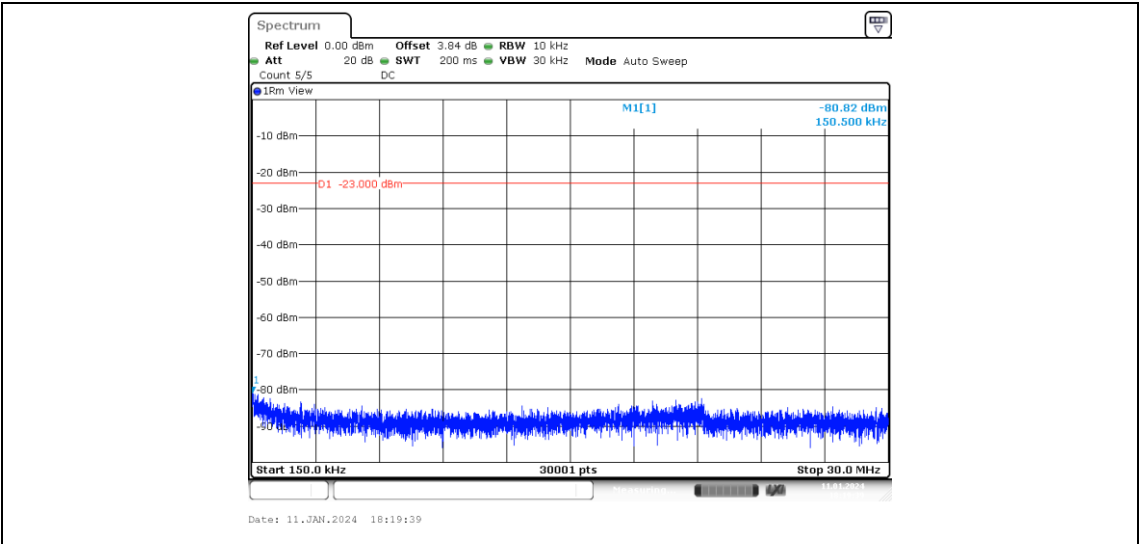
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-1000-10000--50.08--13-PASS



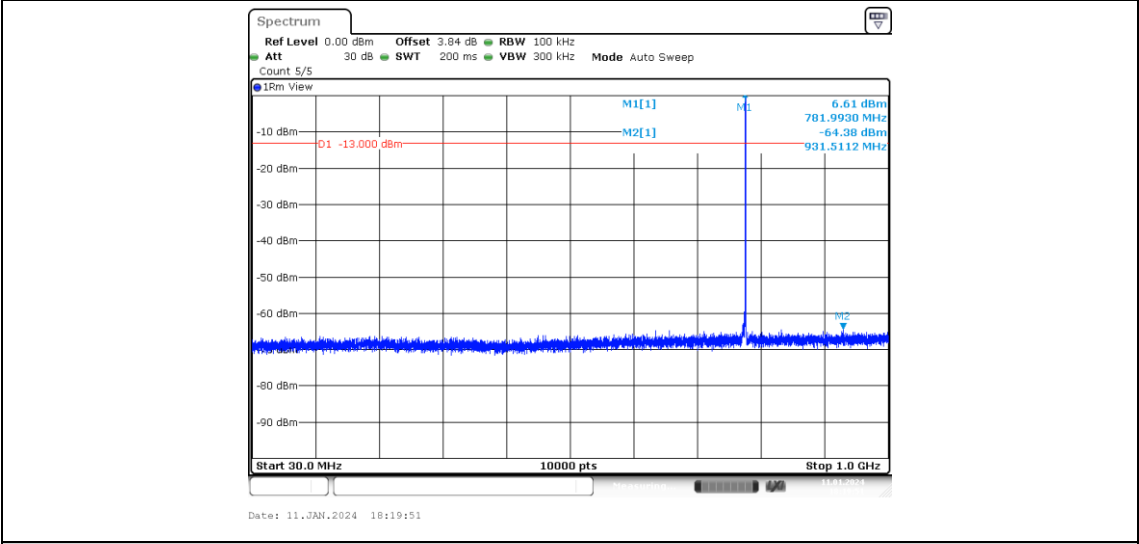
Band13-Stand-Alone-NaN-QPSK-23181-12@0-15kHz-1559-1610--51.38--50-PASS



