

Appendix for LTE BAND 13

Product Name: CSX8

Model No: LGT-08QA-2301

Appendix A: Average Power Output Data

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	23.87	PASS
Band13	5MHz	QPSK	23205	1RB#12	23.87	PASS
Band13	5MHz	QPSK	23205	1RB#24	23.81	PASS
Band13	5MHz	QPSK	23205	12RB#0	22.93	PASS
Band13	5MHz	QPSK	23205	12RB#6	22.94	PASS
Band13	5MHz	QPSK	23205	12RB#13	22.87	PASS
Band13	5MHz	QPSK	23205	25RB#0	22.89	PASS
Band13	5MHz	QPSK	23230	1RB#0	23.82	PASS
Band13	5MHz	QPSK	23230	1RB#12	23.74	PASS
Band13	5MHz	QPSK	23230	1RB#24	23.70	PASS
Band13	5MHz	QPSK	23230	12RB#0	22.80	PASS
Band13	5MHz	QPSK	23230	12RB#6	22.86	PASS
Band13	5MHz	QPSK	23230	12RB#13	22.74	PASS
Band13	5MHz	QPSK	23230	25RB#0	22.81	PASS
Band13	5MHz	QPSK	23255	1RB#0	23.77	PASS
Band13	5MHz	QPSK	23255	1RB#12	23.67	PASS
Band13	5MHz	QPSK	23255	1RB#24	23.56	PASS
Band13	5MHz	QPSK	23255	12RB#0	22.70	PASS
Band13	5MHz	QPSK	23255	12RB#6	22.71	PASS
Band13	5MHz	QPSK	23255	12RB#13	22.67	PASS
Band13	5MHz	QPSK	23255	25RB#0	22.70	PASS
Band13	5MHz	16QAM	23205	1RB#0	22.90	PASS
Band13	5MHz	16QAM	23205	1RB#12	22.93	PASS
Band13	5MHz	16QAM	23205	1RB#24	22.93	PASS
Band13	5MHz	16QAM	23205	12RB#0	21.95	PASS
Band13	5MHz	16QAM	23205	12RB#6	21.89	PASS
Band13	5MHz	16QAM	23205	12RB#13	21.88	PASS
Band13	5MHz	16QAM	23205	25RB#0	21.93	PASS
Band13	5MHz	16QAM	23230	1RB#0	23.10	PASS

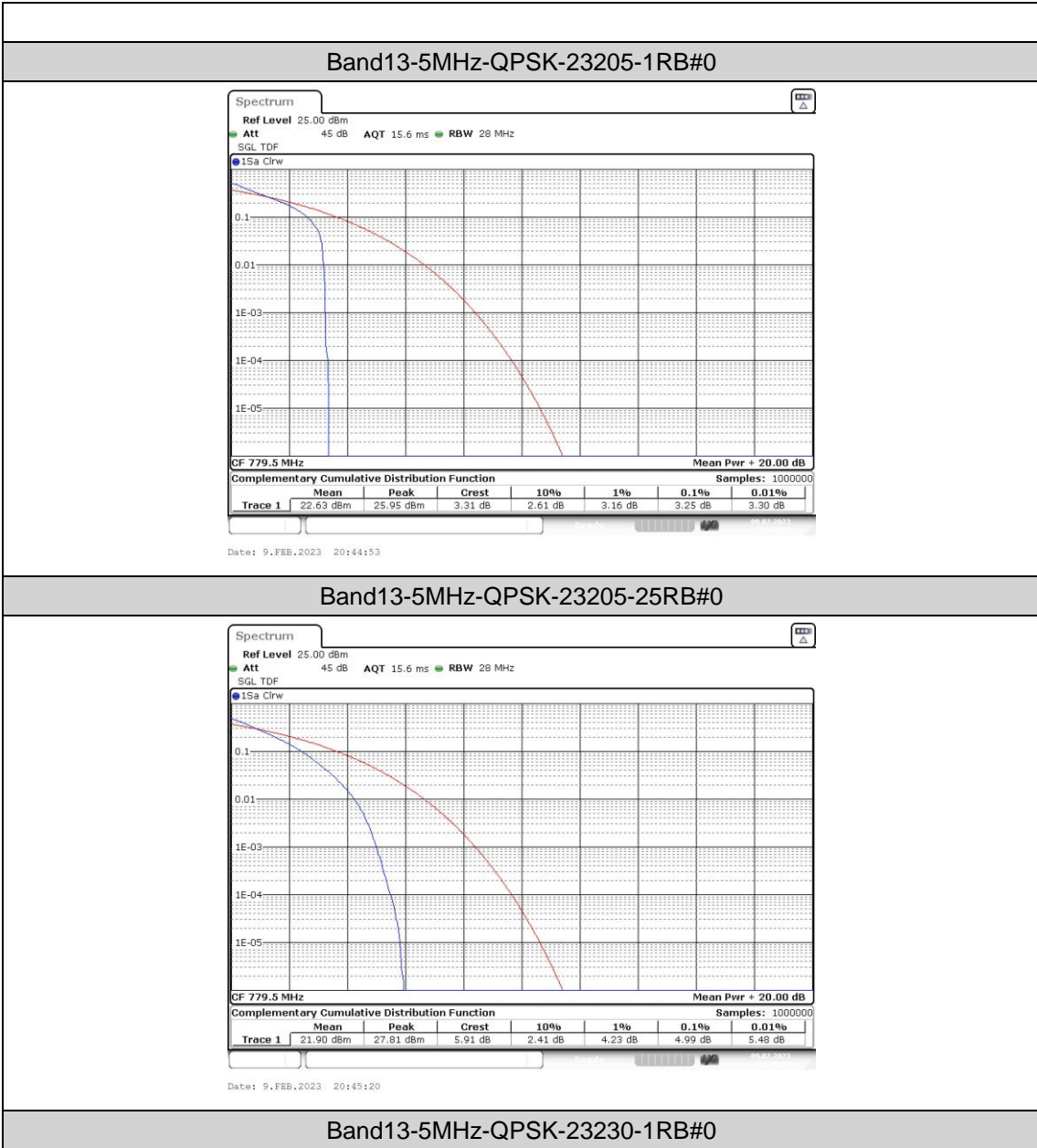
Band13	5MHz	16QAM	23230	1RB#12	23.14	PASS
Band13	5MHz	16QAM	23230	1RB#24	22.95	PASS
Band13	5MHz	16QAM	23230	12RB#0	21.90	PASS
Band13	5MHz	16QAM	23230	12RB#6	21.91	PASS
Band13	5MHz	16QAM	23230	12RB#13	21.84	PASS
Band13	5MHz	16QAM	23230	25RB#0	21.80	PASS
Band13	5MHz	16QAM	23255	1RB#0	22.72	PASS
Band13	5MHz	16QAM	23255	1RB#12	22.72	PASS
Band13	5MHz	16QAM	23255	1RB#24	22.73	PASS
Band13	5MHz	16QAM	23255	12RB#0	21.81	PASS
Band13	5MHz	16QAM	23255	12RB#6	21.80	PASS
Band13	5MHz	16QAM	23255	12RB#13	21.73	PASS
Band13	5MHz	16QAM	23255	25RB#0	21.74	PASS
Band13	10MHz	QPSK	23230	1RB#0	23.91	PASS
Band13	10MHz	QPSK	23230	1RB#24	23.70	PASS
Band13	10MHz	QPSK	23230	1RB#49	23.54	PASS
Band13	10MHz	QPSK	23230	25RB#0	22.85	PASS
Band13	10MHz	QPSK	23230	25RB#12	22.86	PASS
Band13	10MHz	QPSK	23230	25RB#25	22.69	PASS
Band13	10MHz	QPSK	23230	50RB#0	22.86	PASS
Band13	10MHz	16QAM	23230	1RB#0	23.22	PASS
Band13	10MHz	16QAM	23230	1RB#24	23.06	PASS
Band13	10MHz	16QAM	23230	1RB#49	22.91	PASS
Band13	10MHz	16QAM	23230	25RB#0	21.89	PASS
Band13	10MHz	16QAM	23230	25RB#12	21.87	PASS
Band13	10MHz	16QAM	23230	25RB#25	21.71	PASS
Band13	10MHz	16QAM	23230	50RB#0	21.83	PASS

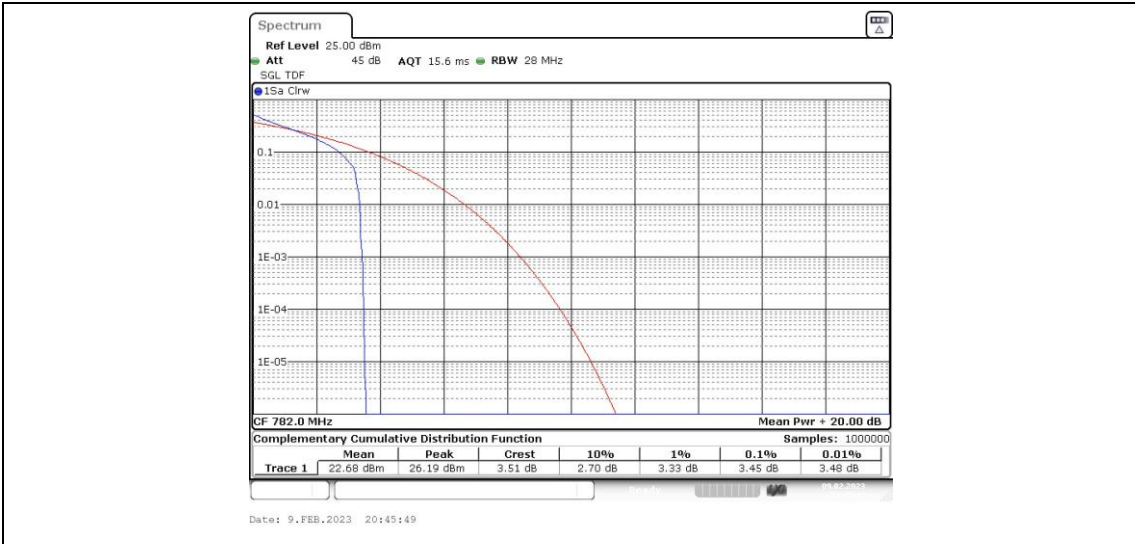
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

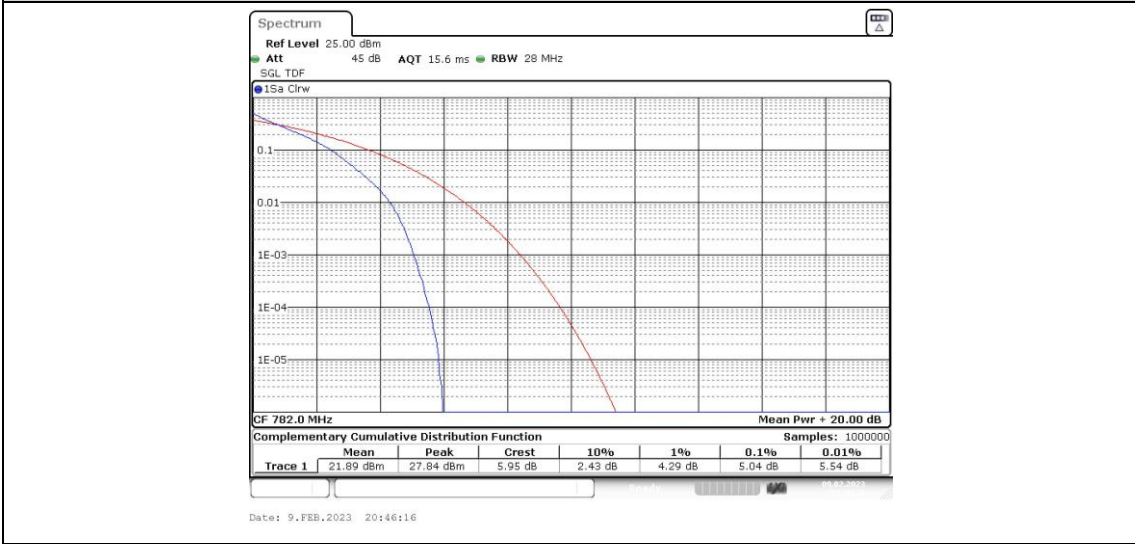
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	3.25	13	PASS
Band13	5MHz	QPSK	23205	25RB#0	4.99	13	PASS
Band13	5MHz	QPSK	23230	1RB#0	3.45	13	PASS
Band13	5MHz	QPSK	23230	25RB#0	5.04	13	PASS
Band13	5MHz	QPSK	23255	1RB#0	3.51	13	PASS
Band13	5MHz	QPSK	23255	25RB#0	5.07	13	PASS
Band13	5MHz	16QAM	23205	1RB#0	4.67	13	PASS
Band13	5MHz	16QAM	23205	25RB#0	5.80	13	PASS
Band13	5MHz	16QAM	23230	1RB#0	4.99	13	PASS
Band13	5MHz	16QAM	23230	25RB#0	5.86	13	PASS
Band13	5MHz	16QAM	23255	1RB#0	5.13	13	PASS
Band13	5MHz	16QAM	23255	25RB#0	5.86	13	PASS
Band13	10MHz	QPSK	23230	1RB#0	3.22	13	PASS
Band13	10MHz	QPSK	23230	50RB#0	4.99	13	PASS
Band13	10MHz	16QAM	23230	1RB#0	4.58	13	PASS
Band13	10MHz	16QAM	23230	50RB#0	5.86	13	PASS

