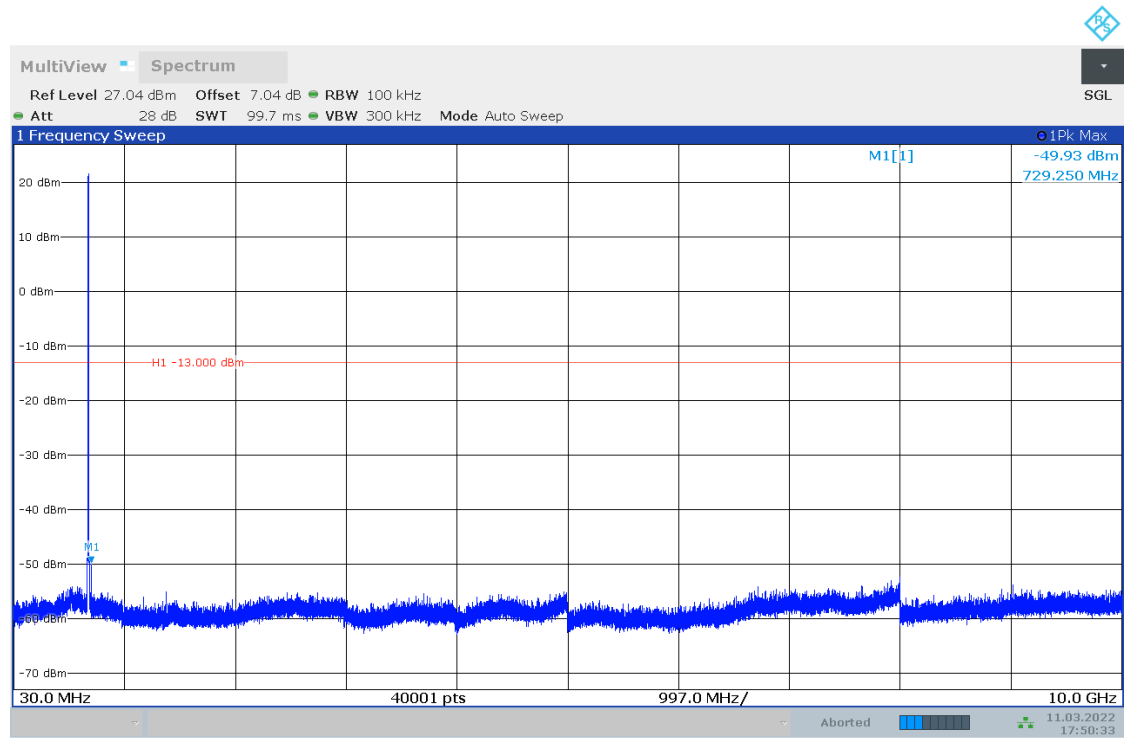
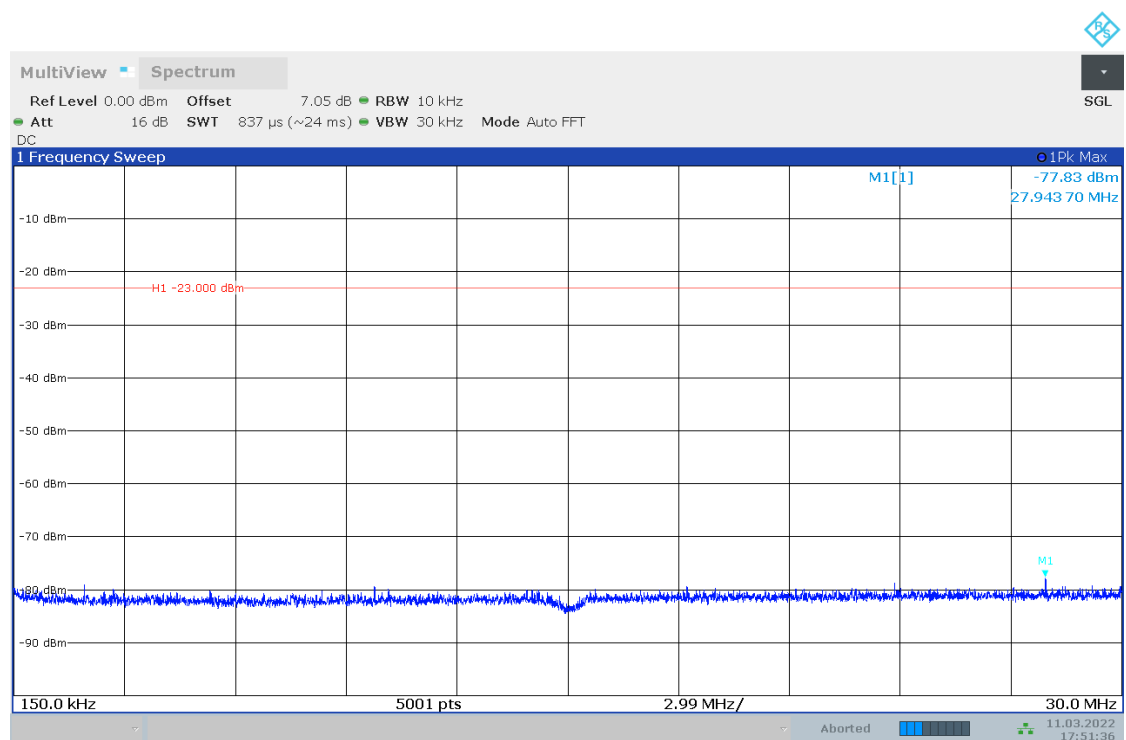
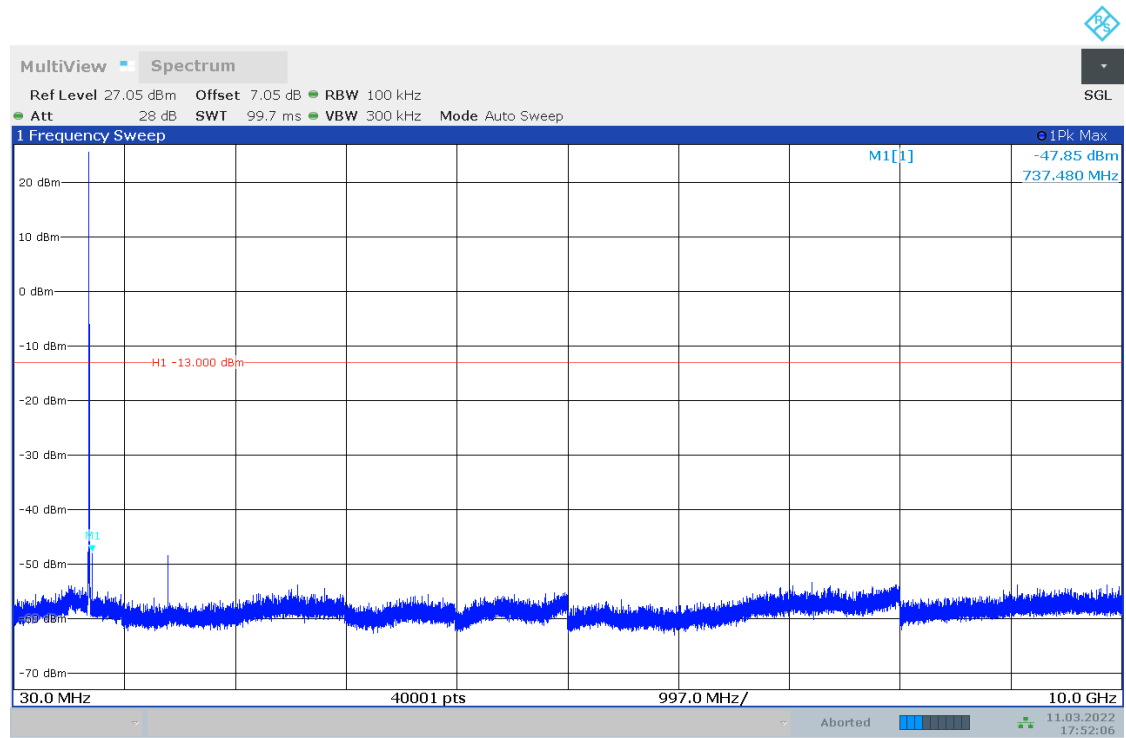