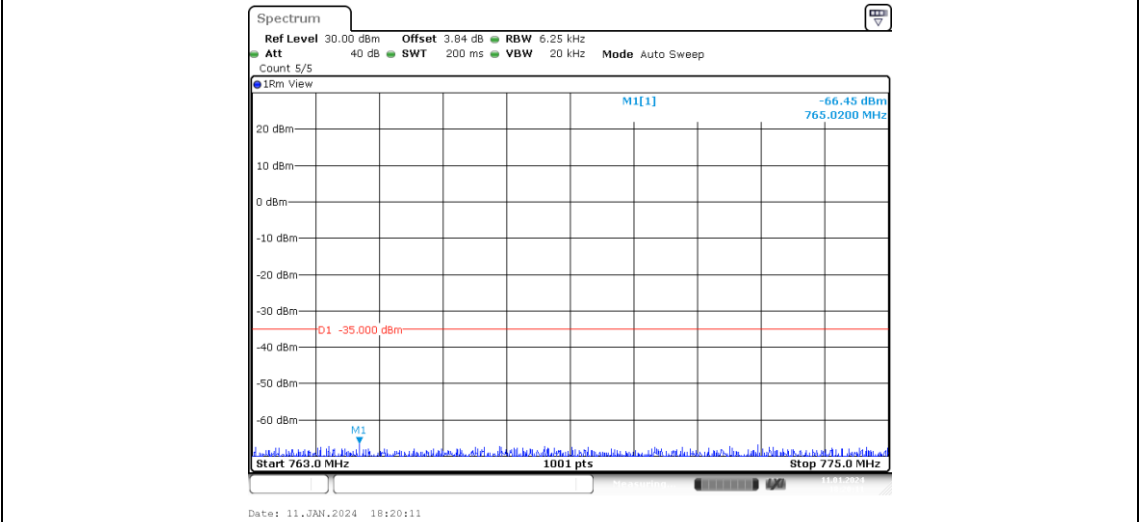
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-0.009-0.15--69.98--33-PASS



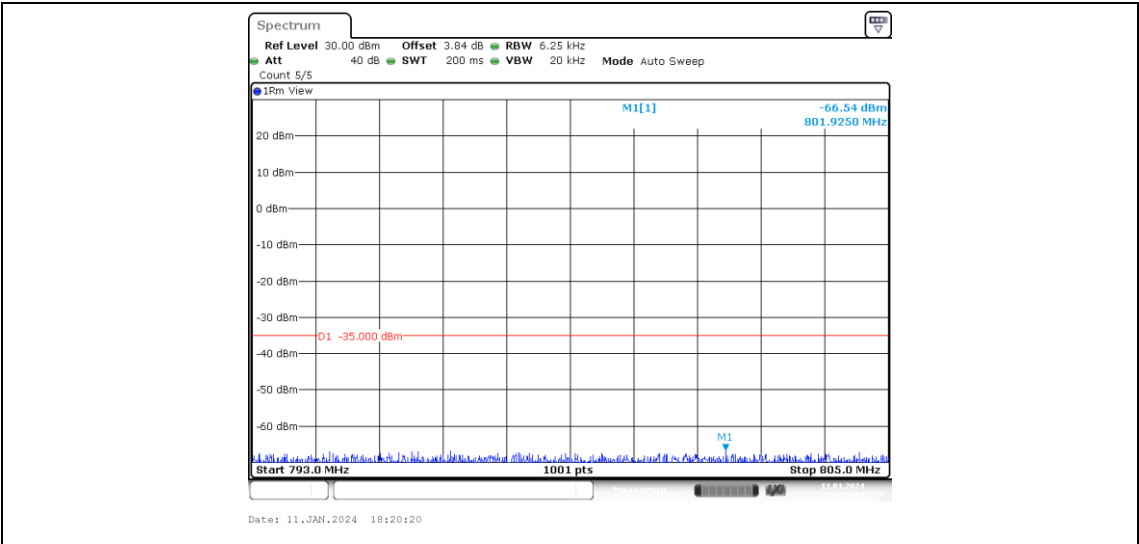
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-0.15-30--80.82--23-PASS