Test Graphs

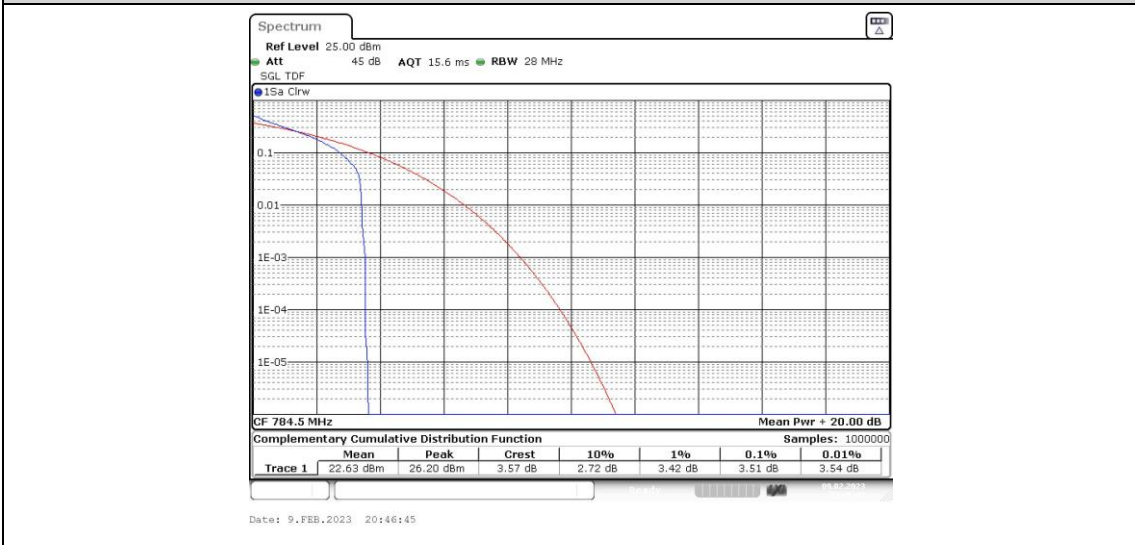




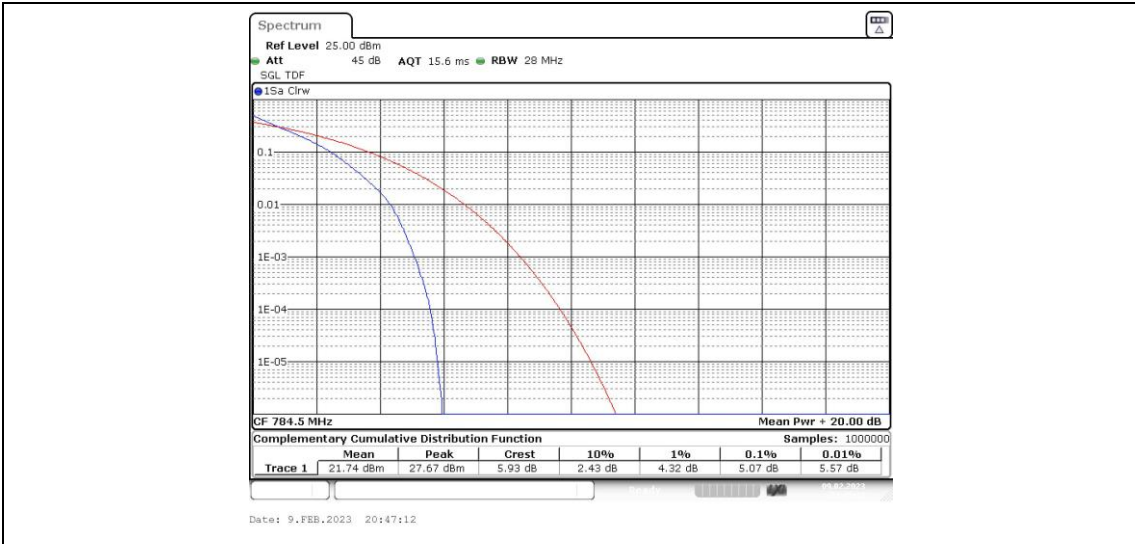
Band13-5MHz-QPSK-23230-25RB#0



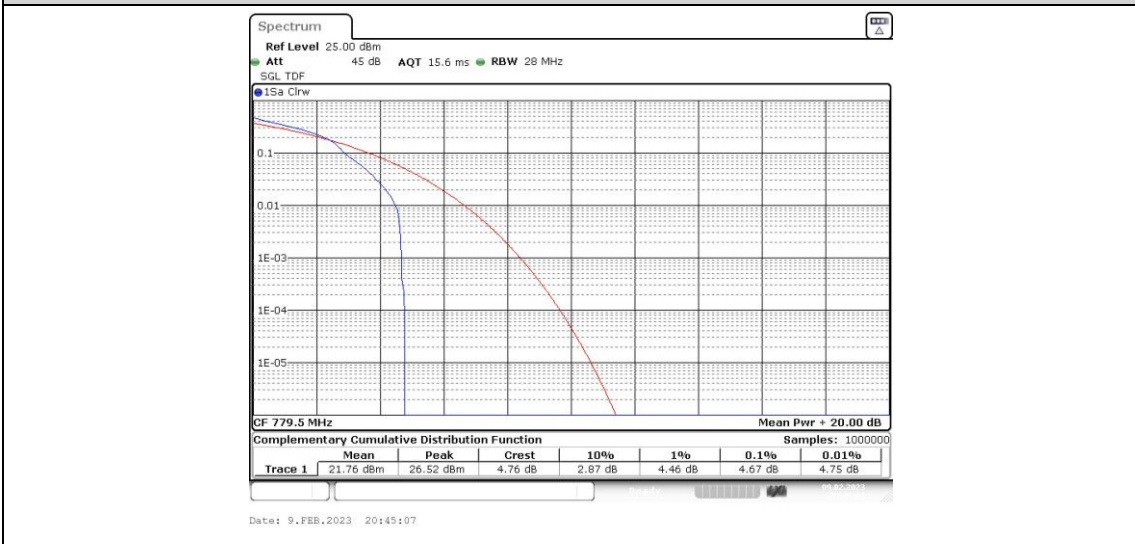
Band13-5MHz-QPSK-23255-1RB#0



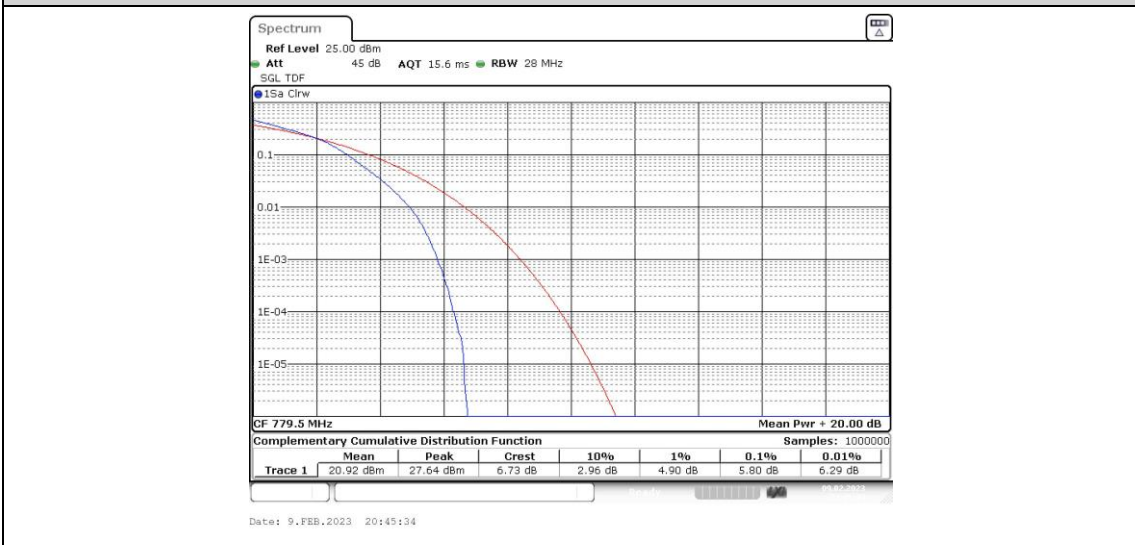
Band13-5MHz-QPSK-23255-25RB#0



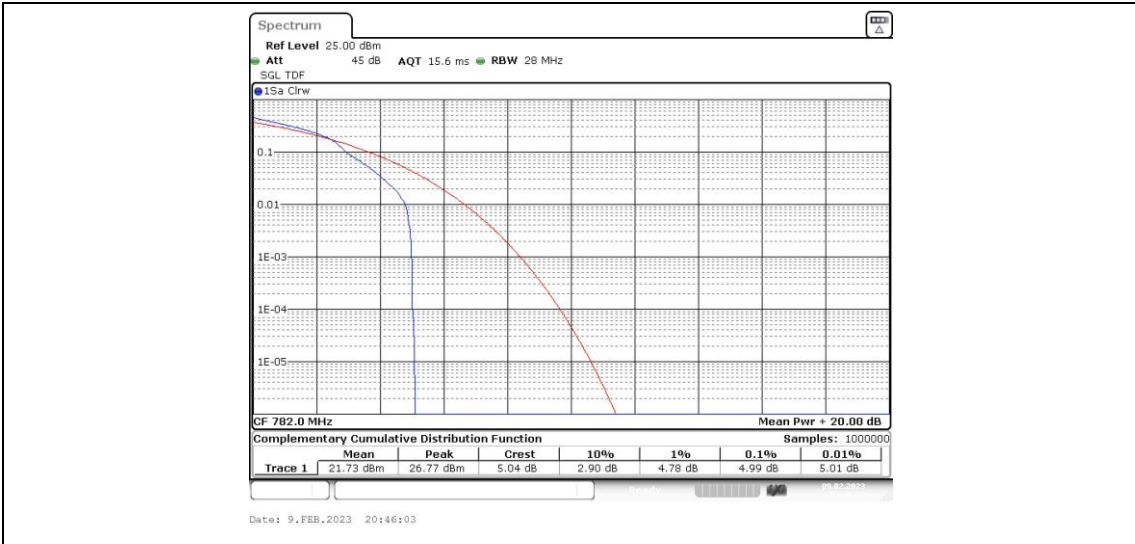
Band13-5MHz-16QAM-23205-1RB#0



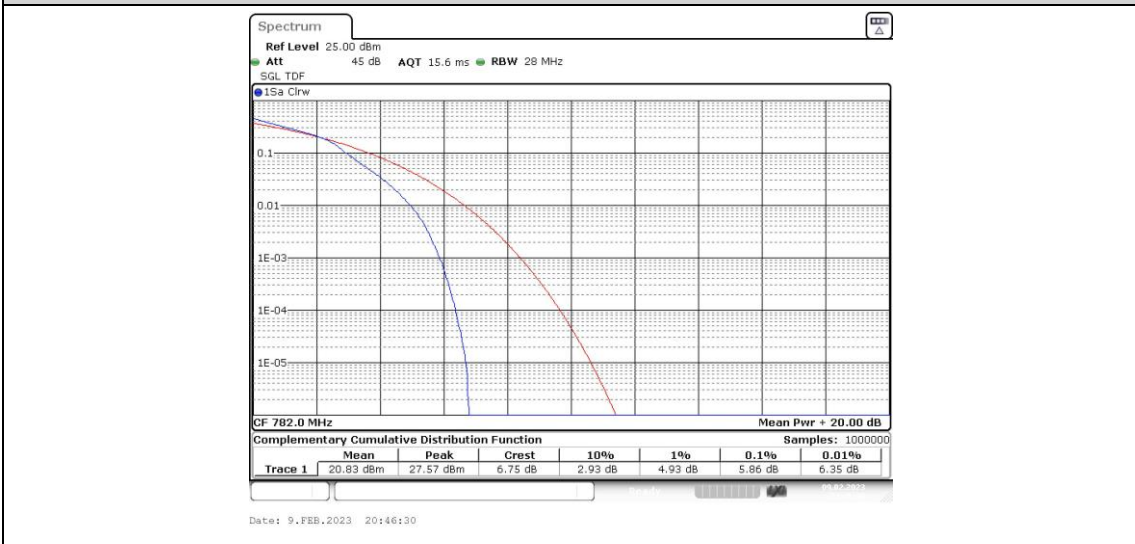
Band13-5MHz-16QAM-23205-25RB#0



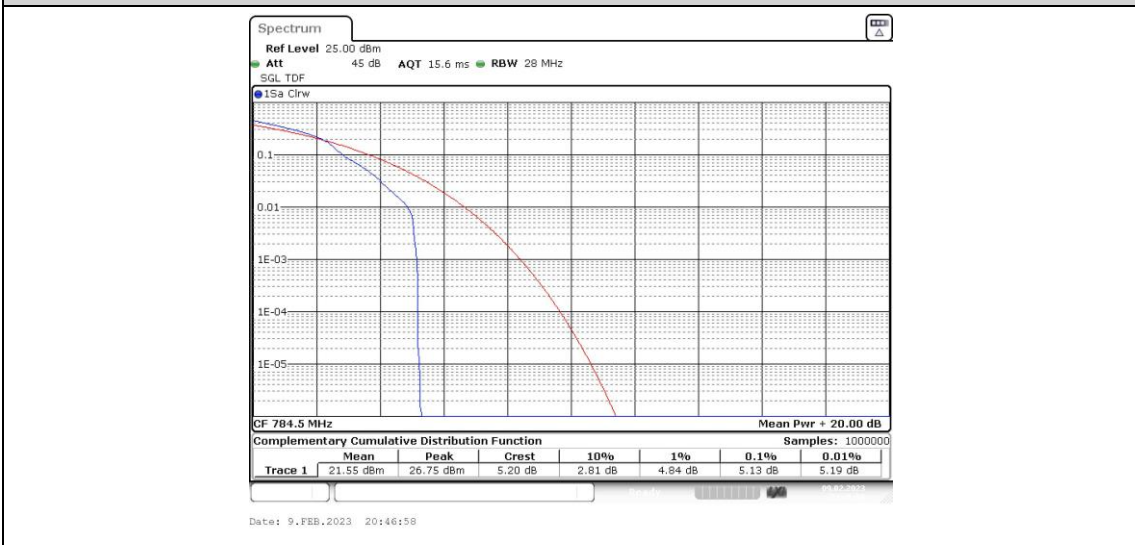
Band13-5MHz-16QAM-23230-1RB#0



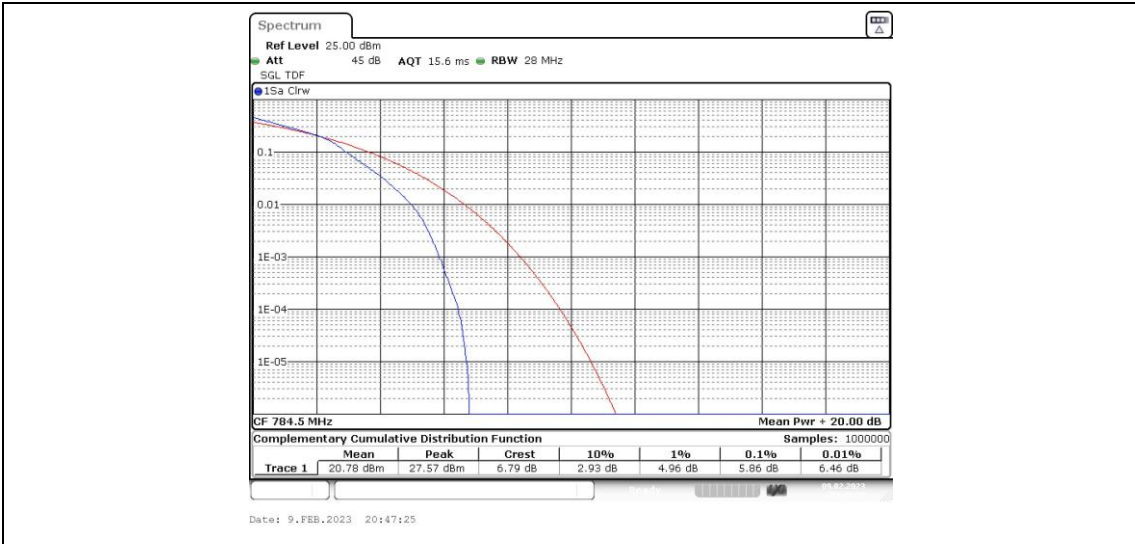