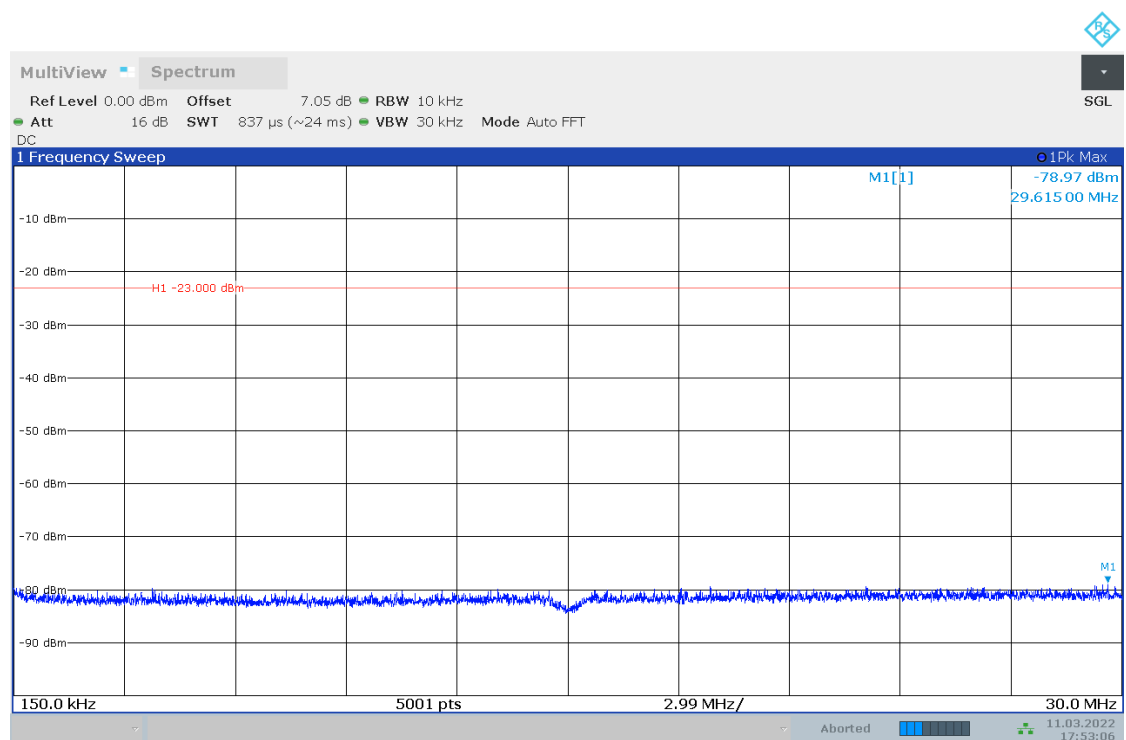
17:50:34 11.03.2022

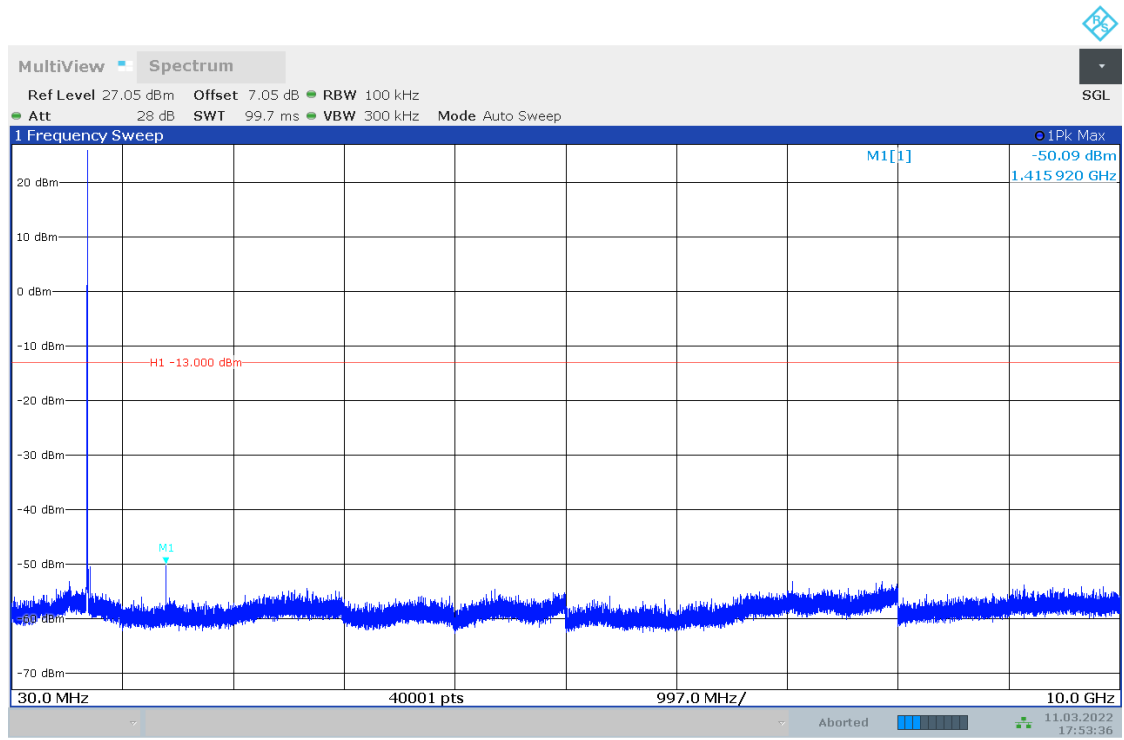
6.2.4 TM1_1.4MHZ_MCH_RB1#0





6.2.5 TM1_1.4MHZ_MCH_RB1#5



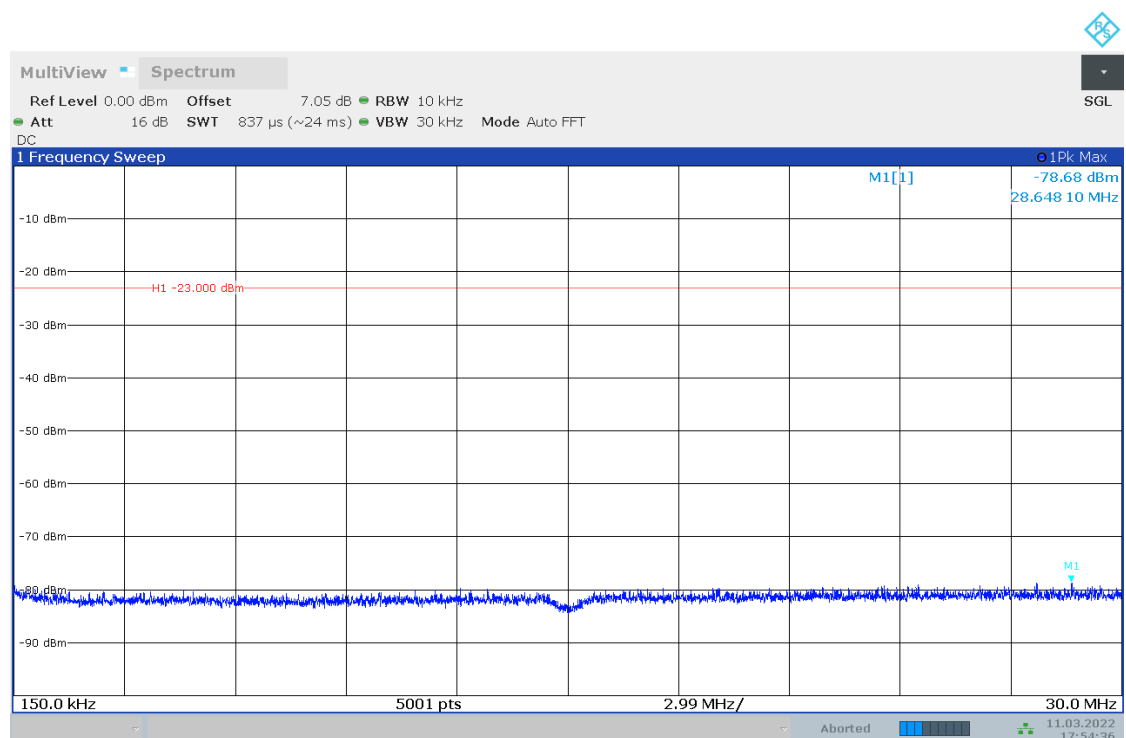


17:53:37 11.03.2022

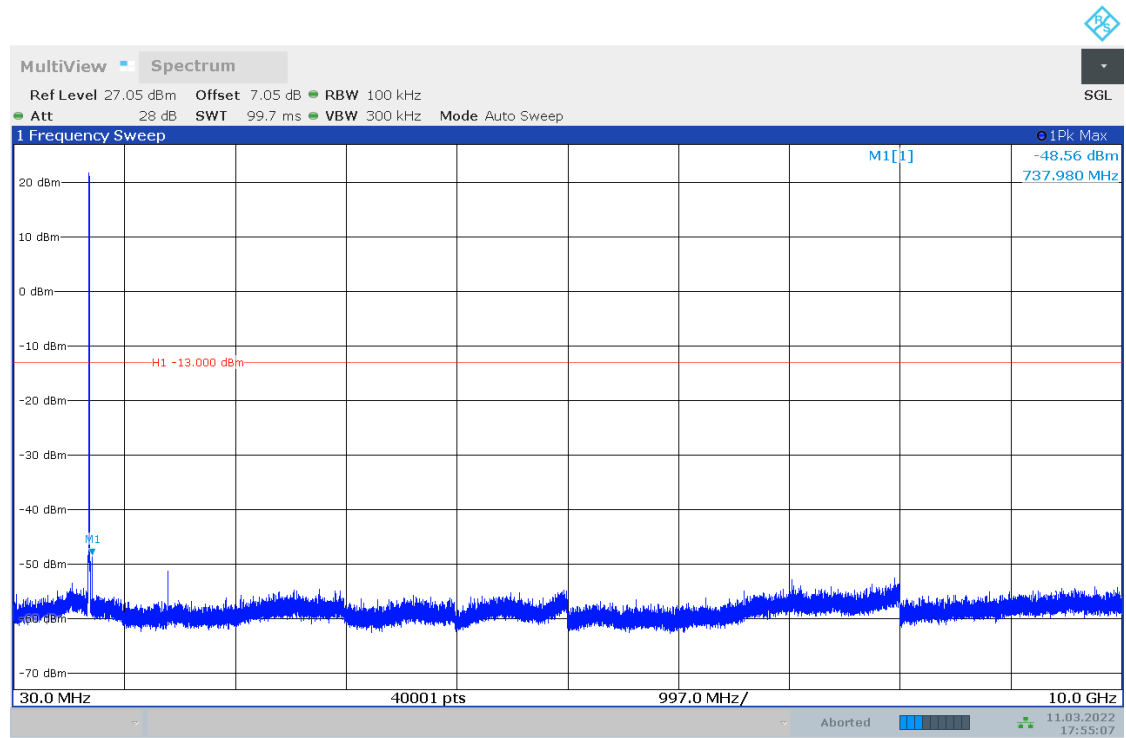
6.2.6 TM1_1.4MHZ_MCH_RB6#0



17:54:08 11.03.2022

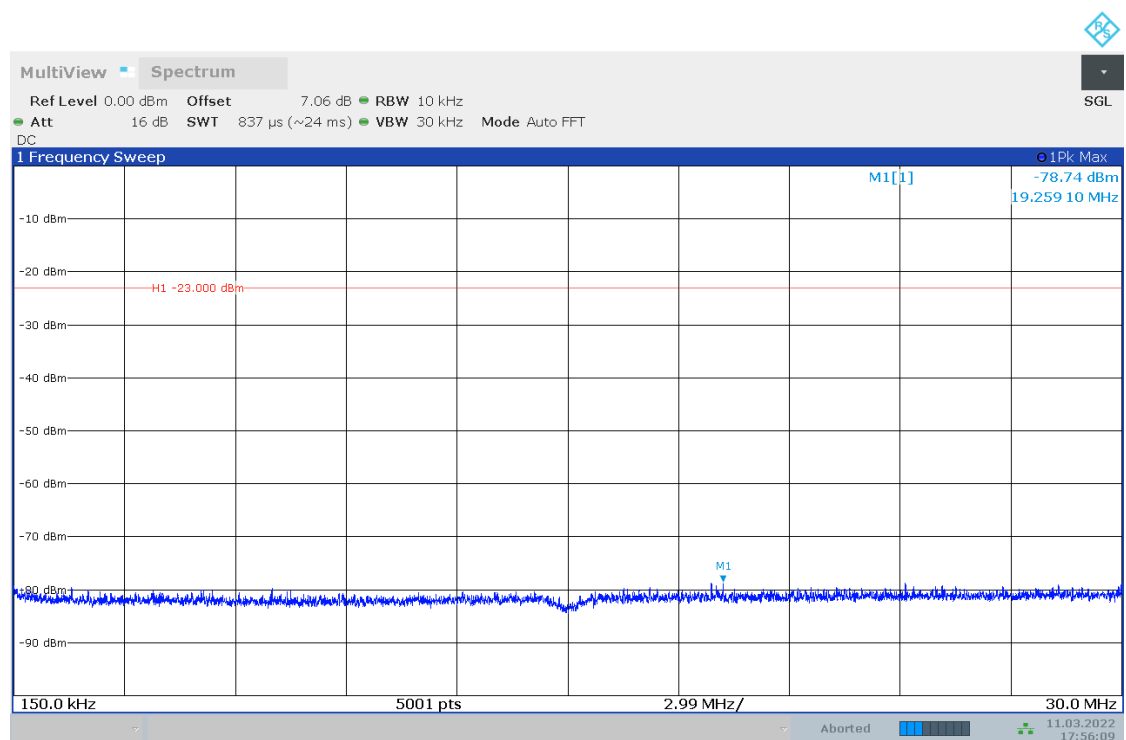


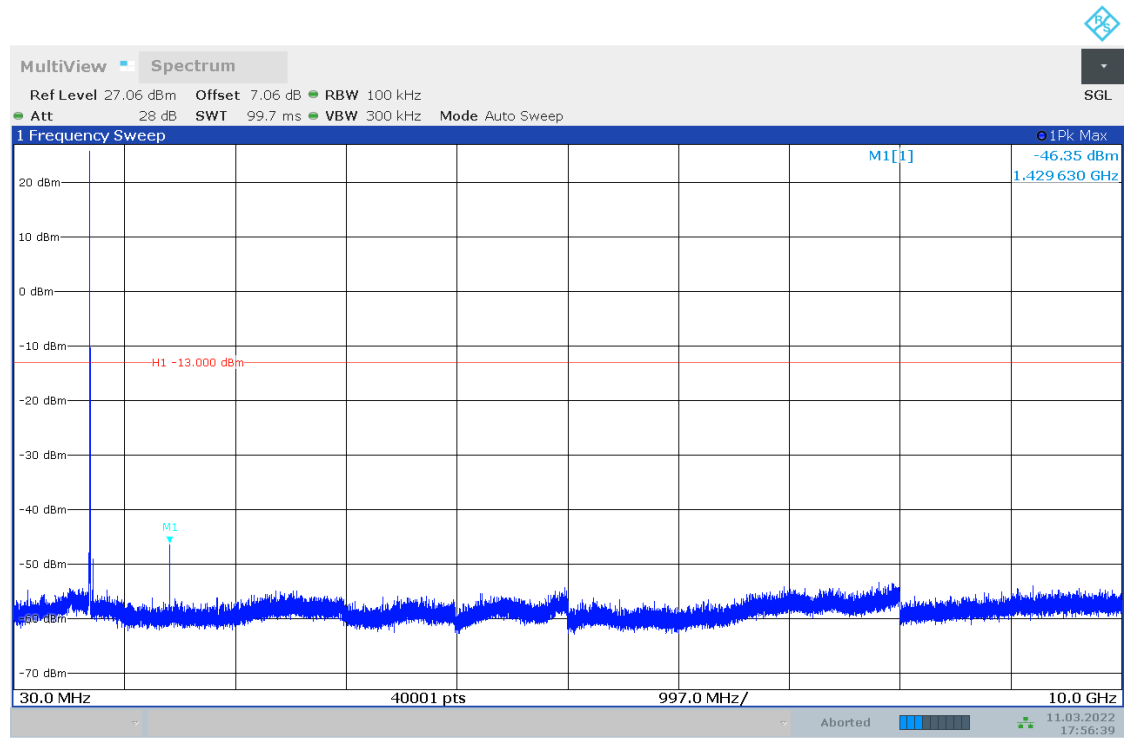
17:54:37 11.03.2022



17:55:07 11.03.2022

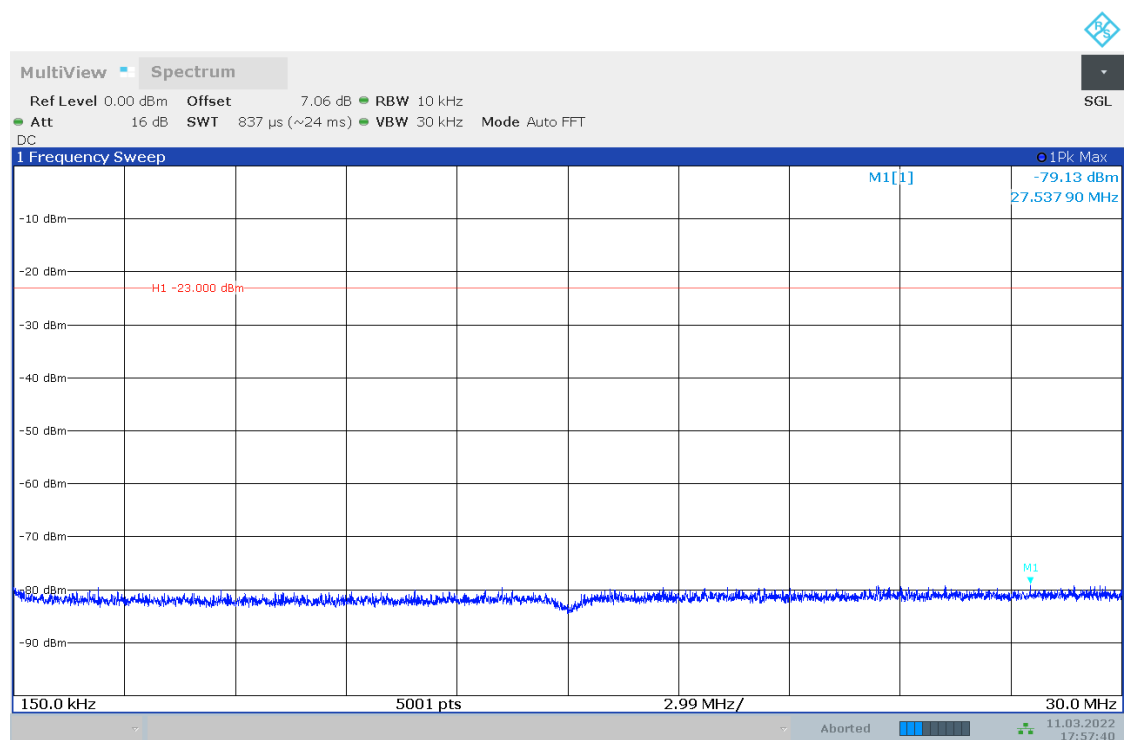
6.2.7 TM1_1.4MHZ_HCH_RB1#0

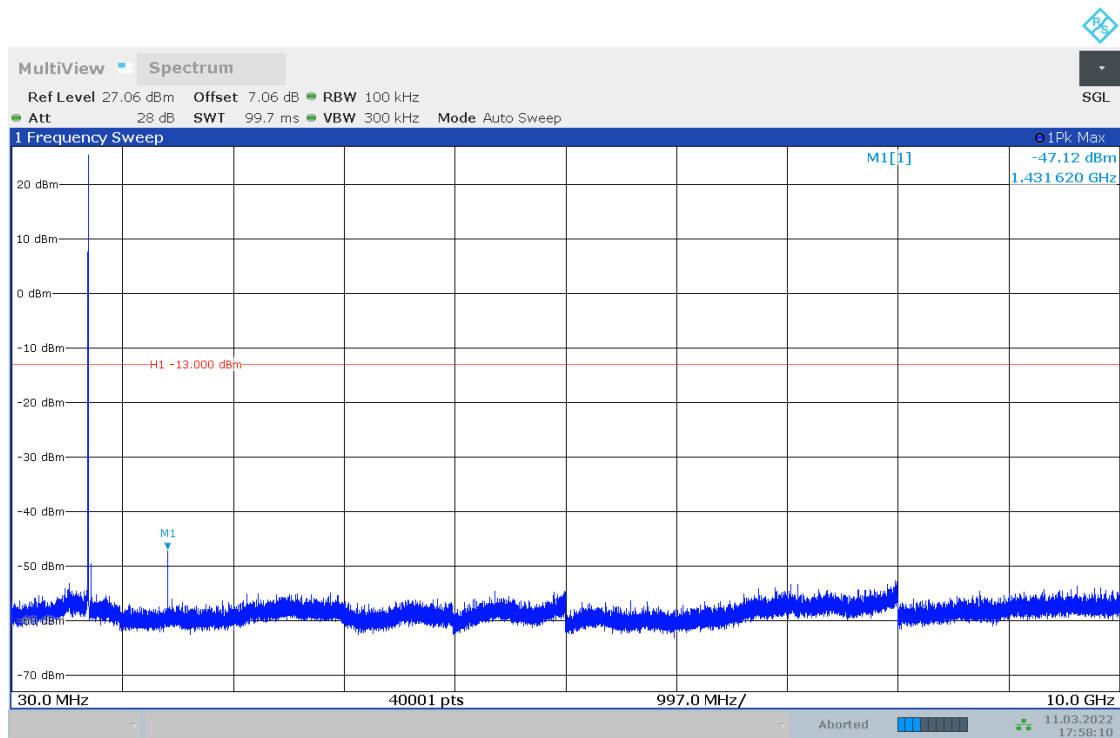




17:56:40 11.03.2022

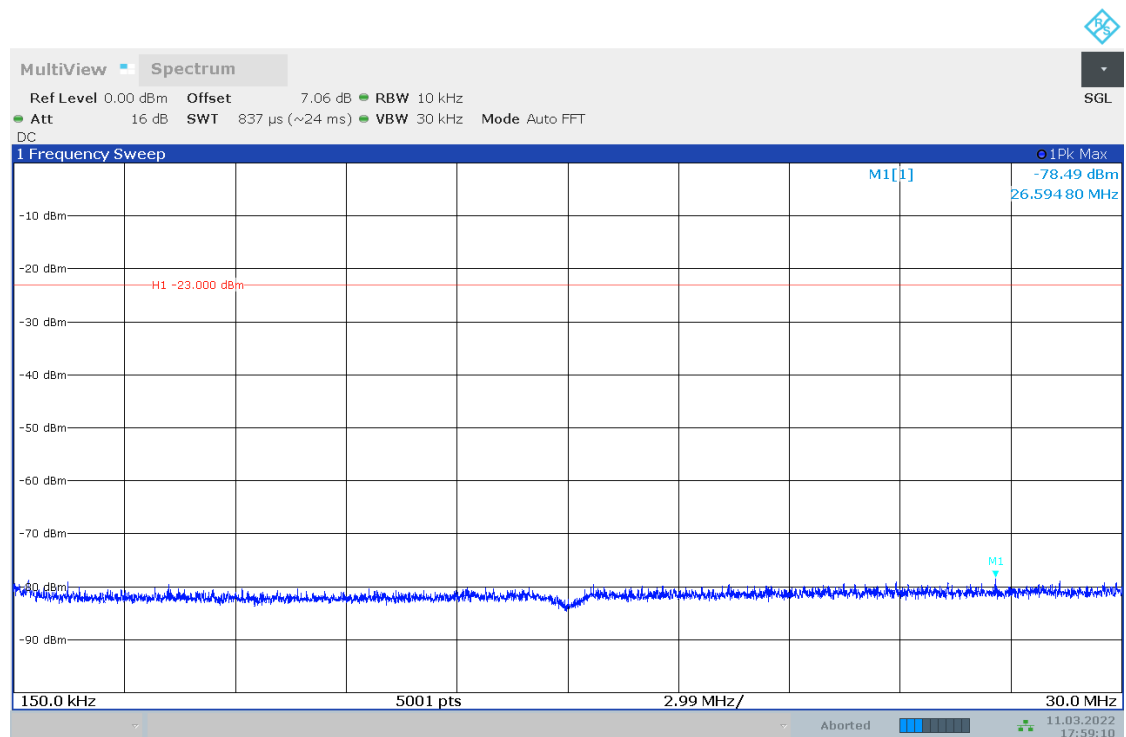
6.2.8 TM1_1.4MHZ_HCH_RB1#5

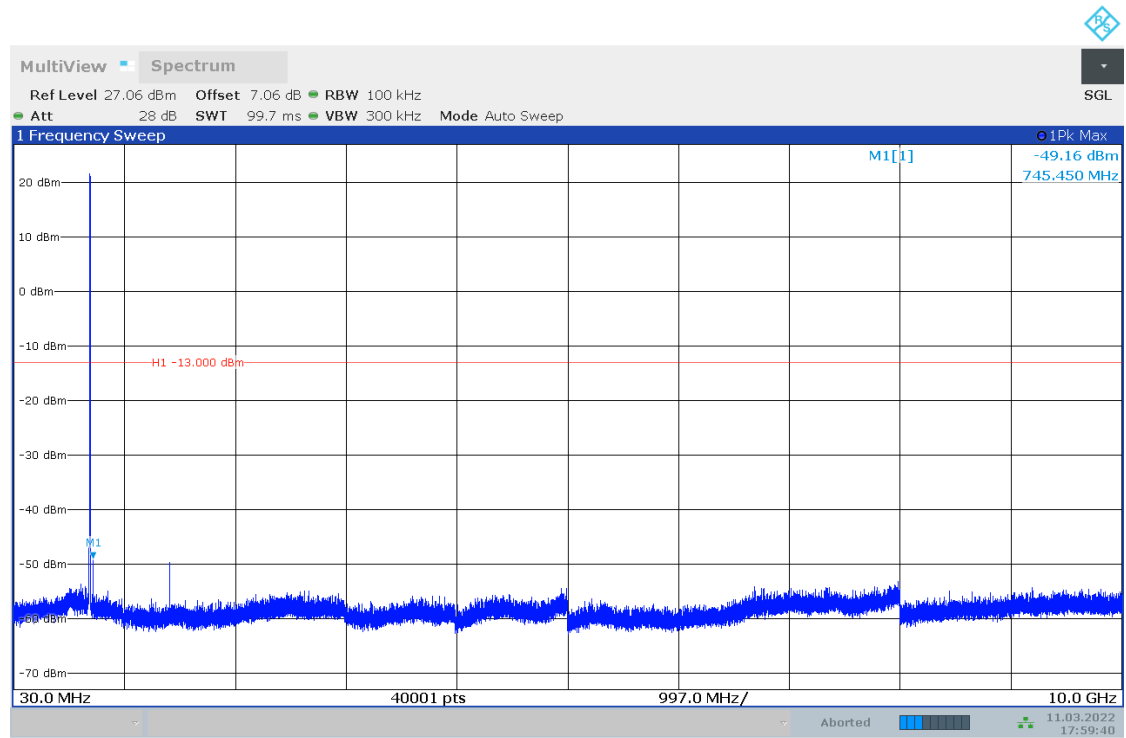




17:58:11 11.03.2022

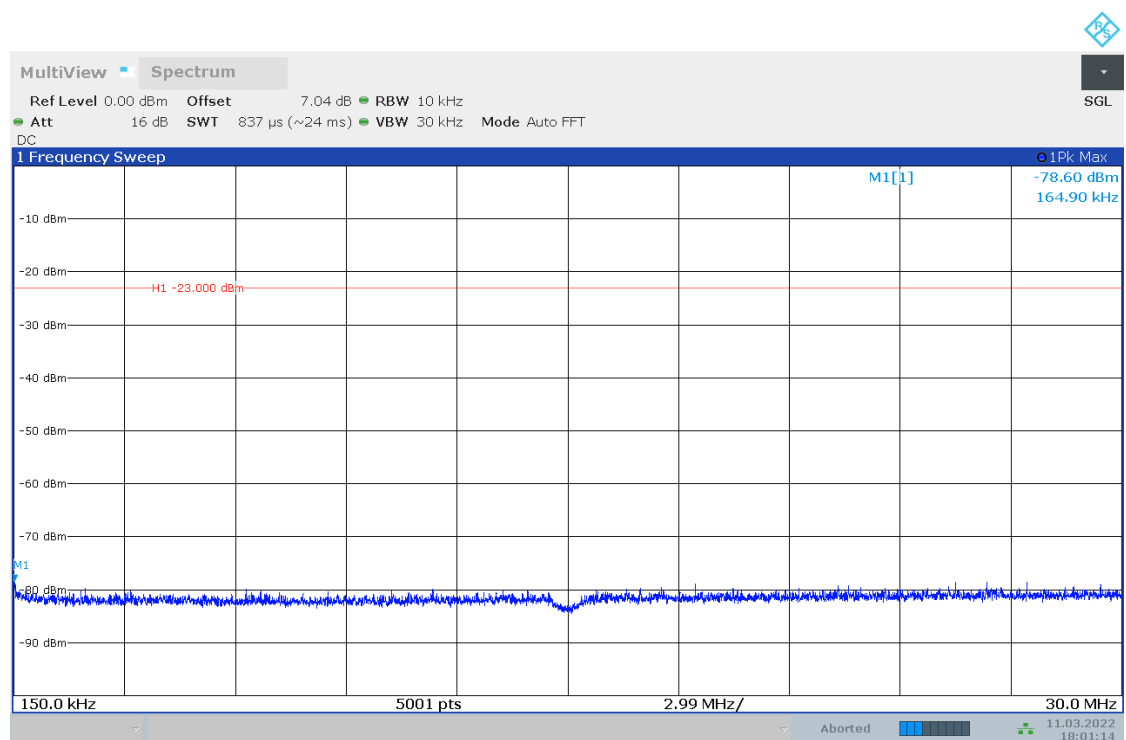
6.2.9 TM1_1.4MHZ_HCH_RB6#0

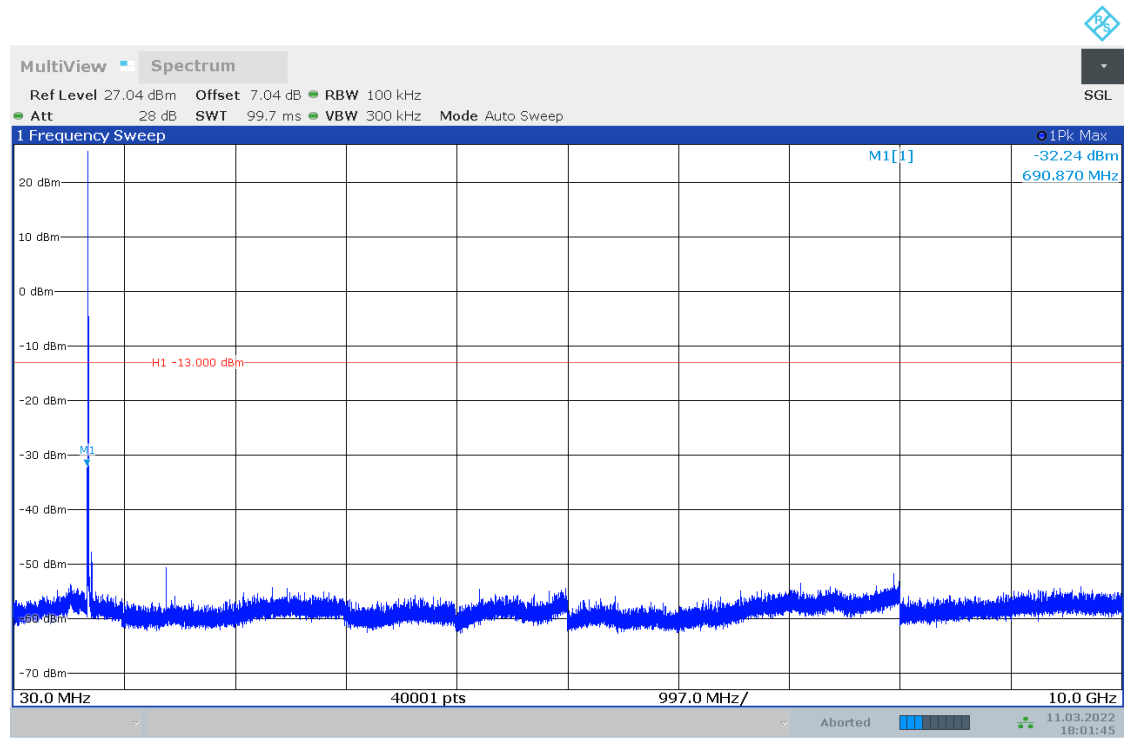




17:59:41 11.03.2022

