Appendix for LTE Band 41

Model: VNE-N41

BTL-FCCP-8-2204C233

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1 Appendix_A: Effective (Isotropic) Radiated Power of Transmitter

1.1 Test Results

Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured [dBm]	Gain [dBi]	EIRP [dBm]	Limit [dBm]	Verdict
TM1	5	LCH	RB25#0	QPSK	24.02	1.9	25.92	33	PASS
			RB1#0	QPSK	24.03	1.9	25.93	33	PASS
			RB1#24	QPSK	23.96	1.9	25.86	33	PASS
		MCH	RB25#0	QPSK	24.15	1.9	26.05	33	PASS
			RB1#0	QPSK	24.10	1.9	26	33	PASS
			RB1#24	QPSK	24.12	1.9	26.02	33	PASS
		HCH	RB25#0	QPSK	24.22	1.9	26.12	33	PASS
			RB1#0	QPSK	24.12	1.9	26.02	33	PASS
			RB1#24	QPSK	24.12	1.9	26.02	33	PASS
	20	LCH	RB100#0	QPSK	23.83	1.9	25.73	33	PASS
			RB1#0	QPSK	23.70	1.9	25.6	33	PASS
			RB1#99	QPSK	23.69	1.9	25.59	33	PASS
		MCH	RB100#0	QPSK	24.03	1.9	25.93	33	PASS
			RB1#0	QPSK	24.06	1.9	25.96	33	PASS
			RB1#99	QPSK	23.94	1.9	25.84	33	PASS
		HCH	RB100#0	QPSK	23.98	1.9	25.88	33	PASS
			RB1#0	QPSK	23.97	1.9	25.87	33	PASS
			RB1#99	QPSK	23.90	1.9	25.8	33	PASS
TM2	5	LCH	RB25#0	16QAM	23.27	1.9	25.17	33	PASS
			RB1#0	16QAM	24.10	1.9	26	33	PASS
			RB1#24	16QAM	24.17	1.9	26.07	33	PASS
		MCH	RB25#0	16QAM	23.35	1.9	25.25	33	PASS
			RB1#0	16QAM	24.51	1.9	26.41	33	PASS
			RB1#24	16QAM	24.50	1.9	26.4	33	PASS
		HCH	RB25#0	16QAM	23.40	1.9	25.3	33	PASS
			RB1#0	16QAM	24.28	1.9	26.18	33	PASS
			RB1#24	16QAM	24.34	1.9	26.24	33	PASS
	20	LCH	RB100#0	16QAM	23.07	1.9	24.97	33	PASS
			RB1#0	16QAM	24.21	1.9	26.11	33	PASS
			RB1#99	16QAM	24.00	1.9	25.9	33	PASS
		MCH	RB100#0	16QAM	23.29	1.9	25.19	33	PASS
			RB1#0	16QAM	24.58	1.9	26.48	33	PASS
			RB1#99	16QAM	24.42	1.9	26.32	33	PASS
		HCH	RB100#0	16QAM	23.18	1.9	25.08	33	PASS
			RB1#0	16QAM	24.39	1.9	26.29	33	PASS
			RB1#99	16QAM	24.31	1.9	26.21	33	PASS

2 Appendix_B: Peak-to-Average Ratio

2.1 Test Results

Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured [dB]	Limit [dB]	Verdict
TM1	5	MCH	RB25#0	QPSK	4.93	13	PASS
			RB1#0	QPSK	3.13	13	PASS
			RB1#24	QPSK	3.21	13	PASS
	20		RB100#0	QPSK	4.92	13	PASS
			RB1#0	QPSK	3.13	13	PASS
			RB1#99	QPSK	3.23	13	PASS
TM2	5		RB25#0	16QAM	5.64	13	PASS
			RB1#0	16QAM	4.00	13	PASS
			RB1#24	16QAM	4.11	13	PASS
	20		RB100#0	16QAM	5.82	13	PASS
			RB1#0	16QAM	3.84	13	PASS
			RB1#99	16QAM	4.13	13	PASS
TM3	5		RB25#0	64QAM	6.44	13	PASS
			RB1#0	64QAM	4.78	13	PASS
			RB1#24	64QAM	4.77	13	PASS
	20		RB100#0	64QAM	6.96	13	PASS
			RB1#0	64QAM	4.38	13	PASS
			RB1#99	64QAM	4.77	13	PASS

3 Appendix_C: Modulation Characteristics

3.1 Test Plots

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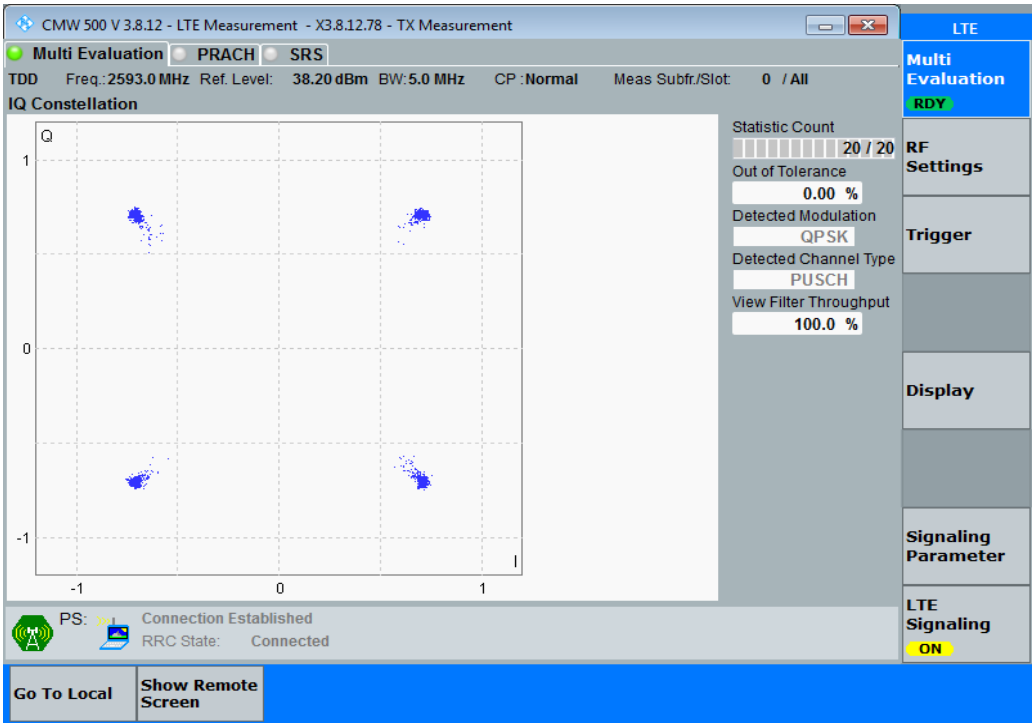

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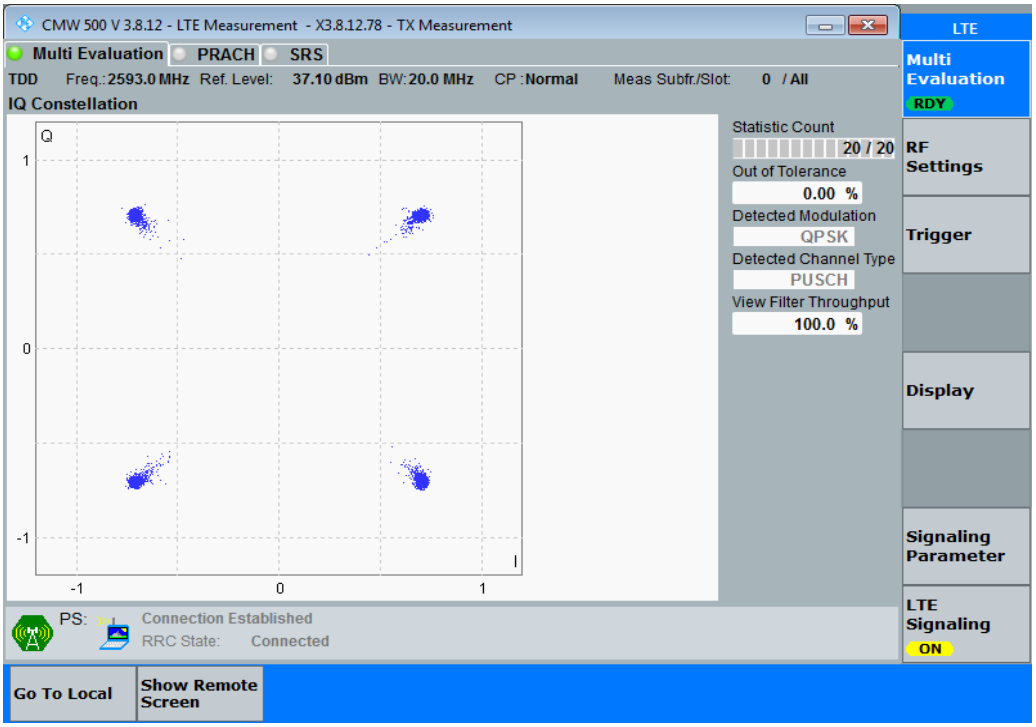

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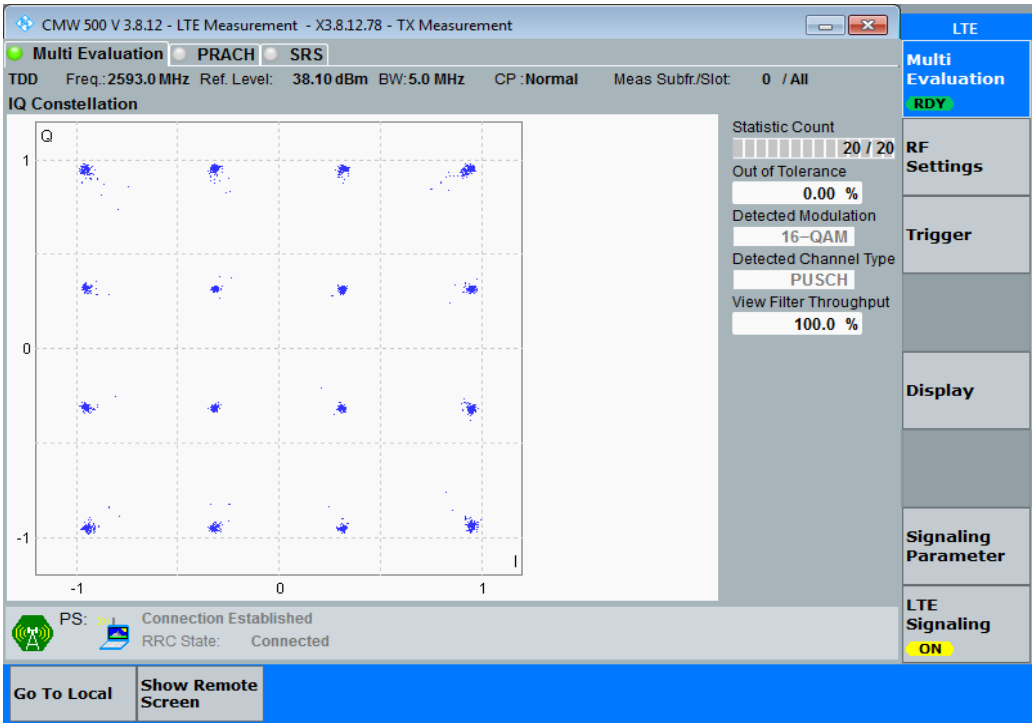

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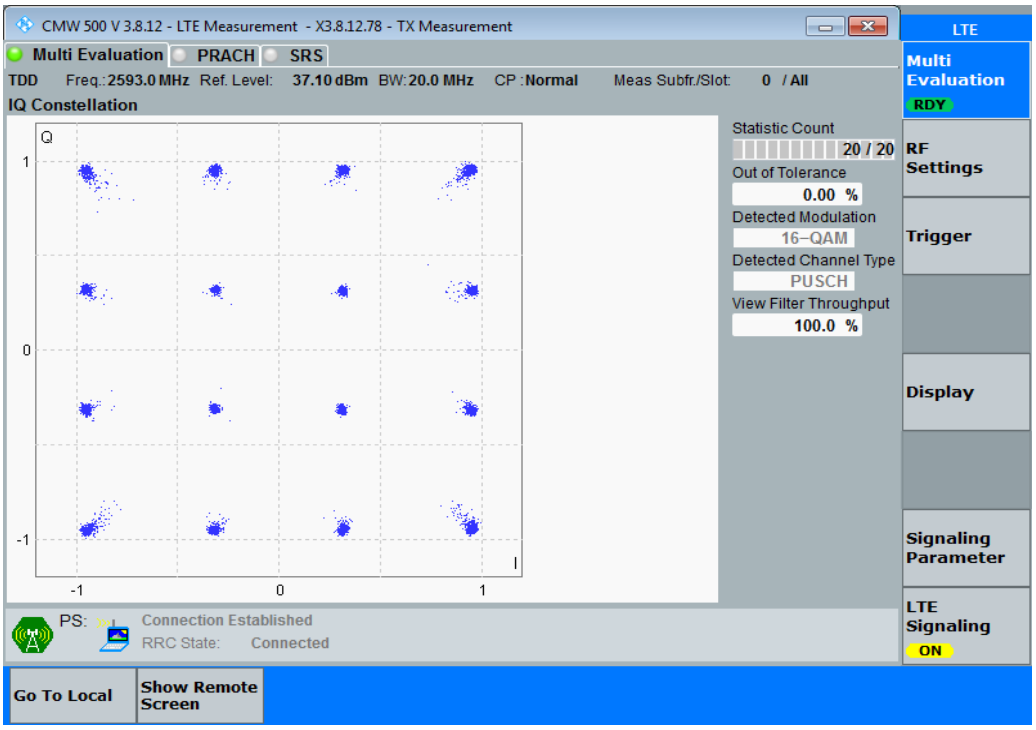

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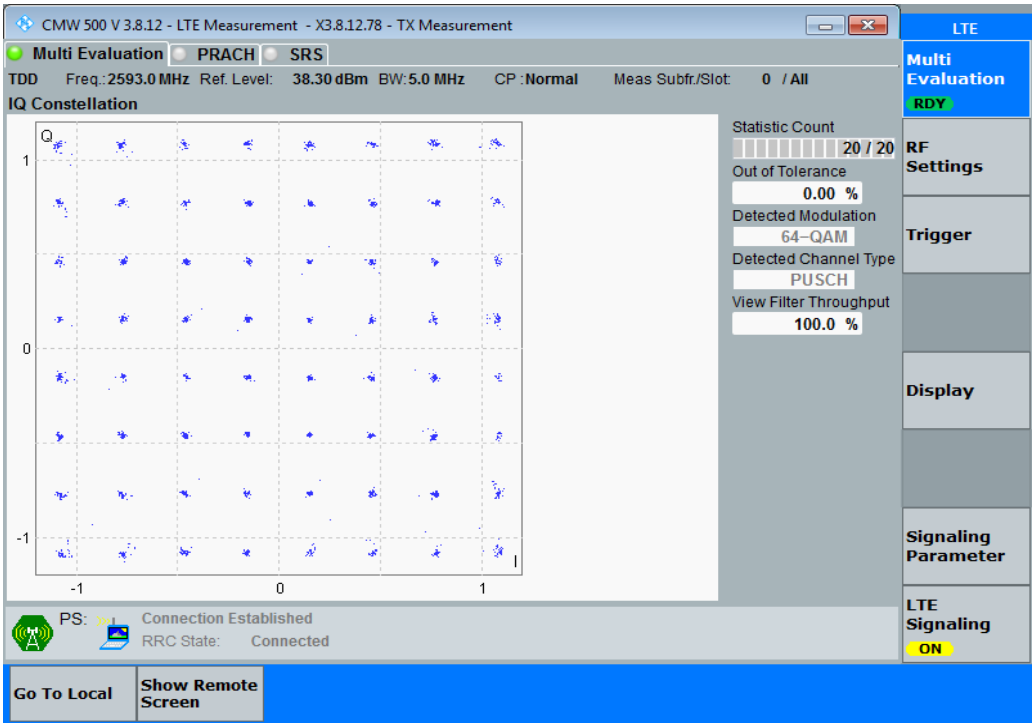

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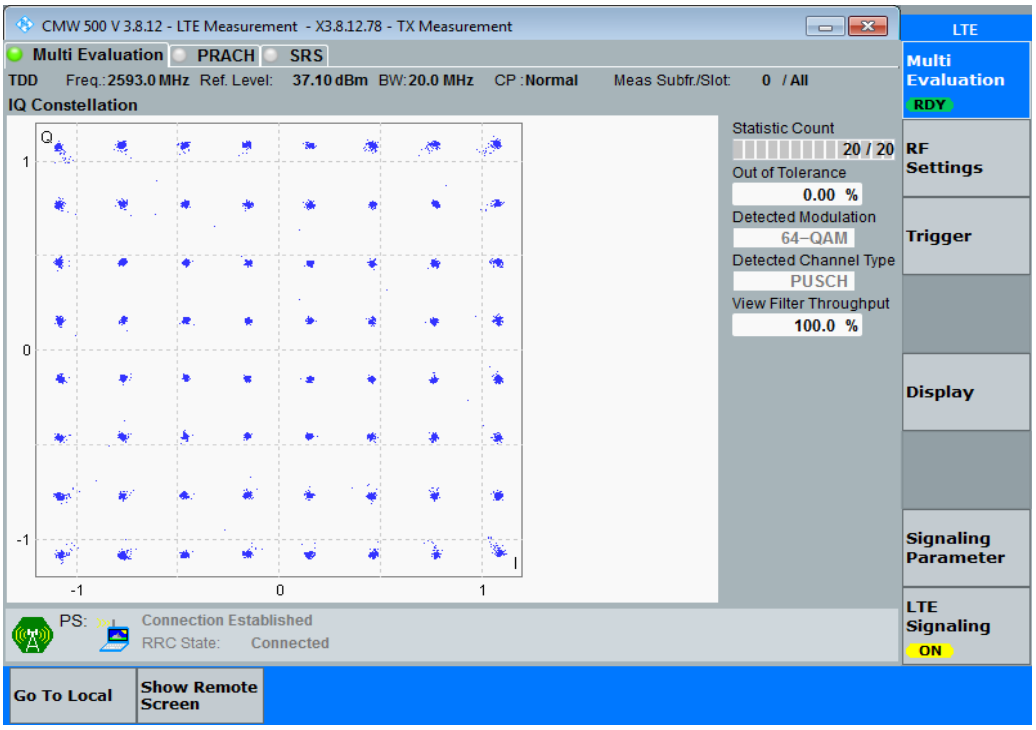


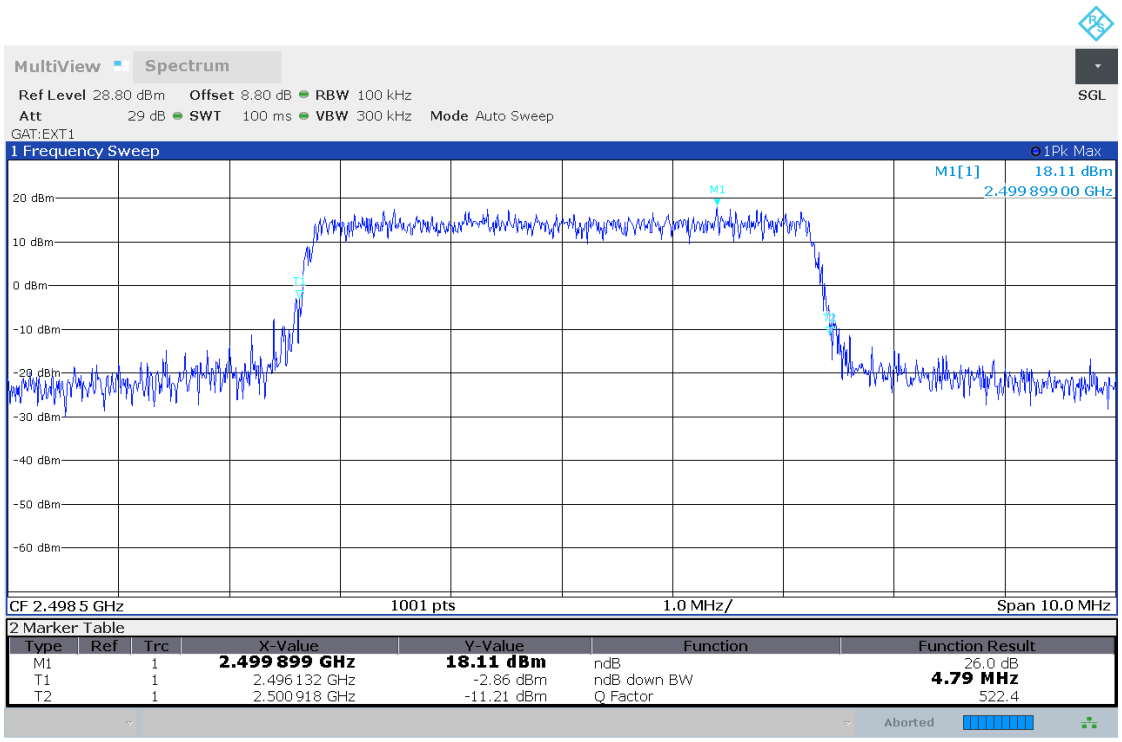
4 Appendix_D: Occupied Bandwidth

4.1 Test Results

Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
TM1	5	LCH	RB25#0	QPSK	4.48	4.79	PASS
		MCH	RB25#0	QPSK	4.49	4.75	PASS
		HCH	RB25#0	QPSK	4.48	4.75	PASS
	10	LCH	RB50#0	QPSK	8.97	9.61	PASS
		MCH	RB50#0	QPSK	8.95	9.53	PASS
		HCH	RB50#0	QPSK	8.96	9.45	PASS
	15	LCH	RB75#0	QPSK	13.45	14.33	PASS
		MCH	RB75#0	QPSK	13.45	14.24	PASS
		HCH	RB75#0	QPSK	13.43	14.27	PASS
	20	LCH	RB100#0	QPSK	17.98	19.14	PASS
		MCH	RB100#0	QPSK	17.97	19.26	PASS
		HCH	RB100#0	QPSK	17.98	19.14	PASS
TM2	5	LCH	RB25#0	16QAM	4.48	4.76	PASS
		MCH	RB25#0	16QAM	4.49	4.76	PASS
		HCH	RB25#0	16QAM	4.47	4.79	PASS
	10	LCH	RB50#0	16QAM	8.96	9.51	PASS
		MCH	RB50#0	16QAM	8.96	9.45	PASS
		HCH	RB50#0	16QAM	8.96	9.51	PASS
	15	LCH	RB75#0	16QAM	13.41	14.18	PASS
		MCH	RB75#0	16QAM	13.43	14.21	PASS
		HCH	RB75#0	16QAM	13.45	14.27	PASS
	20	LCH	RB100#0	16QAM	17.94	19.18	PASS
		MCH	RB100#0	16QAM	17.97	19.22	PASS
		HCH	RB100#0	16QAM	17.96	19.22	PASS
TM3	5	LCH	RB25#0	64QAM	4.49	4.79	PASS
		MCH	RB25#0	64QAM	4.48	4.75	PASS
		HCH	RB25#0	64QAM	4.48	4.80	PASS
	10	LCH	RB50#0	64QAM	8.96	9.53	PASS
		MCH	RB50#0	64QAM	8.97	9.51	PASS
		HCH	RB50#0	64QAM	8.97	9.47	PASS
	15	LCH	RB75#0	64QAM	13.46	14.27	PASS
		MCH	RB75#0	64QAM	13.43	14.33	PASS
		HCH	RB75#0	64QAM	13.47	14.33	PASS
	20	LCH	RB100#0	64QAM	17.96	19.18	PASS
		MCH	RB100#0	64QAM	18.01	19.26	PASS
		HCH	RB100#0	64QAM	17.96	19.22	PASS

4.2 Test Plots

TM1_5MHz_LCH_RB25#0



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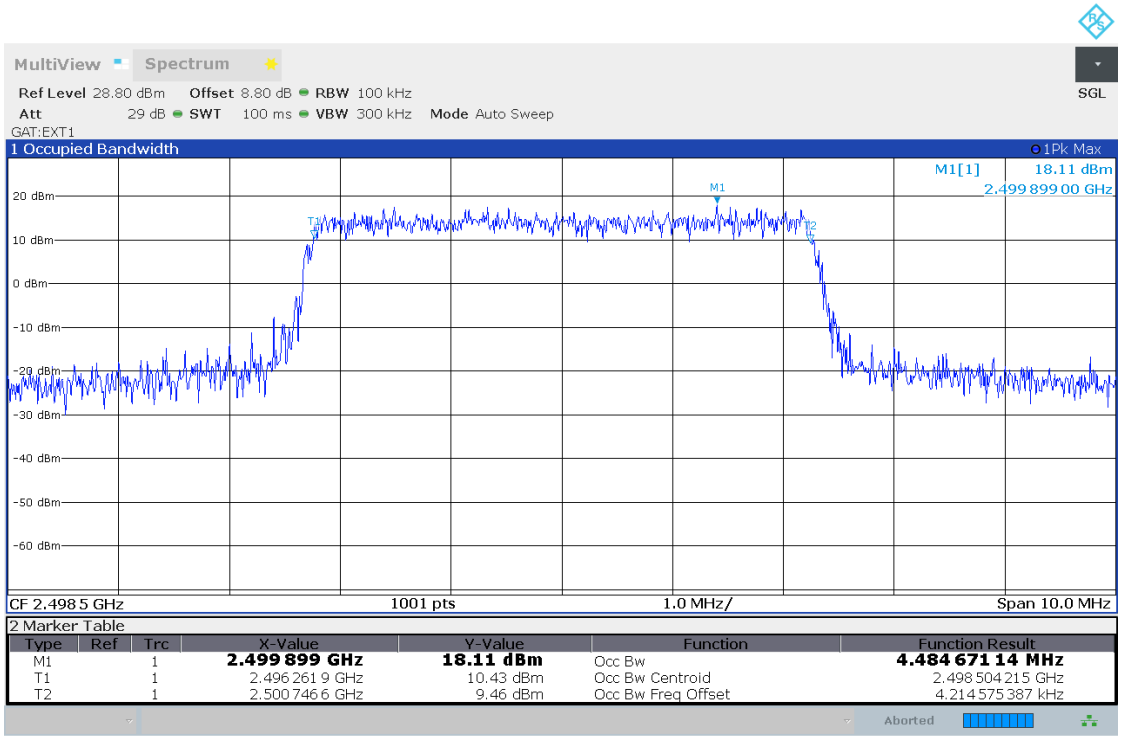

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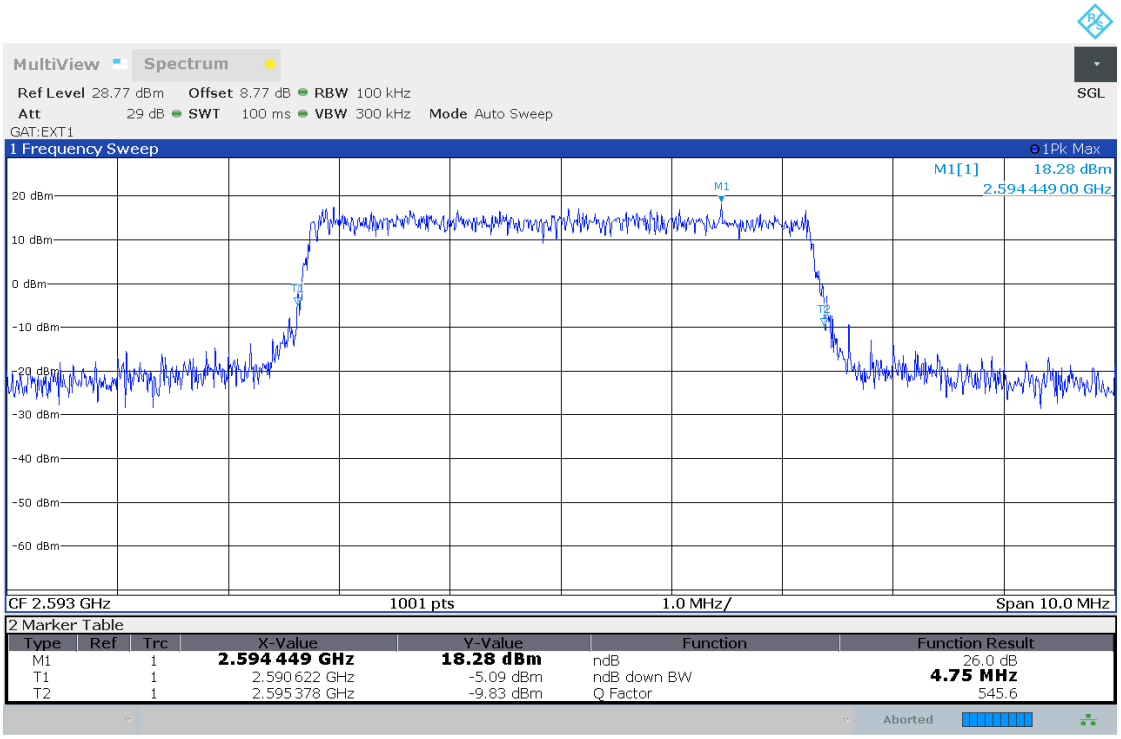
TM1_5MHz_MCH_RB25#0



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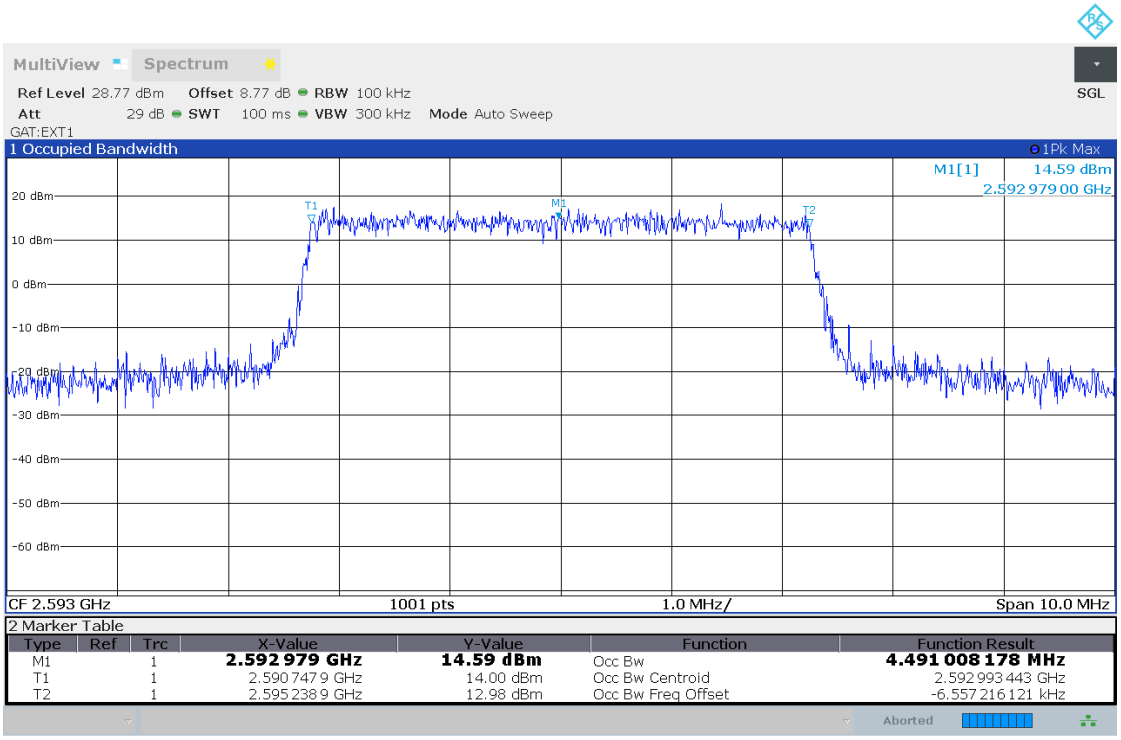

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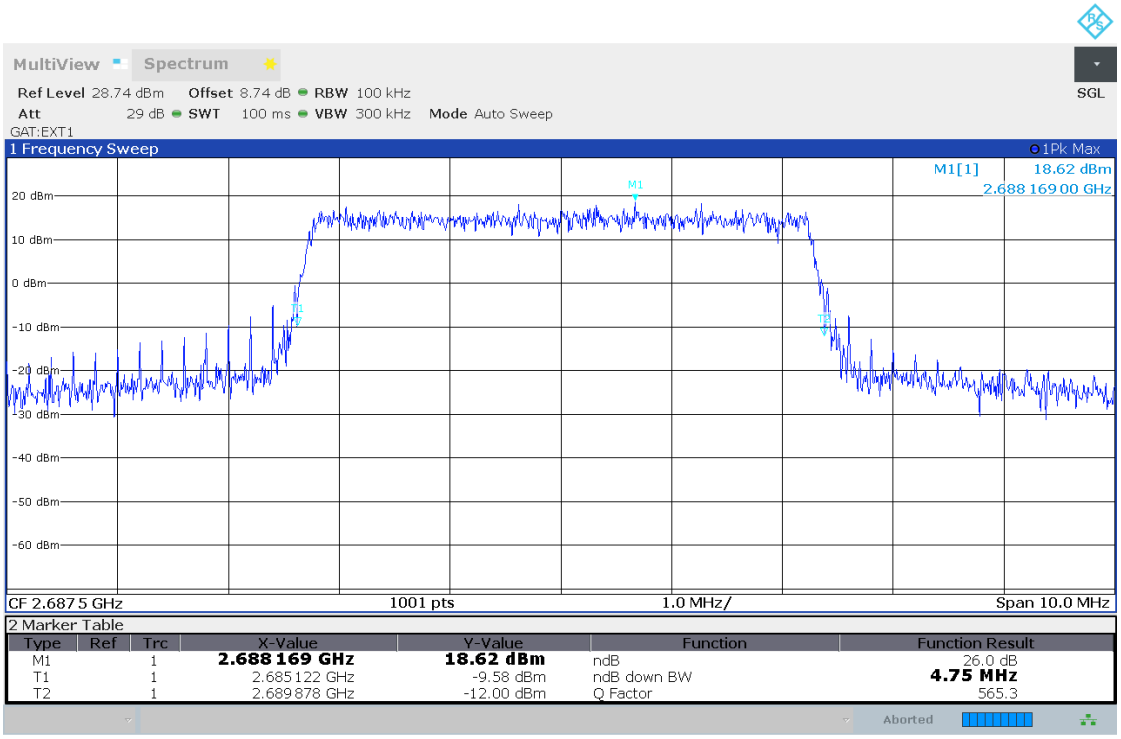

