

Appendix for GSM 850

Model: LGE-NX9

BTL-FCCP-1-2203G019

Table of Contents	Page
1 . APPENDIX A - EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER	4
1.1 TEST RESULTS	4
2 . APPENDIX B - PEAK-TO-AVERAGE RATIO	5
2.1 TEST RESULTS	5
3 . APPENDIX C - MODULATION CHARACTERISTICS	6
3.1 TEST PLOTS	6
3.1.1 GSM850_TM1_MCH	6
3.1.2 GSM850_TM2_MCH	6
3.1.3 GSM850_TM3_MCH	7
4 . APPENDIX D - OCCUPIED BANDWIDTH	8
4.1 TEST RESULTS	8
4.2 TEST PLOTS	9
4.2.1 GSM850_TM1_LCH	9
4.2.2 GSM850_TM1_MCH	10
4.2.3 GSM850_TM1_HCH	11
4.2.4 GSM850_TM2_LCH	12
4.2.5 GSM850_TM2_MCH	13
4.2.6 GSM850_TM2_HCH	14
4.2.7 GSM850_TM3_LCH	15
4.2.8 GSM850_TM3_MCH	16
4.2.9 GSM850_TM3_HCH	17
5 . APPENDIX E - BAND EDGES COMPLIANCE	18
5.1 TEST RESULTS	18
5.2 TEST PLOTS	19
5.2.1 GSM850_TM1_LCH	19
5.2.2 GSM850_TM1_HCH	19
5.2.3 GSM850_TM2_LCH	20
5.2.4 GSM850_TM2_HCH	20
5.2.5 GSM850_TM3_LCH	21
5.2.6 GSM850_TM3_HCH	21
6 . APPENDIX F - SPURIOUS EMISSION AT ANTENNA TERMINAL	22
6.1 TEST RESULTS	22
6.2 TEST PLOTS	23
6.2.1 GSM850_TM1_LCH	23
6.2.2 GSM850_TM1_MCH	25
6.2.3 GSM850_TM1_HCH	27
6.2.4 GSM850_TM2_LCH	29

Table of Contents	Page
6.2.5 GSM850_TM2_MCH	31
6.2.6 GSM850_TM2_HCH	33
6.2.7 GSM850_TM3_LCH	35
6.2.8 GSM850_TM3_MCH	37
6.2.9 GSM850_TM3_HCH	39
7 . APPENDIX G - FREQUENCY STABILITY	41
7.1 TEST RESULTS	41
7.1.1 FREQUENCY ERROR VS. VOLTAGE	41
7.1.2 FREQUENCY ERROR VS. TEMPERATURE	42

1. APPENDIX A - EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER

1.1 TEST RESULTS

Effective (Isotropic) Radiated Power of Transmitter							
Test Band	Test Mode	Test Channel	Conducted Power [dBm]	Gain [dBi]	ERP [dBm]	Limit [dBm]	Verdict
GSM850	TM1	LCH	32.79	-6.0	24.64	38.45	PASS
		MCH	32.69	-6.0	24.54	38.45	PASS
		HCH	32.51	-6.0	24.36	38.45	PASS
	TM2	LCH	32.93	-6.0	24.78	38.45	PASS
		MCH	32.84	-6.0	24.69	38.45	PASS
		HCH	32.66	-6.0	24.51	38.45	PASS
	TM3	LCH	27.19	-6.0	19.04	38.45	PASS
		MCH	27.14	-6.0	18.99	38.45	PASS
		HCH	26.88	-6.0	18.73	38.45	PASS

2. APPENDIX B - PEAK-TO-AVERAGE RATIO

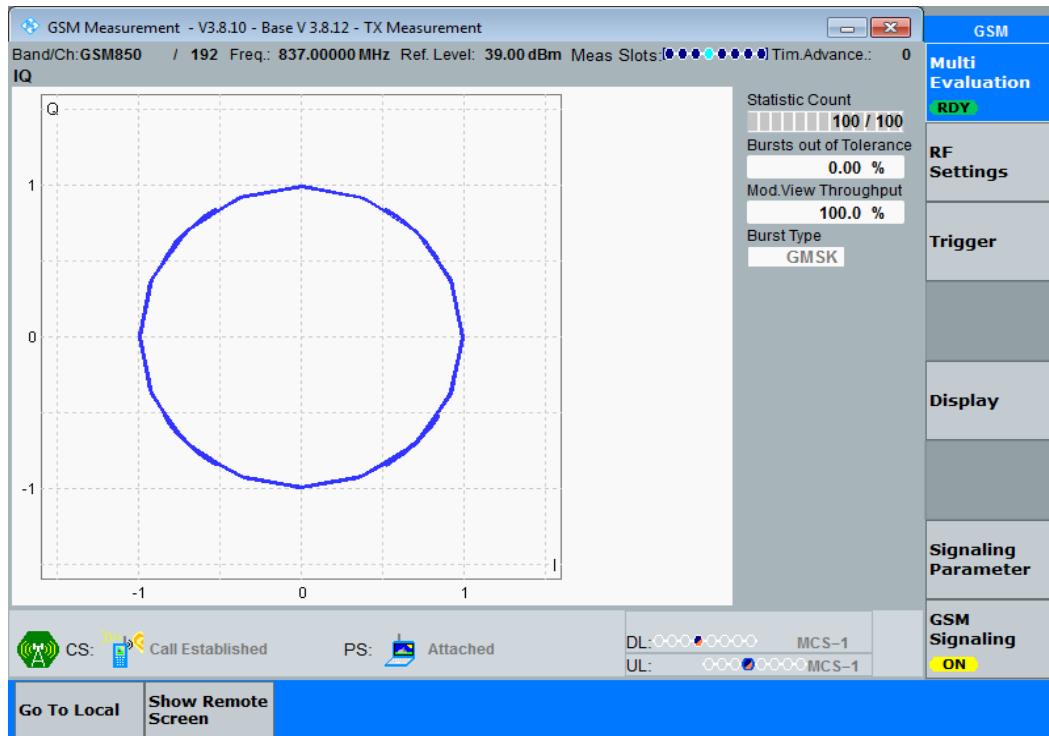
2.1 TEST RESULTS

Peak-to-Average Ratio					
Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dBm]	Verdict
GSM850	TM1	LCH	-7.18	13	PASS
		MCH	-6.18	13	PASS
		HCH	-7.19	13	PASS
	TM2	LCH	-6.91	13	PASS
		MCH	-6.85	13	PASS
		HCH	-7.22	13	PASS
	TM3	LCH	-4.60	13	PASS
		MCH	-4.53	13	PASS
		HCH	-4.85	13	PASS

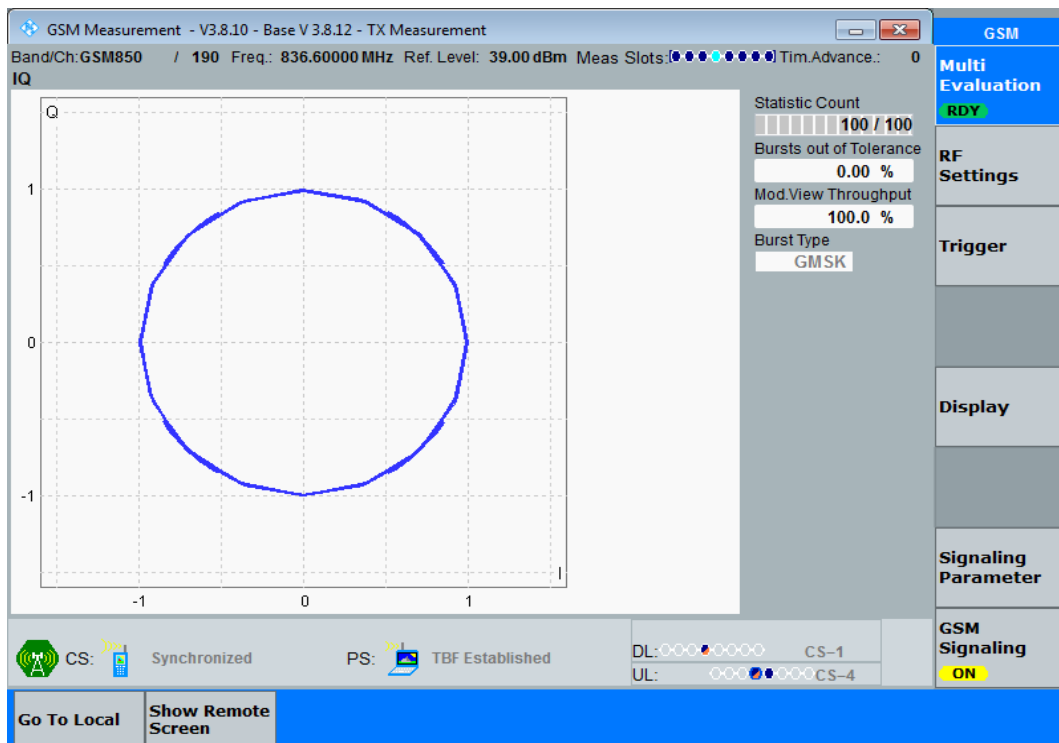
3. APPENDIX C - MODULATION CHARACTERISTICS

3.1 TEST PLOTS

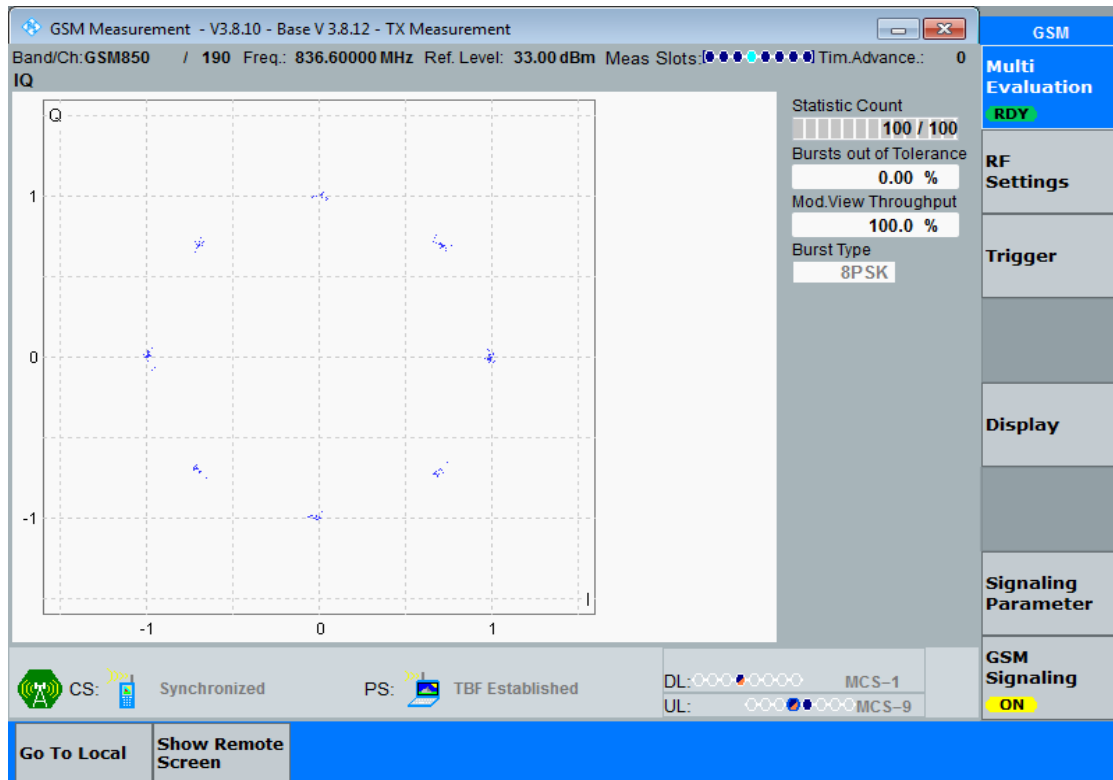
3.1.1 GSM850_TM1_MCH



3.1.2 GSM850_TM2_MCH



3.1.3 GSM850_TM3_MCH



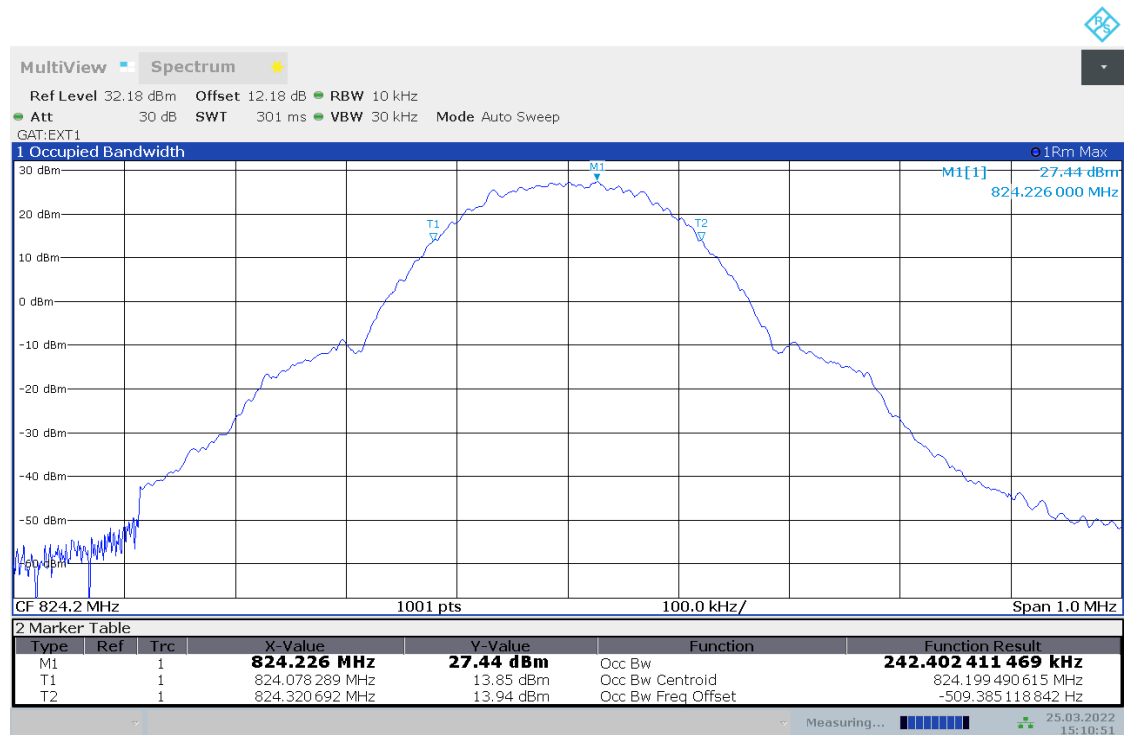
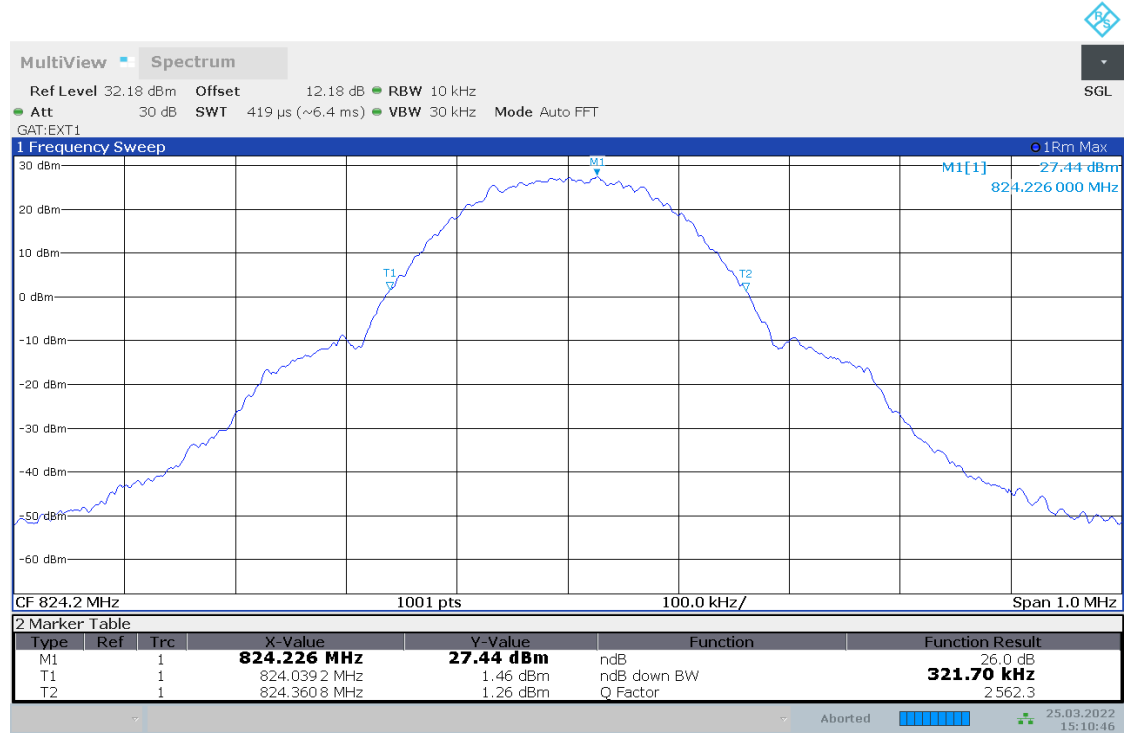
4. APPENDIX D - OCCUPIED BANDWIDTH

4.1 TEST RESULTS

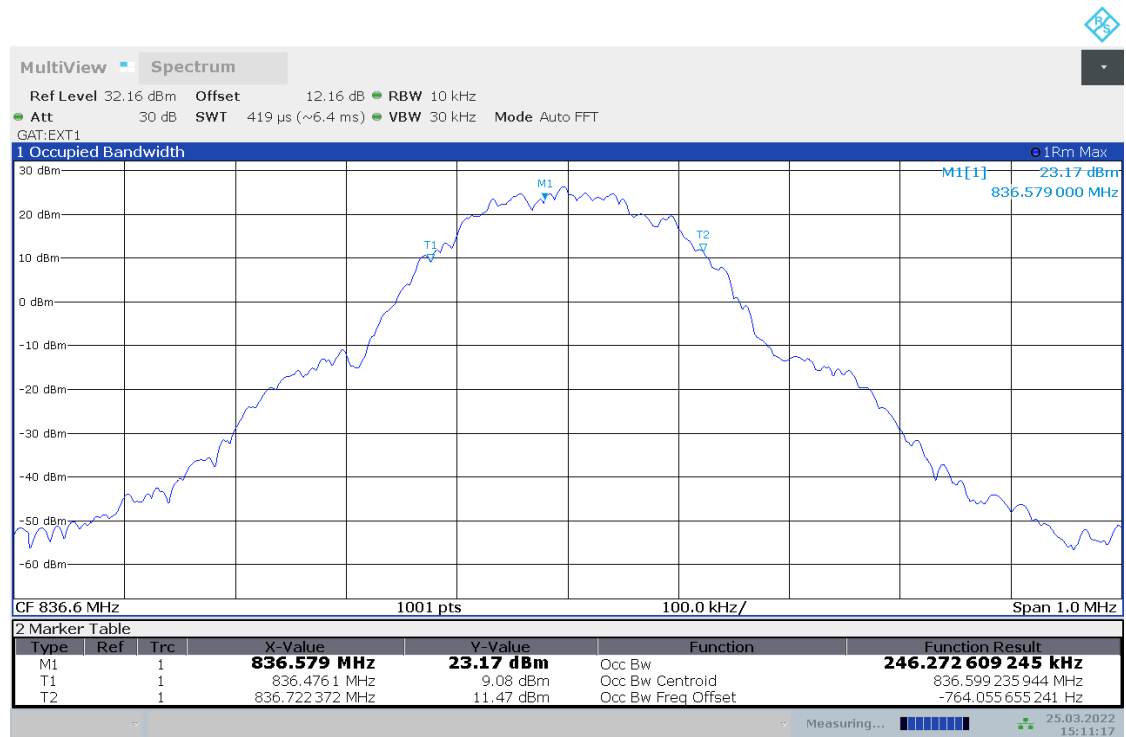
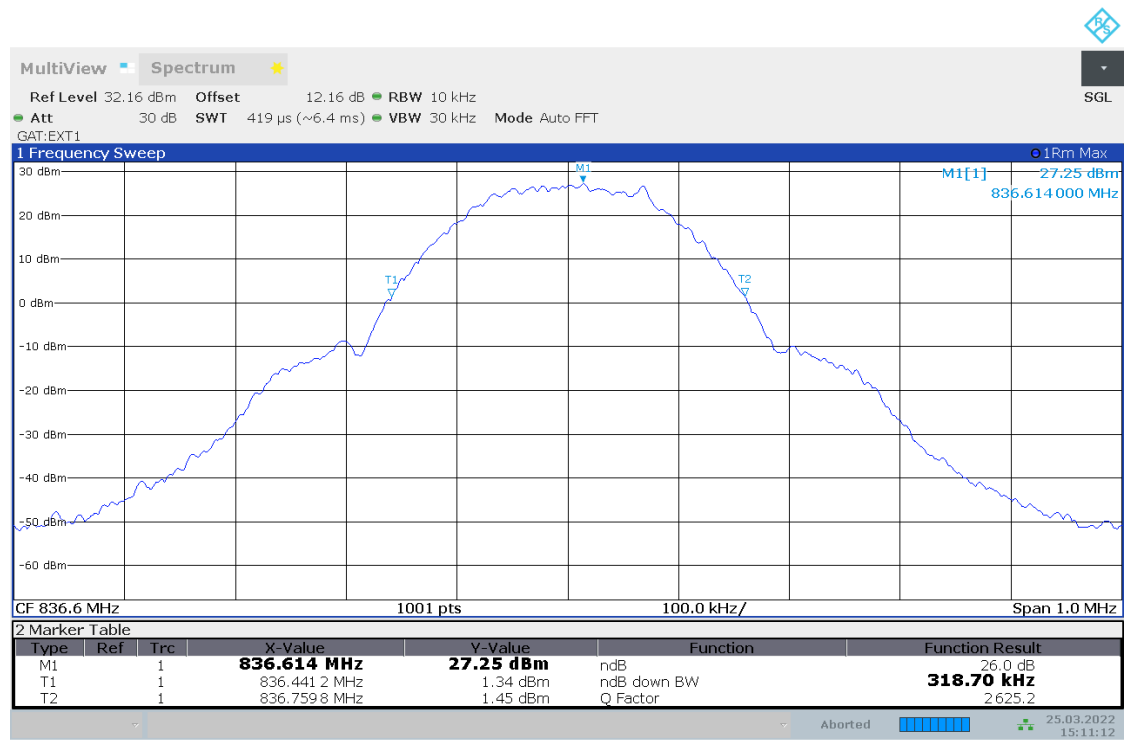
Occupied Bandwidth					
Test Band	Test Mode	Test Channel	Occupied Bandwidth [kHz]	Emission Bandwidth [KHz]	Verdict
GSM850	TM1	LCH	242.40	321.70	PASS
		MCH	243.70	318.70	PASS
		HCH	241.94	316.70	PASS
	TM2	LCH	242.06	316.70	PASS
		MCH	240.72	321.70	PASS
		HCH	242.85	320.70	PASS
	TM3	LCH	249.08	315.70	PASS
		MCH	248.30	316.70	PASS
		HCH	248.83	314.70	PASS