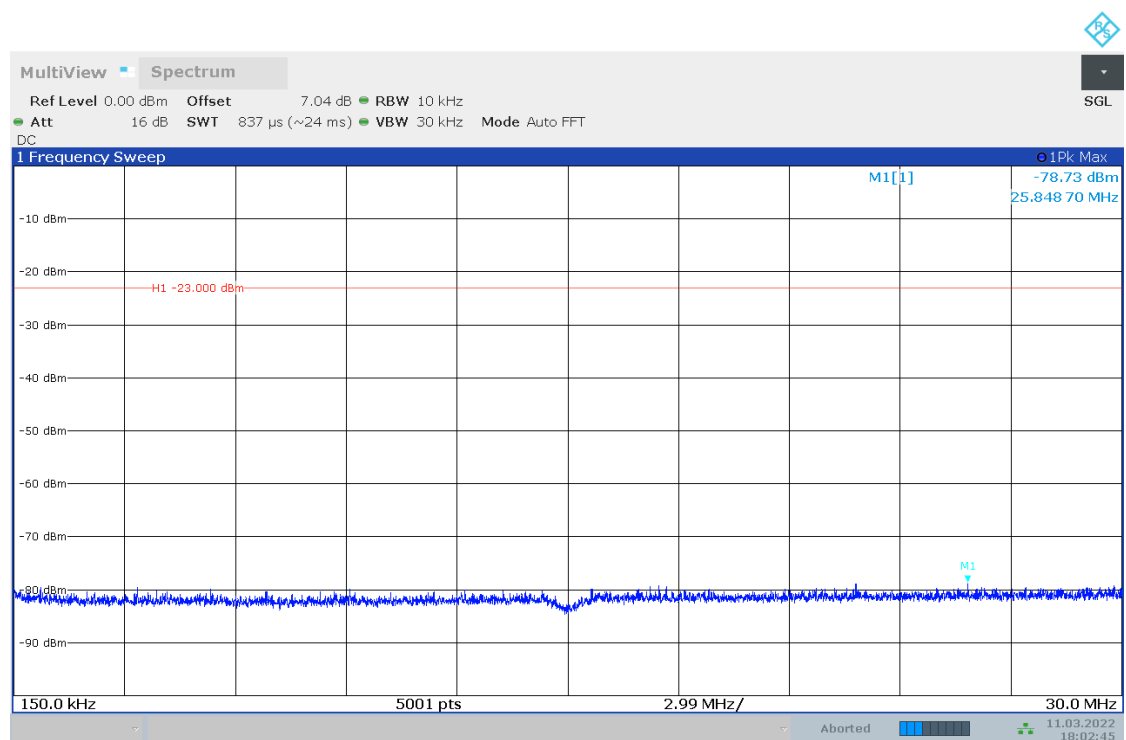
6.2.10 TM1_5MHZ_LCH_RB1#0

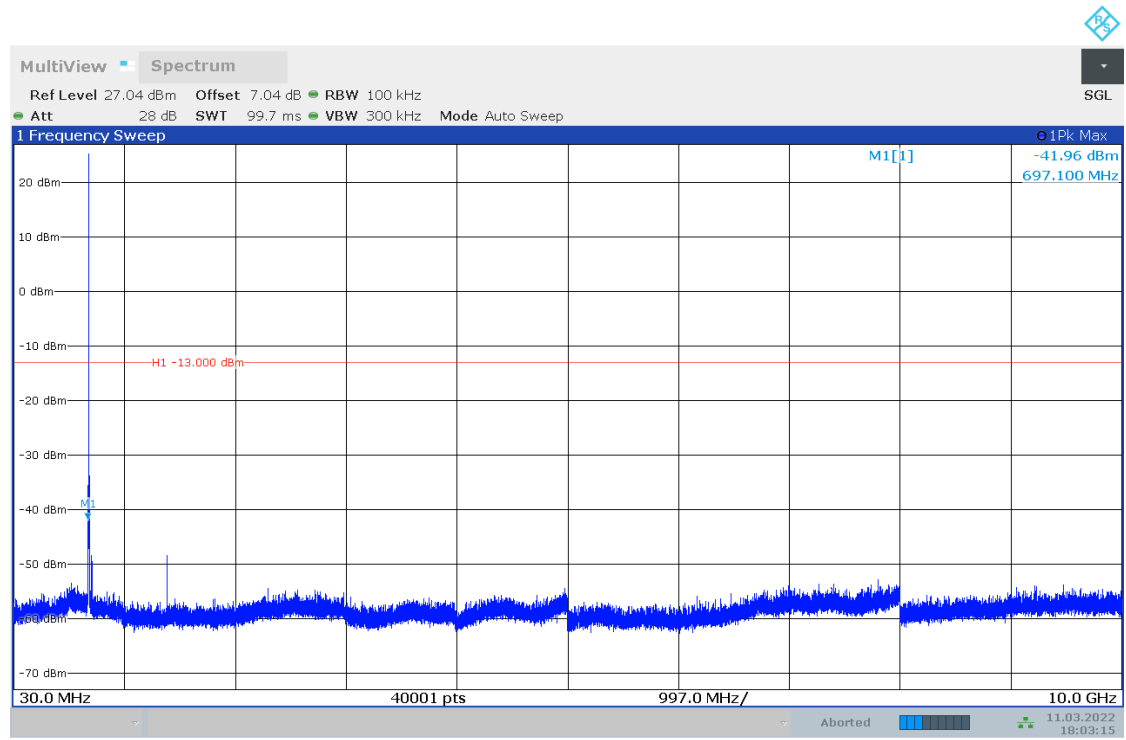




18:01:45 11.03.2022

6.2.11 TM1_5MHZ_LCH_RB1#24

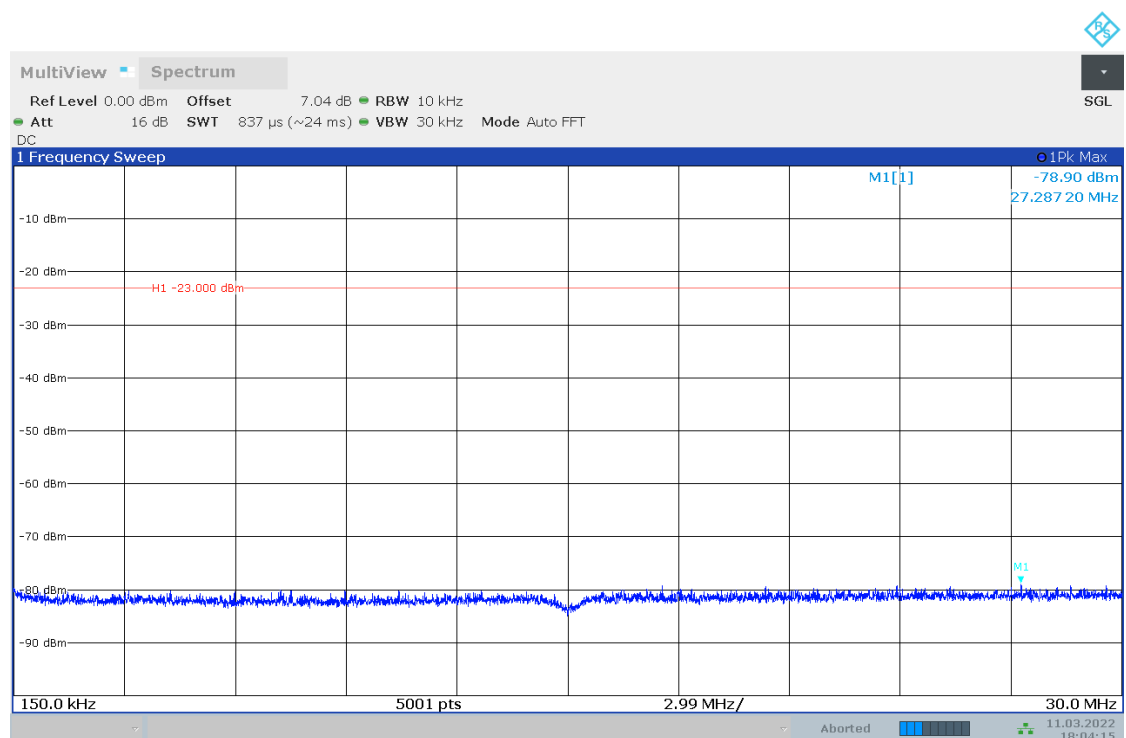




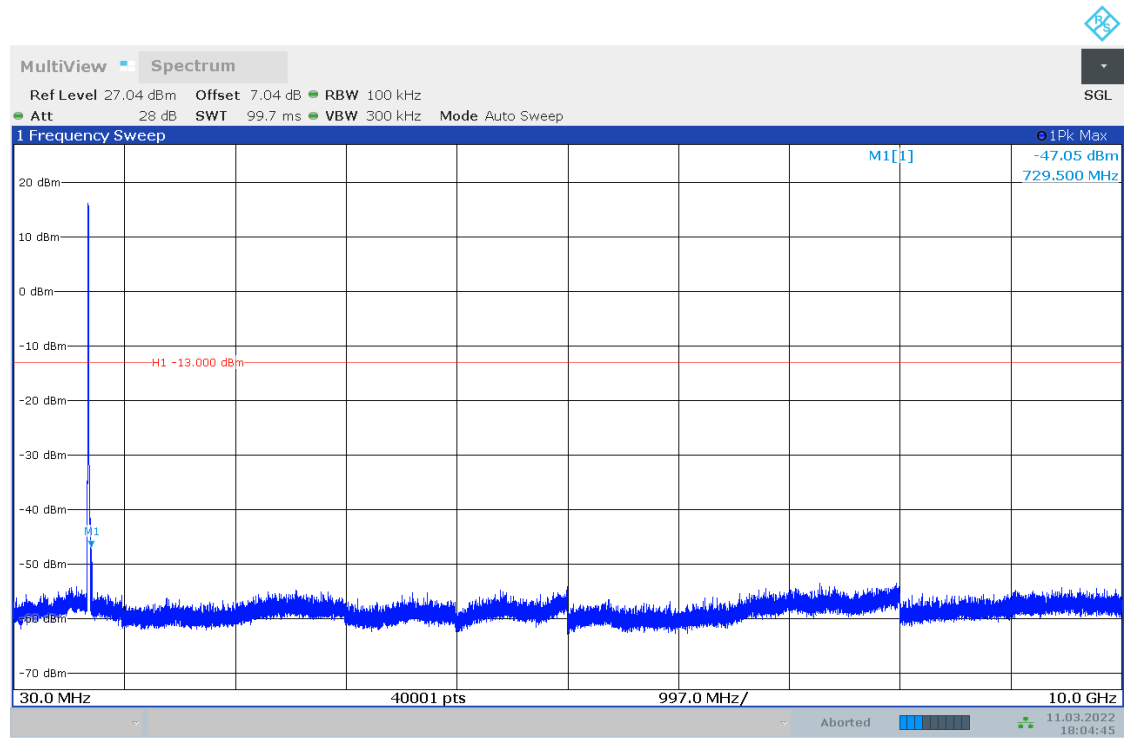
6.2.12 TM1_5MHZ_LCH_RB25#0



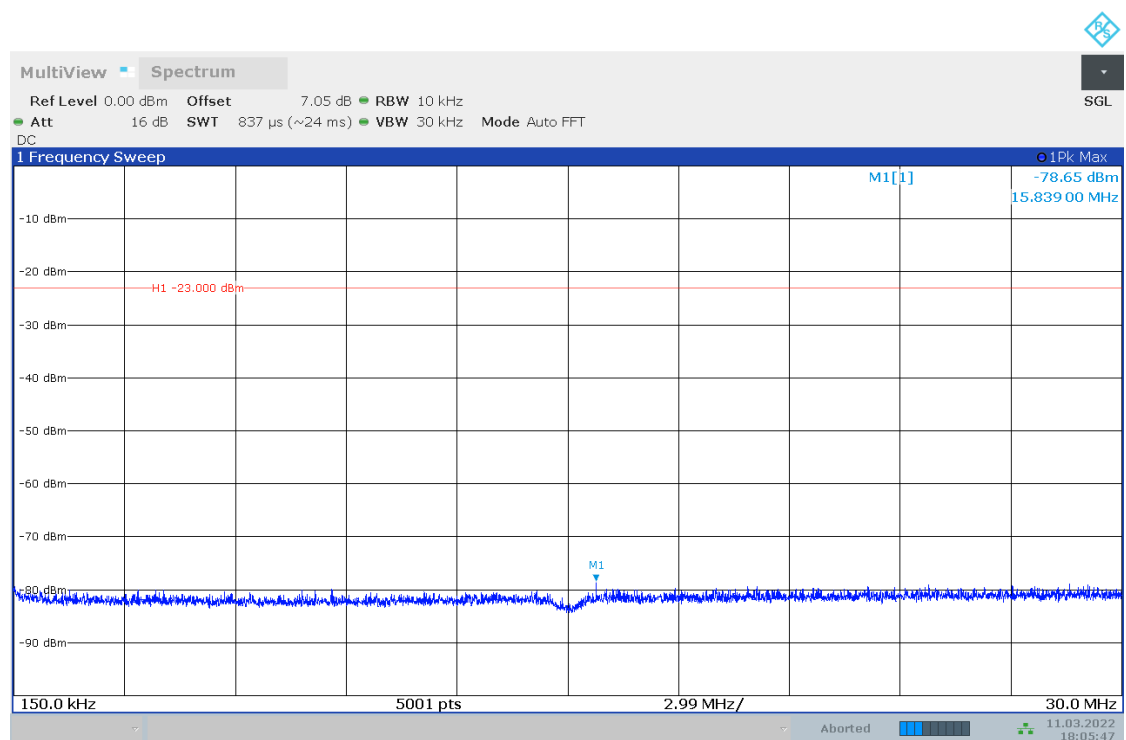
18:03:46 11.03.2022

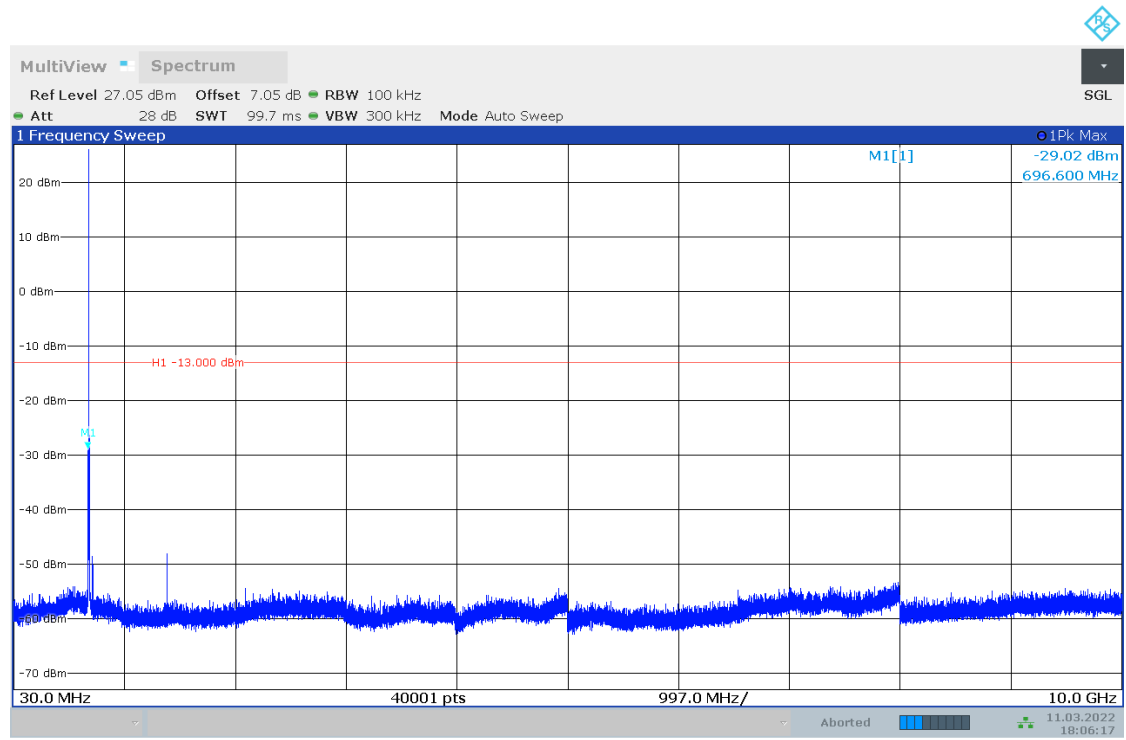


18:04:15 11.03.2022

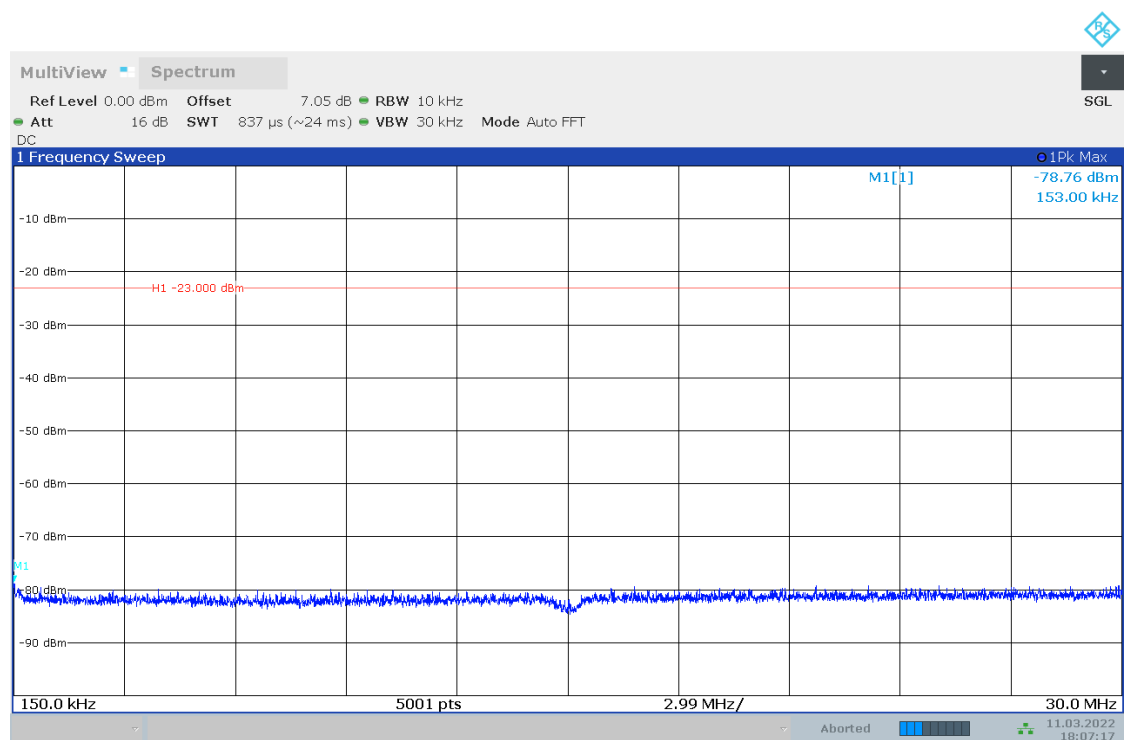


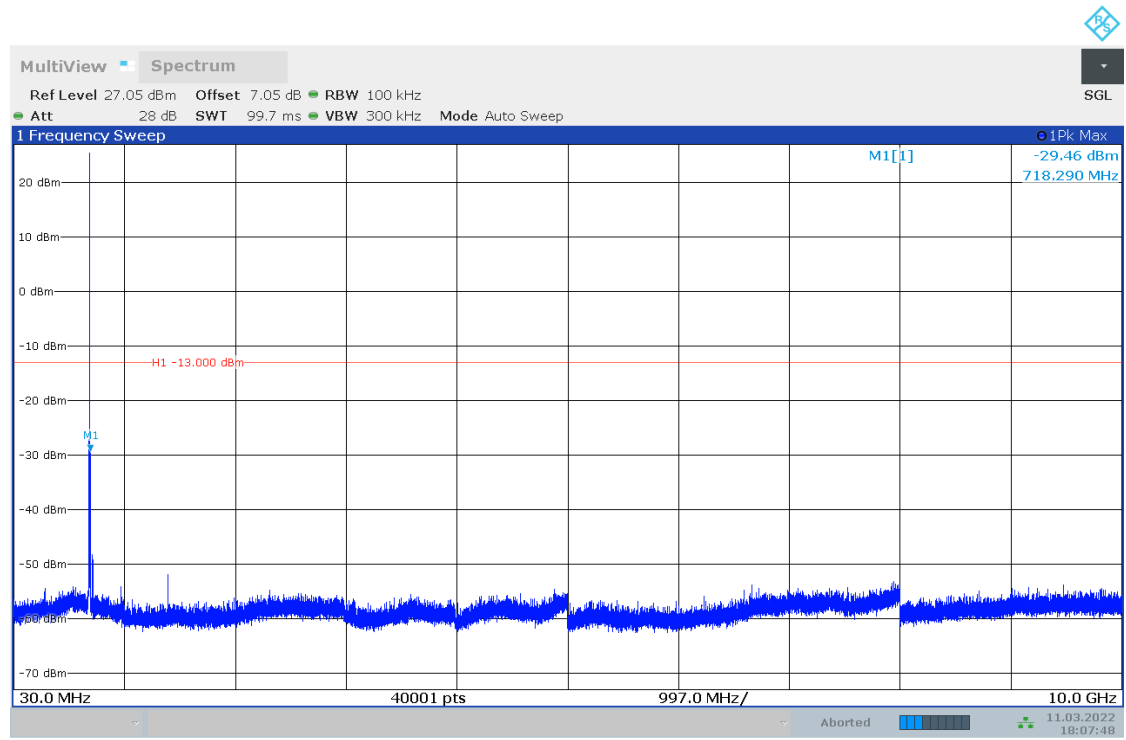
6.2.13 TM1_5MHZ_MCH_RB1#0



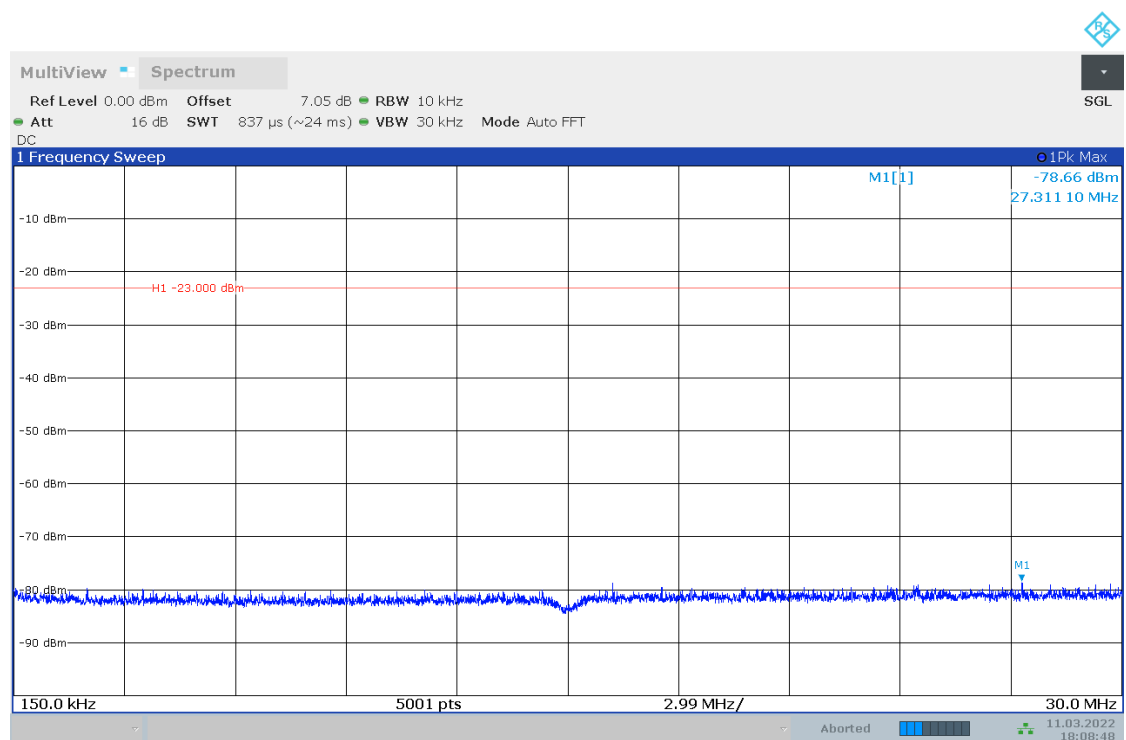


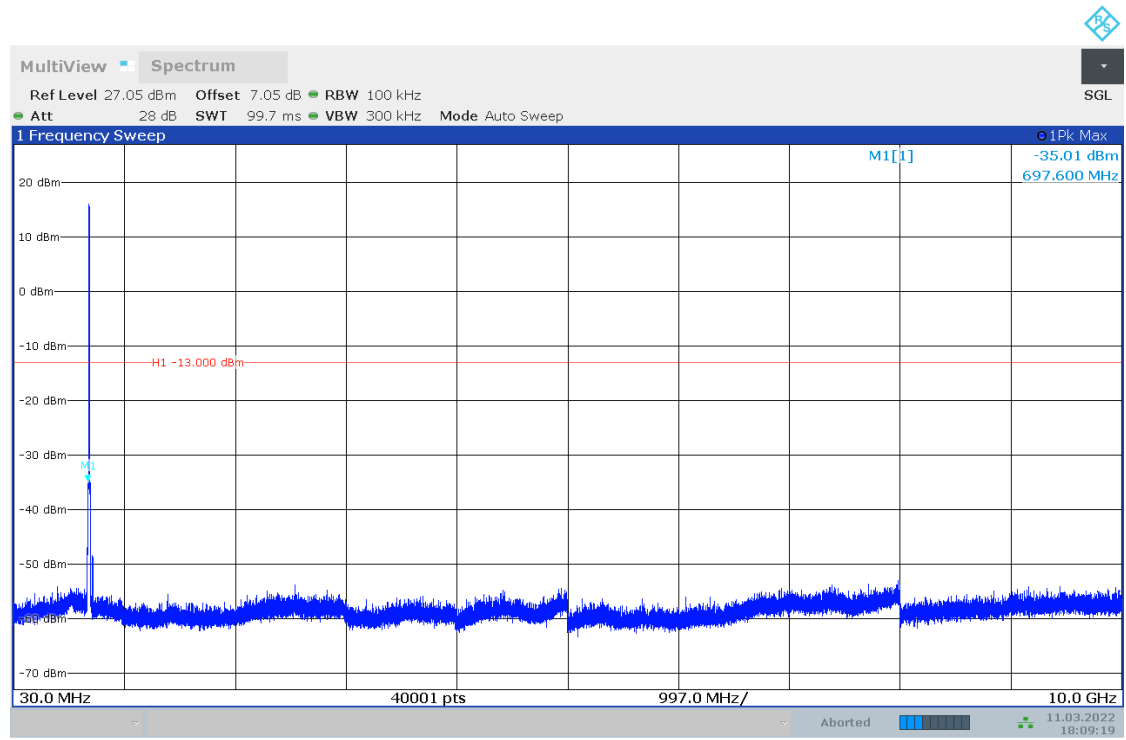
6.2.14 TM1_5MHZ_MCH_RB1#24





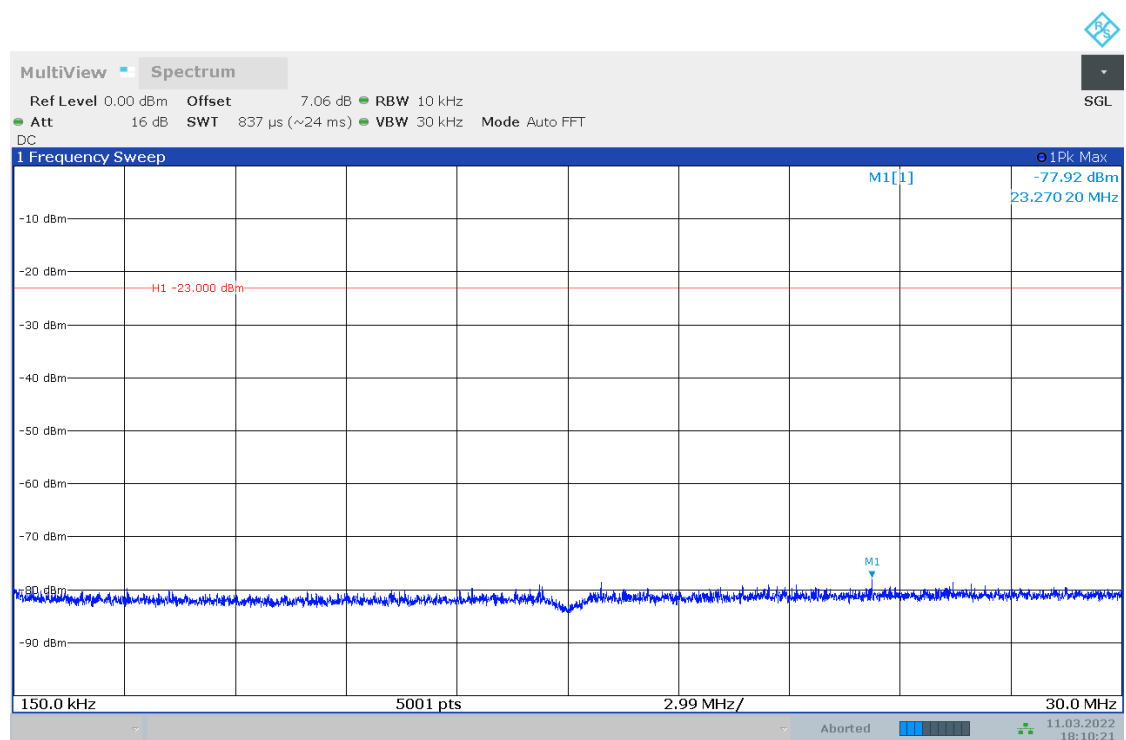
6.2.15 TM1_5MHZ_MCH_RB25#0

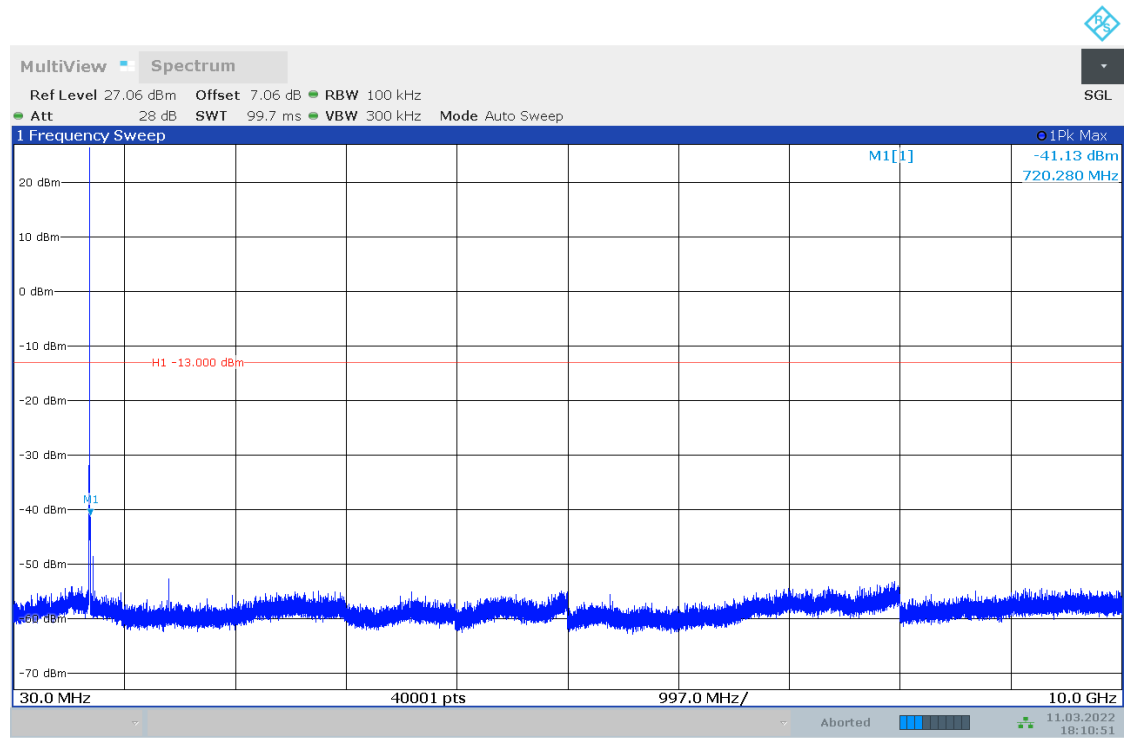




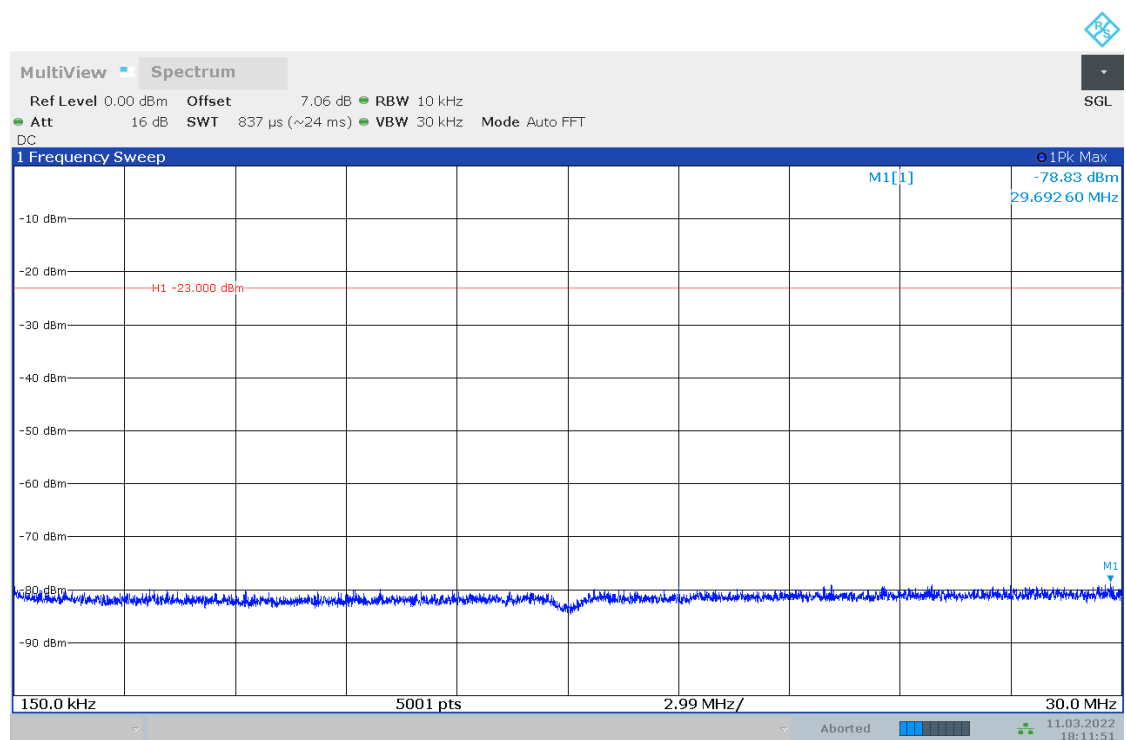
18:09:19 11.03.2022

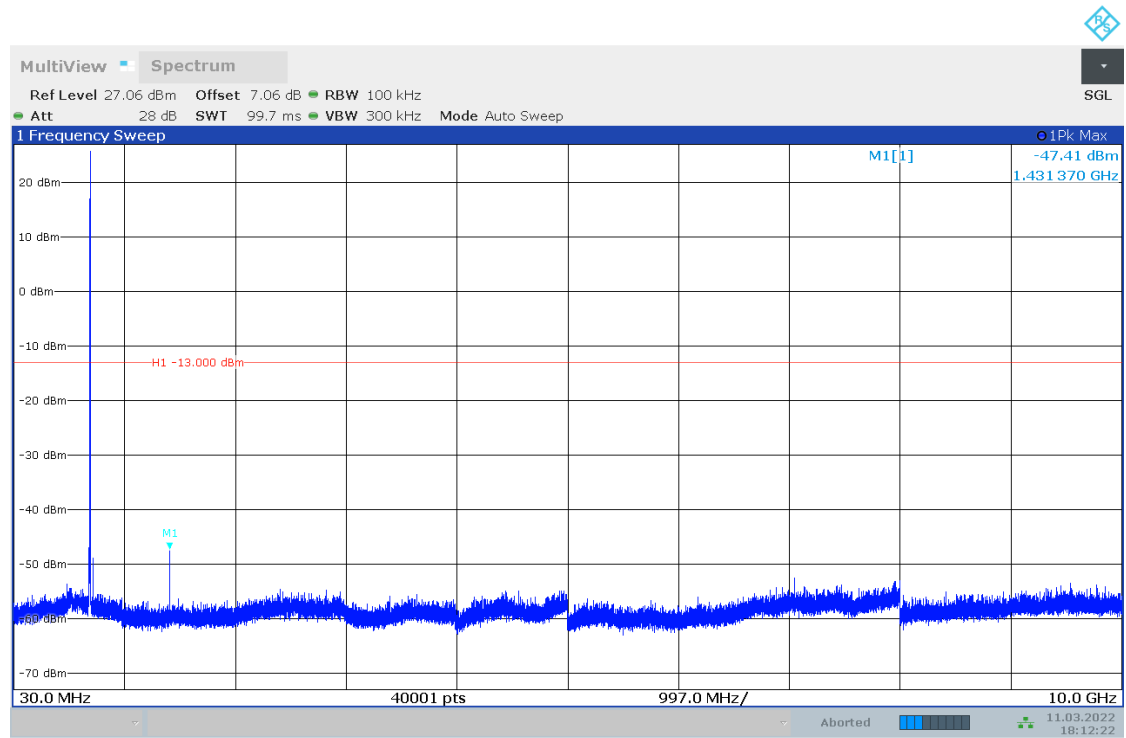