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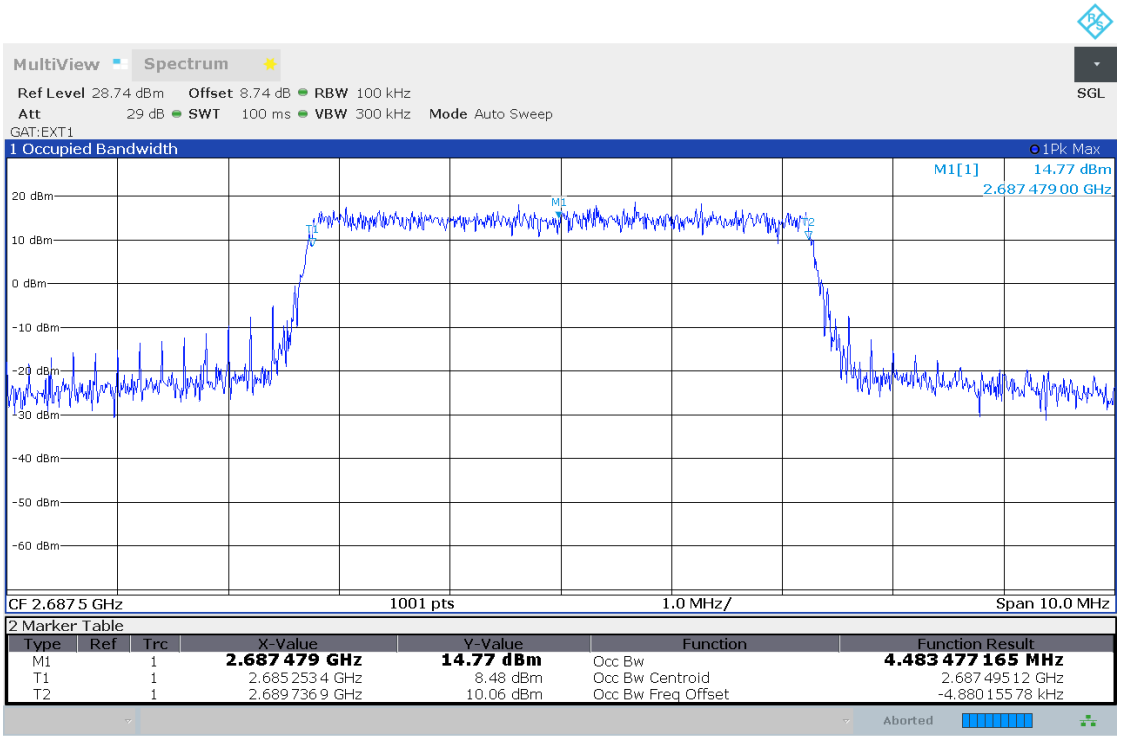

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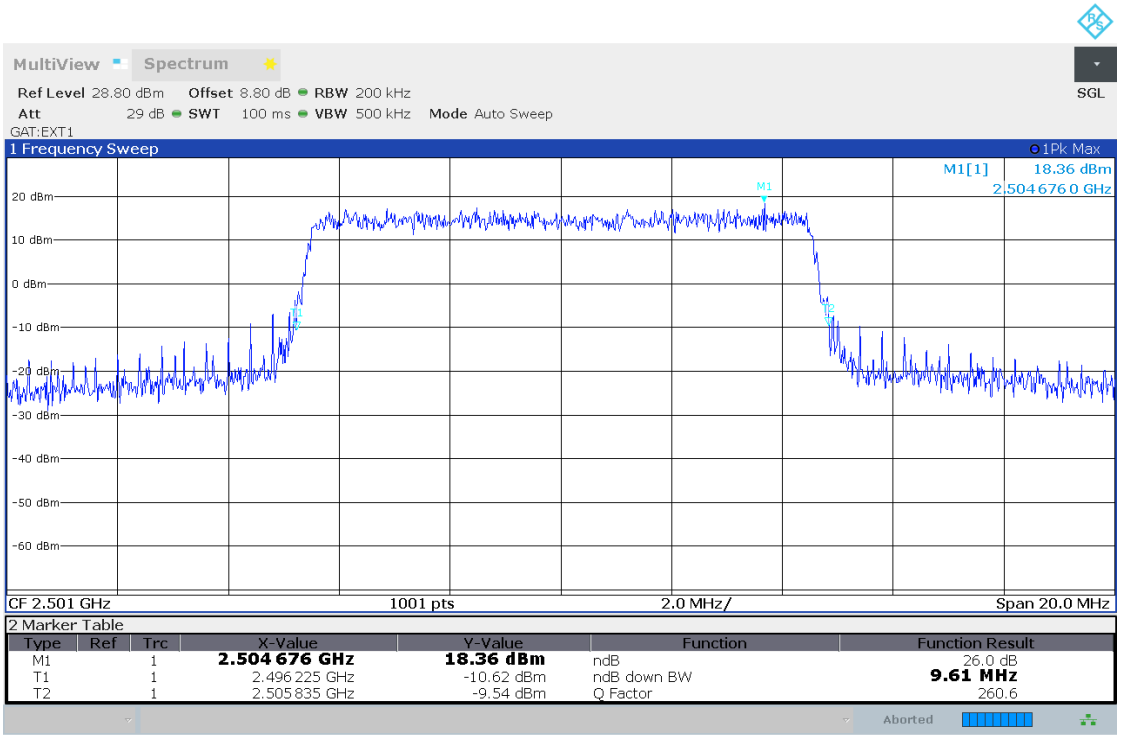

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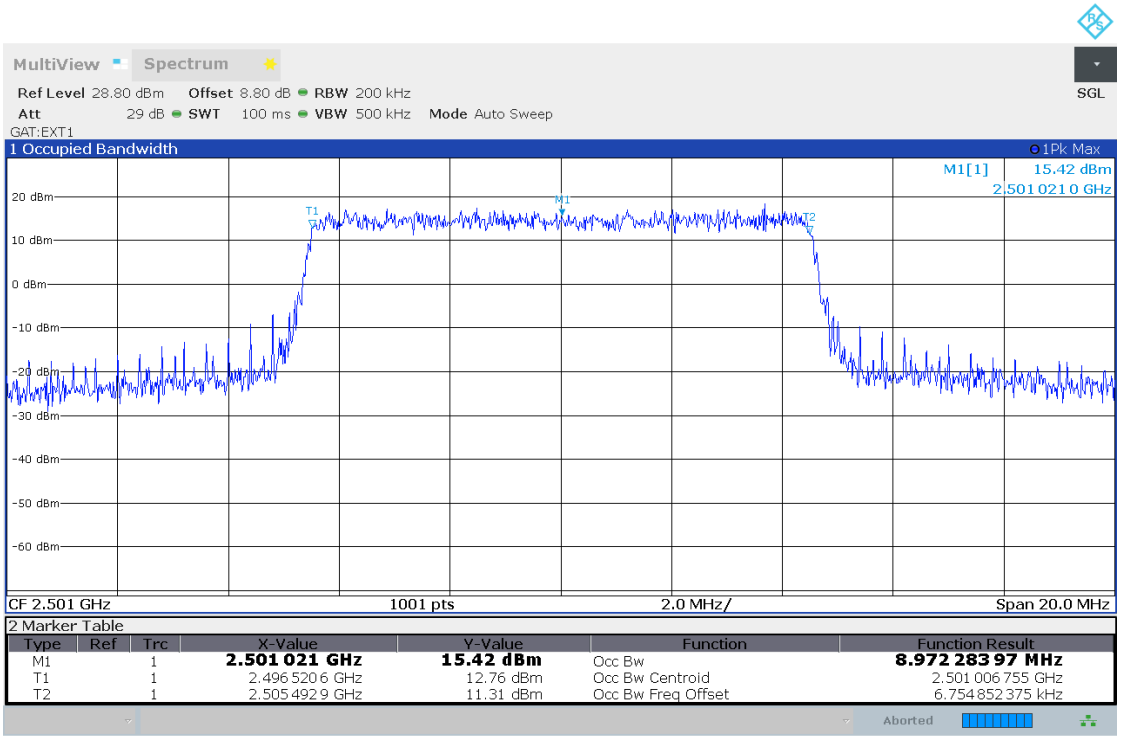

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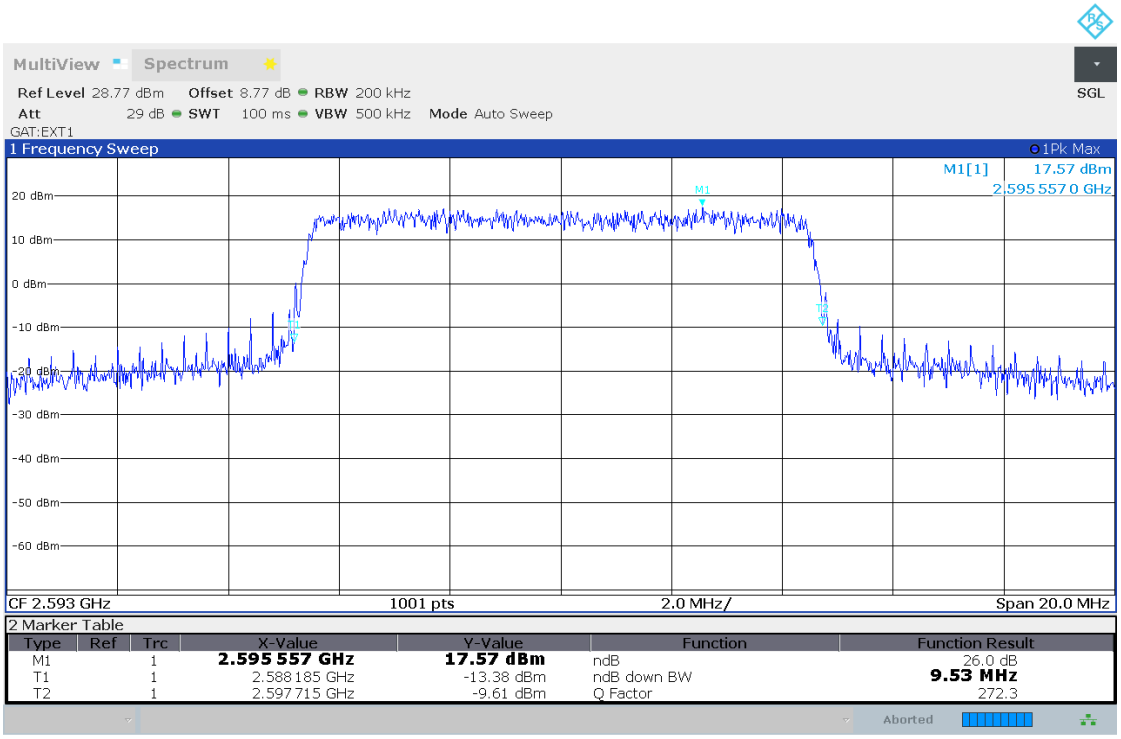
TM1_10MHz_MCH_RB50#0



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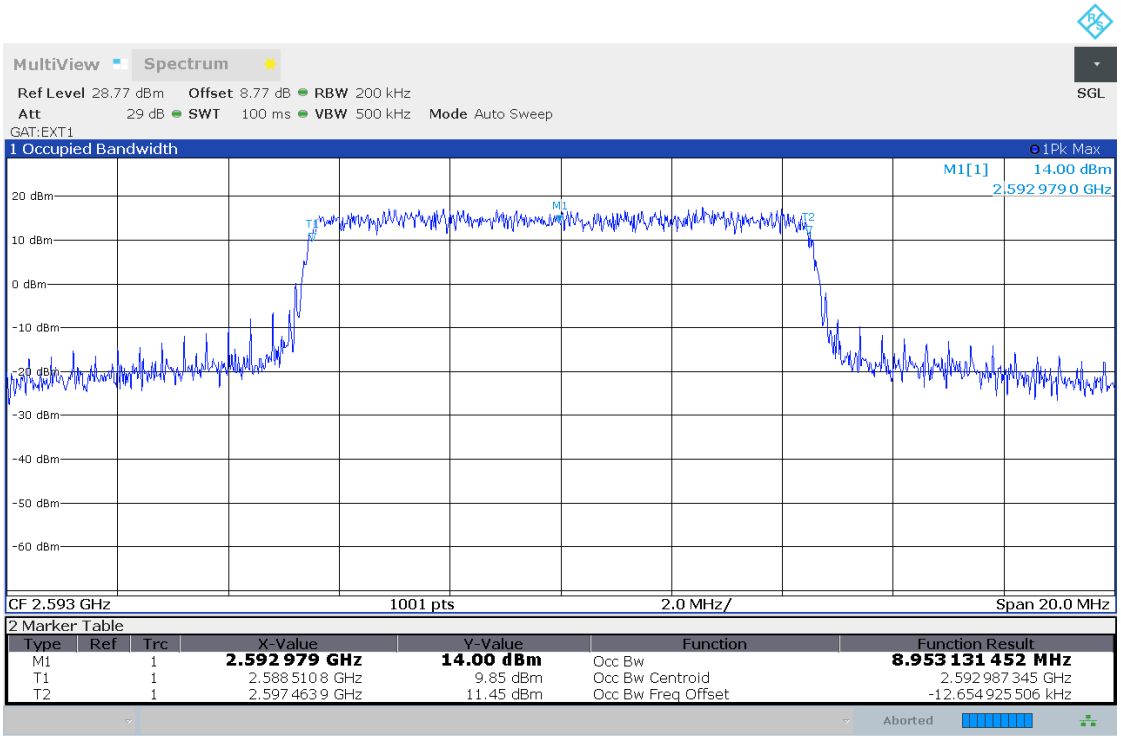

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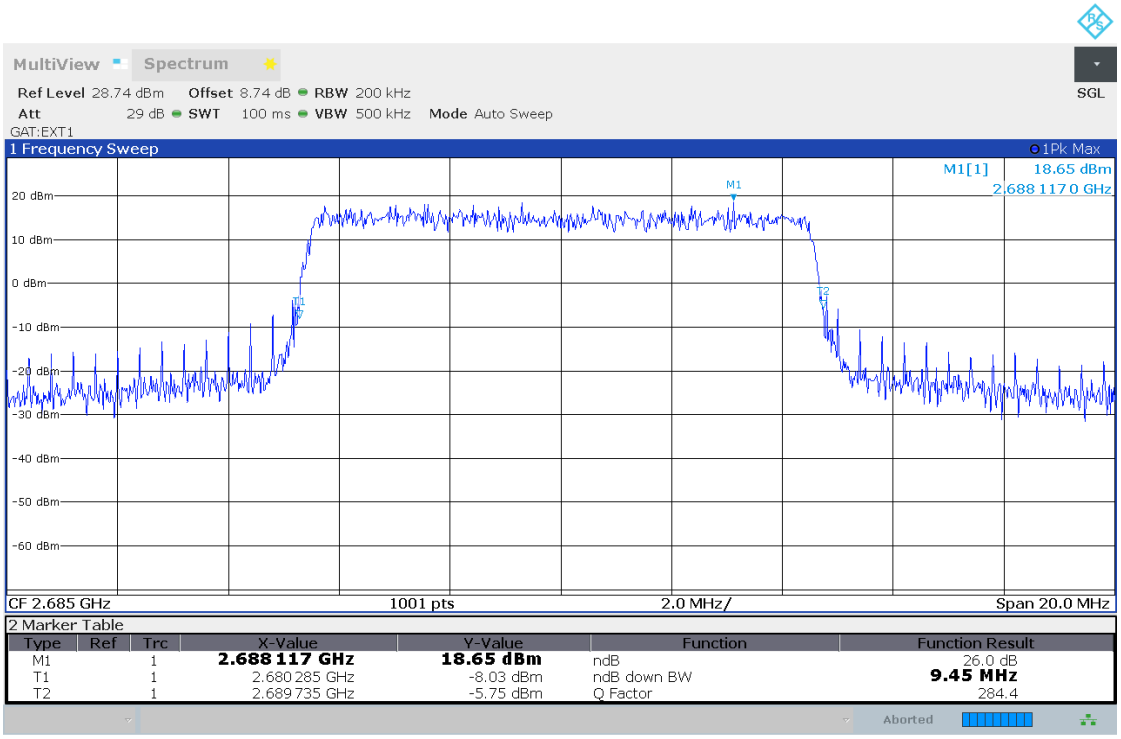

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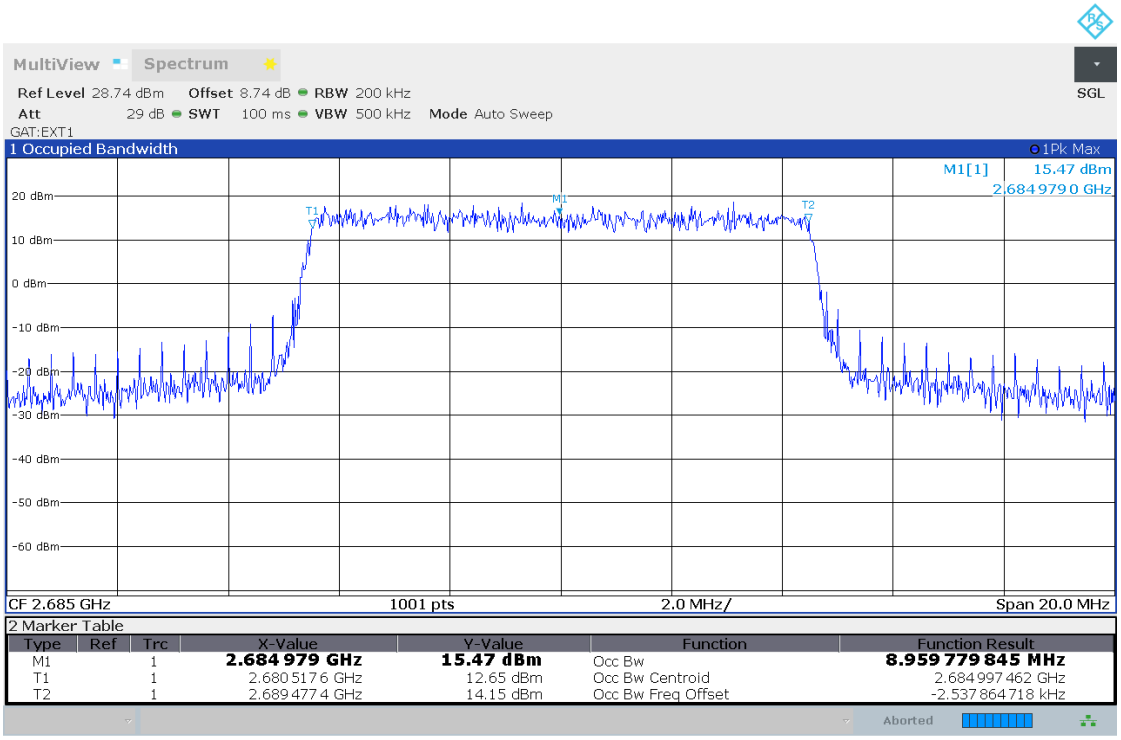

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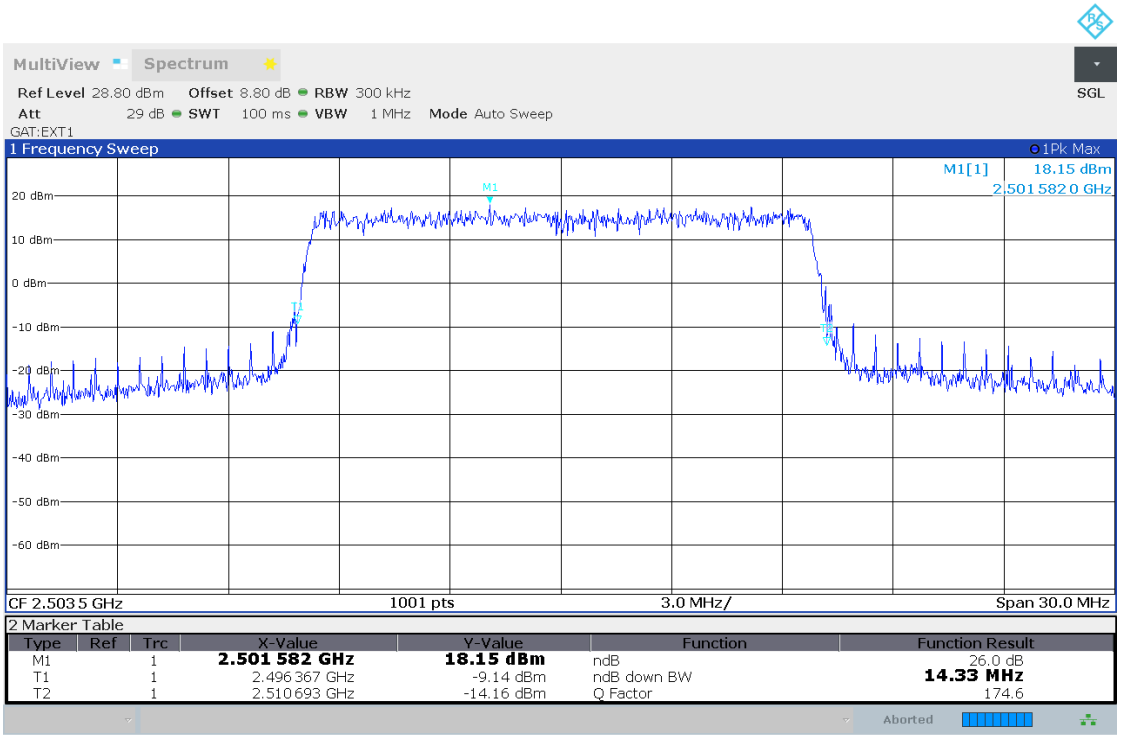
TM1_15MHz_LCH_RB75#0



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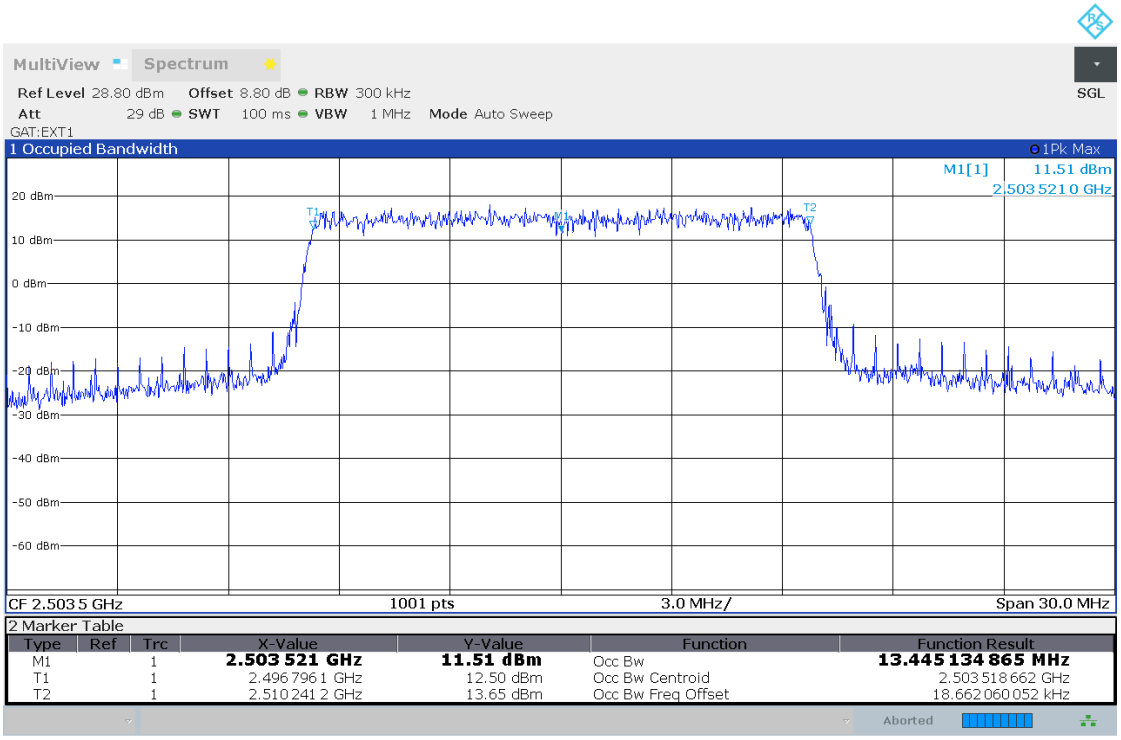

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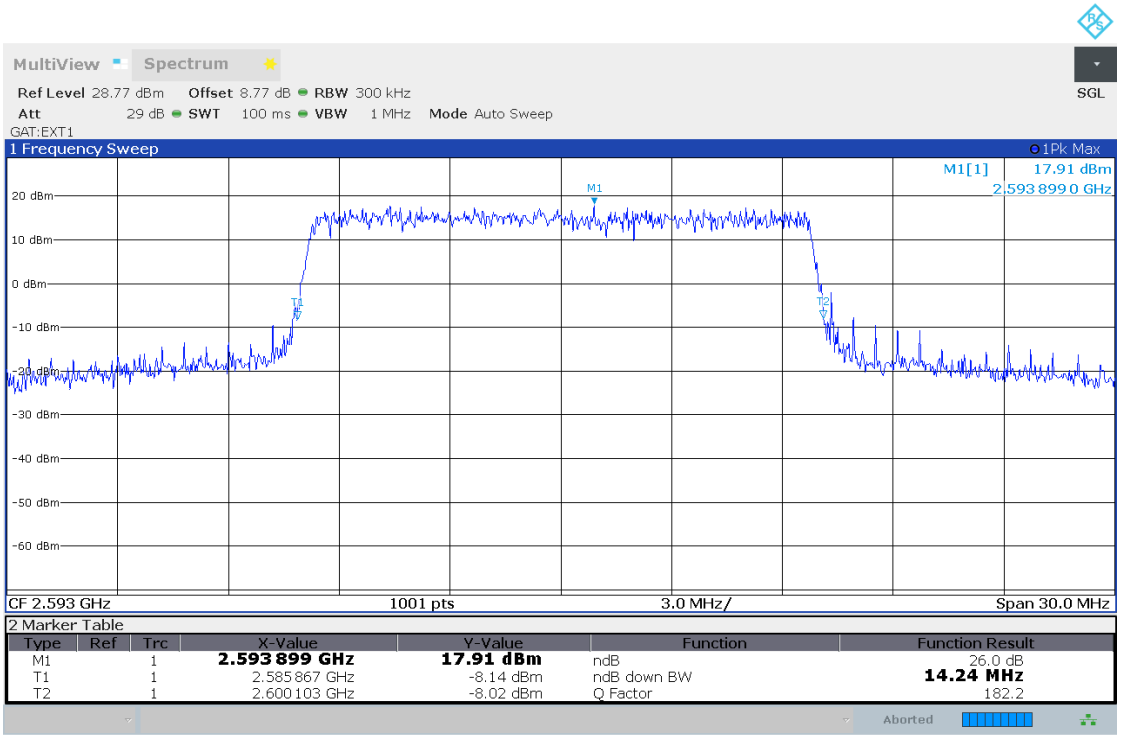

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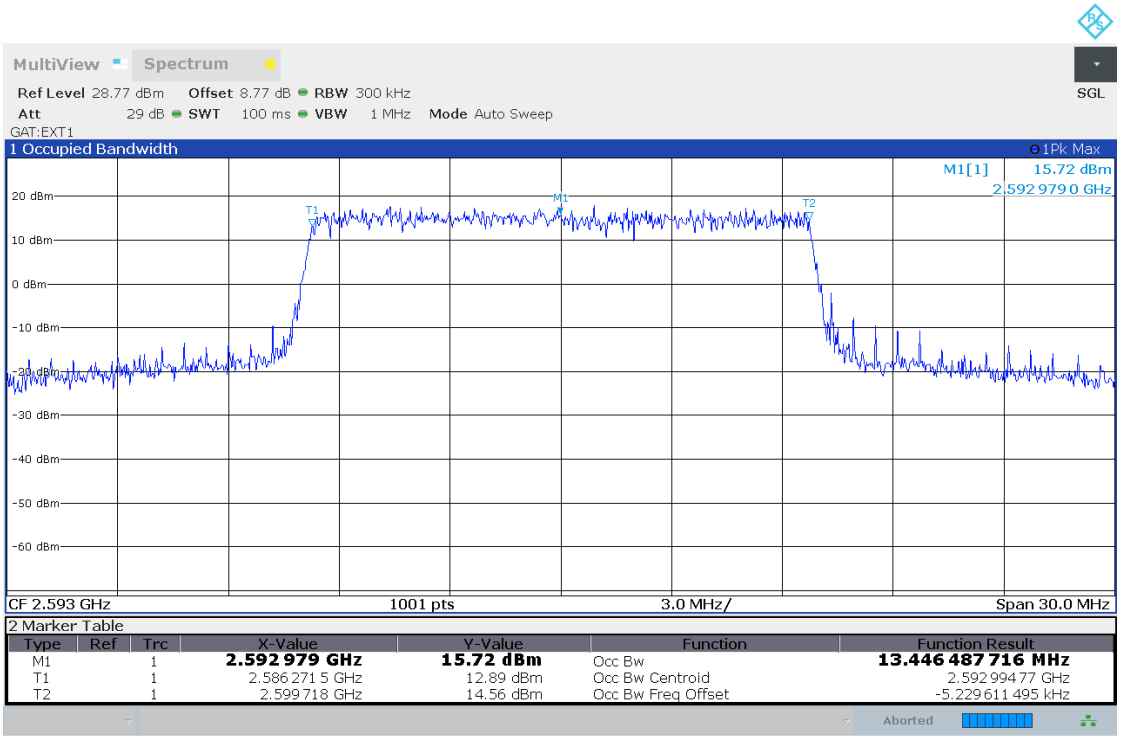

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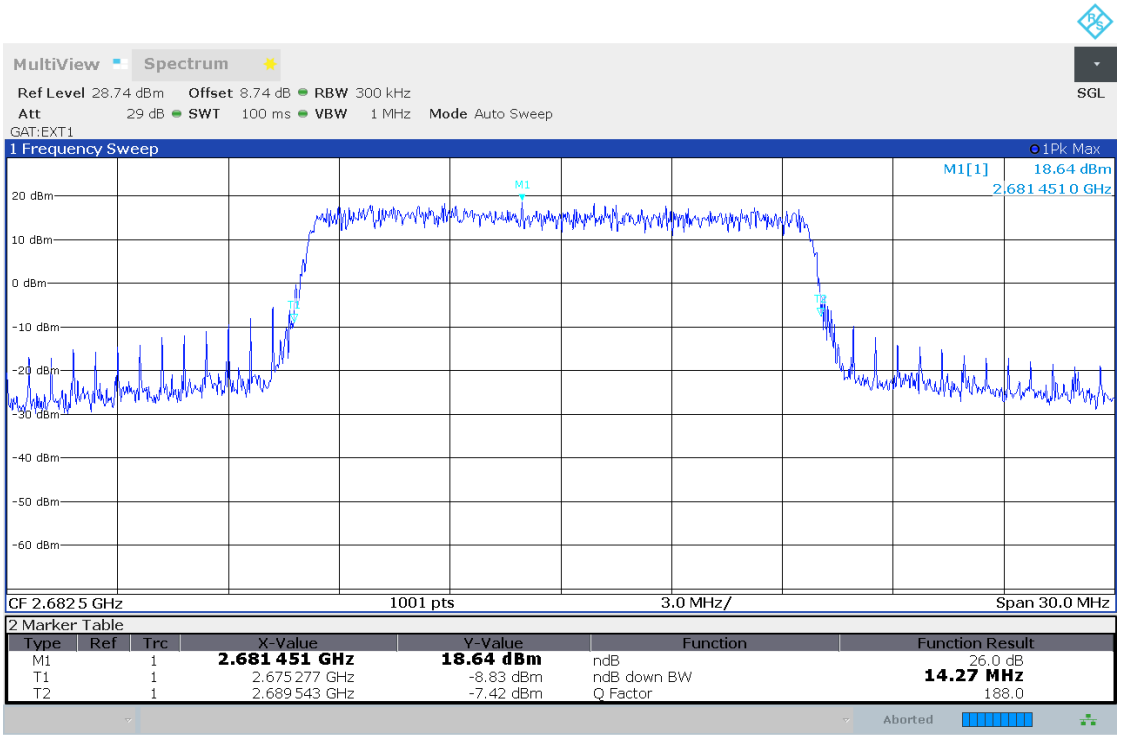

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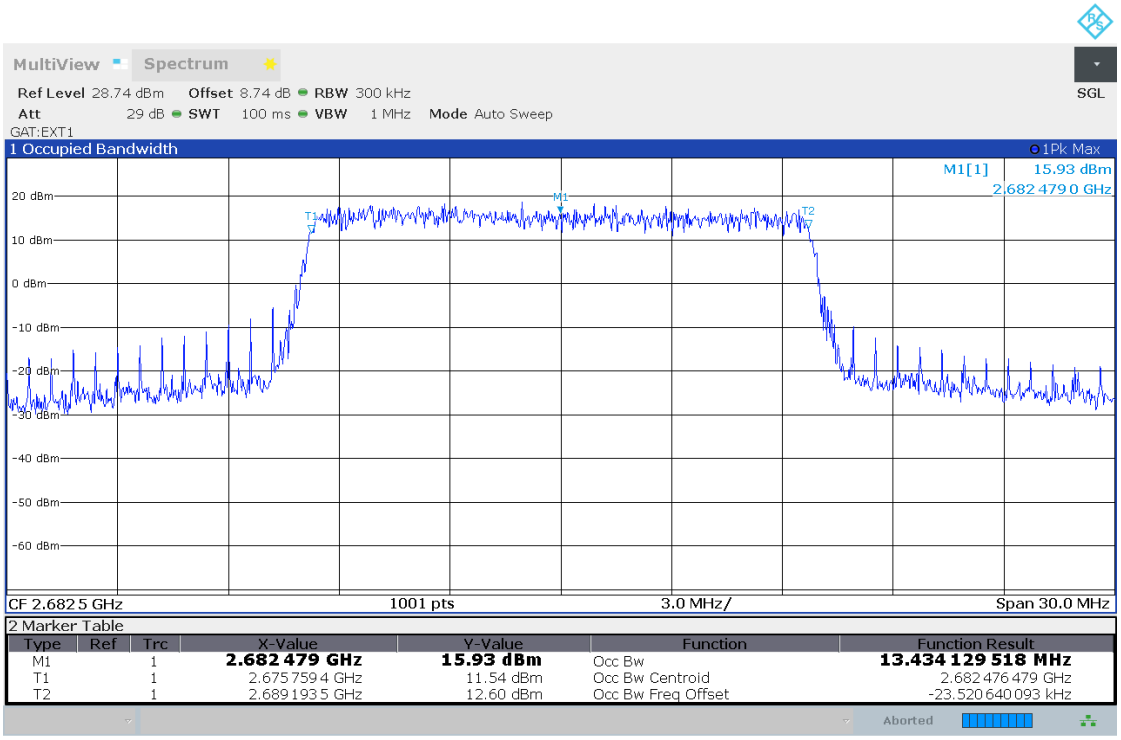