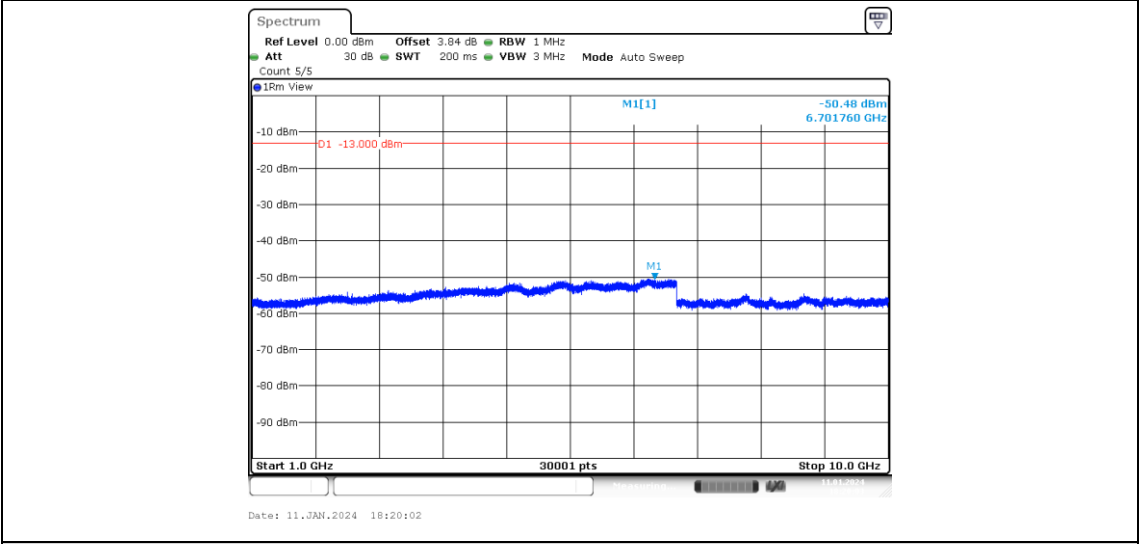
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-30-1000--64.38--13-PASS



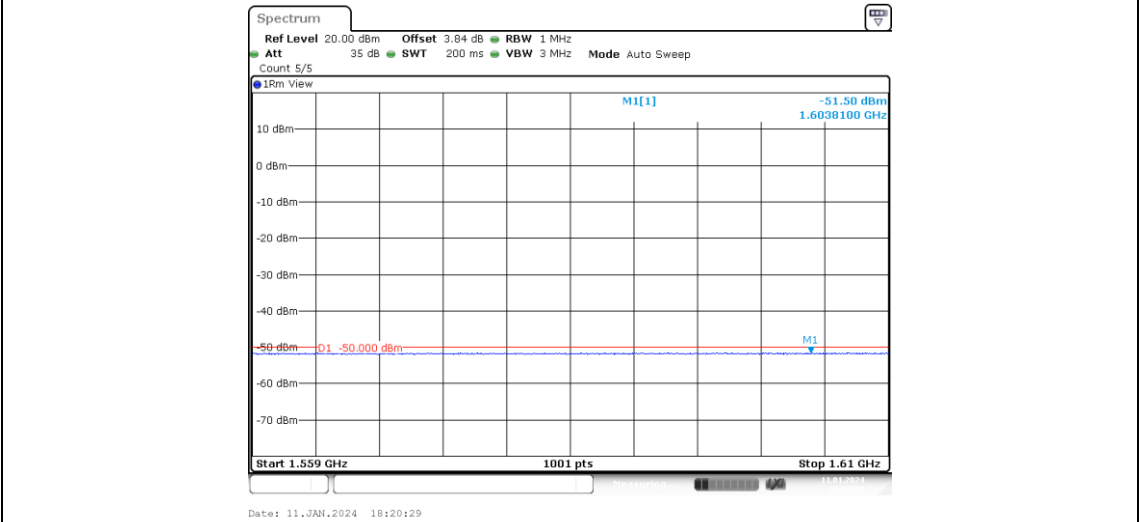
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-763-775--66.45--35-PASS