Band13-5MHz-16QAM-23230-25RB#0



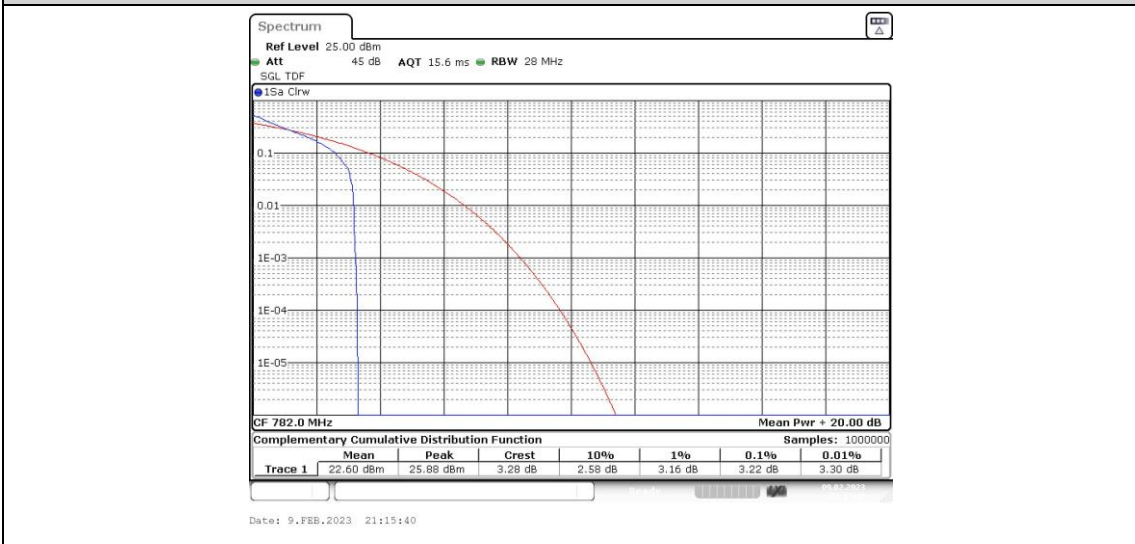
Band13-5MHz-16QAM-23255-1RB#0



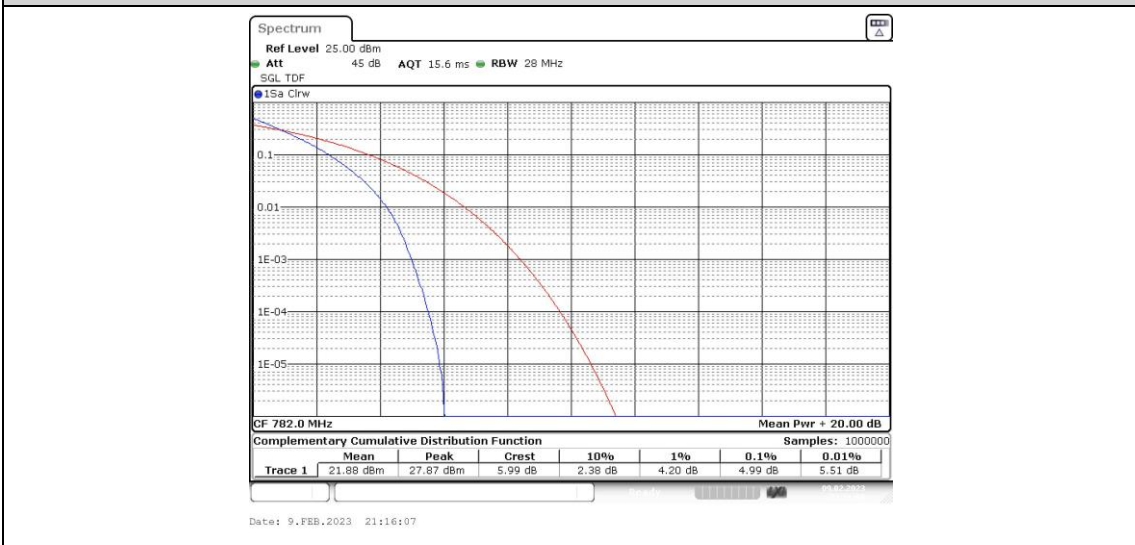
Band13-5MHz-16QAM-23255-25RB#0



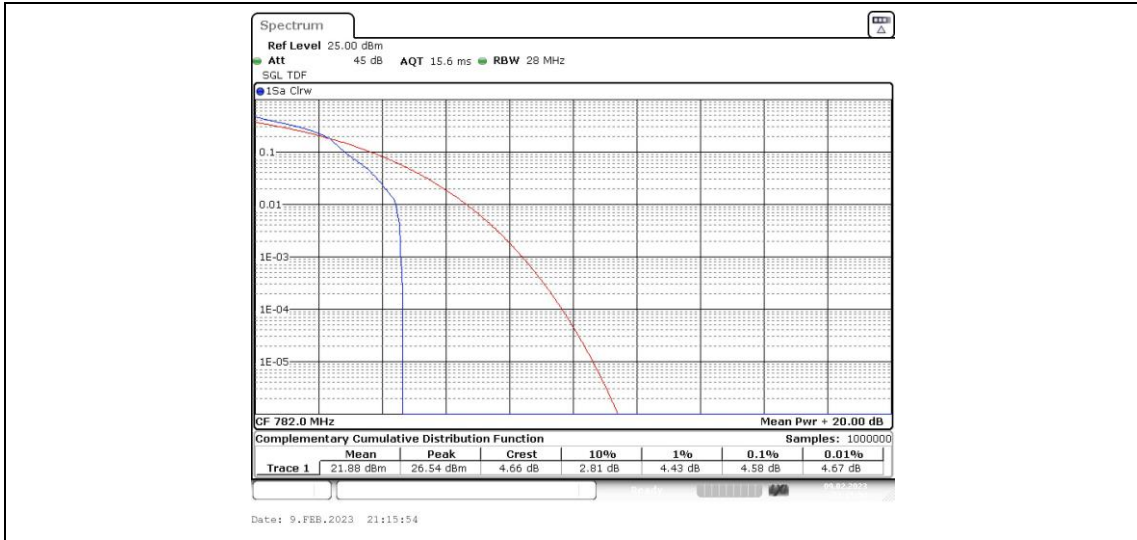
Band13-10MHz-QPSK-23230-1RB#0



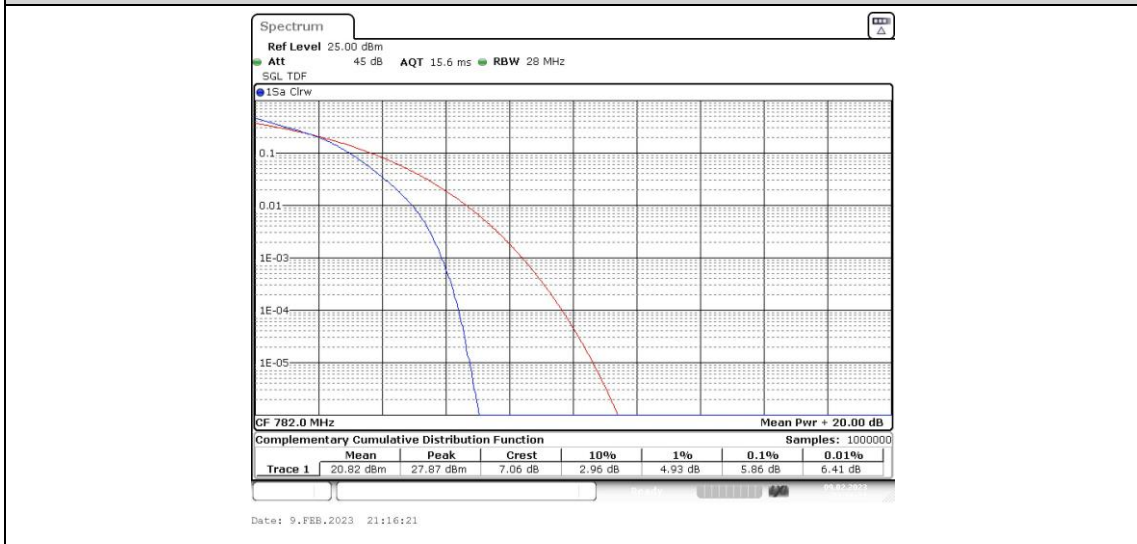
Band13-10MHz-QPSK-23230-50RB#0



Band13-10MHz-16QAM-23230-1RB#0



Band13-10MHz-16QAM-23230-50RB#0

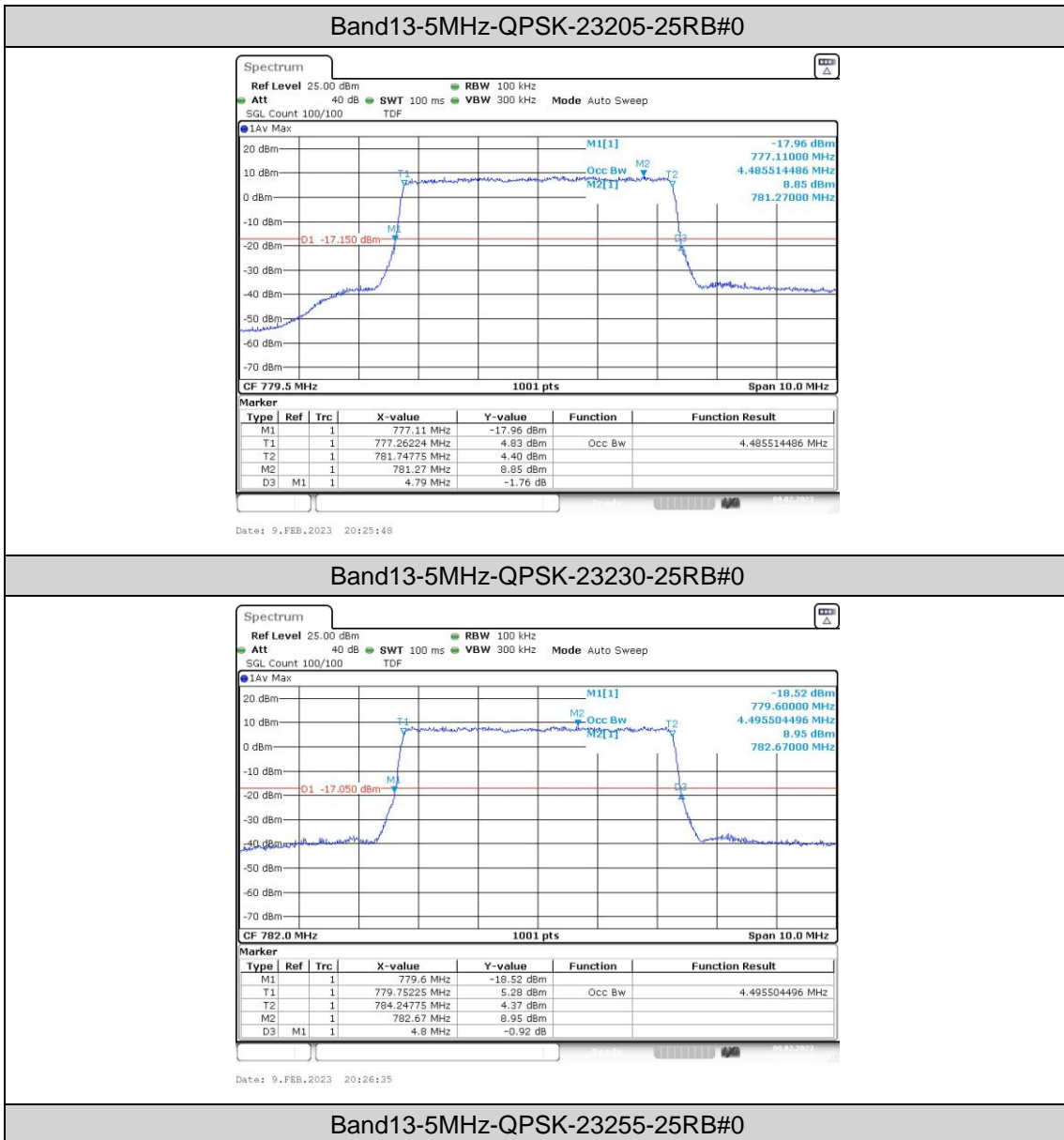


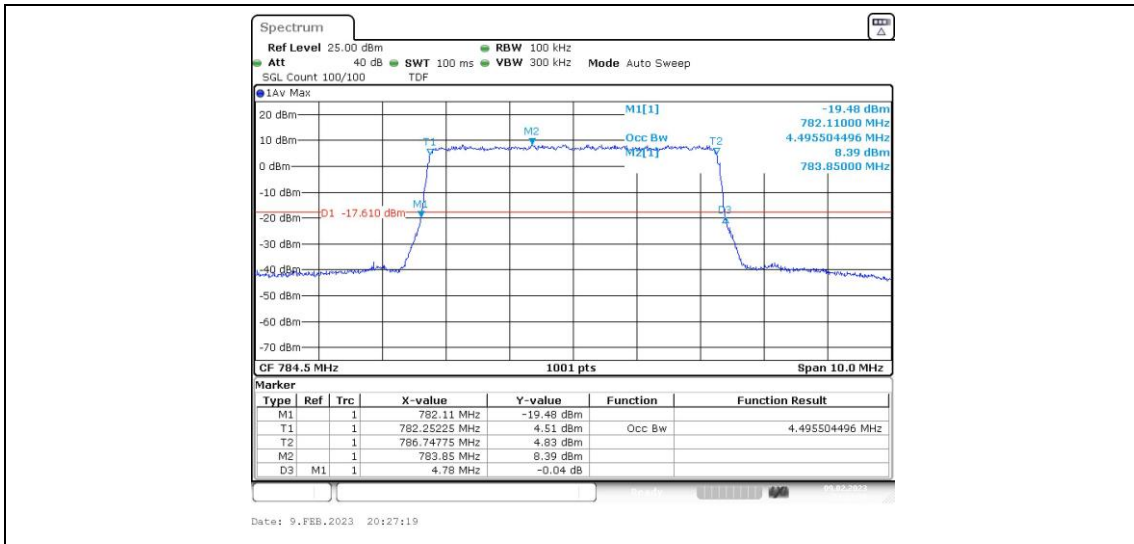
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