4.2 TEST PLOTS

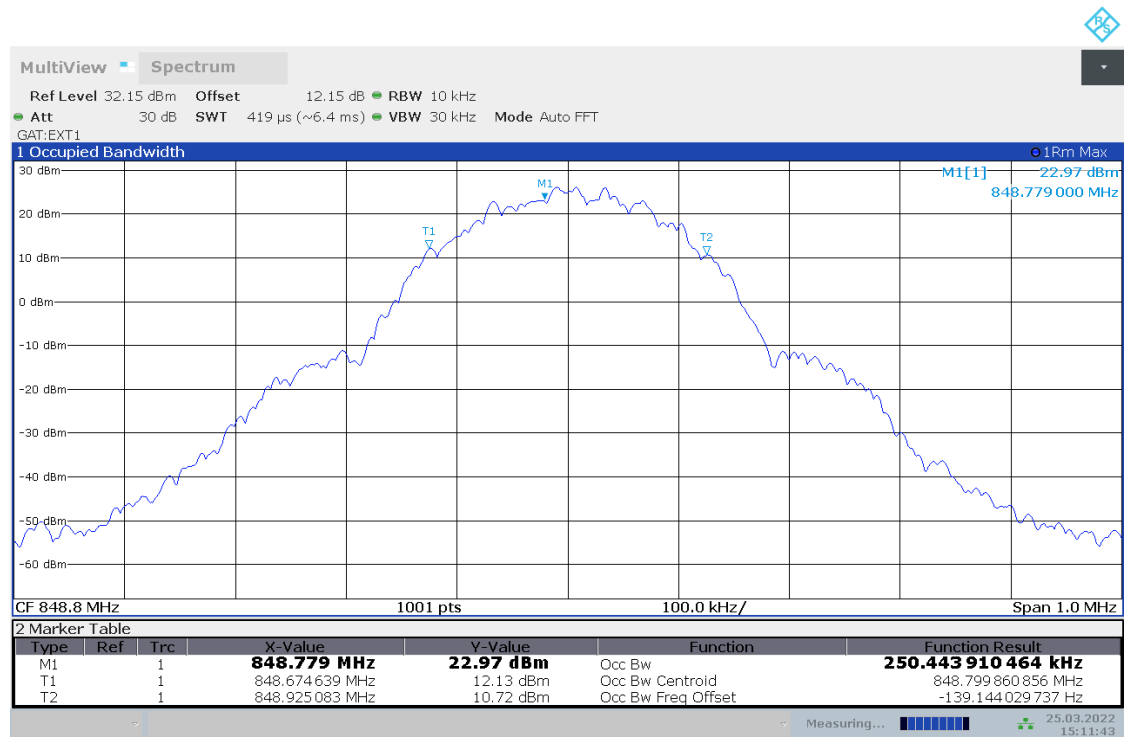
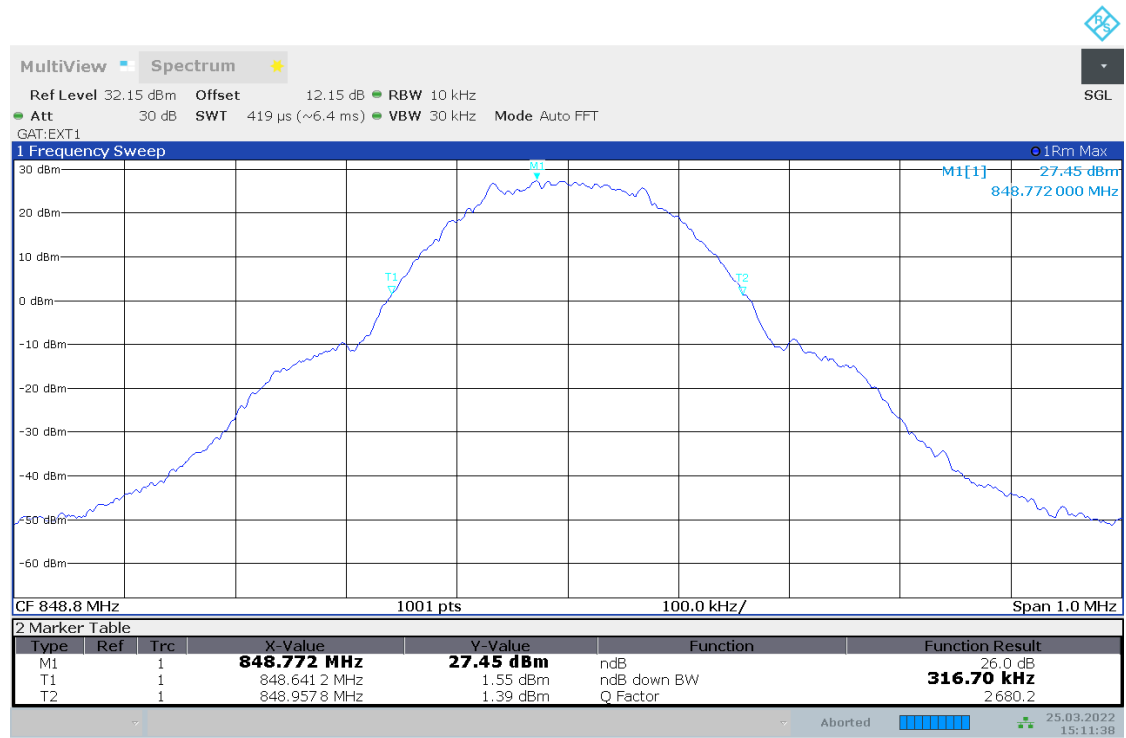
4.2.1 GSM850_TM1_LCH



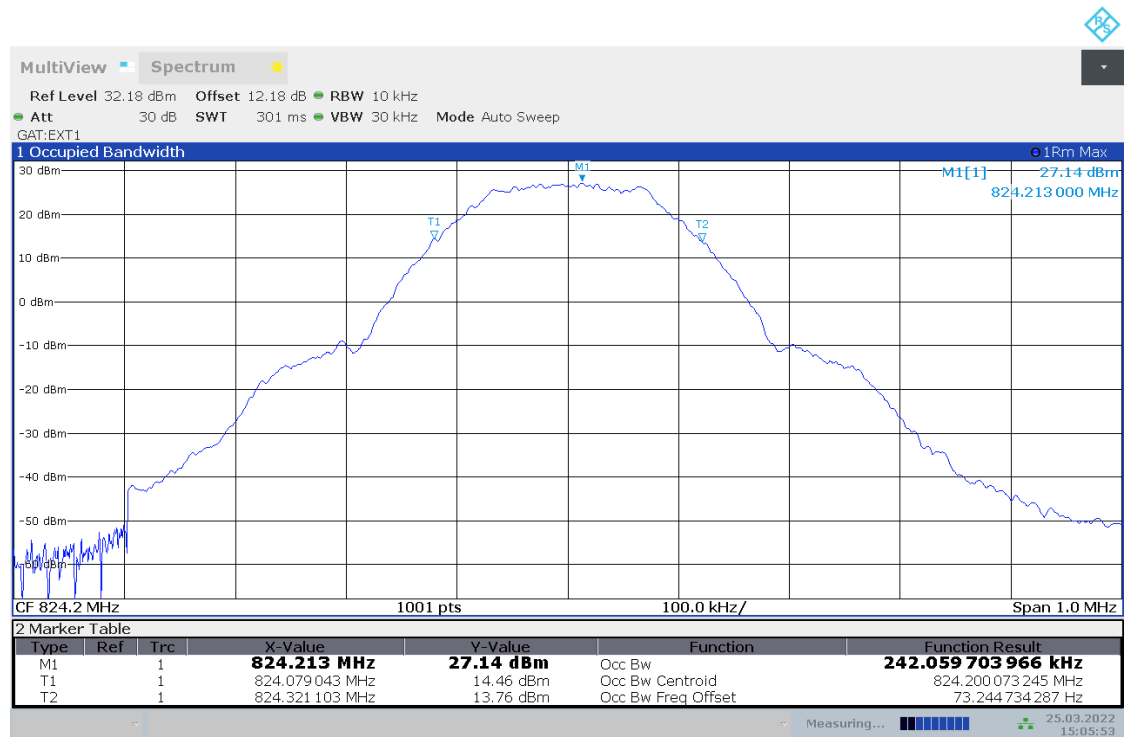
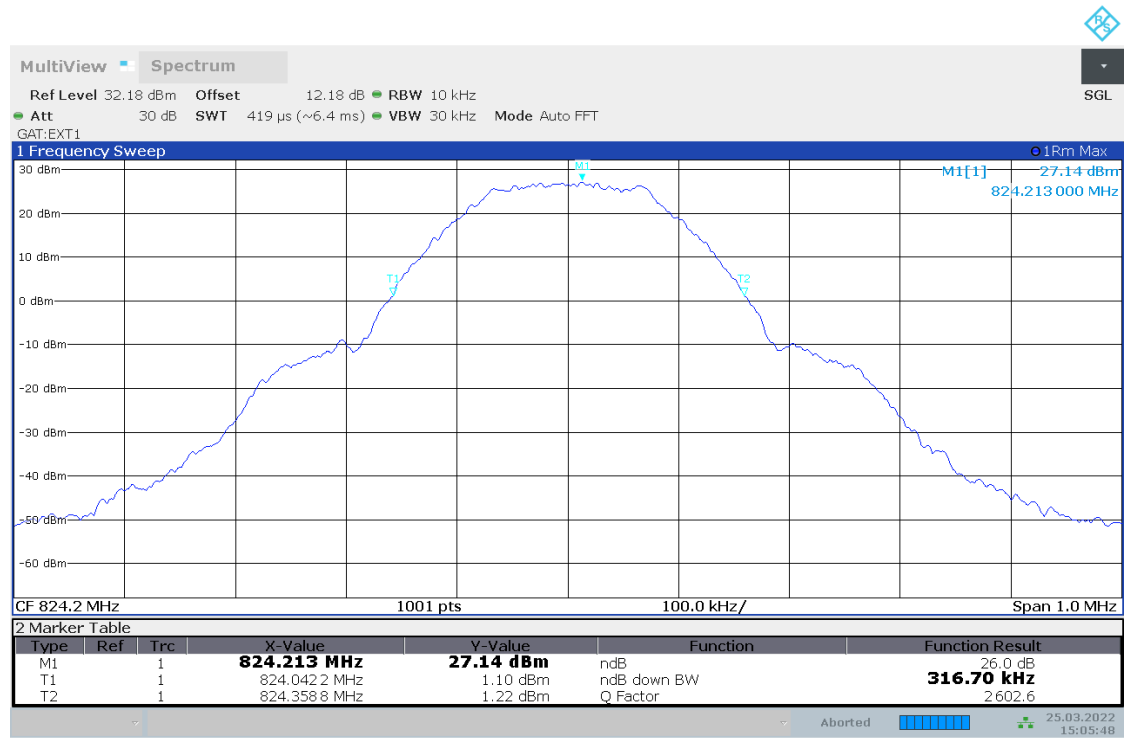
4.2.2 GSM850_TM1_MCH



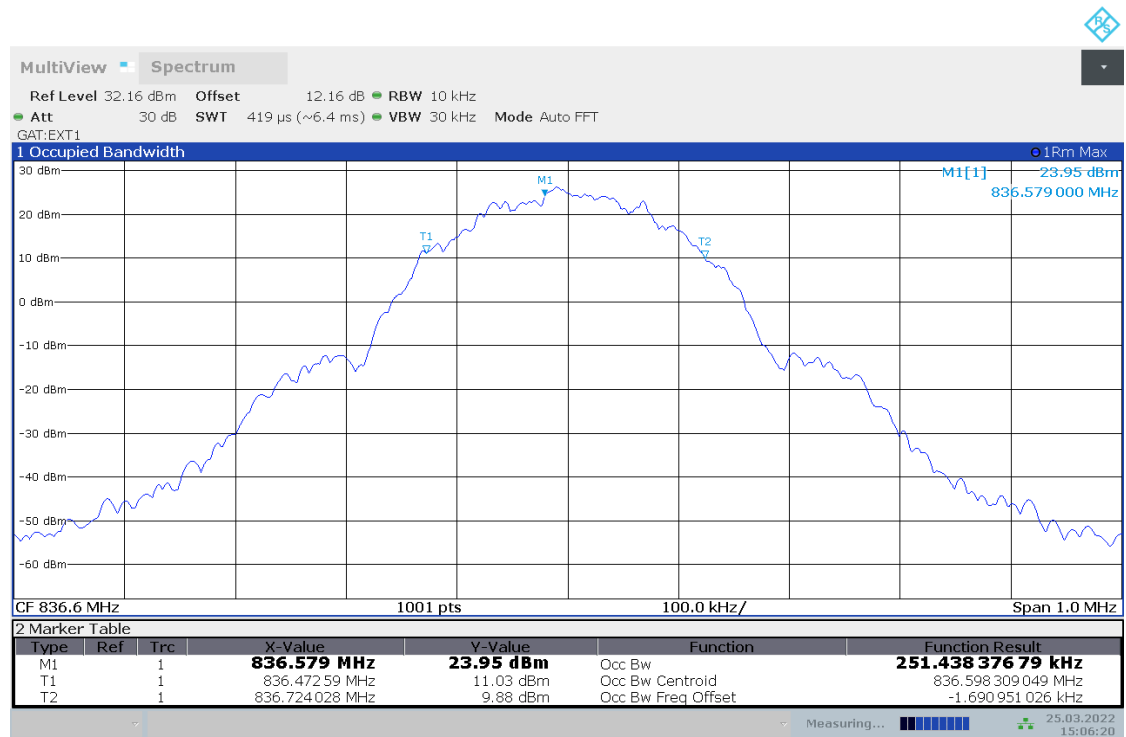
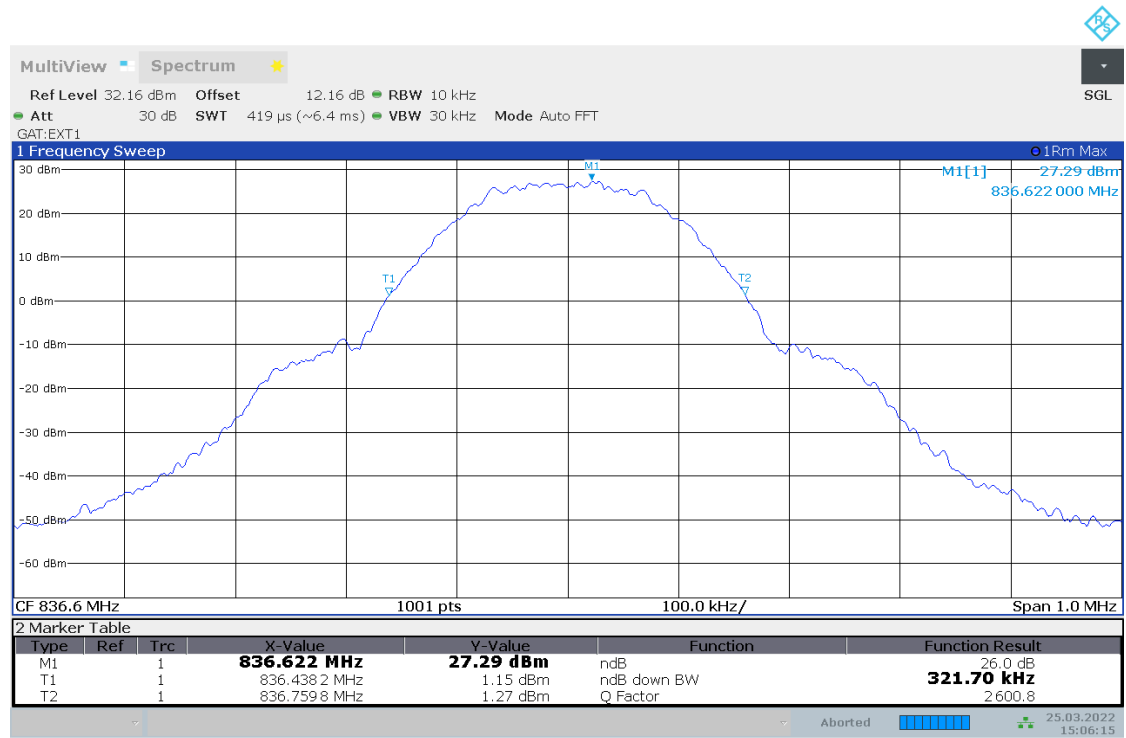
4.2.3 GSM850_TM1_HCH



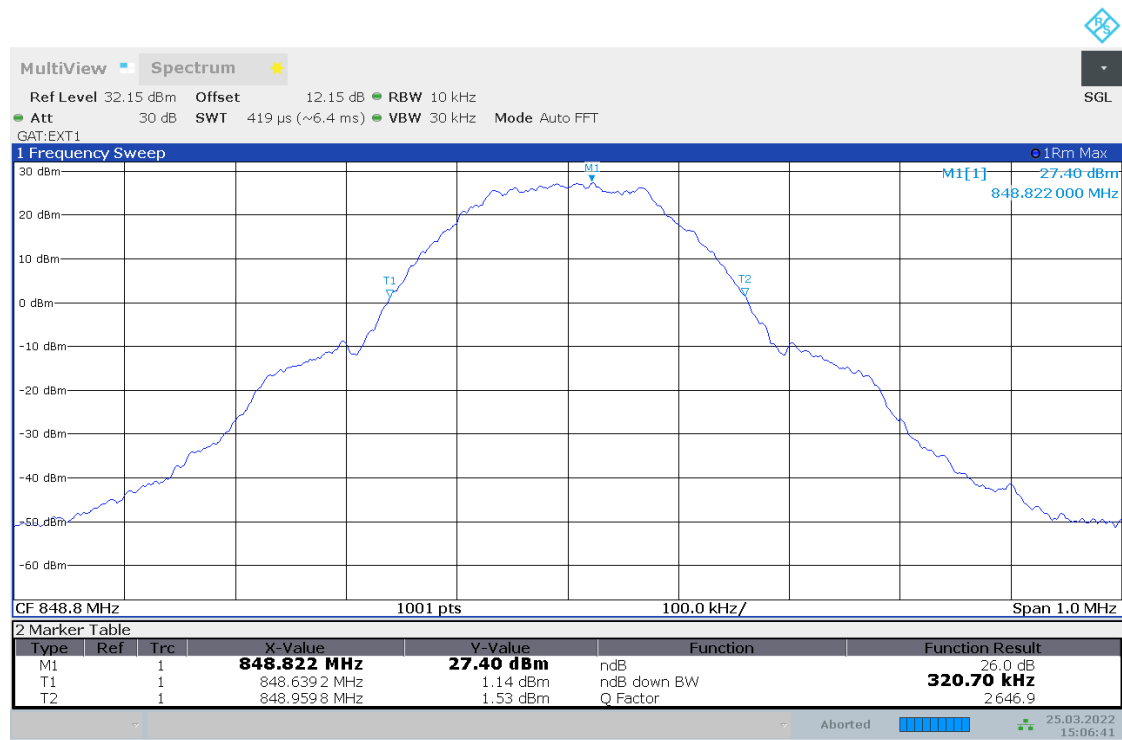
4.2.4 GSM850_TM2_LCH



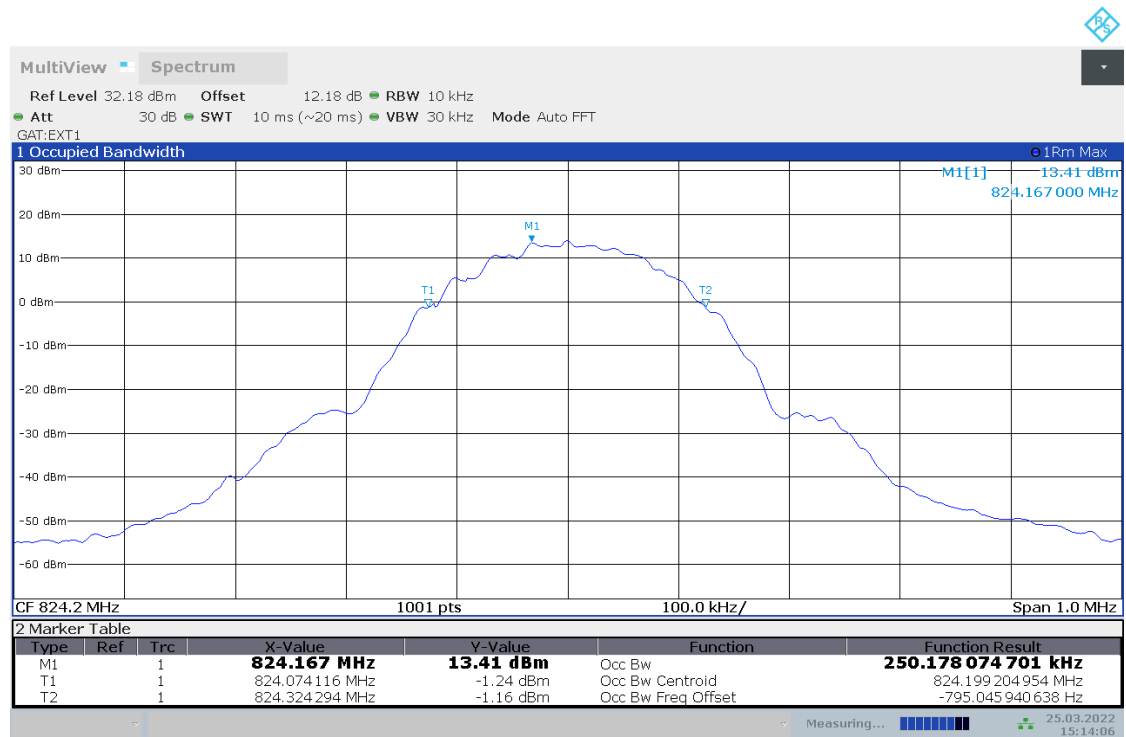
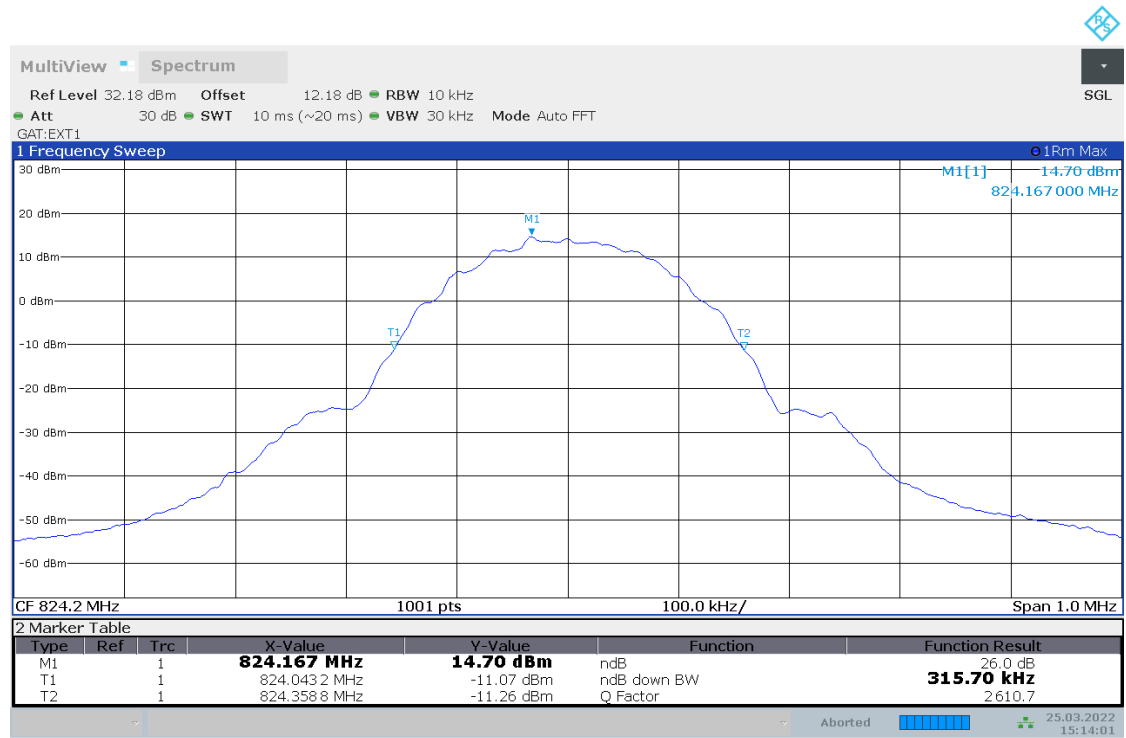
4.2.5 GSM850_TM2_MCH