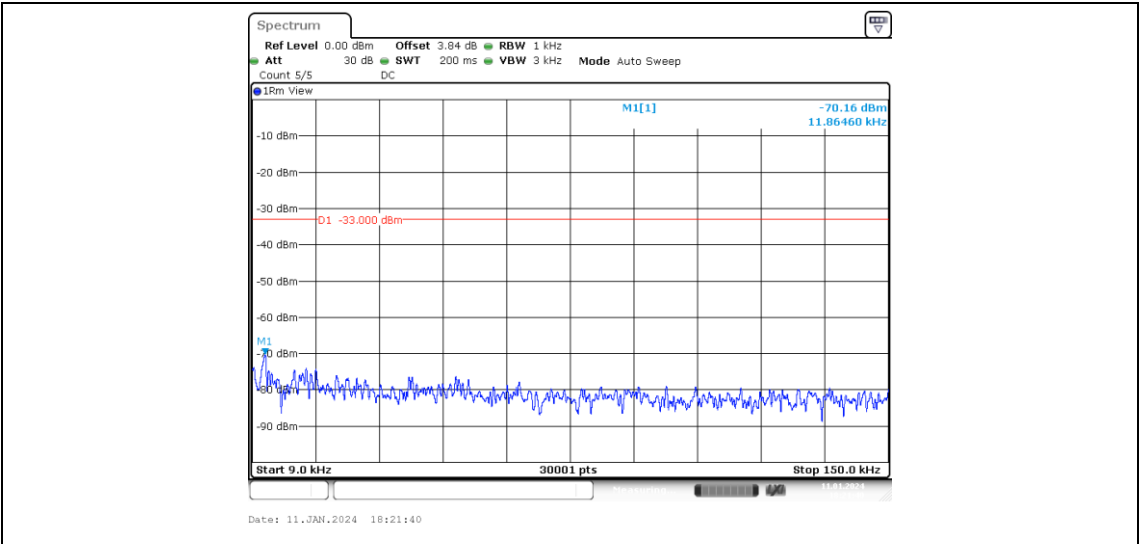
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-793-805--66.54--35-PASS



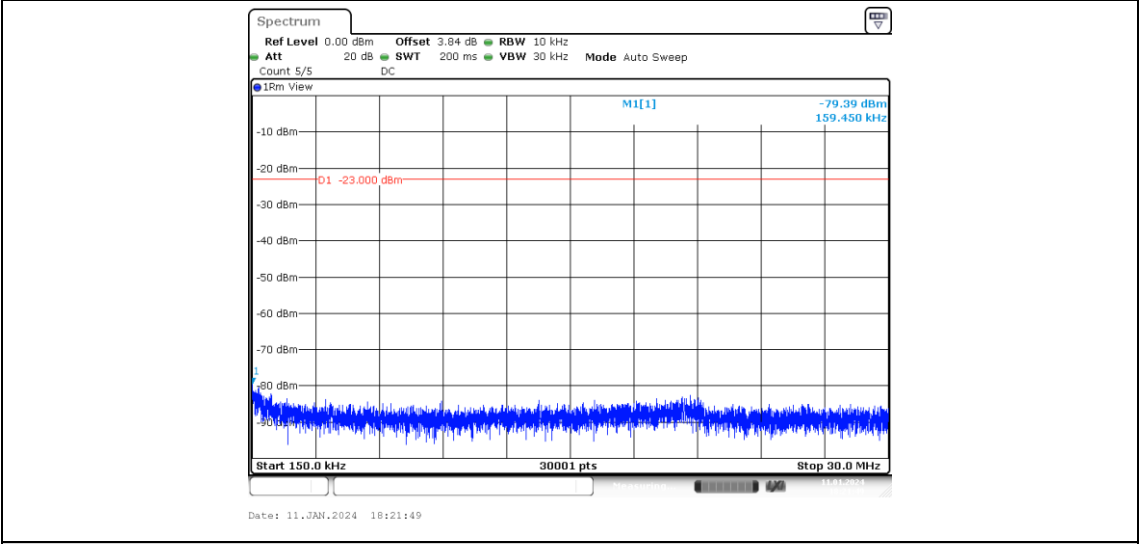
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-1000-10000--50.48--13-PASS