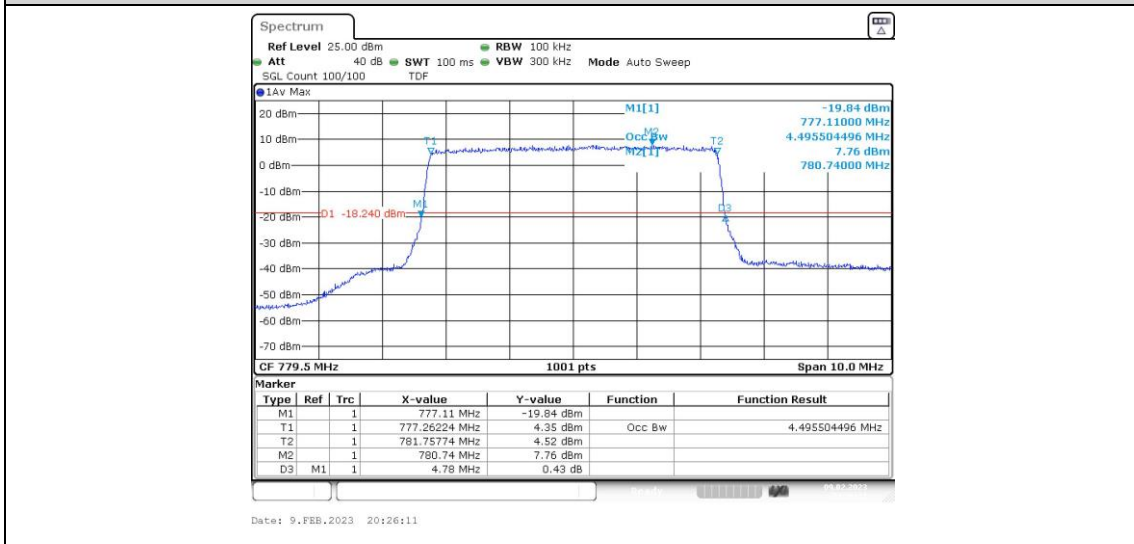
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	QPSK	23205	25RB#0	4.486	4.79	PASS
Band13	5MHz	QPSK	23230	25RB#0	4.496	4.80	PASS
Band13	5MHz	QPSK	23255	25RB#0	4.496	4.78	PASS
Band13	5MHz	16QAM	23205	25RB#0	4.496	4.78	PASS
Band13	5MHz	16QAM	23230	25RB#0	4.496	4.78	PASS
Band13	5MHz	16QAM	23255	25RB#0	4.496	4.78	PASS
Band13	10MHz	QPSK	23230	50RB#0	8.952	9.53	PASS
Band13	10MHz	16QAM	23230	50RB#0	8.952	9.53	PASS

Test Graphs

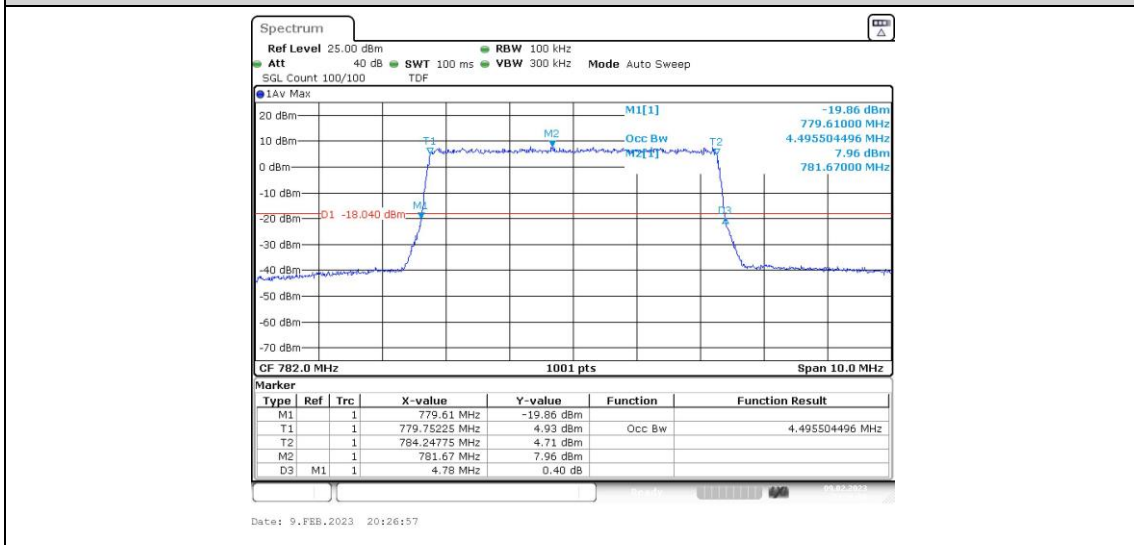




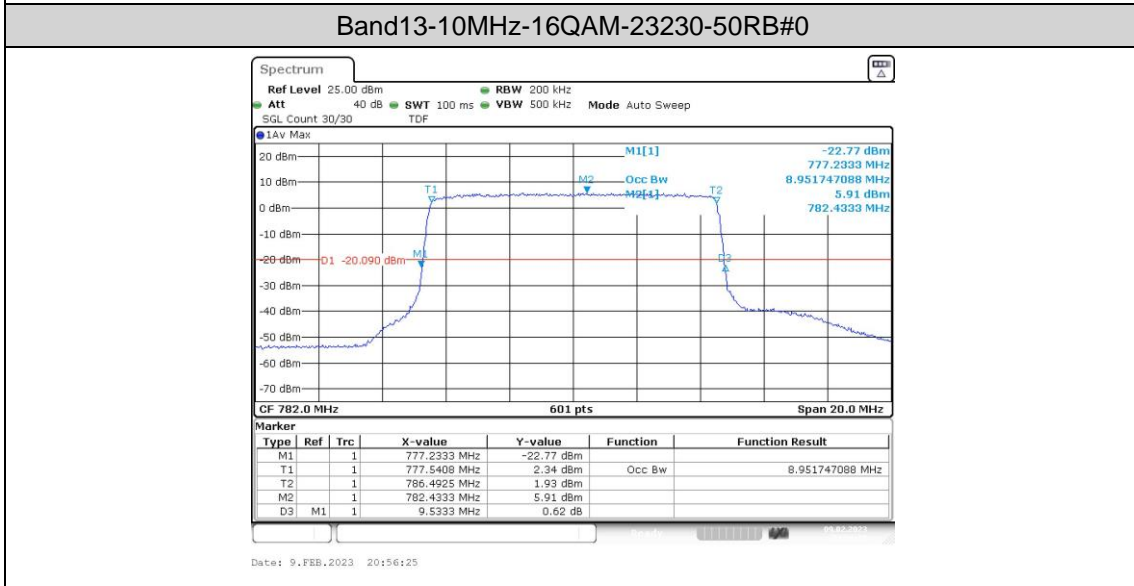
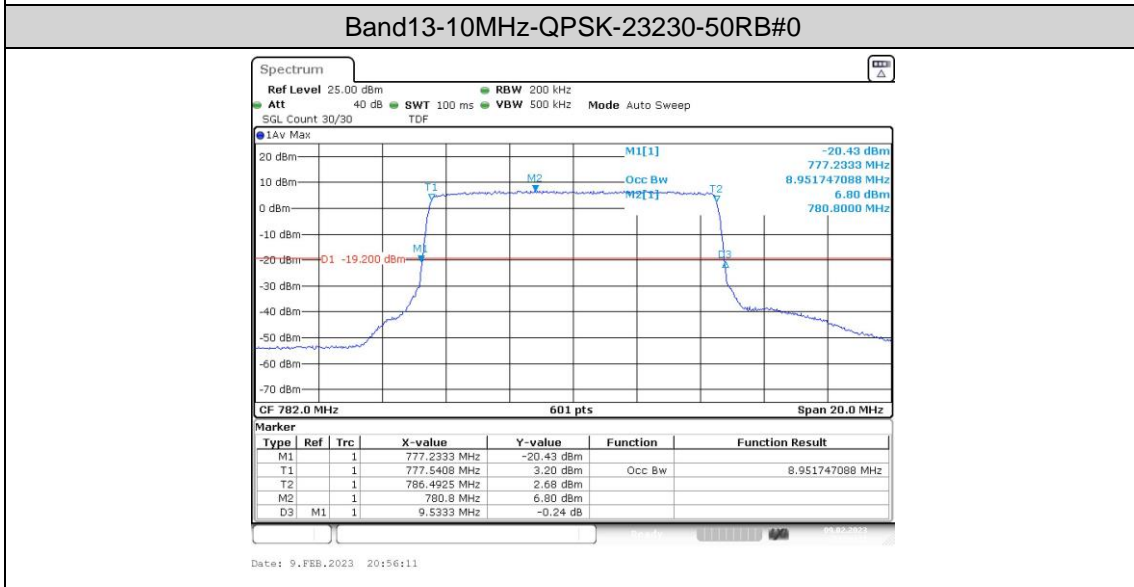
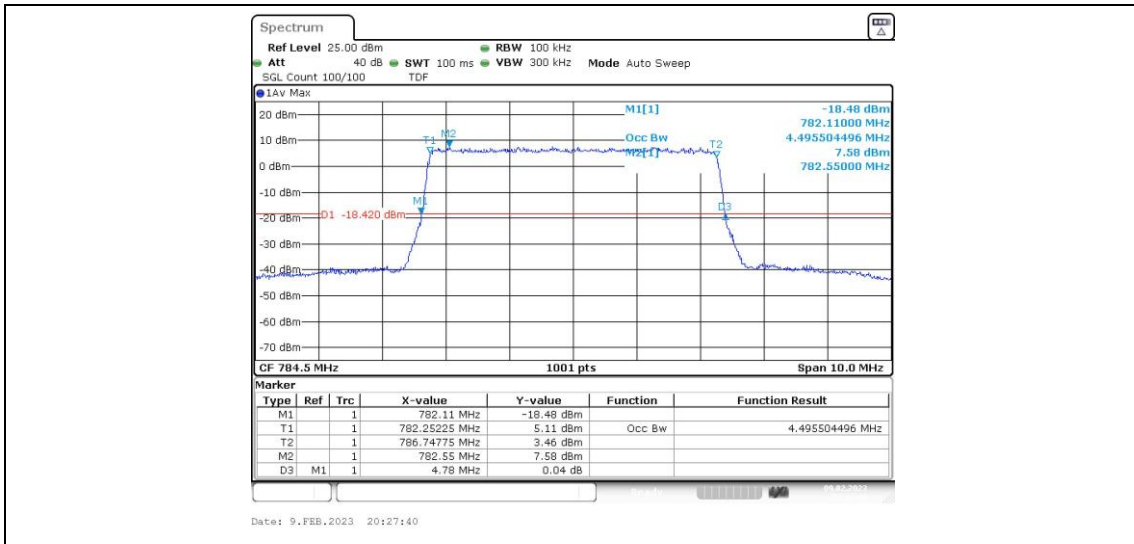
Band13-5MHz-16QAM-23205-25RB#0