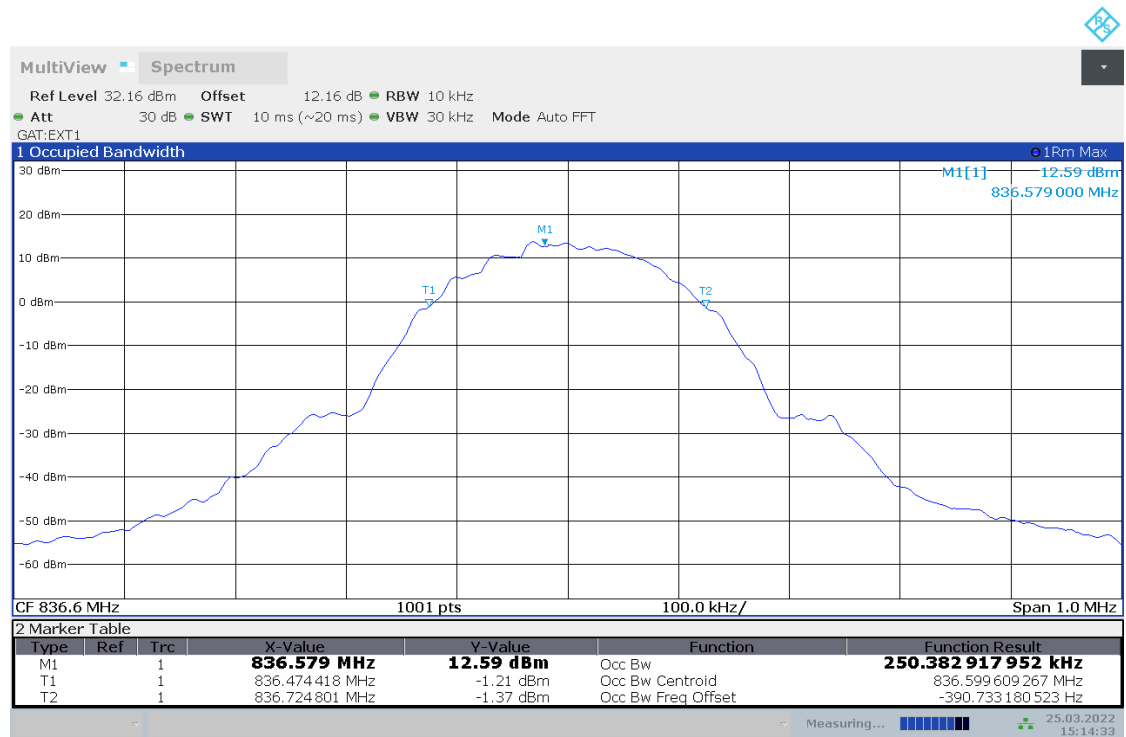
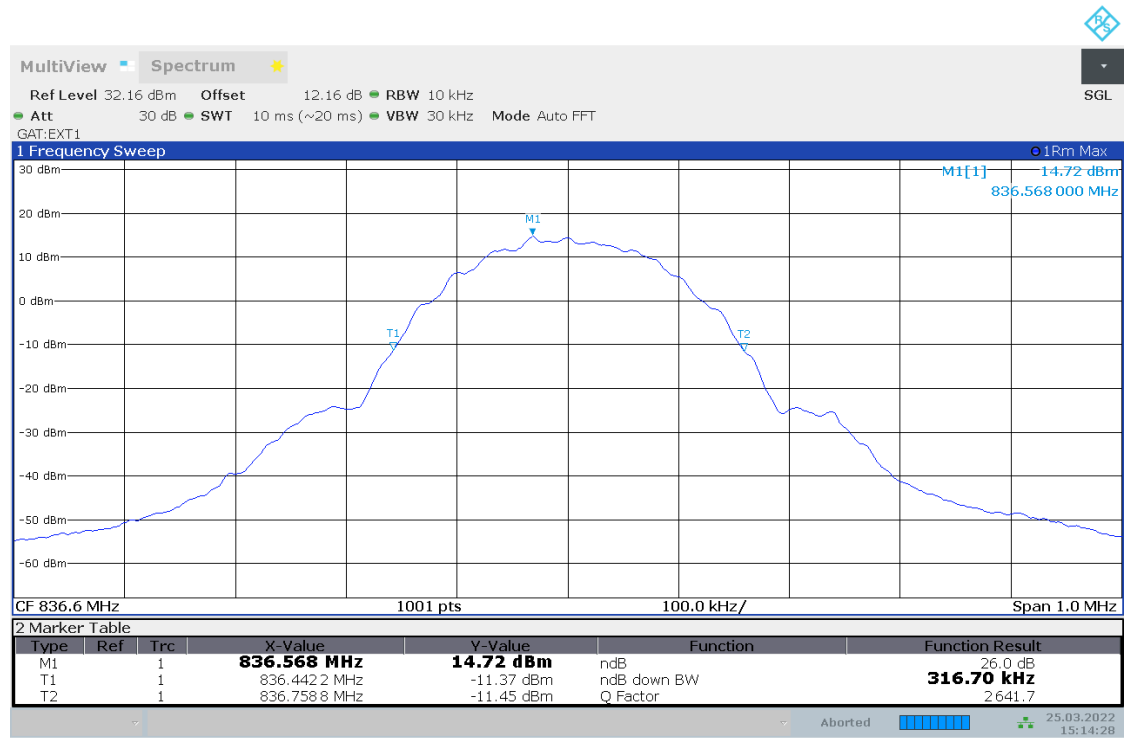
4.2.6 GSM850_TM2_HCH



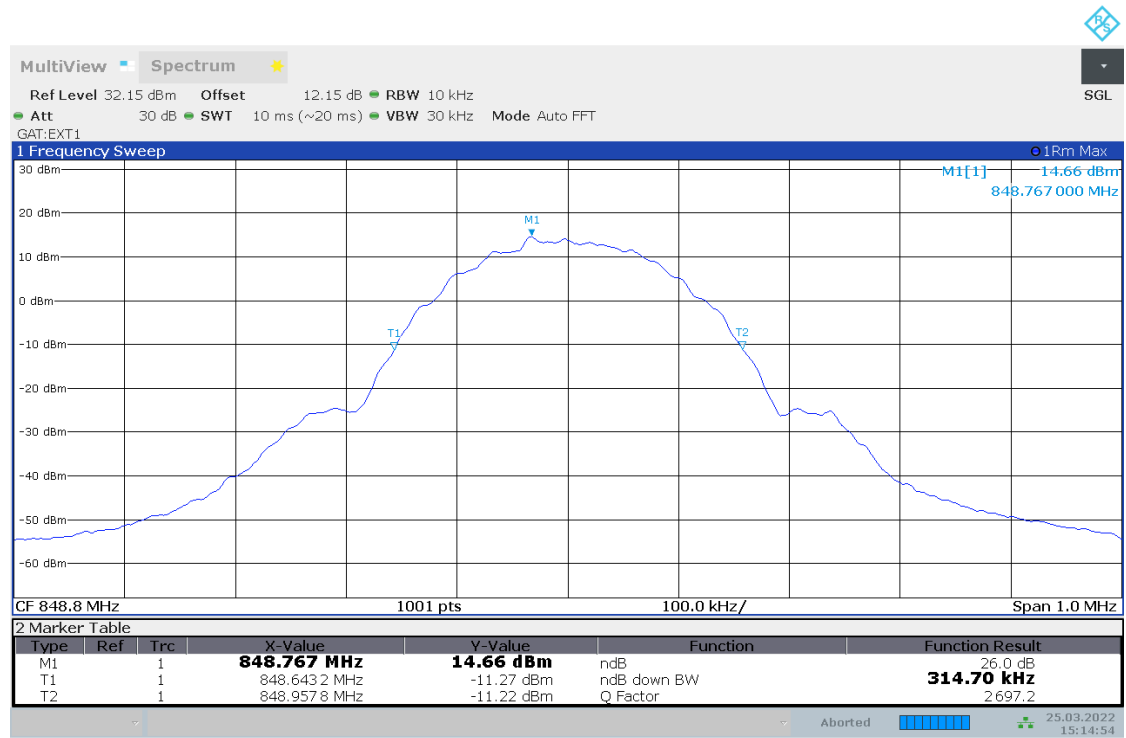
4.2.7 GSM850_TM3_LCH



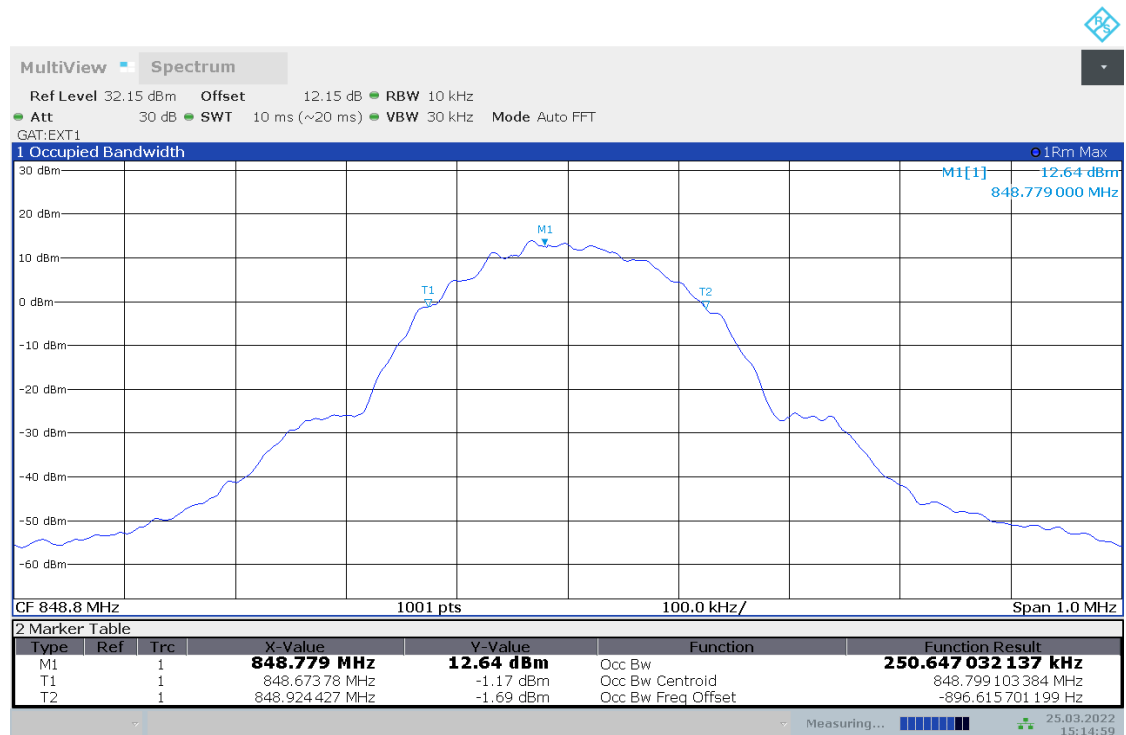
4.2.8 GSM850_TM3_MCH



4.2.9 GSM850_TM3_HCH



15:14:55 25.03.2022



15:15:00 25.03.2022

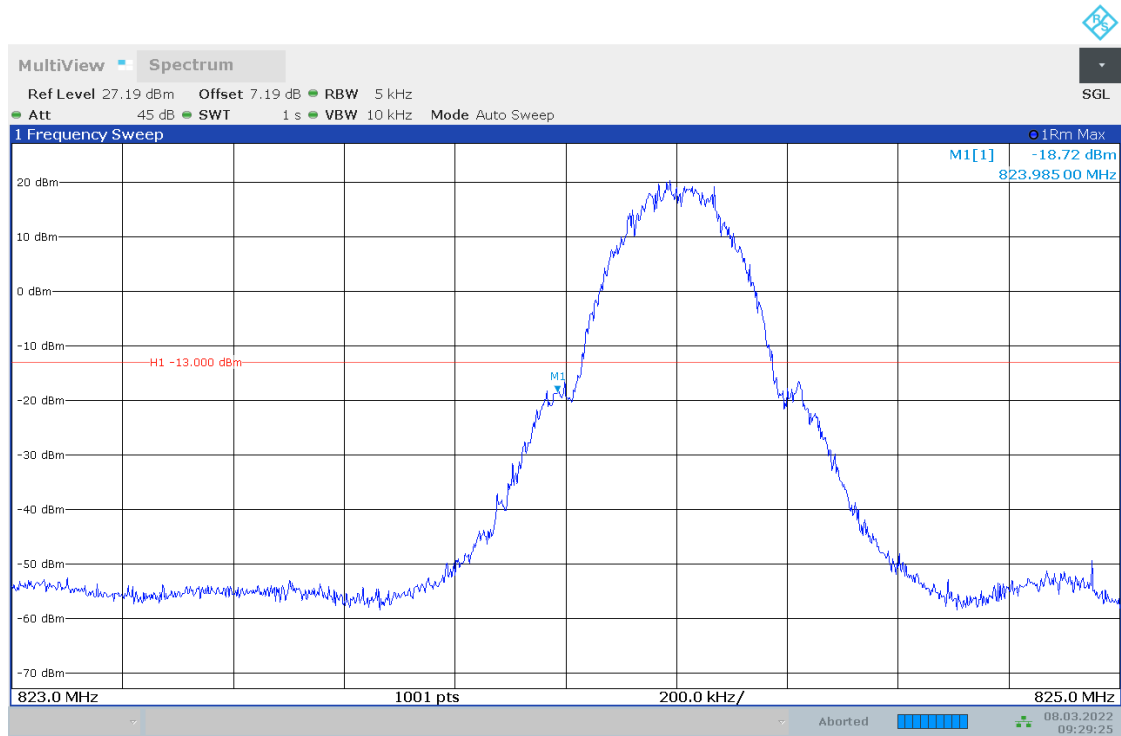
5. APPENDIX E - BAND EDGES COMPLIANCE

5.1 TEST RESULTS

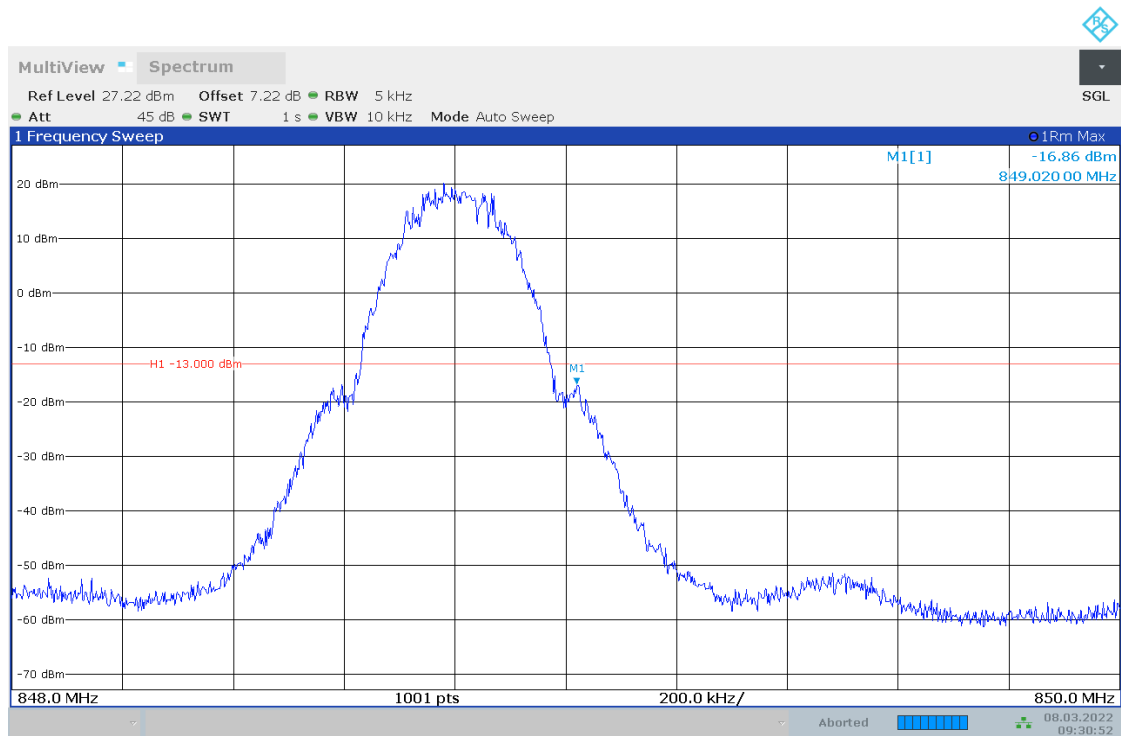
Band Edges Compliance						
Test Band	Test Mode	Test Channel	Frequency [MHz]	Power [dBm]	Limit [dBm]	Verdict
GSM850	TM1	LCH	823.985	-18.72	-13	PASS
		HCH	849.02	-16.86	-13	PASS
	TM2	LCH	823.98	-16.40	-13	PASS
		HCH	849.02	-17.33	-13	PASS
	TM3	LCH	823.995	-23.17	-13	PASS
		HCH	849.035	-26.16	-13	PASS