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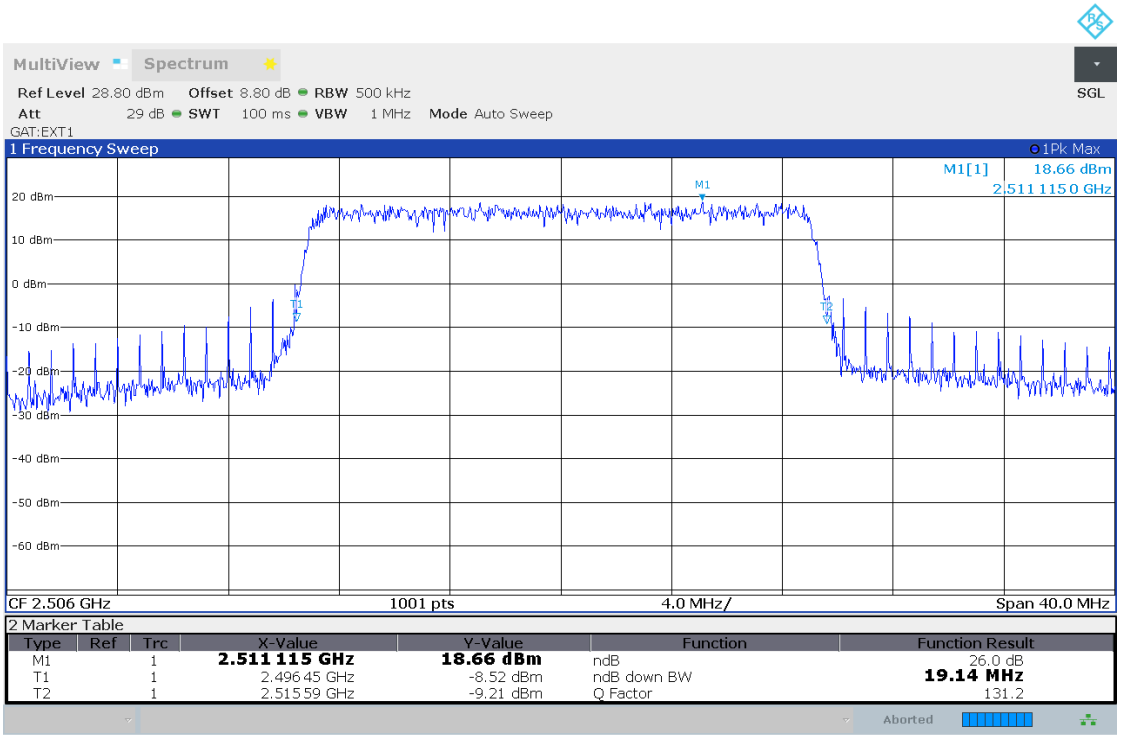

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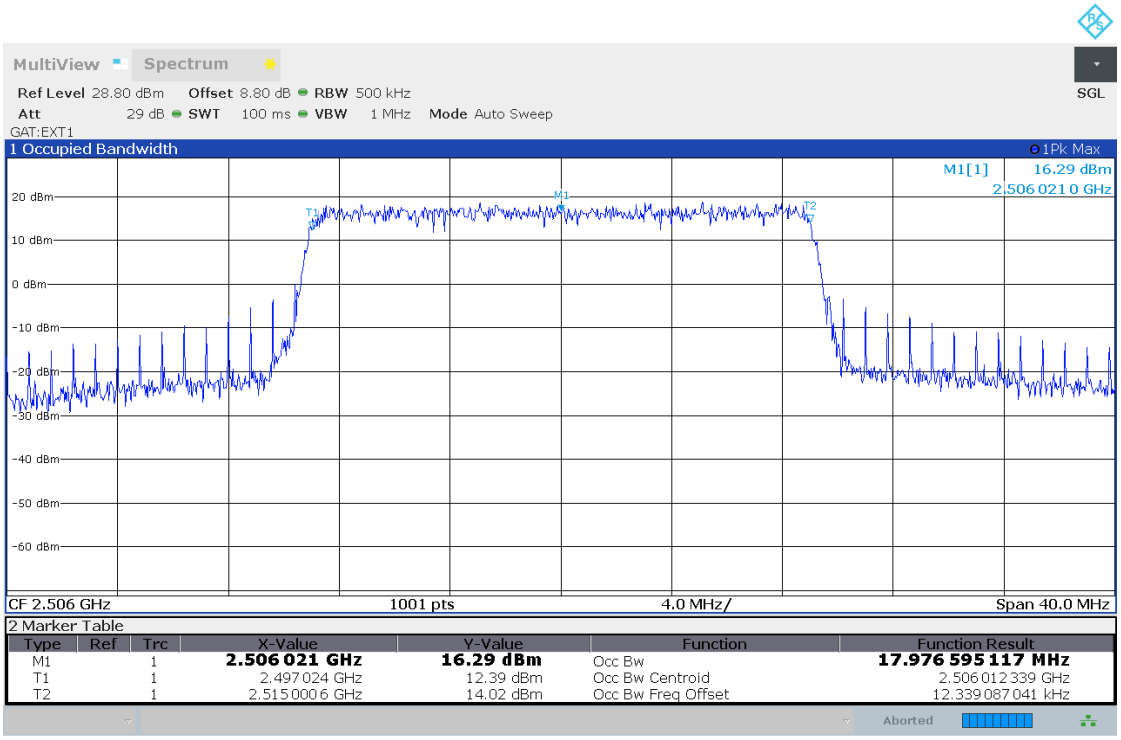

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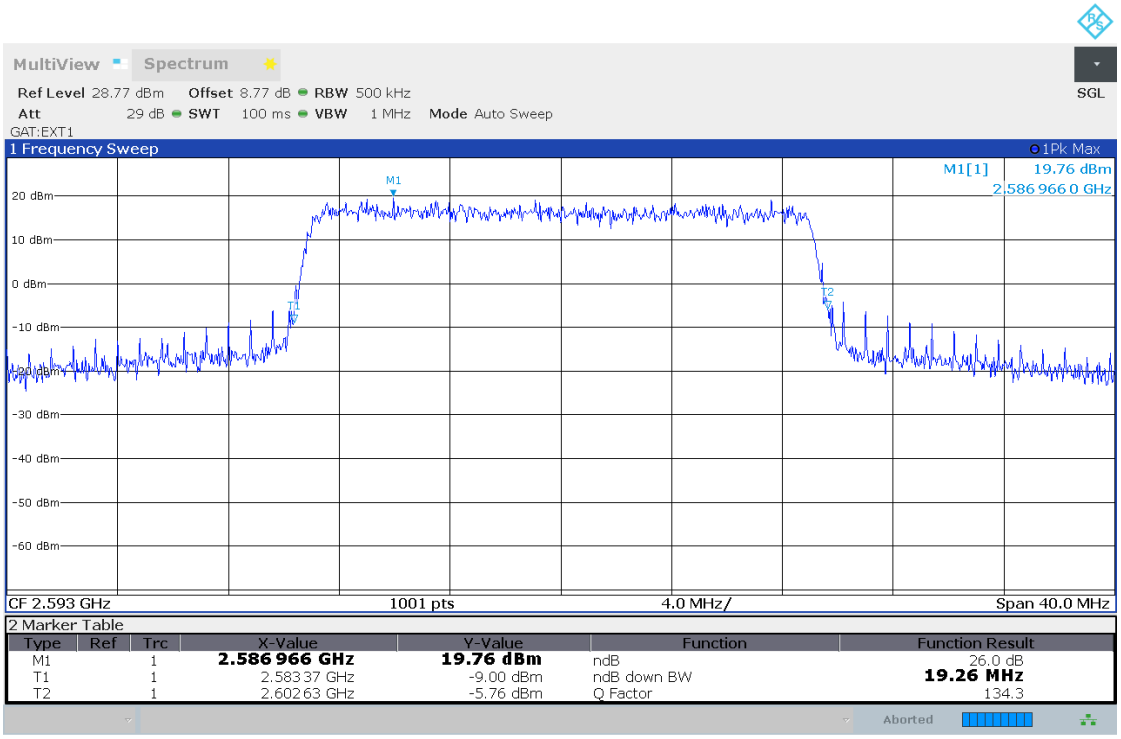

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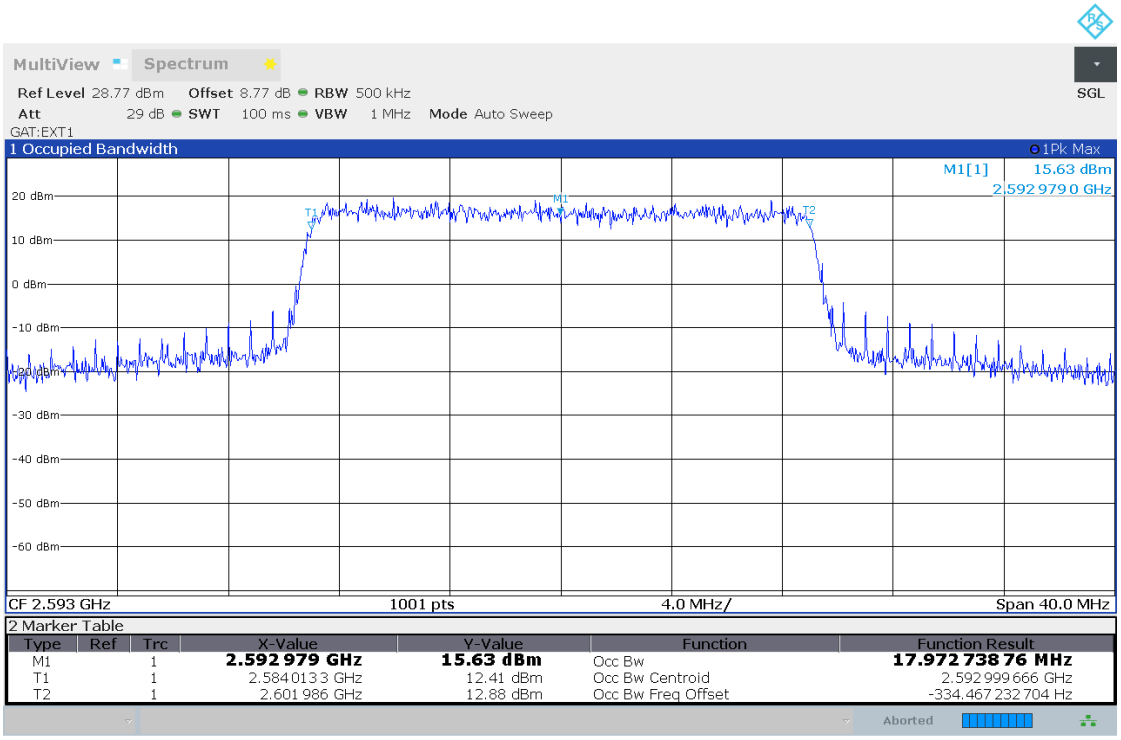

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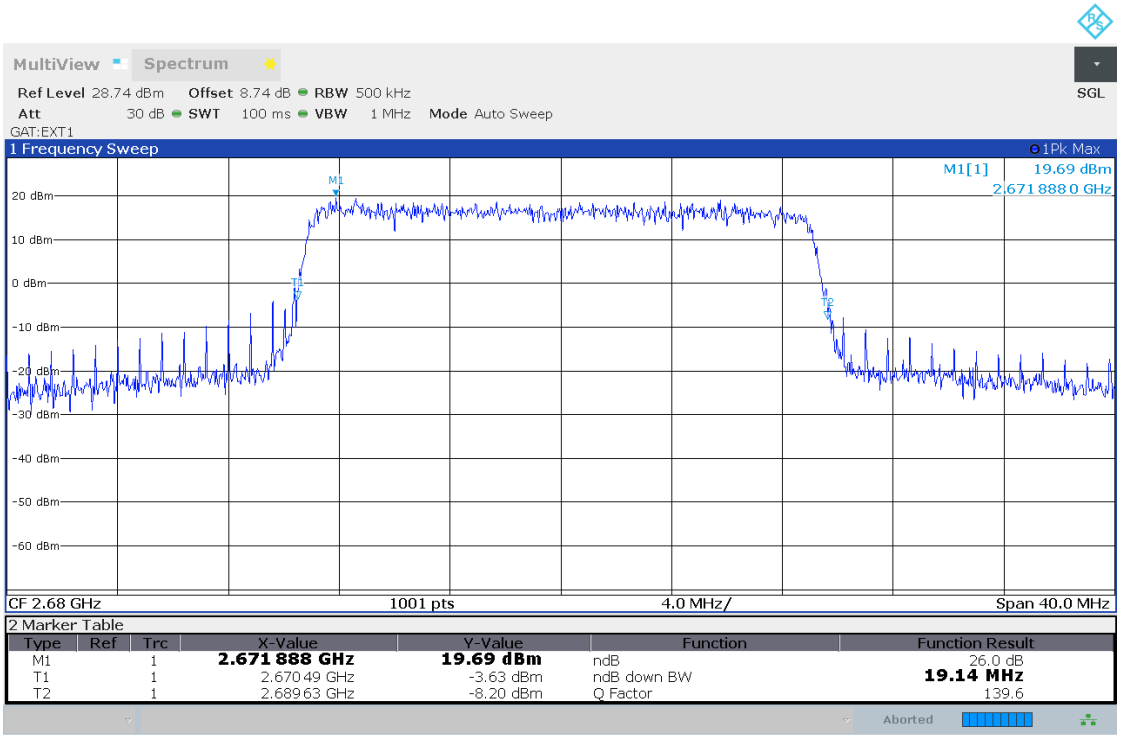
TM1_20MHz_HCH_RB100#0



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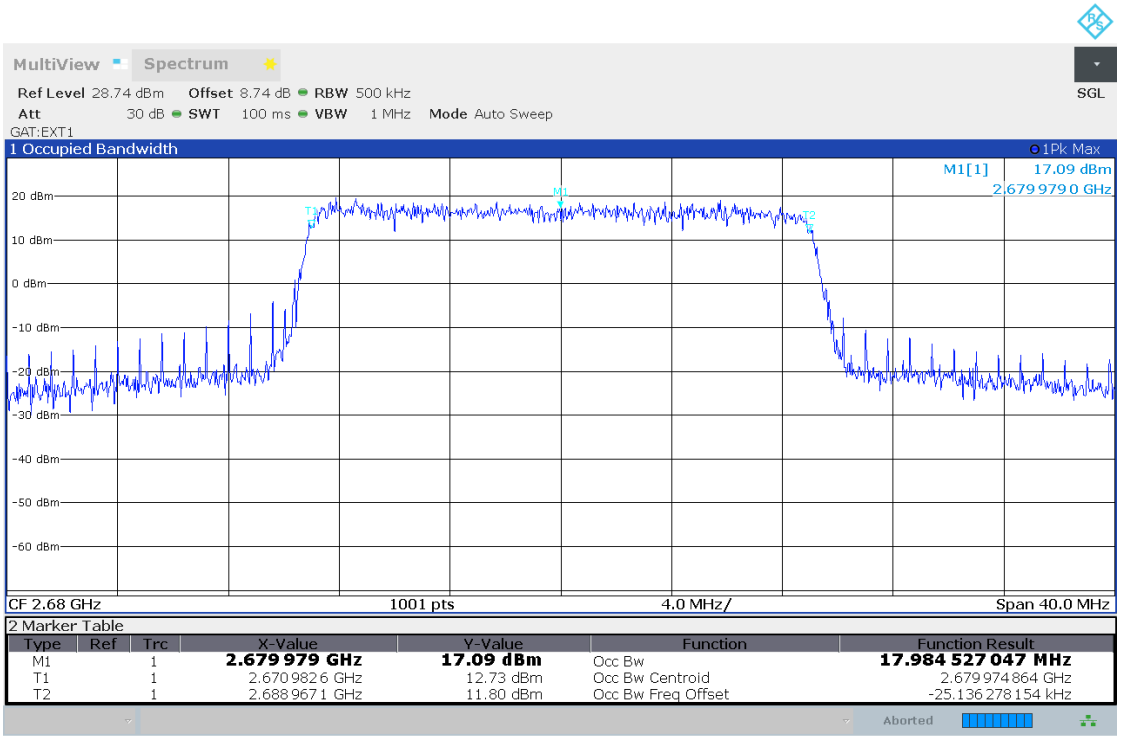

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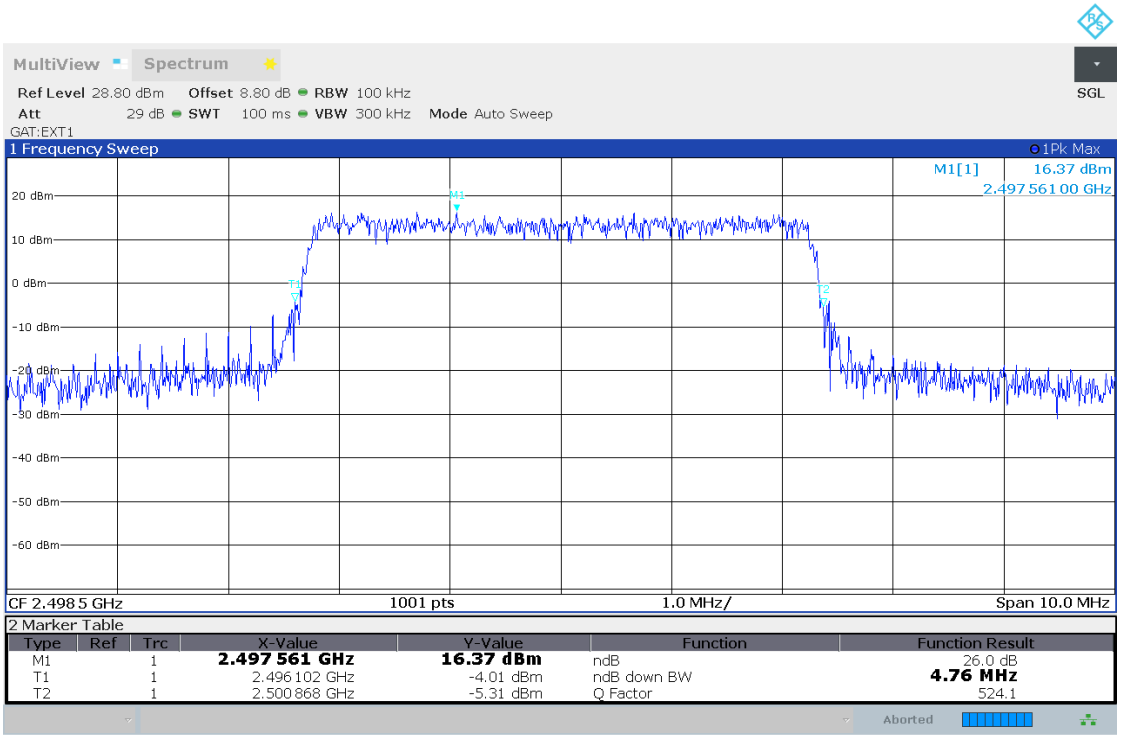

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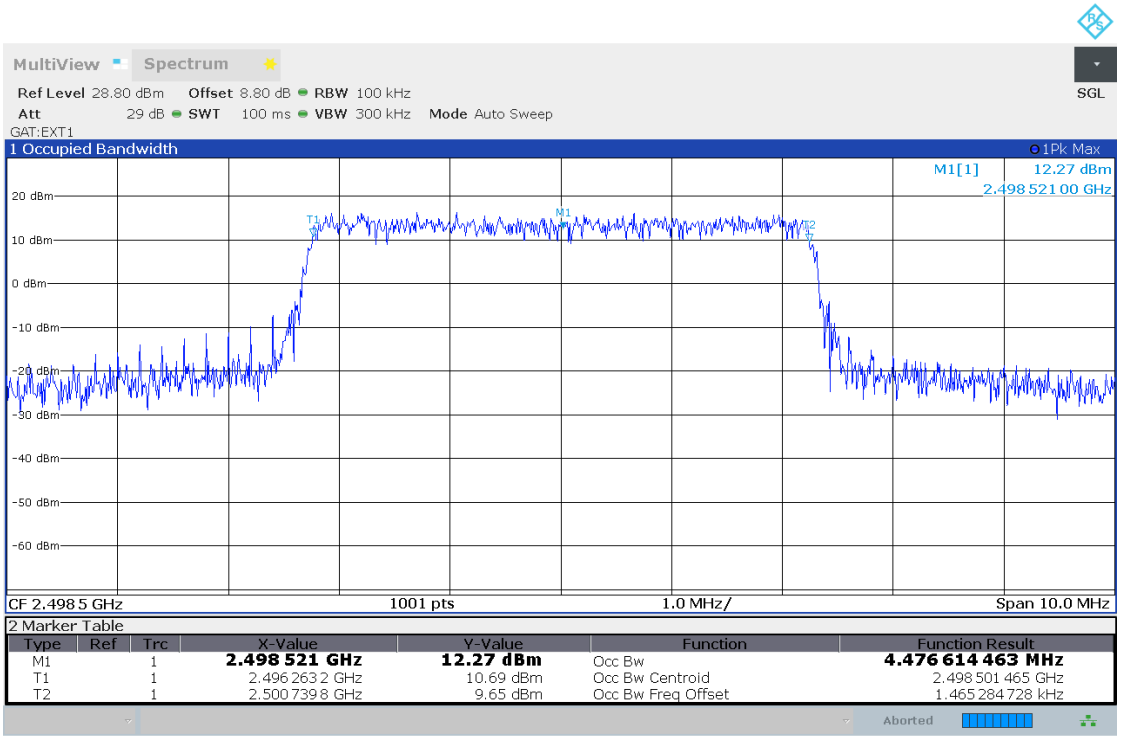

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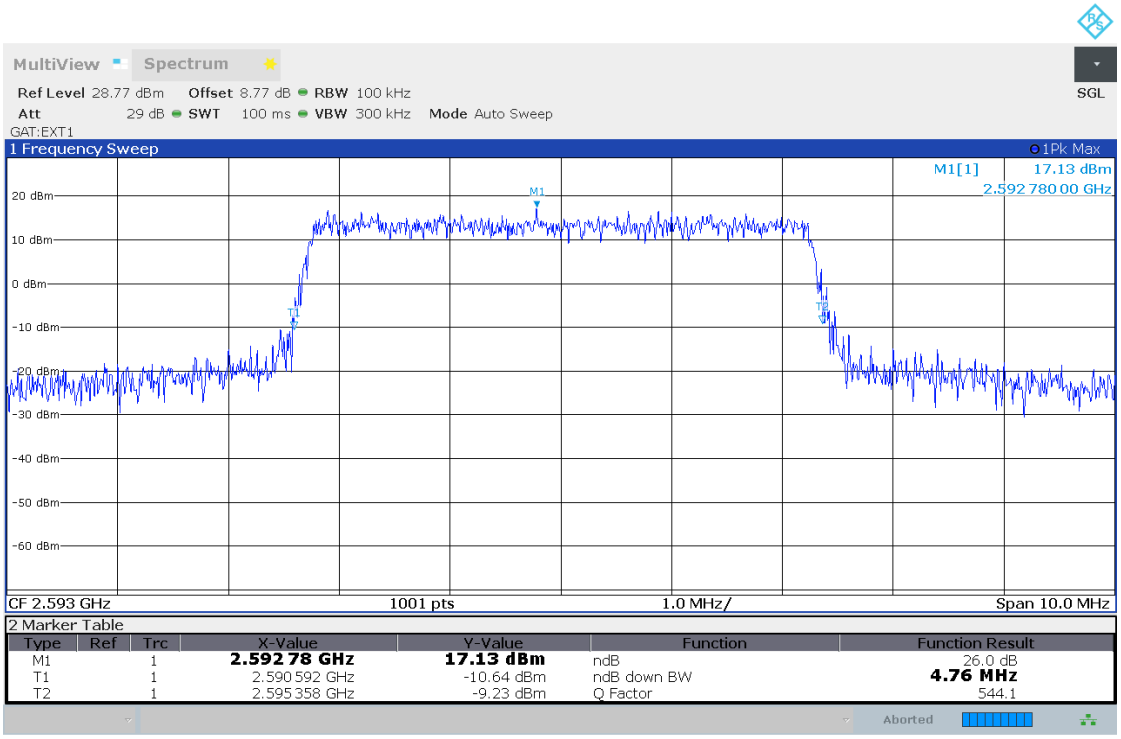
TM2_5MHz_MCH_RB25#0



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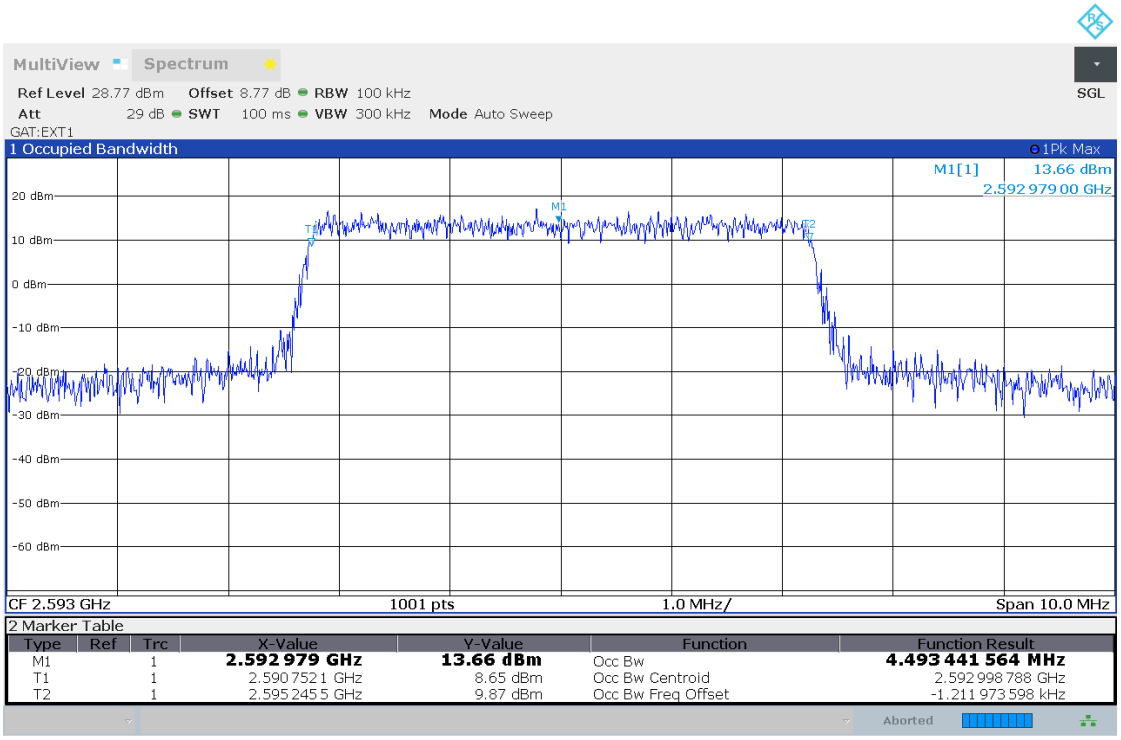

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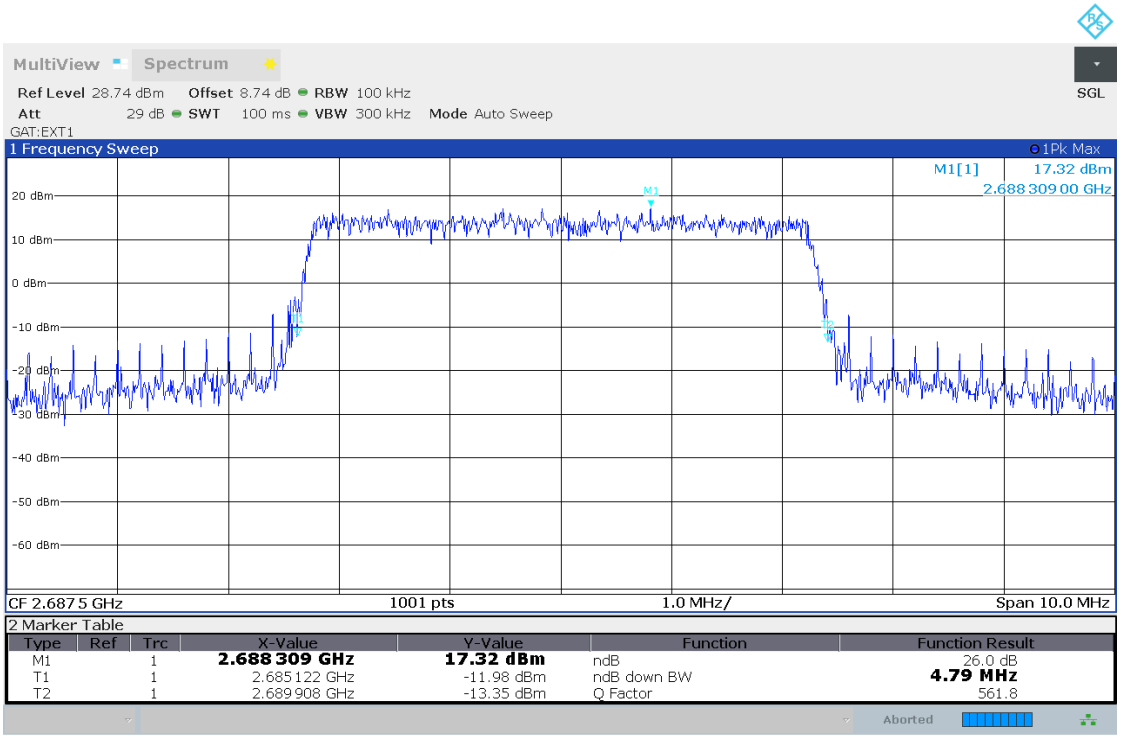
TM2_5MHz_HCH_RB25#0



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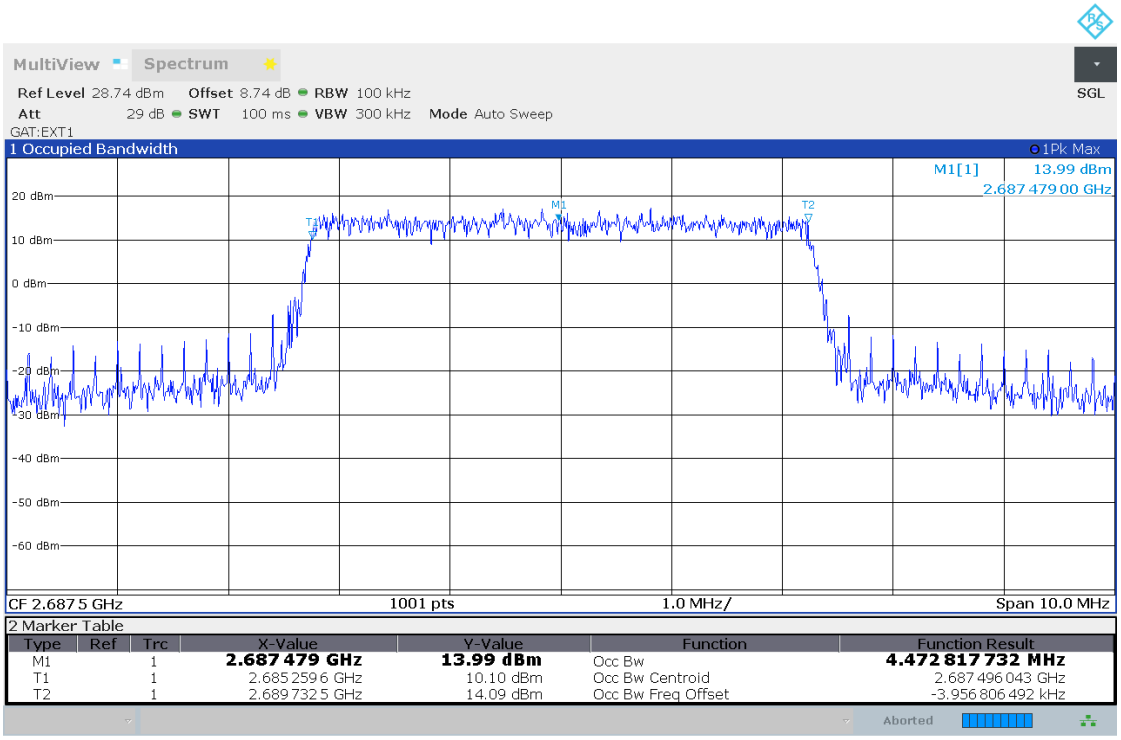

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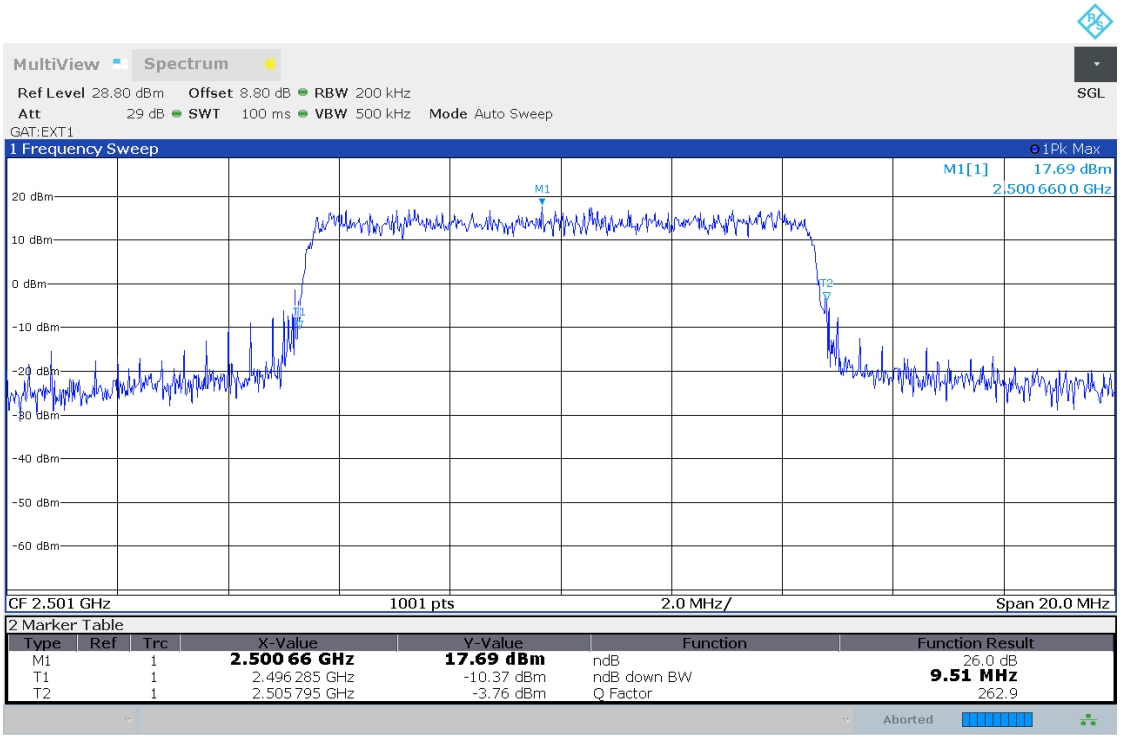
TM2_10MHz_LCH_RB50#0