Band13-5MHz-16QAM-23230-25RB#0



Band13-5MHz-16QAM-23255-25RB#0

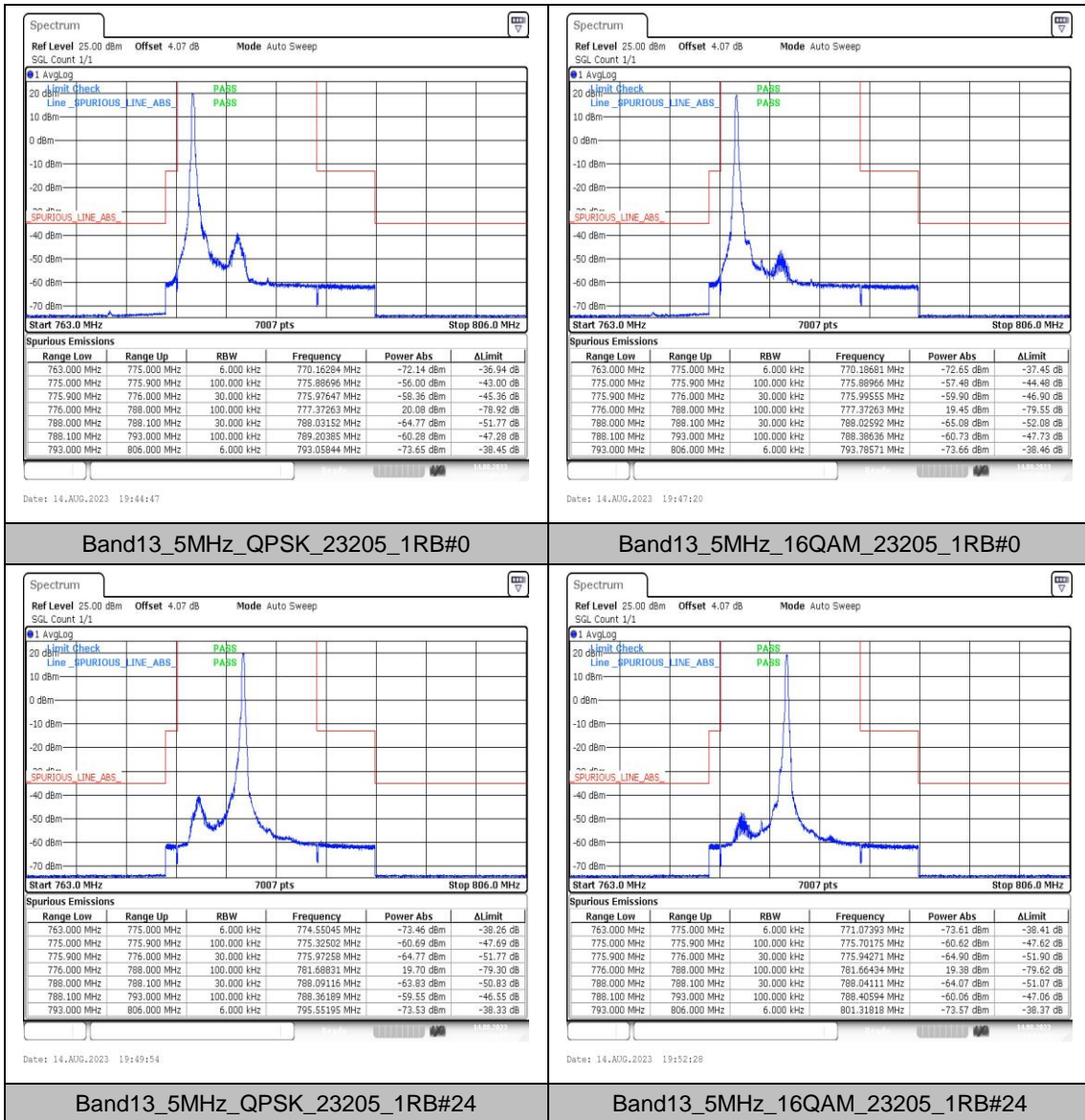


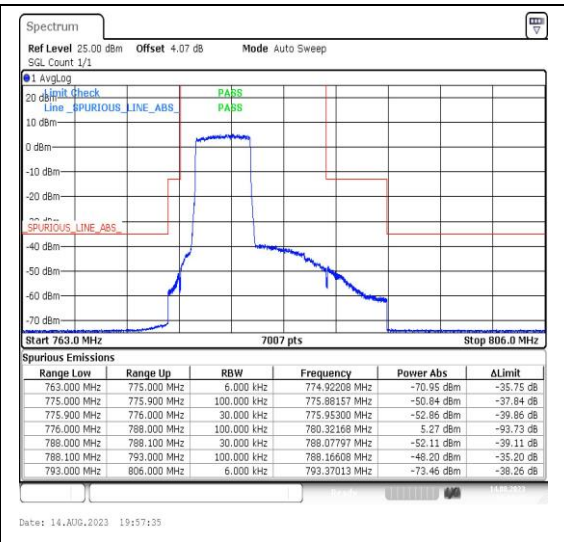
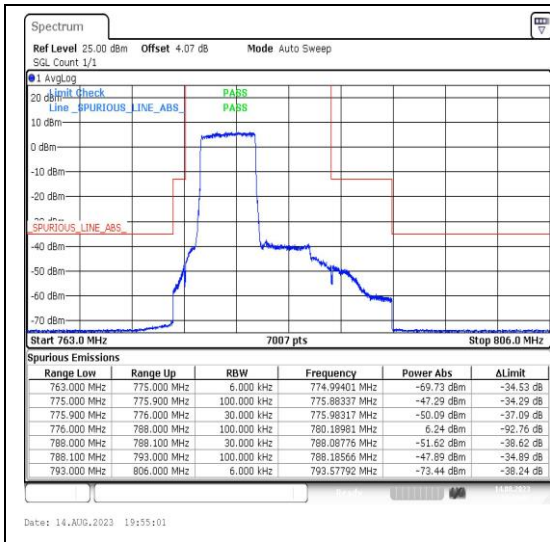
Appendix D: Band Edge

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band13	5MHz	QPSK	23205	1RB#0	-72.14	PASS
Band13	5MHz	16QAM	23205	1RB#0	-72.65	PASS
Band13	5MHz	QPSK	23205	1RB#24	-73.46	PASS
Band13	5MHz	16QAM	23205	1RB#24	-73.57	PASS
Band13	5MHz	QPSK	23205	25RB#0	-47.29	PASS
Band13	5MHz	16QAM	23205	25RB#0	-48.20	PASS
Band13	5MHz	QPSK	23255	1RB#0	-73.49	PASS
Band13	5MHz	16QAM	23255	1RB#0	-73.55	PASS
Band13	5MHz	QPSK	23255	1RB#24	-73.44	PASS
Band13	5MHz	16QAM	23255	1RB#24	-73.55	PASS
Band13	5MHz	QPSK	23255	25RB#0	-41.22	PASS
Band13	5MHz	16QAM	23255	25RB#0	-40.15	PASS
Band13	10MHz	QPSK	23230	1RB#0	-73.07	PASS
Band13	10MHz	16QAM	23230	1RB#0	-73.14	PASS
Band13	10MHz	QPSK	23230	1RB#49	-73.46	PASS
Band13	10MHz	16QAM	23230	1RB#49	-73.54	PASS
Band13	10MHz	QPSK	23230	50RB#0	-42.48	PASS
Band13	10MHz	16QAM	23230	50RB#0	-41.91	PASS

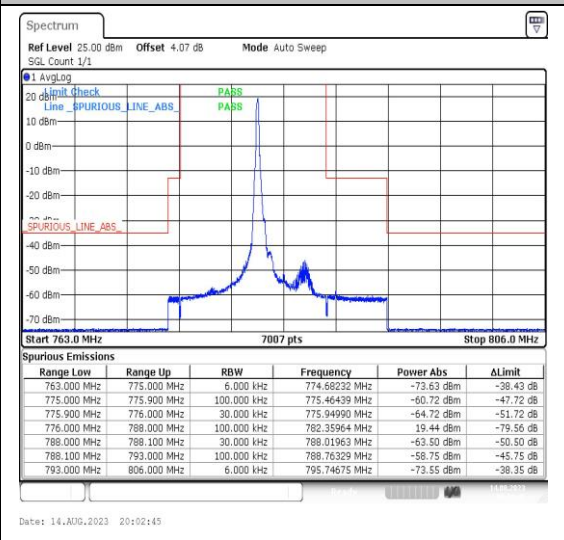
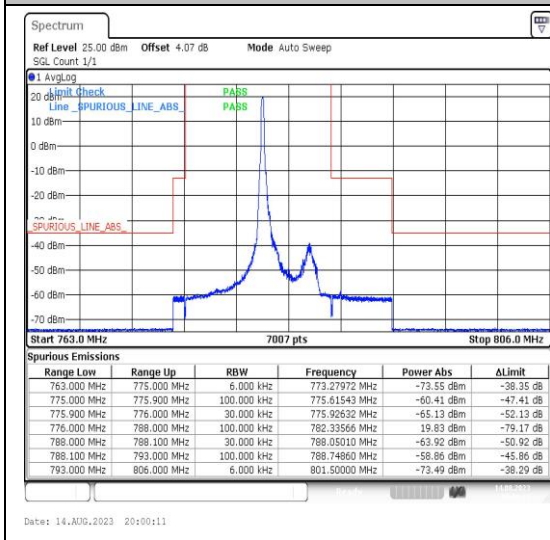
Test Graphs





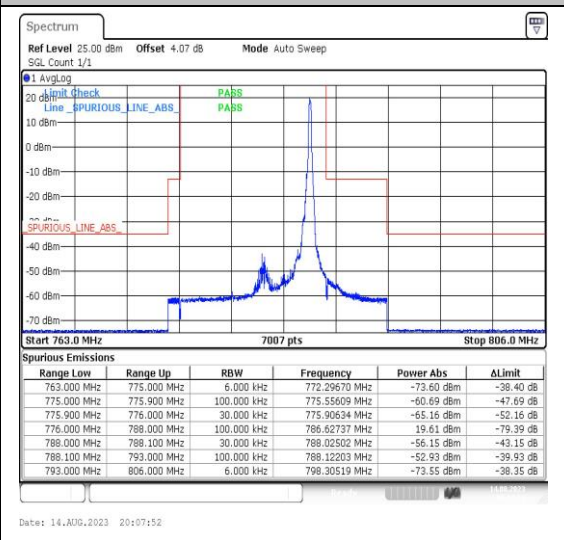
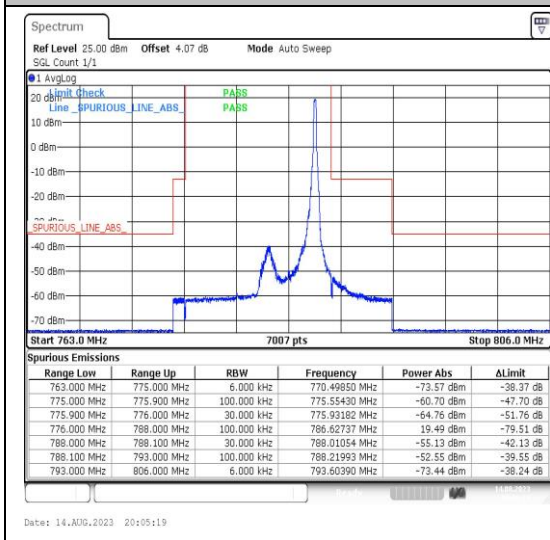
Band13_5MHz_QPSK_23205_25RB#0