6.2.16 TM1_5MHZ_HCH_RB1#0





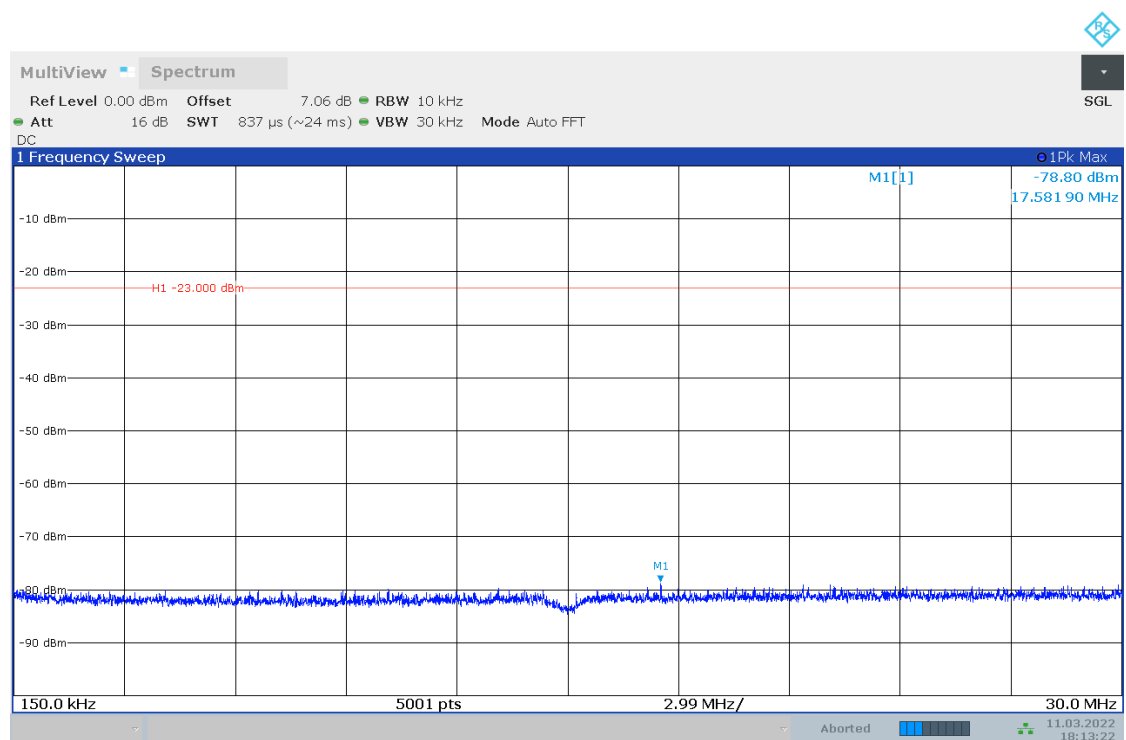
6.2.17 TM1_5MHZ_HCH_RB1#24

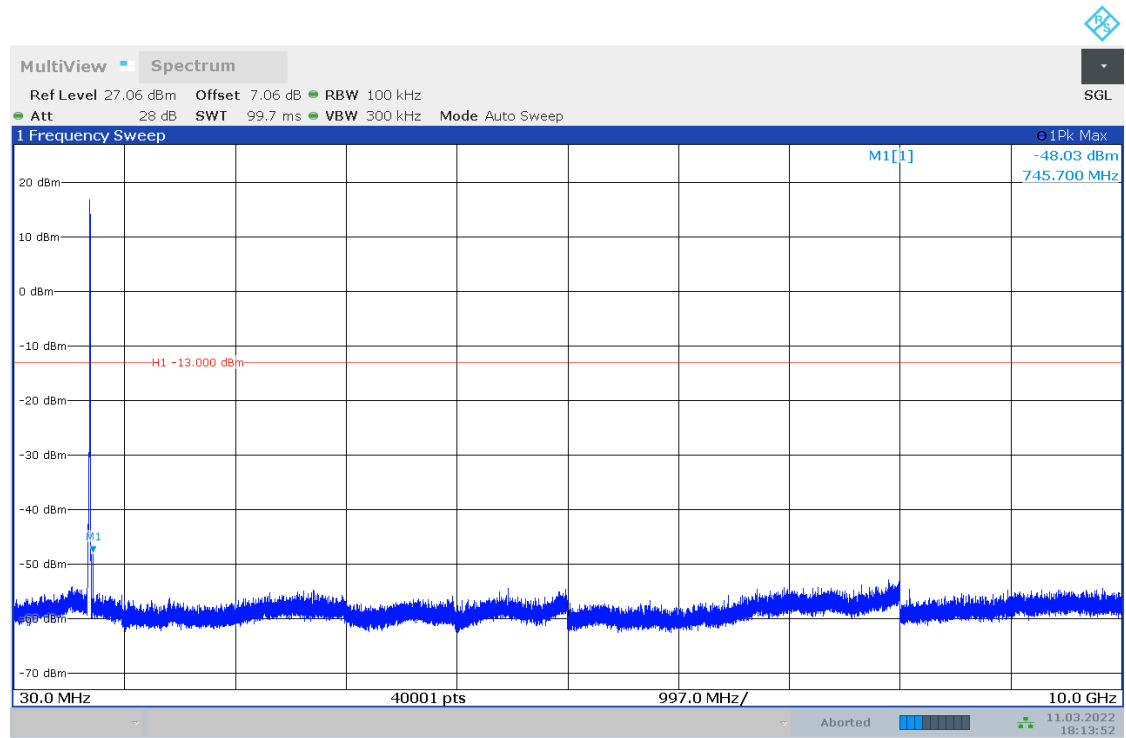




18:12:22 11.03.2022

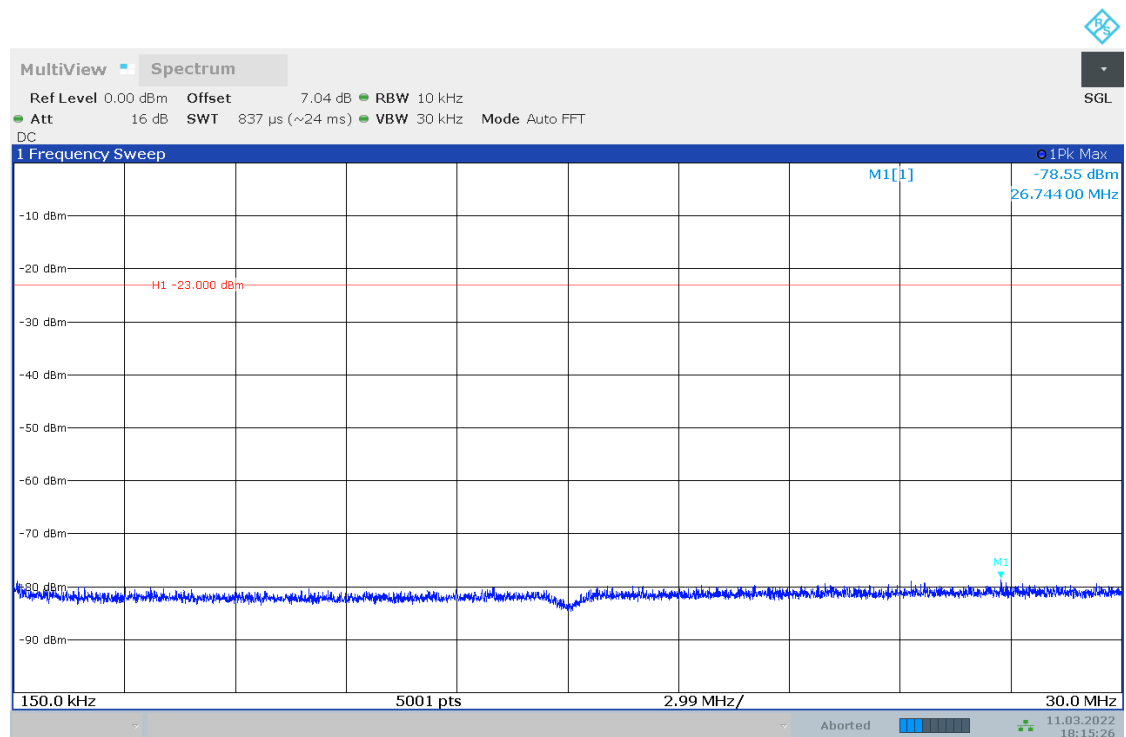
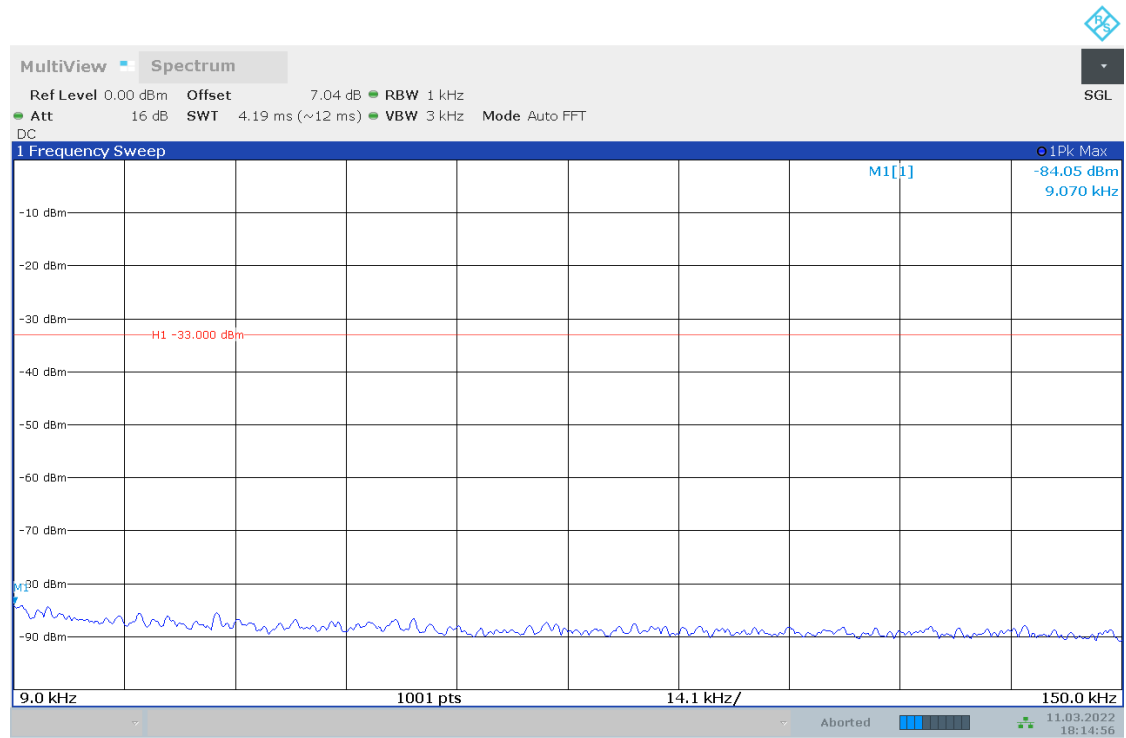
6.2.18 TM1_5MHZ_HCH_RB25#0

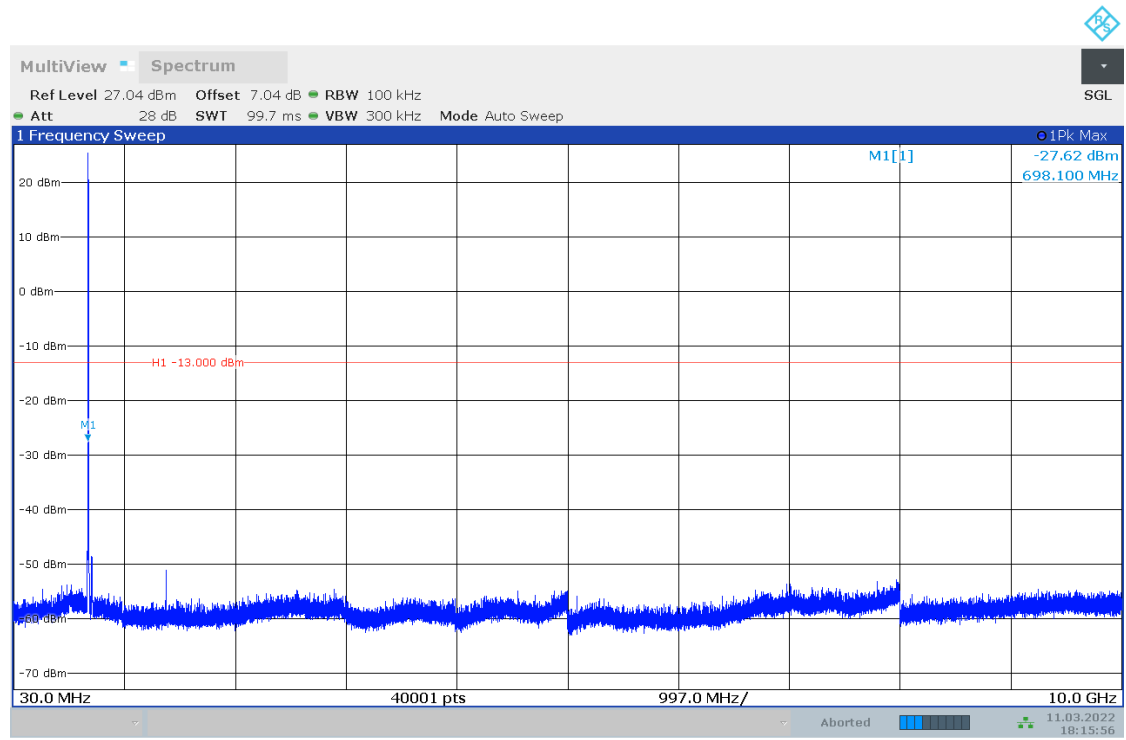




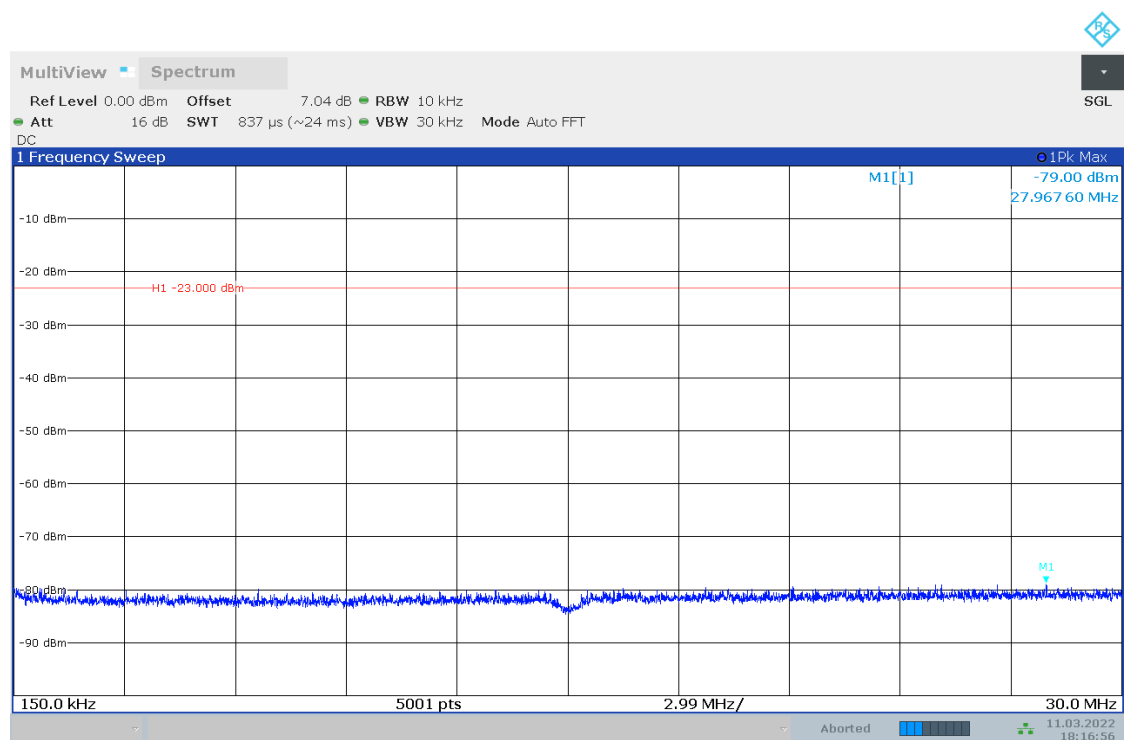
18:13:52 11.03.2022

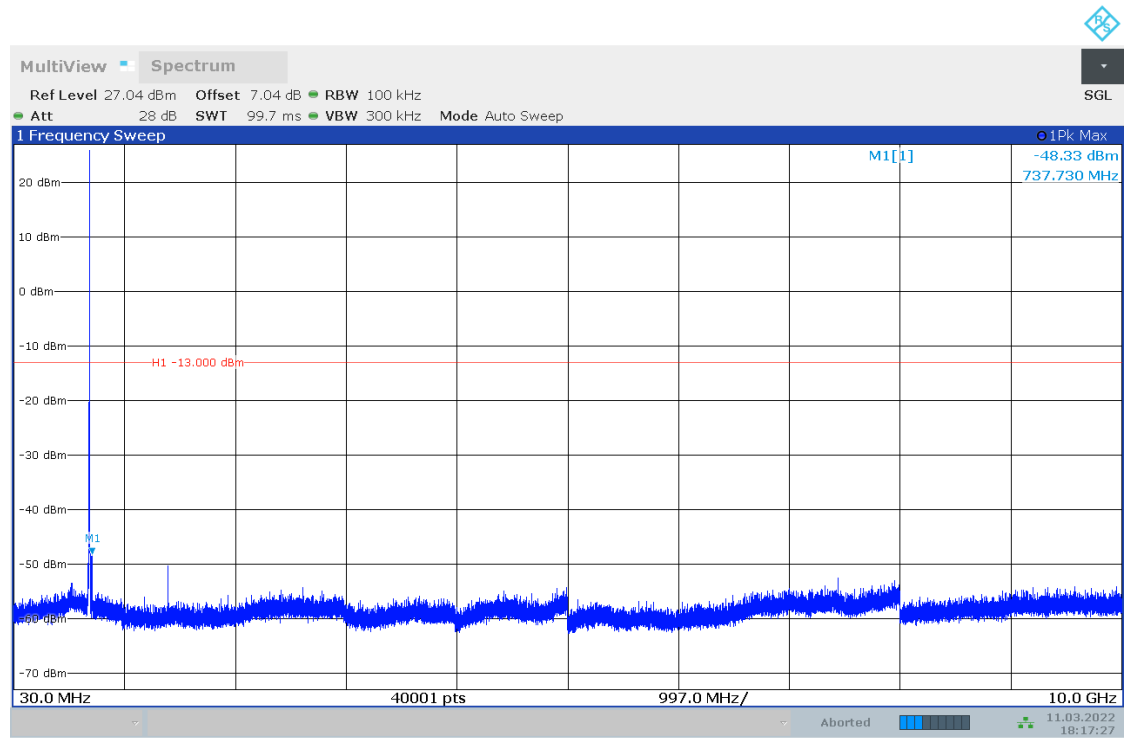
6.2.19 TM1_10MHZ_LCH_RB1#0





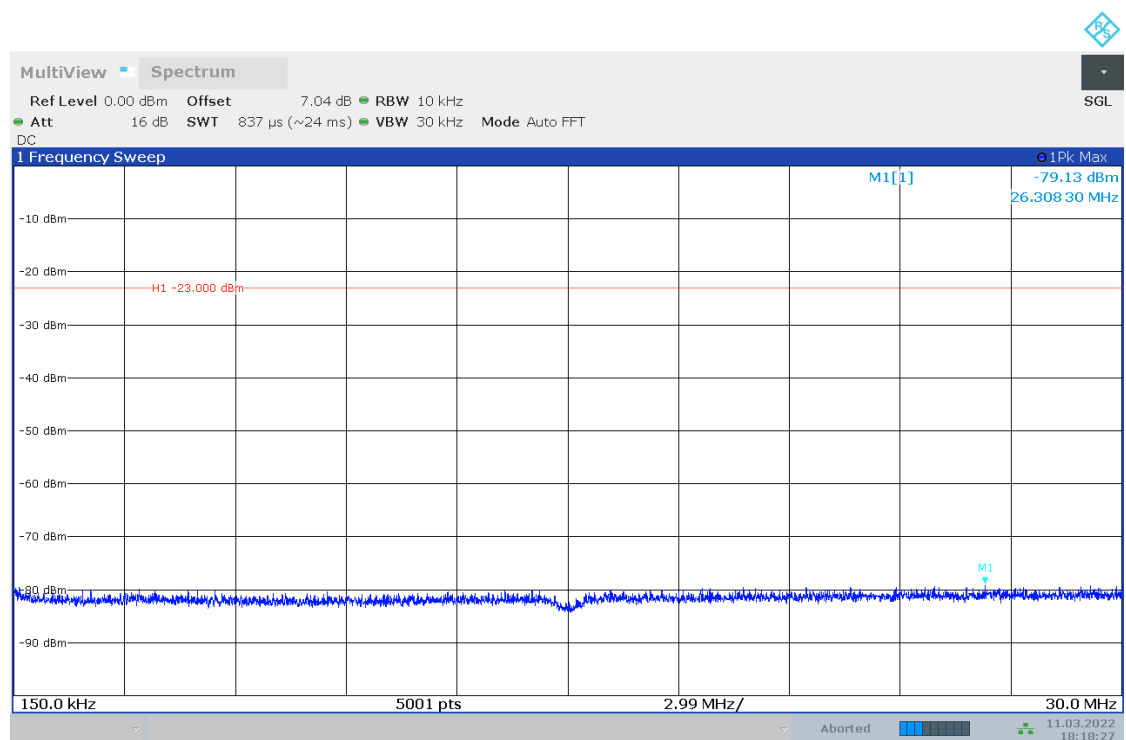
6.2.20 TM1_10MHZ_LCH_RB1#49

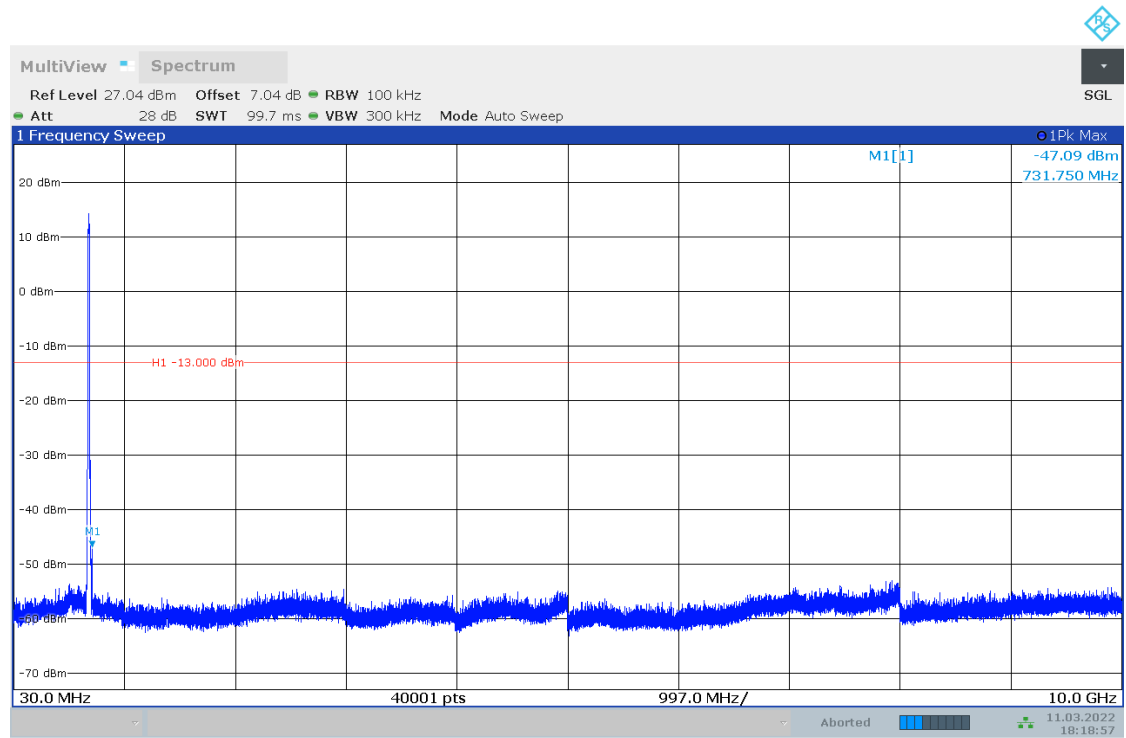




18:17:27 11.03.2022

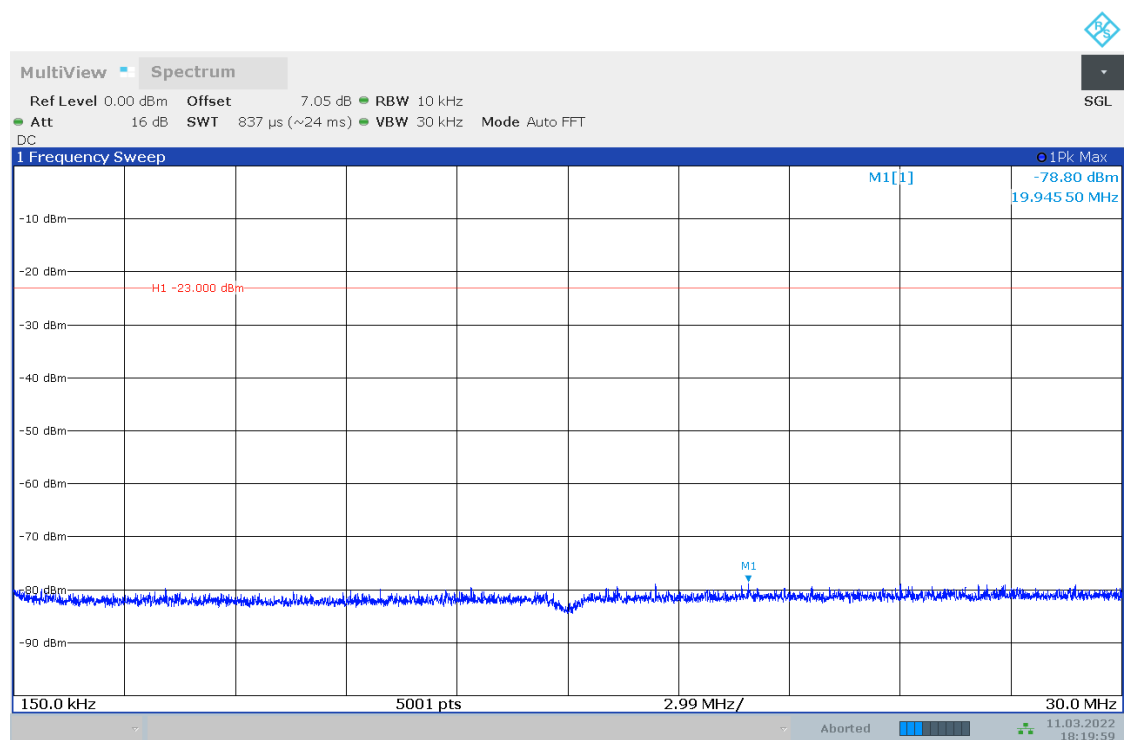
6.2.21 TM1_10MHZ_LCH_RB50#0

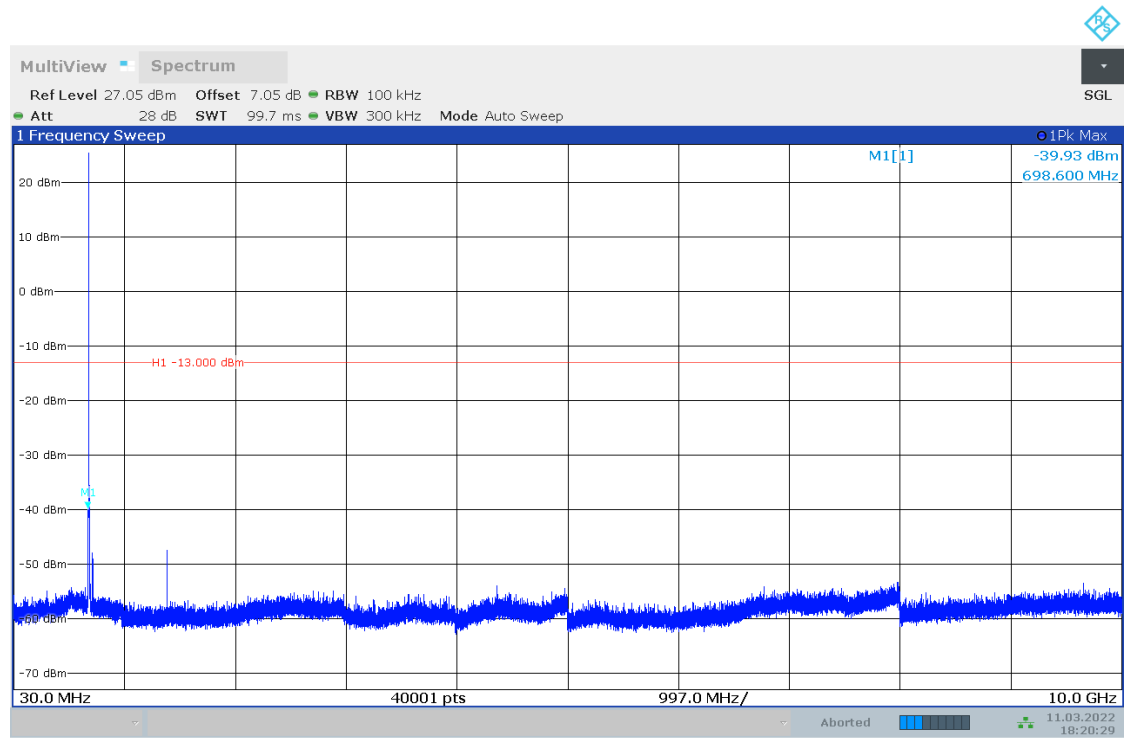




18:18:58 11.03.2022

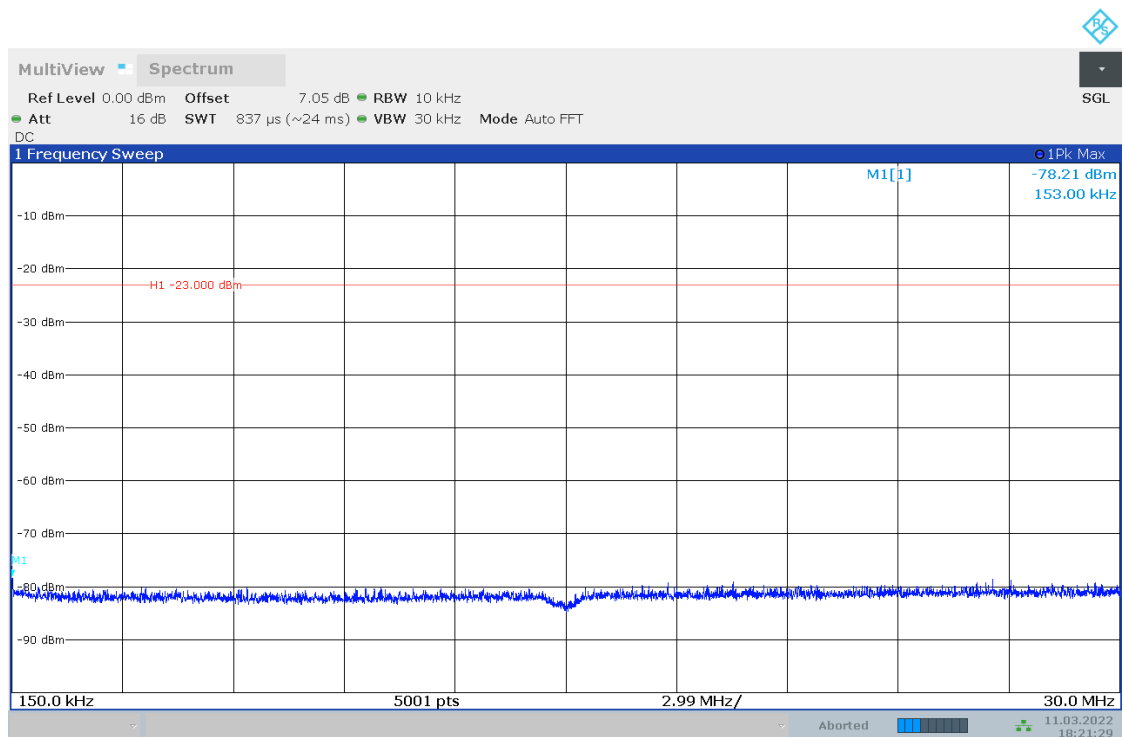
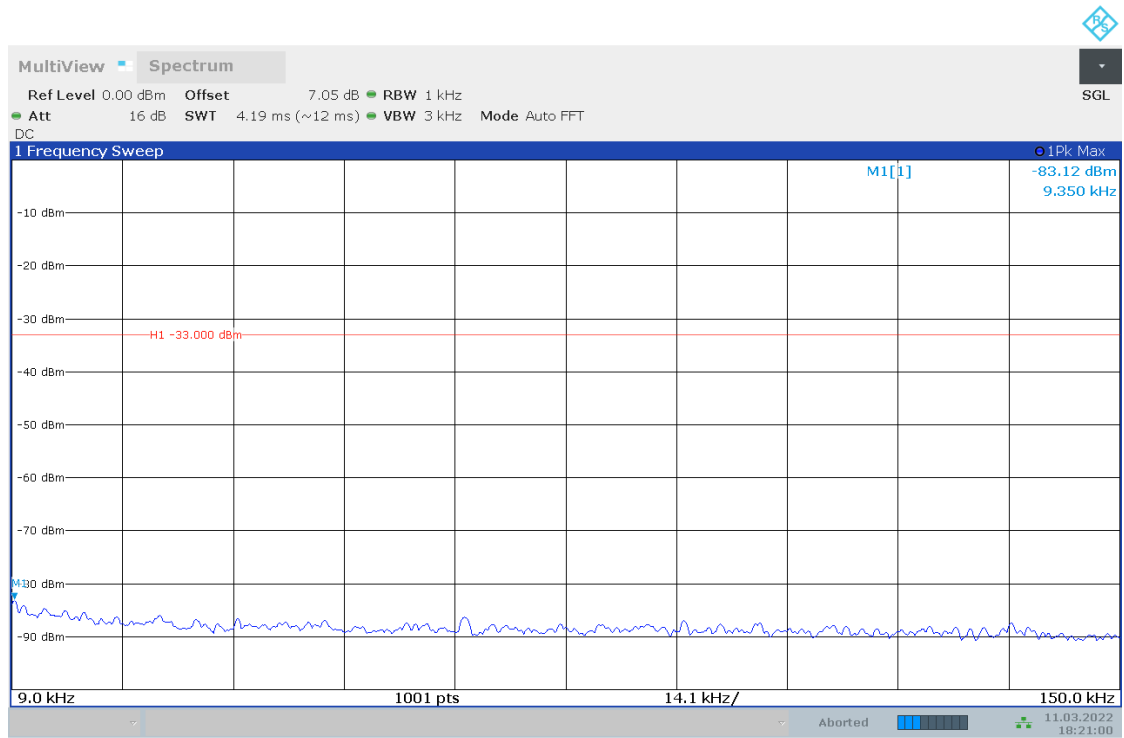
6.2.22 TM1_10MHZ_MCH_RB1#0