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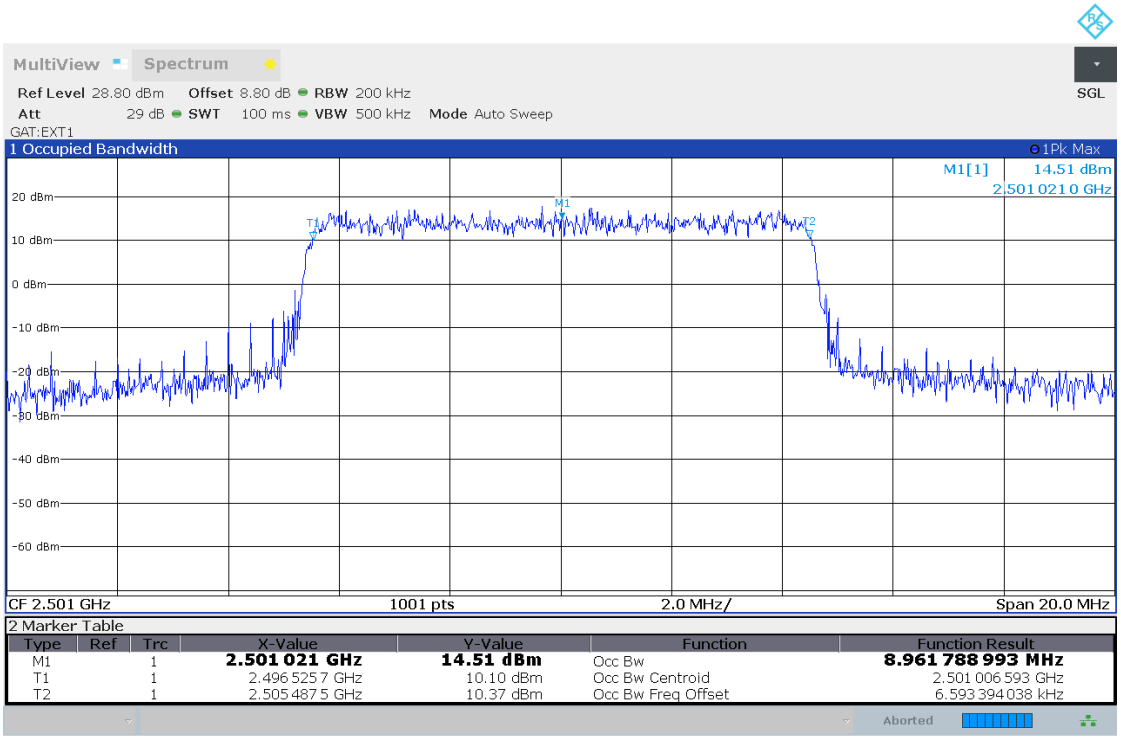

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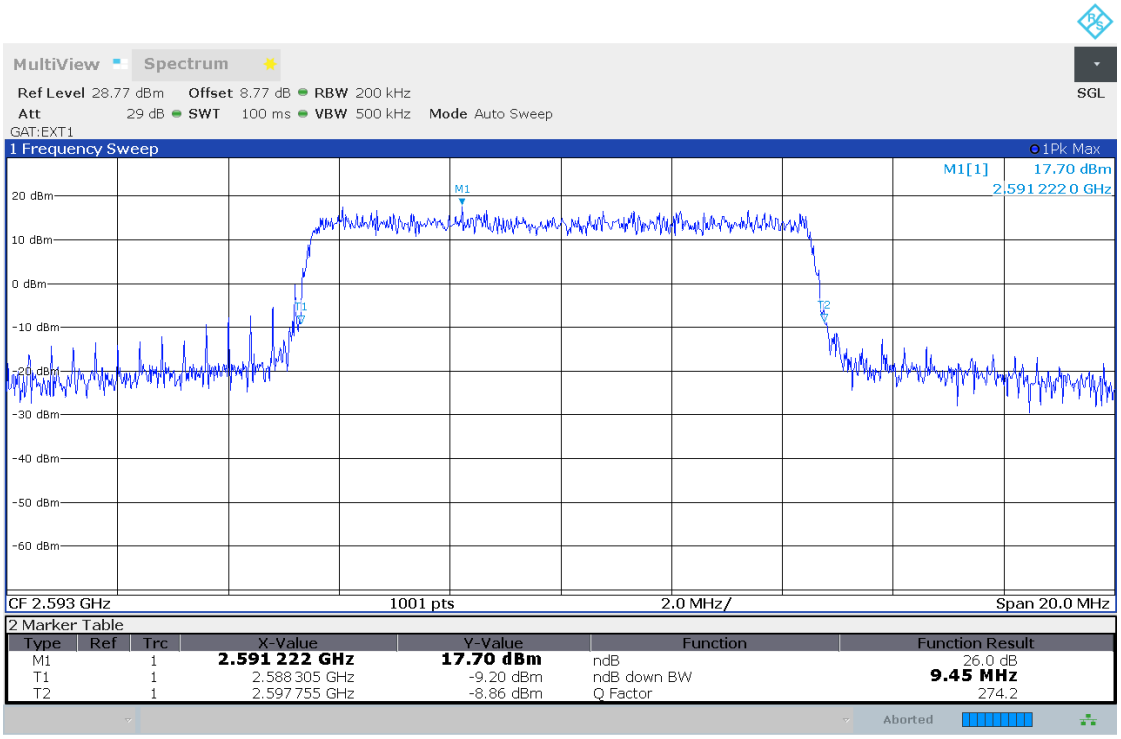
TM2_10MHz_MCH_RB50#0



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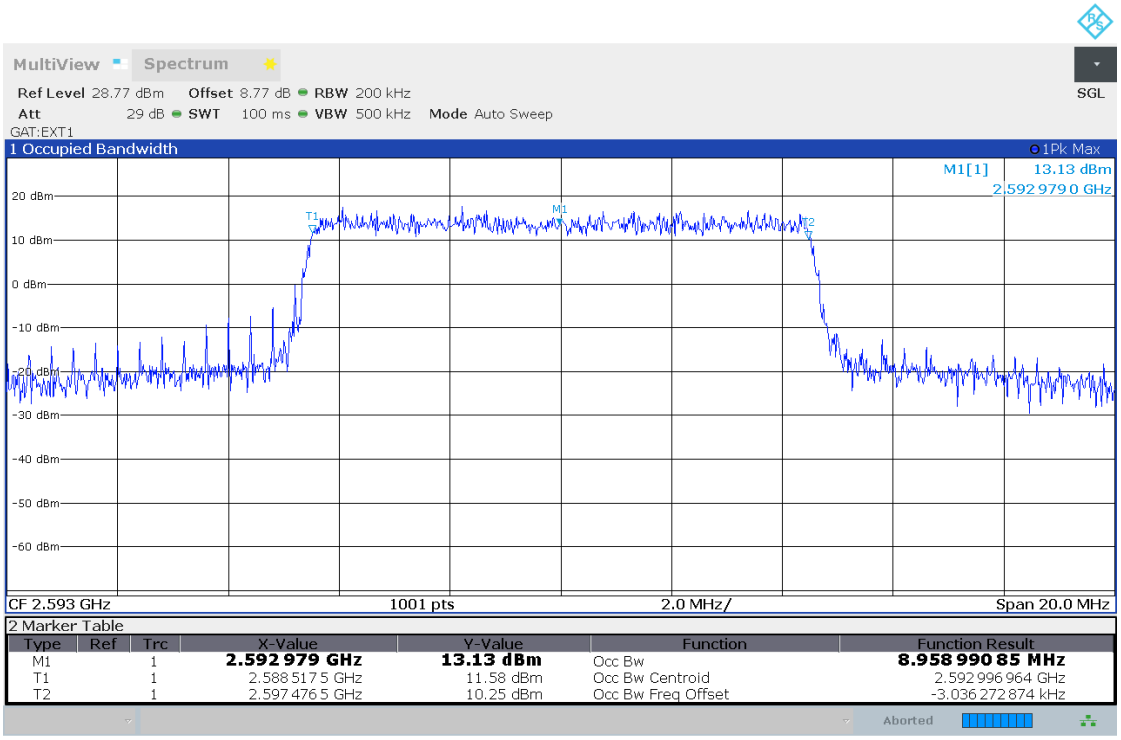

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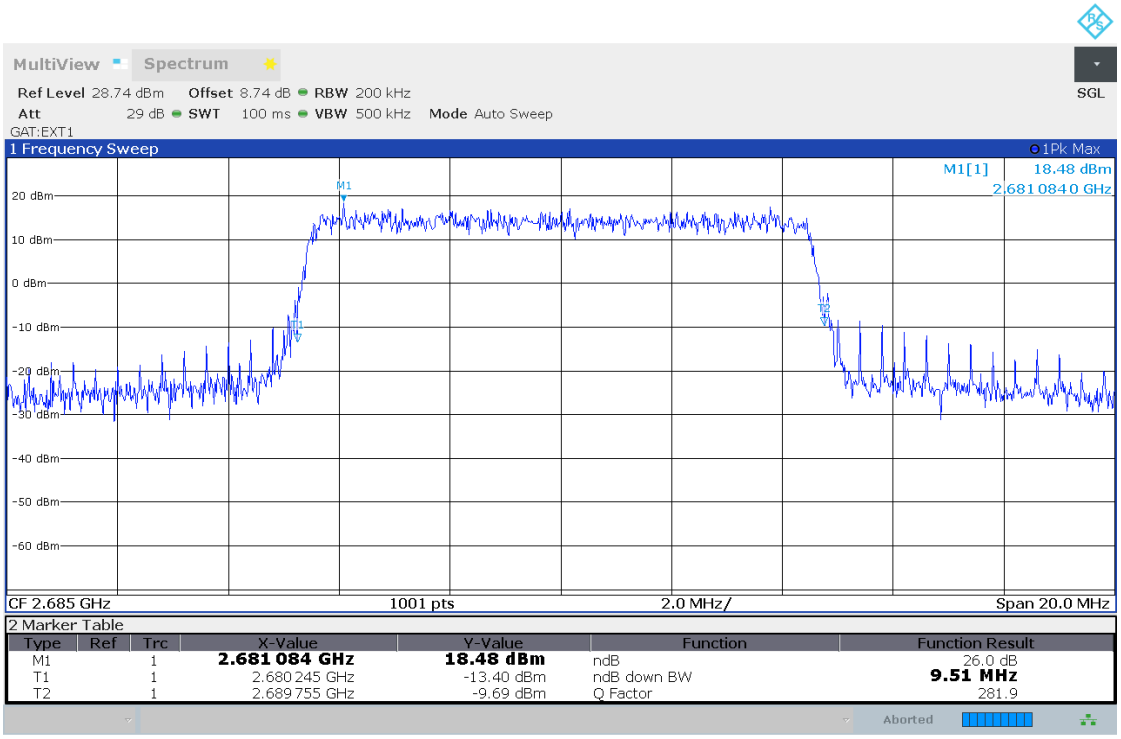
TM2_10MHz_HCH_RB50#0



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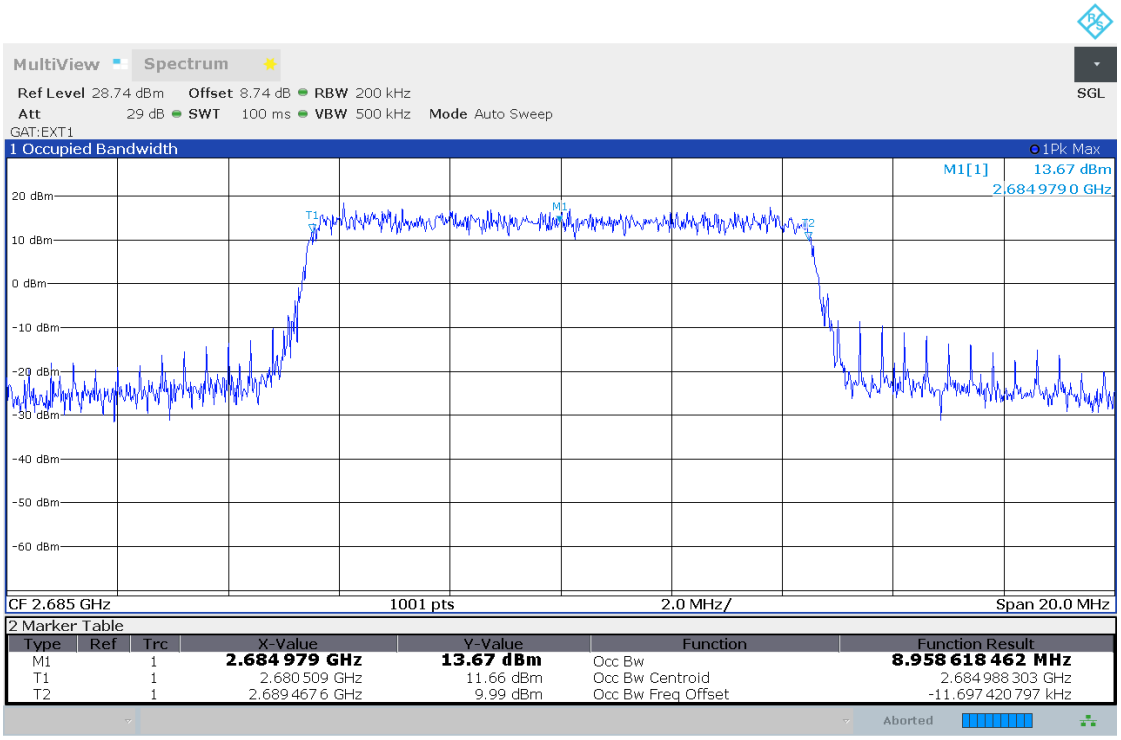

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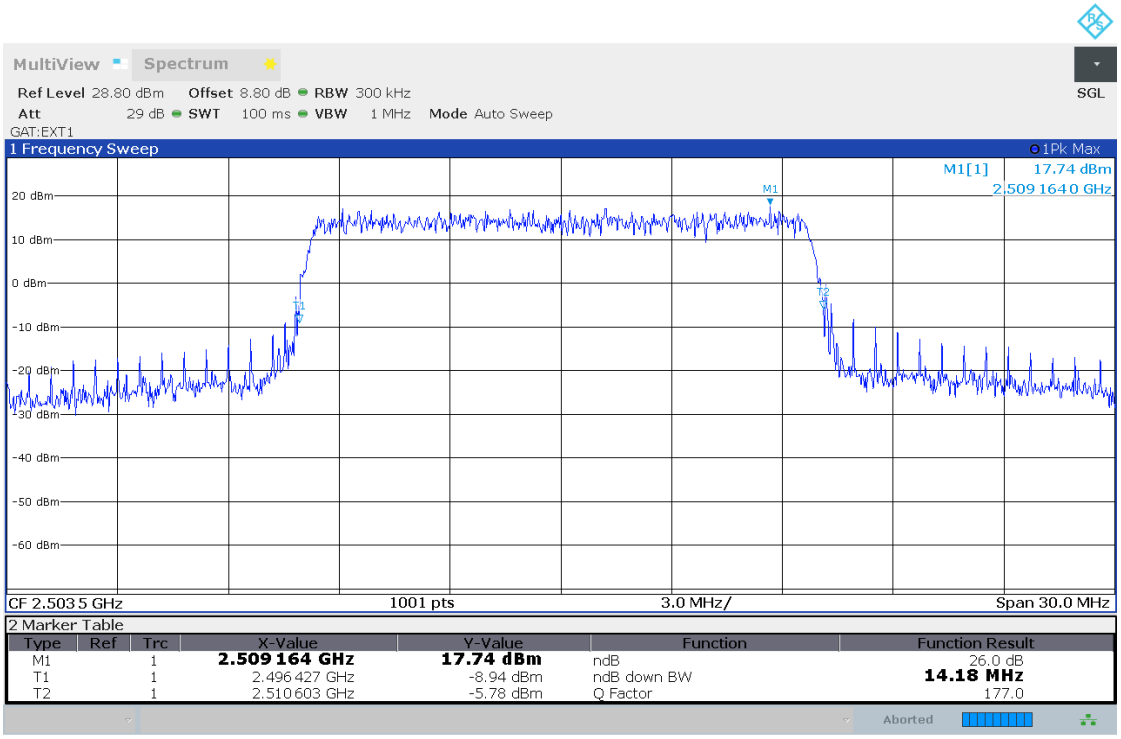
TM2_15MHz_LCH_RB75#0



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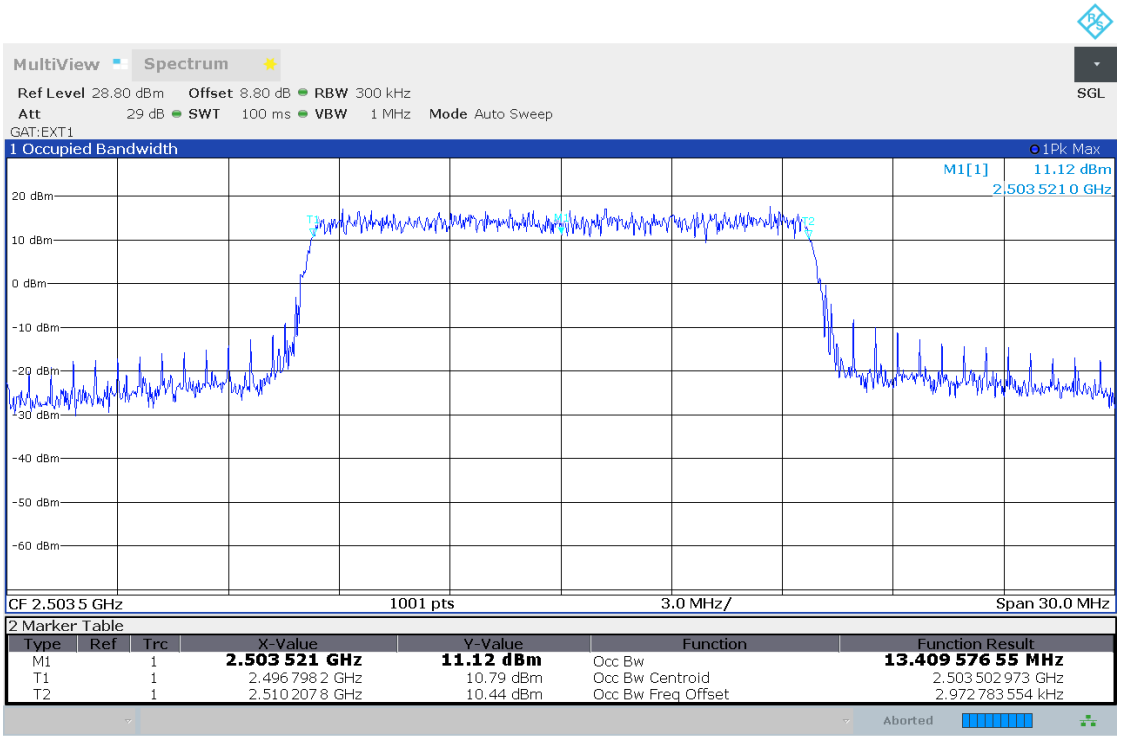

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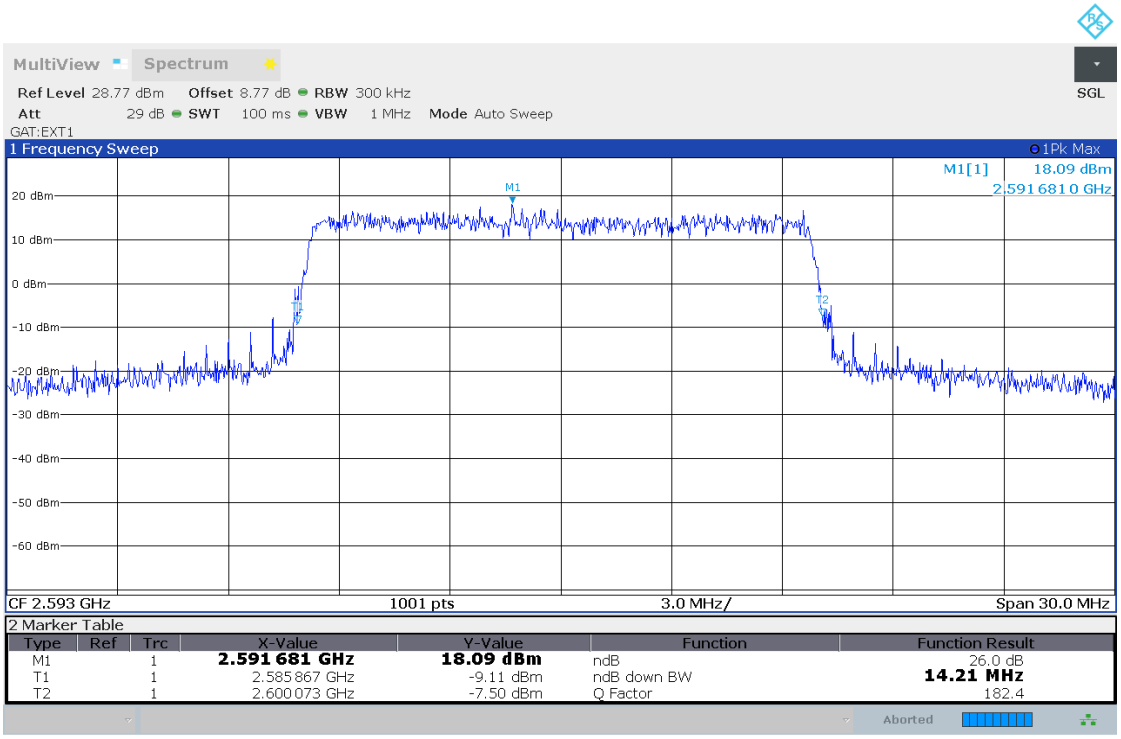
TM2_15MHz_MCH_RB75#0



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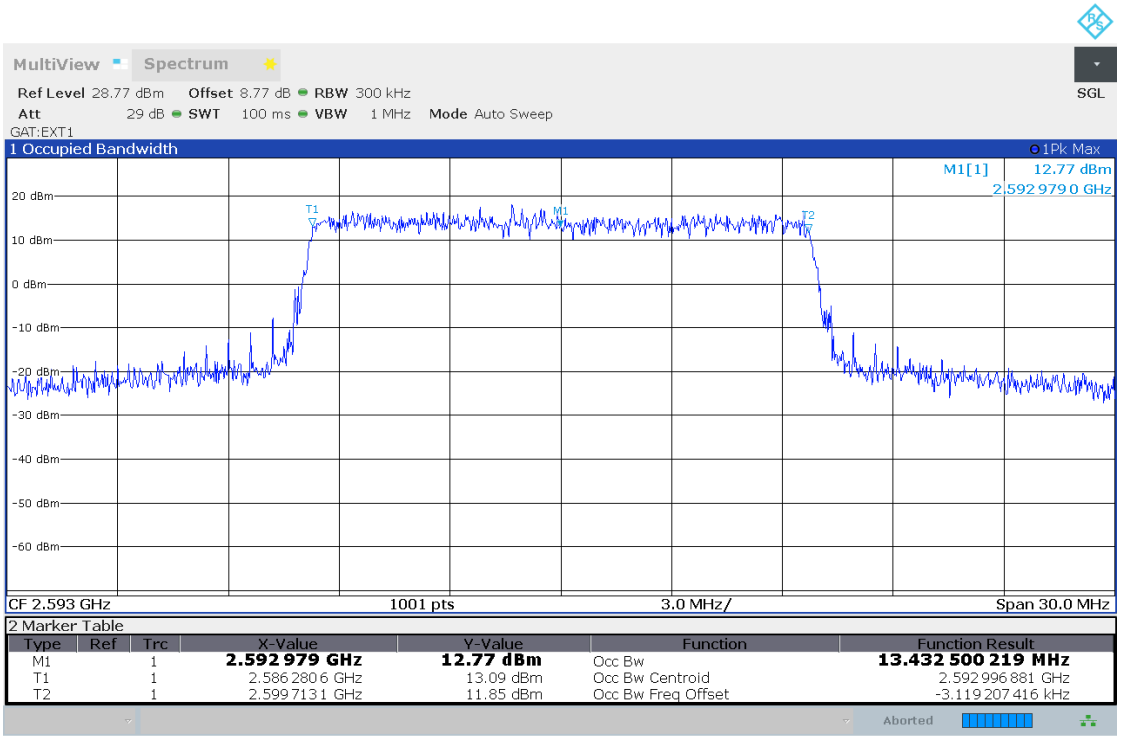

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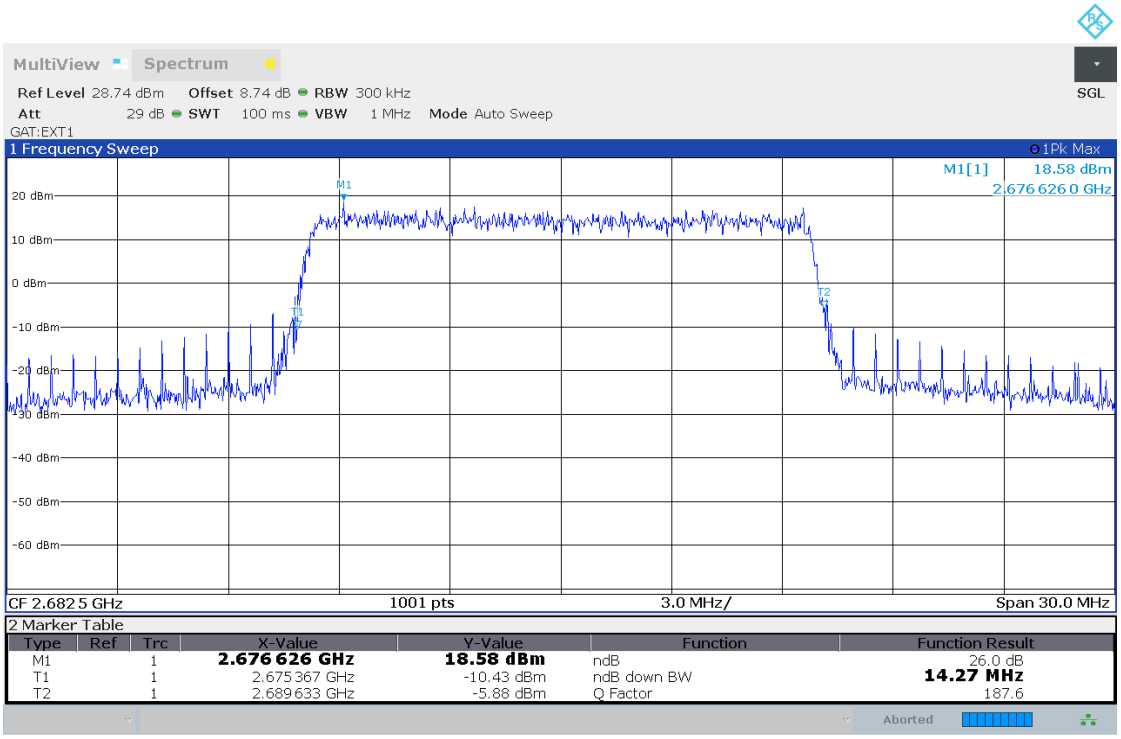
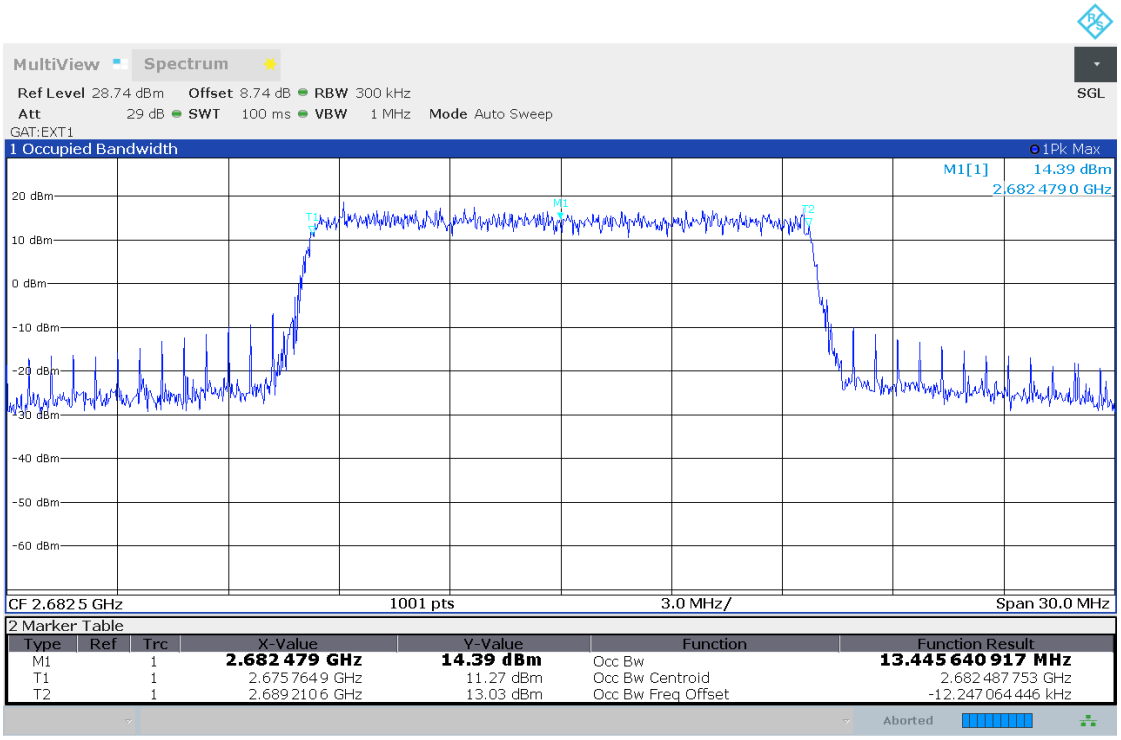
TM2_15MHz_HCH_RB75#0



16:40:27 25.04.2022



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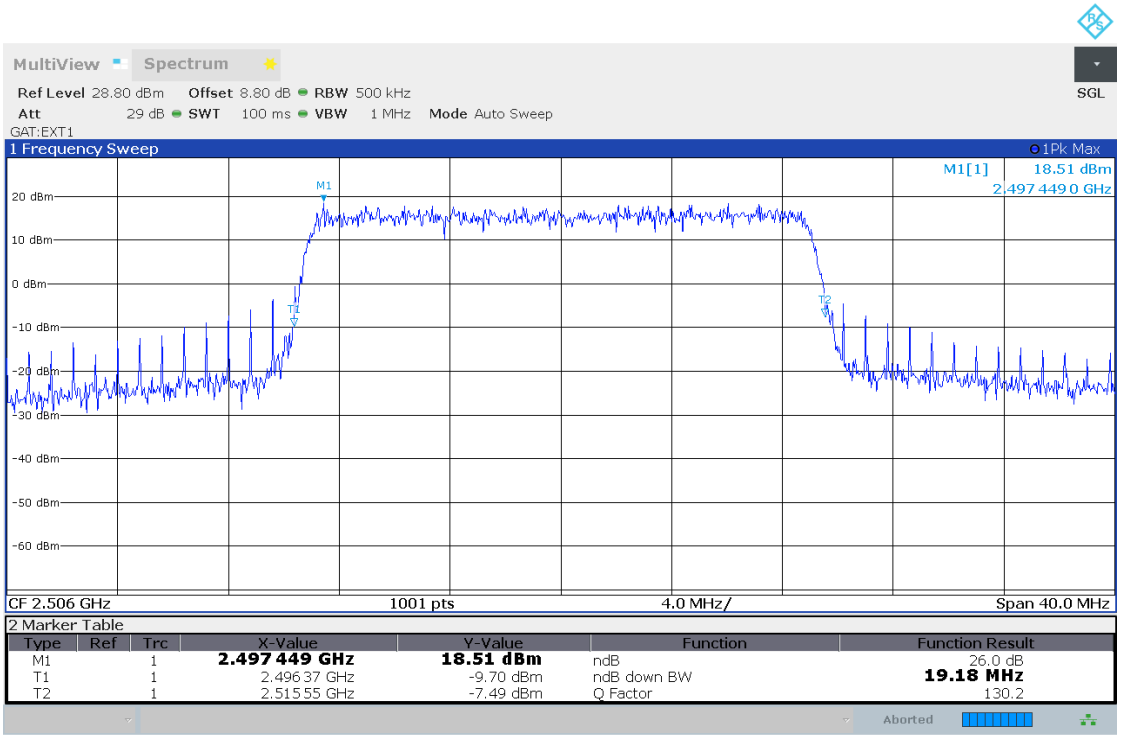
TM2_20MHz_LCH_RB100#0



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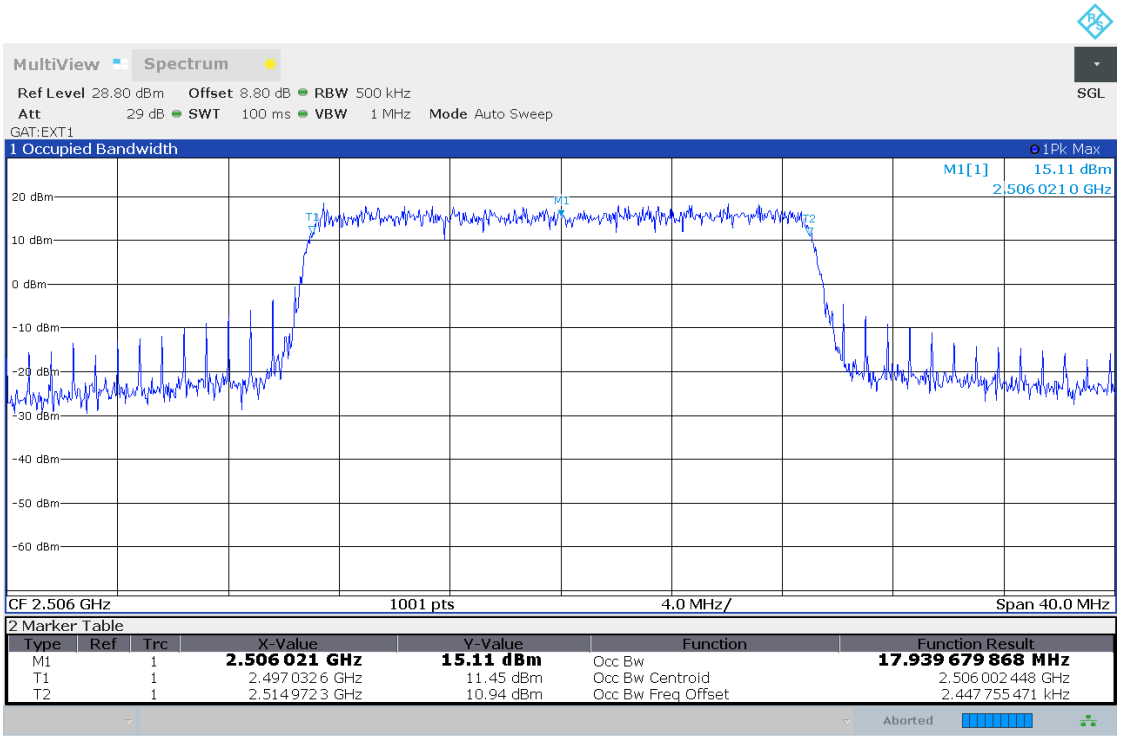
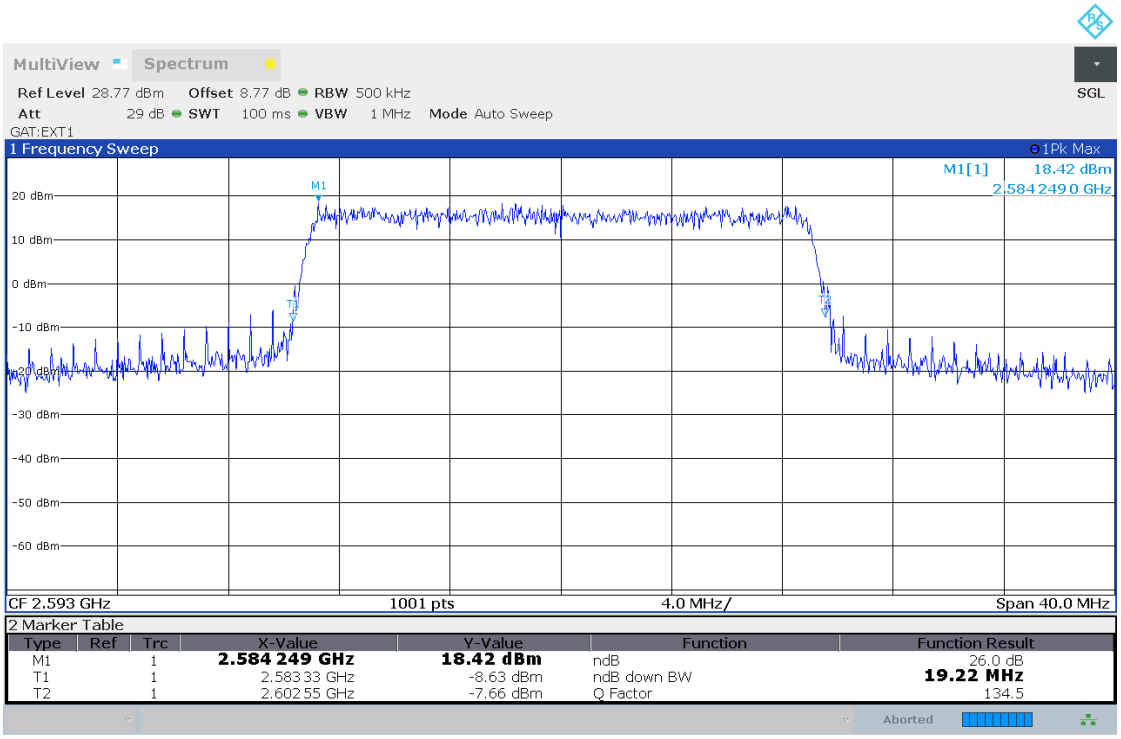