Band13_5MHz_16QAM_23205_25RB#0



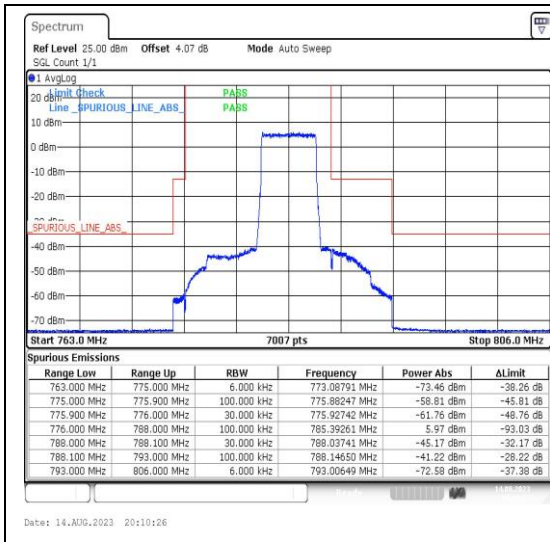
Band13_5MHz_QPSK_23255_1RB#0

Band13_5MHz_16QAM_23255_1RB#0

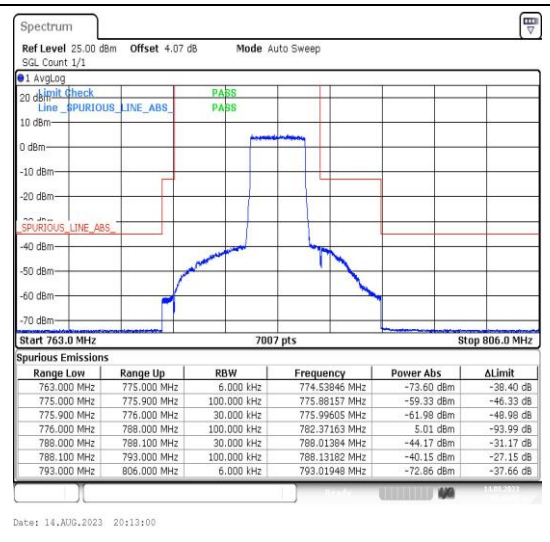


Band13_5MHz_QPSK_23255_1RB#24

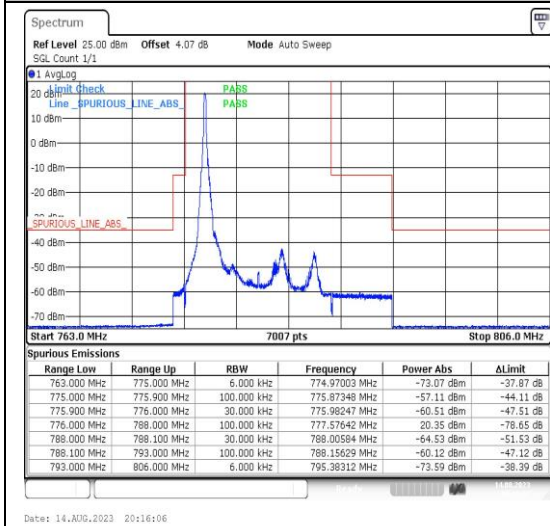
Band13_5MHz_16QAM_23255_1RB#24



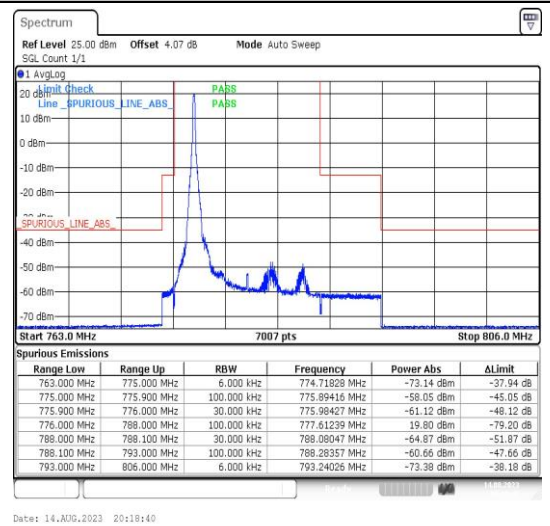
Band13_5MHz_QPSK_23255_25RB#0



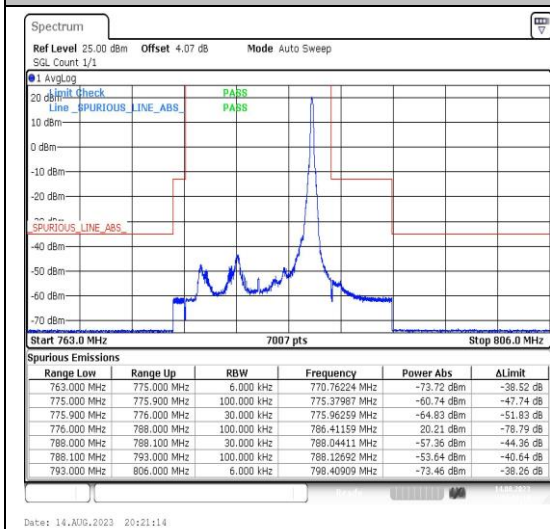
Band13_5MHz_16QAM_23255_25RB#0



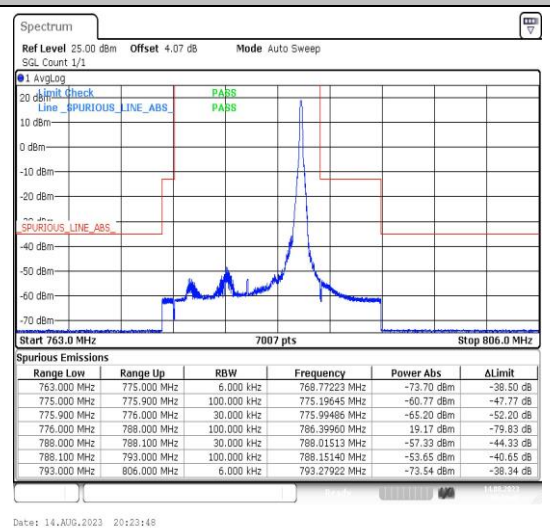
Band13_10MHz_QPSK_23230_1RB#0



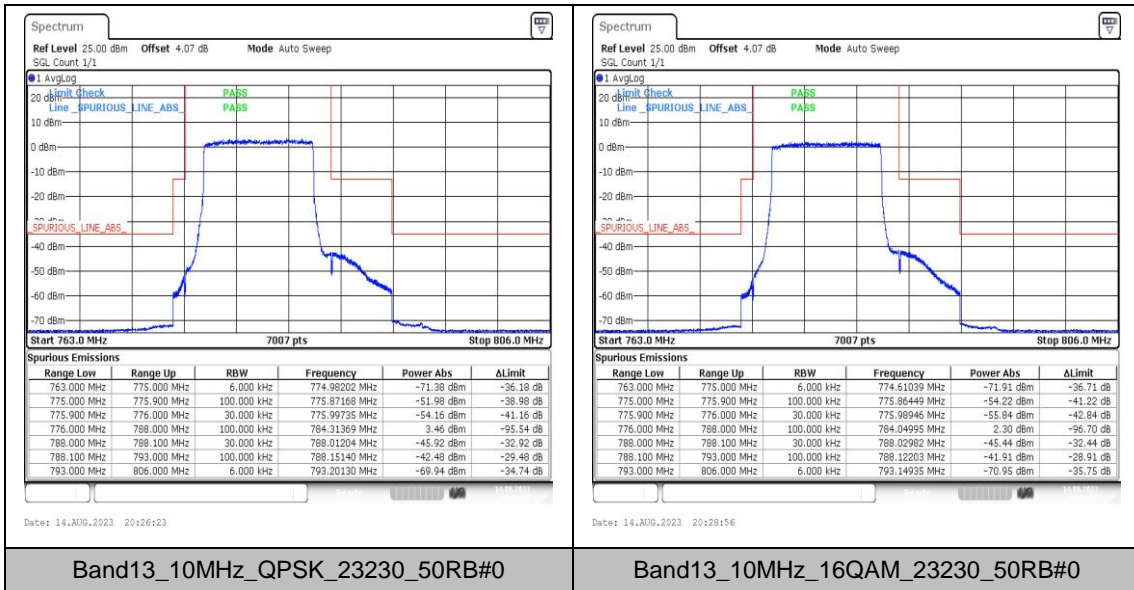
Band13_10MHz_16QAM_23230_1RB#0



Band13_10MHz_QPSK_23230_1RB#49



Band13_10MHz_16QAM_23230_1RB#49

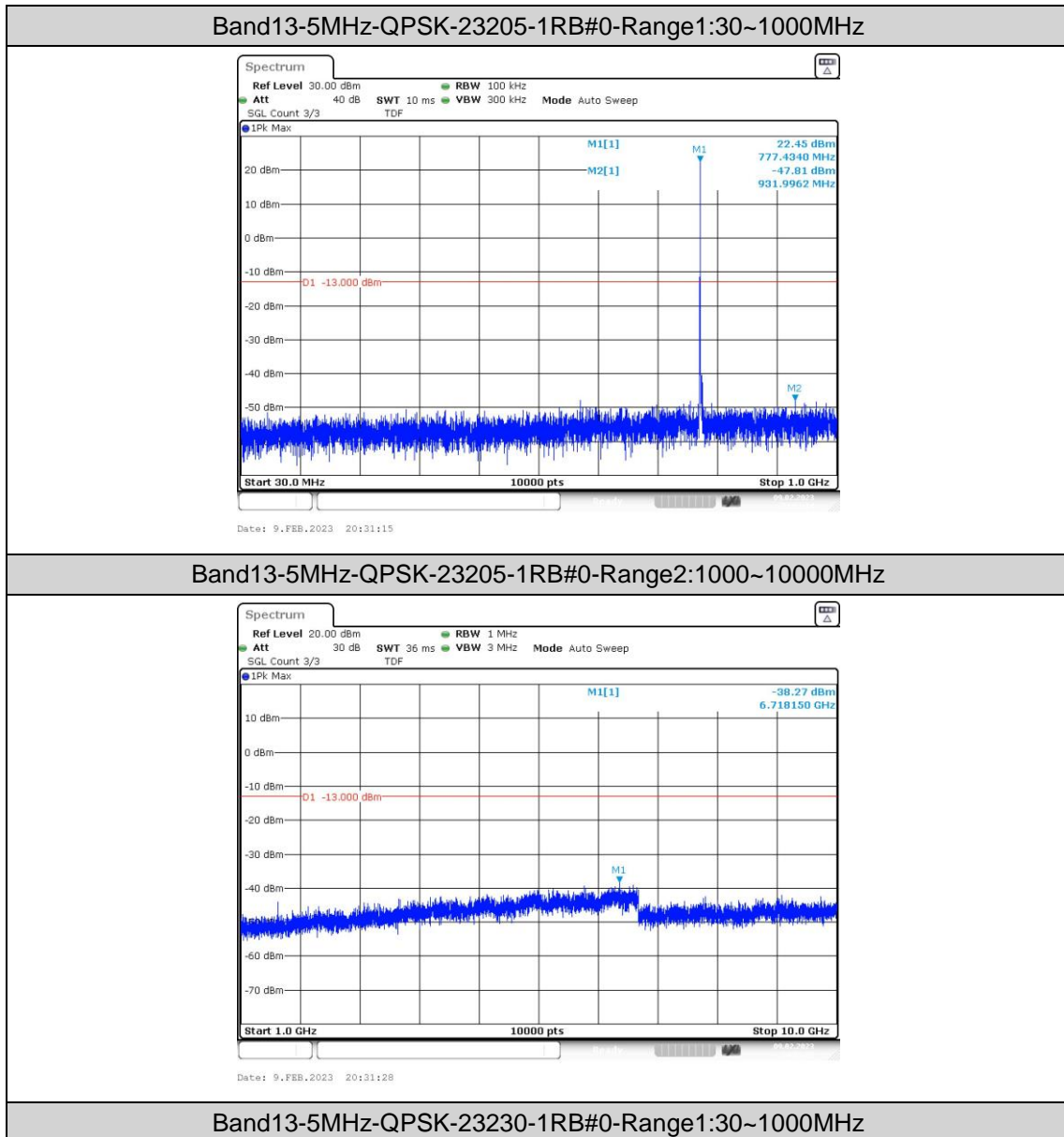


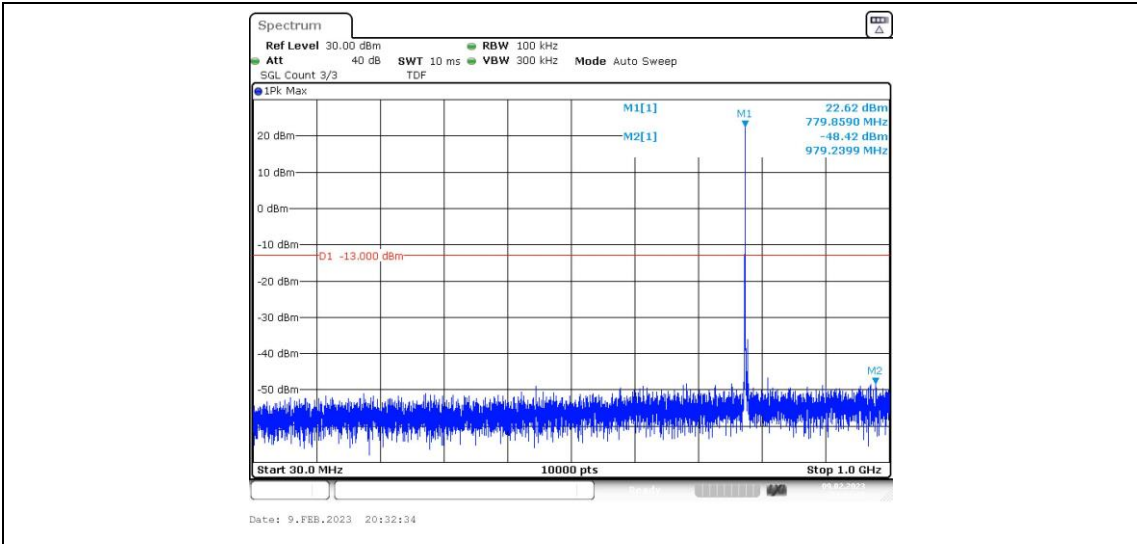
Appendix E: Conducted Spurious Emission

Test Result

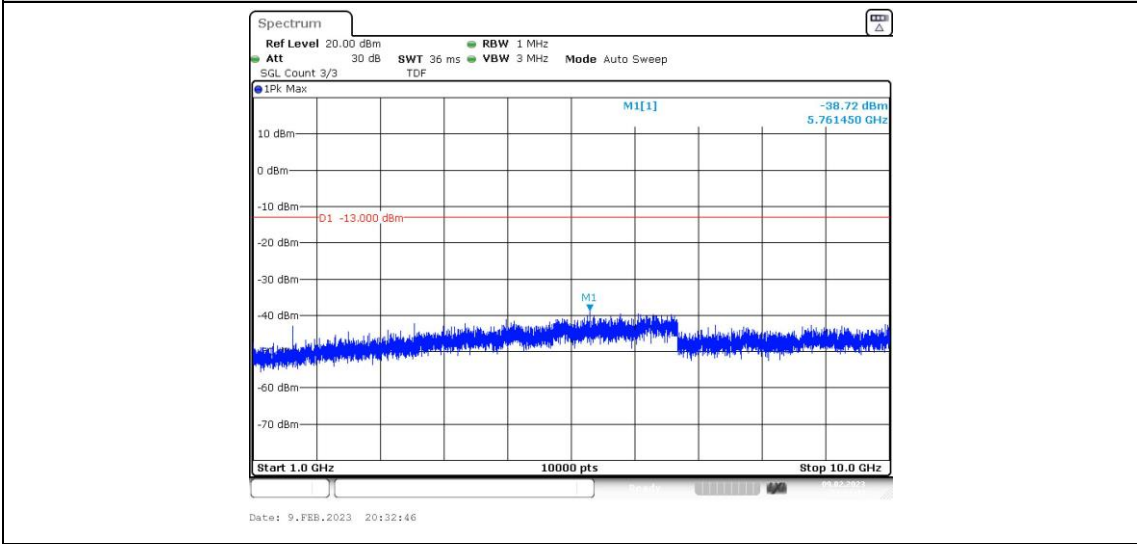
Band	Bandwidth	Modulation	Channel	RB Configuration	Frequency Range	Result (dBm)	Verdict
Band1 3	5MHz	QPSK	23205	1RB#0	Range1:30~1000MHz	-47.8 1	PAS S
Band1 3	5MHz	QPSK	23205	1RB#0	Range2:1000~10000MHz	-38.2 7	PAS S
Band1 3	5MHz	QPSK	23230	1RB#0	Range1:30~1000MHz	-48.4 2	PAS S
Band1 3	5MHz	QPSK	23230	1RB#0	Range2:1000~10000MHz	-38.7 2	PAS S
Band1 3	5MHz	QPSK	23255	1RB#0	Range1:30~1000MHz	-48.5 7	PAS S
Band1 3	5MHz	QPSK	23255	1RB#0	Range2:1000~10000MHz	-38.7 6	PAS S
Band1 3	5MHz	16QAM	23205	1RB#0	Range1:30~1000MHz	-47.9 2	PAS S
Band1 3	5MHz	16QAM	23205	1RB#0	Range2:1000~10000MHz	-38.2 6	PAS S
Band1 3	5MHz	16QAM	23230	1RB#0	Range1:30~1000MHz	-47.9 5	PAS S
Band1 3	5MHz	16QAM	23230	1RB#0	Range2:1000~10000MHz	-38.6 2	PAS S
Band1 3	5MHz	16QAM	23255	1RB#0	Range1:30~1000MHz	-47.4 8	PAS S
Band1 3	5MHz	16QAM	23255	1RB#0	Range2:1000~10000MHz	-38.2	PAS S
Band1 3	10MHz	QPSK	23230	1RB#0	Range1:30~1000MHz	-48.3	PAS S
Band1 3	10MHz	QPSK	23230	1RB#0	Range2:1000~10000MHz	-39.1 5	PAS S
Band1 3	10MHz	16QAM	23230	1RB#0	Range1:30~1000MHz	-47.5 1	PAS S
Band1 3	10MHz	16QAM	23230	1RB#0	Range2:1000~10000MHz	-38.8 4	PAS S