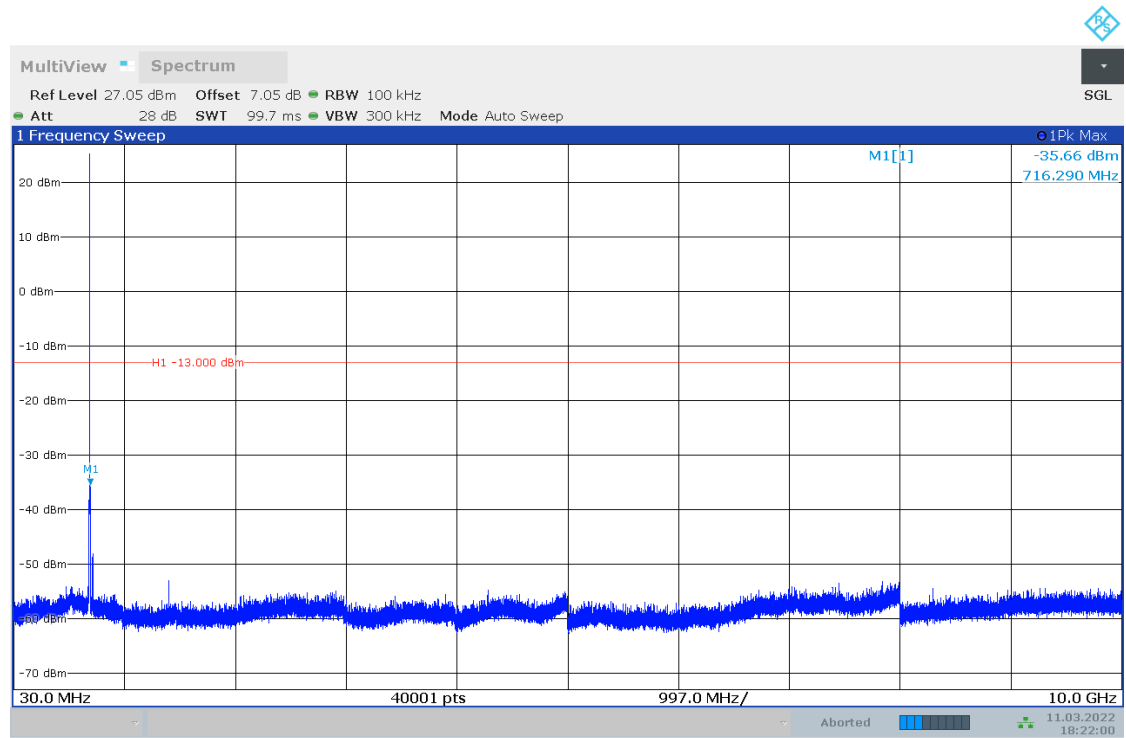




18:20:30 11.03.2022

6.2.23 TM1_10MHZ_MCH_RB1#49

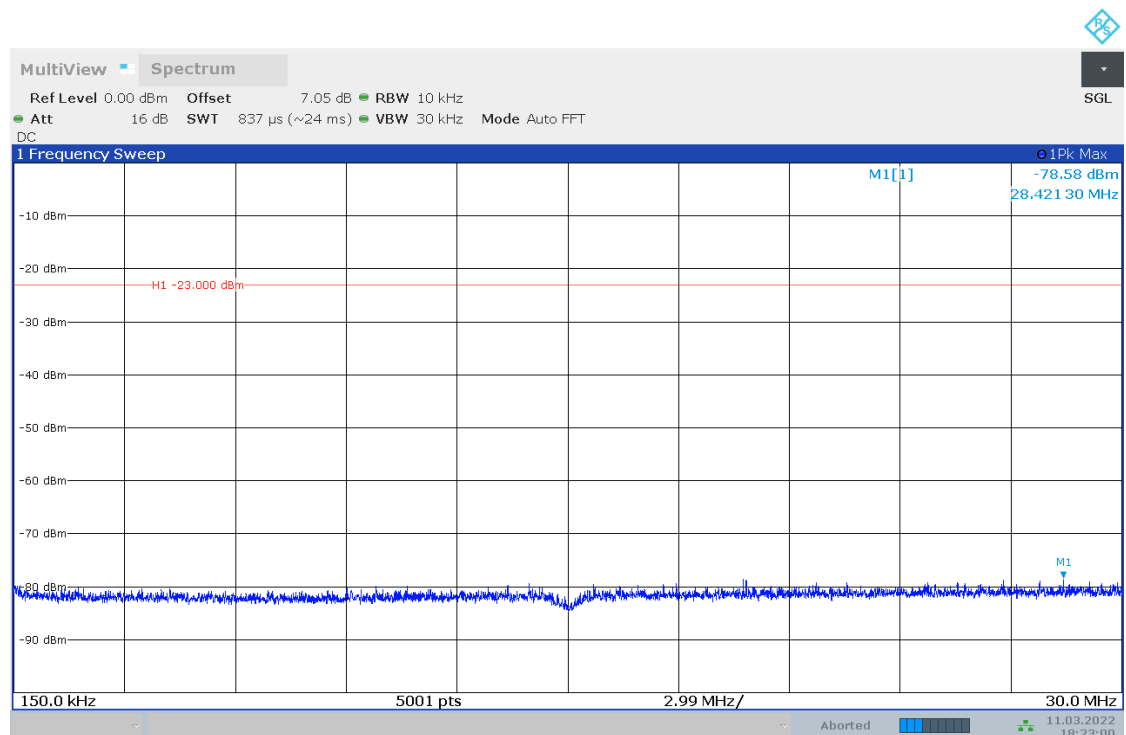




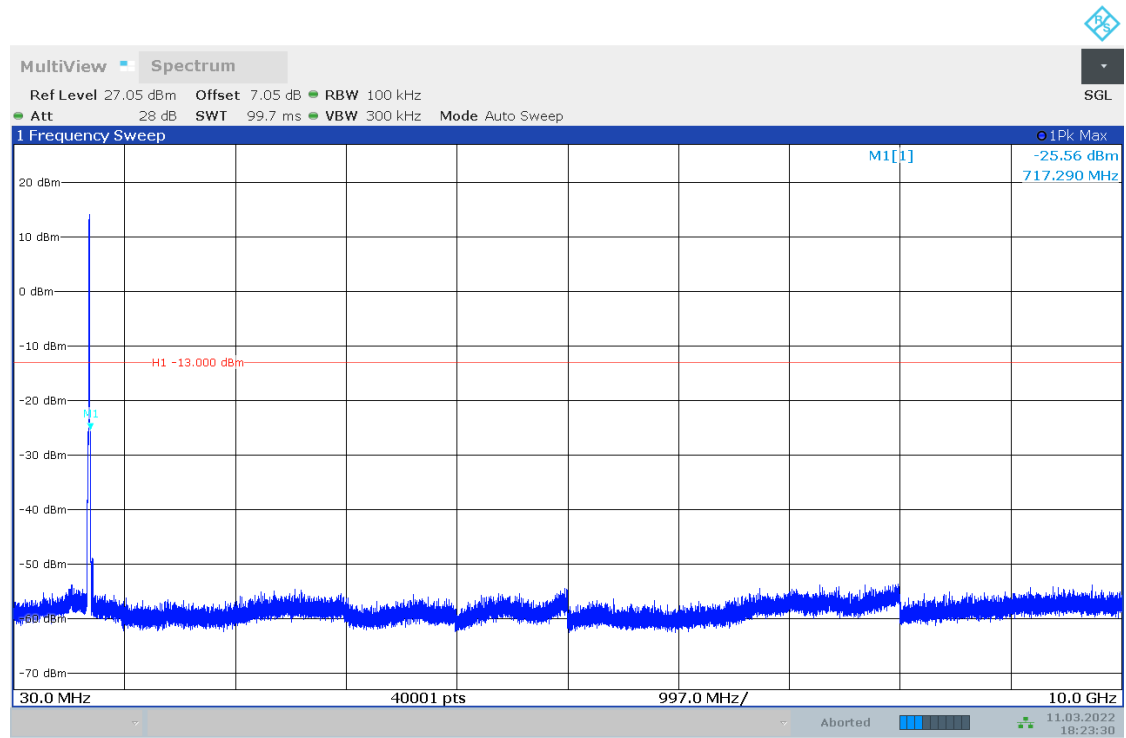
6.2.24 TM1_10MHZ_MCH_RB50#0



18:22:32 11.03.2022

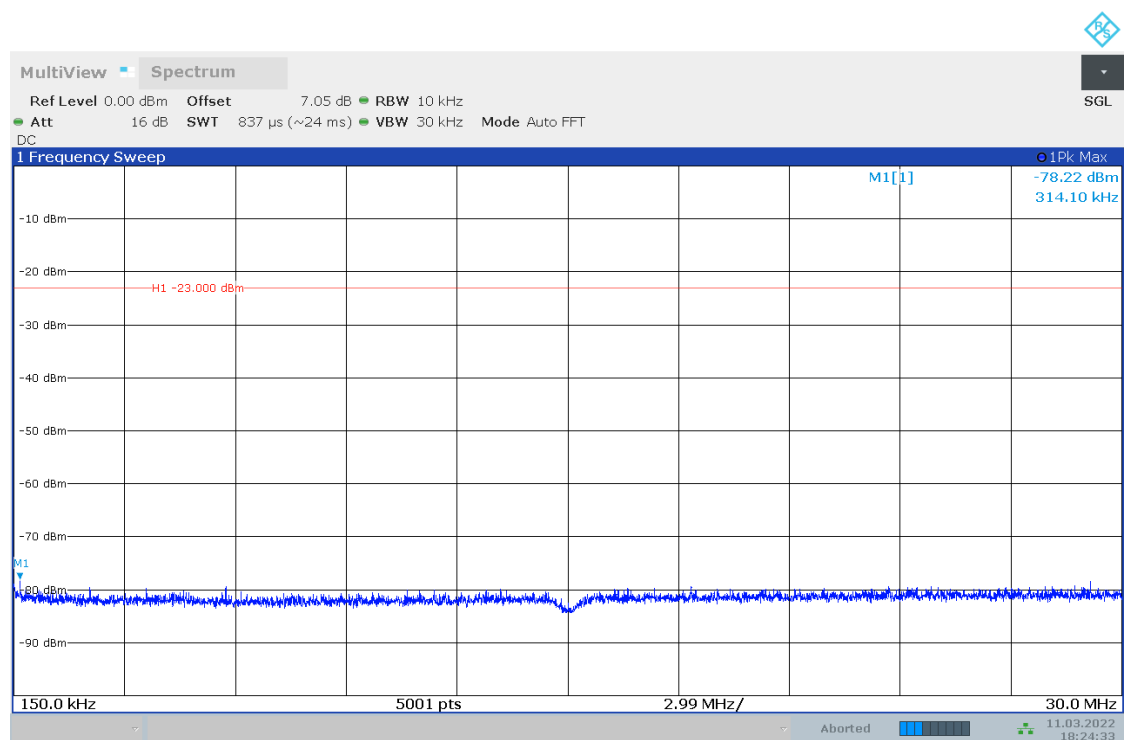


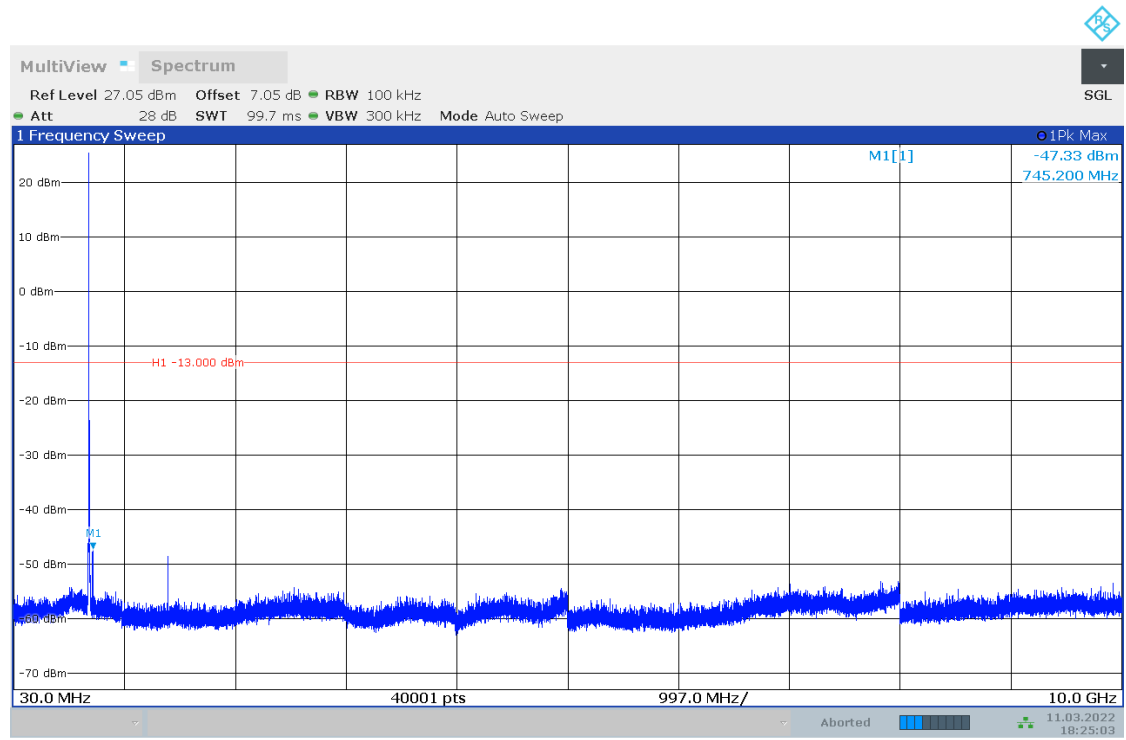
18:23:01 11.03.2022



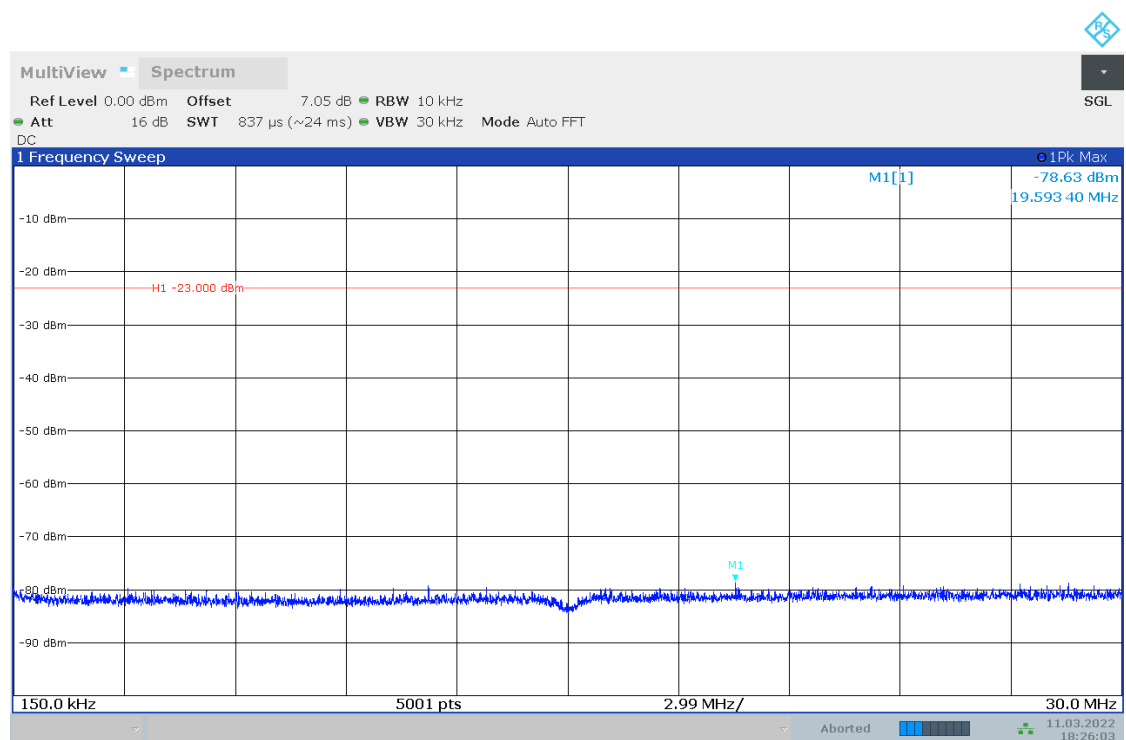
18:23:31 11.03.2022

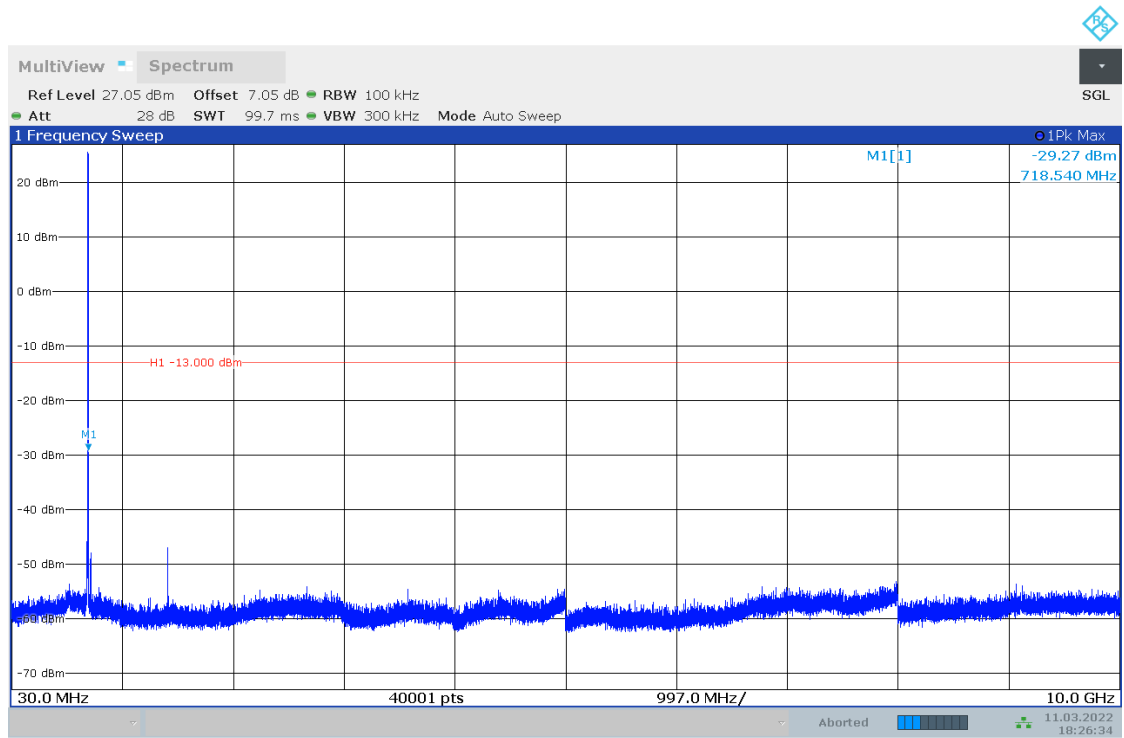
6.2.25 TM1_10MHZ_HCH_RB1#0





6.2.26 TM1_10MHZ_HCH_RB1#49



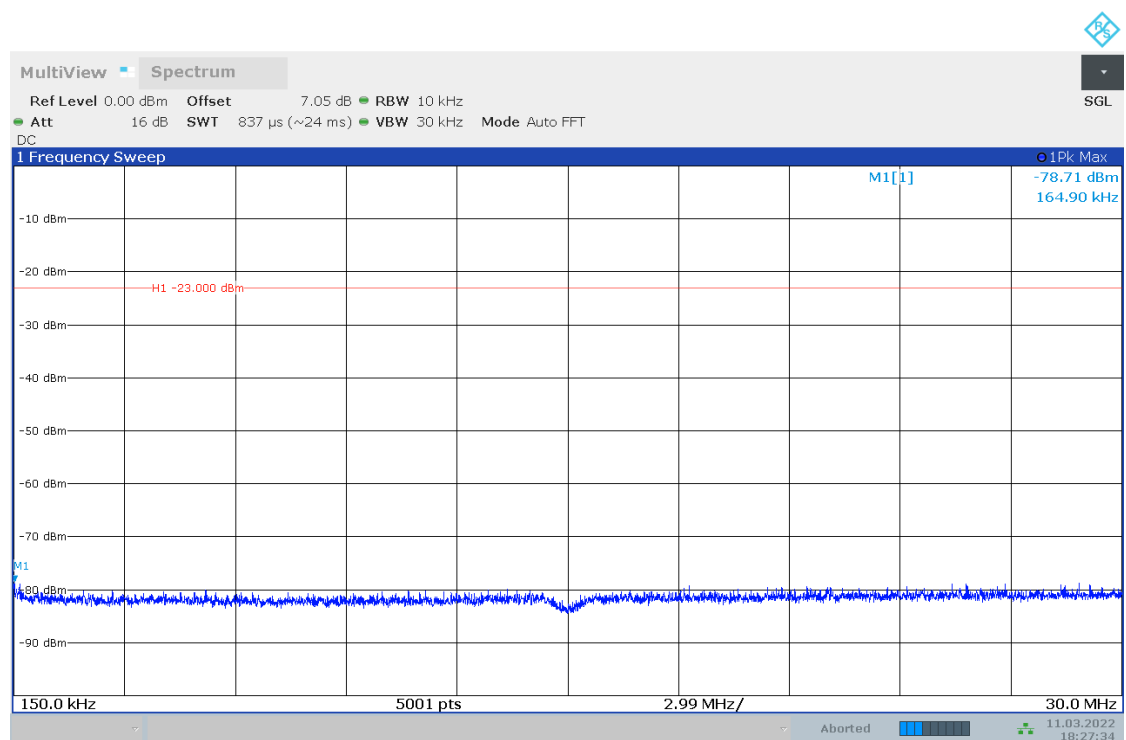


18:26:35 11.03.2022

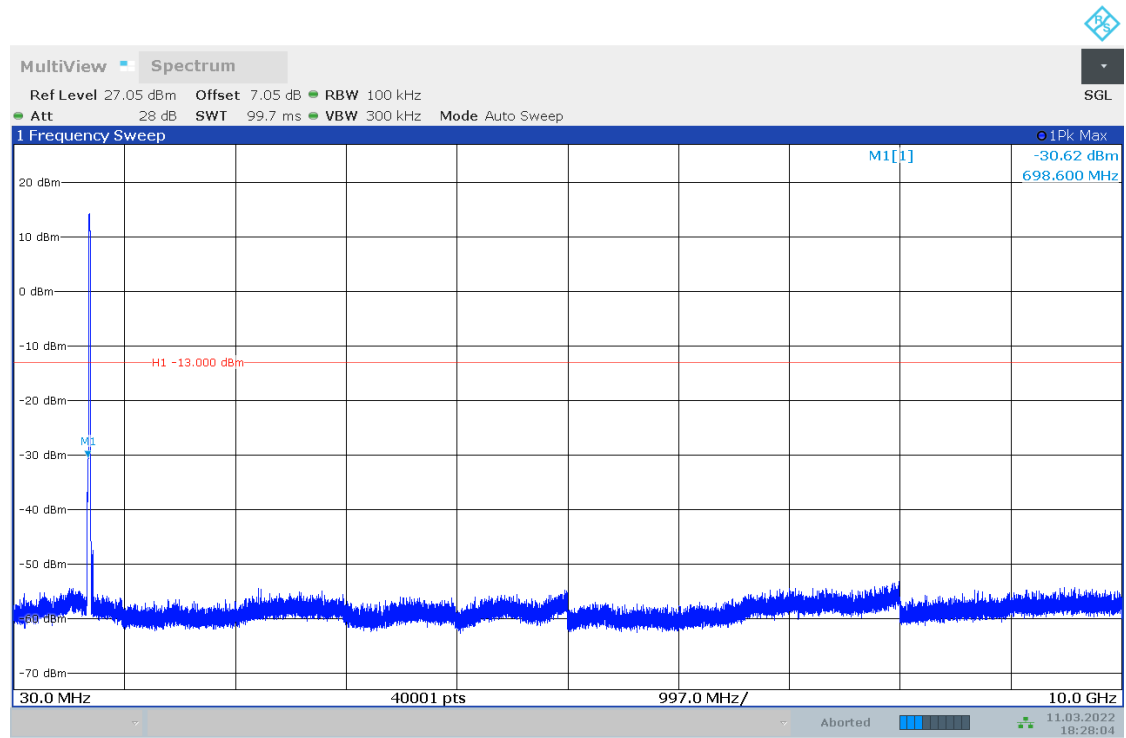
6.2.27 TM1_10MHZ_HCH_RB50#0



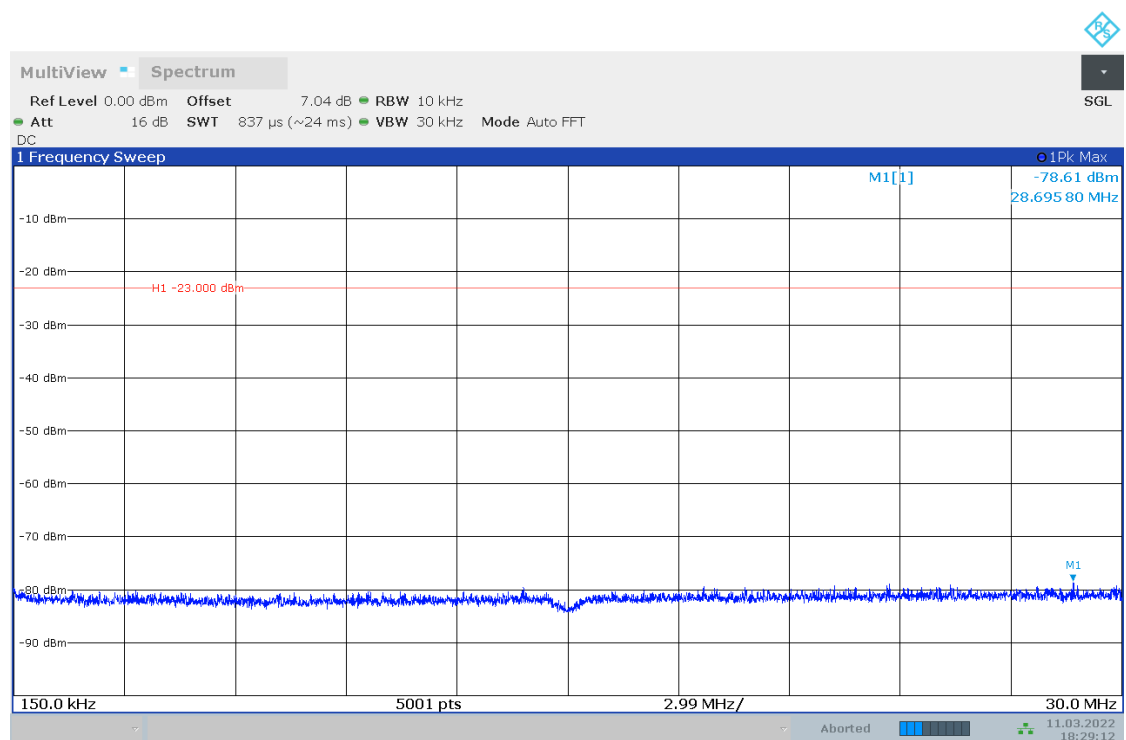
18:27:05 11.03.2022

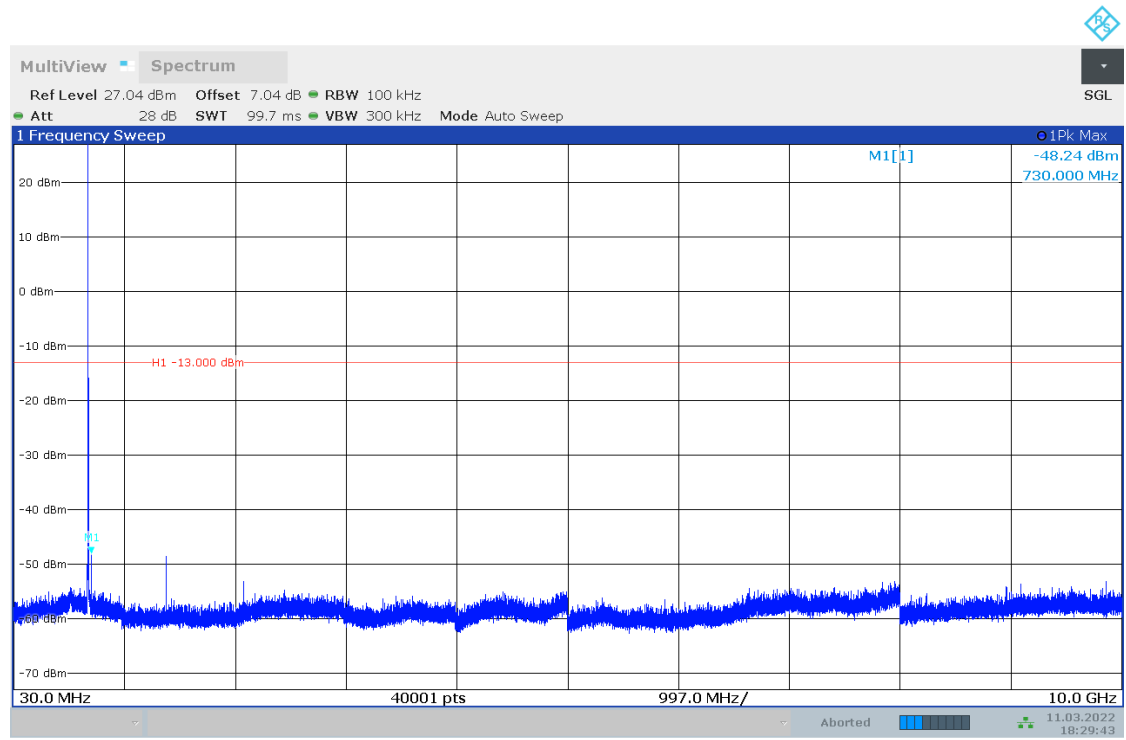


18:27:35 11.03.2022



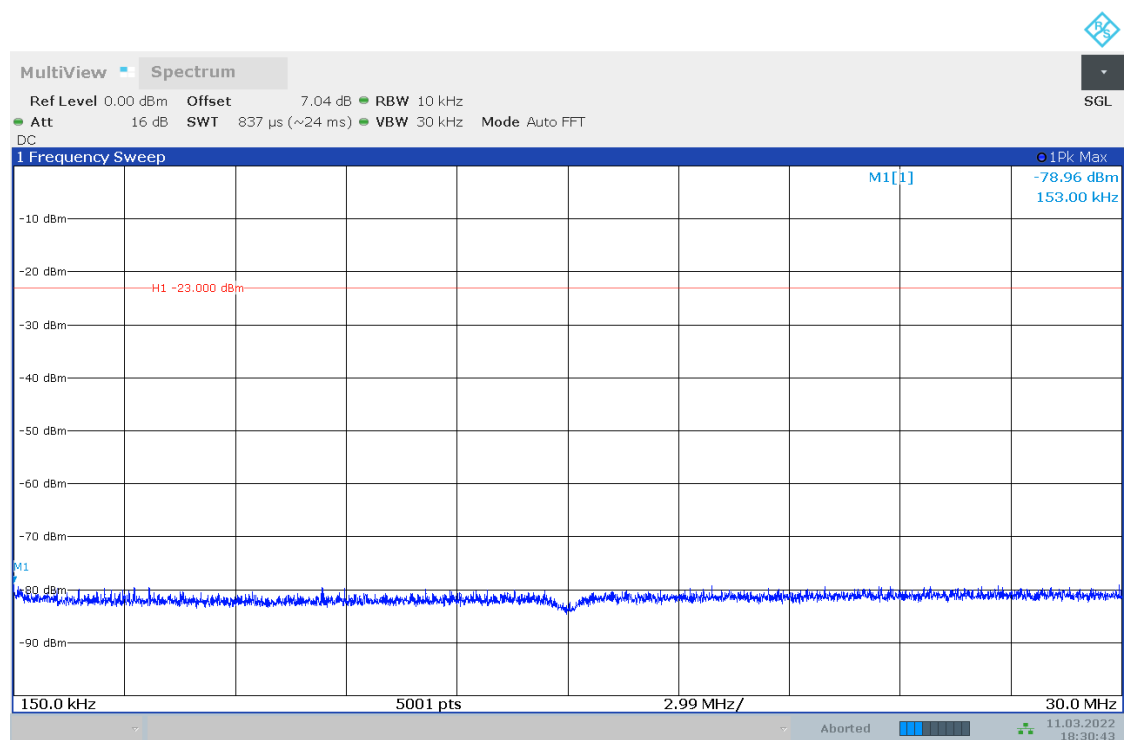
6.2.28 TM2_1.4MHZ_LCH_RB1#0

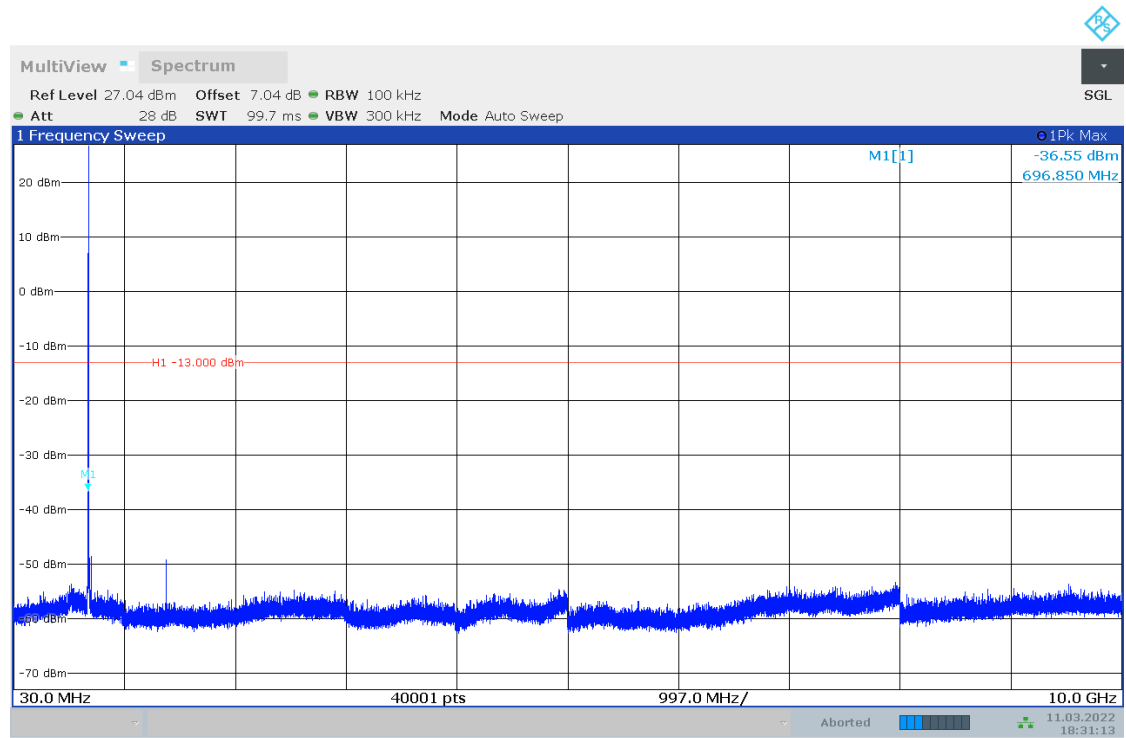




18:29:44 11.03.2022

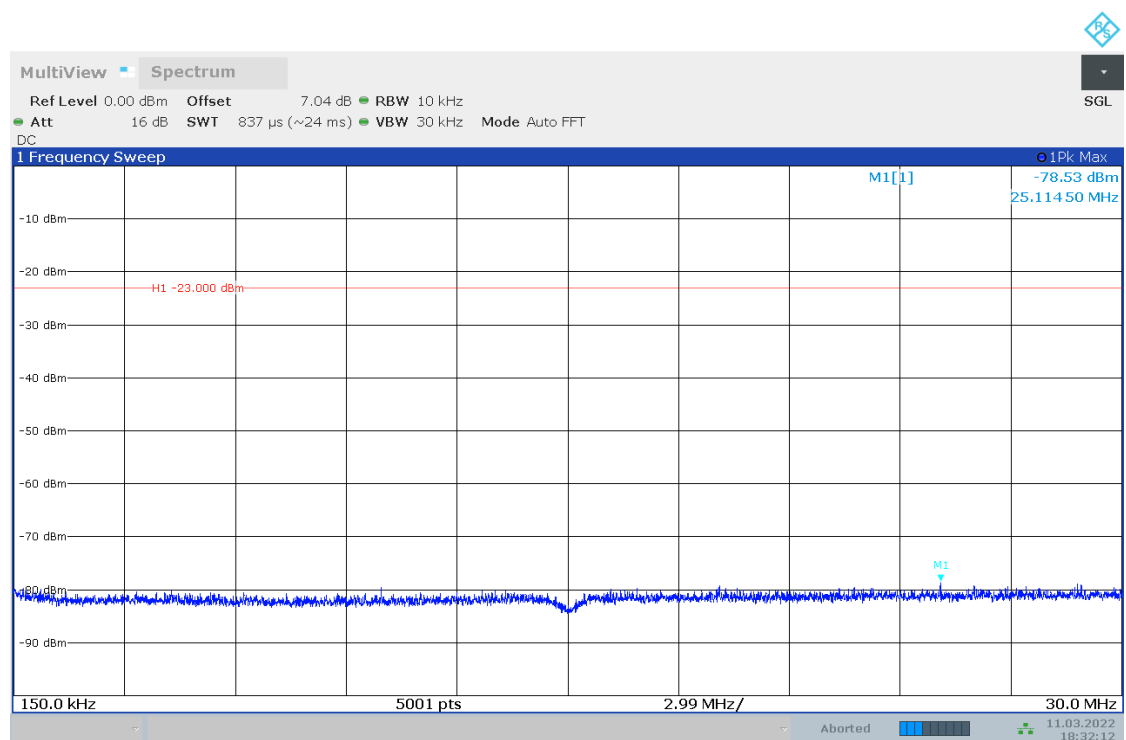
6.2.29 TM2_1.4MHZ_LCH_RB1#5

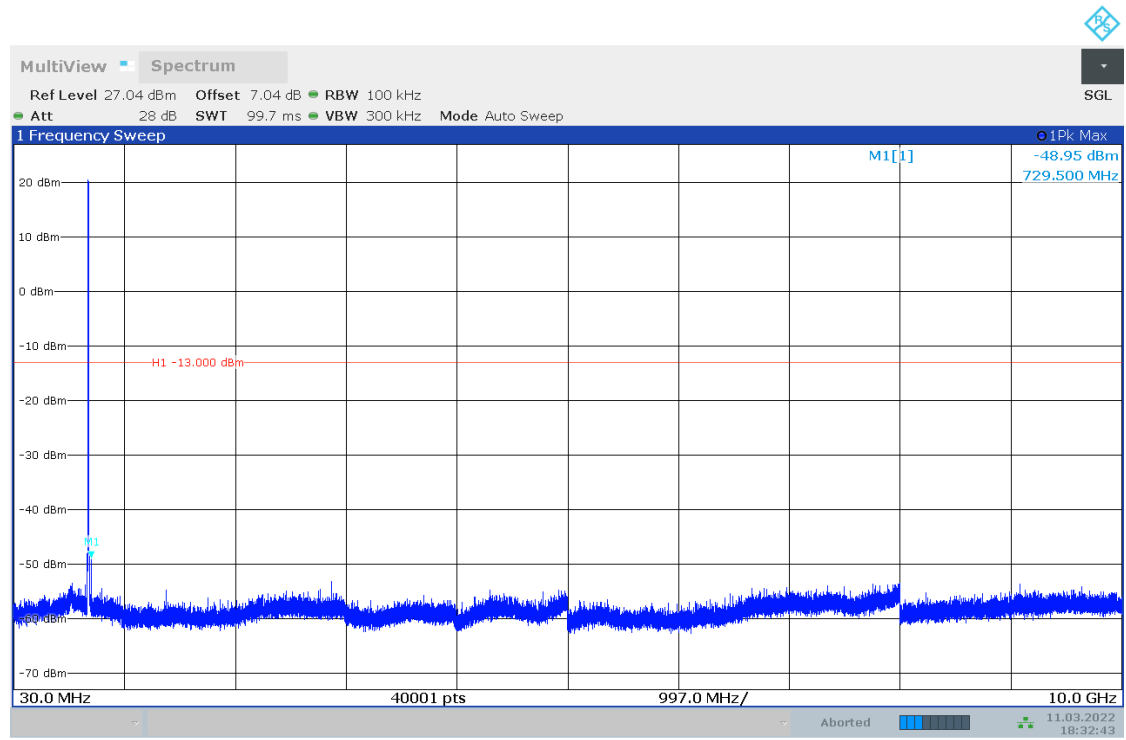




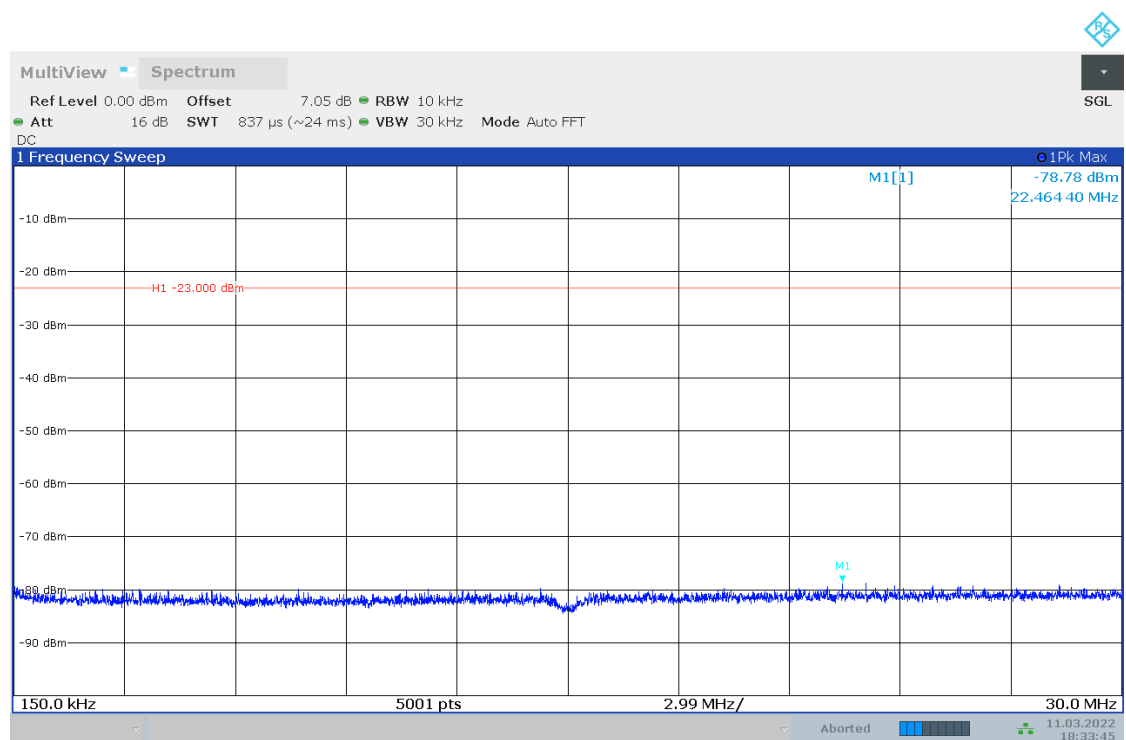
18:31:14 11.03.2022

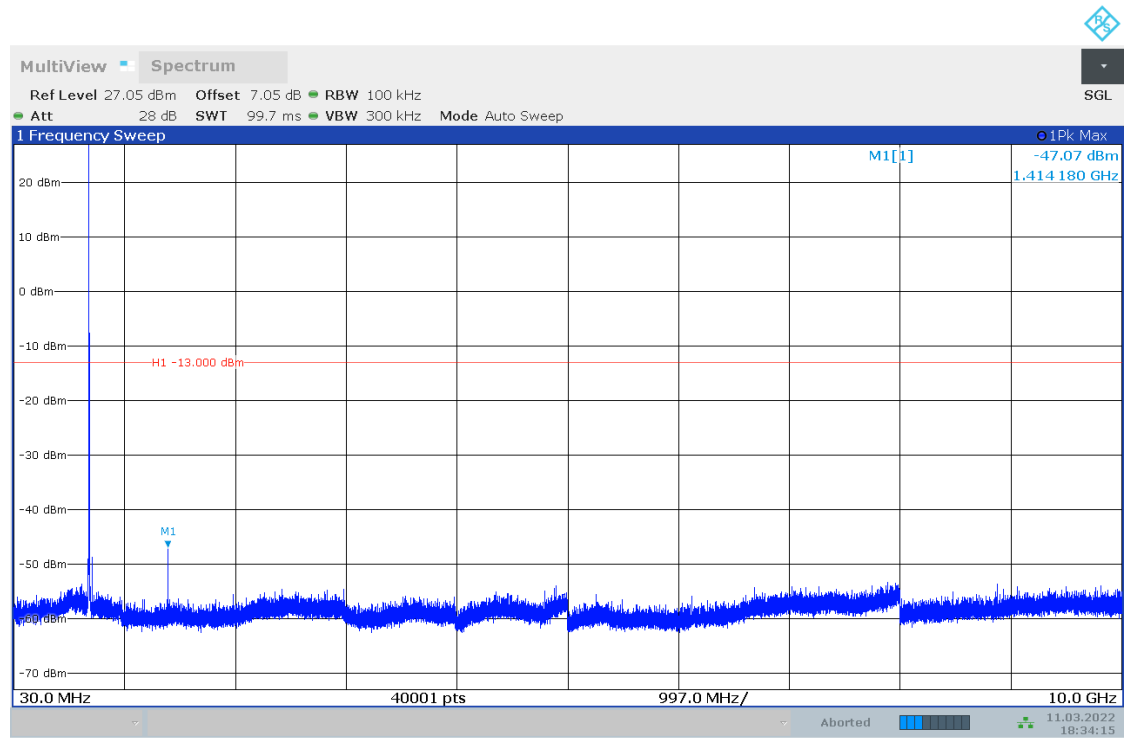
6.2.30 TM2_1.4MHZ_LCH_RB6#0





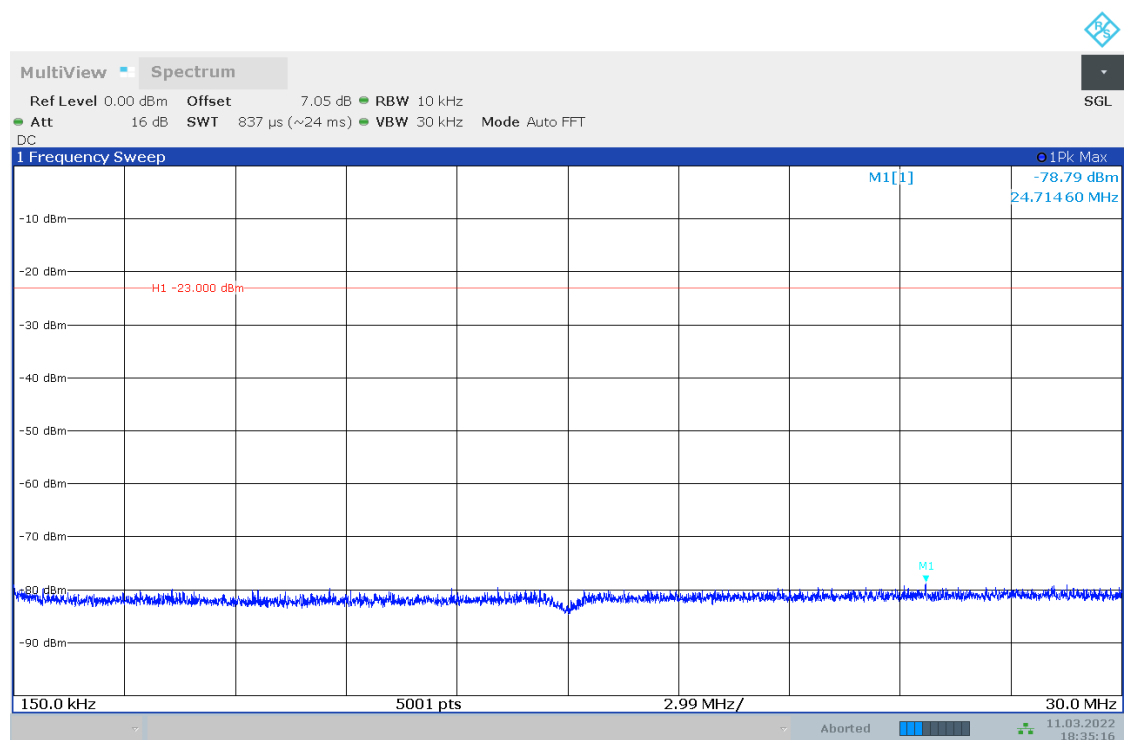
6.2.31 TM2_1.4MHZ_MCH_RB1#0

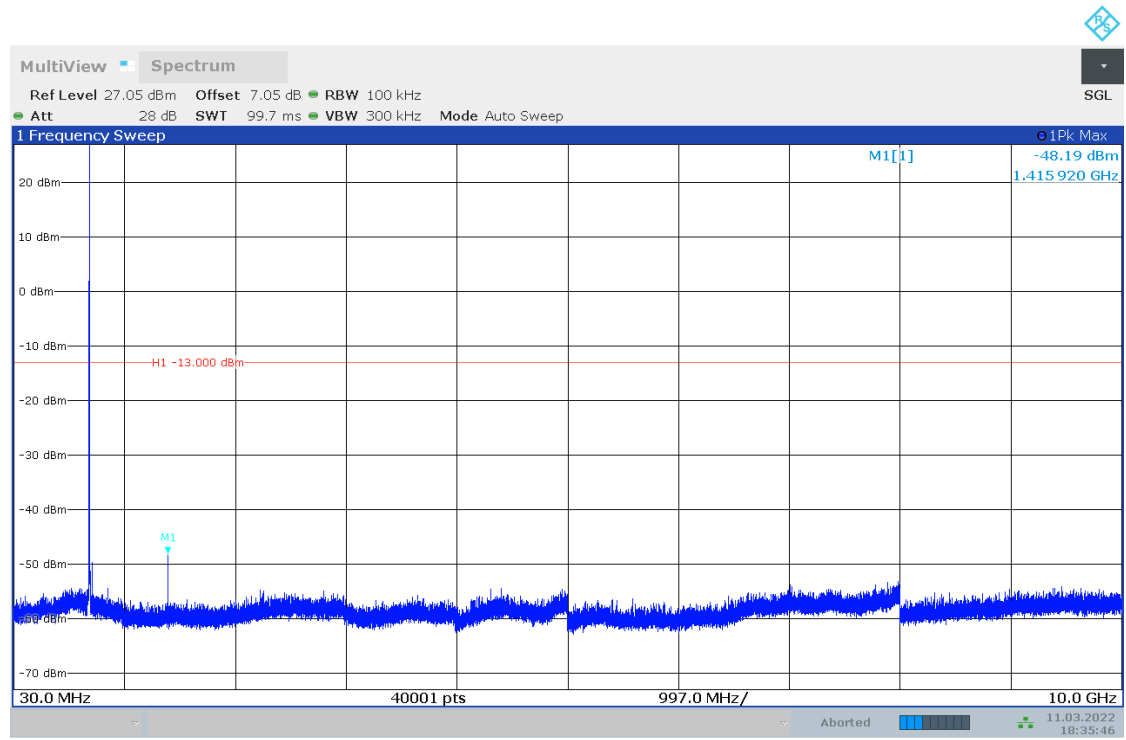




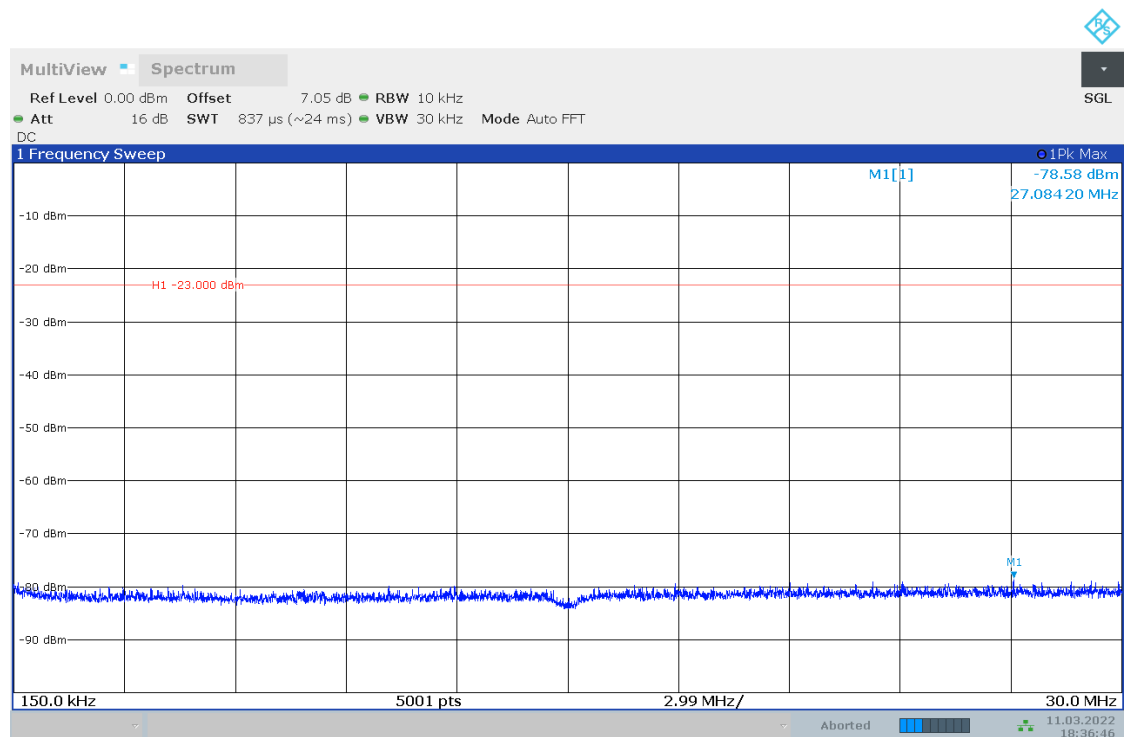
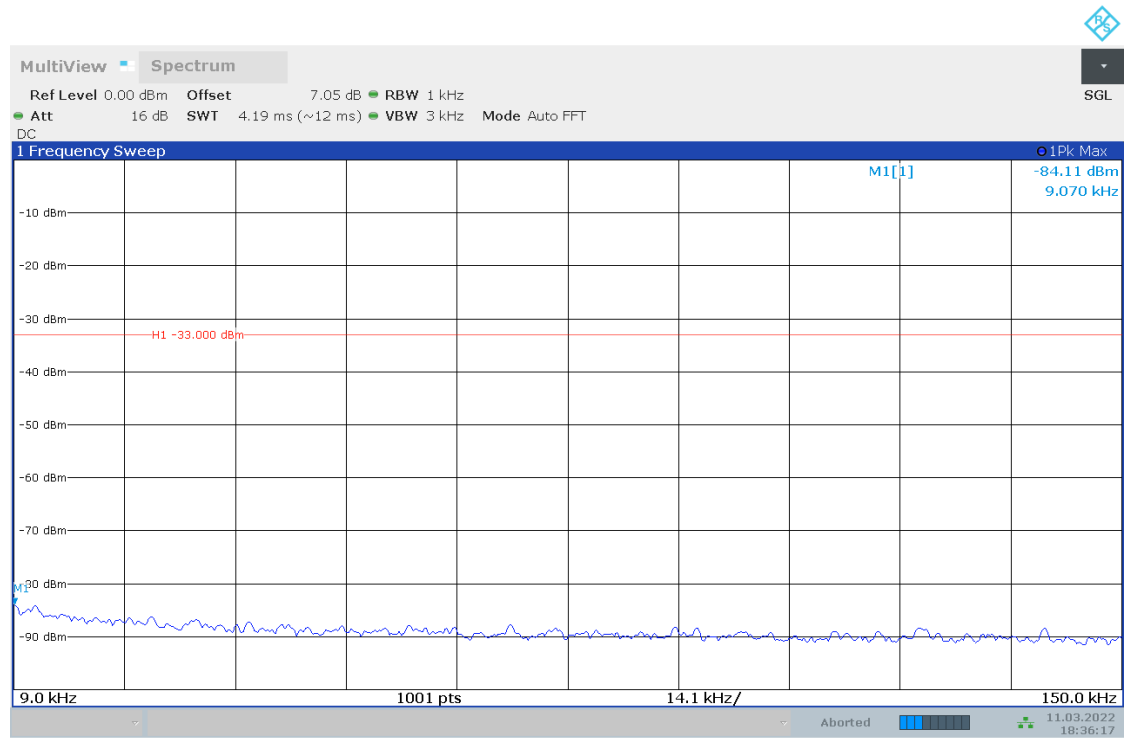
18:34:16 11.03.2022

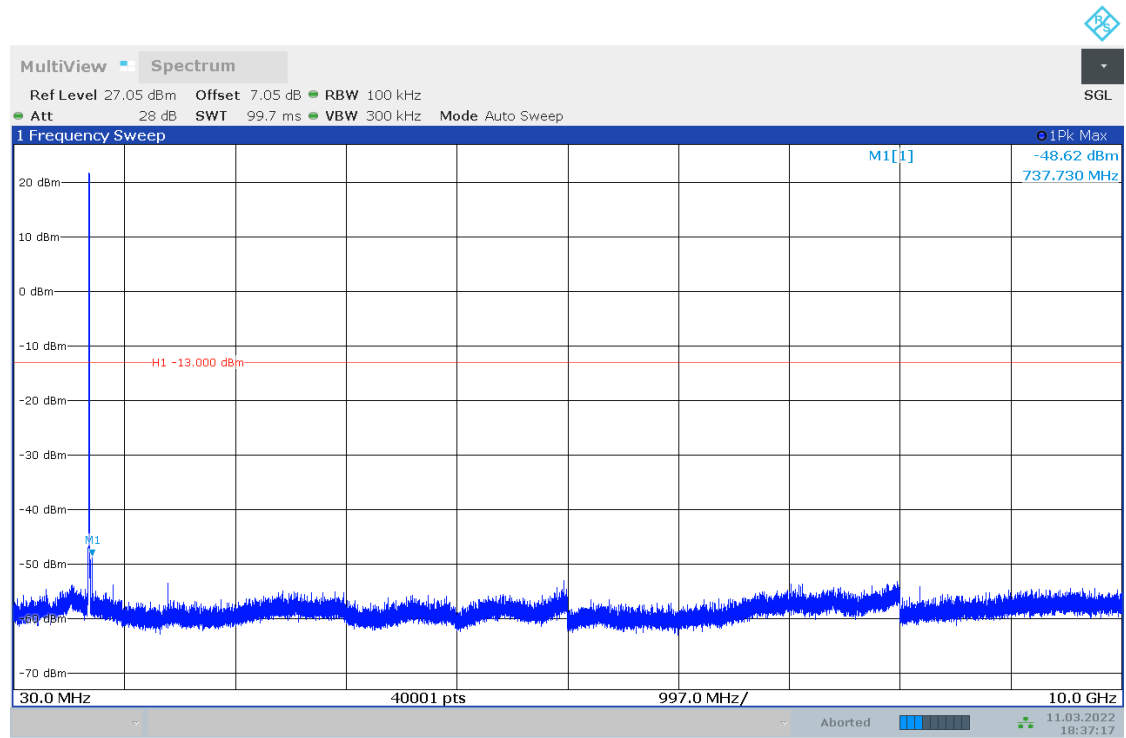
6.2.32 TM2_1.4MHZ_MCH_RB1#5



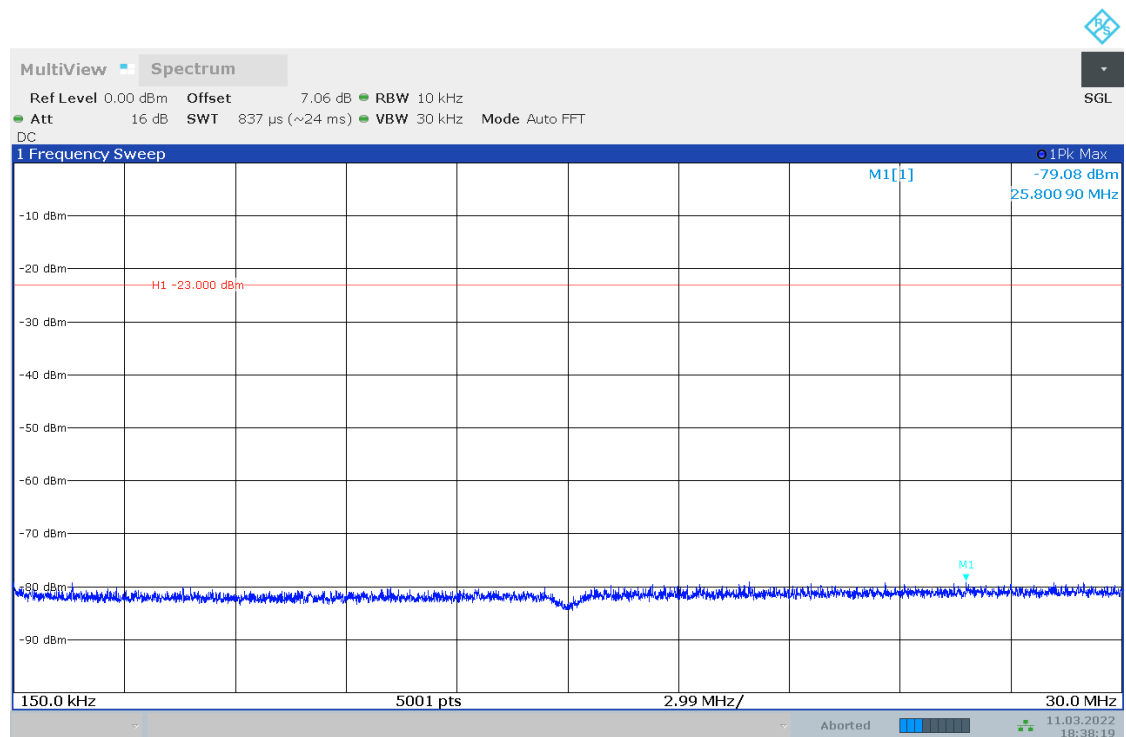
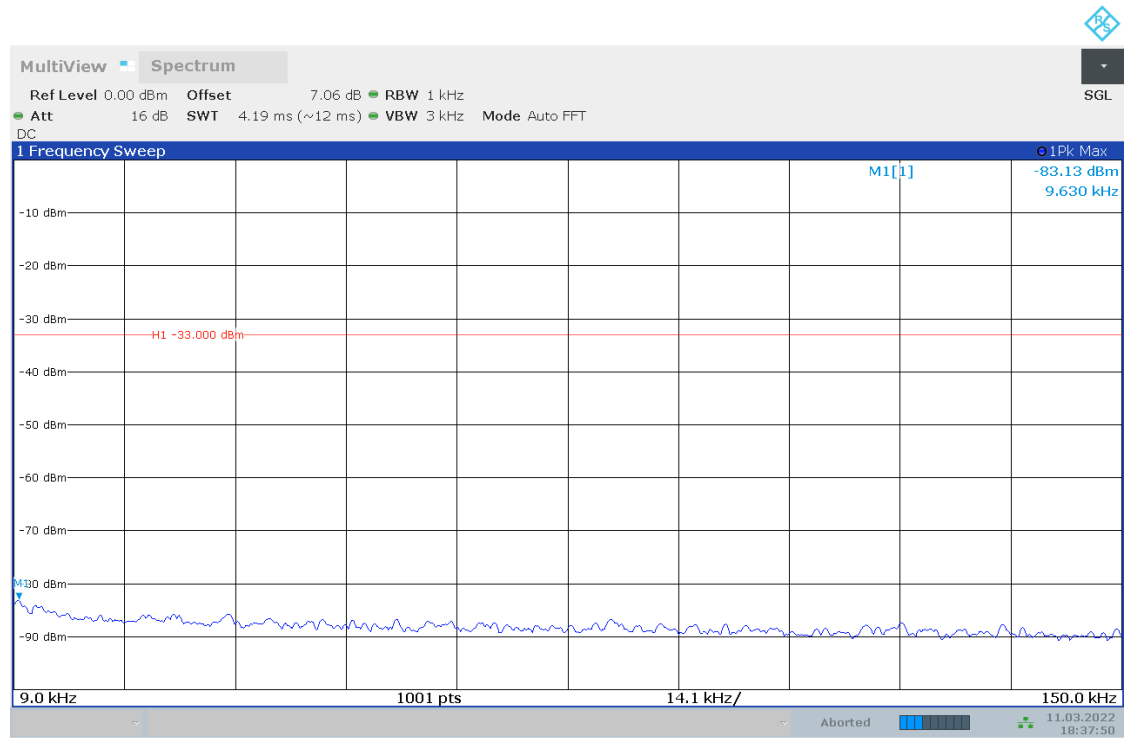