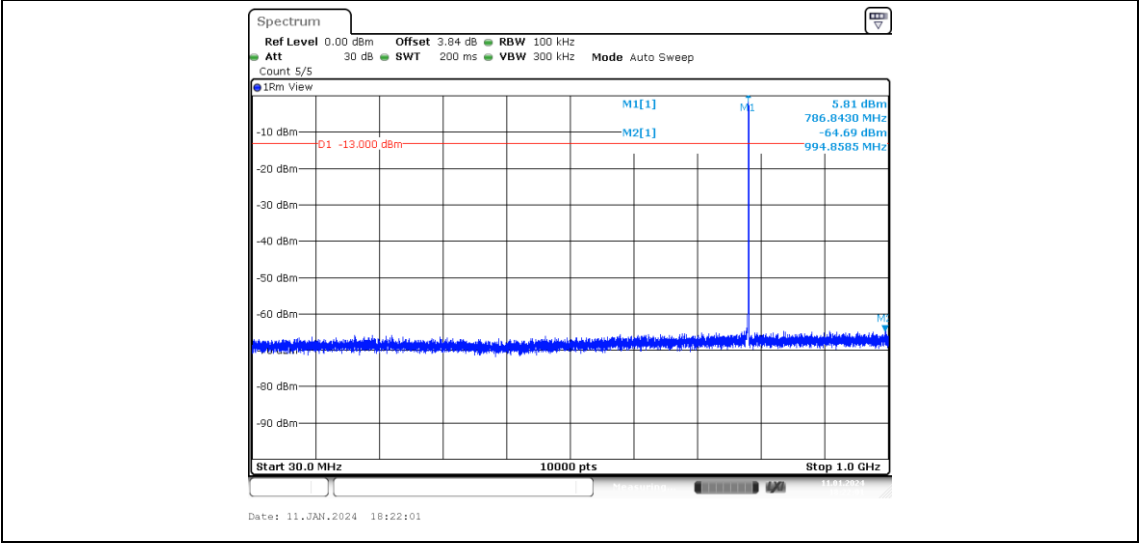
Band13-Stand-Alone-NaN-QPSK-23230-12@0-15kHz-1559-1610--51.5--50-PASS



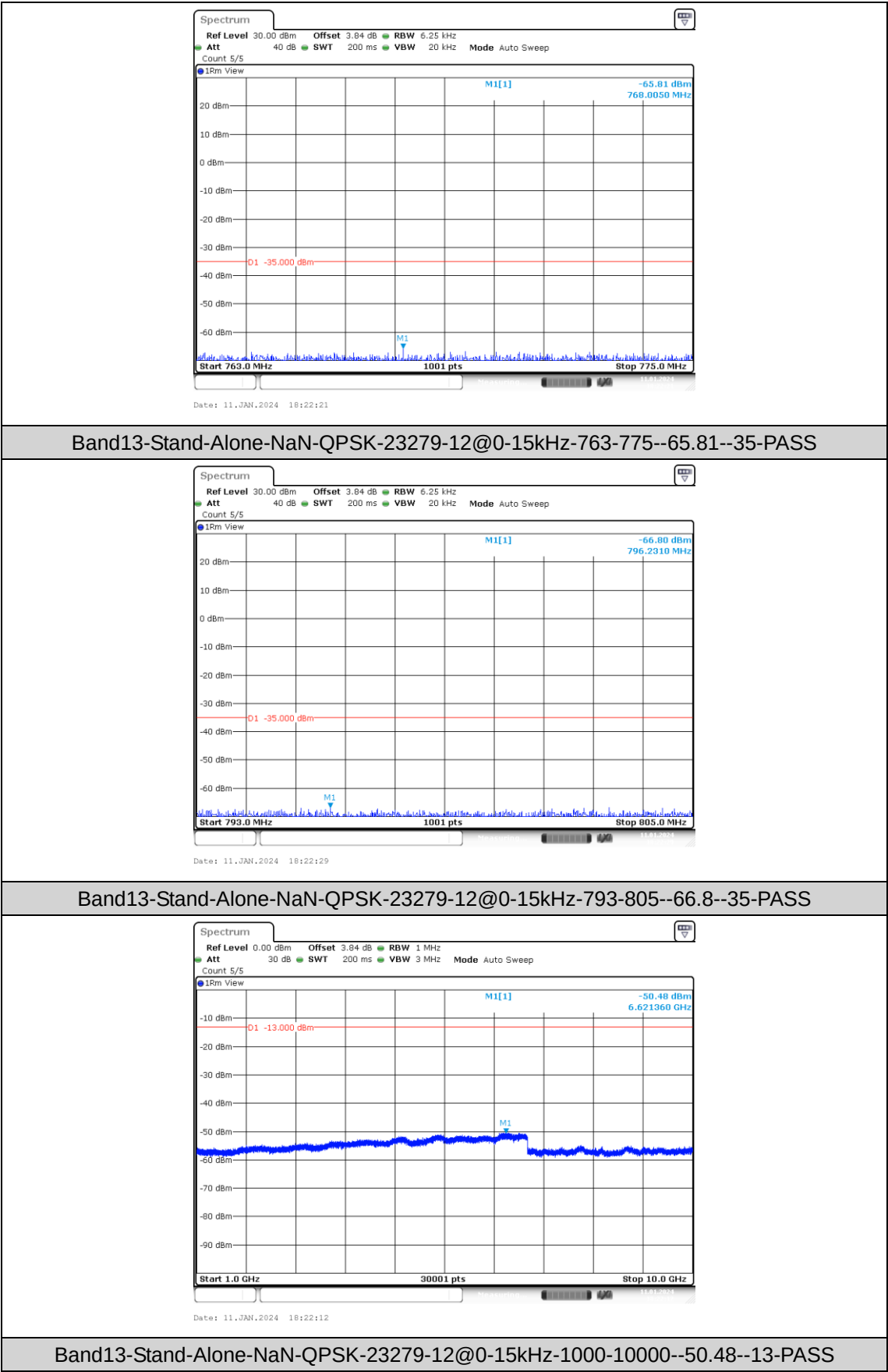
Band13-Stand-Alone-NaN-QPSK-23279-12@0-15kHz-0.009-0.15--70.16--33-PASS