16:41:28 25.04.2022

TM2_20MHz_MCH_RB100#0



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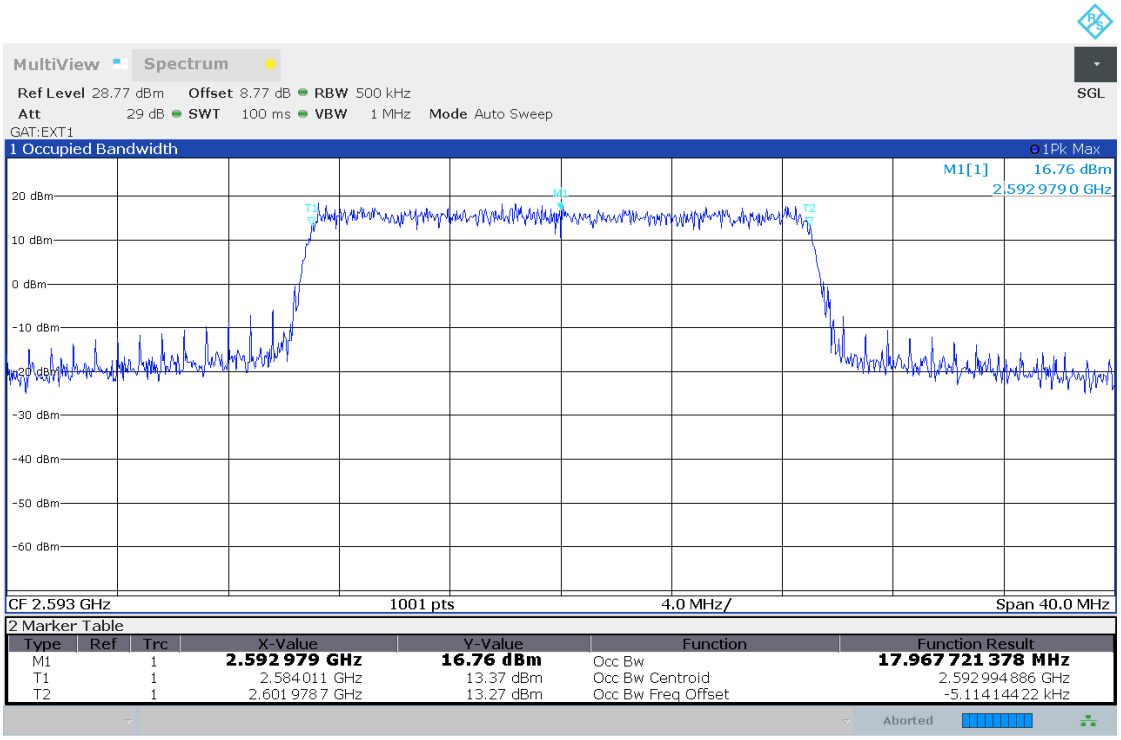

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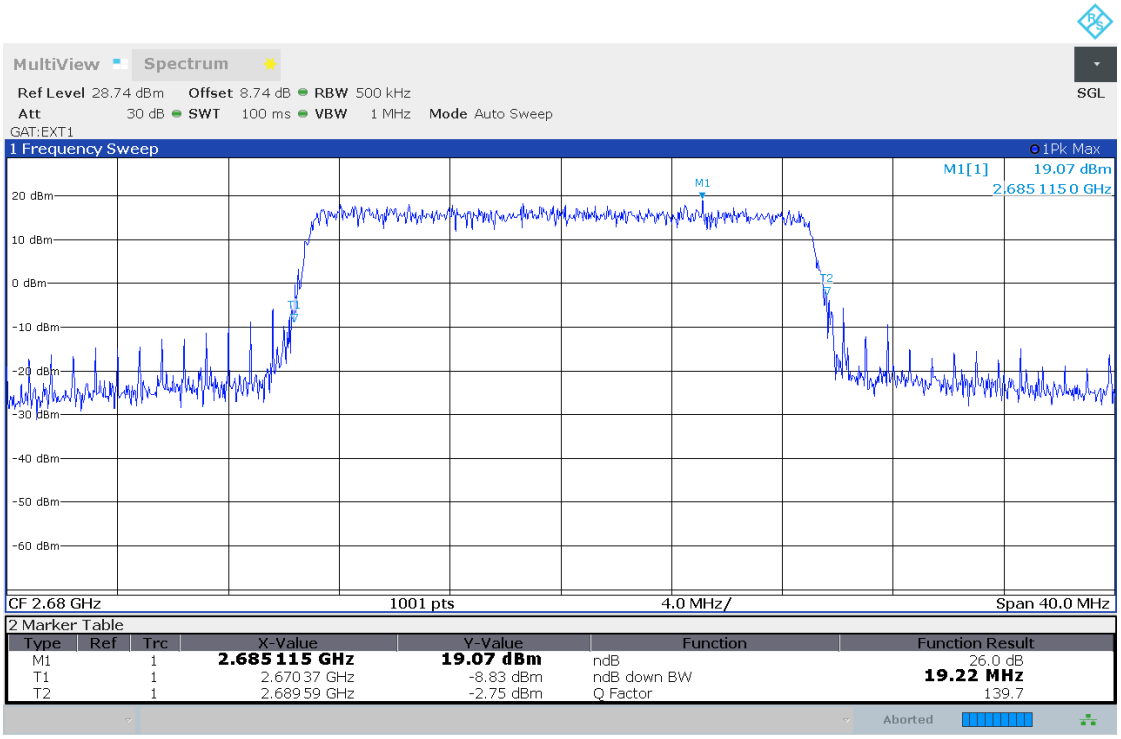
TM2_20MHz_HCH_RB100#0



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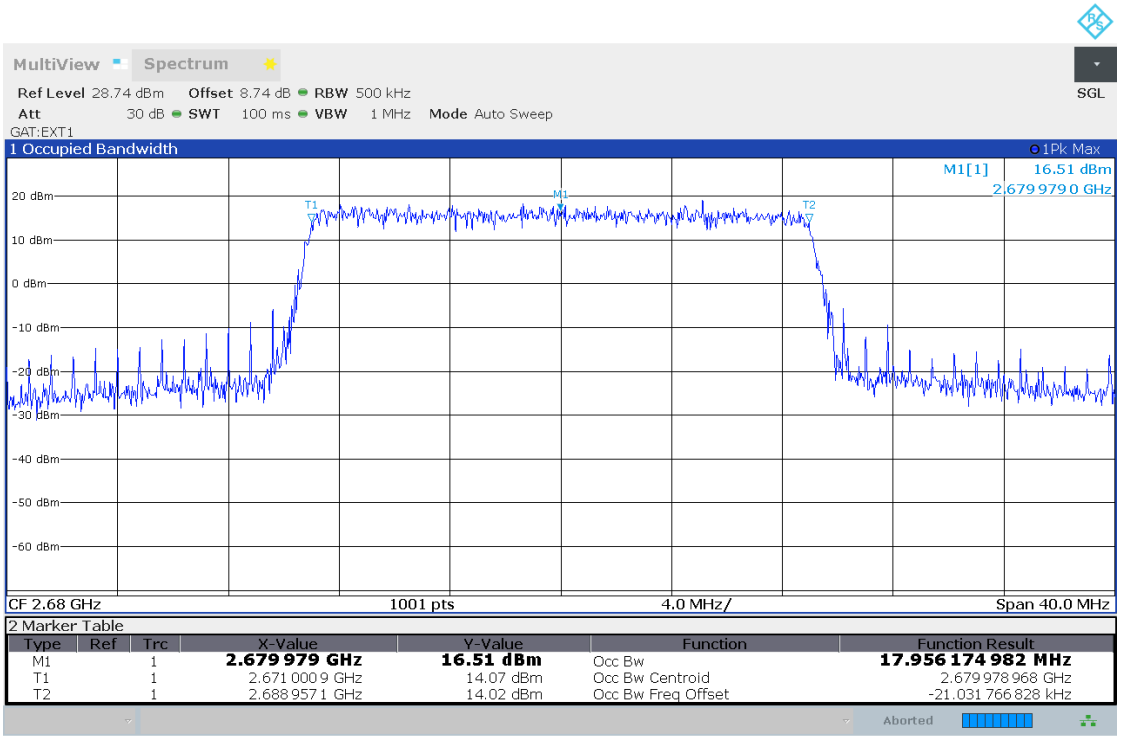

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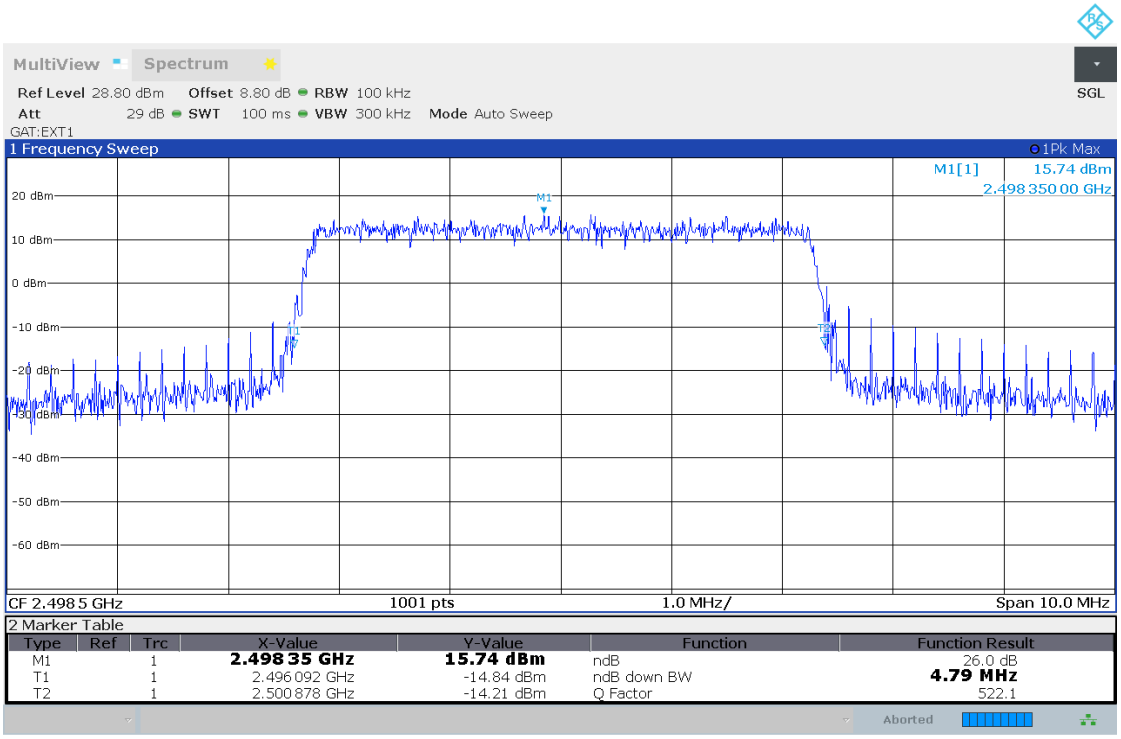
TM3_5MHz_LCH_RB25#0



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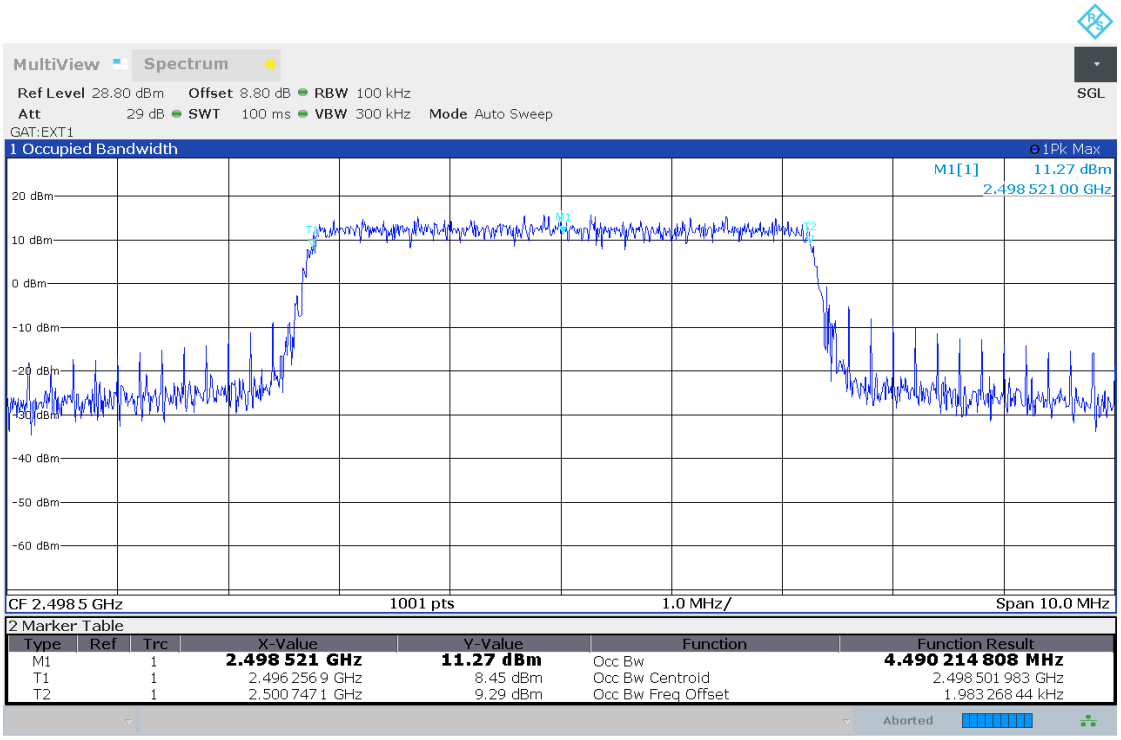

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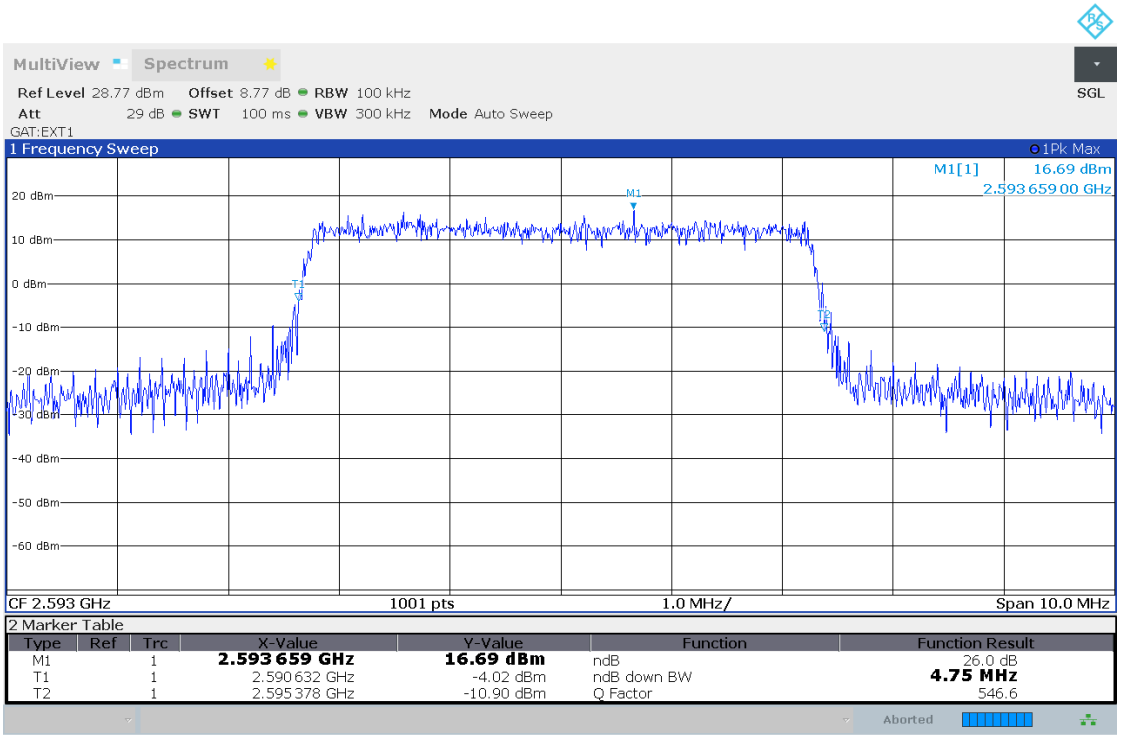
TM3_5MHz_MCH_RB25#0



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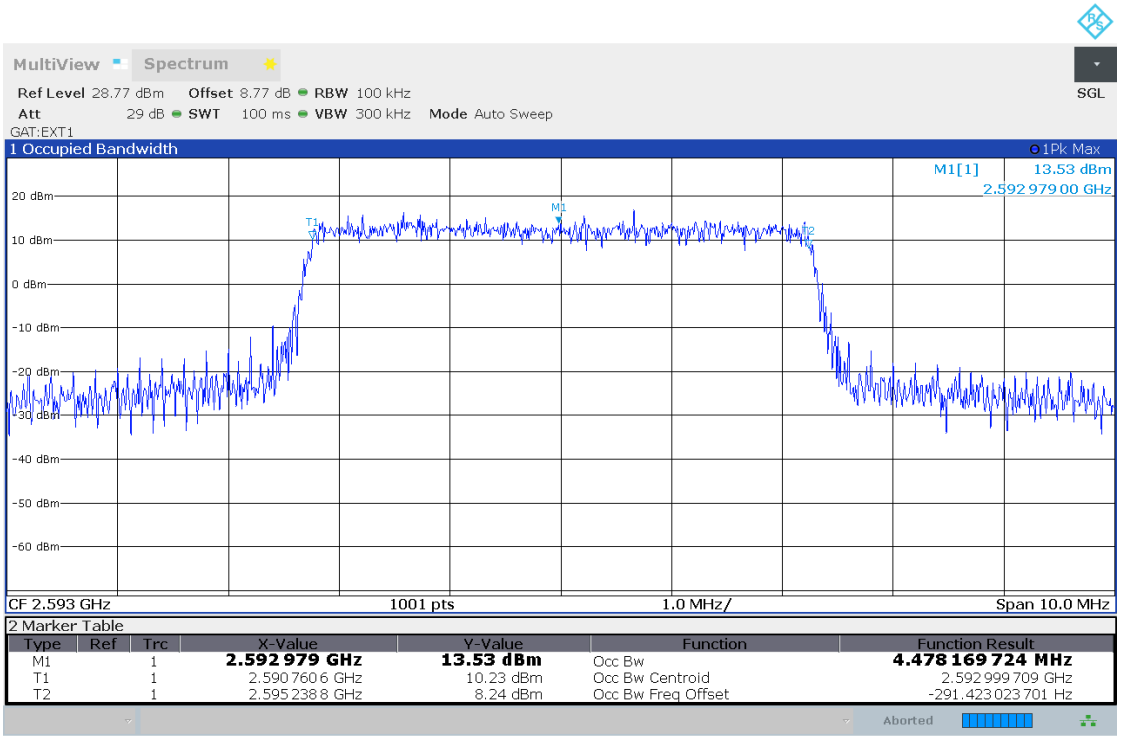

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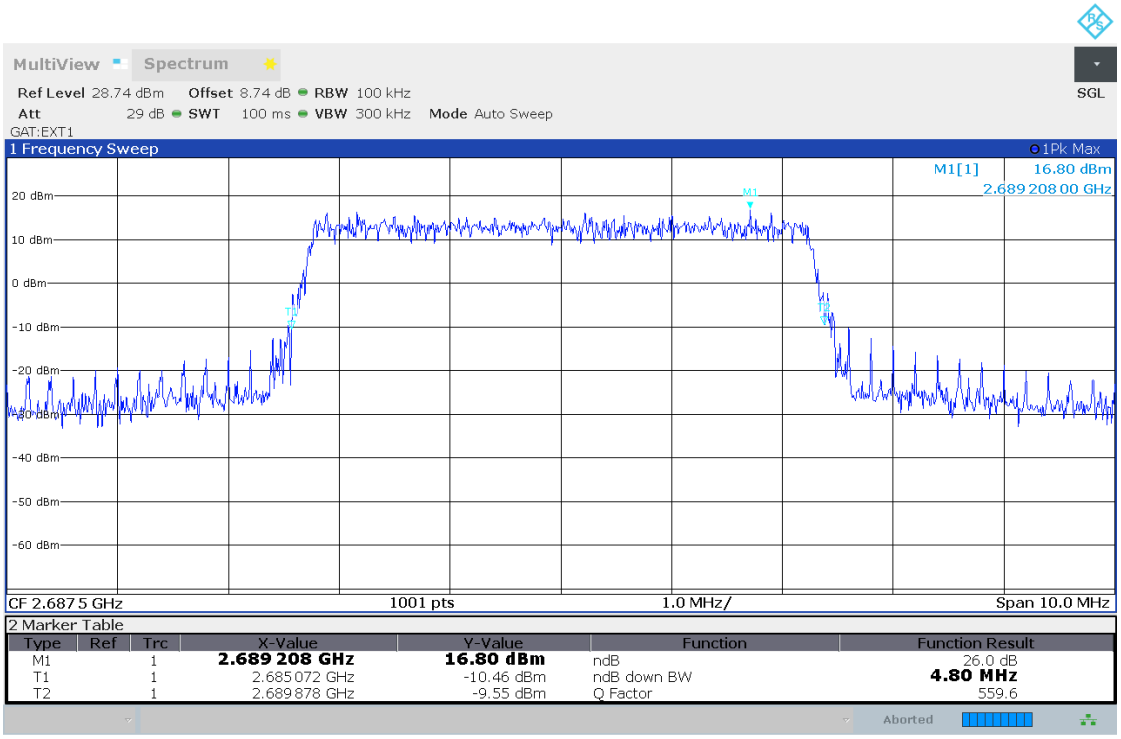
TM3_5MHz_HCH_RB25#0



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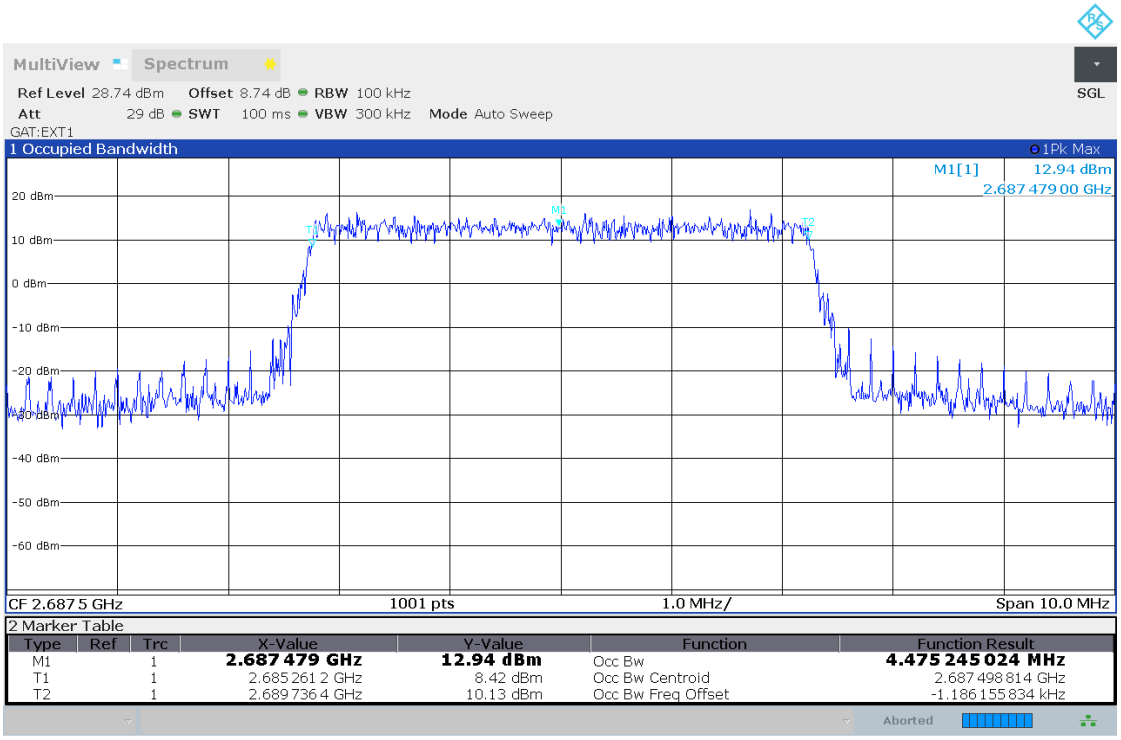

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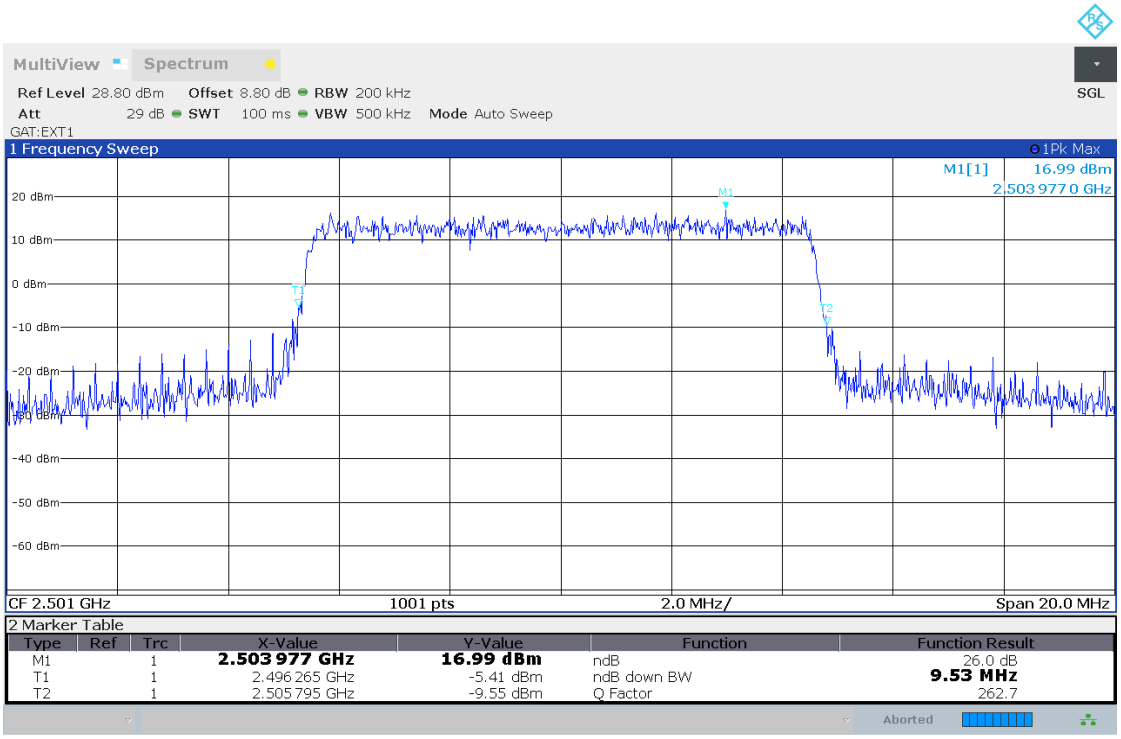
TM3_10MHz_LCH_RB50#0



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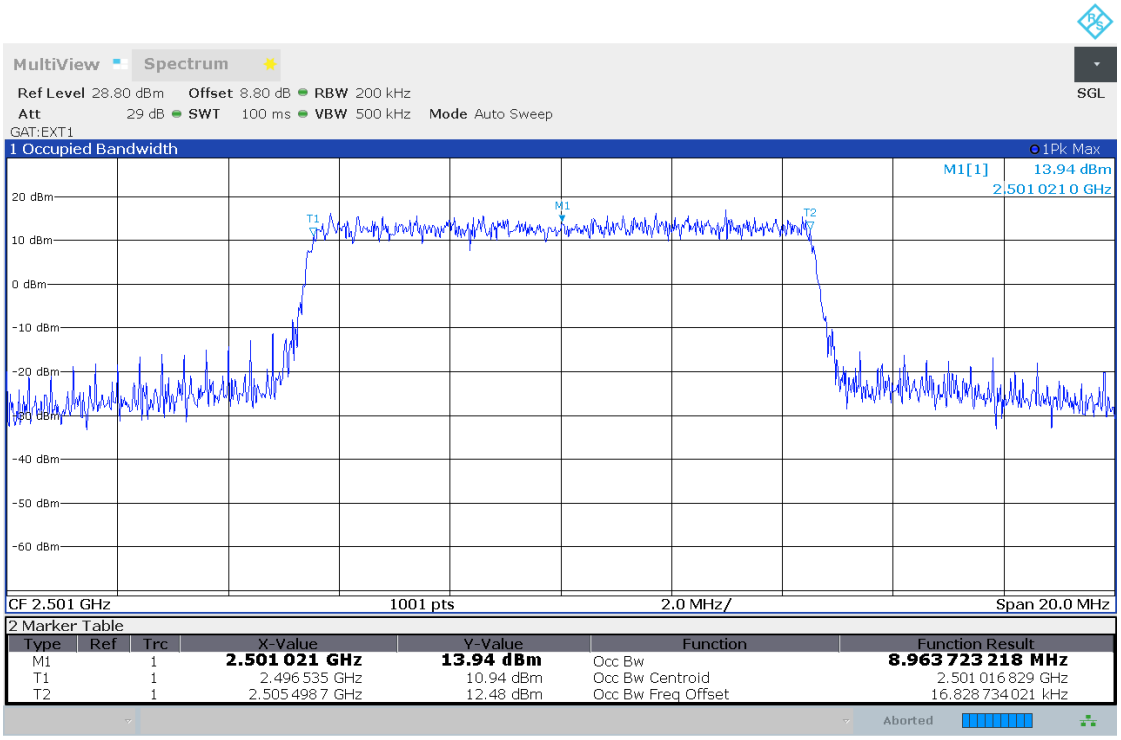

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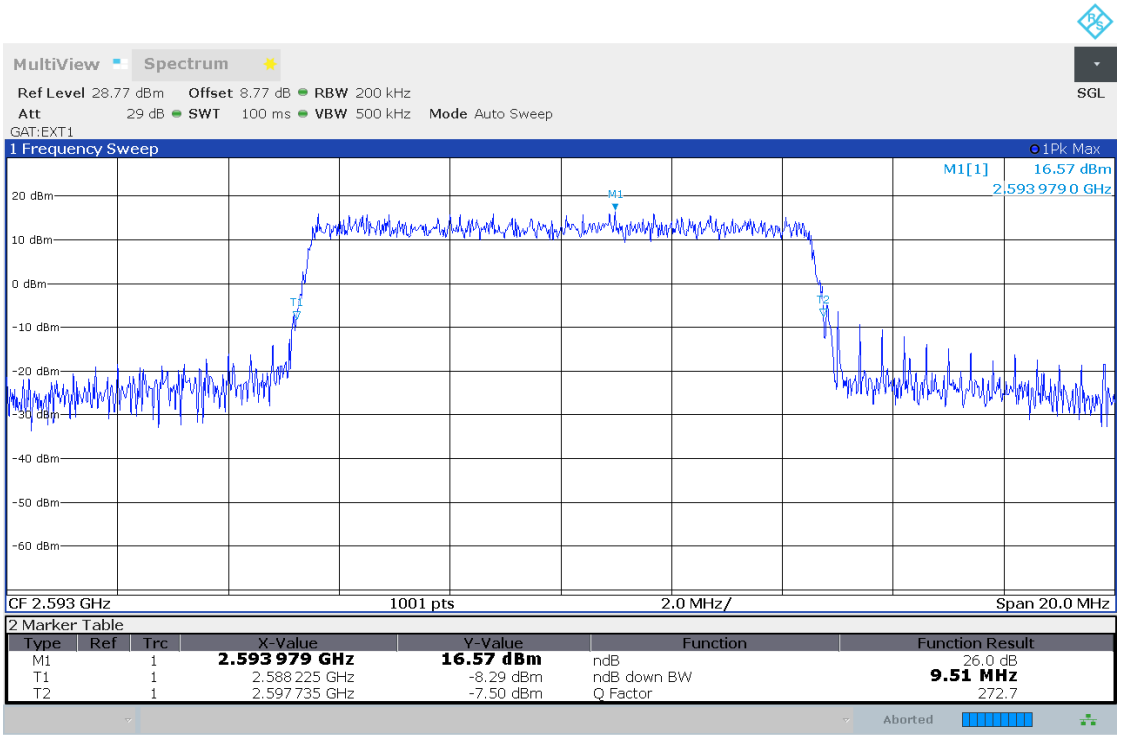
TM3_10MHz_MCH_RB50#0