5.2 TEST PLOTS

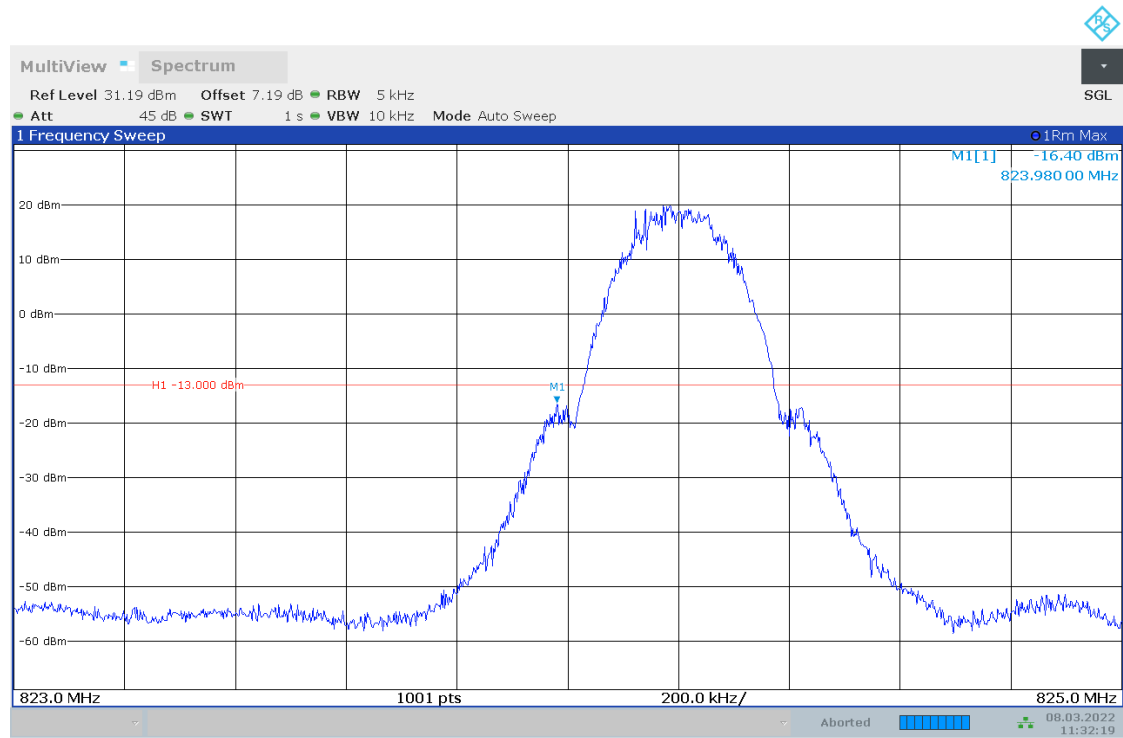
5.2.1 GSM850_TM1_LCH



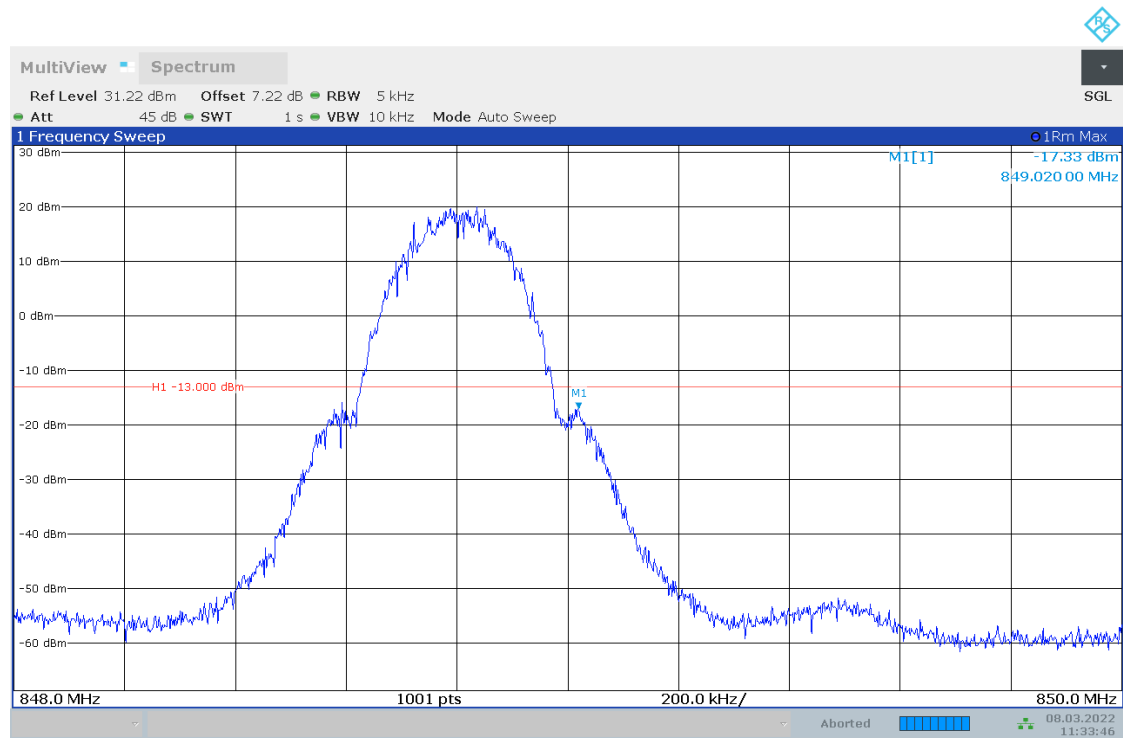
5.2.2 GSM850_TM1_HCH



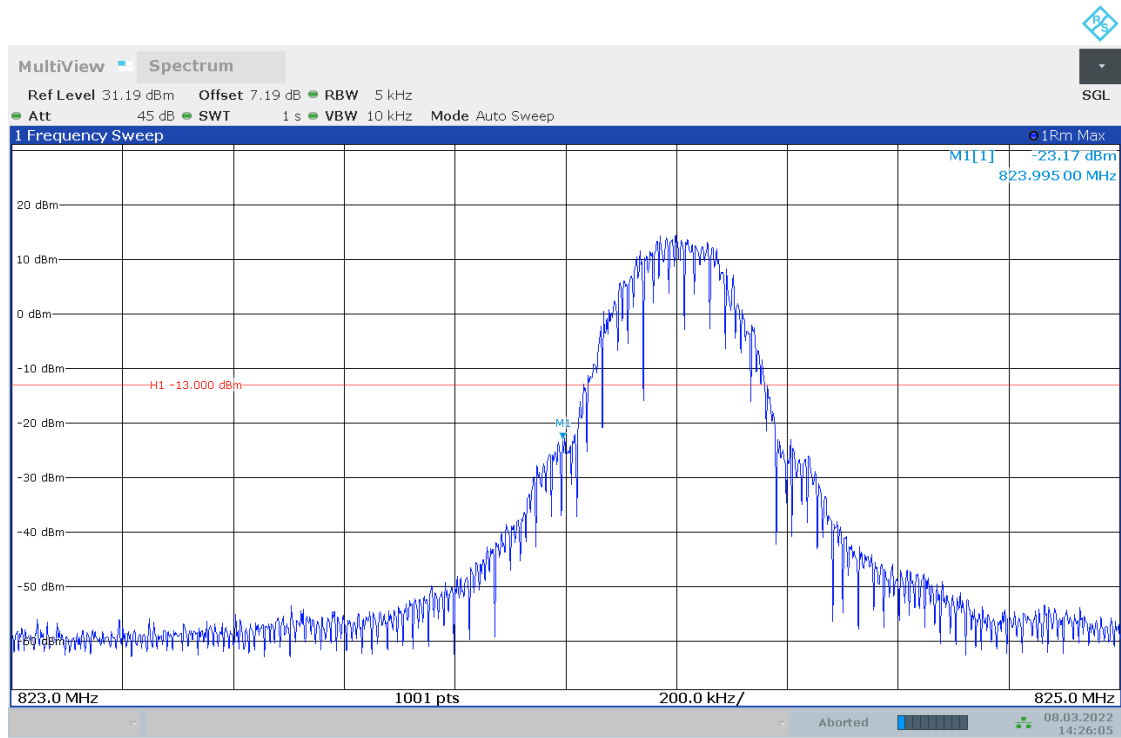
5.2.3 GSM850_TM2_LCH



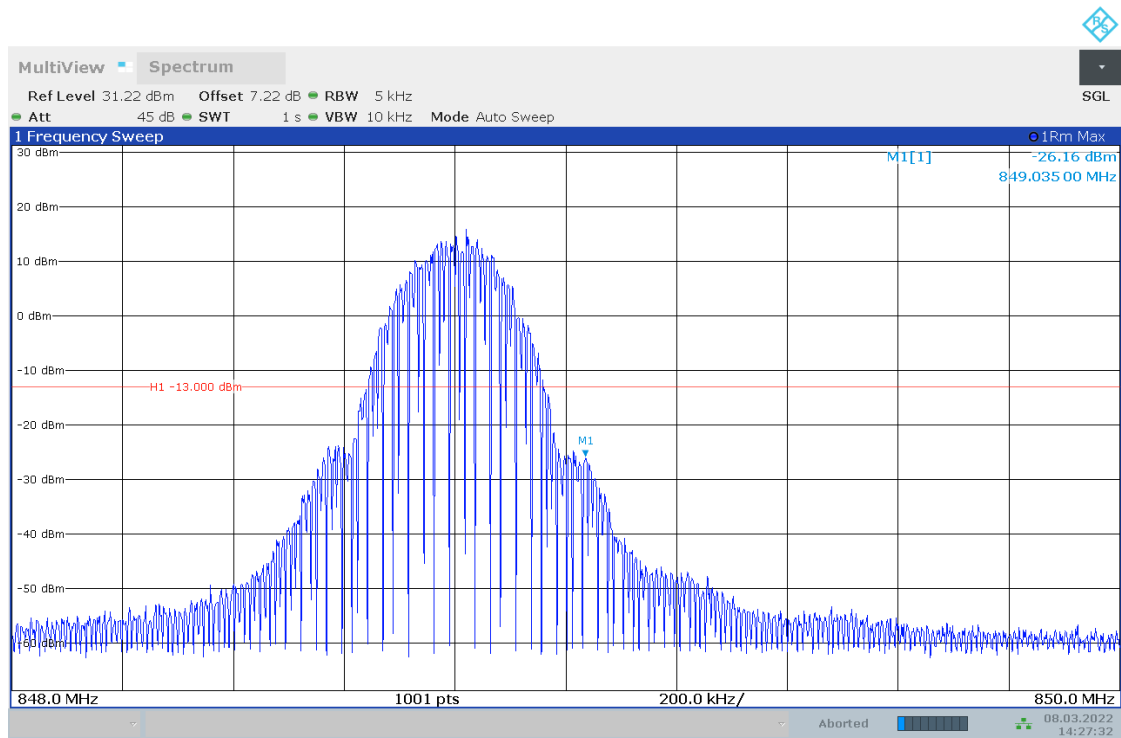
5.2.4 GSM850_TM2_HCH



5.2.5 GSM850_TM3_LCH



5.2.6 GSM850_TM3_HCH



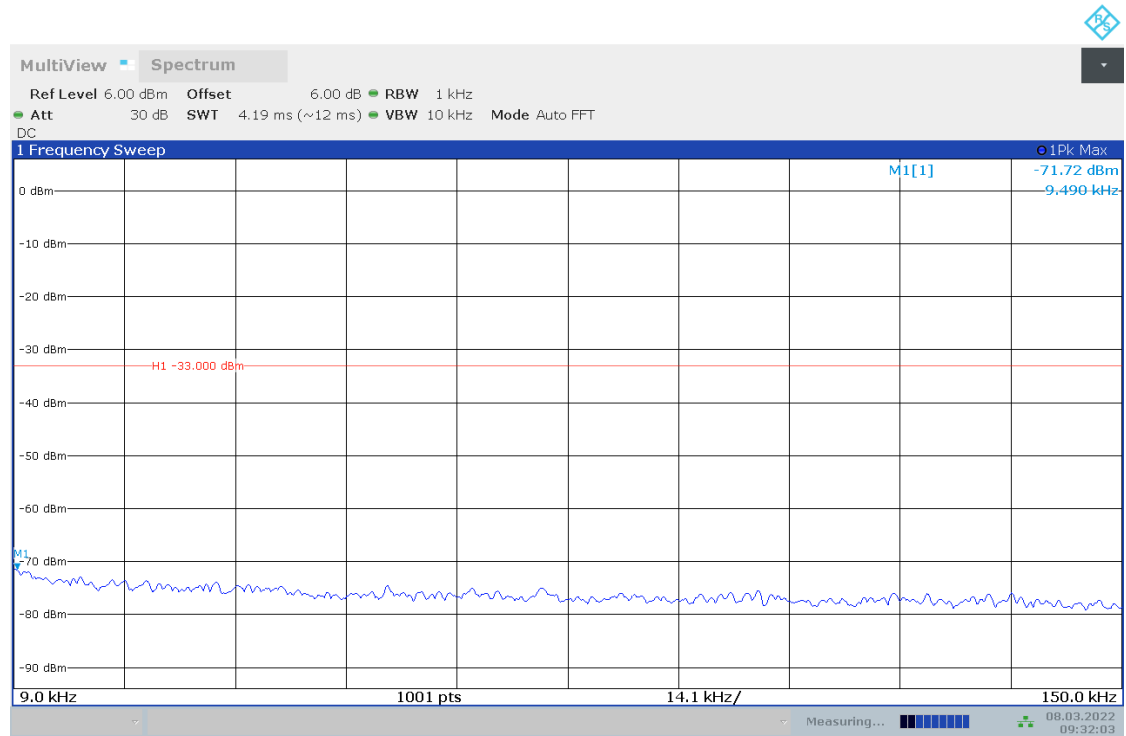
6. APPENDIX F - SPURIOUS EMISSION AT ANTENNA TERMINAL

6.1 TEST RESULTS

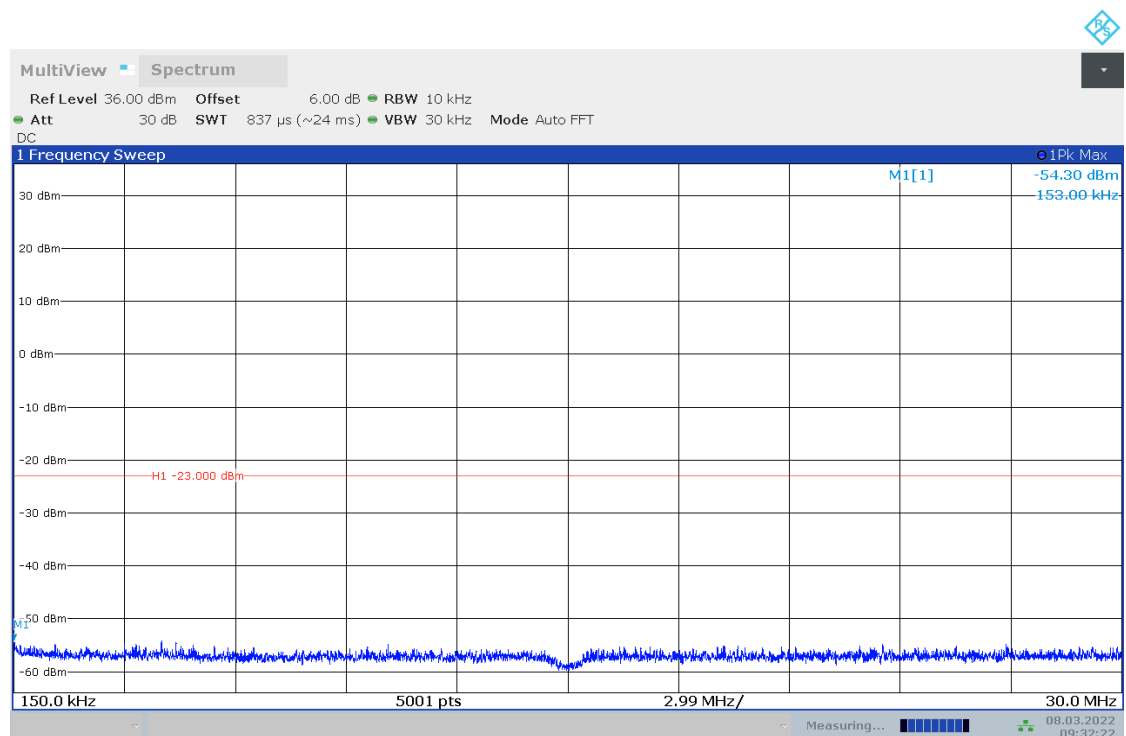
Spurious Emission at Antenna Terminal								
Test Band	Test Mode	Test Channel	Start Freq. [MHz]	Stop Freq. [MHz]	Measured Freq. [MHz]	Measured Power [dBm]	Limit [dBm]	Verdict
GSM850	TM1	LCH	0.009	0.15	0.01	-71.76	-33	PASS
			0.15	30	0.15	-54.3	-23	PASS
			30	1000	822.05	-30.6	-13	PASS
			1000	12750	2472.39	-35	-13	PASS
		MCH	0.009	0.15	0.01	-71.59	-33	PASS
			0.15	30	0.31	-54.19	-23	PASS
			30	1000	615.49	-42.7	-13	PASS
			1000	12750	2511.16	-34.91	-13	PASS
		HCH	0.009	0.15	0.01	-71.4	-33	PASS
			0.15	30	0.35	-54.59	-23	PASS
			30	1000	850.35	-19.87	-13	PASS
			1000	12750	2546.7	-35.17	-13	PASS
	TM2	LCH	0.009	0.15	0.01	-71.08	-33	PASS
			0.15	30	0.21	-54.11	-23	PASS
			30	1000	822.51	-24.57	-13	PASS
			1000	12750	2472.39	-34.13	-13	PASS
		MCH	0.009	0.15	0.01	-72.06	-33	PASS
			0.15	30	3.25	-54.1	-23	PASS
			30	1000	633.94	-41.76	-13	PASS
			1000	12750	2509.4	-34.66	-13	PASS
		HCH	0.009	0.15	0.01	-71.49	-33	PASS
			0.15	30	22.63	-54.58	-23	PASS
			30	1000	850.76	-27.54	-13	PASS
			1000	12750	2546.41	-35.77	-13	PASS
	TM3	LCH	0.009	0.15	0.01	-71.59	-33	PASS
			0.15	30	2.01	-54.17	-23	PASS
			30	1000	822.77	-29.01	-13	PASS
			1000	12750	7992.1	-36.27	-13	PASS
		MCH	0.009	0.15	0.01	-71.61	-33	PASS
			0.15	30	1.48	-54.24	-23	PASS
			30	1000	631.78	-41.95	-13	PASS
			1000	12750	7077.98	-36.17	-13	PASS
		HCH	0.009	0.15	0.01	-70.97	-33	PASS
			0.15	30	0.16	-53.98	-23	PASS
			30	1000	850.81	-35.71	-13	PASS
			1000	12750	7998.27	-35.82	-13	PASS

6.2 TEST PLOTS

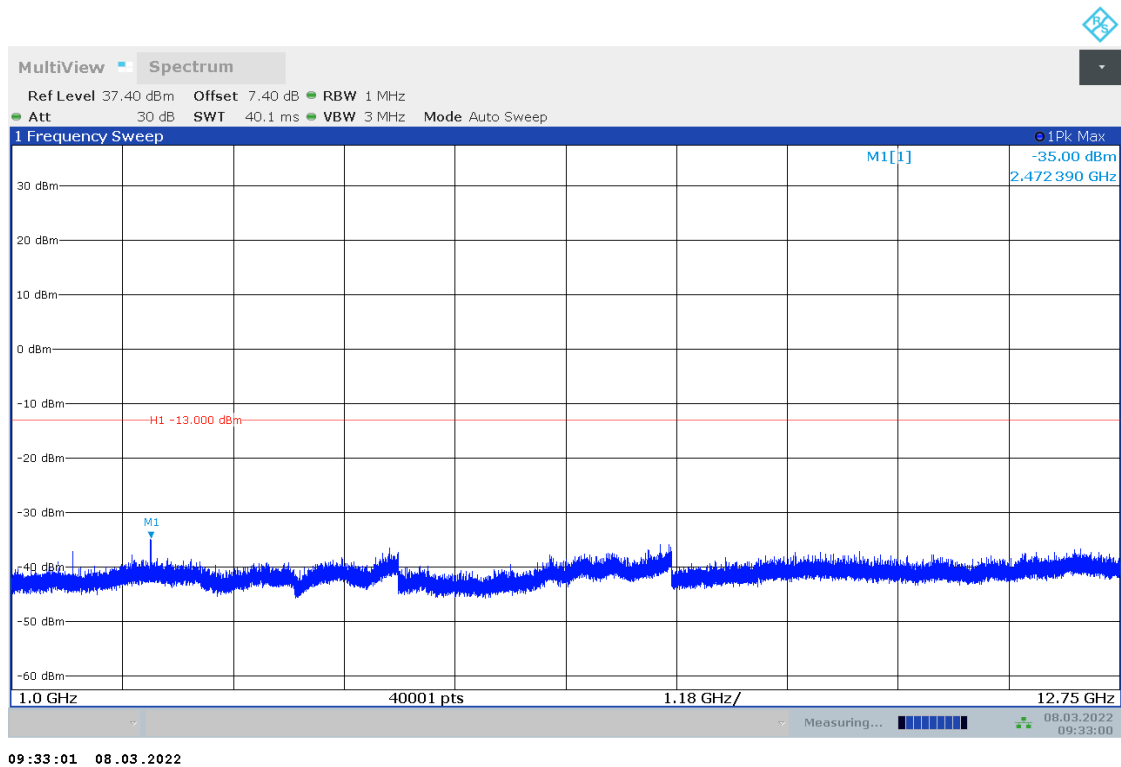
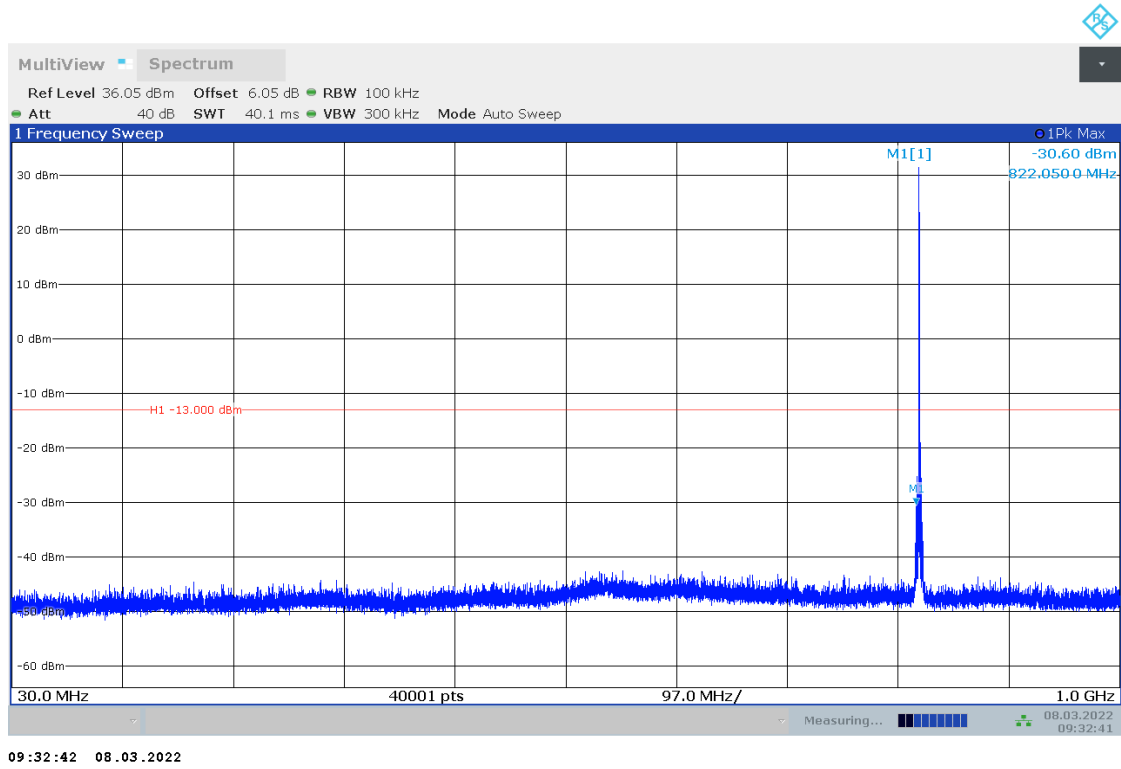
6.2.1 GSM850_TM1_LCH