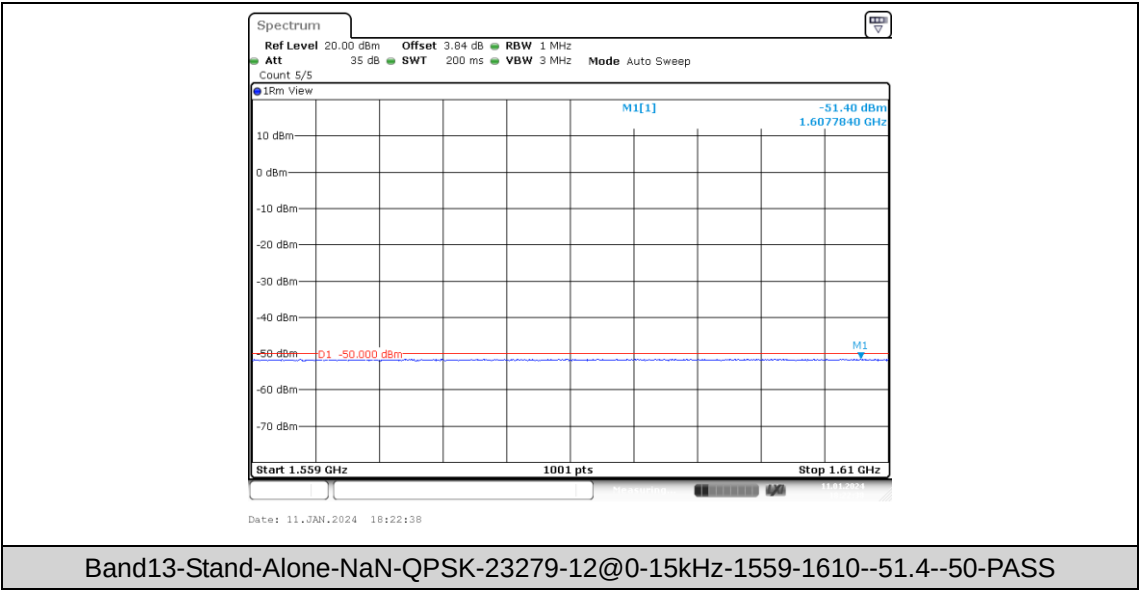


Band13-Stand-Alone-NaN-QPSK-23279-12@0-15kHz-0.15-30--79.39--23-PASS



Band13-Stand-Alone-NaN-QPSK-23279-12@0-15kHz-30-1000--64.69--13-PASS





Appendix F: Frequency Stability for NB1

Test Result

Voltage												
Band	OpMod e	SCS	Band width	Modul ation	Cha nnel	To ne s	Volt age [Vd c]	Tempe rature (°C)	Devi ation (Hz)	Devi ation (ppm)	Li mit (pp m)	Ver dict
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 0	VH	NT	-11.0 9	-0.01 4182	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 0	VL	NT	-11.6 3	-0.01 4872	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 0	VN	NT	11.7 4	0.015 013	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 47	VH	NT	16.7 7	0.021 445	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 47	VL	NT	12.9 9	0.016 611	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QPS K	232 30	1 @ 47	VN	NT	10.1 7	0.013 005	±2. 5	PA SS
Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @ 0	VH	NT	-15.7 8	-0.02 0179	±2. 5	PA SS
Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @ 0	VL	NT	6.19	0.007 916	±2. 5	PA SS
Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @ 0	VN	NT	6.34	0.008 107	±2. 5	PA SS
Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @1 1	VH	NT	-16.2 4	-0.02 0767	±2. 5	PA SS
Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @1 1	VL	NT	-19.5 8	-0.02 5038	±2. 5	PA SS

Ban d13	Stand- Alone	15k Hz	NaN	QPS K	232 30	1 @1 1	VN	NT	-20.1 7	-0.02 5793	±2. 5	PA SS
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Temperature												
Band	OpMod e	Band width	Modul ation	Cha nel	To ne s	SC S	Volt age [Vd c]	Tempe rature (°C)	Devi ation (Hz)	Devia tion (ppm)	Li mit (pp m)	Ver dict
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	50	-18.1 1	-0.02 3159	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	-20	-13.4 3	-0.01 7174	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	-10	-17.3 5	-0.02 2187	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	0	14.4 2	0.018 440	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	10	-14.8 8	-0.01 9028	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	20	-23.0 3	-0.02 9450	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	30	-7.64	-0.00 9770	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	40	9.54	0.012 199	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 0	NV	-30	15.9 4	0.020 384	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	30	-14.7 1	-0.01 8811	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	20	18.2 1	0.023 286	±2. 5	PA SS