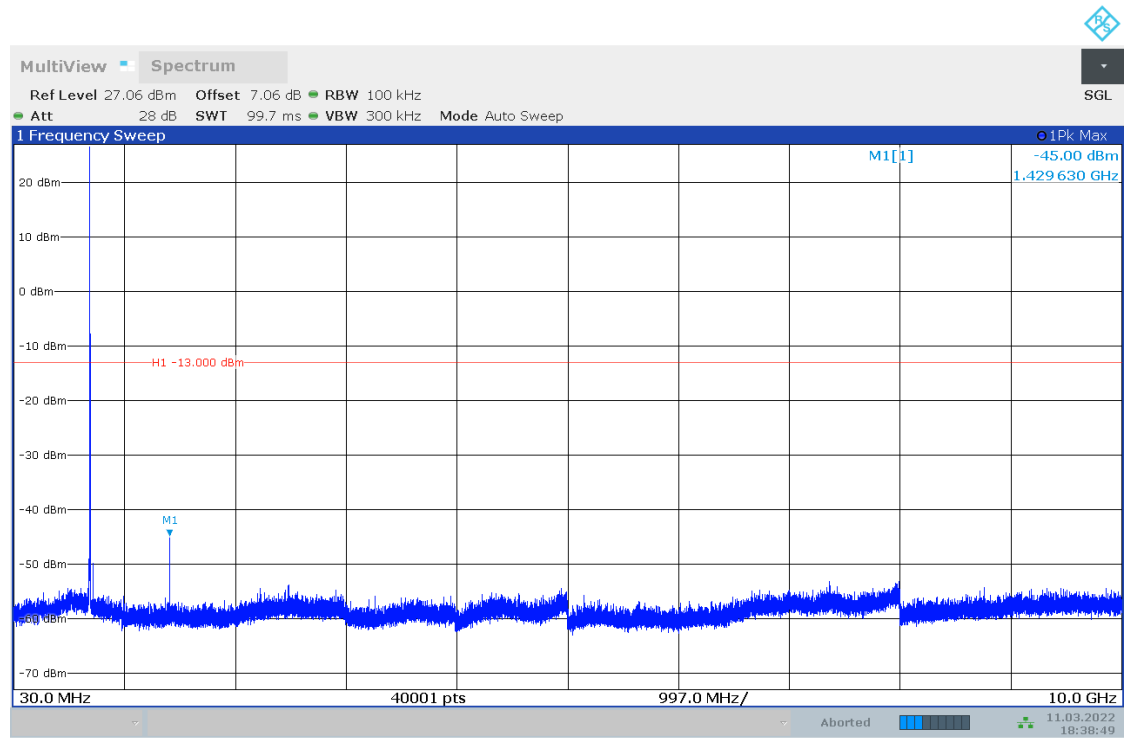
6.2.33 TM2_1.4MHZ_MCH_RB6#0





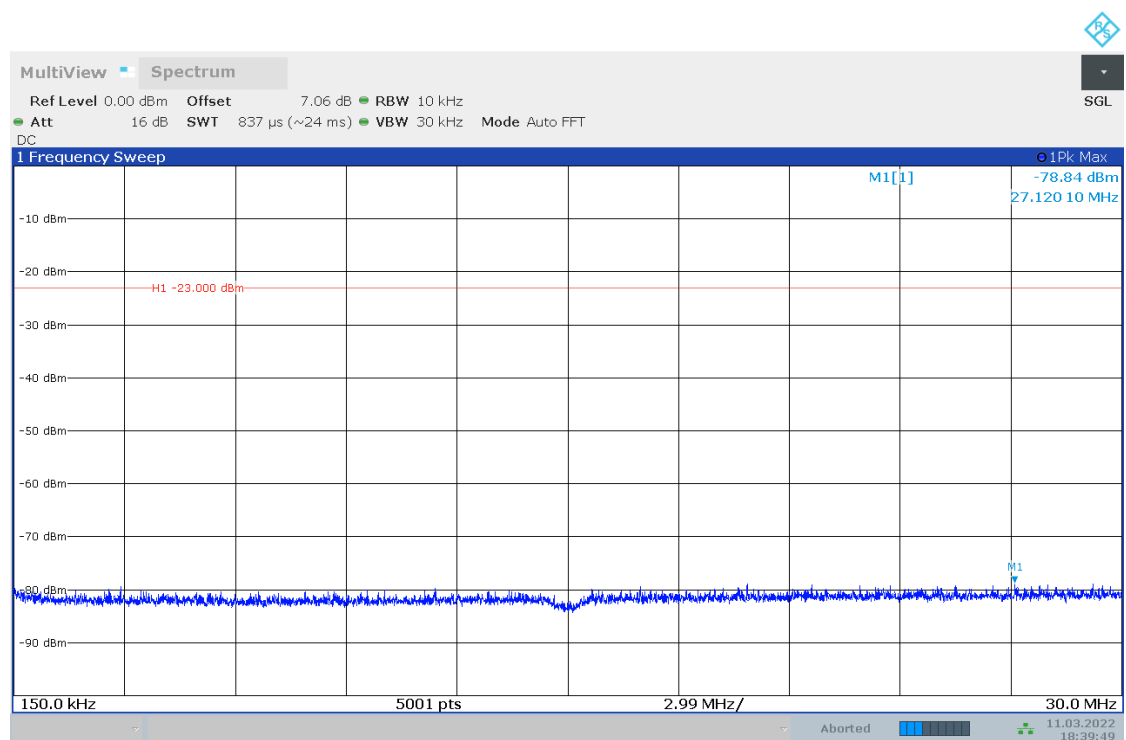
6.2.34 TM2_1.4MHZ_HCH_RB1#0

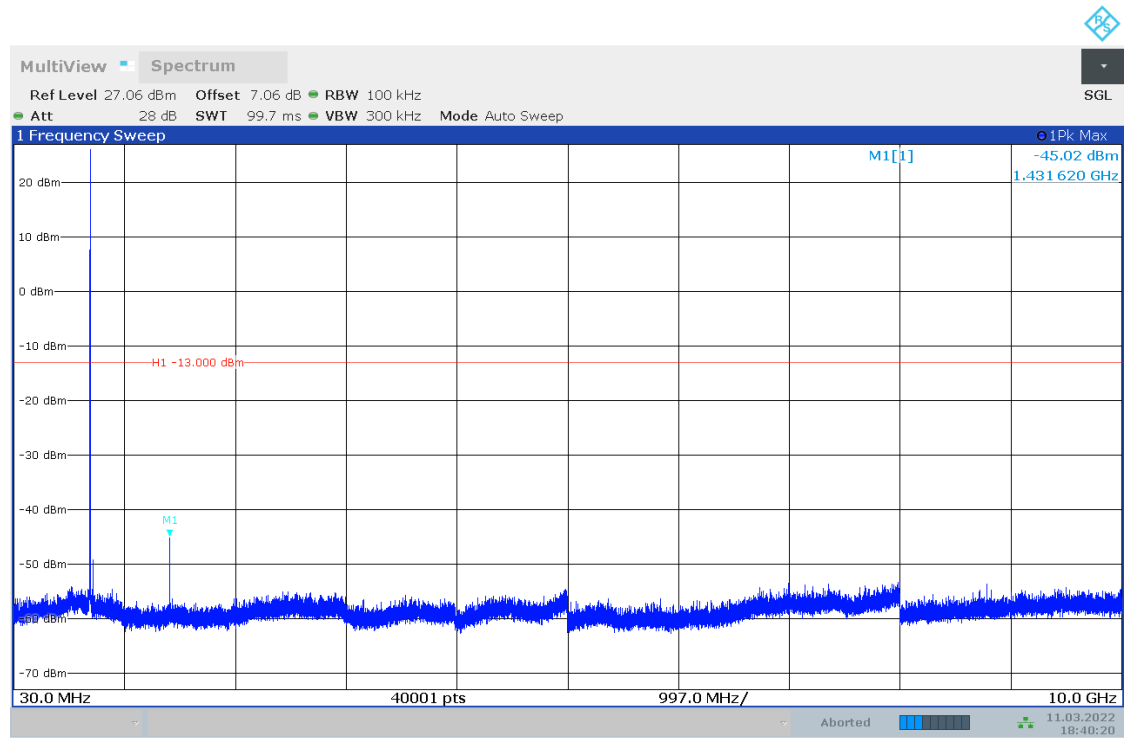




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6.2.35 TM2_1.4MHZ_HCH_RB1#5



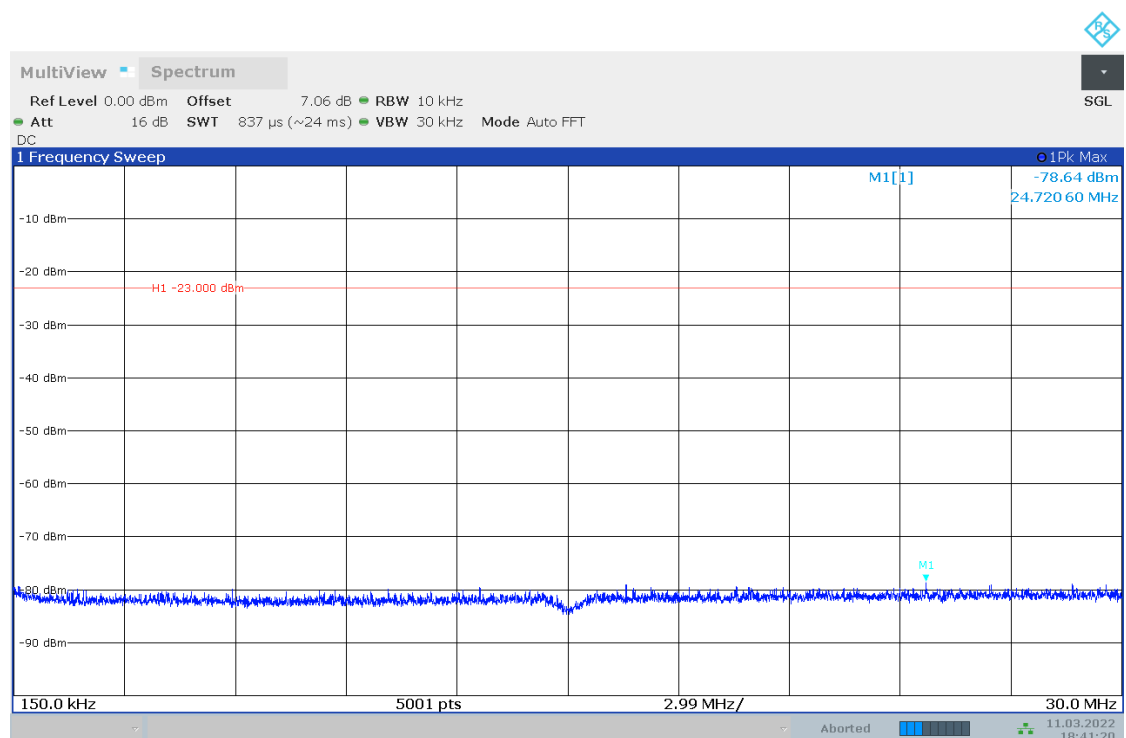


18:40:20 11.03.2022

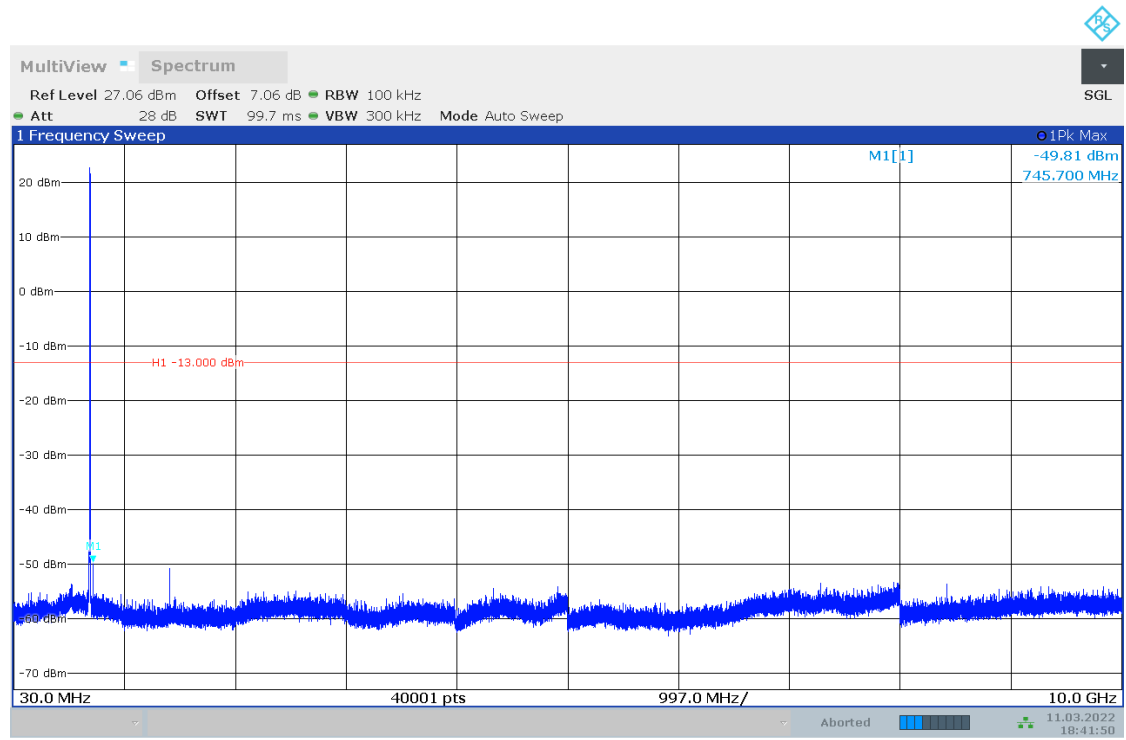
6.2.36 TM2_1.4MHZ_HCH_RB6#0



18:40:50 11.03.2022

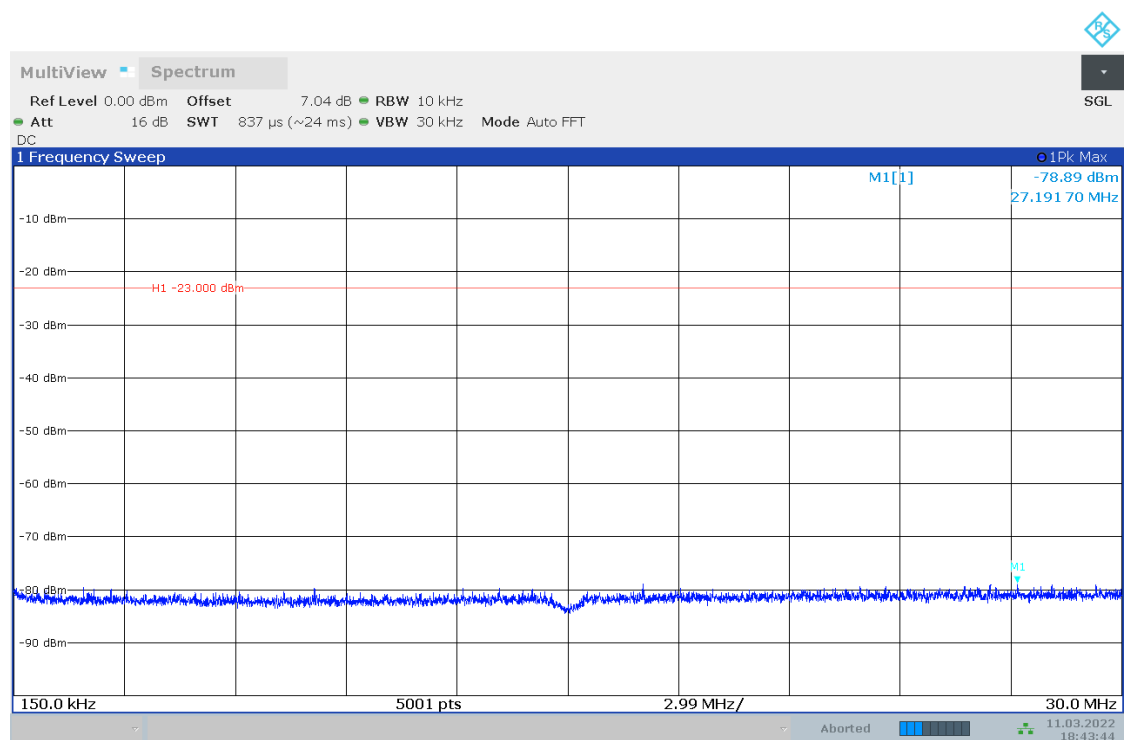


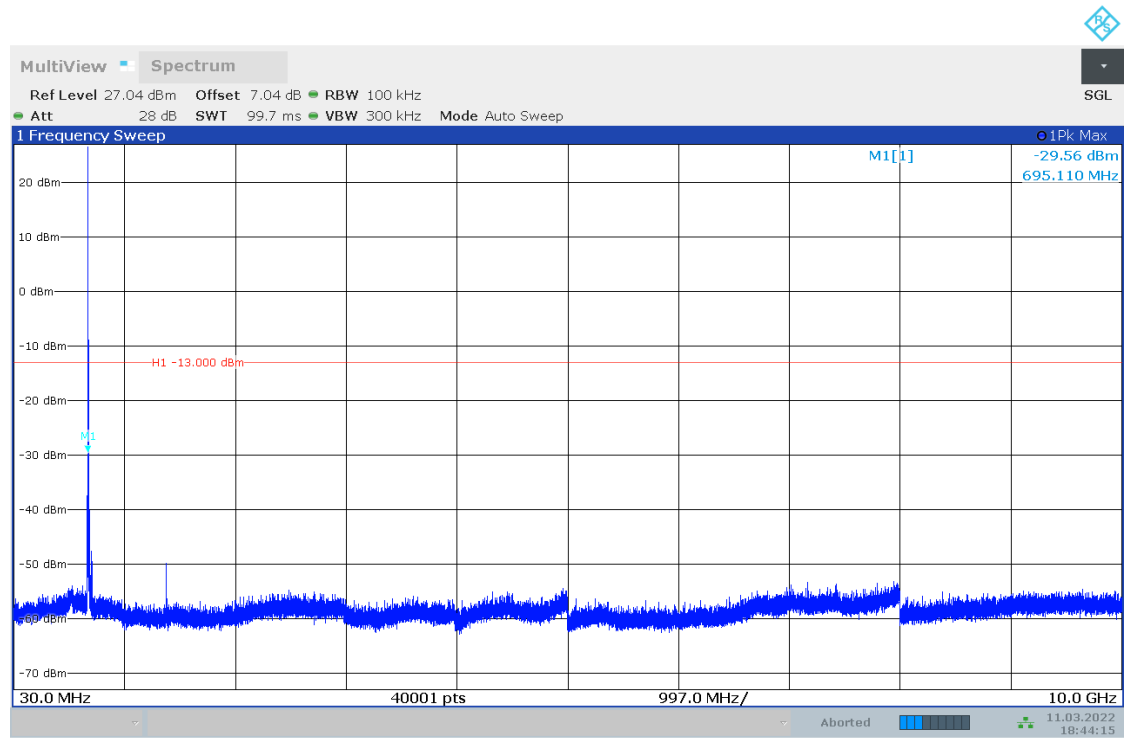
18:41:20 11.03.2022



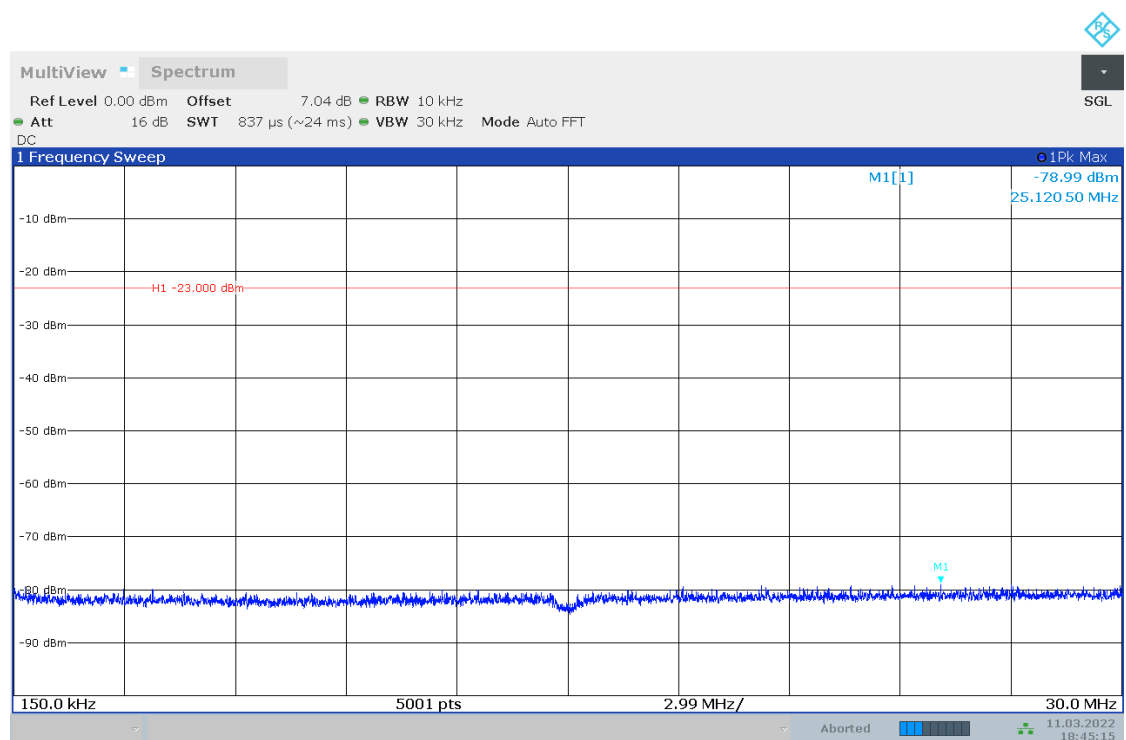
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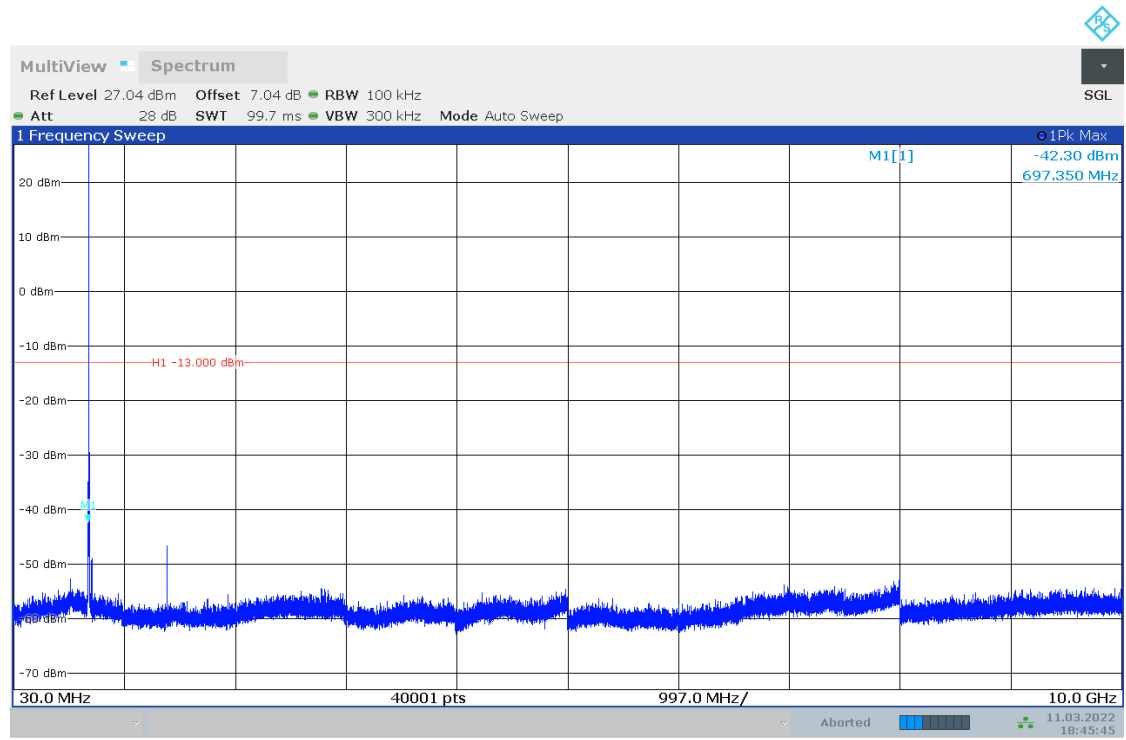
6.2.37 TM2_5MHZ_LCH_RB1#0





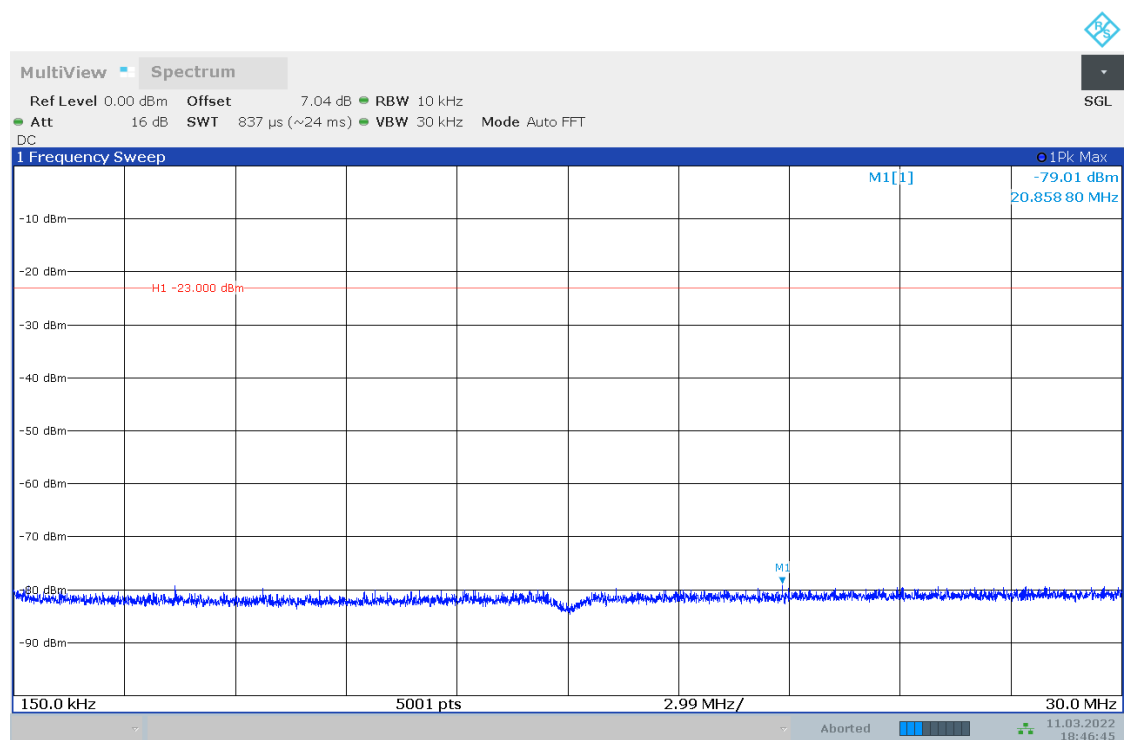
6.2.38 TM2_5MHZ_LCH_RB1#24

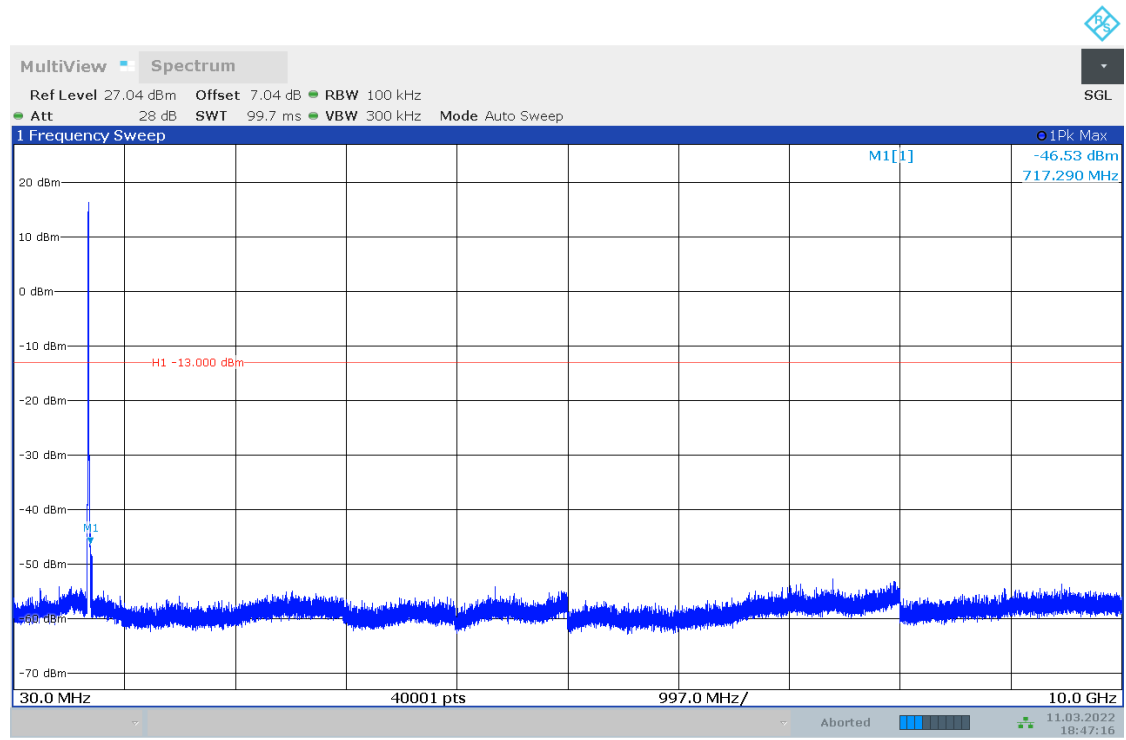




18:45:45 11.03.2022

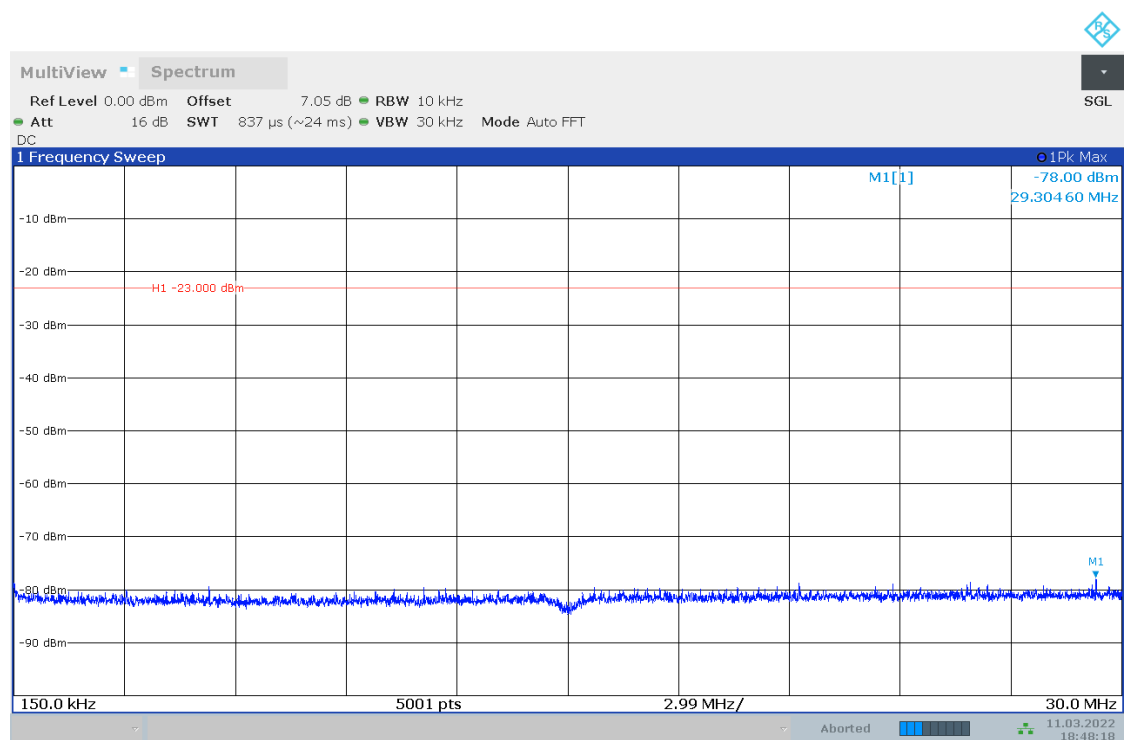
6.2.39 TM2_5MHZ_LCH_RB25#0

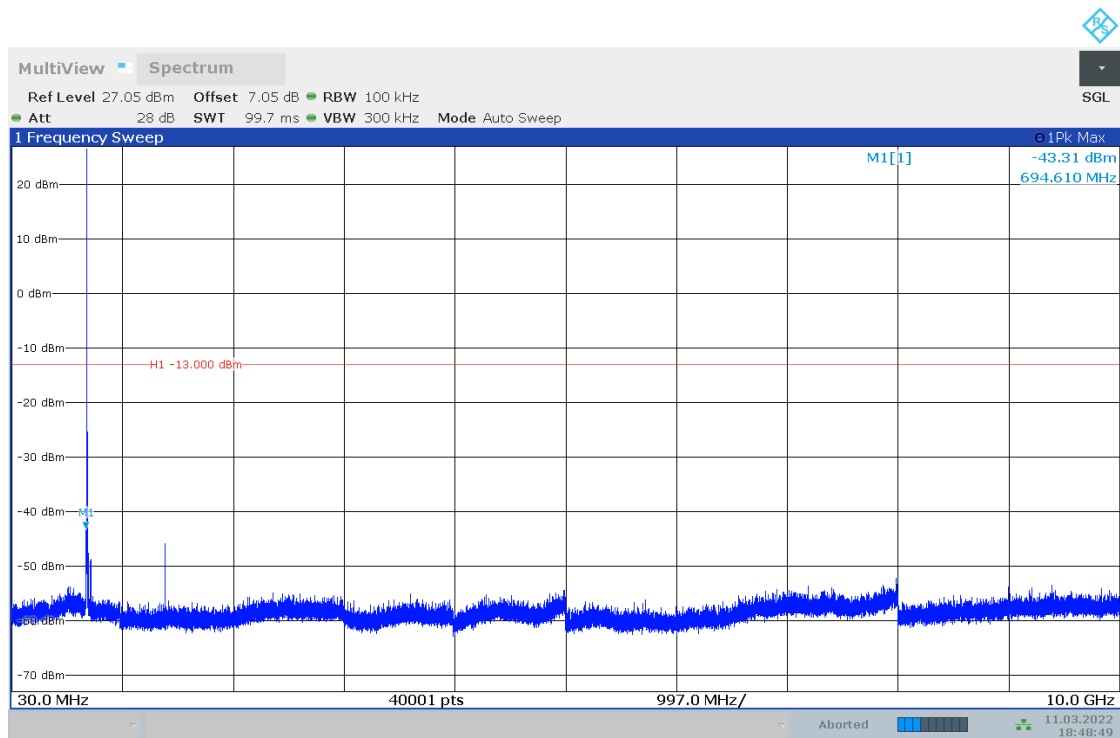




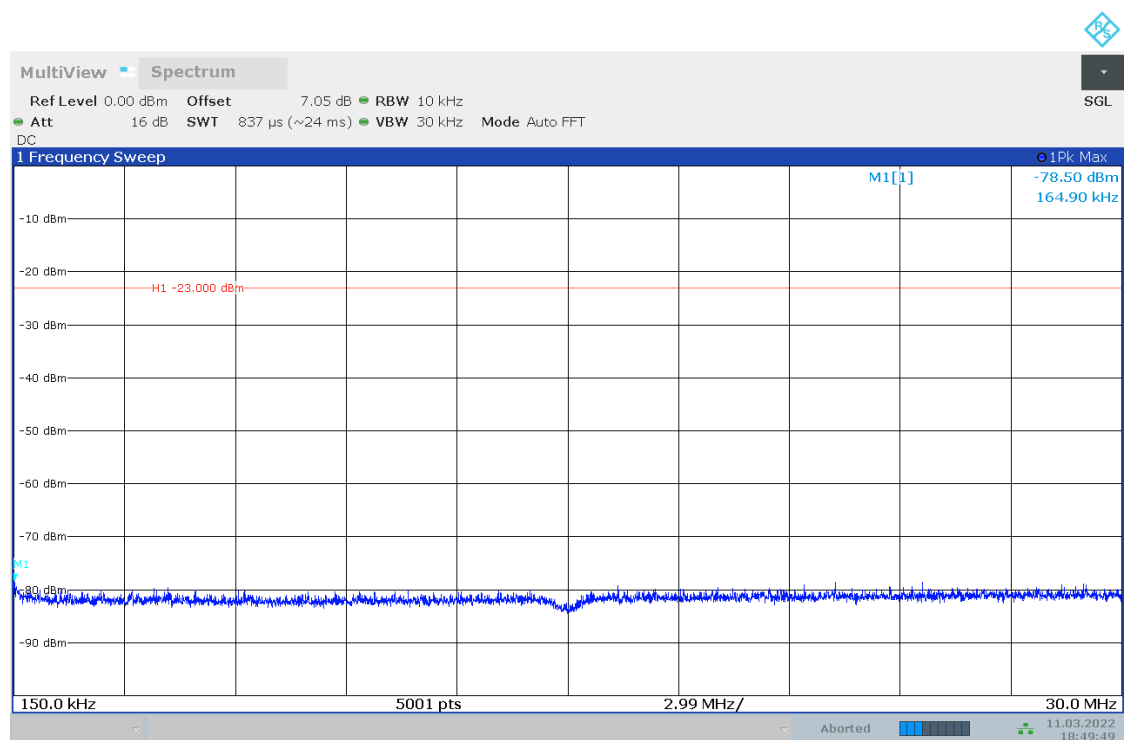
18:47:16 11.03.2022

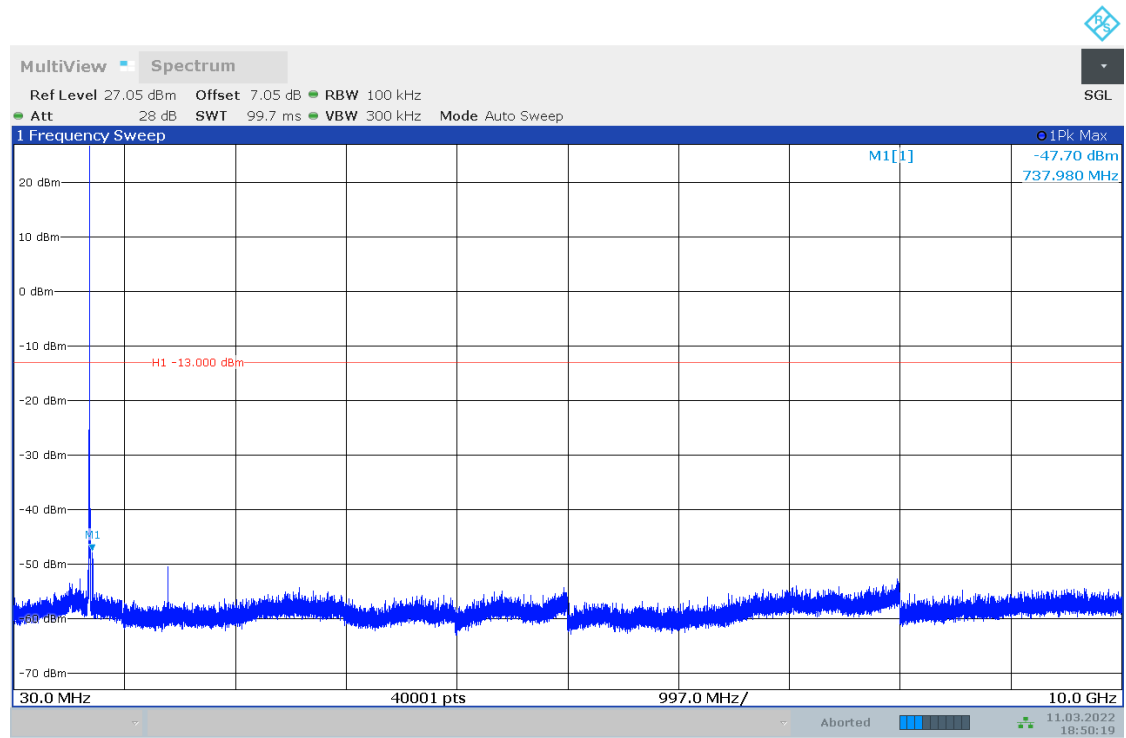
6.2.40 TM2_5MHZ_MCH_RB1#0





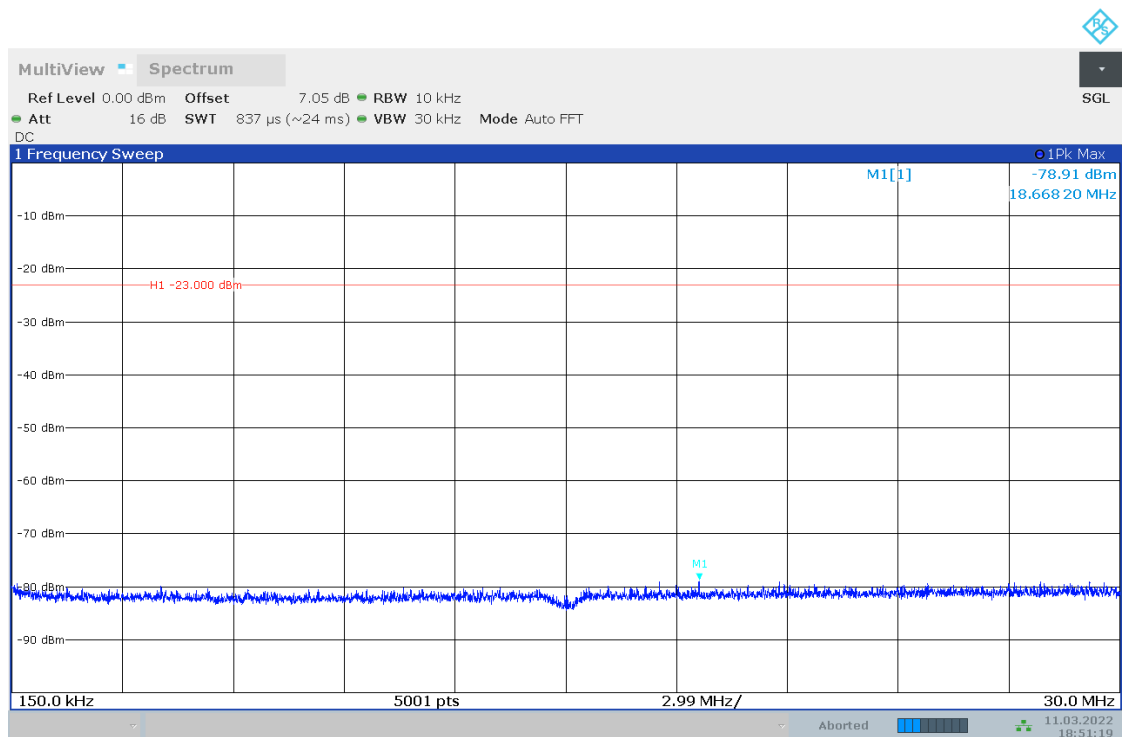
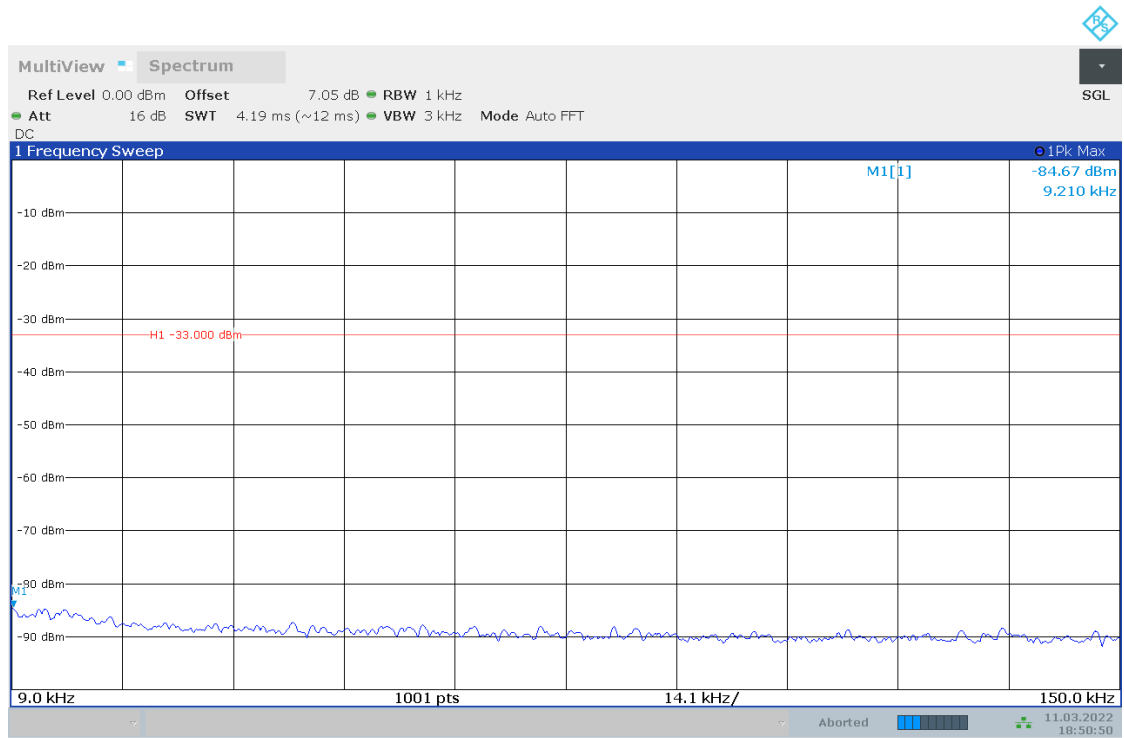
6.2.41 TM2_5MHZ_MCH_RB1#24