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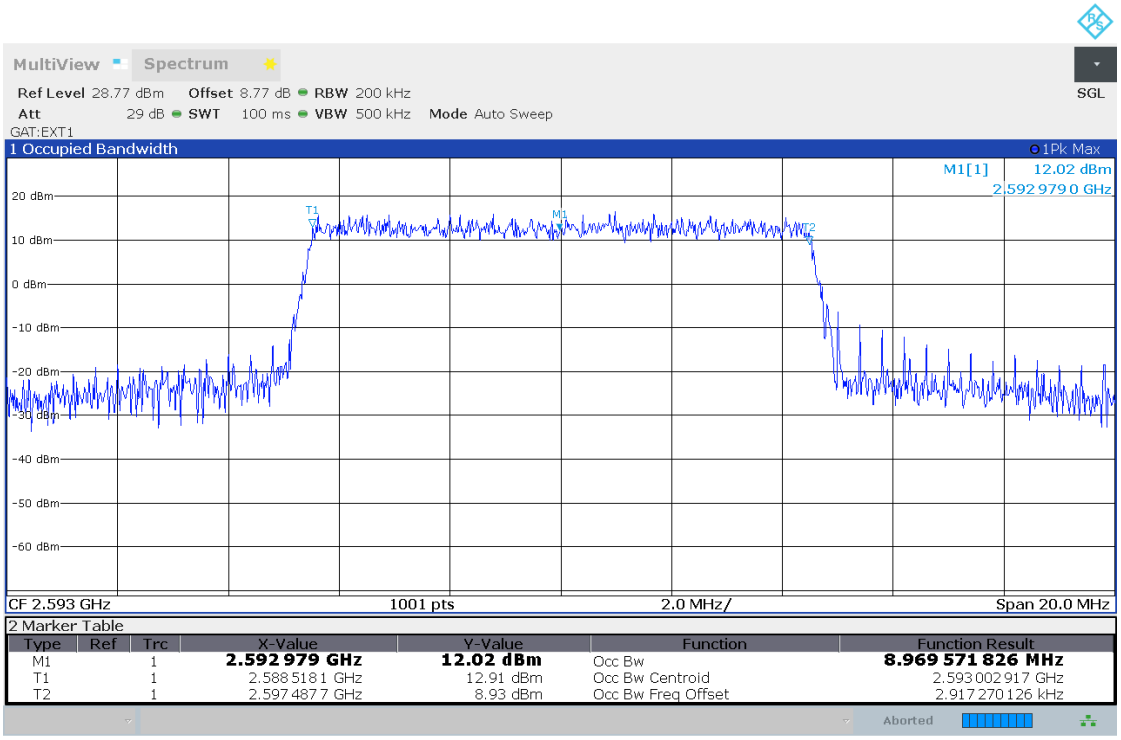

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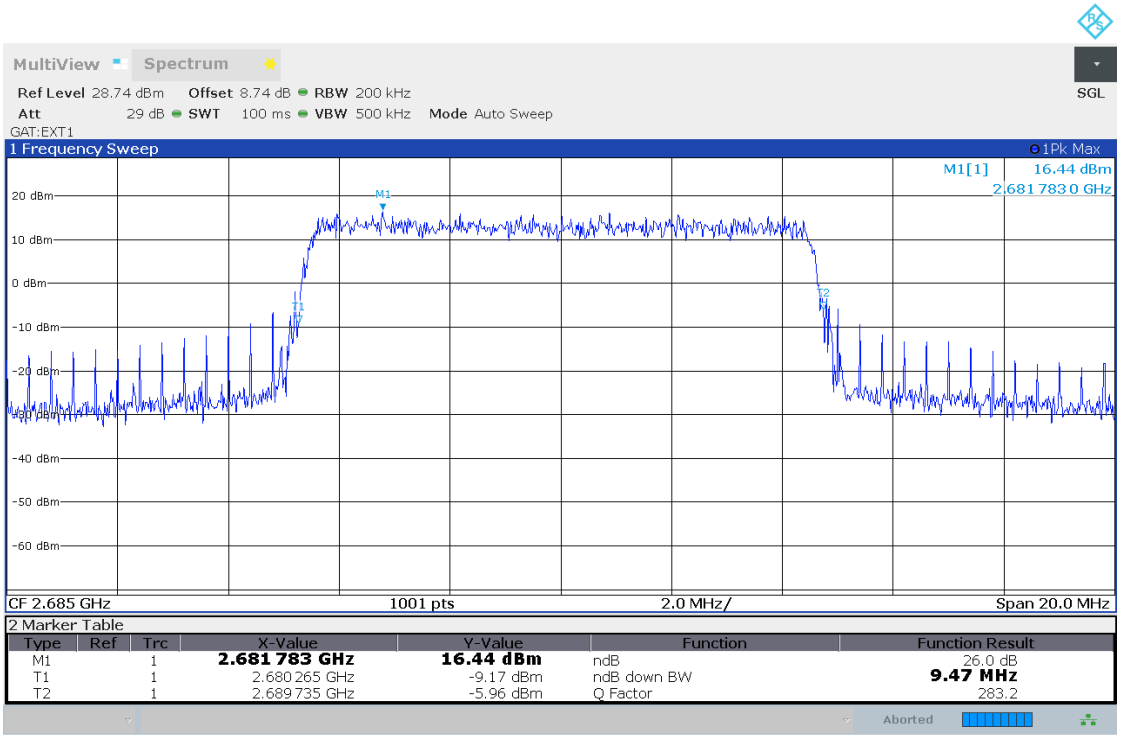
TM3_10MHz_HCH_RB50#0



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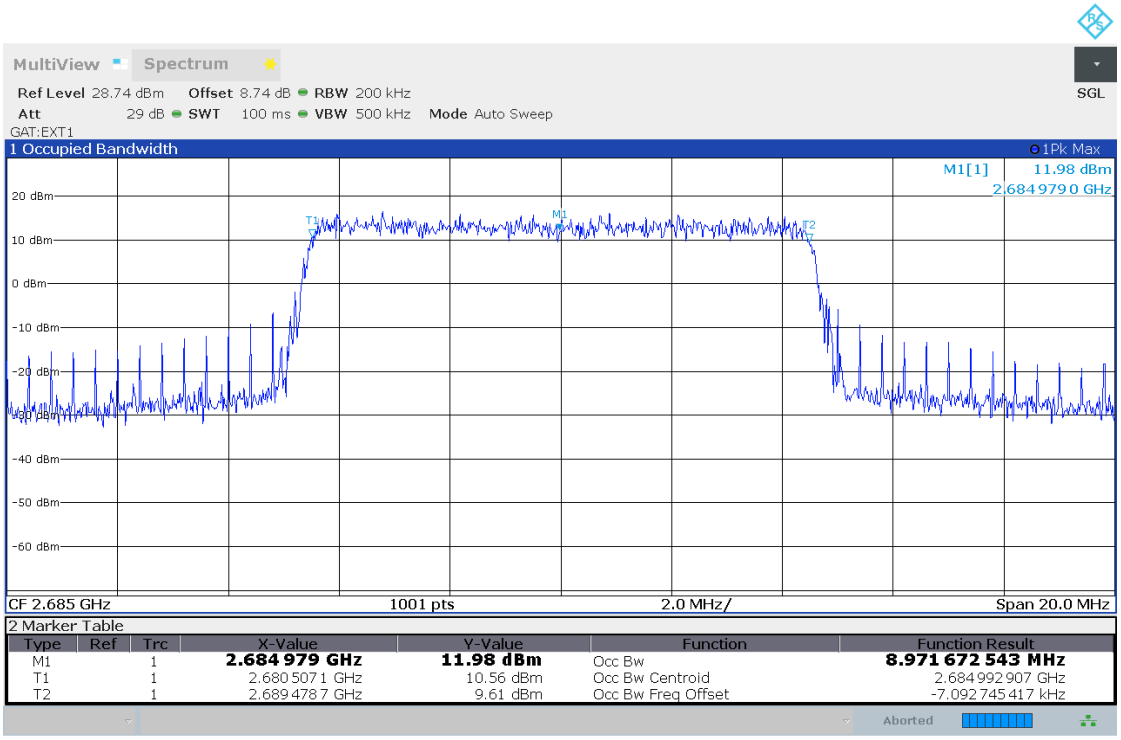

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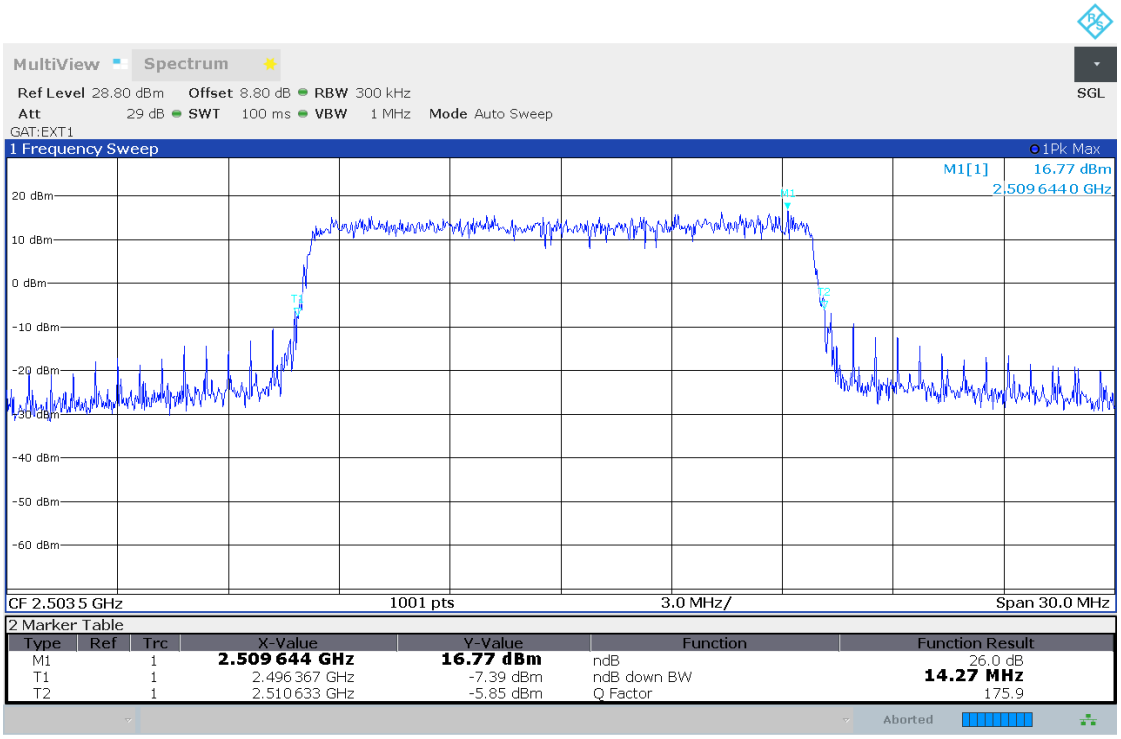
TM3_15MHz_LCH_RB75#0



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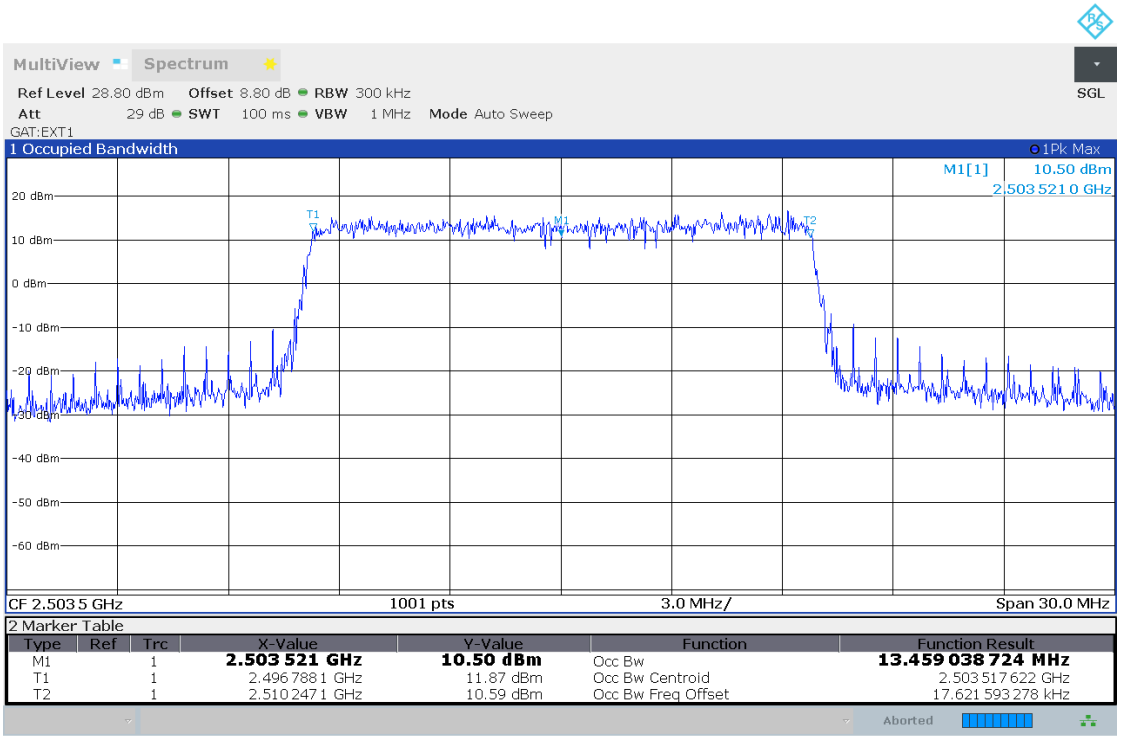

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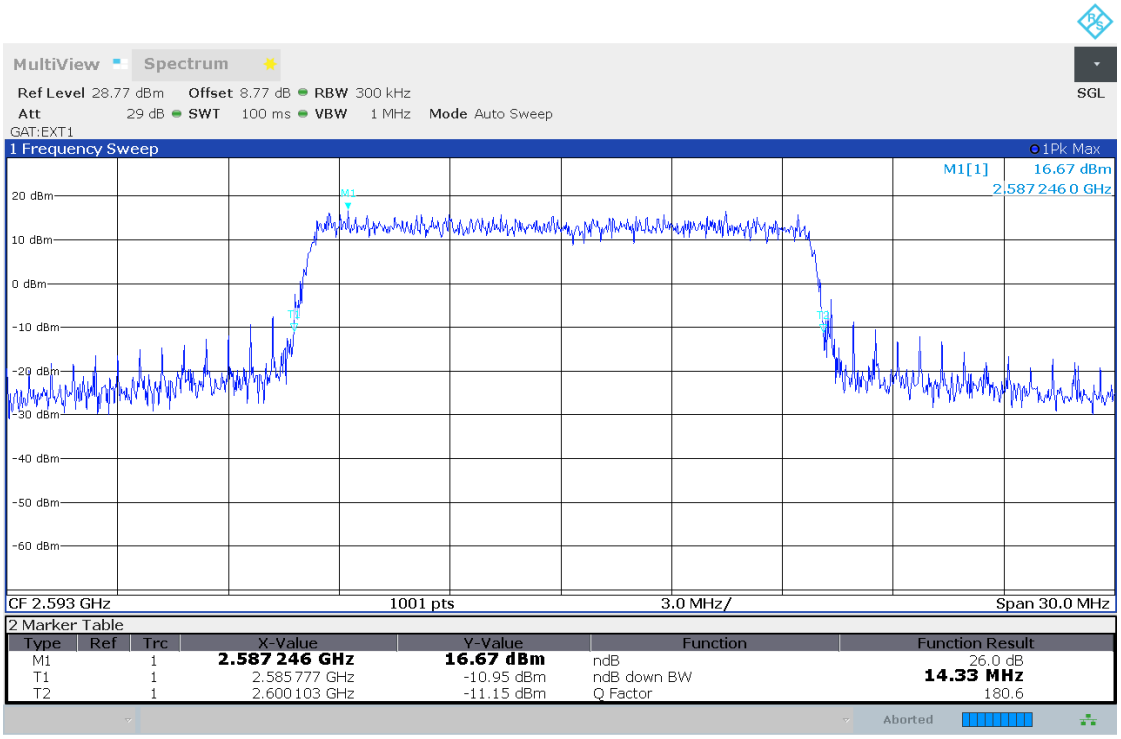
TM3_15MHz_MCH_RB75#0



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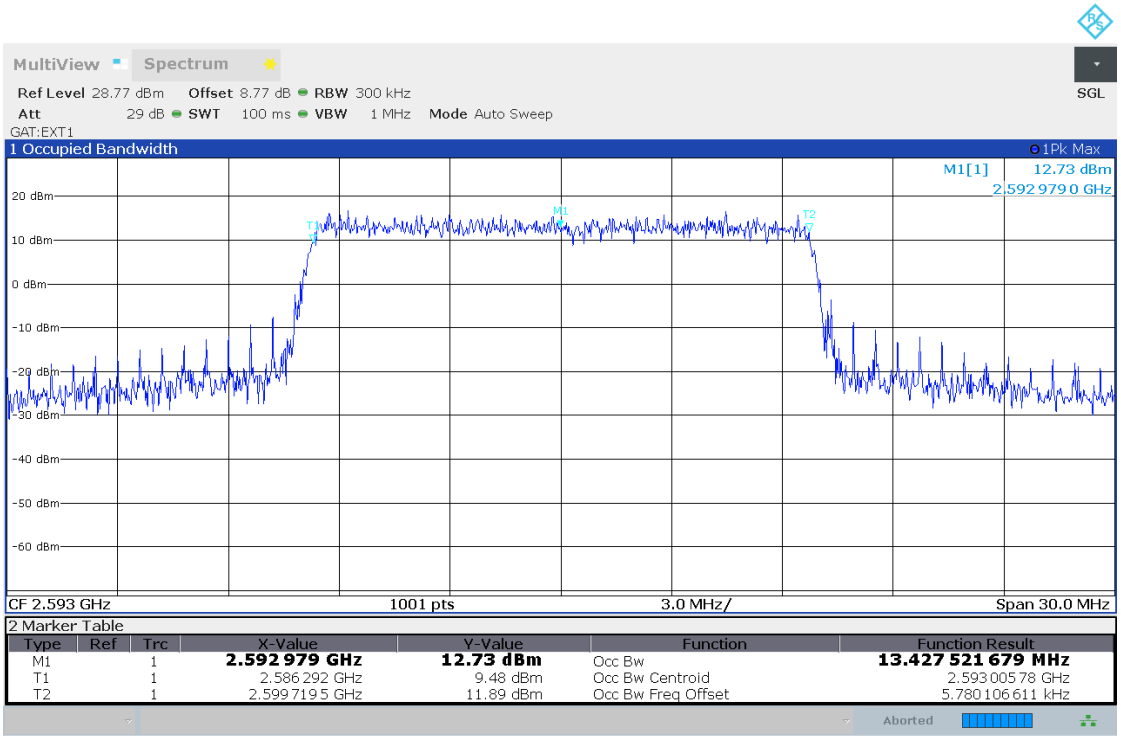

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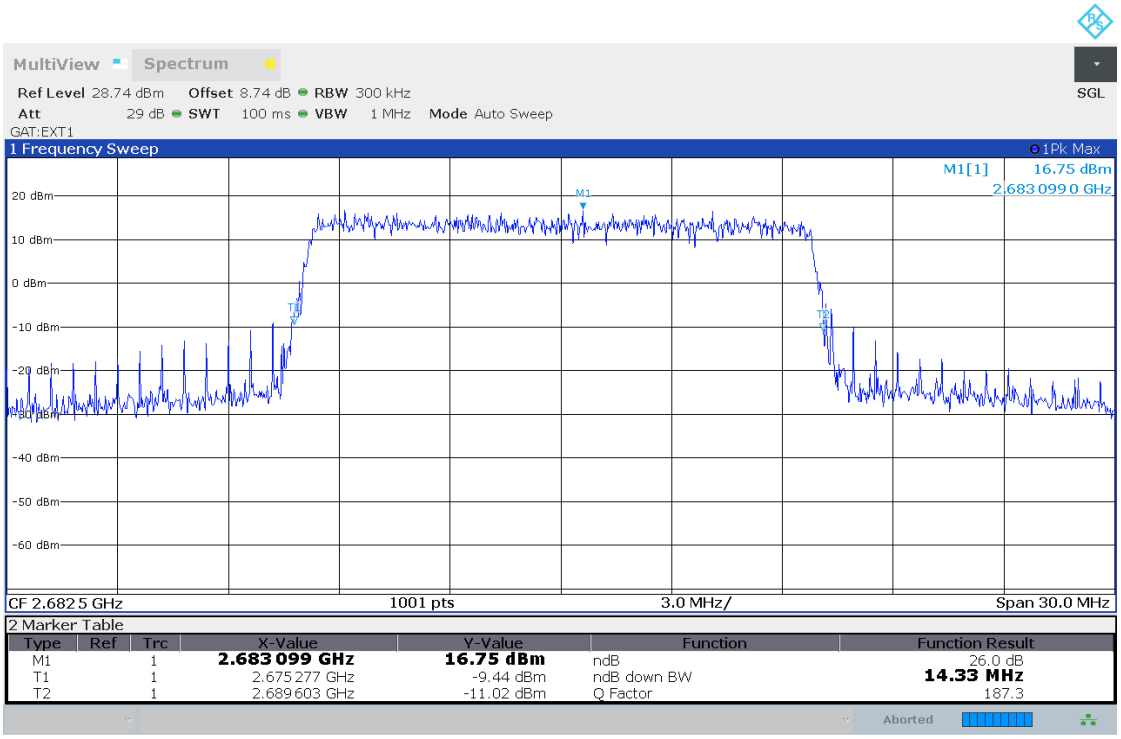
TM3_15MHz_HCH_RB75#0



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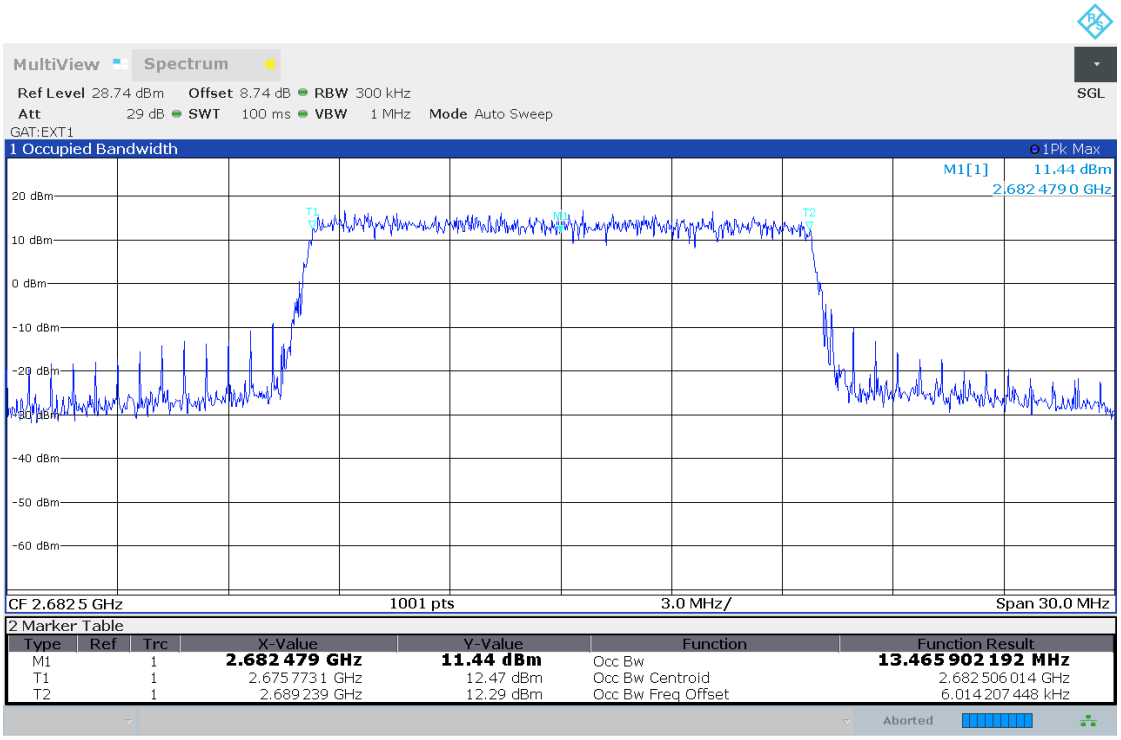

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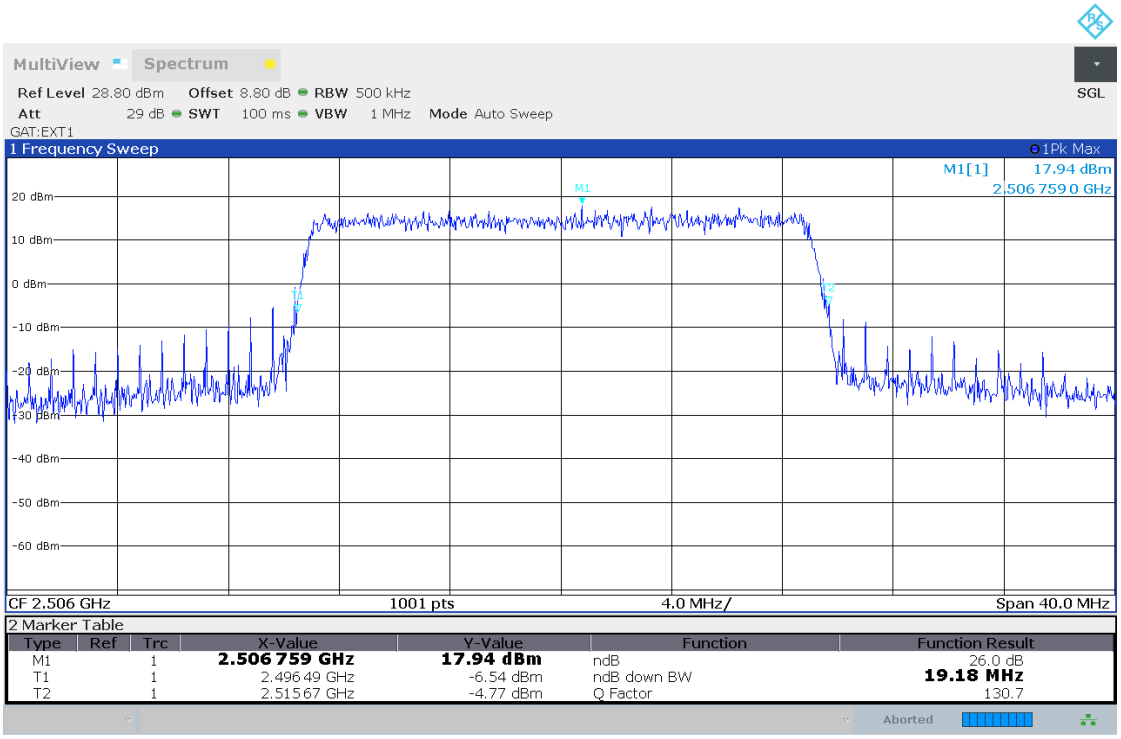
TM3_20MHz_LCH_RB100#0



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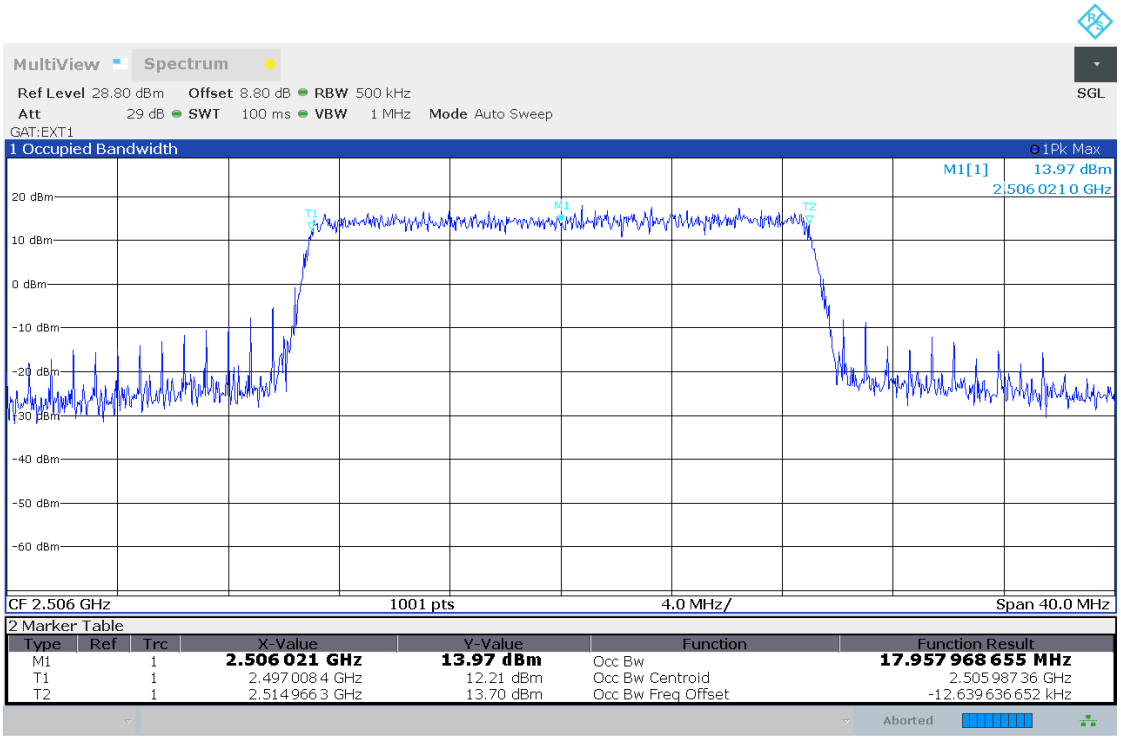

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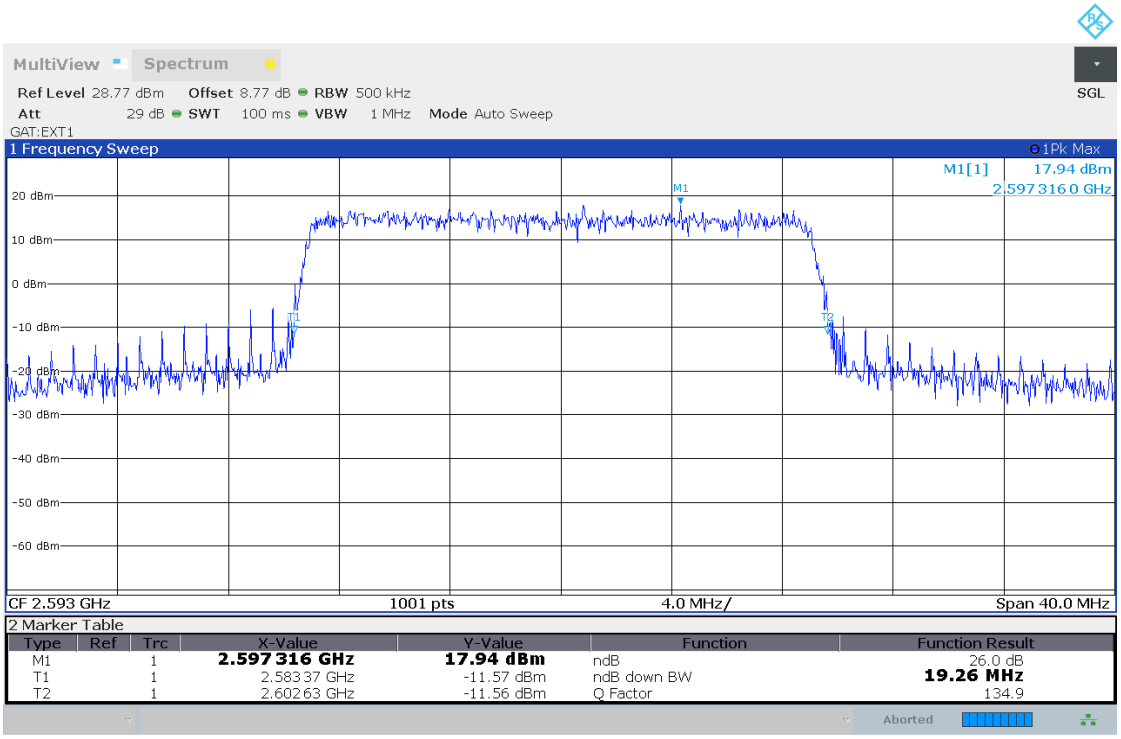
TM3_20MHz_MCH_RB100#0



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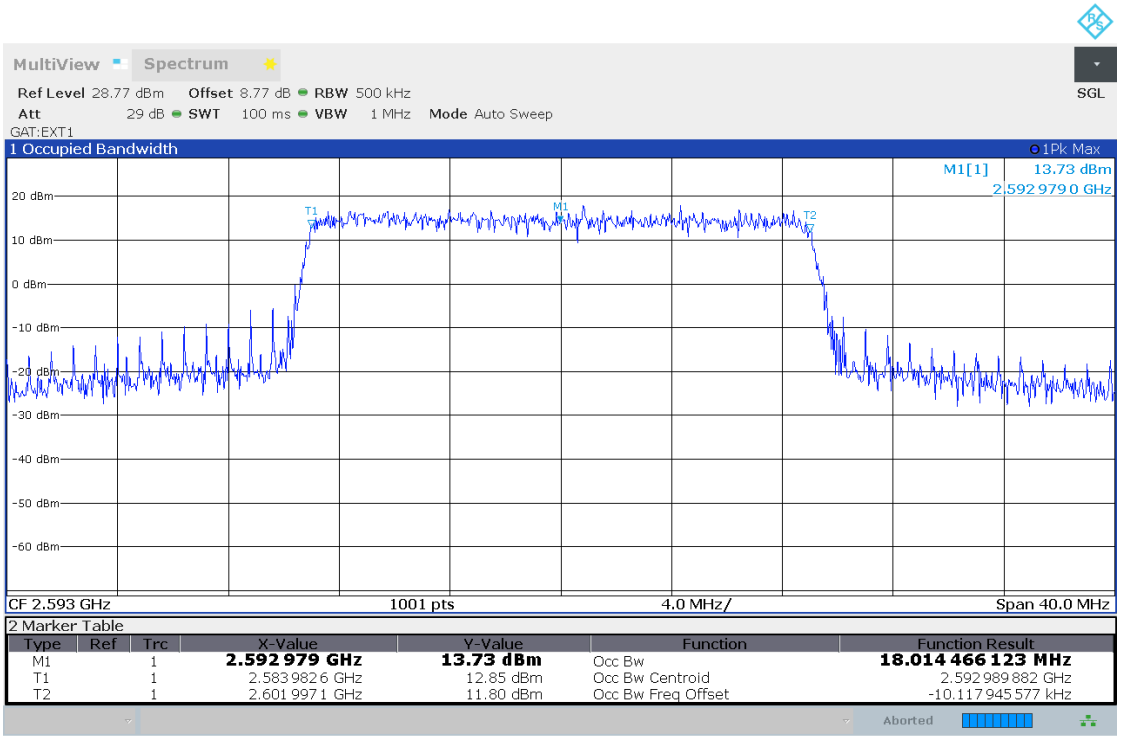