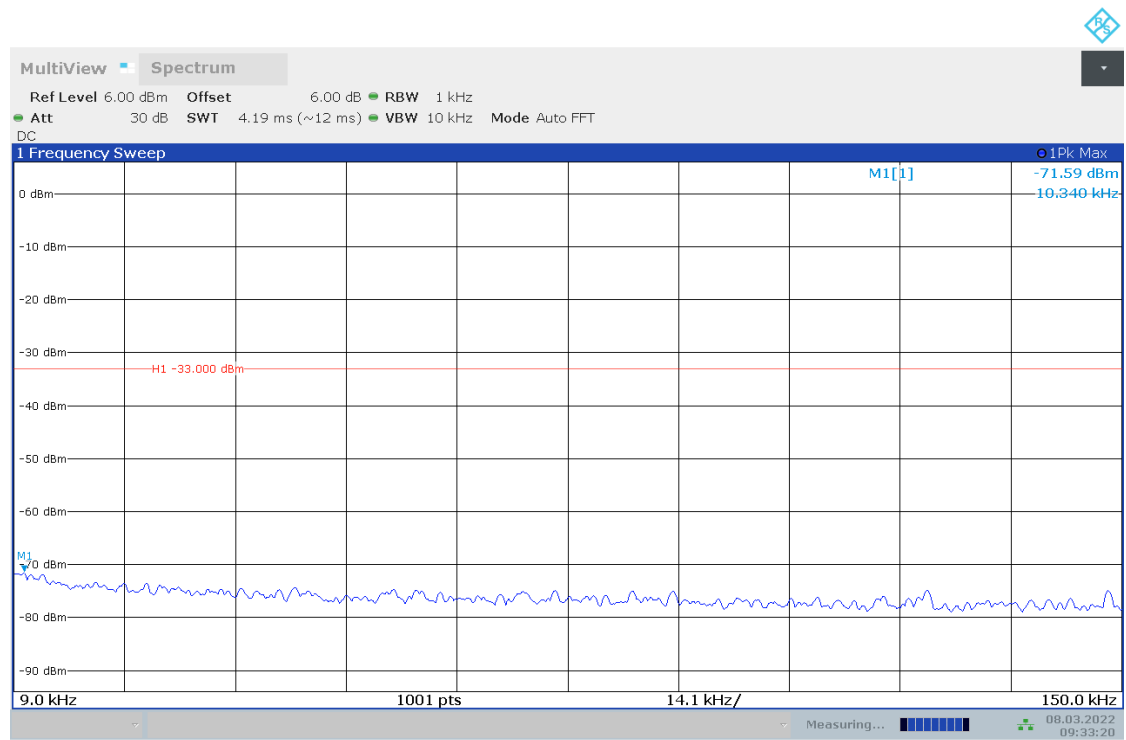
09:32:03 08.03.2022



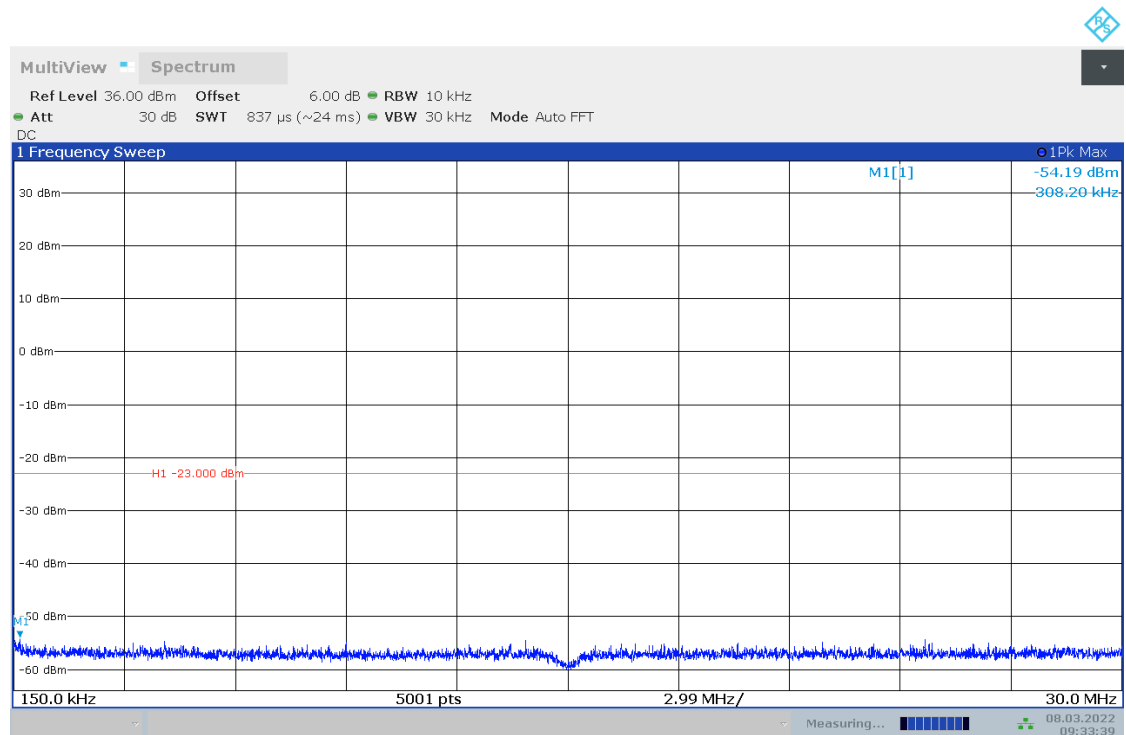
09:32:22 08.03.2022



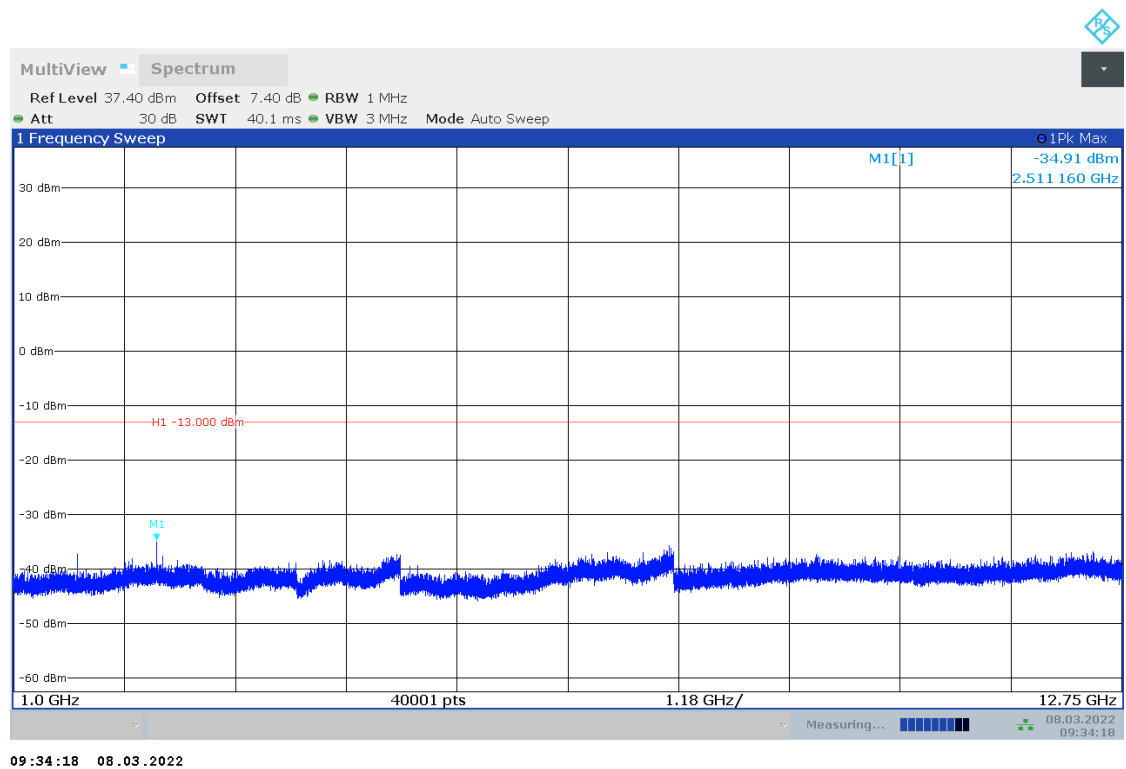
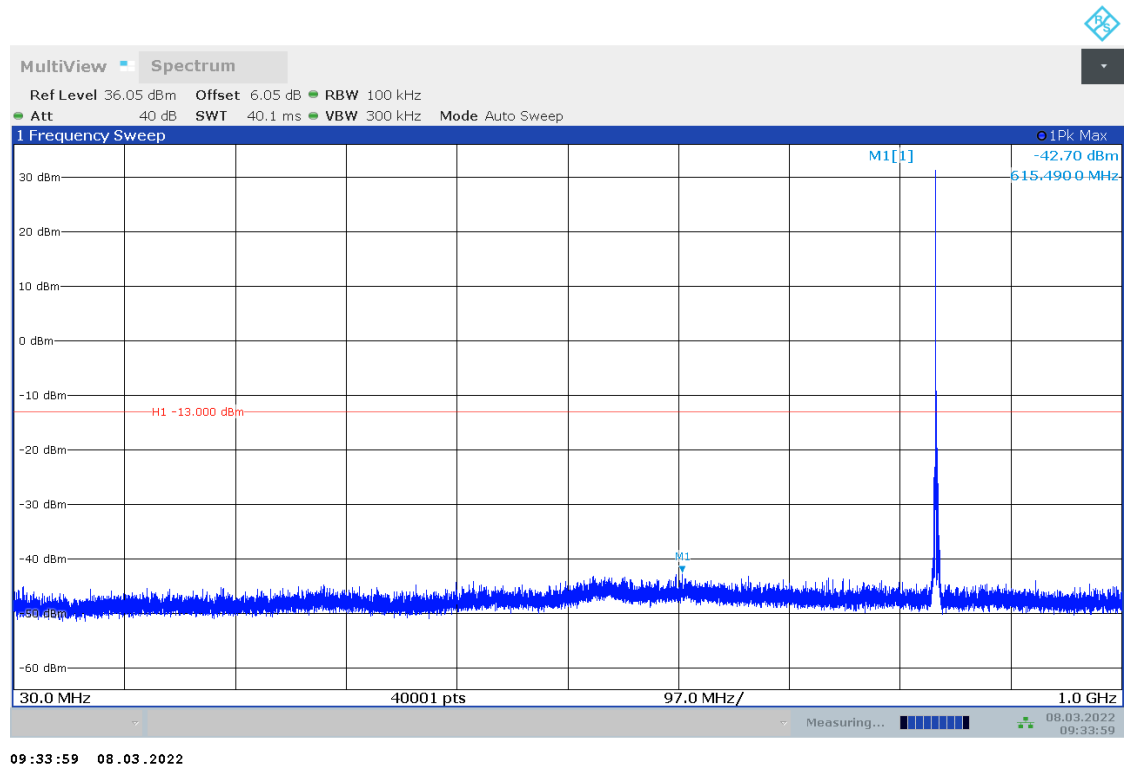
6.2.2 GSM850_TM1_MCH



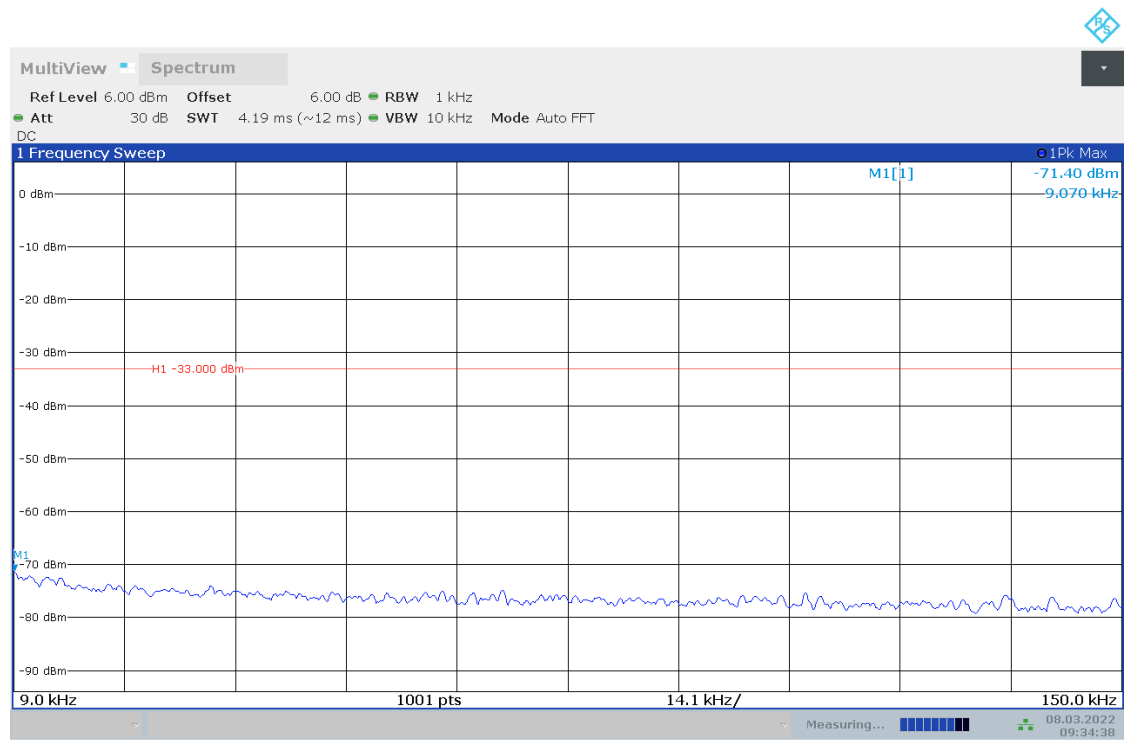
09:33:21 08.03.2022



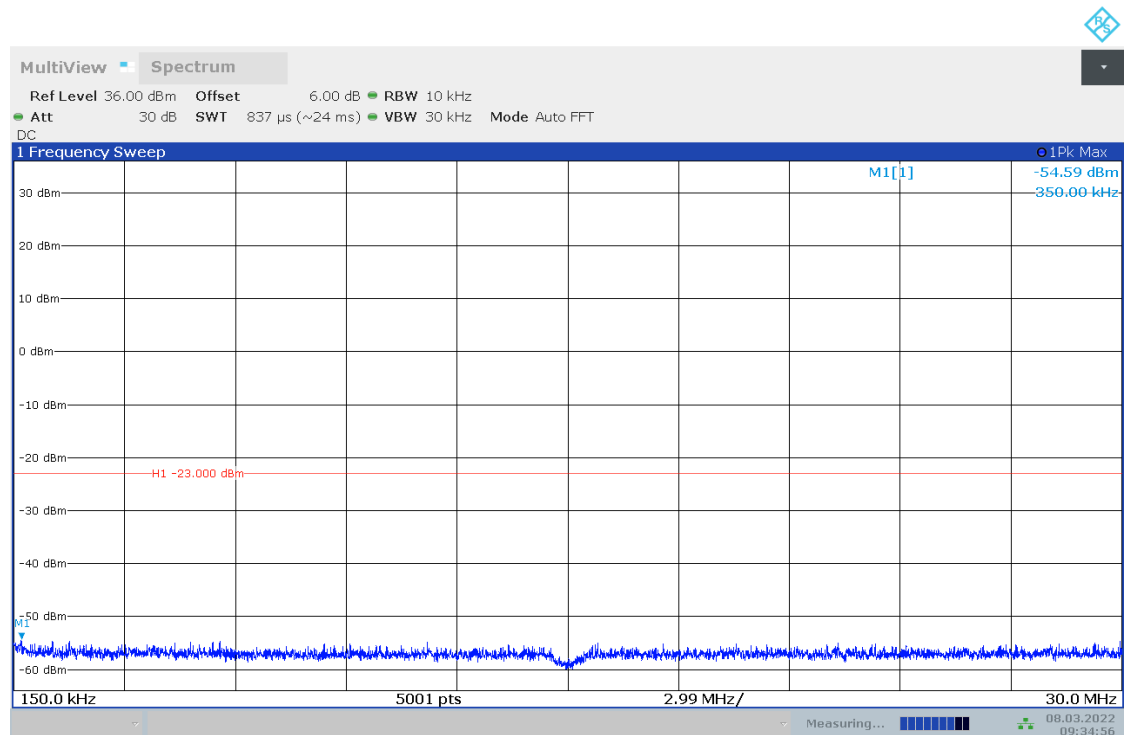
09:33:40 08.03.2022



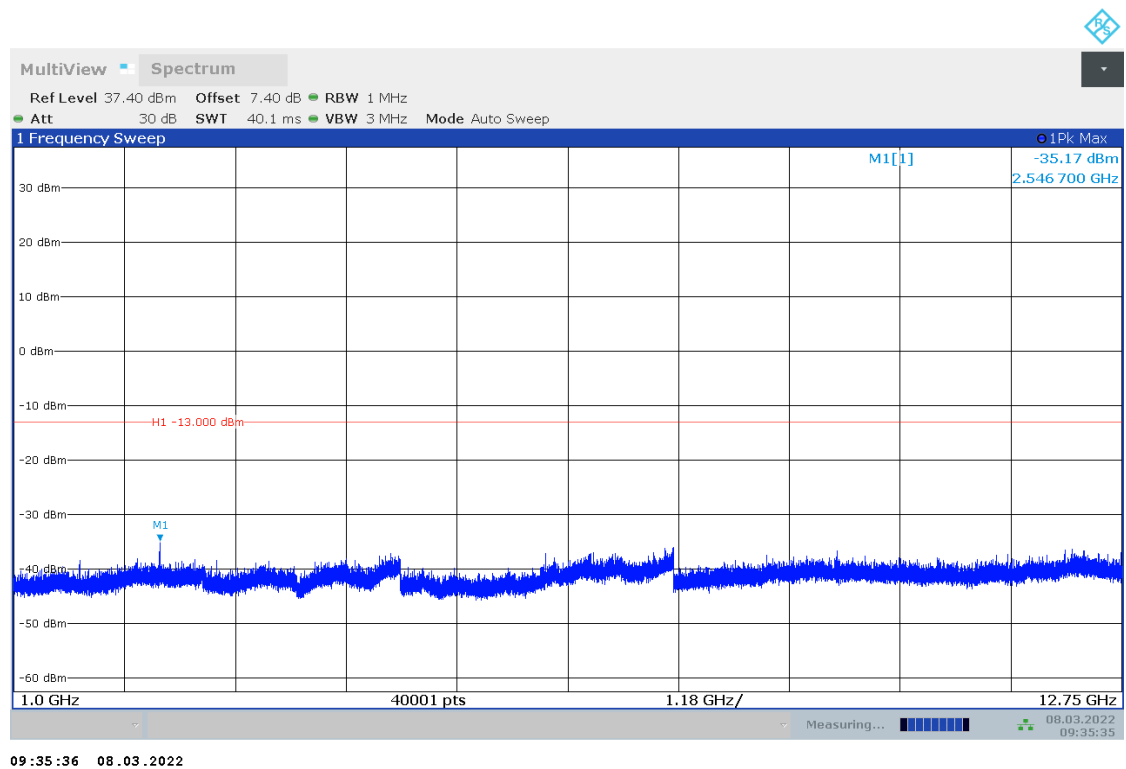
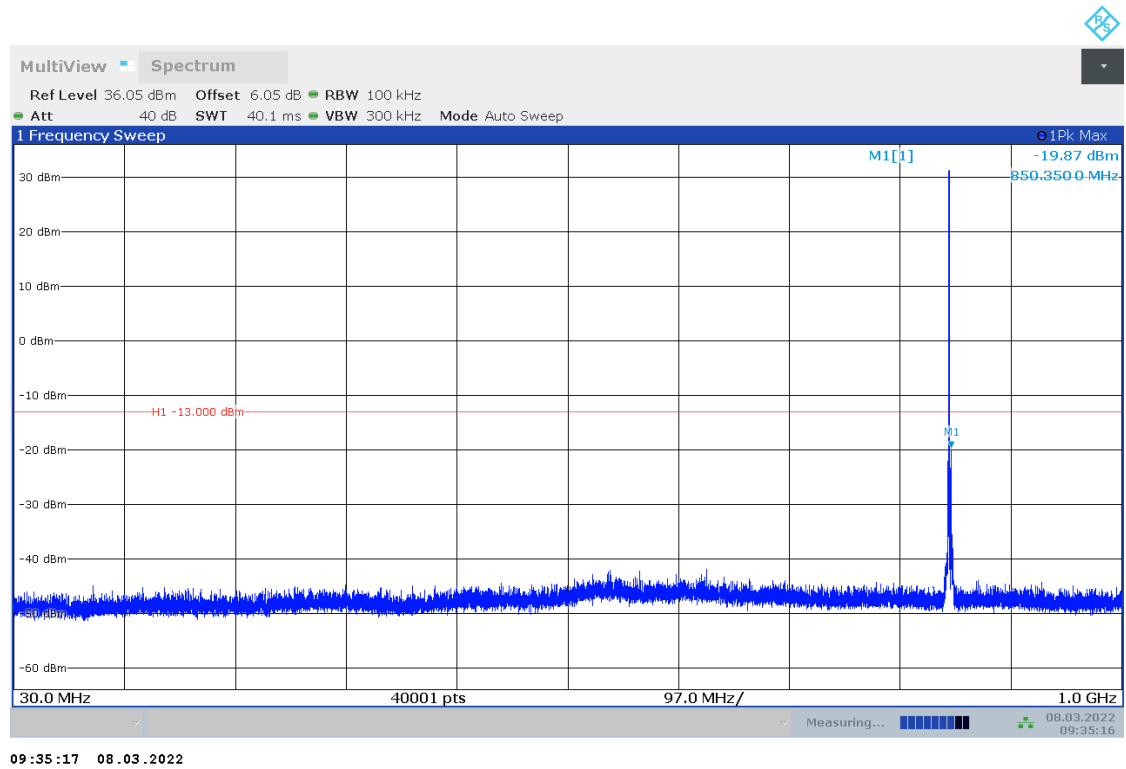
6.2.3 GSM850_TM1_HCH