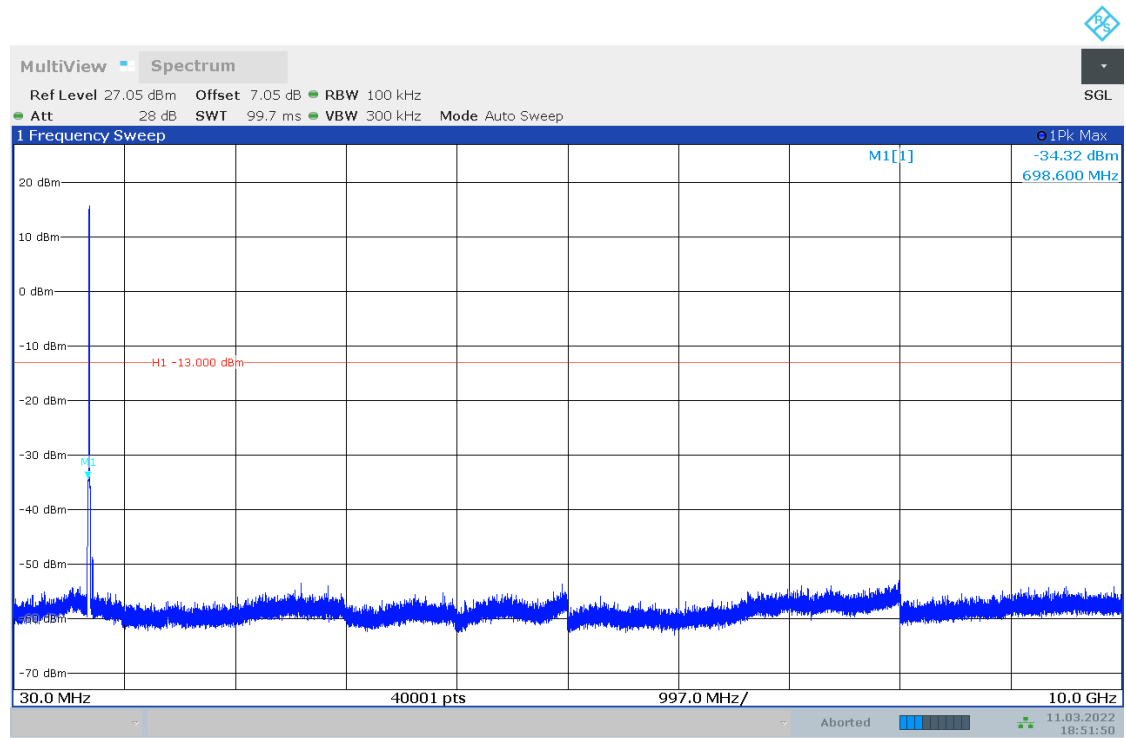




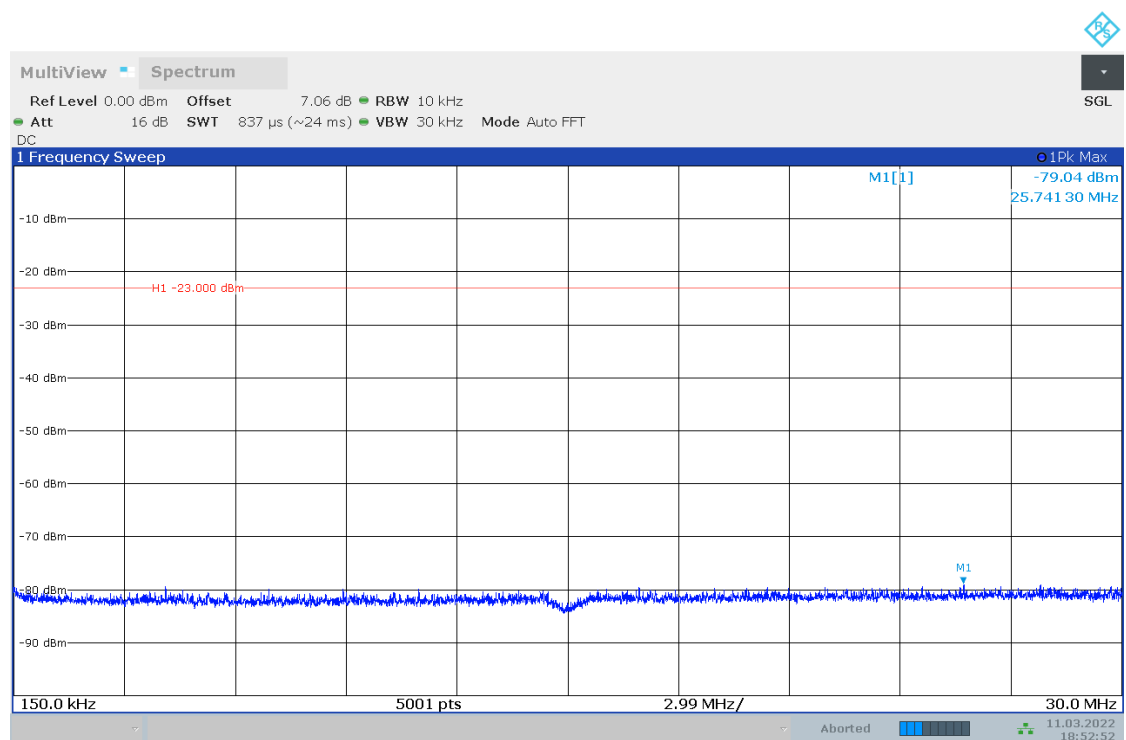
18:50:19 11.03.2022

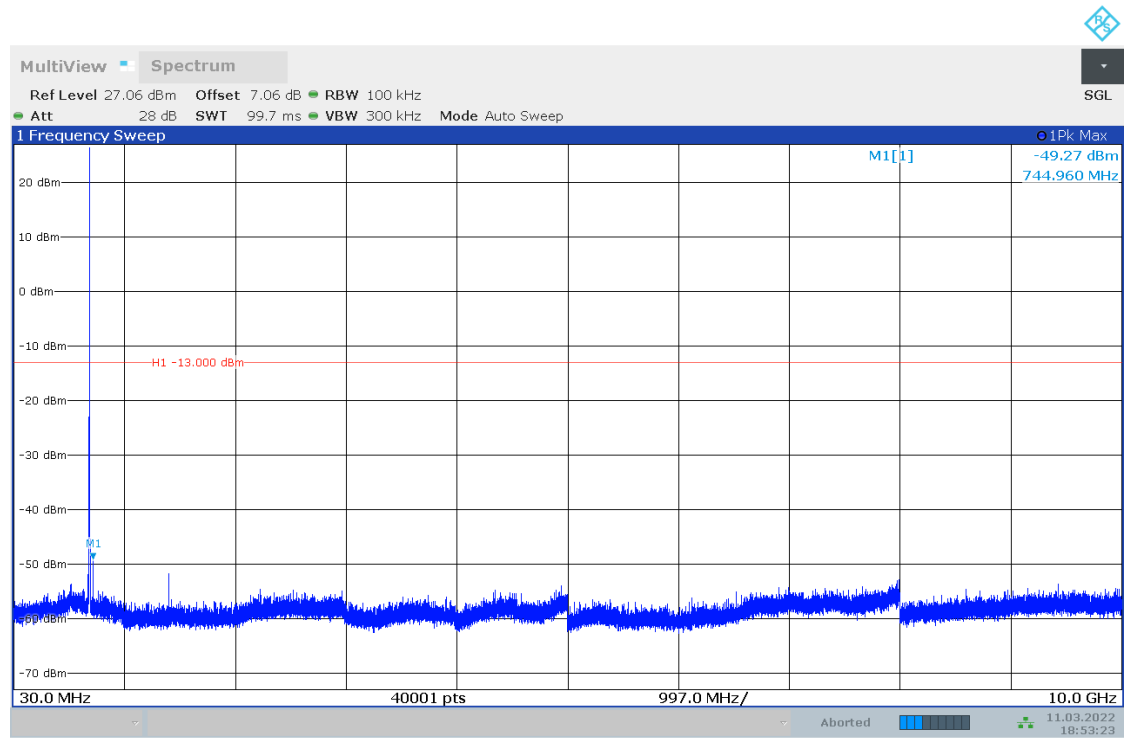
6.2.42 TM2_5MHZ_MCH_RB25#0





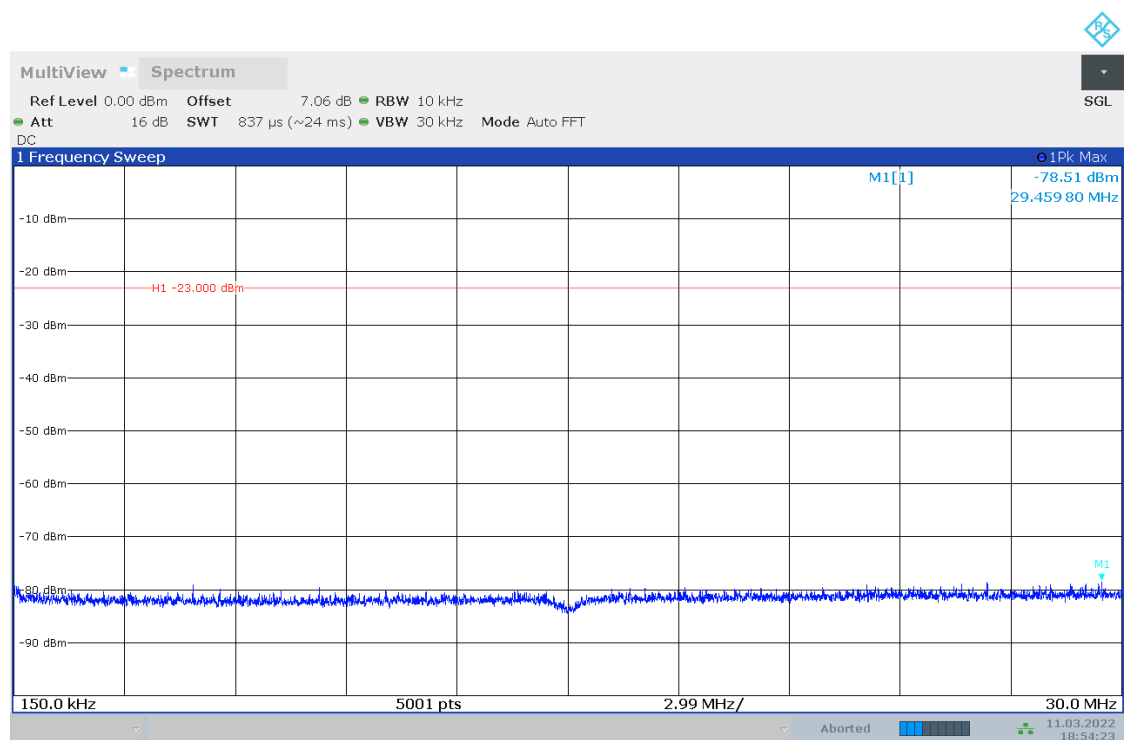
6.2.43 TM2_5MHZ_HCH_RB1#0

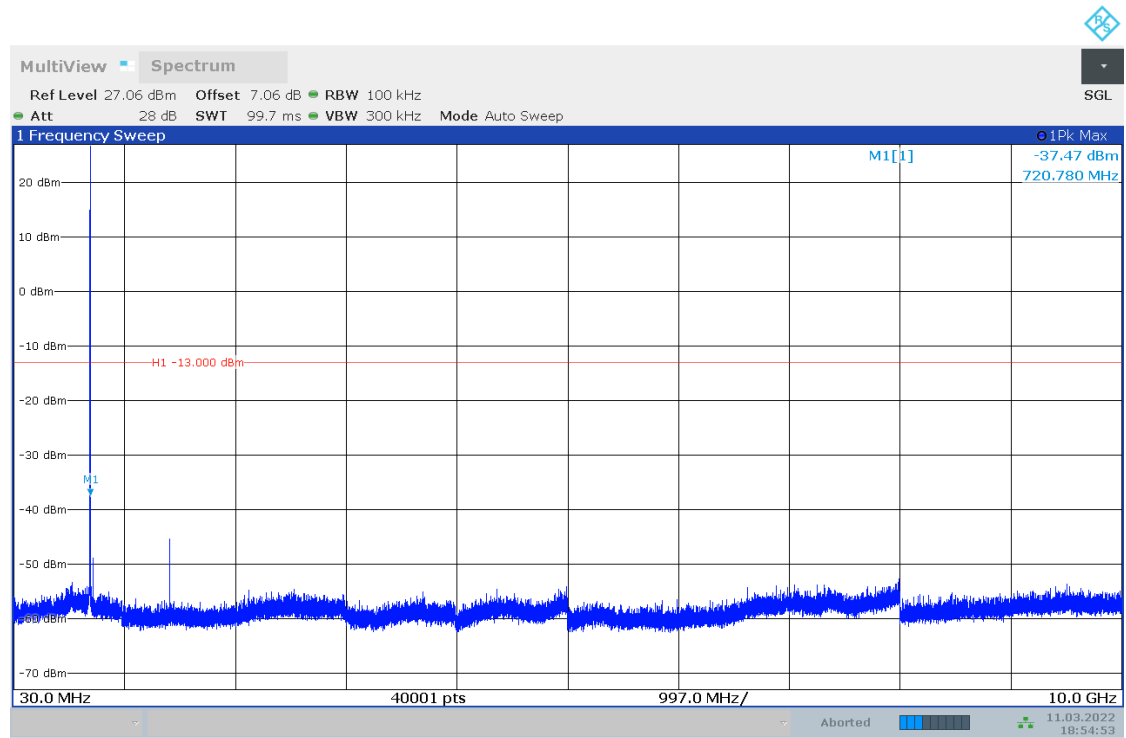




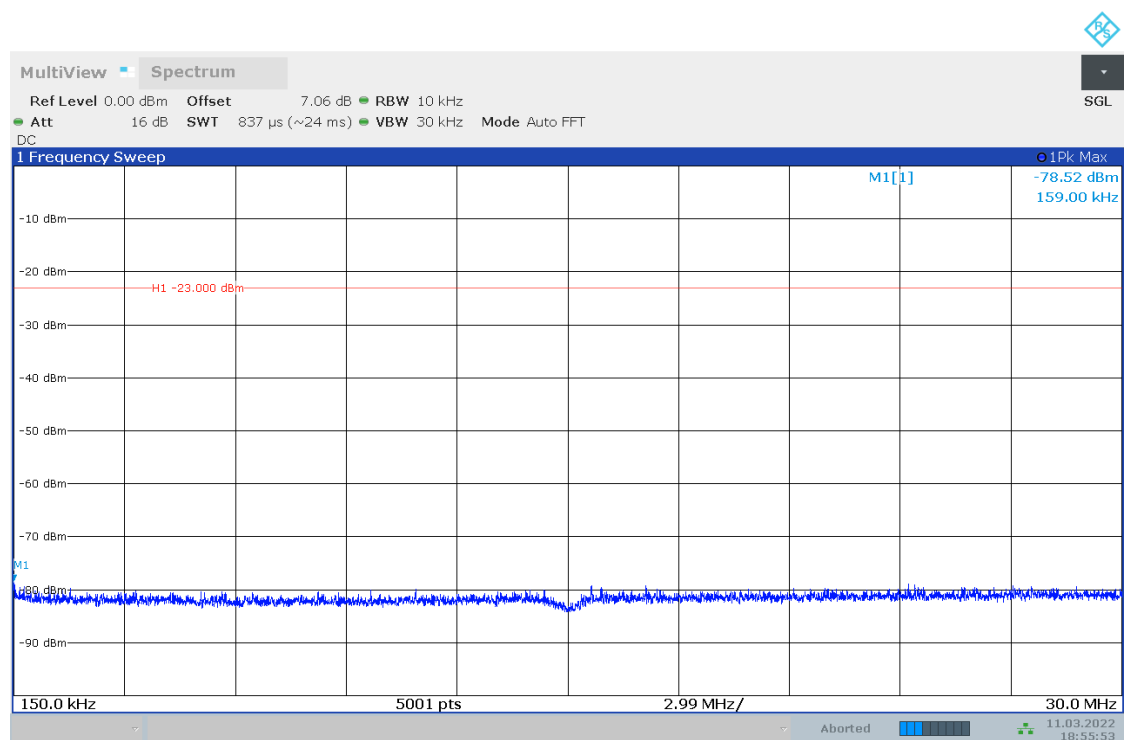
18:53:23 11.03.2022

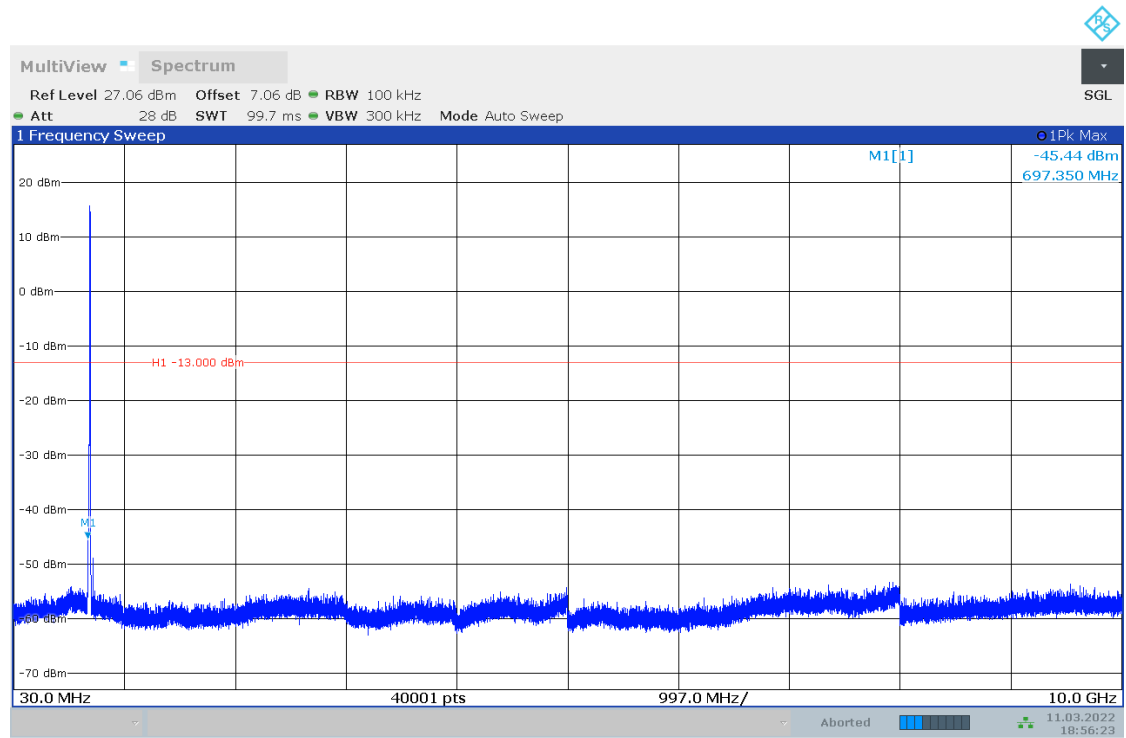
6.2.44 TM2_5MHZ_HCH_RB1#24





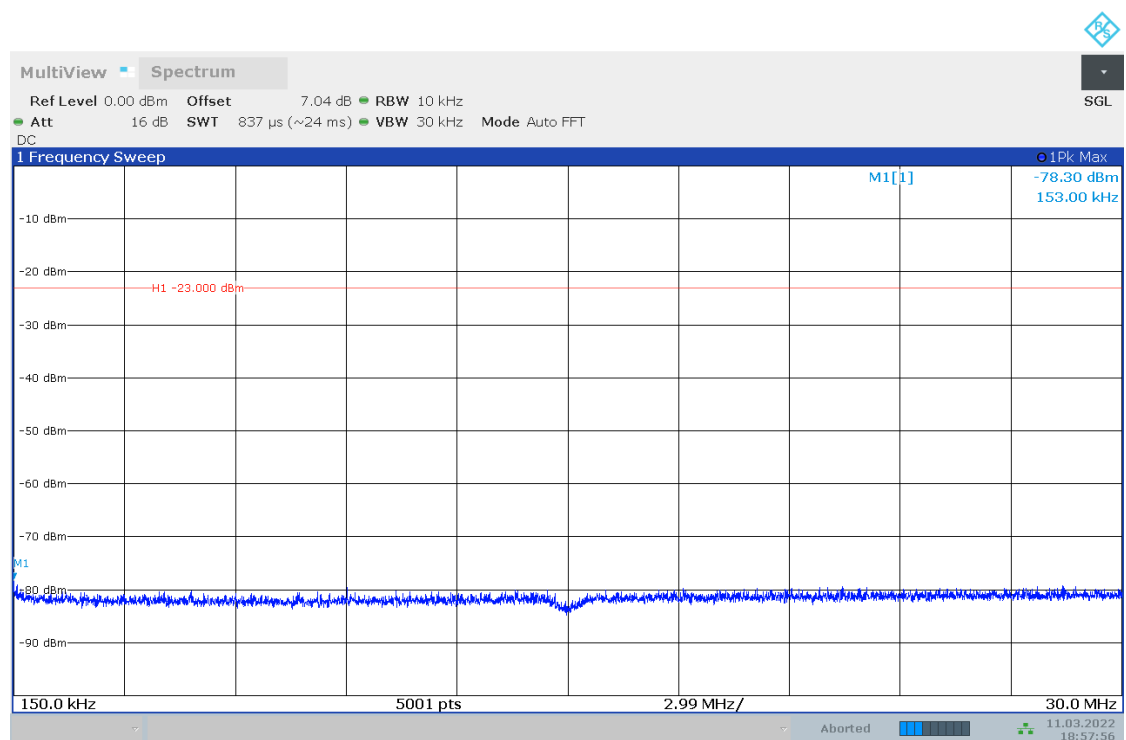
6.2.45 TM2_5MHZ_HCH_RB25#0

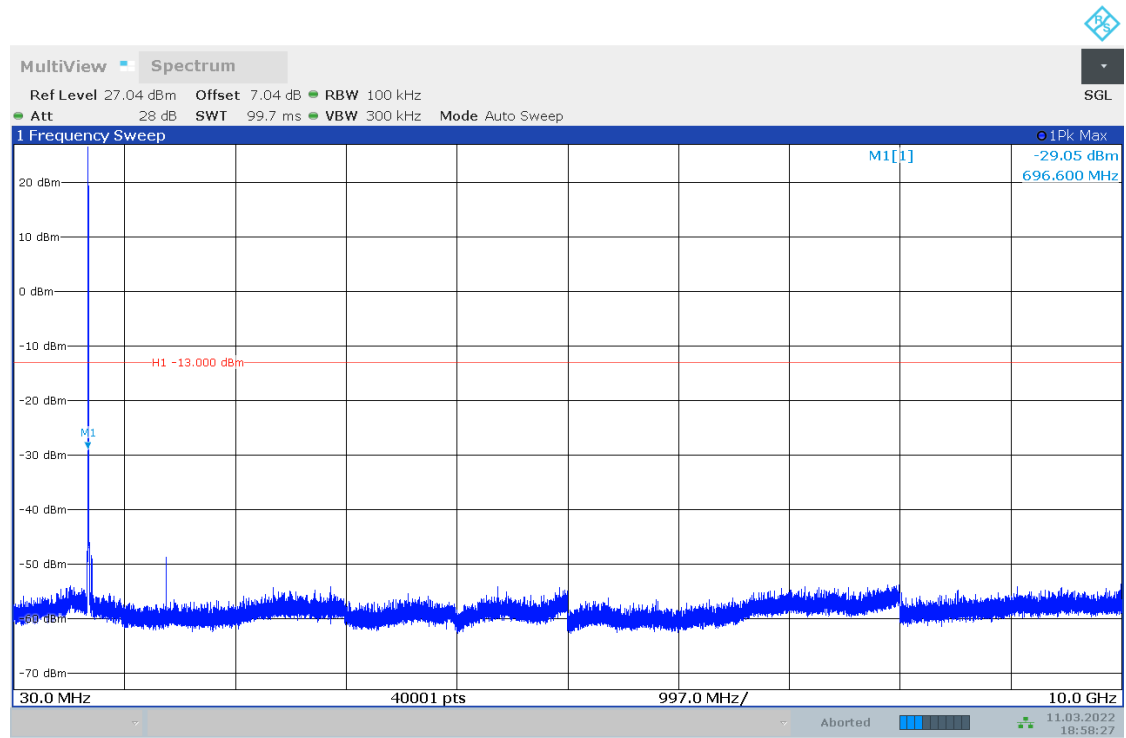




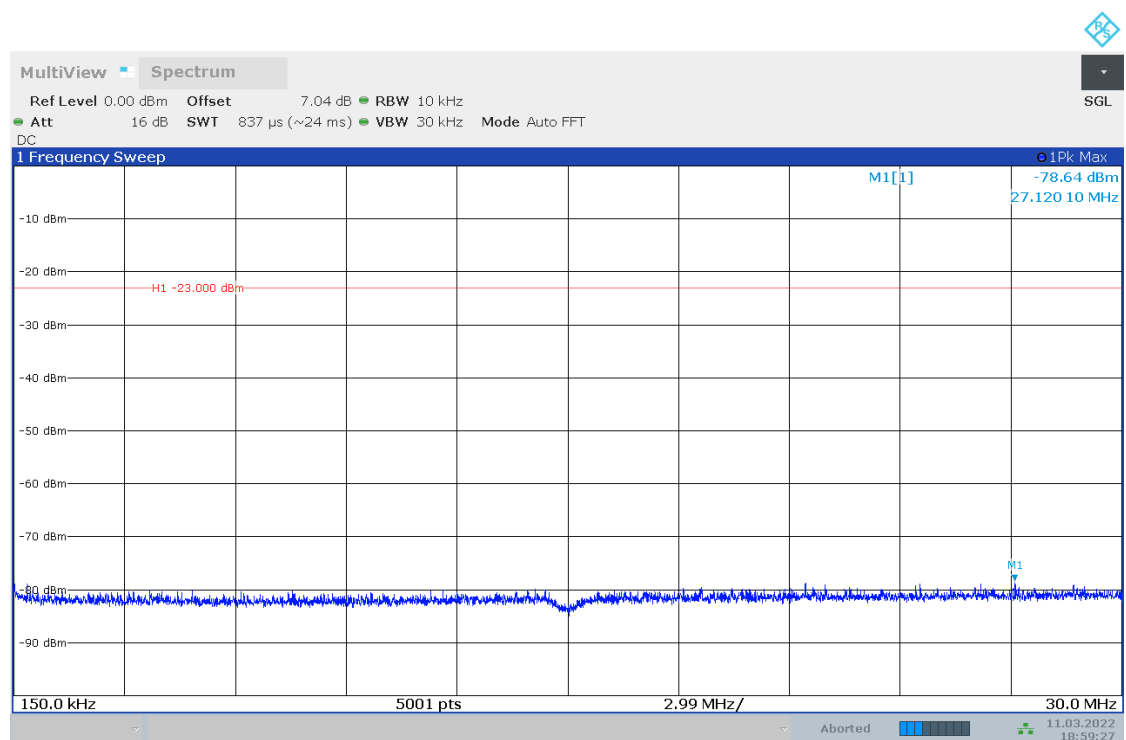
18:56:23 11.03.2022

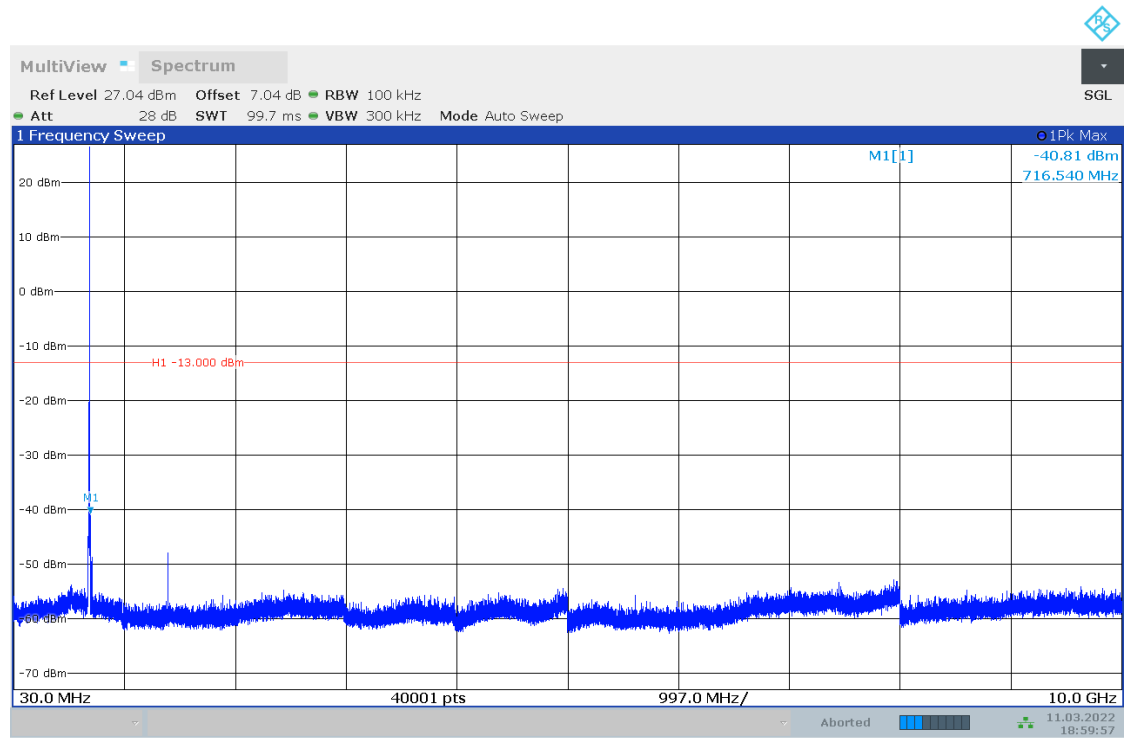
6.2.46 TM2_10MHZ_LCH_RB1#0





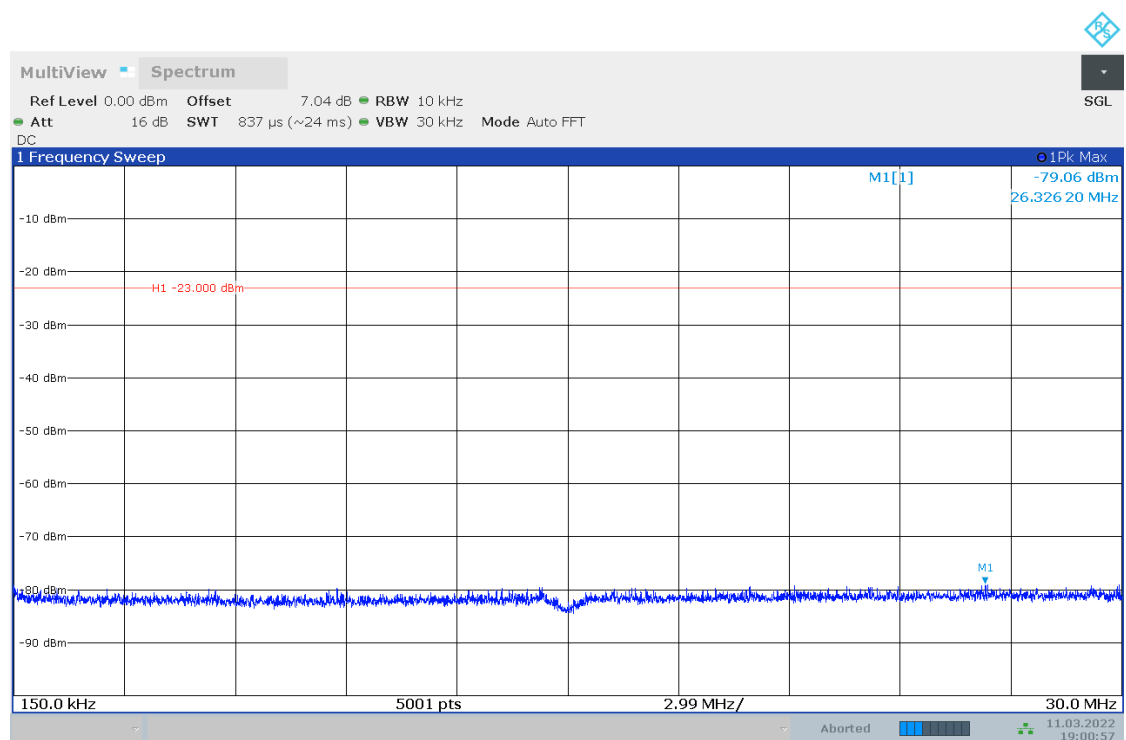
6.2.47 TM2_10MHZ_LCH_RB1#49

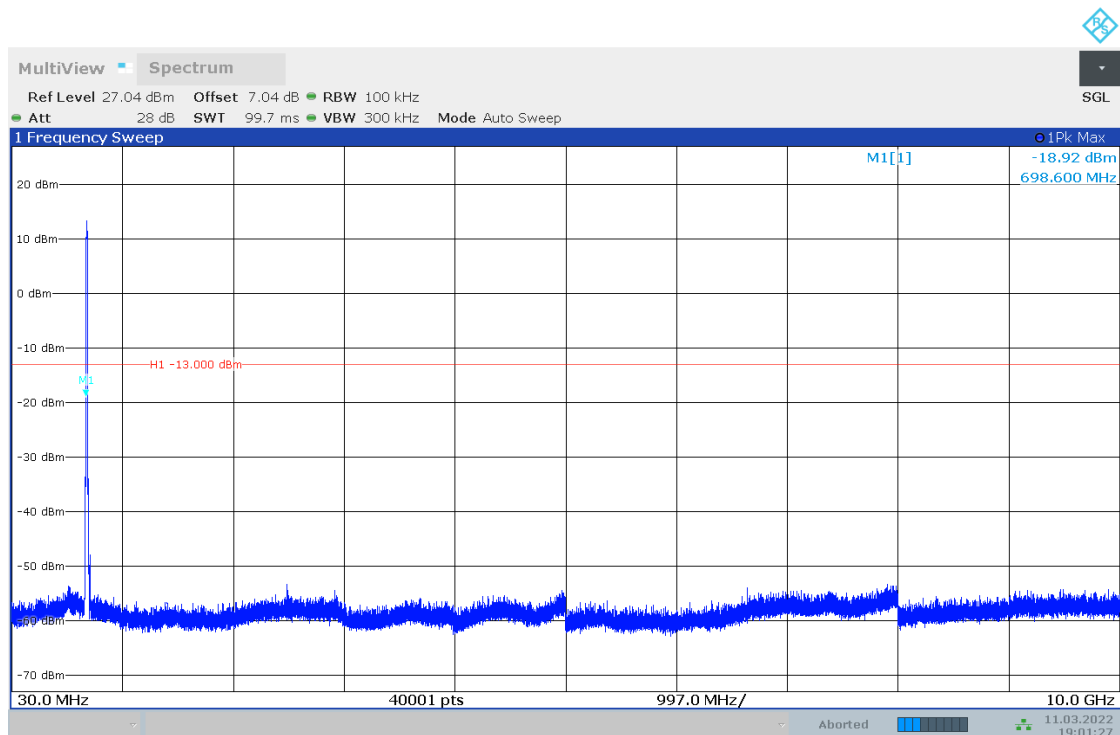




18:59:58 11.03.2022

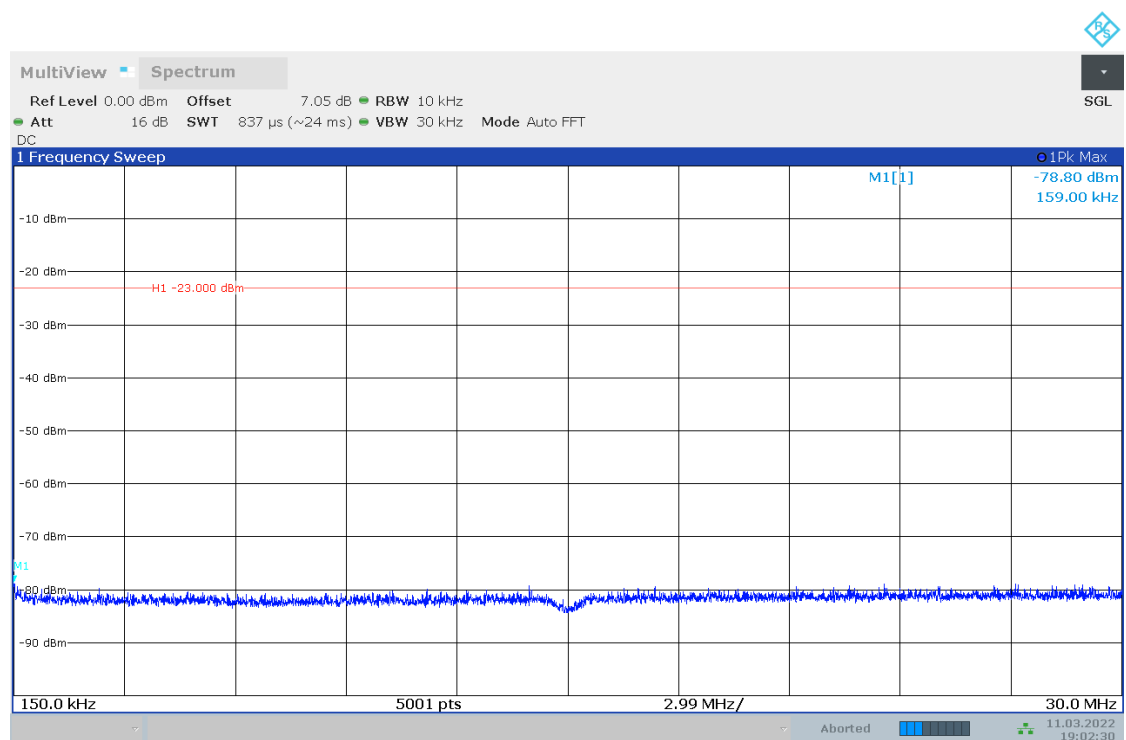
6.2.48 TM2_10MHZ_LCH_RB50#0

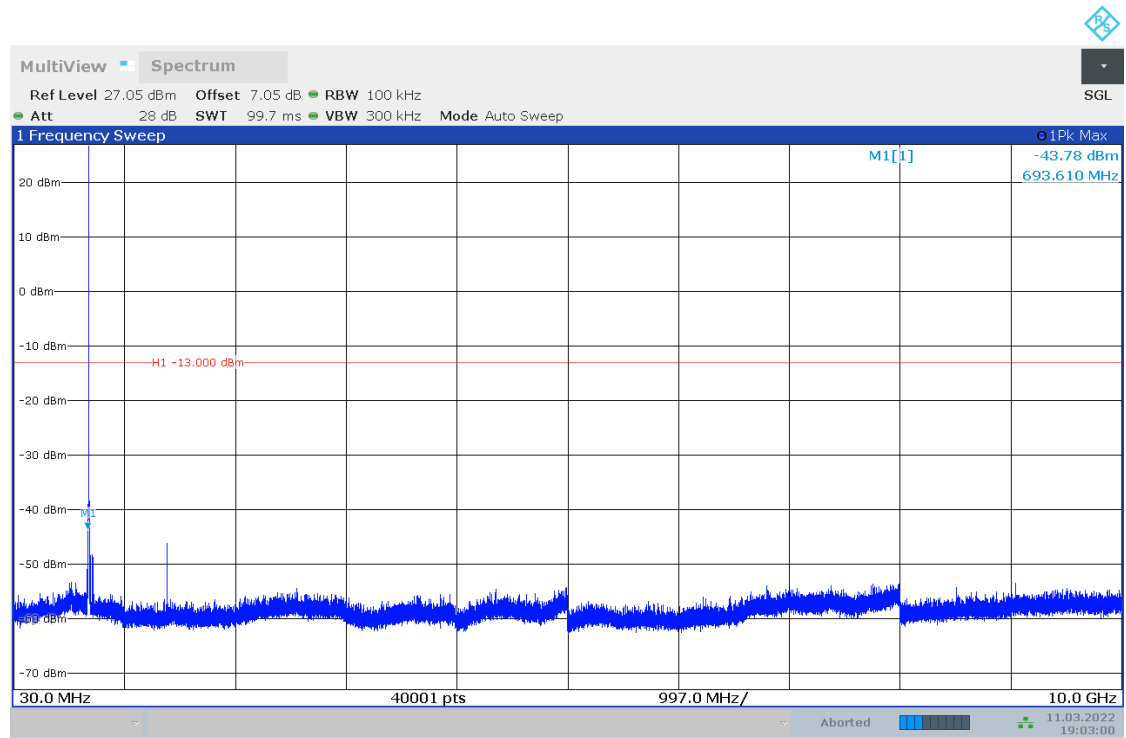




19:01:28 11.03.2022

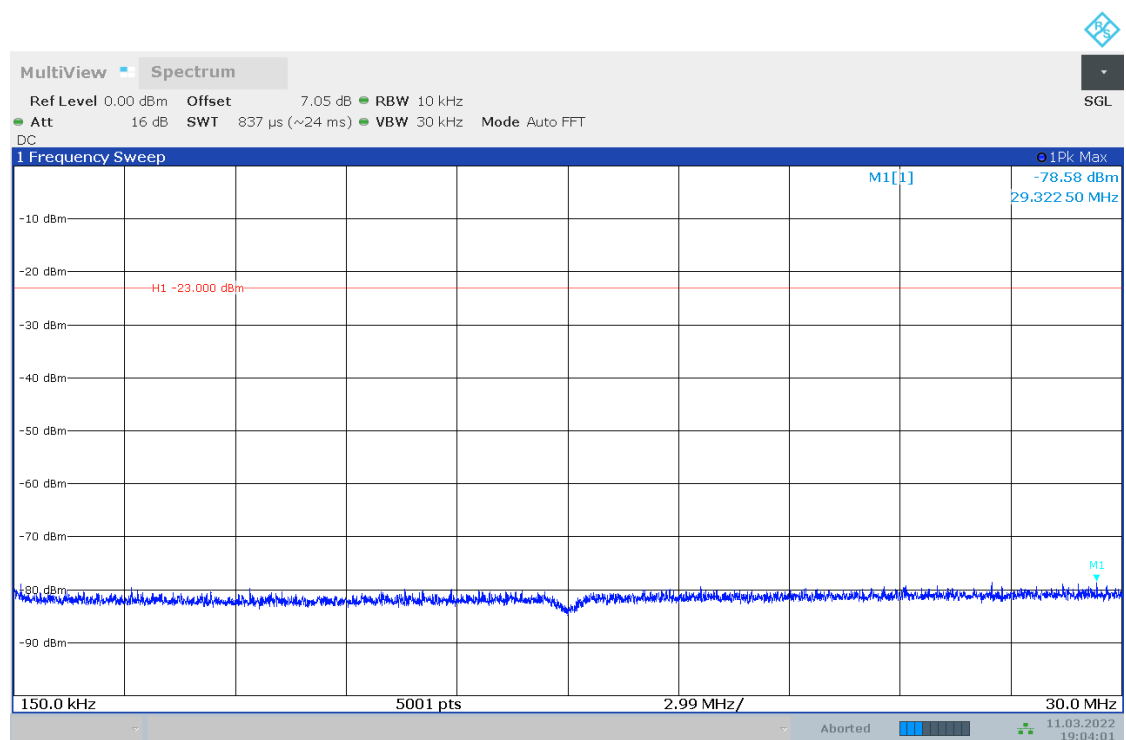
6.2.49 TM2_10MHZ_MCH_RB1#0

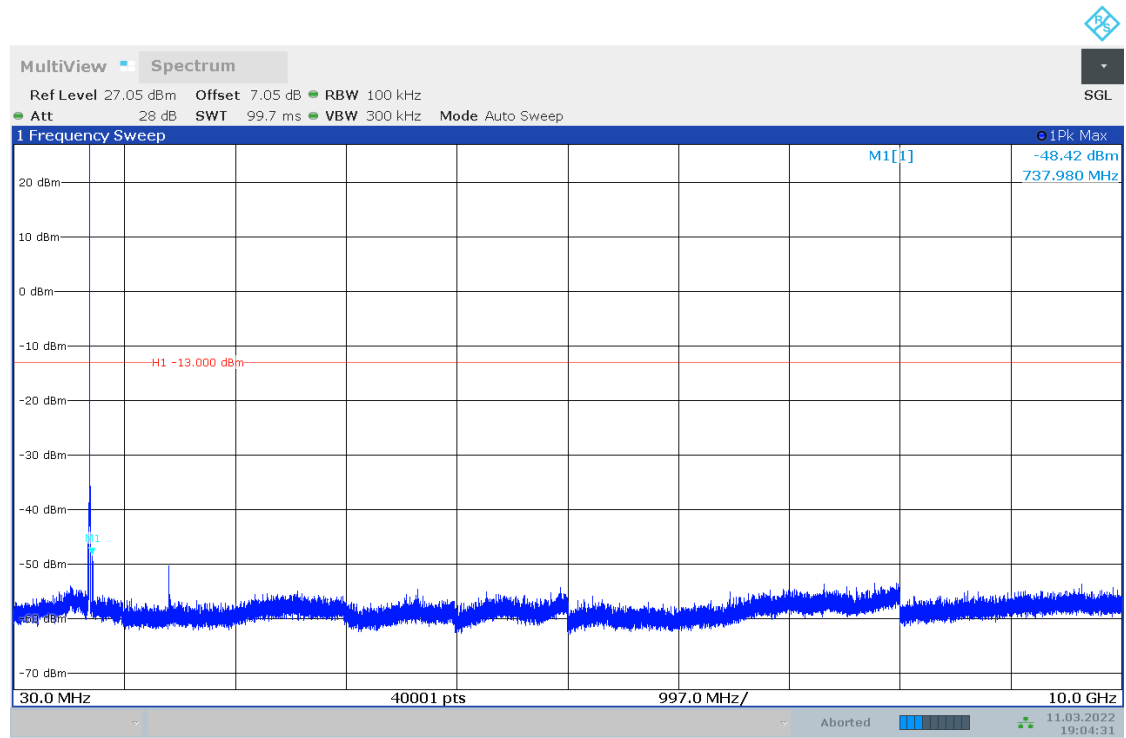




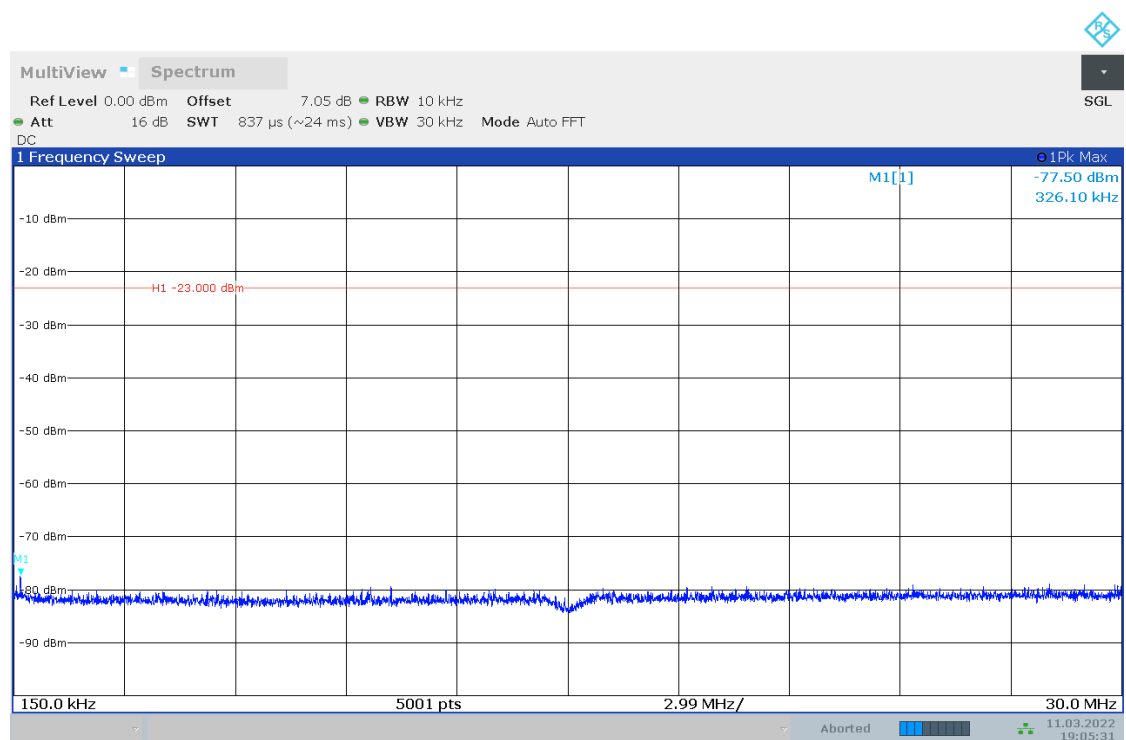
19:03:01 11.03.2022

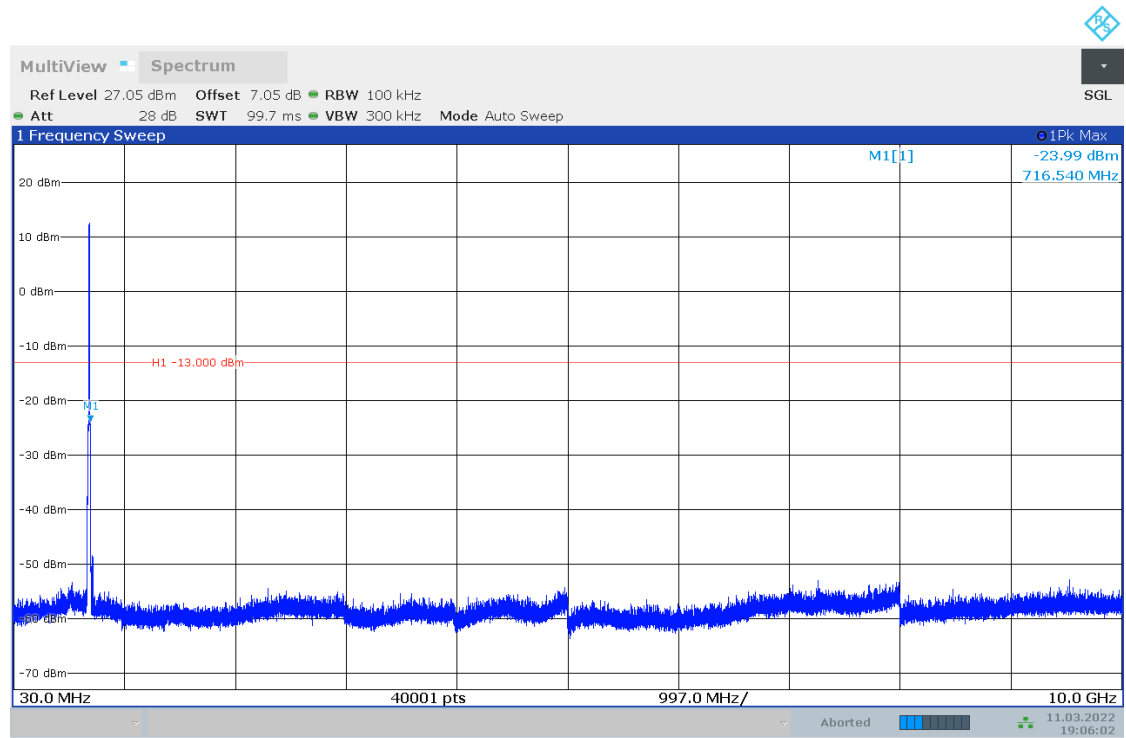
6.2.50 TM2_10MHZ_MCH_RB1#49





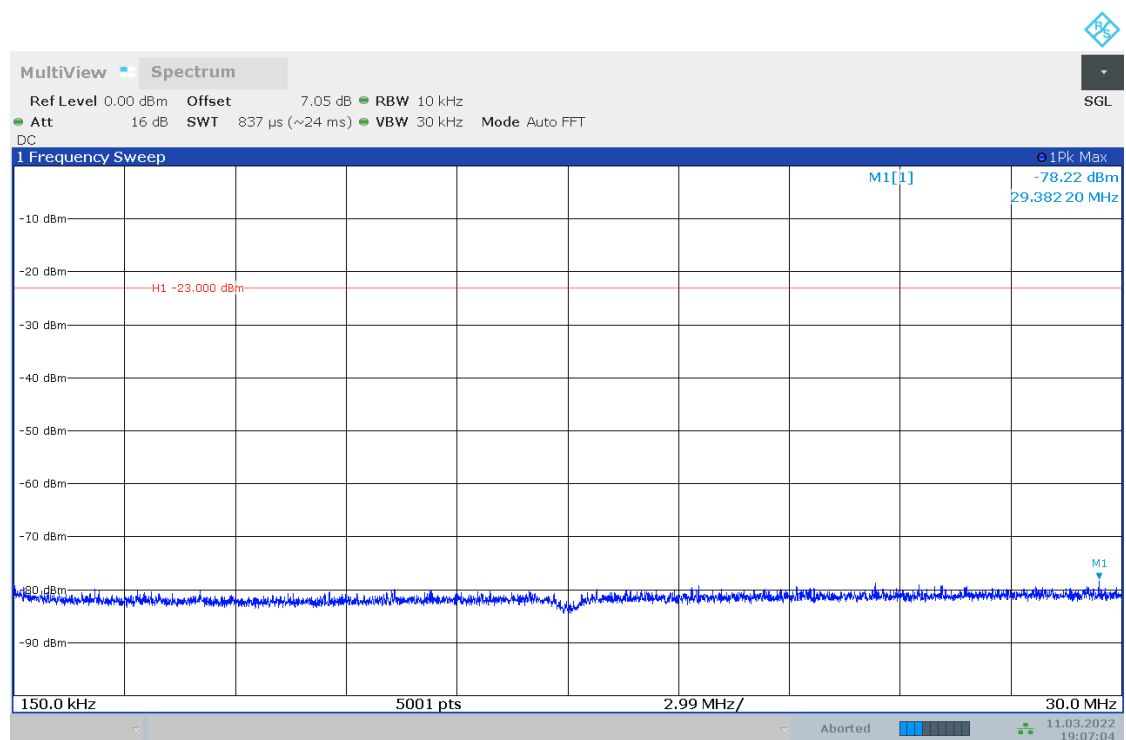
6.2.51 TM2_10MHZ_MCH_RB50#0

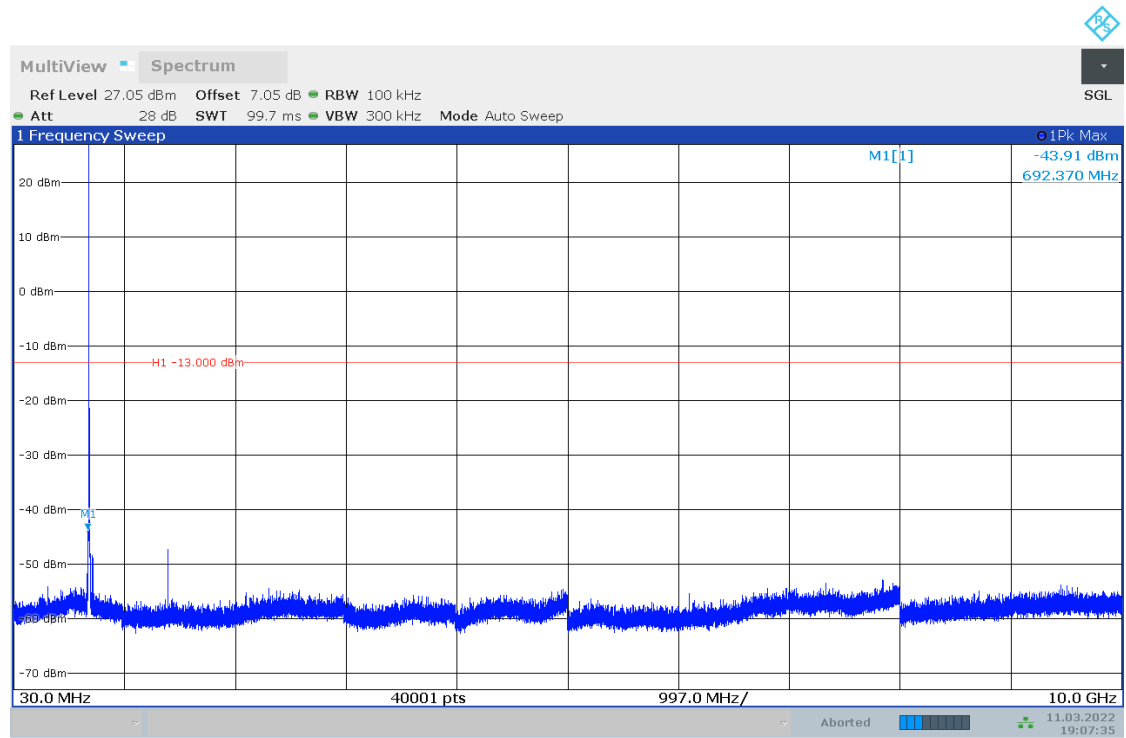




19:06:02 11.03.2022

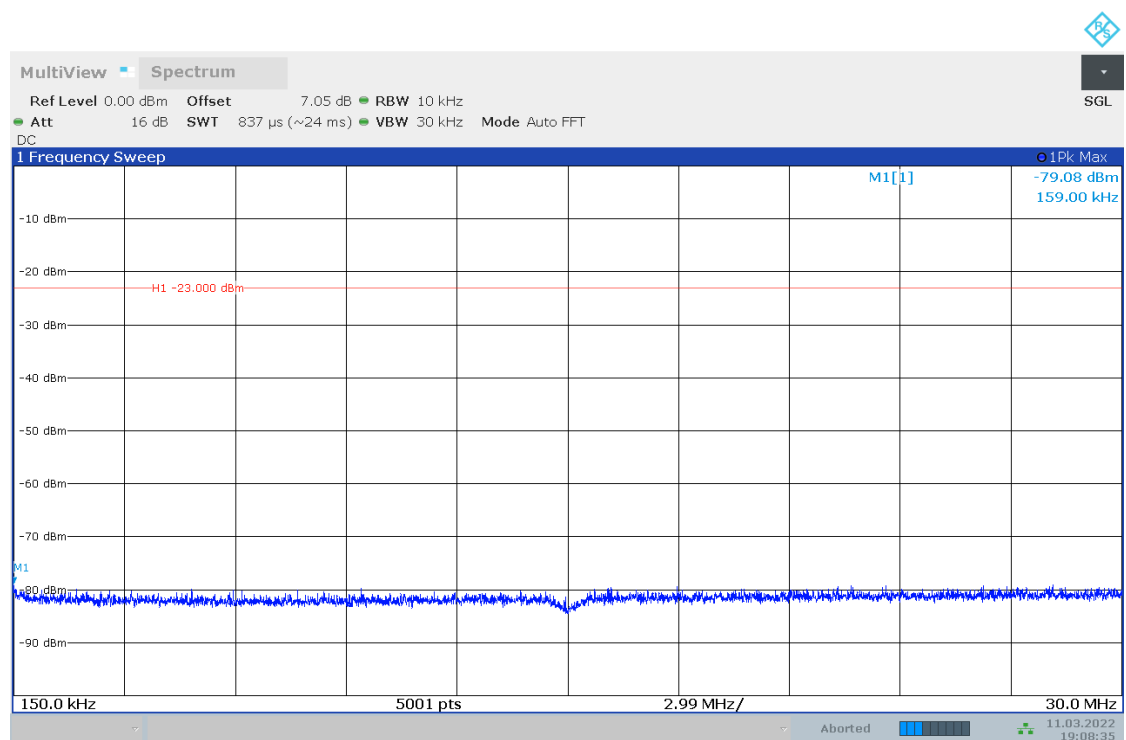
6.2.52 TM2_10MHZ_HCH_RB1#0

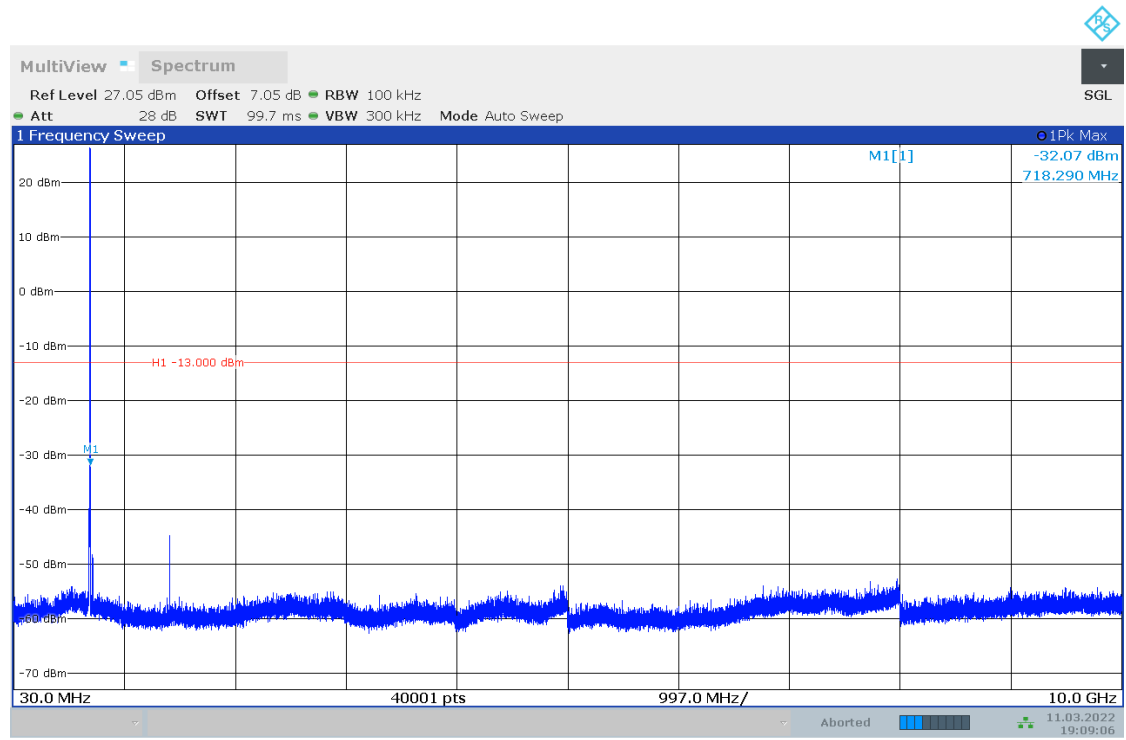




19:07:35 11.03.2022

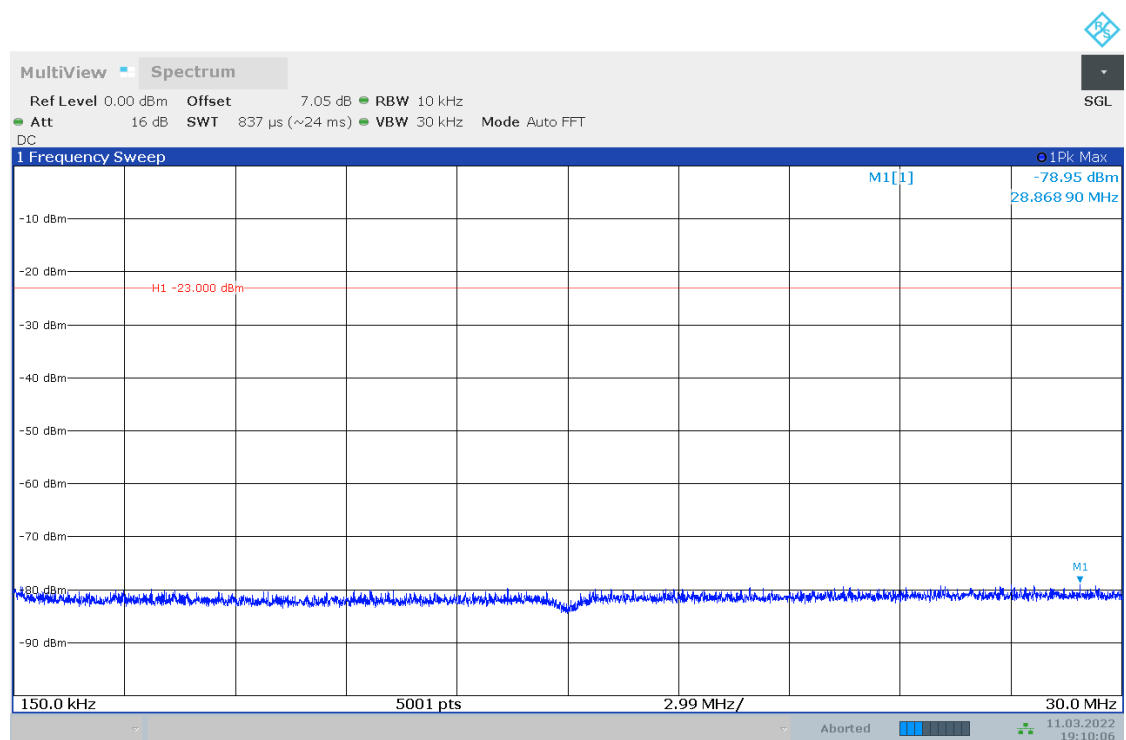
6.2.53 TM2_10MHZ_HCH_RB1#49

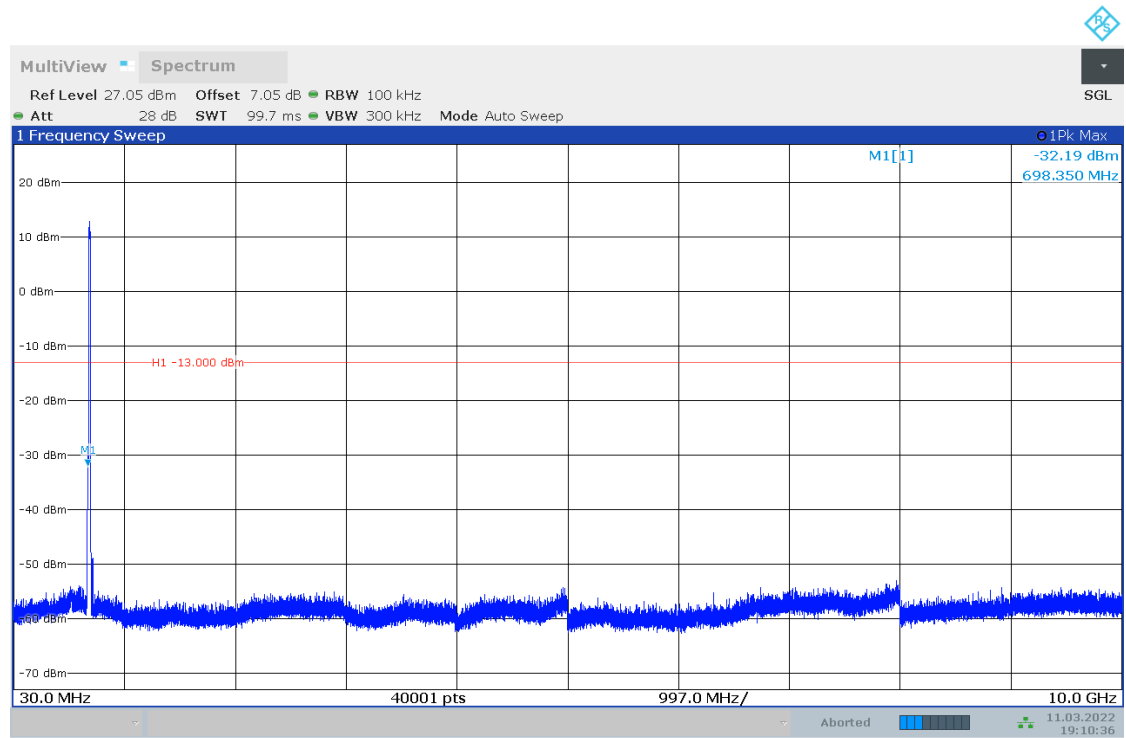




19:09:06 11.03.2022

6.2.54 TM2_10MHZ_HCH_RB50#0





19:10:36 11.03.2022

7. APPENDIX G - FREQUENCY STABILITY

7.1 TEST RESULTS

7.1.1 FREQUENCY ERROR VS. VOLTAGE

Frequency Error vs. Voltage								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM1	1.4	LCH	QPSK	TN	VH	4.73	0.01	PASS
			QPSK	TN	VN	-1.24	0	PASS
			QPSK	TN	VL	-4.79	-0.01	PASS
		MCH	QPSK	TN	VH	3.61	0.01	PASS
			QPSK	TN	VN	9.91	0.01	PASS
			QPSK	TN	VL	4.63	0.01	PASS
		HCH	QPSK	TN	VH	-1.07	0	PASS
			QPSK	TN	VN	3.81	0.01	PASS
			QPSK	TN	VL	1.28	0	PASS
	5	LCH	QPSK	TN	VH	-3.77	-0.01	PASS
			QPSK	TN	VN	2.51	0	PASS
			QPSK	TN	VL	1.14	0	PASS
		MCH	QPSK	TN	VH	2.73	0	PASS
			QPSK	TN	VN	-6.35	-0.01	PASS
			QPSK	TN	VL	7.45	0.01	PASS
		HCH	QPSK	TN	VH	2.65	0	PASS
			QPSK	TN	VN	-1.30	0	PASS
			QPSK	TN	VL	0.57	0	PASS
	10	LCH	QPSK	TN	VH	7.71	0.01	PASS
			QPSK	TN	VN	12.04	0.02	PASS
			QPSK	TN	VL	12.60	0.02	PASS
		MCH	QPSK	TN	VH	-38.82	-0.05	PASS
			QPSK	TN	VN	13.72	0.02	PASS
			QPSK	TN	VL	-39.13	-0.06	PASS
		HCH	QPSK	TN	VH	-1.78	0	PASS
			QPSK	TN	VN	4.90	0.01	PASS
			QPSK	TN	VL	2.38	0	PASS

Frequency Error vs. Voltage								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM2	1.4	LCH	16QAM	TN	VH	-2.72	0	PASS
			16QAM	TN	VN	-15.15	-0.02	PASS
			16QAM	TN	VL	-10.07	-0.01	PASS
		MCH	16QAM	TN	VH	5.90	0.01	PASS
			16QAM	TN	VN	2.69	0	PASS
			16QAM	TN	VL	20.49	0.03	PASS
		HCH	16QAM	TN	VH	-24.51	-0.03	PASS
			16QAM	TN	VN	-16.98	-0.02	PASS
			16QAM	TN	VL	12.70	0.02	PASS
	5	LCH	16QAM	TN	VH	-0.56	0	PASS
			16QAM	TN	VN	5.46	0.01	PASS
			16QAM	TN	VL	6.22	0.01	PASS
		MCH	16QAM	TN	VH	9.34	0.01	PASS
			16QAM	TN	VN	3.54	0.01	PASS
			16QAM	TN	VL	-1.11	0	PASS
		HCH	16QAM	TN	VH	3.78	0.01	PASS
			16QAM	TN	VN	-0.22	0	PASS
			16QAM	TN	VL	-4.17	-0.01	PASS
	10	LCH	16QAM	TN	VH	-1.20	0	PASS
			16QAM	TN	VN	12.26	0.02	PASS
			16QAM	TN	VL	-10.48	-0.01	PASS
		MCH	16QAM	TN	VH	9.87	0.01	PASS
			16QAM	TN	VN	8.28	0.01	PASS
			16QAM	TN	VL	-12.51	-0.02	PASS
		HCH	16QAM	TN	VH	8.19	0.01	PASS
			16QAM	TN	VN	-1.54	0	PASS
			16QAM	TN	VL	-11.16	-0.02	PASS

7.1.2 FREQUENCY ERROR VS. TEMPERATURE

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM1	1.4	LCH	QPSK	VN	-30	5.89	0.01	PASS
			QPSK	VN	-20	11.76	0.02	PASS
			QPSK	VN	-10	12.78	0.02	PASS
			QPSK	VN	0	3.69	0.01	PASS
			QPSK	VN	10	7.19	0.01	PASS
			QPSK	VN	20	-10.28	-0.01	PASS
			QPSK	VN	30	6.05	0.01	PASS
			QPSK	VN	40	1.18	0	PASS
			QPSK	VN	50	-11.39	-0.02	PASS
		MCH	QPSK	VN	-30	4.79	0.01	PASS
			QPSK	VN	-20	11.19	0.02	PASS
			QPSK	VN	-10	5.42	0.01	PASS
			QPSK	VN	0	11.32	0.02	PASS
			QPSK	VN	10	-4.05	-0.01	PASS
			QPSK	VN	20	14.8	0.02	PASS
			QPSK	VN	30	-7.2	-0.01	PASS
			QPSK	VN	40	-0.63	0	PASS
			QPSK	VN	50	-5.6	-0.01	PASS
		HCH	QPSK	VN	-30	-23.97	-0.03	PASS
			QPSK	VN	-20	-18.84	-0.03	PASS
			QPSK	VN	-10	5.03	0.01	PASS
			QPSK	VN	0	-7.82	-0.01	PASS
			QPSK	VN	10	1.57	0	PASS
			QPSK	VN	20	8.13	0.01	PASS
			QPSK	VN	30	4.65	0.01	PASS