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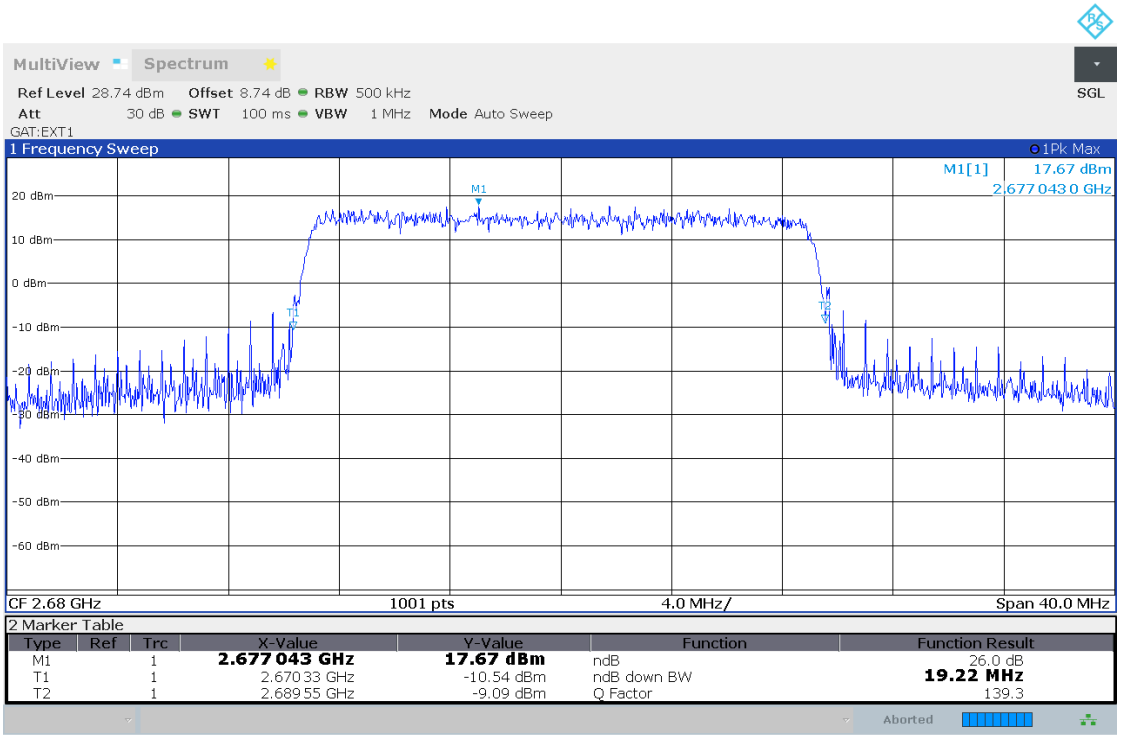
TM3_20MHz_HCH_RB100#0



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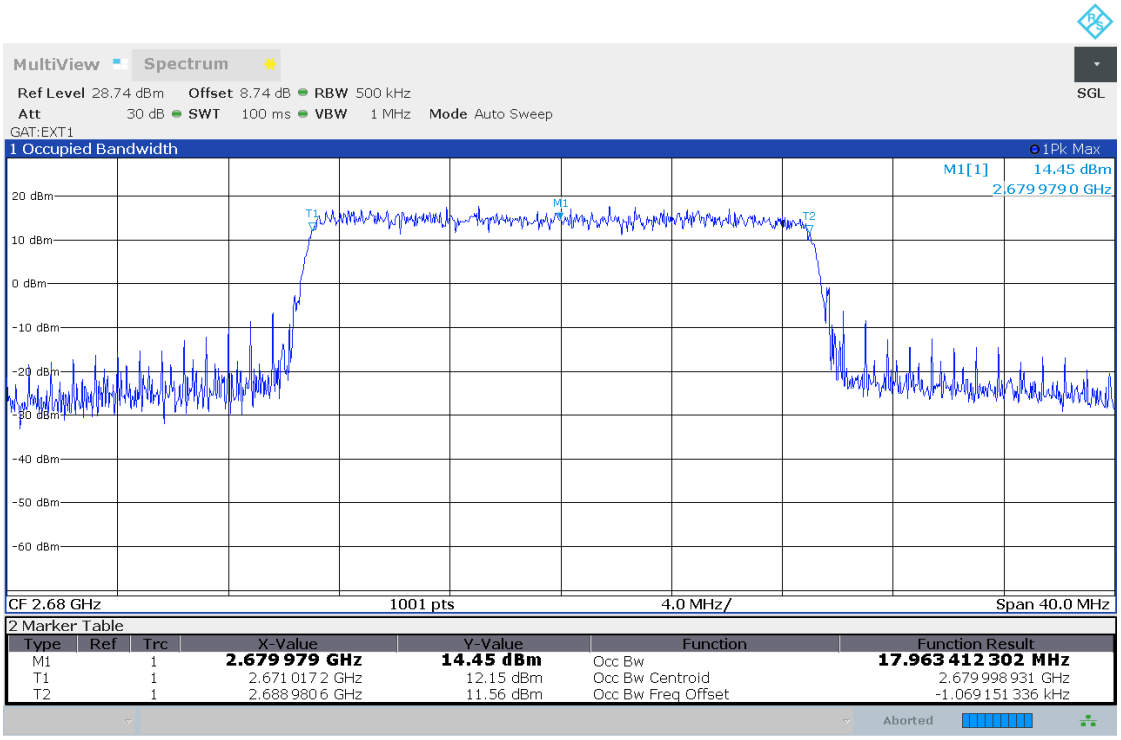


16:50:43 25.04.2022

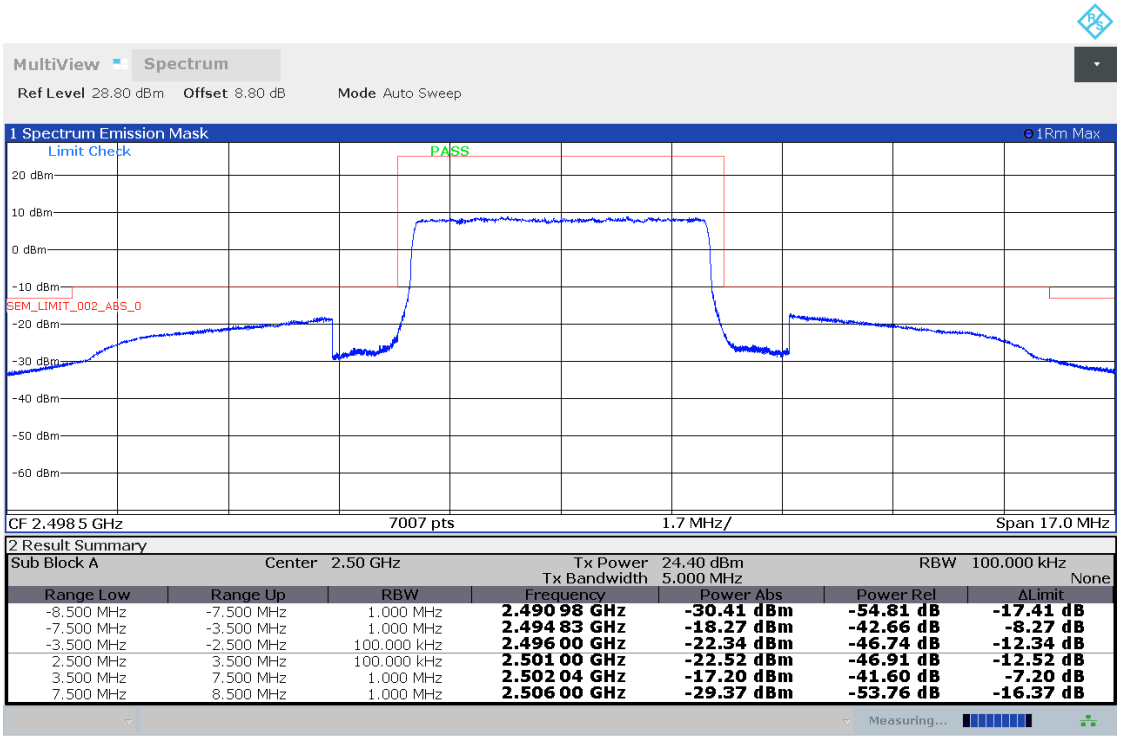
5 Appendix_E: Band Edges Compliance

5.1 Test Results

Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured Emissions Conformed to the Relevant Limits?	Verdict
TM1	5	LCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		HCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
	20	LCH	RB100#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#99	QPSK	Yes	PASS
		HCH	RB100#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#99	QPSK	Yes	PASS
TM2	5	LCH	RB25#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#24	16QAM	Yes	PASS
		HCH	RB25#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#24	16QAM	Yes	PASS
	20	LCH	RB100#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#99	16QAM	Yes	PASS
		HCH	RB100#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#99	16QAM	Yes	PASS
TM3	5	LCH	RB25#0	64QAM	Yes	PASS
			RB1#0	64QAM	Yes	PASS
			RB1#24	64QAM	Yes	PASS
		HCH	RB25#0	64QAM	Yes	PASS
			RB1#0	64QAM	Yes	PASS
			RB1#24	64QAM	Yes	PASS
	20	LCH	RB100#0	64QAM	Yes	PASS
			RB1#0	64QAM	Yes	PASS
			RB1#99	64QAM	Yes	PASS
		HCH	RB100#0	64QAM	Yes	PASS
			RB1#0	64QAM	Yes	PASS
			RB1#99	64QAM	Yes	PASS

5.2 Test Plots

TM1_5MHz_LCH_RB25#0



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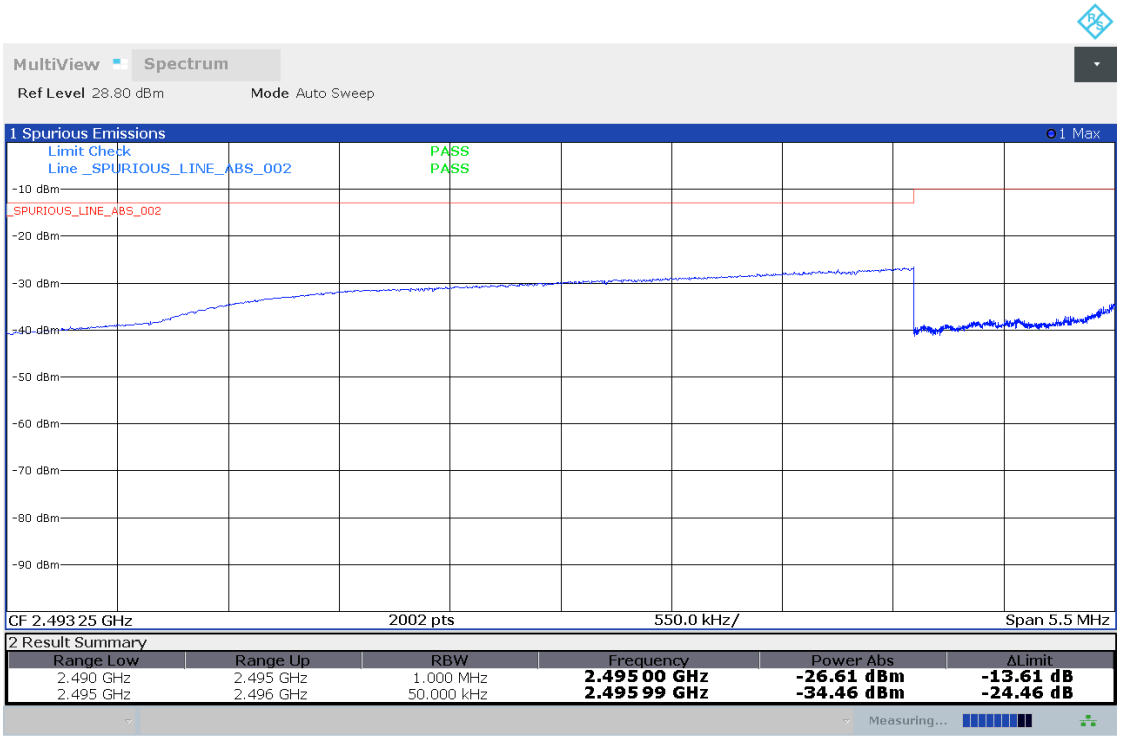

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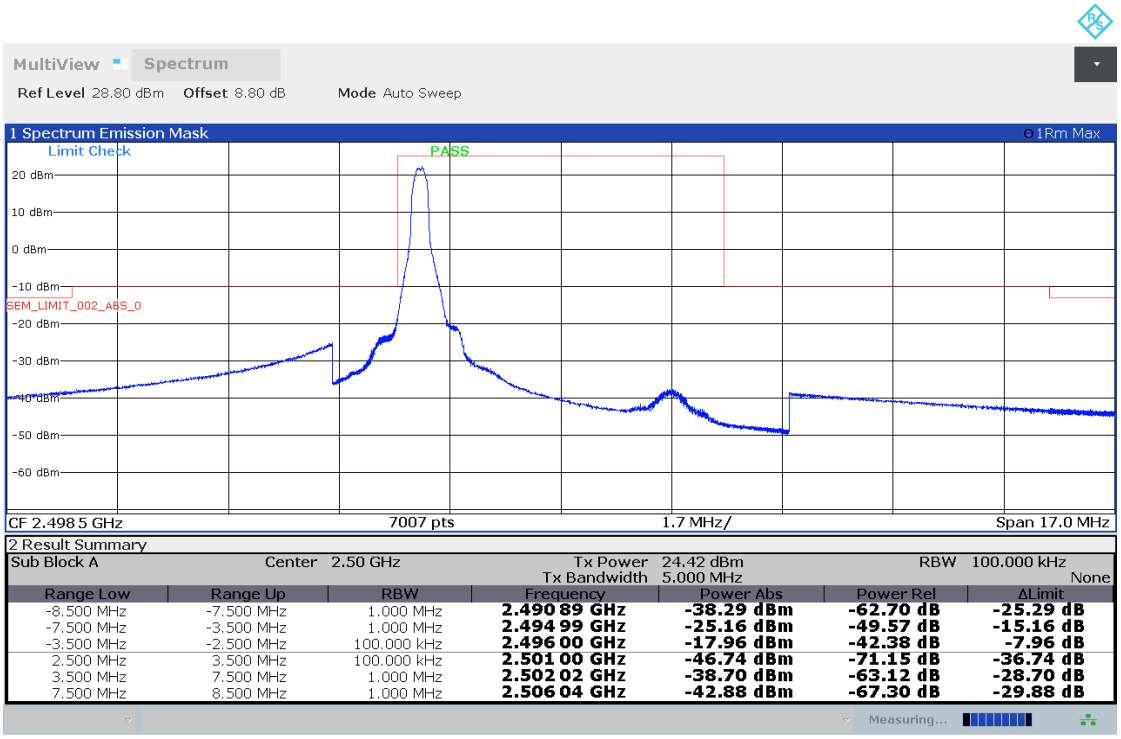
TM1_5MHz_LCH_RB1#0



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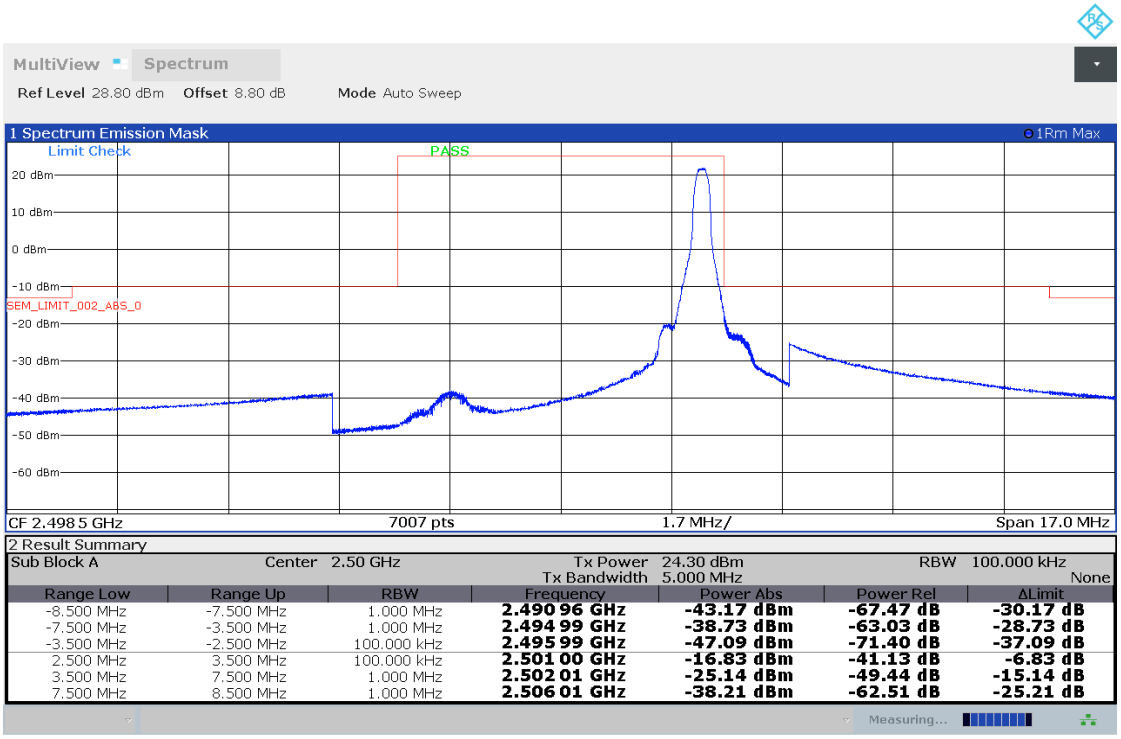
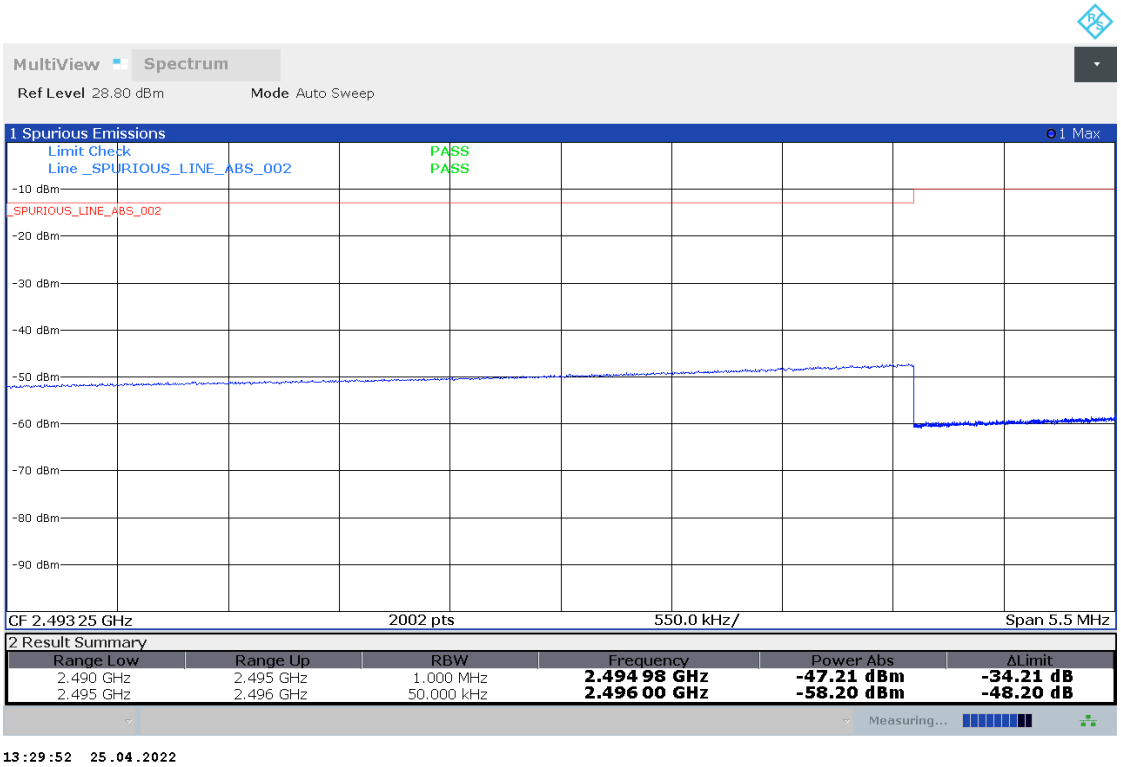
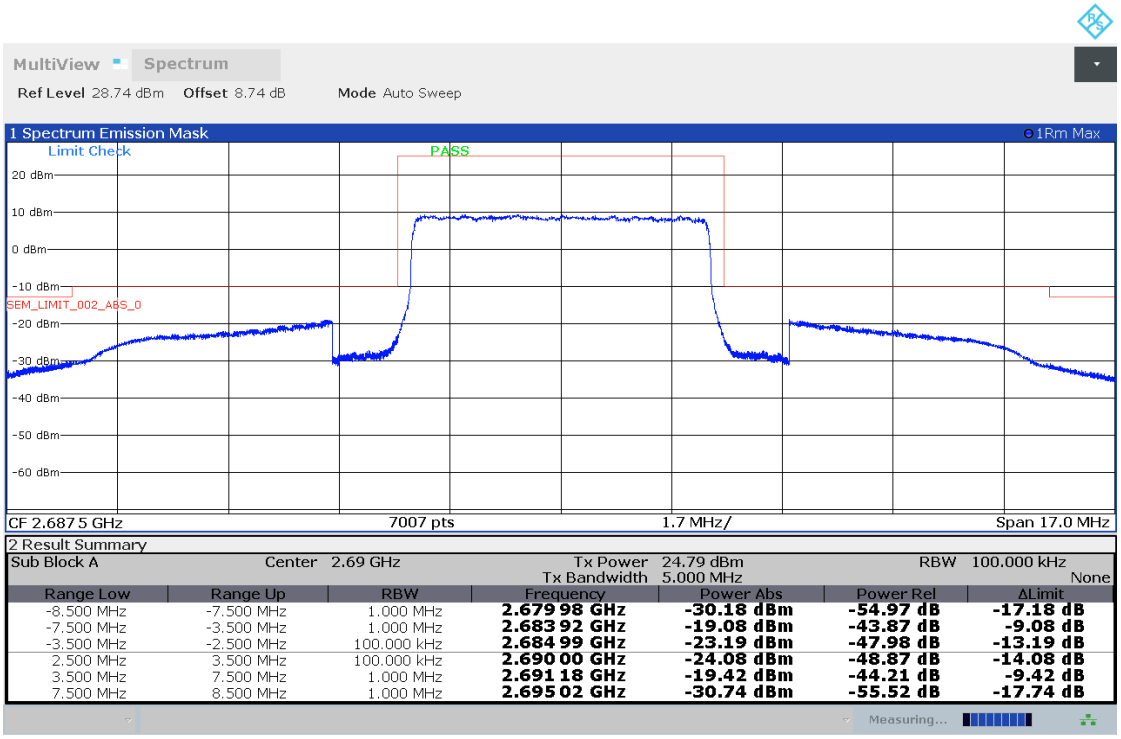
TM1_5MHz_LCH_RB1#24





TM1_5MHz_HCH_RB25#0



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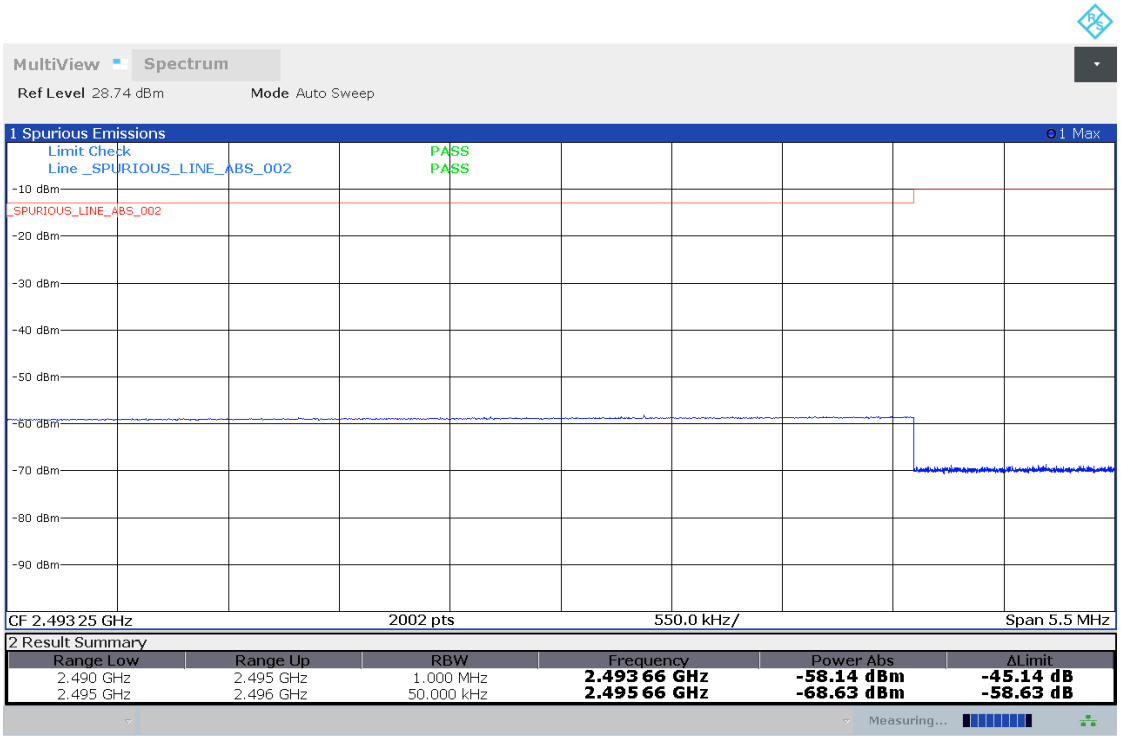

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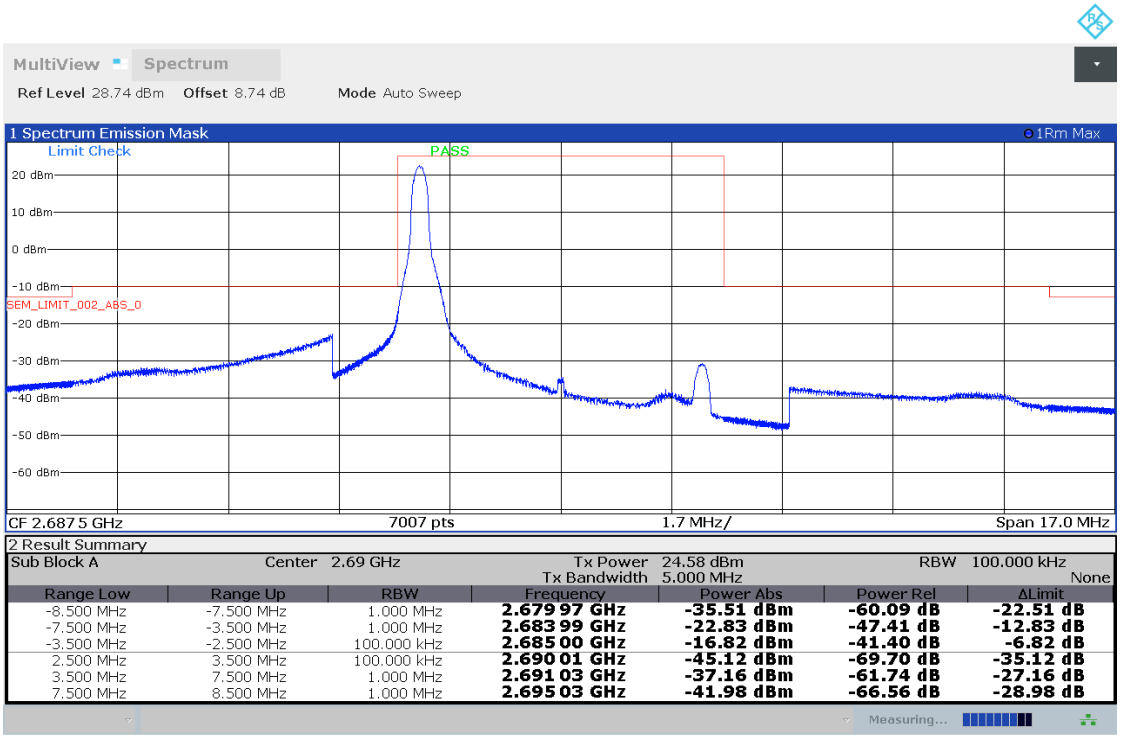

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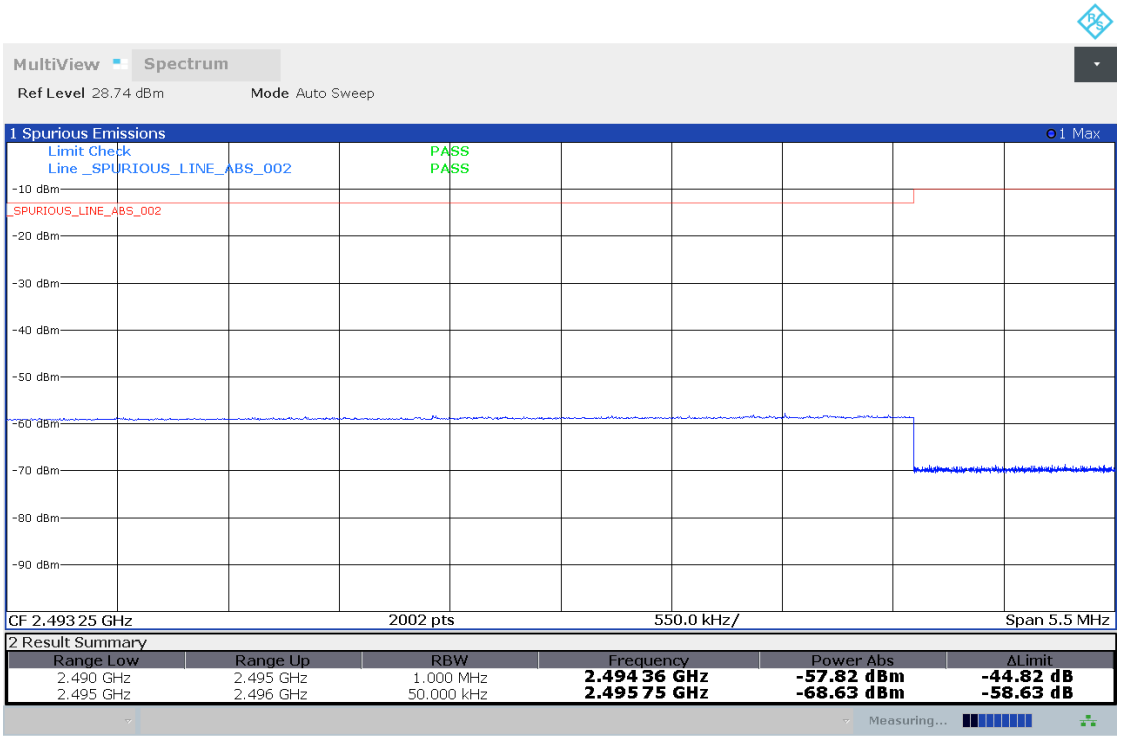

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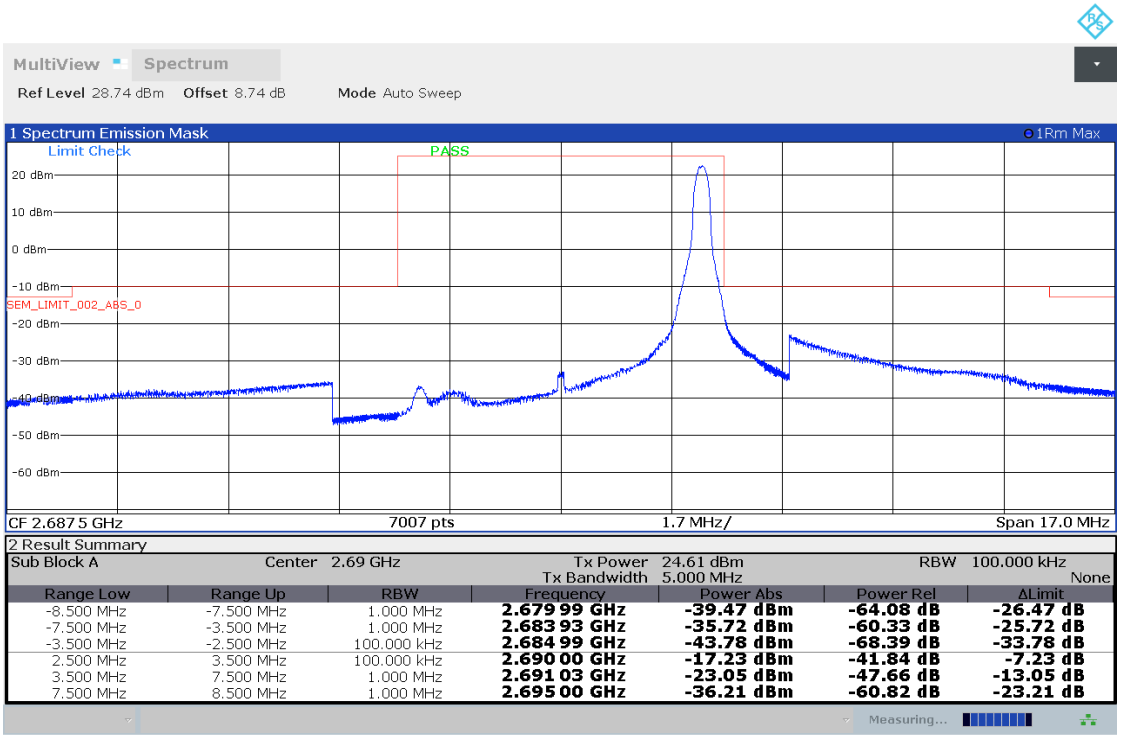
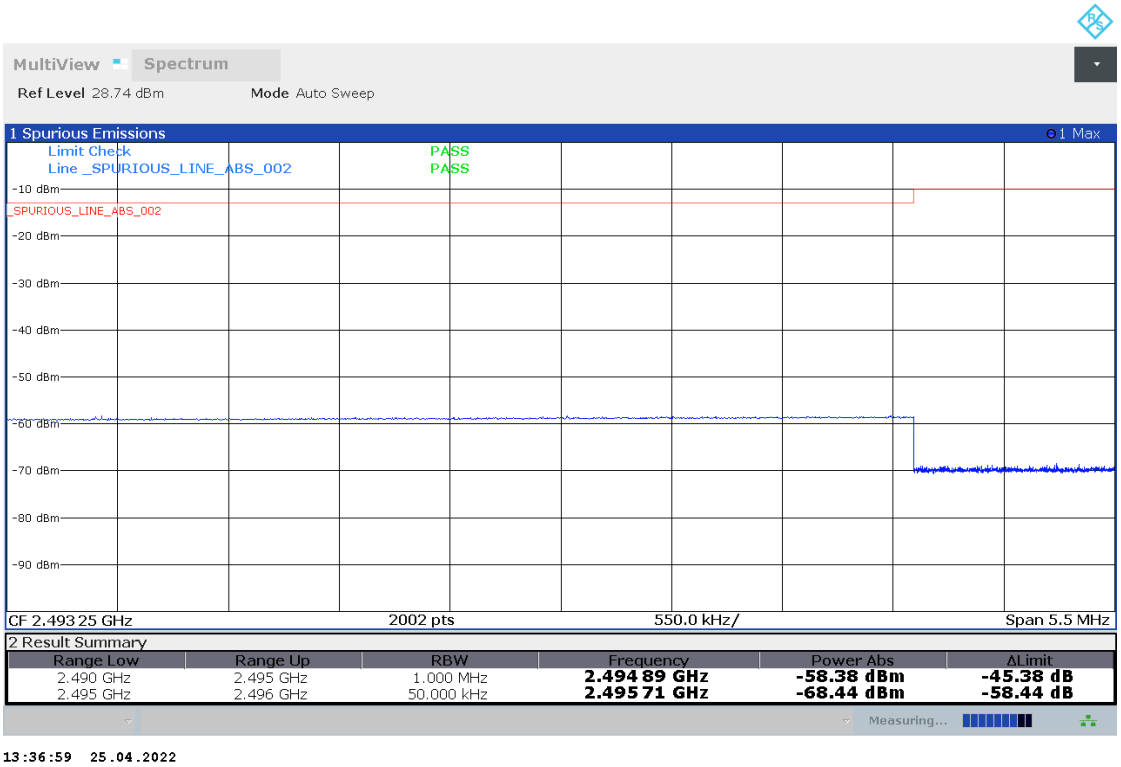
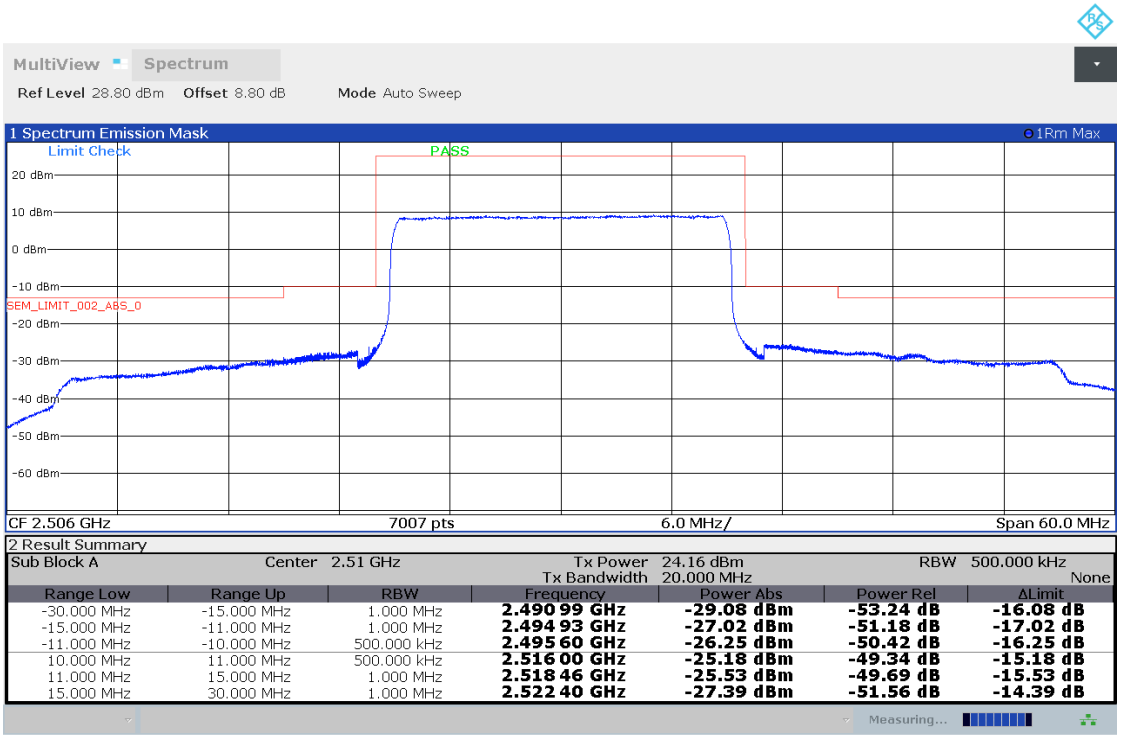