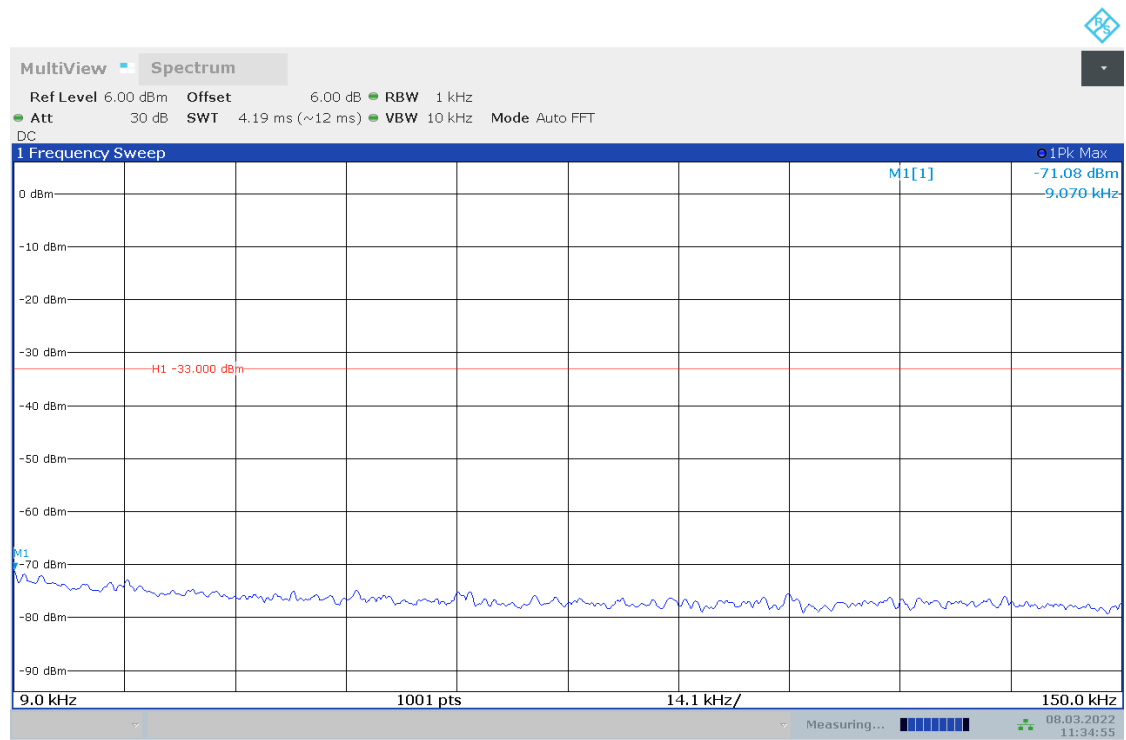
09:34:38 08.03.2022



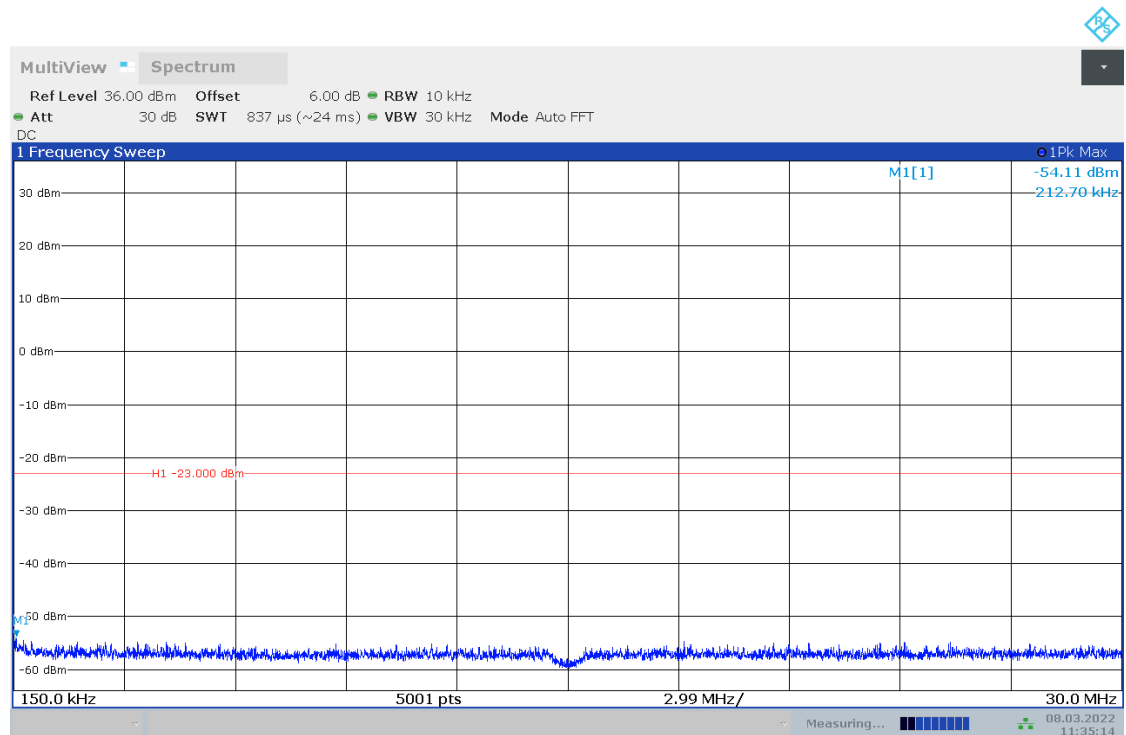
09:34:57 08.03.2022



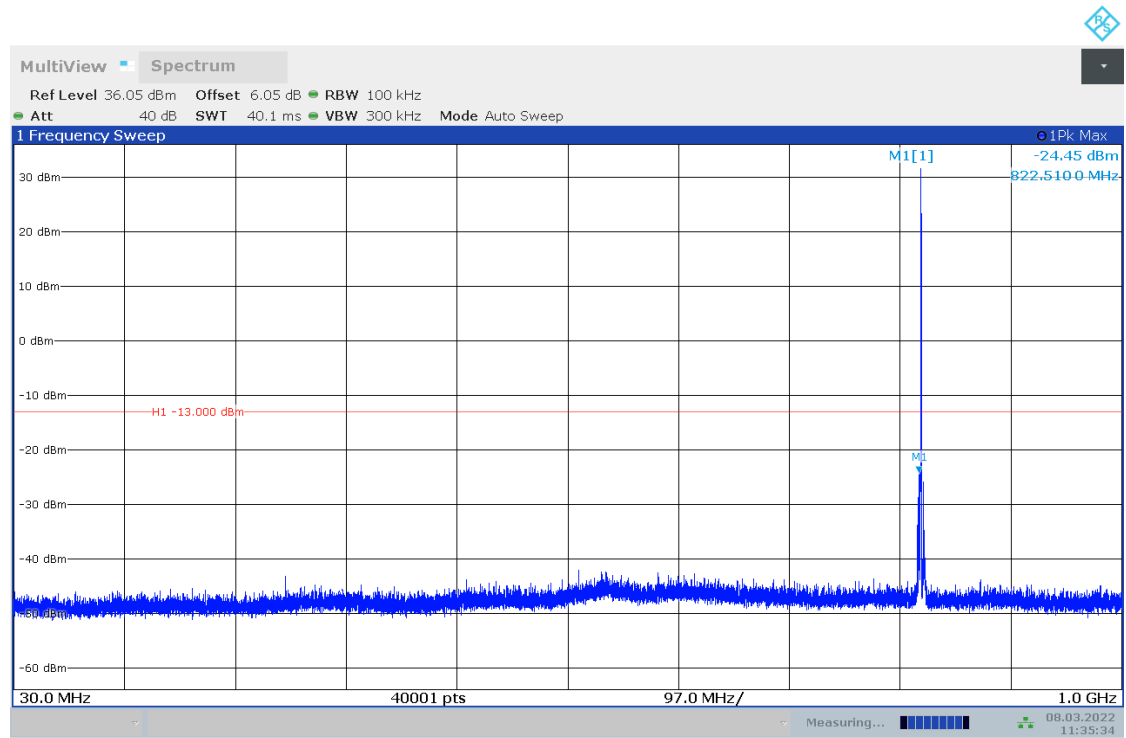
6.2.4 GSM850_TM2_LCH



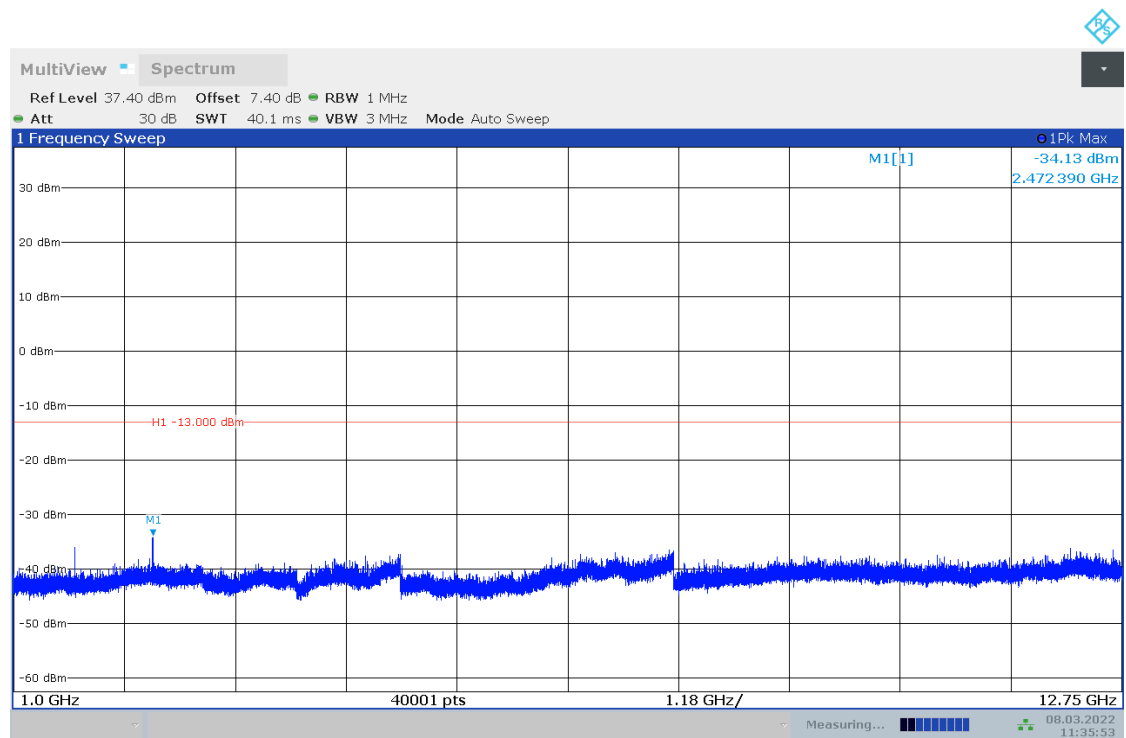
11:34:55 08.03.2022



11:35:14 08.03.2022

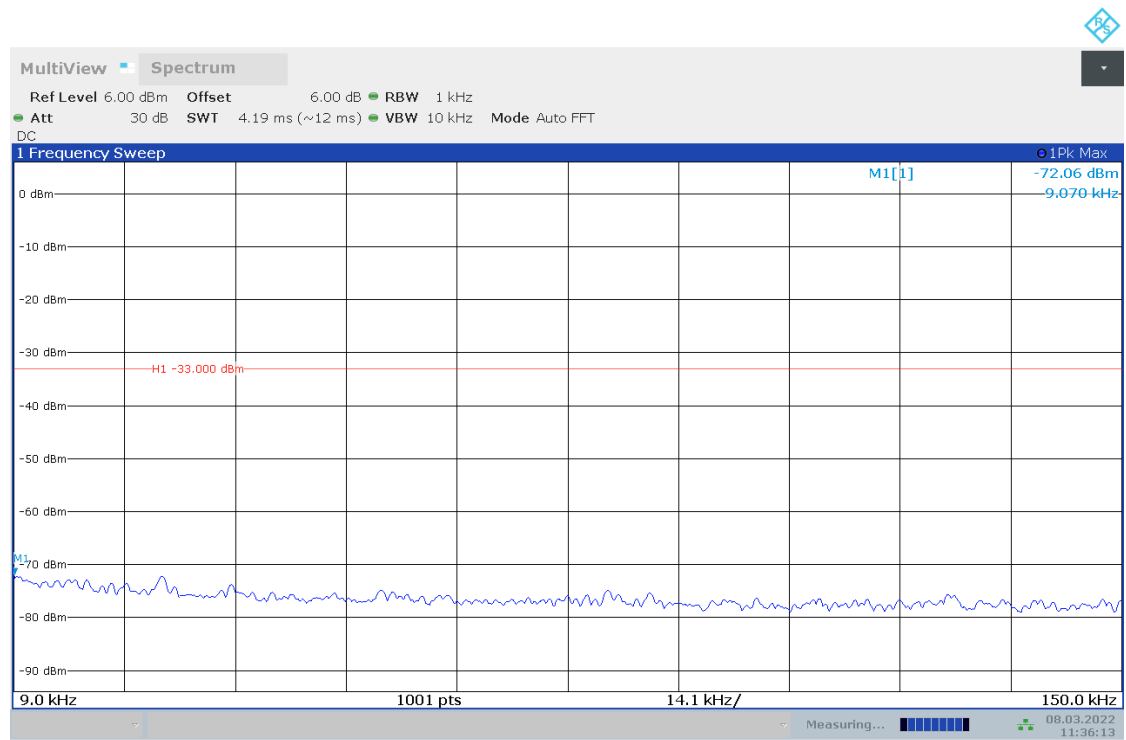


11:35:34 08.03.2022

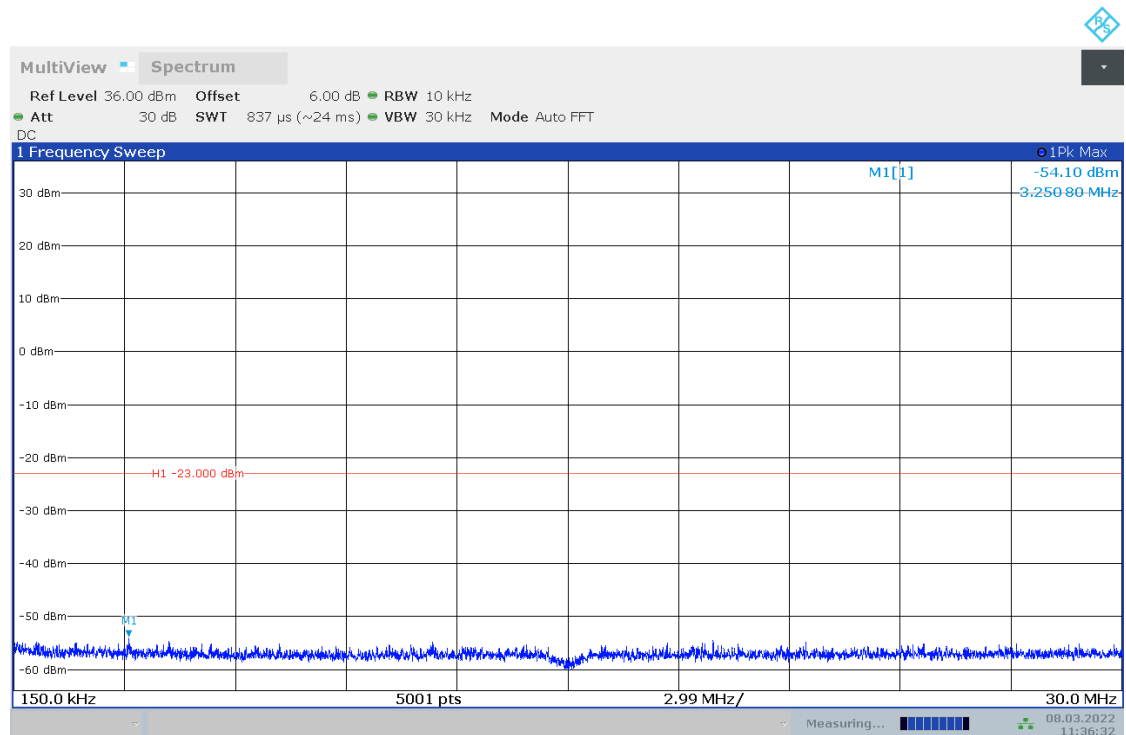


11:35:53 08.03.2022

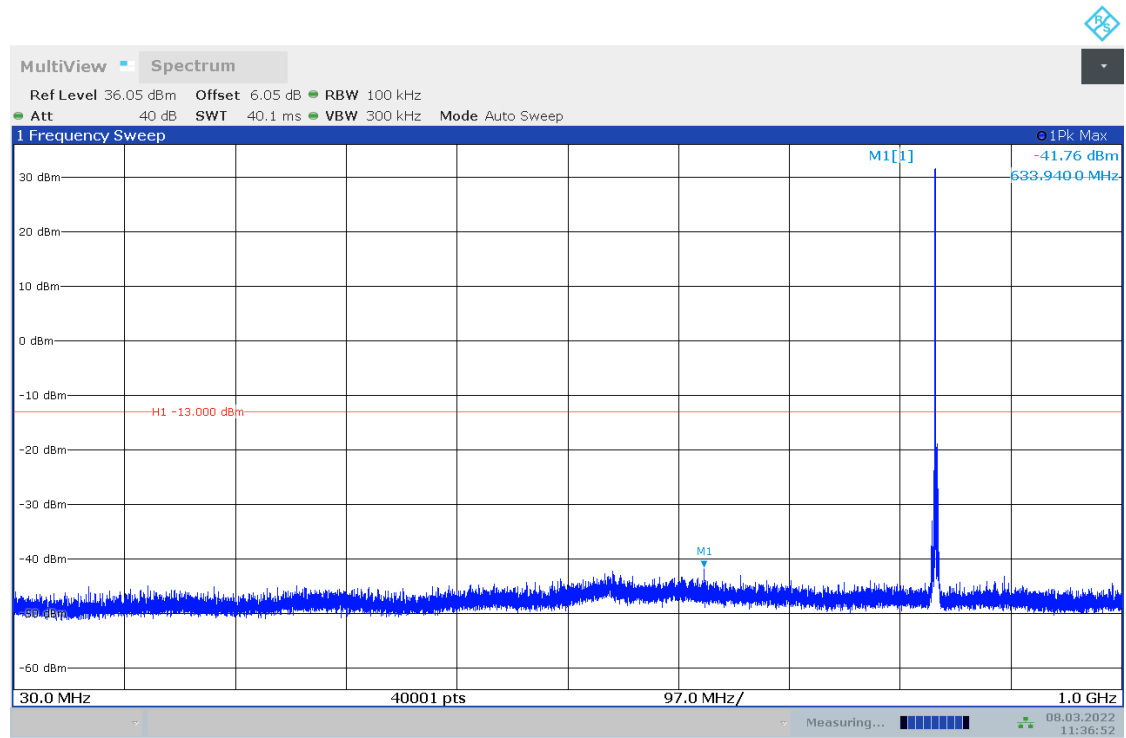
6.2.5 GSM850_TM2_MCH



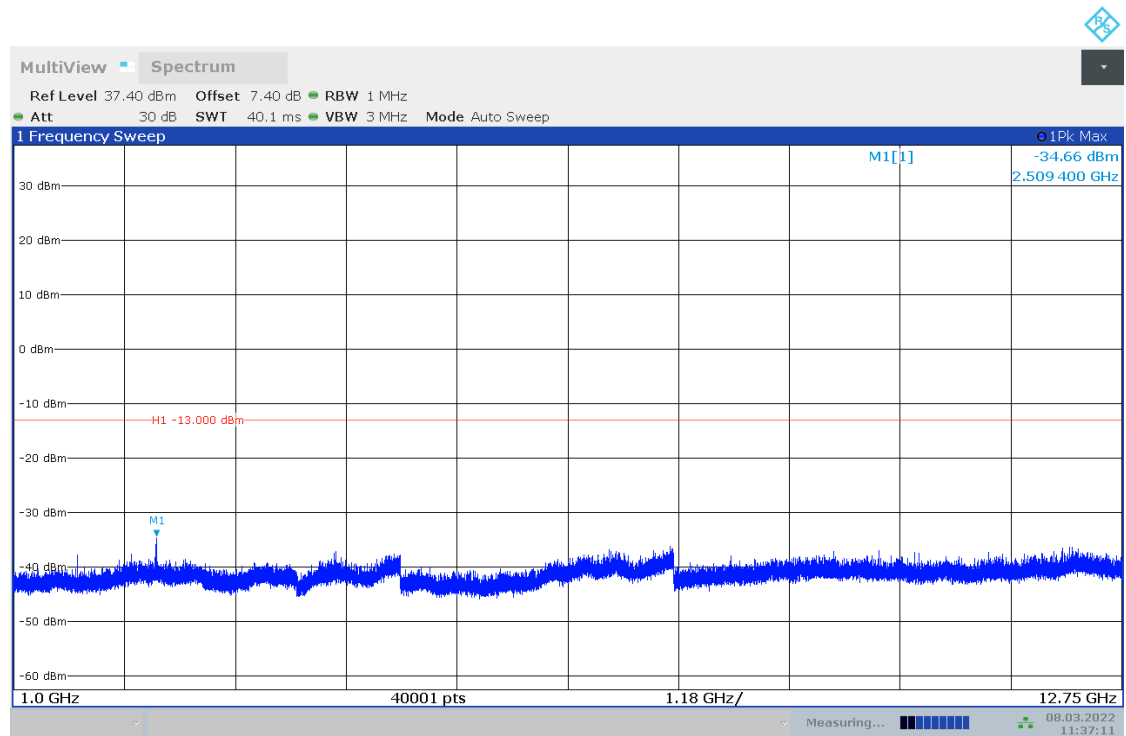