			QPSK	VN	40	8.06	0.01	PASS
			QPSK	VN	50	8.86	0.01	PASS

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM1	5	LCH	QPSK	VN	-30	7.47	0.01	PASS
			QPSK	VN	-20	-0.86	0	PASS
			QPSK	VN	-10	9.56	0.01	PASS
			QPSK	VN	0	-0.2	0	PASS
			QPSK	VN	10	-3.4	0	PASS
			QPSK	VN	20	-8.65	-0.01	PASS
			QPSK	VN	30	-1.58	0	PASS
			QPSK	VN	40	1.22	0	PASS
			QPSK	VN	50	4.97	0.01	PASS
		MCH	QPSK	VN	-30	11.6	0.02	PASS
			QPSK	VN	-20	-3.64	-0.01	PASS
			QPSK	VN	-10	2.45	0	PASS
			QPSK	VN	0	-6.07	-0.01	PASS
			QPSK	VN	10	6.24	0.01	PASS
			QPSK	VN	20	-2.83	0	PASS
			QPSK	VN	30	1.73	0	PASS
			QPSK	VN	40	-0.64	0	PASS
			QPSK	VN	50	-0.18	0	PASS
		HCH	QPSK	VN	-30	-1.79	0	PASS
			QPSK	VN	-20	-0.8	0	PASS
			QPSK	VN	-10	3.71	0.01	PASS
			QPSK	VN	0	0.33	0	PASS
			QPSK	VN	10	-0.82	0	PASS
			QPSK	VN	20	2.19	0	PASS
			QPSK	VN	30	8.29	0.01	PASS
			QPSK	VN	40	0.91	0	PASS
			QPSK	VN	50	-0.6	0	PASS

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM1	10	LCH	QPSK	VN	-30	3.44	0	PASS
			QPSK	VN	-20	1.64	0	PASS
			QPSK	VN	-10	-1.51	0	PASS
			QPSK	VN	0	0.9	0	PASS
			QPSK	VN	10	5.81	0.01	PASS
			QPSK	VN	20	2.79	0	PASS
			QPSK	VN	30	-4.27	-0.01	PASS
			QPSK	VN	40	1.54	0	PASS
			QPSK	VN	50	4.17	0.01	PASS
		MCH	QPSK	VN	-30	-18.83	-0.03	PASS
			QPSK	VN	-20	-10.96	-0.02	PASS
			QPSK	VN	-10	-9.62	-0.01	PASS
			QPSK	VN	0	-16.55	-0.02	PASS
			QPSK	VN	10	5.23	0.01	PASS
			QPSK	VN	20	-3.21	0	PASS
			QPSK	VN	30	-4.46	-0.01	PASS
			QPSK	VN	40	3.98	0.01	PASS
			QPSK	VN	50	8.21	0.01	PASS
		HCH	QPSK	VN	-30	6.45	0.01	PASS
			QPSK	VN	-20	2.34	0	PASS
			QPSK	VN	-10	0.56	0	PASS
			QPSK	VN	0	-0.62	0	PASS
			QPSK	VN	10	-2.49	0	PASS
			QPSK	VN	20	1.65	0	PASS
			QPSK	VN	30	-24.81	-0.03	PASS
			QPSK	VN	40	1.5	0	PASS
			QPSK	VN	50	9.44	0.01	PASS

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM2	1.4	LCH	16QAM	VN	-30	13.2	0.02	PASS
			16QAM	VN	-20	13.1	0.02	PASS
			16QAM	VN	-10	2.45	0	PASS
			16QAM	VN	0	7.32	0.01	PASS
			16QAM	VN	10	14.4	0.02	PASS
			16QAM	VN	20	-2.53	0	PASS
			16QAM	VN	30	-1.11	0	PASS
			16QAM	VN	40	1.55	0	PASS
			16QAM	VN	50	-1.6	0	PASS
		MCH	16QAM	VN	-30	23.1	0.03	PASS
			16QAM	VN	-20	-9.75	-0.01	PASS
			16QAM	VN	-10	-3.50	0	PASS
			16QAM	VN	0	13.47	0.02	PASS
			16QAM	VN	10	7.10	0.01	PASS
			16QAM	VN	20	-1.59	0	PASS
			16QAM	VN	30	-0.44	0	PASS
			16QAM	VN	40	-6.32	-0.01	PASS
			16QAM	VN	50	-0.20	0	PASS
		HCH	16QAM	VN	-30	6	0.01	PASS
			16QAM	VN	-20	5.54	0.01	PASS
			16QAM	VN	-10	-0.28	0	PASS
			16QAM	VN	0	-0.02	0	PASS
			16QAM	VN	10	-5.16	-0.01	PASS
			16QAM	VN	20	4.27	0.01	PASS
			16QAM	VN	30	11.43	0.02	PASS
			16QAM	VN	40	3.08	0	PASS
			16QAM	VN	50	-11.17	-0.02	PASS

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM2	5	LCH	16QAM	VN	-30	4.92	0.01	PASS
			16QAM	VN	-20	-6.27	-0.01	PASS
			16QAM	VN	-10	4.23	0.01	PASS
			16QAM	VN	0	8.06	0.01	PASS
			16QAM	VN	10	-1.59	0	PASS
			16QAM	VN	20	-3.35	0	PASS
			16QAM	VN	30	1.61	0	PASS
			16QAM	VN	40	5.33	0.01	PASS
			16QAM	VN	50	8.98	0.01	PASS
		MCH	16QAM	VN	-30	-0.14	0	PASS
			16QAM	VN	-20	-5.69	-0.01	PASS
			16QAM	VN	-10	6.74	0.01	PASS
			16QAM	VN	0	-4.44	-0.01	PASS
			16QAM	VN	10	1.9	0	PASS
			16QAM	VN	20	0.7	0	PASS
			16QAM	VN	30	-2.48	0	PASS
			16QAM	VN	40	4.13	0.01	PASS
			16QAM	VN	50	2.51	0	PASS
		HCH	16QAM	VN	-30	5.33	0.01	PASS
			16QAM	VN	-20	7.99	0.01	PASS
			16QAM	VN	-10	2.79	0	PASS
			16QAM	VN	0	9.13	0.01	PASS
			16QAM	VN	10	4.19	0.01	PASS
			16QAM	VN	20	5.15	0.01	PASS
			16QAM	VN	30	-0.18	0	PASS
			16QAM	VN	40	-0.97	0	PASS
			16QAM	VN	50	2.64	0	PASS

Frequency Error vs. Temperature								
Test Mode	Test Bandwidth [MHz]	Test Channel	Modulation	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
TM2	10	LCH	16QAM	VN	-30	-5.17	-0.01	PASS
			16QAM	VN	-20	5.38	0.01	PASS
			16QAM	VN	-10	-4.54	-0.01	PASS
			16QAM	VN	0	2.67	0	PASS
			16QAM	VN	10	11.23	0.02	PASS
			16QAM	VN	20	-2.53	0	PASS
			16QAM	VN	30	-2.03	0	PASS
			16QAM	VN	40	-5.13	-0.01	PASS
			16QAM	VN	50	2.92	0	PASS
		MCH	16QAM	VN	-30	4.30	0.01	PASS
			16QAM	VN	-20	-0.09	0	PASS
			16QAM	VN	-10	-2.93	0	PASS
			16QAM	VN	0	1.96	0	PASS
			16QAM	VN	10	-0.49	0	PASS
			16QAM	VN	20	2.20	0	PASS
			16QAM	VN	30	5.82	0.01	PASS
			16QAM	VN	40	6.81	0.01	PASS
			16QAM	VN	50	-1.29	0	PASS
		HCH	16QAM	VN	-30	10.57	0.01	PASS
			16QAM	VN	-20	3.56	0.01	PASS
			16QAM	VN	-10	-8.91	-0.01	PASS
			16QAM	VN	0	-10.09	-0.01	PASS
			16QAM	VN	10	0.43	0	PASS
			16QAM	VN	20	19.98	0.03	PASS
			16QAM	VN	30	-6.54	-0.01	PASS
			16QAM	VN	40	-6.85	-0.01	PASS
			16QAM	VN	50	-3.34	0	PASS

End of Test Report