Test Graphs

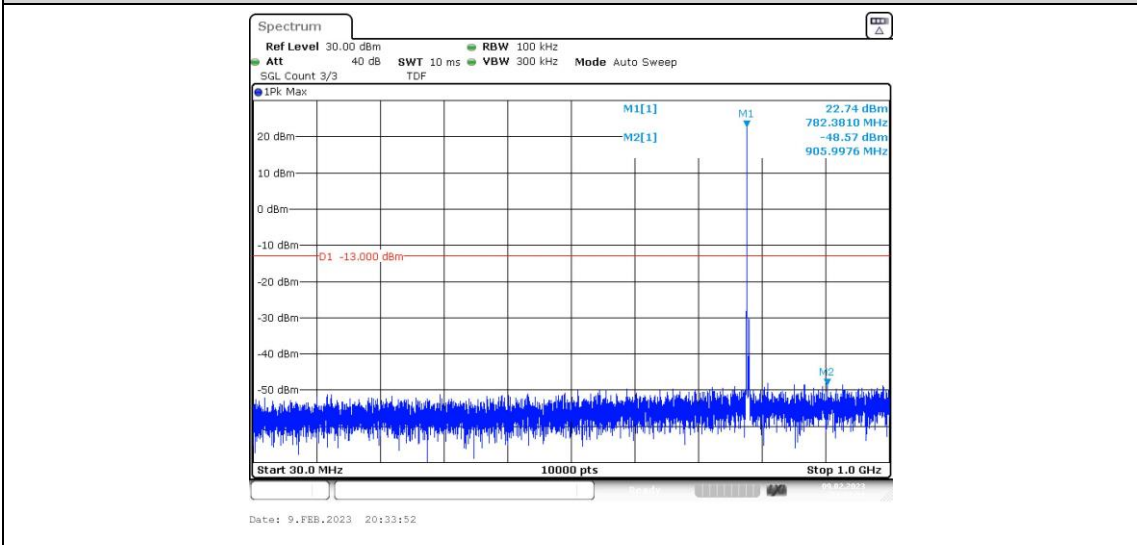




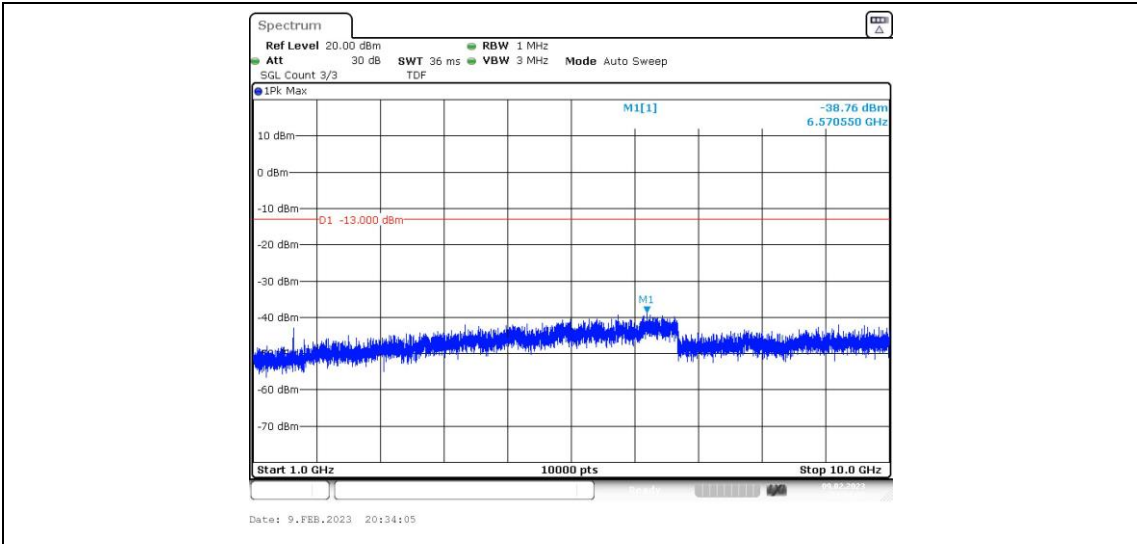
Band13-5MHz-QPSK-23230-1RB#0-Range2:1000~10000MHz



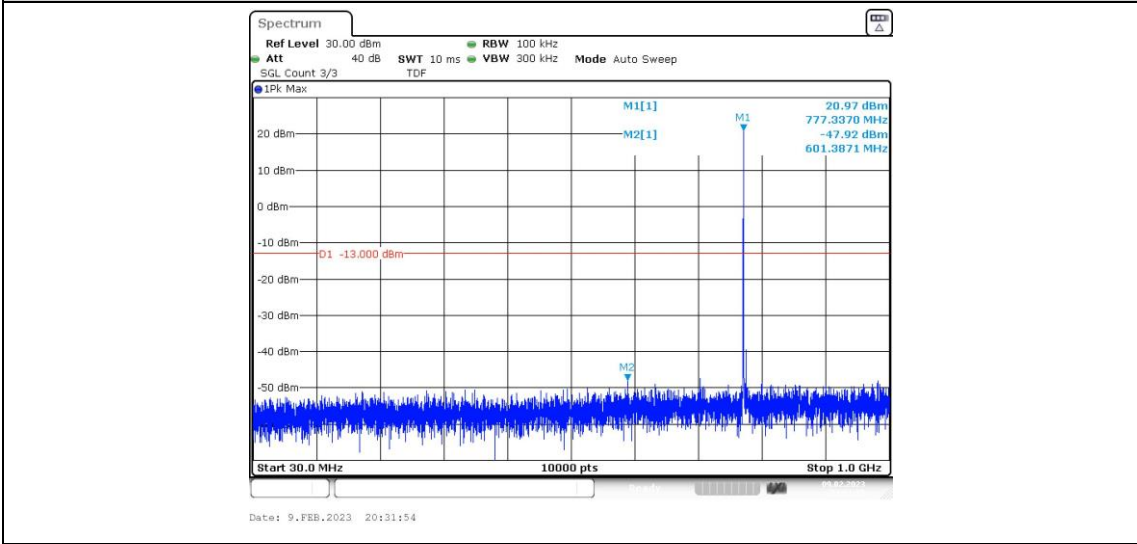
Band13-5MHz-QPSK-23255-1RB#0-Range1:30~1000MHz



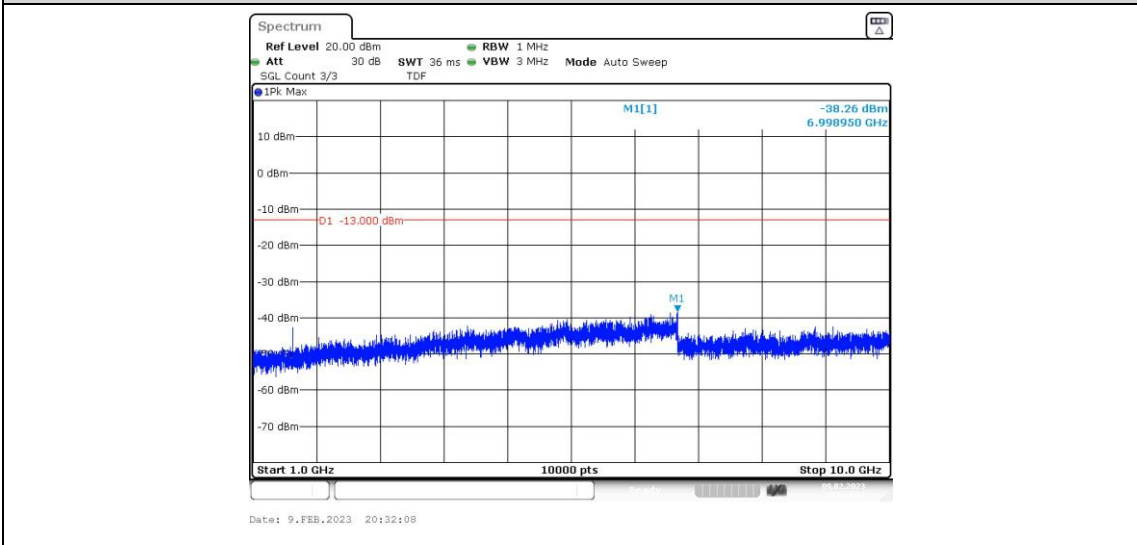
Band13-5MHz-QPSK-23255-1RB#0-Range2:1000~10000MHz



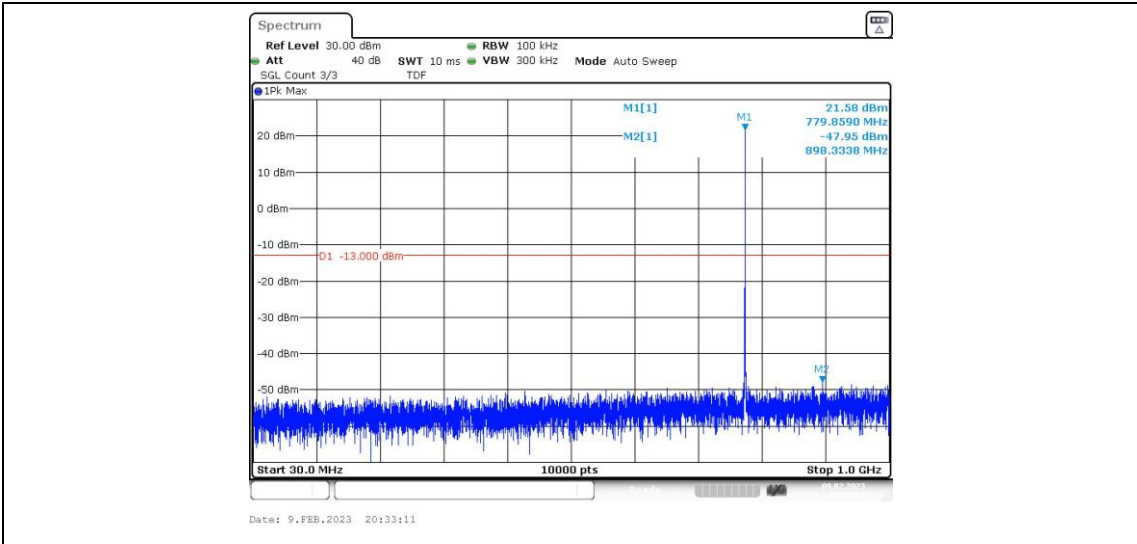
Band13-5MHz-16QAM-23205-1RB#0-Range1:30~1000MHz



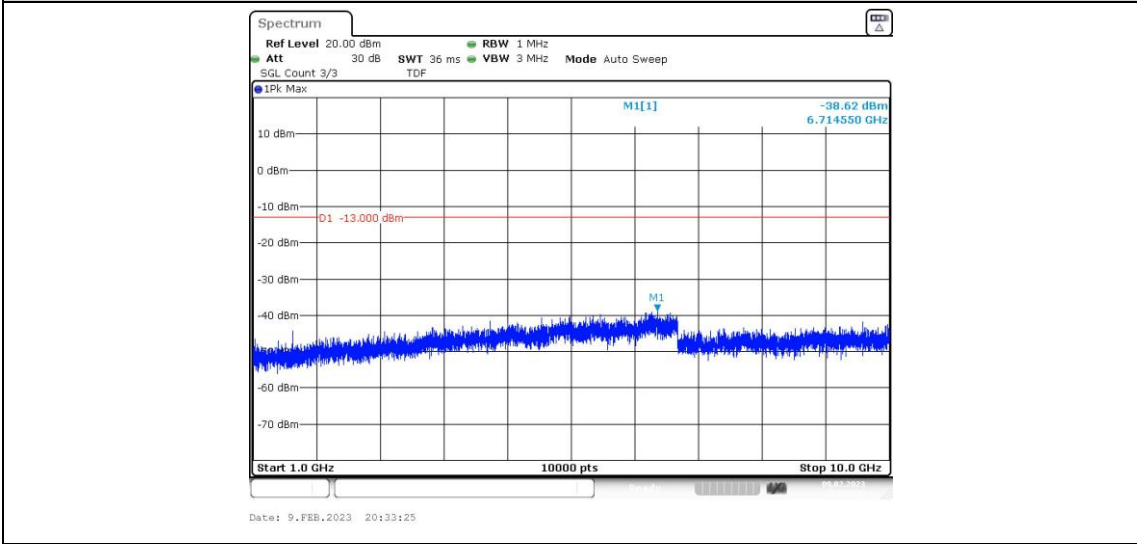
Band13-5MHz-16QAM-23205-1RB#0-Range2:1000~10000MHz



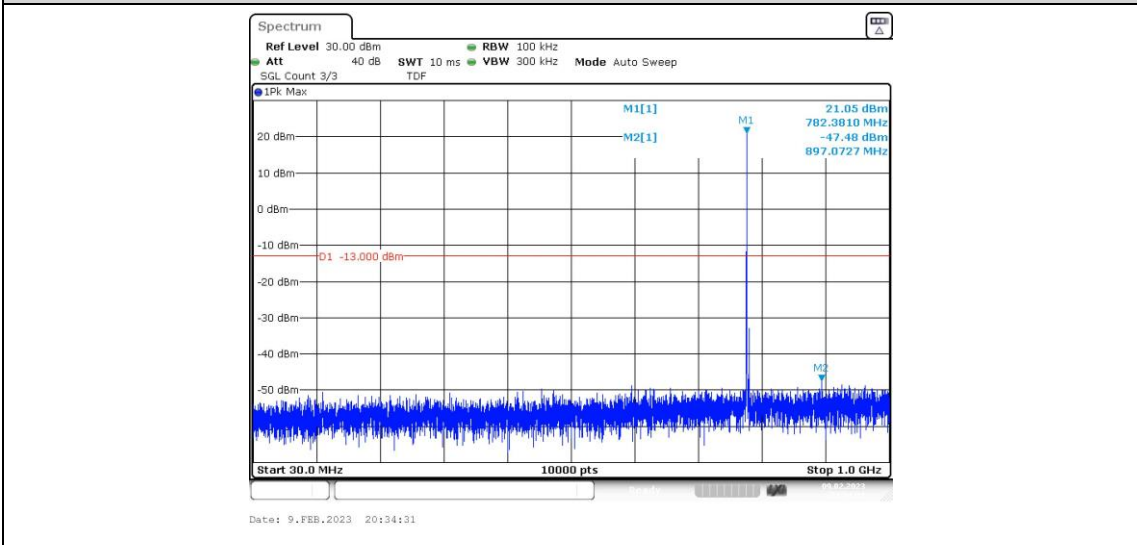
Band13-5MHz-16QAM-23230-1RB#0-Range1:30~1000MHz