11:36:14 08.03.2022



11:36:32 08.03.2022

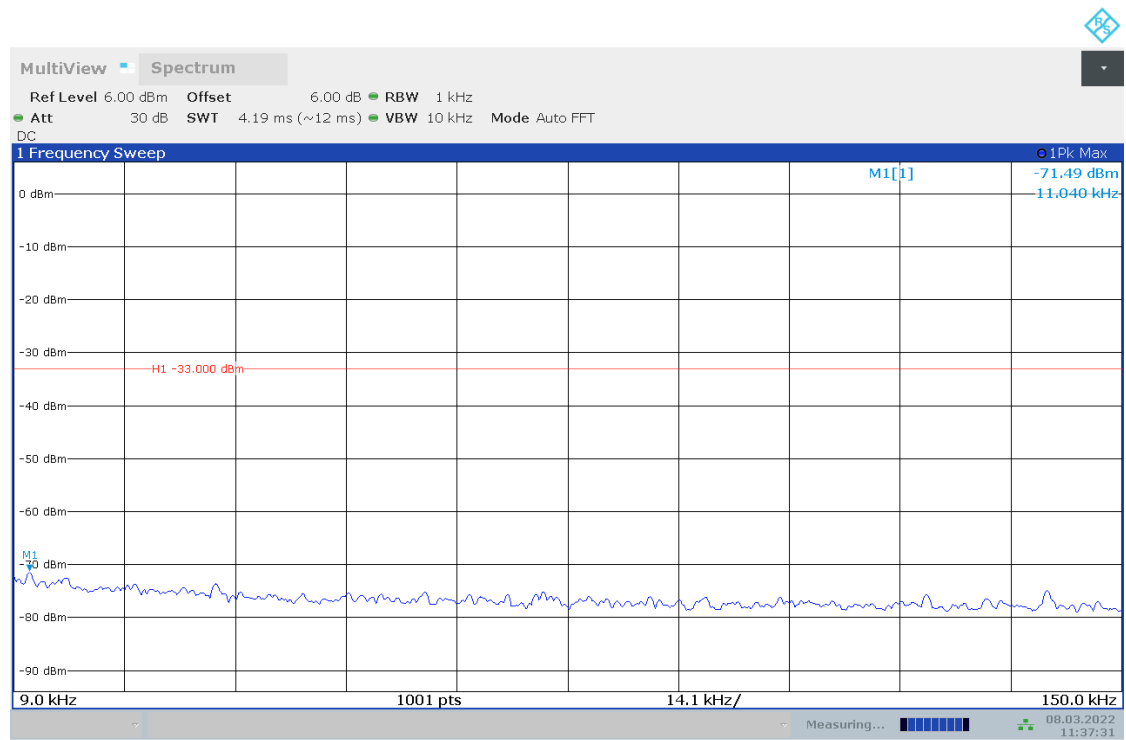


11:36:52 08.03.2022

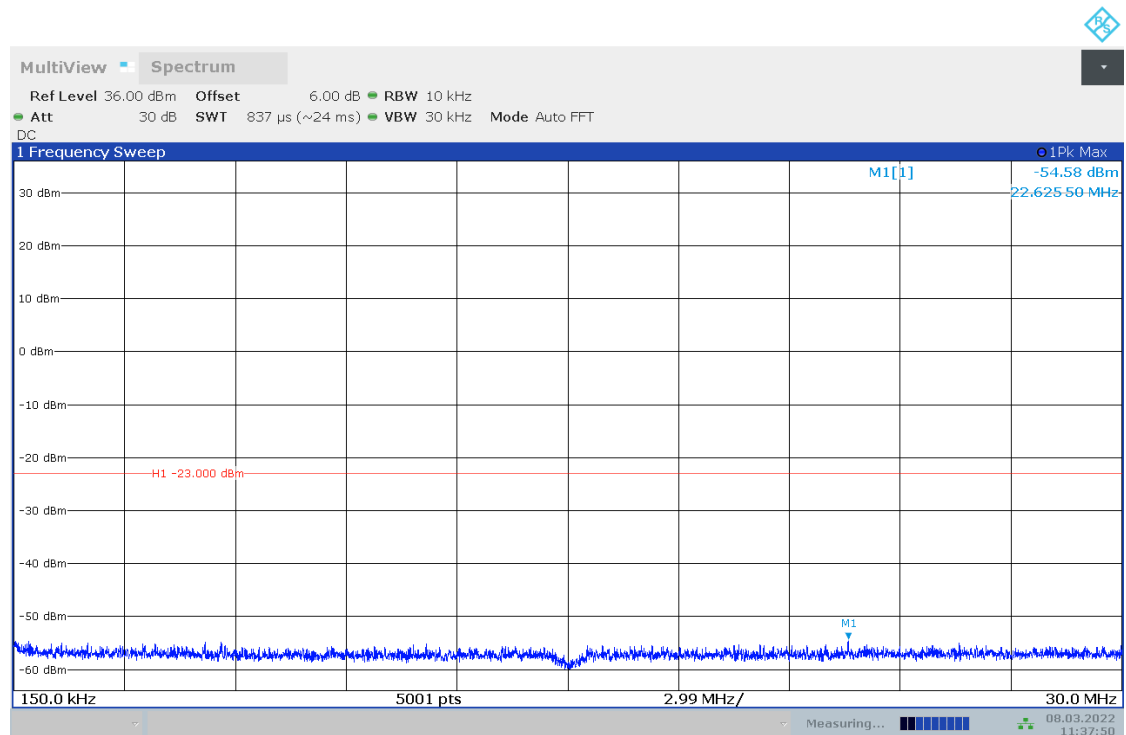


11:37:11 08.03.2022

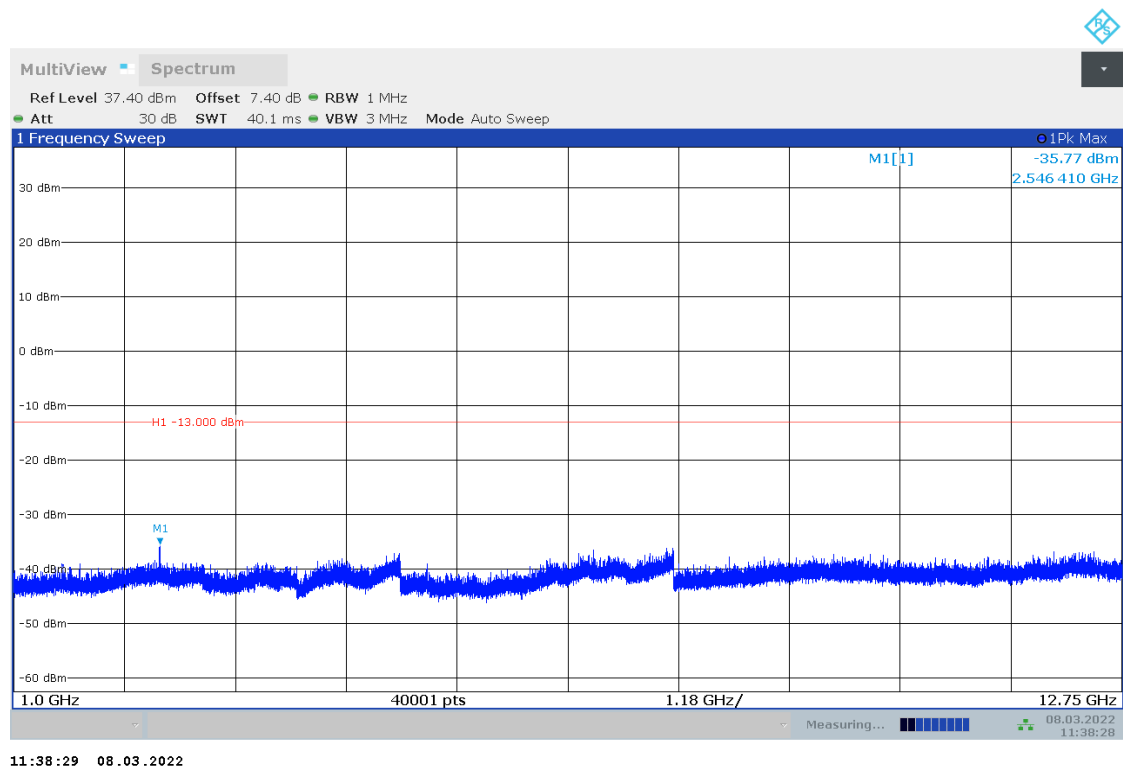
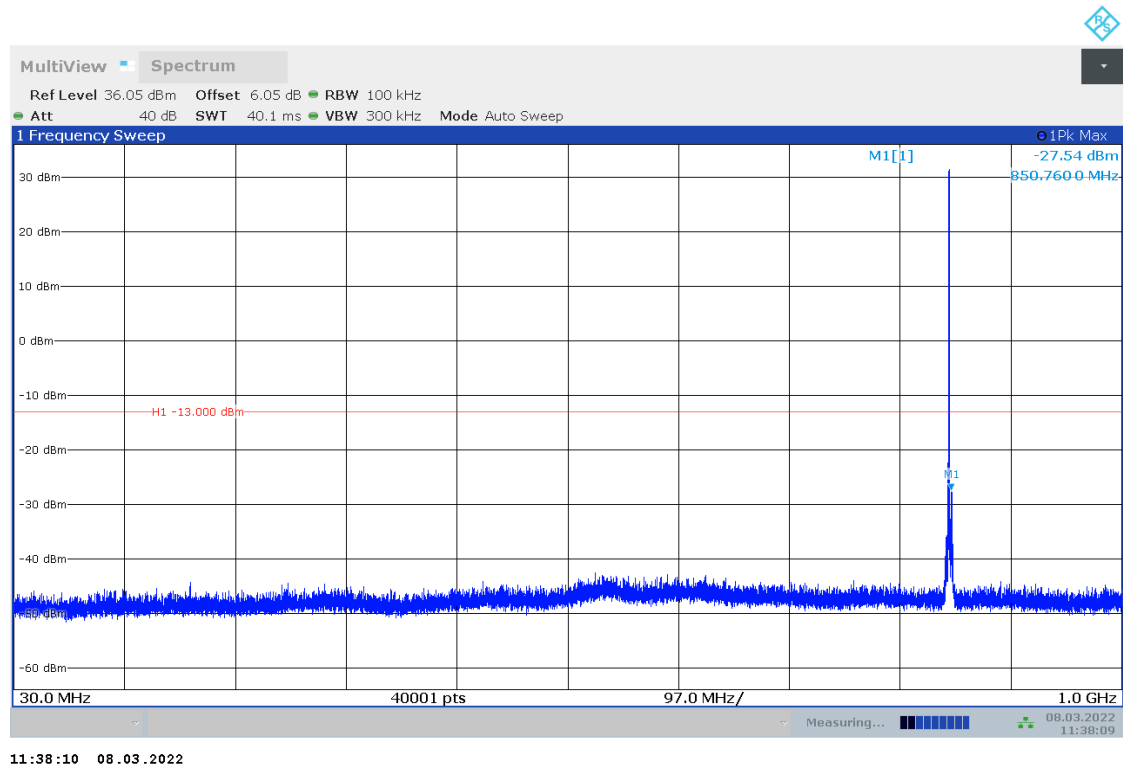
6.2.6 GSM850_TM2_HCH



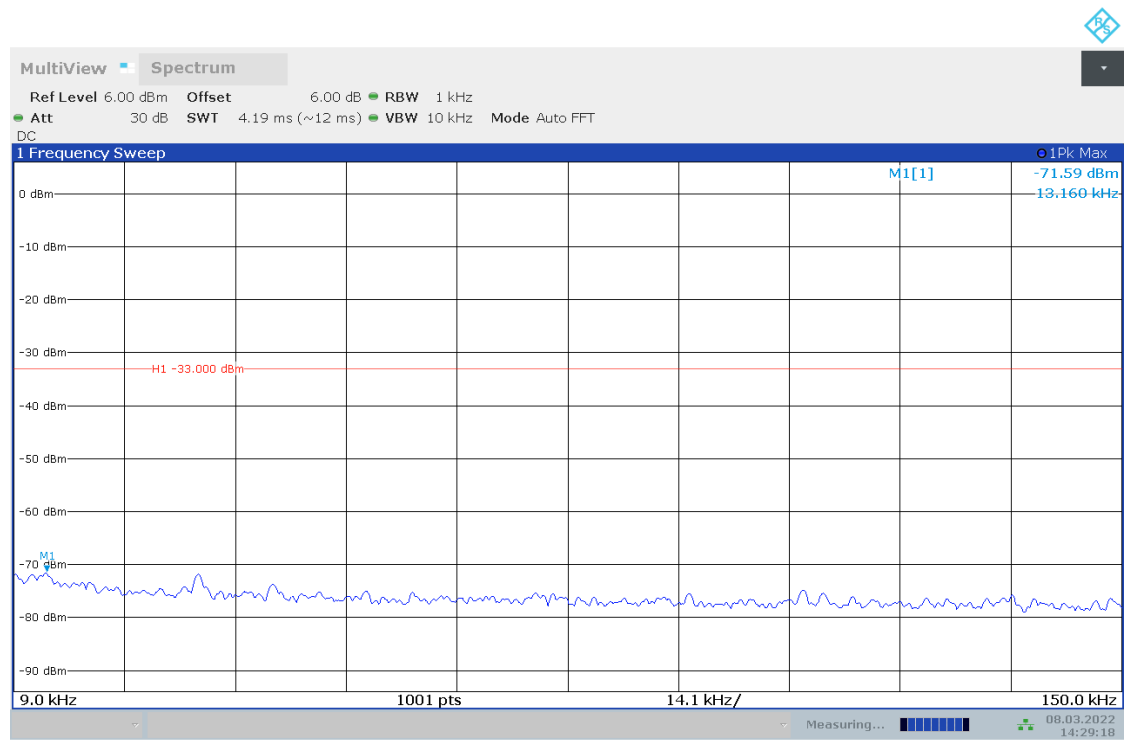
11:37:31 08.03.2022



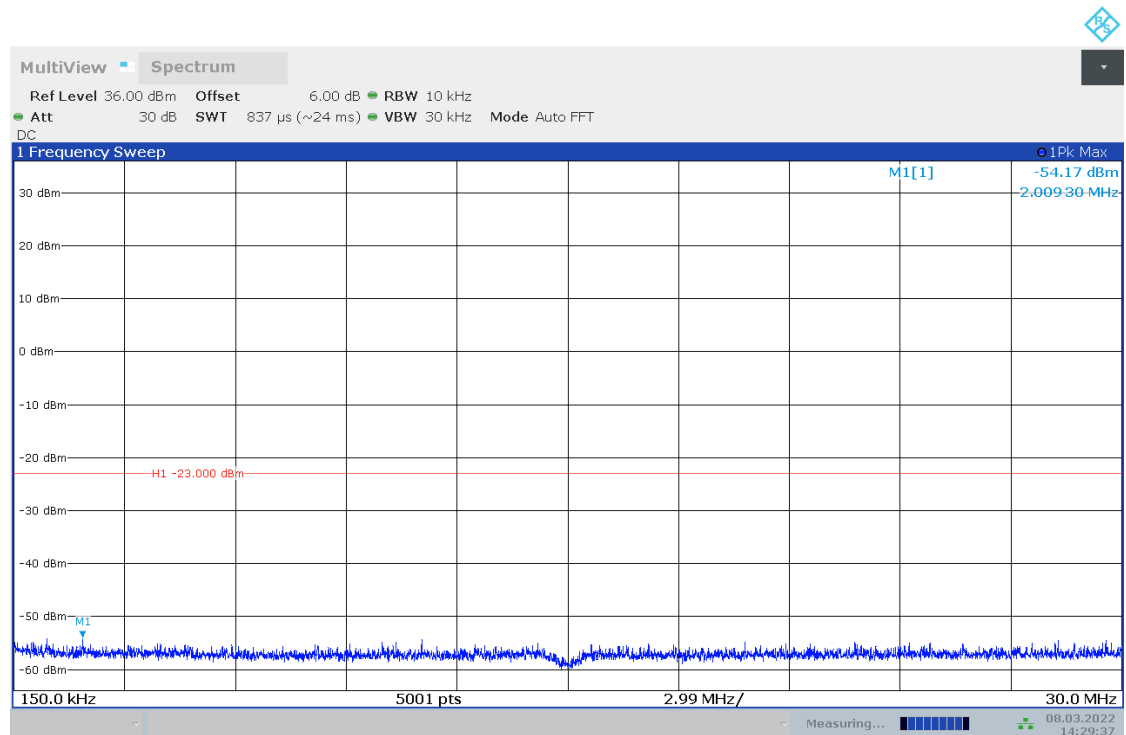
11:37:50 08.03.2022



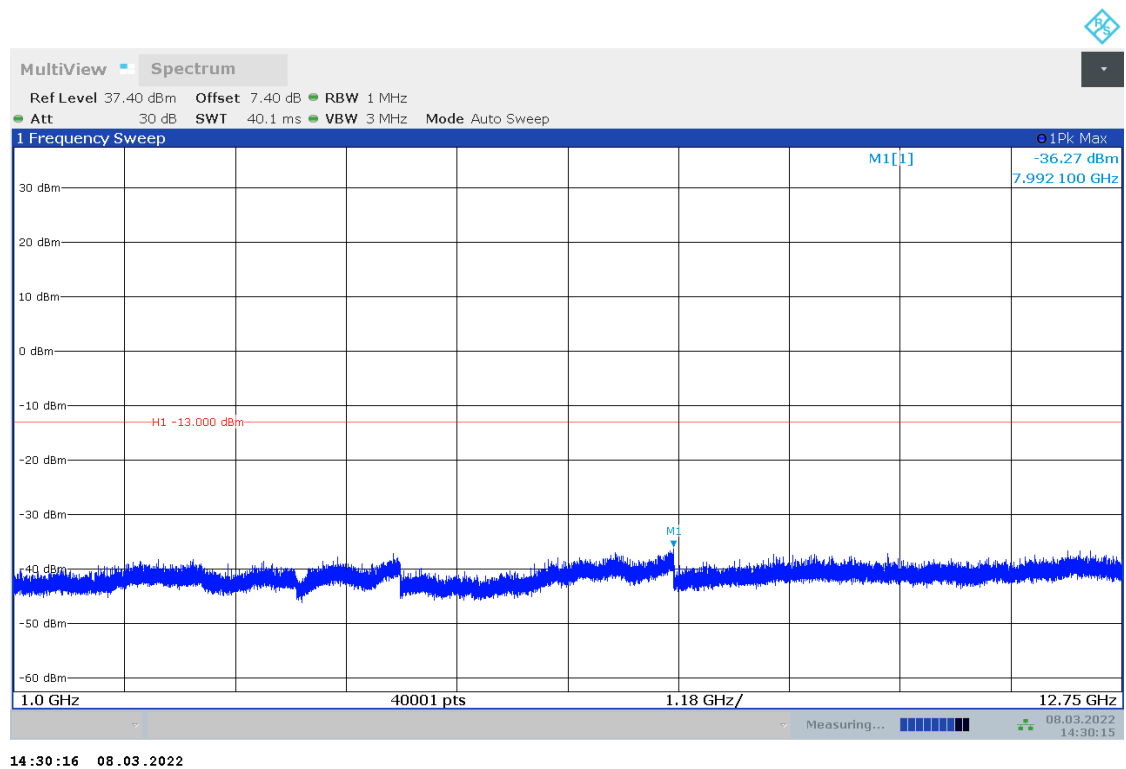
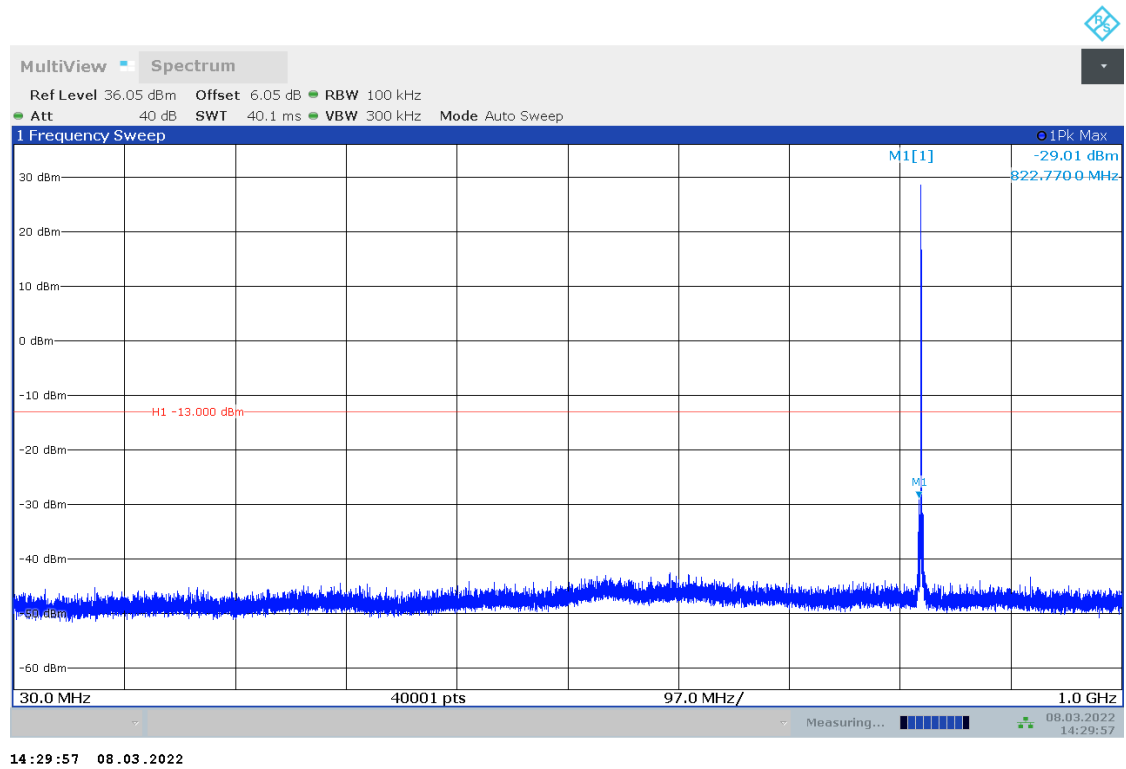
6.2.7 GSM850_TM3_LCH