Ban	Stand-	3.75	NaN	QP	23	1	NV	10	18.2	0.023	±2.	PA

d13	Alone	kHz		SK	23 0	@ 47			7	363	5	SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	0	-9.73	-0.01 2442	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	-10	-20.2 7	-0.02 5921	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	40	10.0 7	0.012 877	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	-30	15.1 3	0.019 348	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	50	16.7 4	0.021 407	±2. 5	PA SS
Ban d13	Stand- Alone	3.75 kHz	NaN	QP SK	23 23 0	1 @ 47	NV	-20	-11.1 4	-0.01 4246	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	50	11.0 9	0.014 182	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	-20	13.6 3	0.017 430	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	-10	-8.83	-0.01 1292	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	0	-7.44	-0.00 9514	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	10	-7.70	-0.00 9847	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	20	11.9 9	0.015 332	±2. 5	PA SS
Ban d13	Stand- Alone	15kHz z	NaN	QP SK	23 23 0	1 @ 0	NV	30	20.5 7	0.026 304	±2. 5	PA SS
Ban	Stand-	15kHz	NaN	QP	23	1	NV	40	15.4	0.019	±2.	PA

d13	Alone	z		SK	23 0	@ 0			6	770	5	SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @ 0	NV	-30	13.0 7	0.016 714	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	40	20.2 7	0.025 921	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	30	14.9 9	0.019 169	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	20	13.5 5	0.017 327	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	10	18.0 4	0.023 069	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	0	14.6 6	0.018 747	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	-10	16.8 8	0.021 586	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	-30	-22.6 3	-0.02 8939	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	50	-16.4 8	-0.02 1074	±2. 5	PA SS
Ban d13	Stand- Alone	15kH z	NaN	QP SK	23 23 0	1 @1 1	NV	-20	-12.5 2	-0.01 6010	±2. 5	PA SS