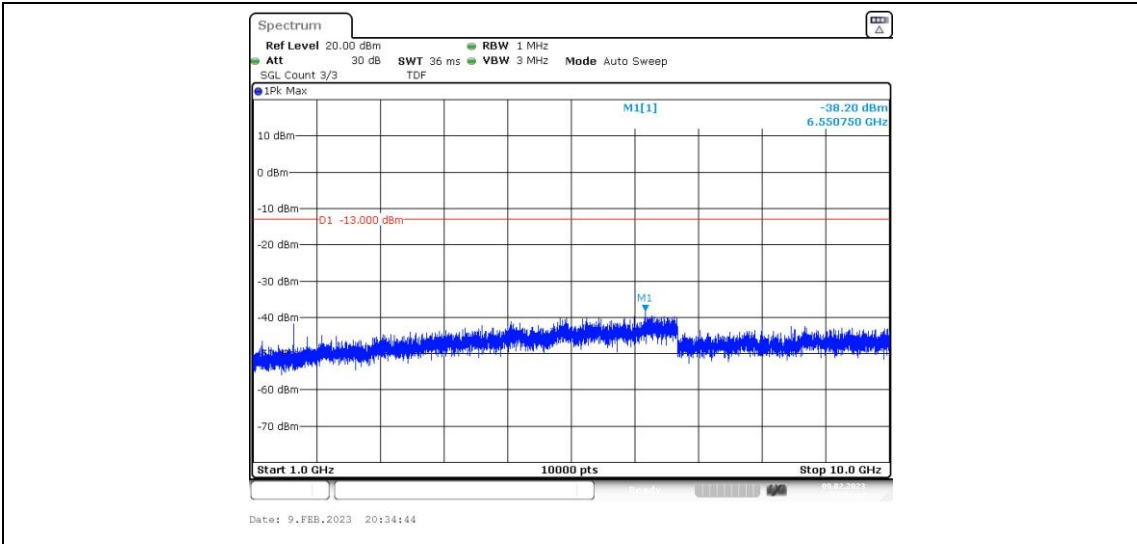
Band13-5MHz-16QAM-23230-1RB#0-Range2:1000~10000MHz



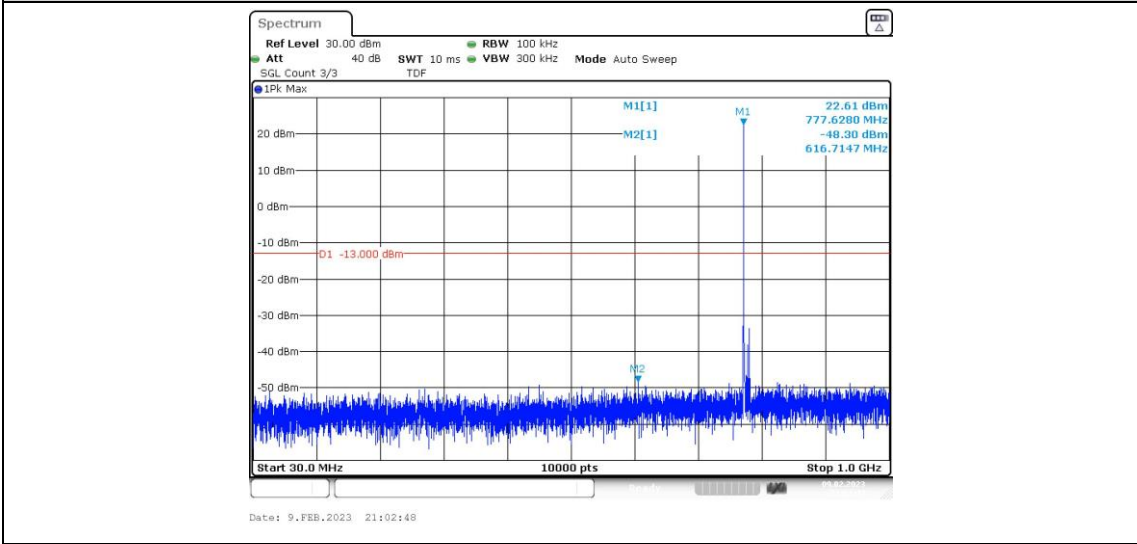
Band13-5MHz-16QAM-23255-1RB#0-Range1:30~1000MHz



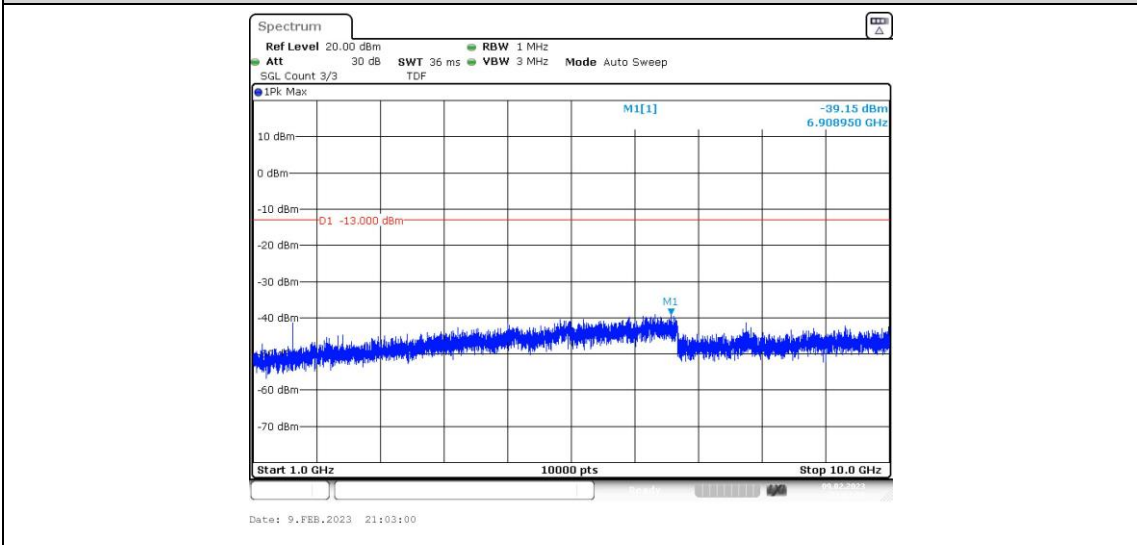
Band13-5MHz-16QAM-23255-1RB#0-Range2:1000~10000MHz



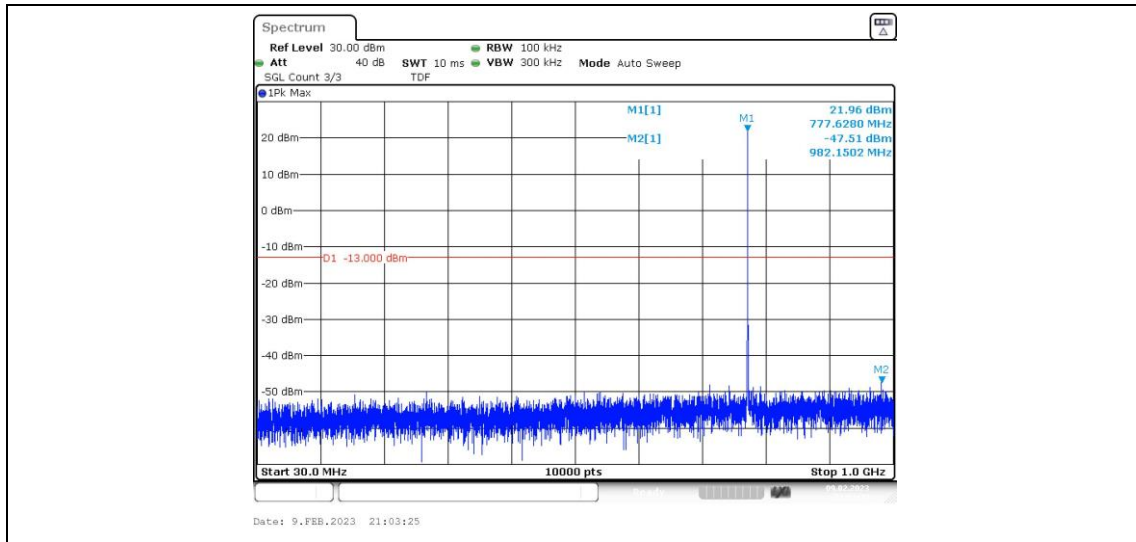
Band13-10MHz-QPSK-23230-1RB#0-Range1:30~1000MHz



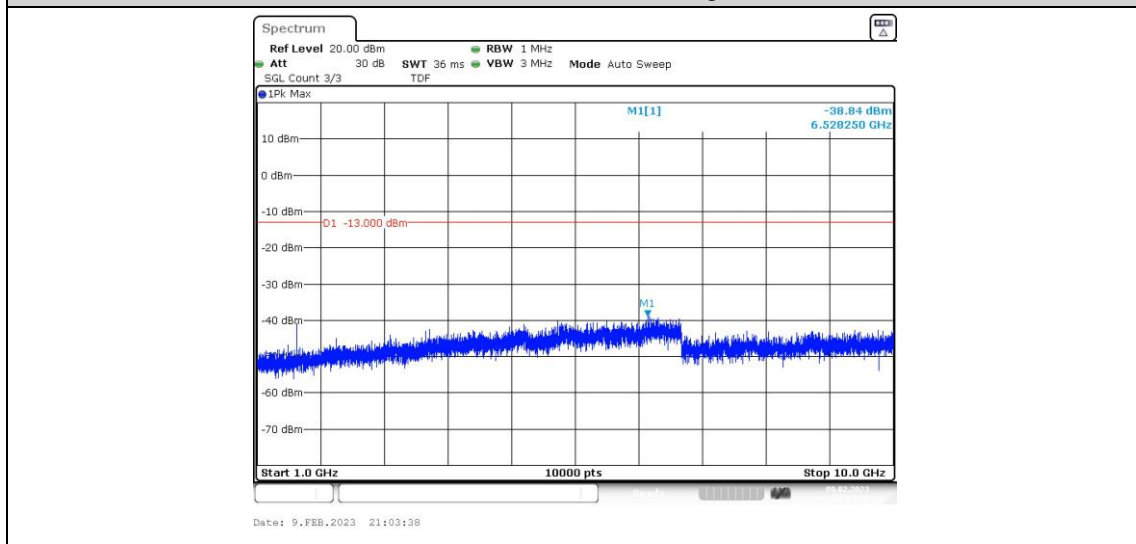
Band13-10MHz-QPSK-23230-1RB#0-Range2:1000~10000MHz



Band13-10MHz-16QAM-23230-1RB#0-Range1:30~1000MHz



Band13-10MHz-16QAM-23230-1RB#0-Range2:1000~10000MHz



Appendix F: Frequency Stability

Test Result

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage		Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
					Voltage [Vdc]	Temperature (°C)				
Band1 3	5MHz	QPSK	23205	25RB#0	VL	NT	2.56	0.003284	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	VN	NT	2.36	0.003028	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	VH	NT	1.73	0.002219	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	VL	NT	3.88	0.004962	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	VN	NT	2.29	0.002928	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	VH	NT	2.98	0.003811	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	VL	NT	-1.90	-0.002422	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	VN	NT	2.53	0.003225	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	VH	NT	2.07	0.002639	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	VL	NT	-1.75	-0.002245	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	VN	NT	2.22	0.002848	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	VH	NT	4.46	0.005722	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	VL	NT	-2.29	-0.002928	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	VN	NT	-2.47	-0.003159	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	VH	NT	1.80	0.002302	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	VL	NT	-2.59	-0.003301	±2.5	PASS
Band1	5MHz	16QAM	23255	25RB#0	VN	NT	-2.22	-0.002830	±2.5	PASS

3										
Band1 3	5MHz	16QAM	23255	25RB#0	VH	NT	2.56	0.003263	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	VL	NT	-2.25	-0.002877	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	VN	NT	-1.46	-0.001867	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	VH	NT	2.66	0.003402	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	VL	NT	2.05	0.002621	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	VN	NT	1.89	0.002417	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	VH	NT	-2.63	-0.003363	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band1 3	5MHz	QPSK	23205	25RB#0	NV	-30	3.23	0.004144	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	NV	-20	-3.65	-0.004682	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	NV	0	-2.36	-0.003028	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	NV	10	1.59	0.002040	±2.5	PASS
Band1 3	5MHz	QPSK	23205	25RB#0	NV	20	1.69	0.002168	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	NV	-30	2.09	0.002673	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	NV	-20	1.43	0.001829	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	NV	0	1.96	0.002506	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	NV	10	0.84	0.001074	±2.5	PASS
Band1 3	5MHz	QPSK	23230	25RB#0	NV	20	1.42	0.001816	±2.5	PASS
Band1	5MHz	QPSK	23255	25RB#0	NV	-30	3.05	0.003888	±2.5	PASS

3										
Band1 3	5MHz	QPSK	23255	25RB#0	NV	-20	2.36	0.003008	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	NV	0	2.36	0.003008	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	NV	10	2.37	0.003021	±2.5	PASS
Band1 3	5MHz	QPSK	23255	25RB#0	NV	20	-1.92	-0.002447	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	NV	-30	4.28	0.005491	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	NV	-20	2.78	0.003566	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	NV	0	2.98	0.003823	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	NV	10	-2.09	-0.002681	±2.5	PASS
Band1 3	5MHz	16QAM	23205	25RB#0	NV	20	0.94	0.001206	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	NV	-30	2.16	0.002762	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	NV	-20	3.63	0.004642	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	NV	0	2.73	0.003491	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	NV	10	-2.10	-0.002685	±2.5	PASS
Band1 3	5MHz	16QAM	23230	25RB#0	NV	20	4.45	0.005691	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	NV	-30	-2.99	-0.003811	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	NV	-20	-2.72	-0.003467	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	NV	0	2.89	0.003684	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	NV	10	3.10	0.003952	±2.5	PASS
Band1 3	5MHz	16QAM	23255	25RB#0	NV	20	1.86	0.002371	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	NV	-30	-2.12	-0.002711	±2.5	PASS

Band1 3	10MHz	QPSK	23230	50RB#0	NV	-20	1.09	0.001394	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	NV	0	2.40	0.003069	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	NV	10	-2.02	-0.002583	±2.5	PASS
Band1 3	10MHz	QPSK	23230	50RB#0	NV	20	-2.68	-0.003427	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	NV	-30	3.30	0.004220	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	NV	-20	1.96	0.002506	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	NV	0	1.69	0.002161	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	NV	10	2.25	0.002877	±2.5	PASS
Band1 3	10MHz	16QAM	23230	50RB#0	NV	20	-2.53	-0.003235	±2.5	PASS