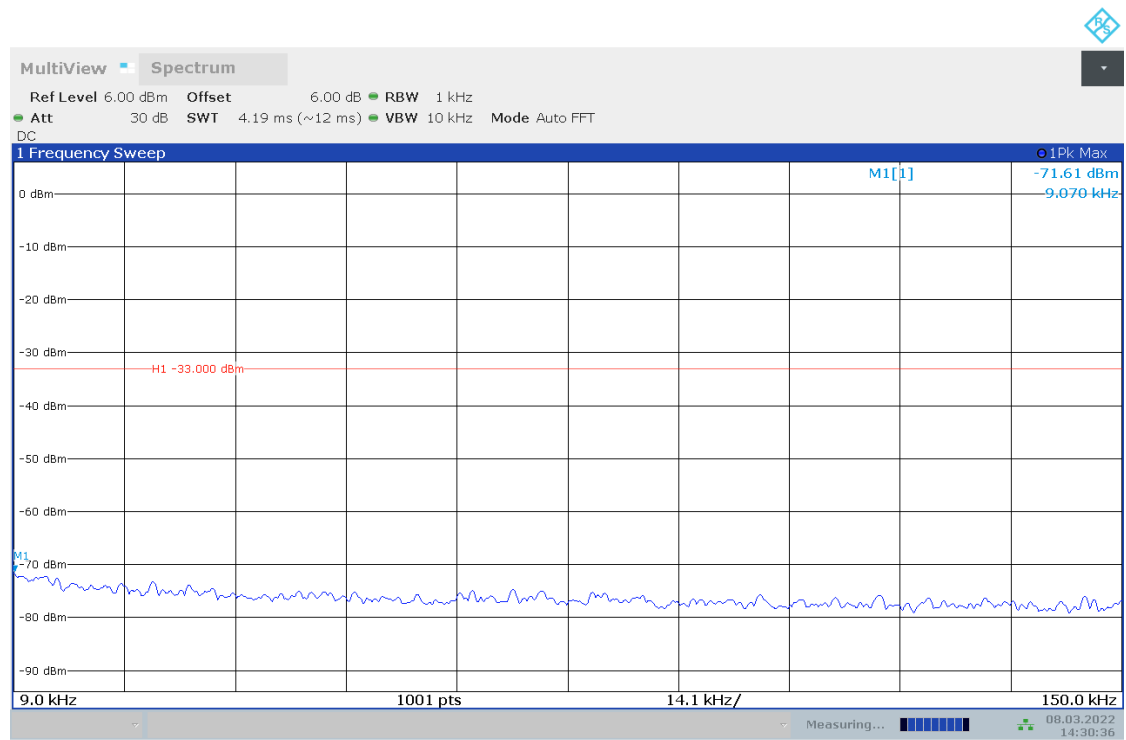
14:29:19 08.03.2022



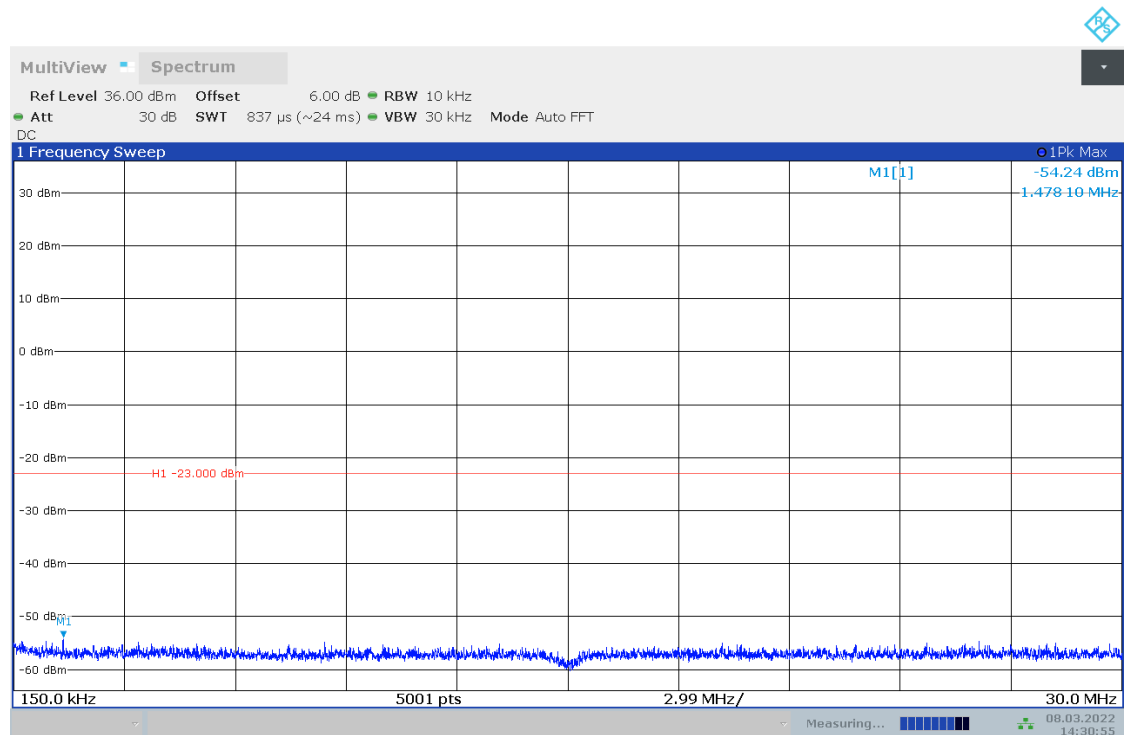
14:29:38 08.03.2022



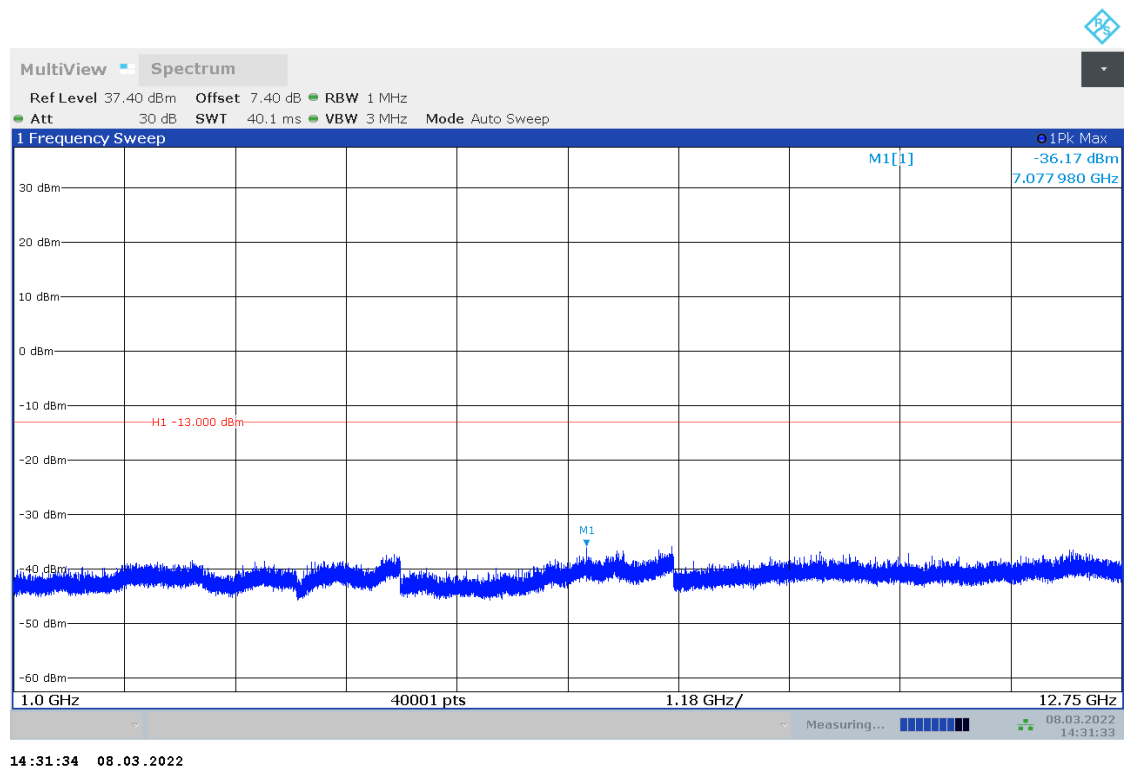
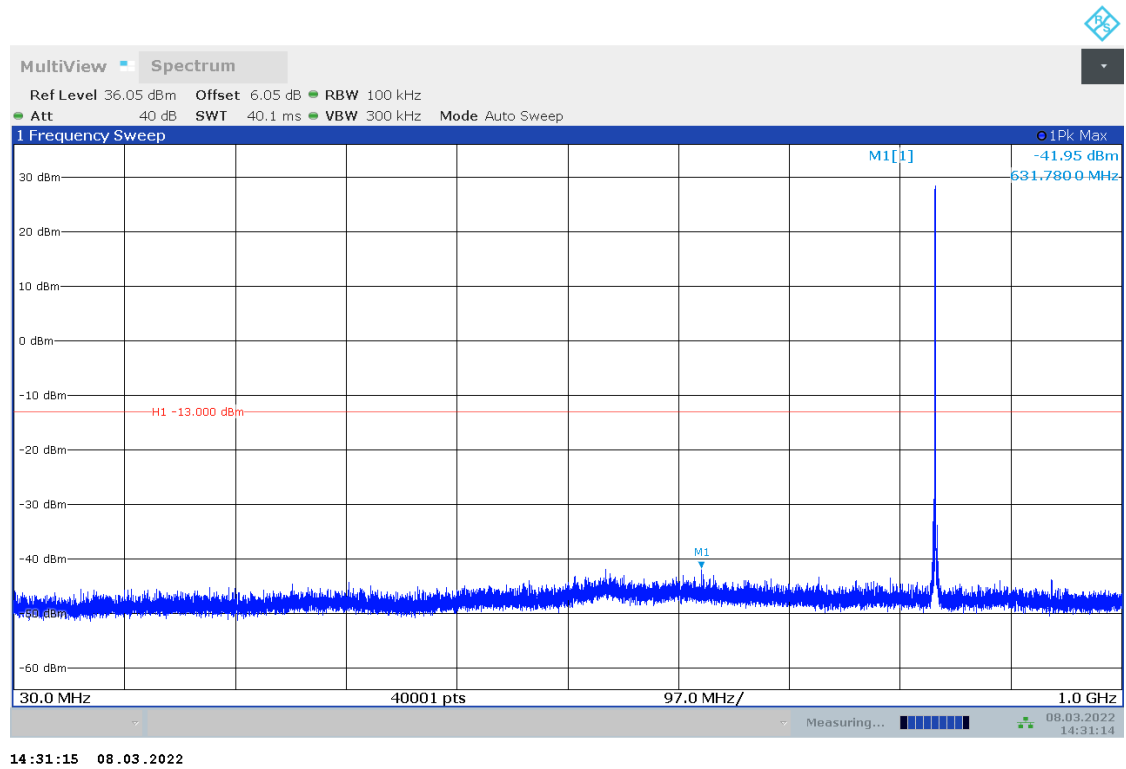
6.2.8 GSM850_TM3_MCH



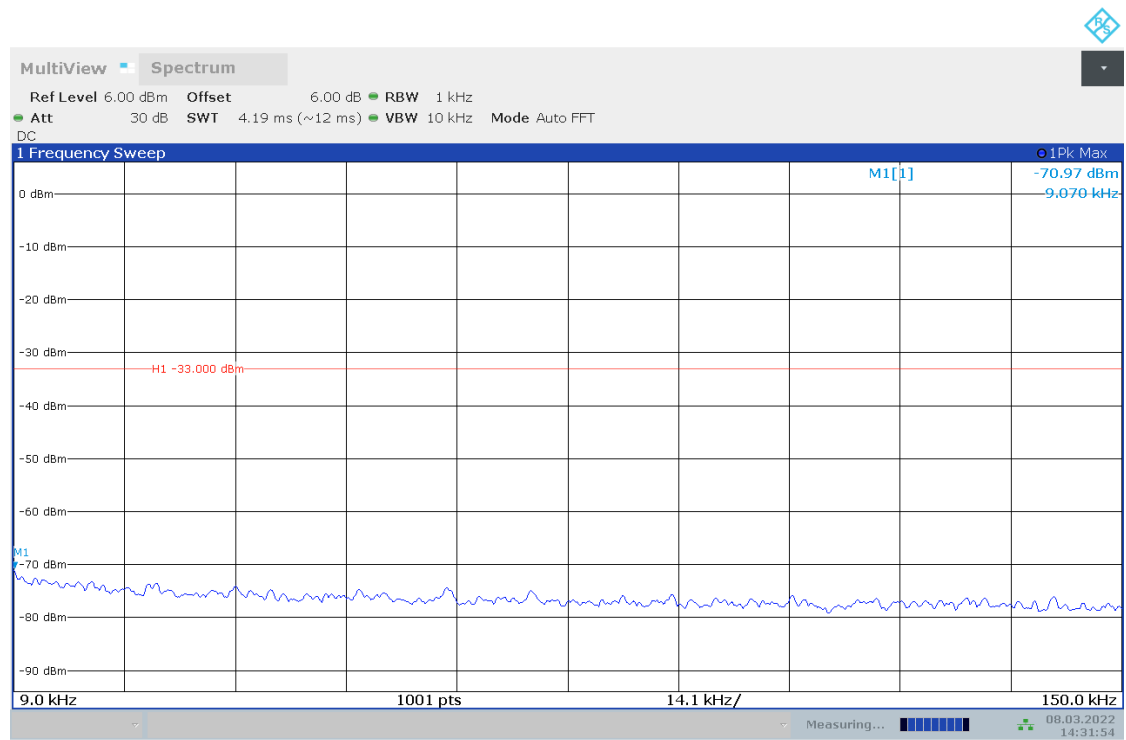
14:30:37 08.03.2022



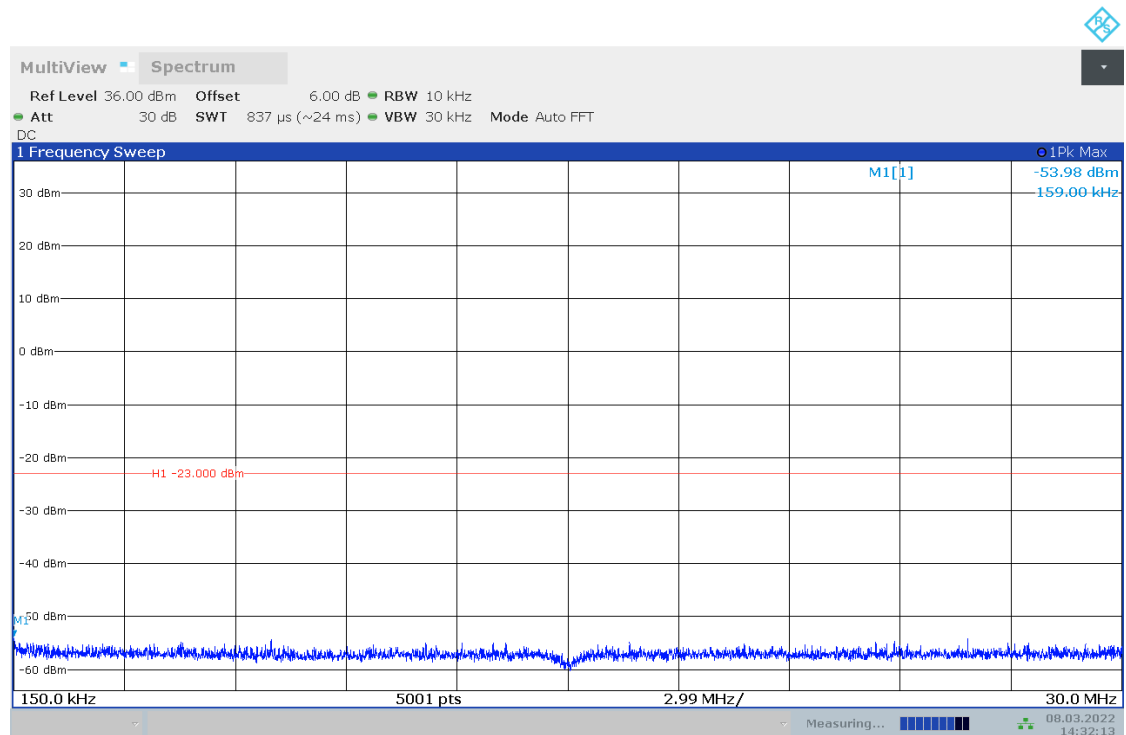
14:30:56 08.03.2022



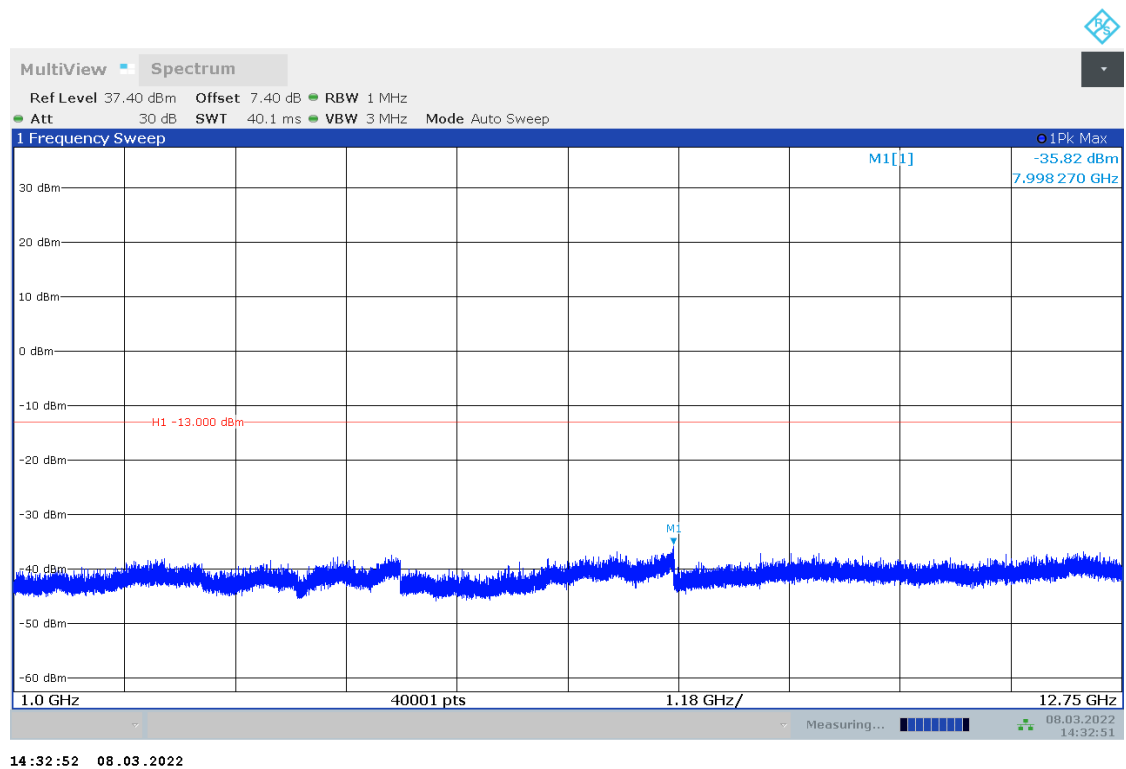
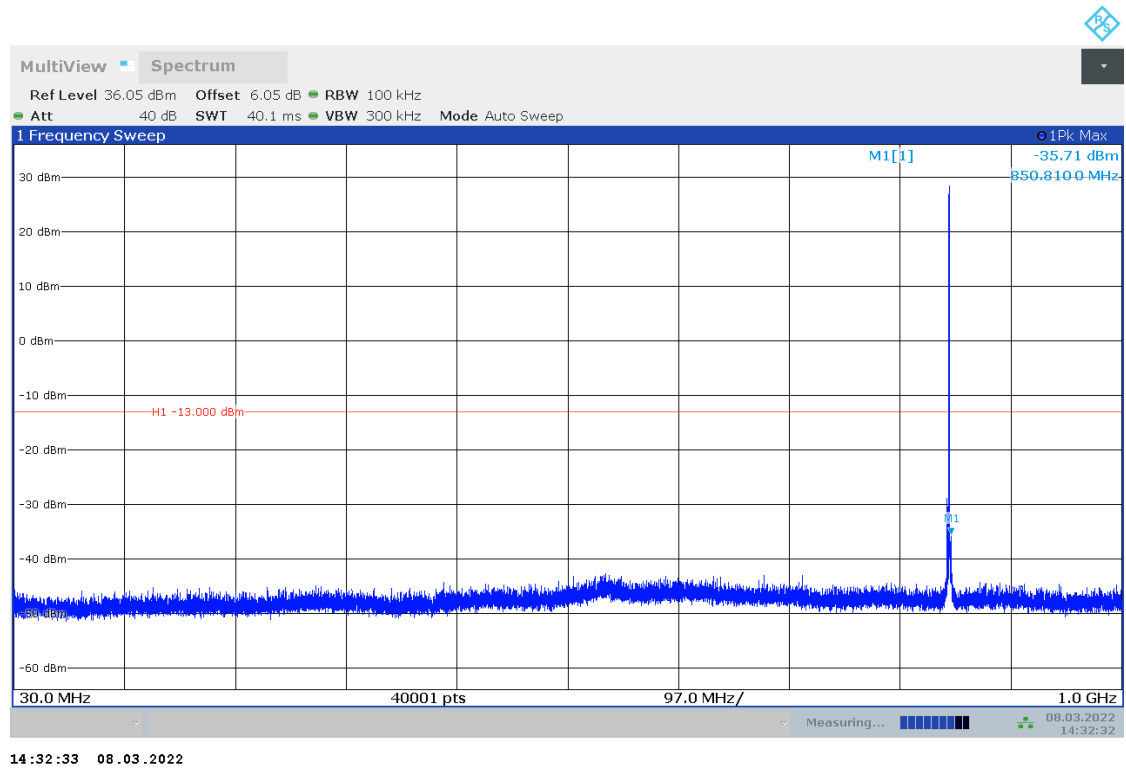
6.2.9 GSM850_TM3_HCH



14:31:55 08.03.2022



14:32:14 08.03.2022



7. APPENDIX G - FREQUENCY STABILITY

7.1 TEST RESULTS

7.1.1 FREQUENCY ERROR VS. VOLTAGE

Frequency Error vs. Voltage							
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	TM1	LCH	TN	VH	20.36	0.02	PASS
			TN	VN	18.60	0.02	PASS
			TN	VL	19.14	0.02	PASS
		MCH	TN	VH	26.01	0.03	PASS
			TN	VN	22.70	0.03	PASS
			TN	VL	19.51	0.02	PASS
		HCH	TN	VH	25.60	0.03	PASS
			TN	VN	22.22	0.03	PASS
			TN	VL	22.93	0.03	PASS
	TM2	LCH	TN	VH	34.51	0.04	PASS
			TN	VN	33.99	0.04	PASS
			TN	VL	33.78	0.04	PASS
		MCH	TN	VH	31.30	0.04	PASS
			TN	VN	31.91	0.04	PASS
			TN	VL	32.16	0.04	PASS
		HCH	TN	VH	30.36	0.04	PASS
			TN	VN	30.53	0.04	PASS
			TN	VL	31.87	0.04	PASS
	TM3	LCH	TN	VH	30.50	0.04	PASS
			TN	VN	30.46	0.04	PASS
			TN	VL	29.69	0.04	PASS
		MCH	TN	VH	31.25	0.04	PASS
			TN	VN	29.57	0.04	PASS
			TN	VL	31.94	0.04	PASS
		HCH	TN	VH	28.24	0.03	PASS
			TN	VN	28.75	0.03	PASS
			TN	VL	28.98	0.03	PASS

7.1.2 FREQUENCY ERROR VS. TEMPERATURE

Frequency Error vs. Temperature							
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	TM1	LCH	VN	-30	20.53	0.02	PASS
			VN	-20	19.57	0.02	PASS
			VN	-10	18.81	0.02	PASS
			VN	0	19.76	0.02	PASS
			VN	10	17.13	0.02	PASS
			VN	20	21.46	0.03	PASS
			VN	30	21.11	0.03	PASS
			VN	40	20.14	0.02	PASS
			VN	50	20.34	0.02	PASS
		MCH	VN	-30	26.30	0.03	PASS
			VN	-20	21.83	0.03	PASS
			VN	-10	22.06	0.03	PASS
			VN	0	25.46	0.03	PASS
			VN	10	26.79	0.03	PASS
			VN	20	26.28	0.03	PASS
			VN	30	25.09	0.03	PASS
			VN	40	23.15	0.03	PASS
			VN	50	25.78	0.03	PASS
		HCH	VN	-30	23.06	0.03	PASS
			VN	-20	21.32	0.03	PASS
			VN	-10	20.38	0.02	PASS
			VN	0	21.84	0.03	PASS
			VN	10	21.44	0.03	PASS
			VN	20	20.08	0.02	PASS
			VN	30	23.42	0.03	PASS
			VN	40	21.22	0.02	PASS
			VN	50	22.33	0.03	PASS

Frequency Error vs. Temperature							
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	TM2	LCH	VN	-30	33.15	0.04	PASS
			VN	-20	30.95	0.04	PASS
			VN	-10	31.61	0.04	PASS
			VN	0	32.16	0.04	PASS
			VN	10	31.62	0.04	PASS
			VN	20	31.59	0.04	PASS
			VN	30	31.79	0.04	PASS
			VN	40	31.94	0.04	PASS
			VN	50	32.00	0.04	PASS
		MCH	VN	-30	31.05	0.04	PASS
			VN	-20	30.93	0.04	PASS
			VN	-10	30.47	0.04	PASS
			VN	0	30.39	0.04	PASS
			VN	10	30.56	0.04	PASS
			VN	20	30.61	0.04	PASS
			VN	30	30.94	0.04	PASS
			VN	40	30.24	0.04	PASS
			VN	50	31.00	0.04	PASS
		HCH	VN	-30	30.34	0.04	PASS
			VN	-20	29.26	0.03	PASS
			VN	-10	29.52	0.03	PASS
			VN	0	29.80	0.04	PASS
			VN	10	29.73	0.04	PASS
			VN	20	30.45	0.04	PASS
			VN	30	30.36	0.04	PASS
			VN	40	33.05	0.04	PASS
			VN	50	32.24	0.04	PASS

Frequency Error vs. Temperature							
Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
GSM850	TM3	LCH	VN	-30	30.23	0.04	PASS
			VN	-20	29.51	0.04	PASS
			VN	-10	28.45	0.03	PASS
			VN	0	28.36	0.03	PASS
			VN	10	28.35	0.03	PASS
			VN	20	27.98	0.03	PASS
			VN	30	27.84	0.03	PASS
			VN	40	28.39	0.03	PASS
			VN	50	28.57	0.03	PASS
		MCH	VN	-30	30.27	0.04	PASS
			VN	-20	30.32	0.04	PASS
			VN	-10	30.21	0.04	PASS
			VN	0	30.18	0.04	PASS
			VN	10	30.23	0.04	PASS
			VN	20	29.48	0.04	PASS
			VN	30	30.35	0.04	PASS
			VN	40	29.43	0.04	PASS
			VN	50	30.24	0.04	PASS
		HCH	VN	-30	29.60	0.03	PASS
			VN	-20	28.39	0.03	PASS
			VN	-10	28.36	0.03	PASS
			VN	0	29.08	0.03	PASS
			VN	10	28.14	0.03	PASS
			VN	20	28.26	0.03	PASS
			VN	30	28.19	0.03	PASS
			VN	40	28.97	0.03	PASS
			VN	50	28.64	0.03	PASS

End of Test Report