TM1_20MHz_LCH_RB100#0



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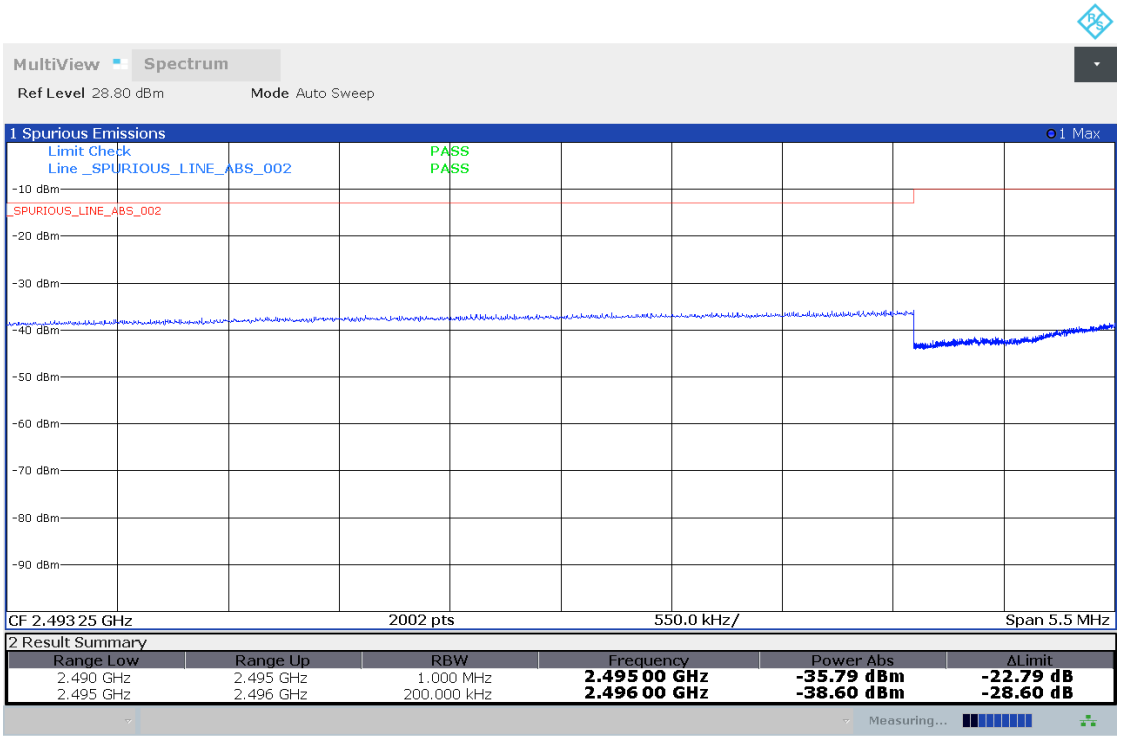

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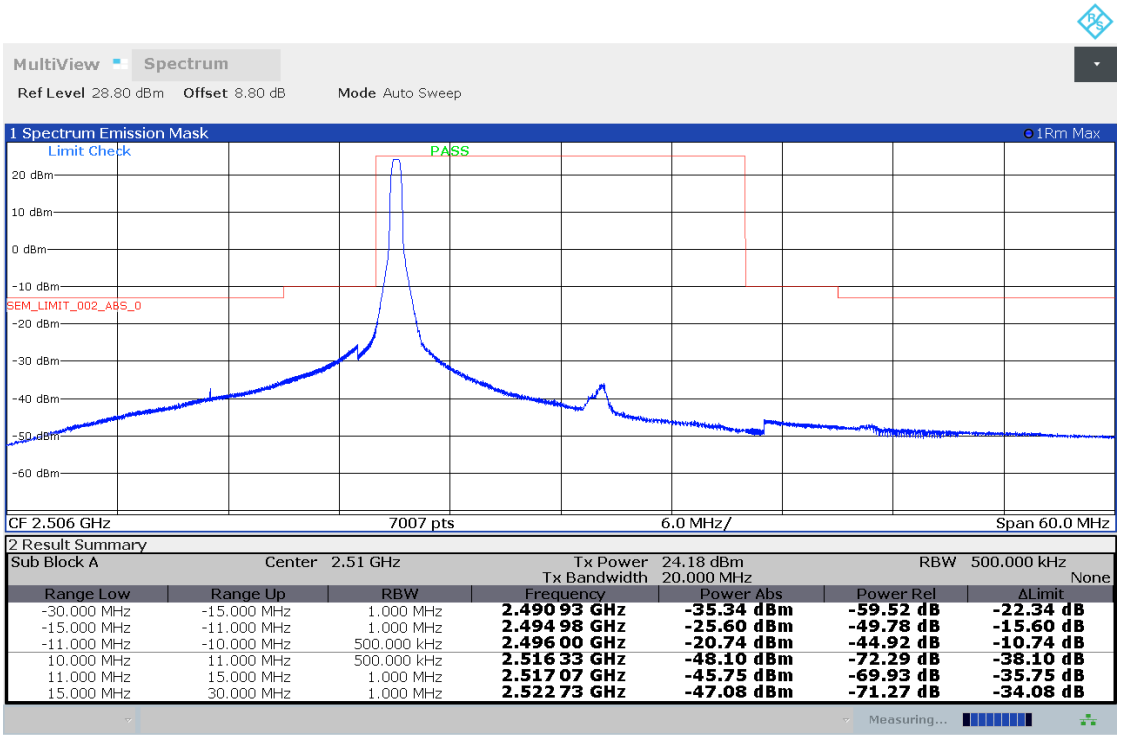
TM1_20MHz_LCH_RB1#0



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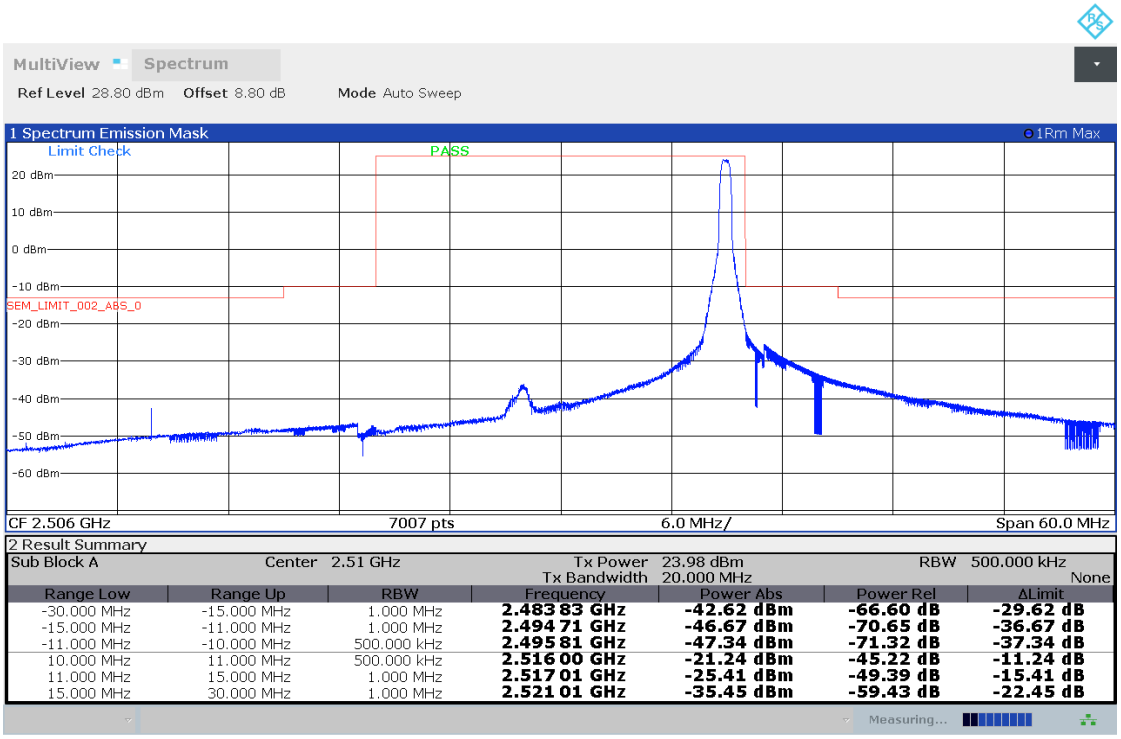

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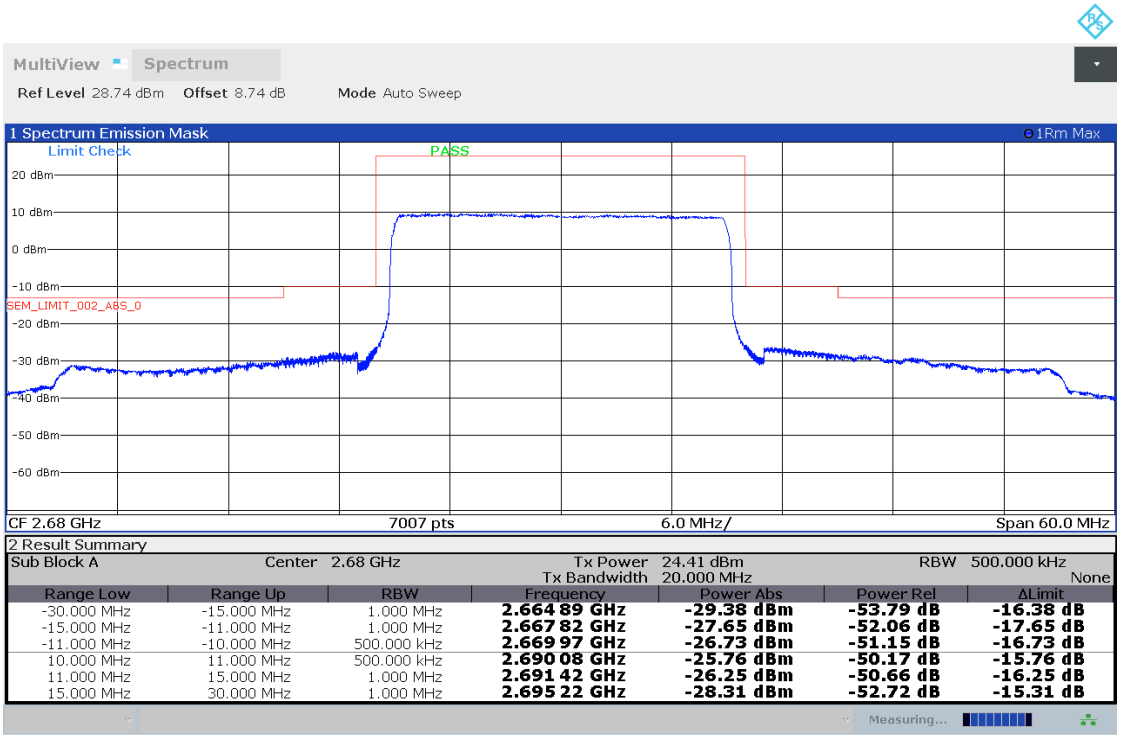
TM1_20MHz_HCH_RB100#0



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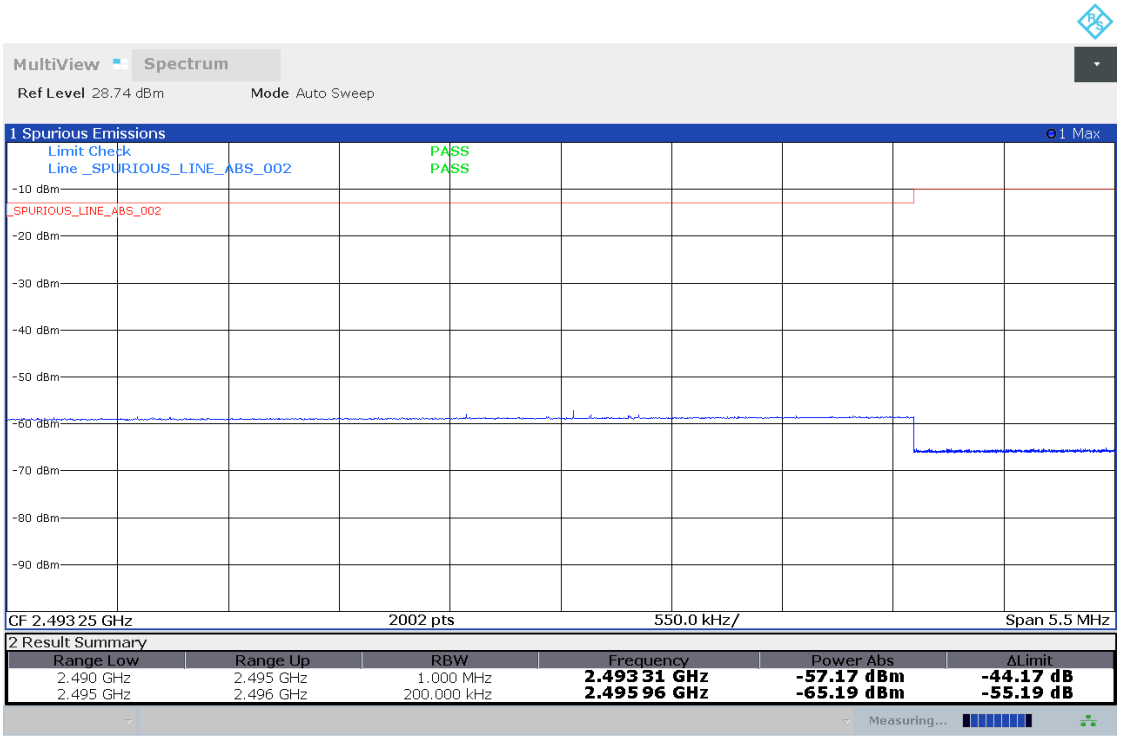

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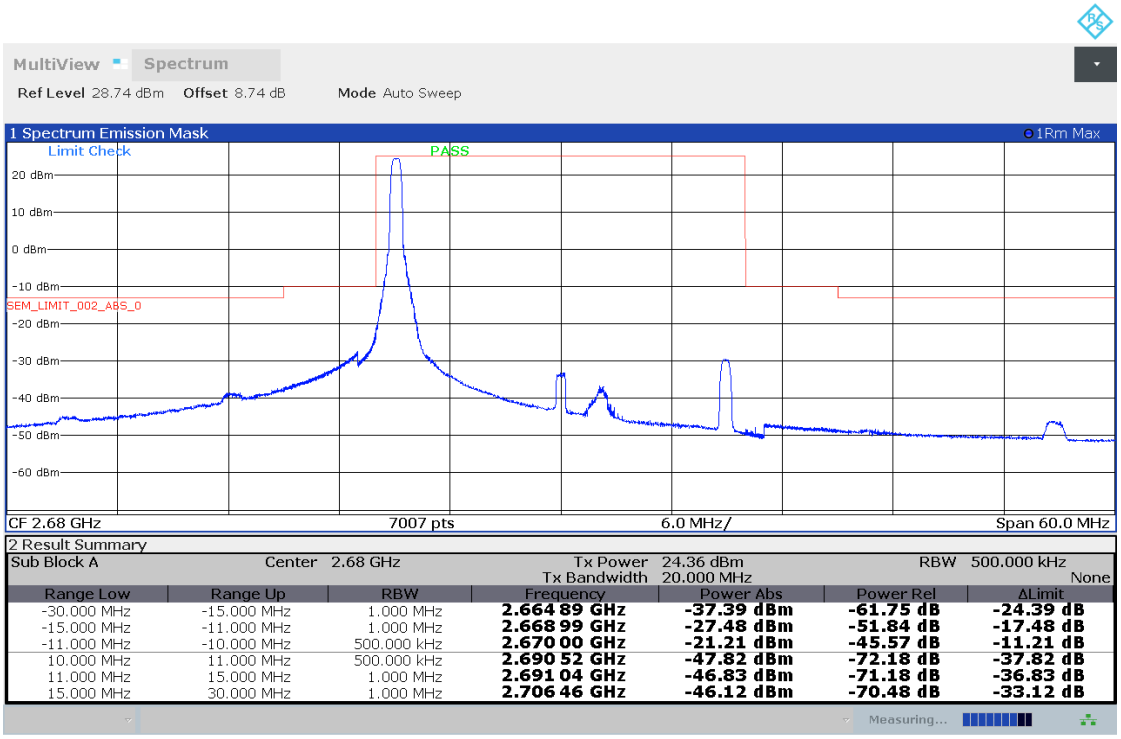
TM1_20MHz_HCH_RB1#0



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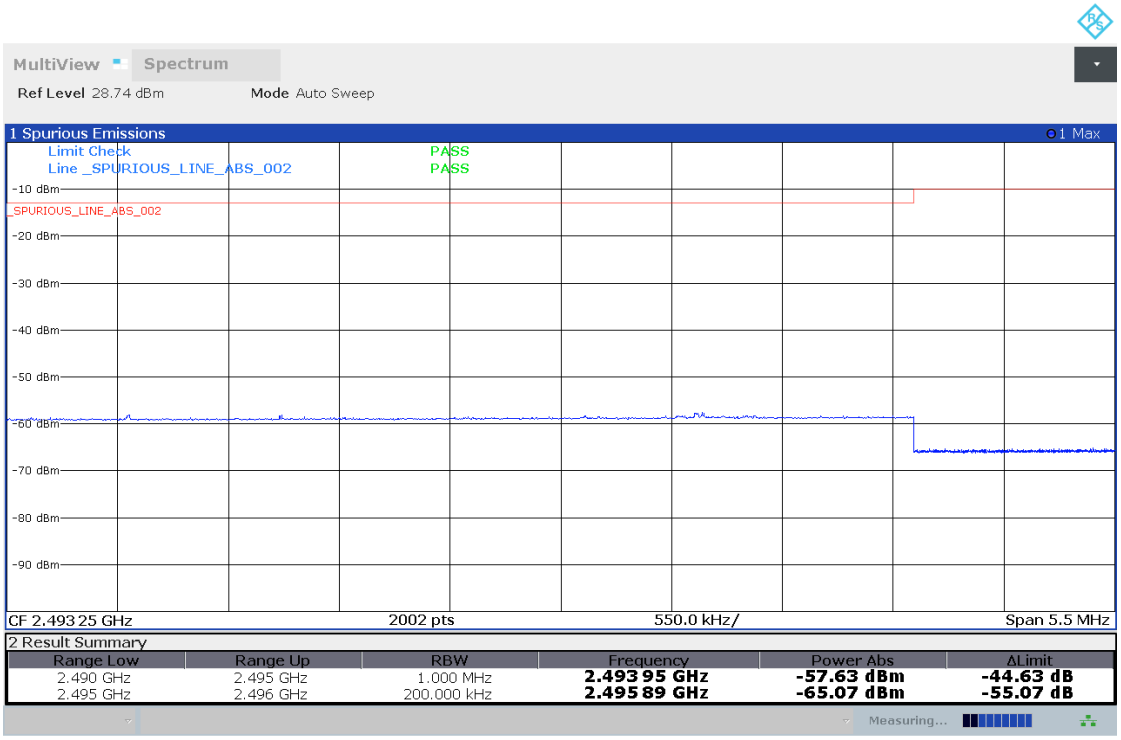

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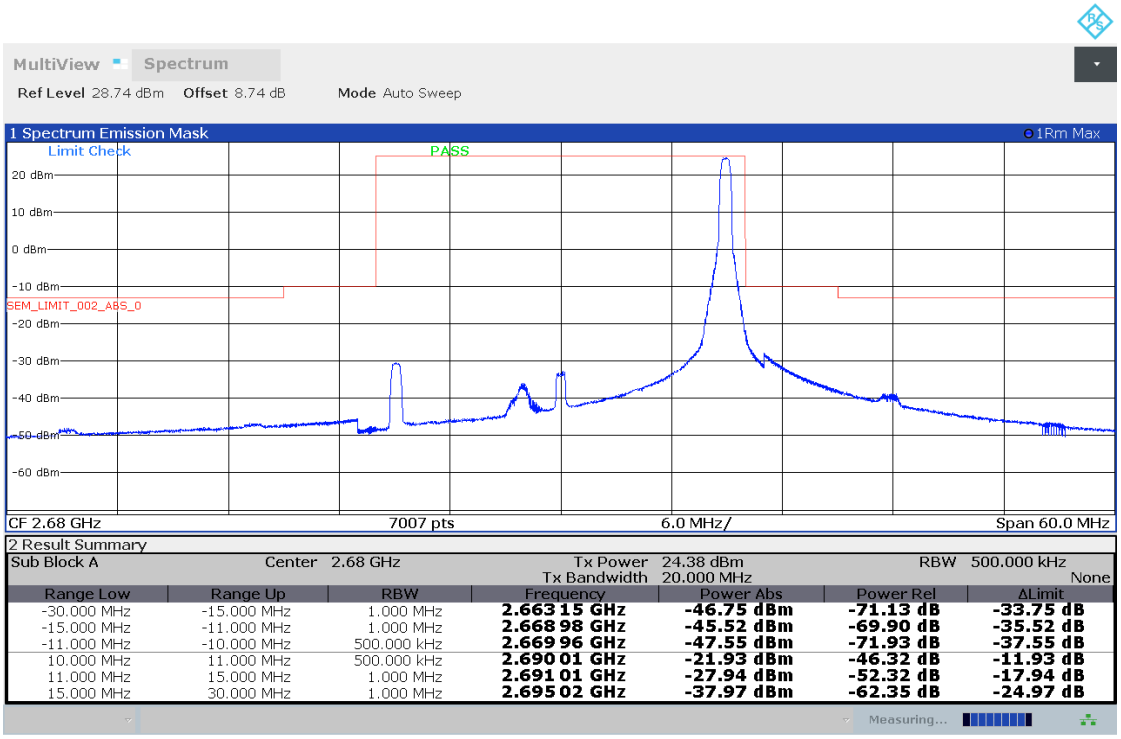
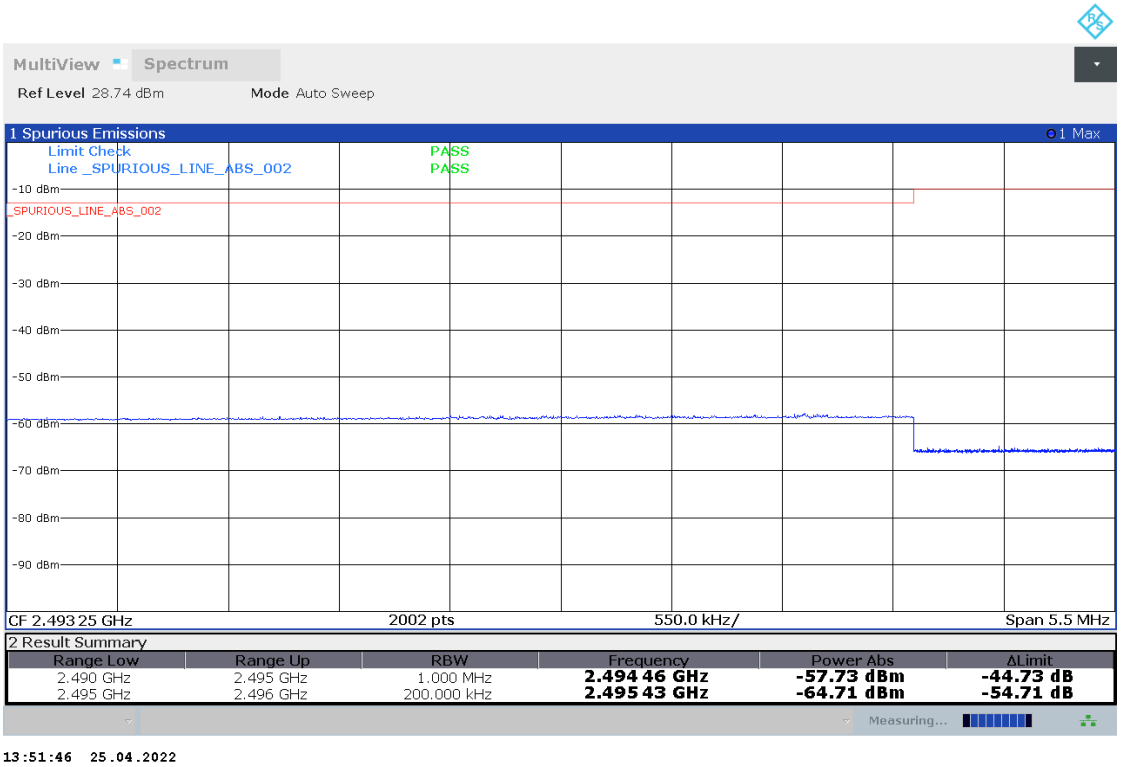
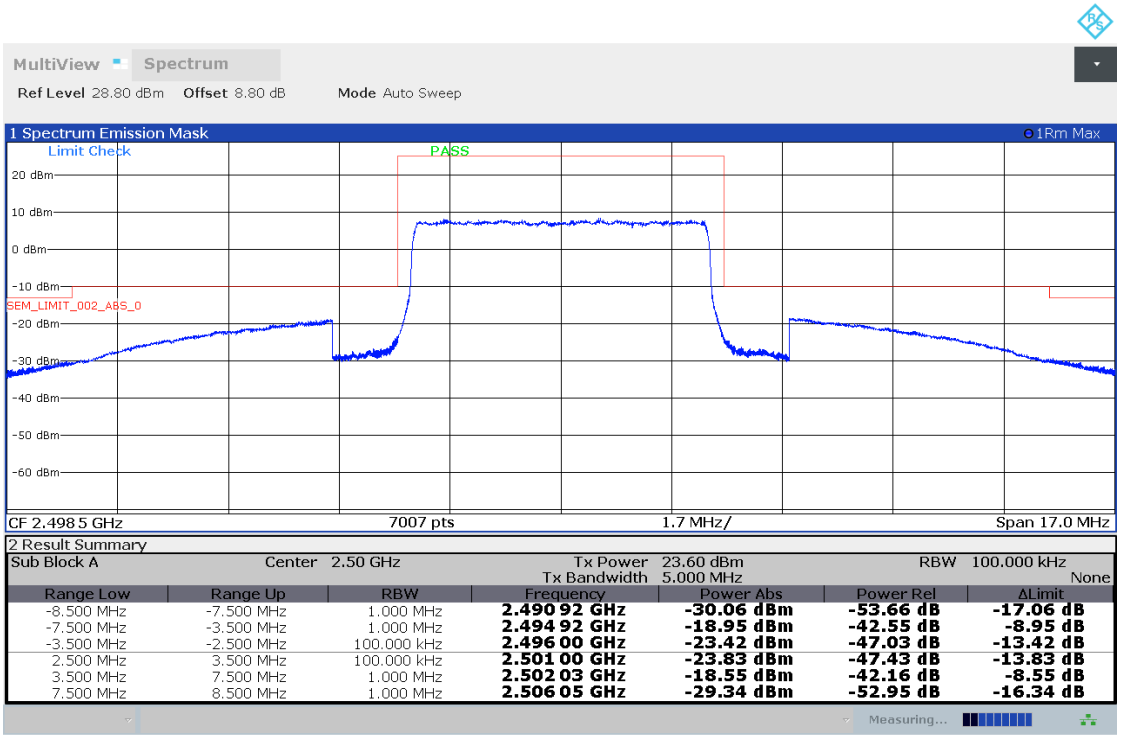




TM2_5MHz_LCH_RB25#0



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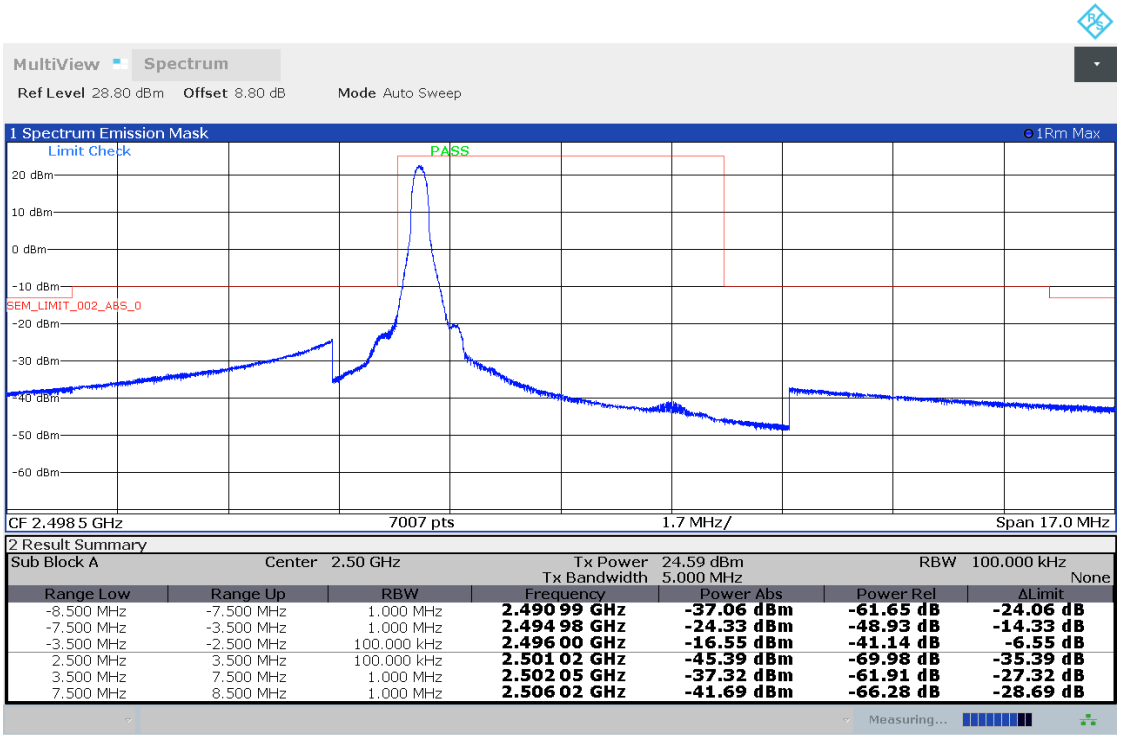

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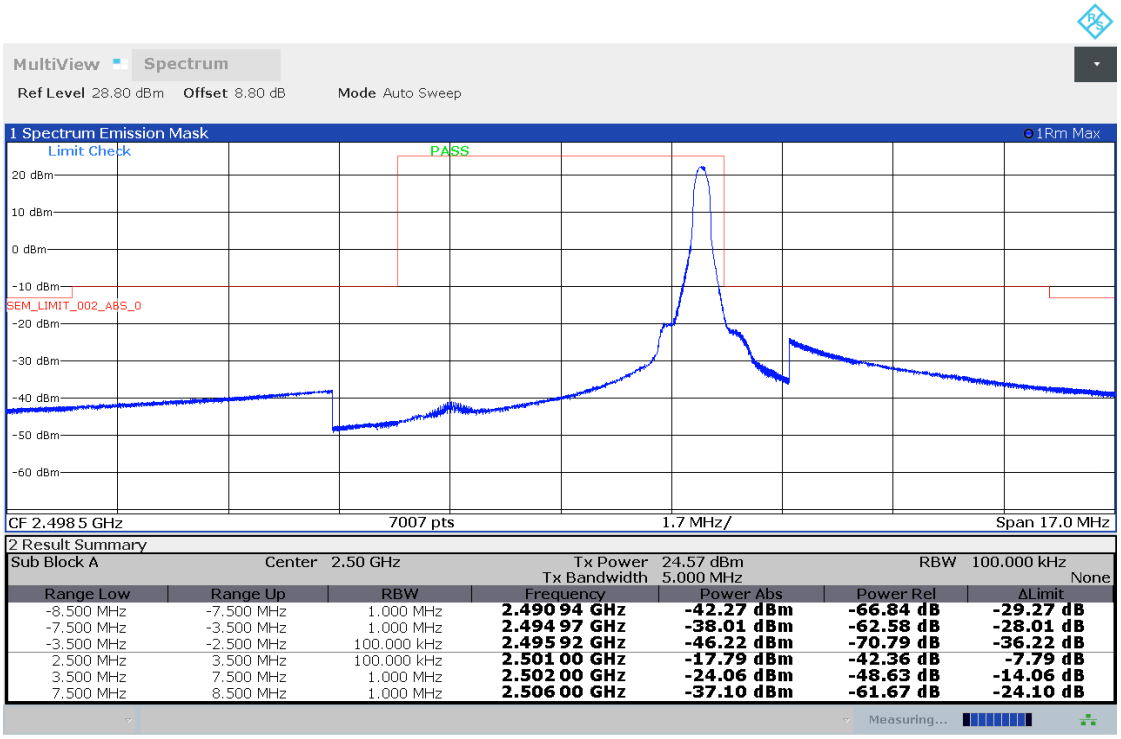
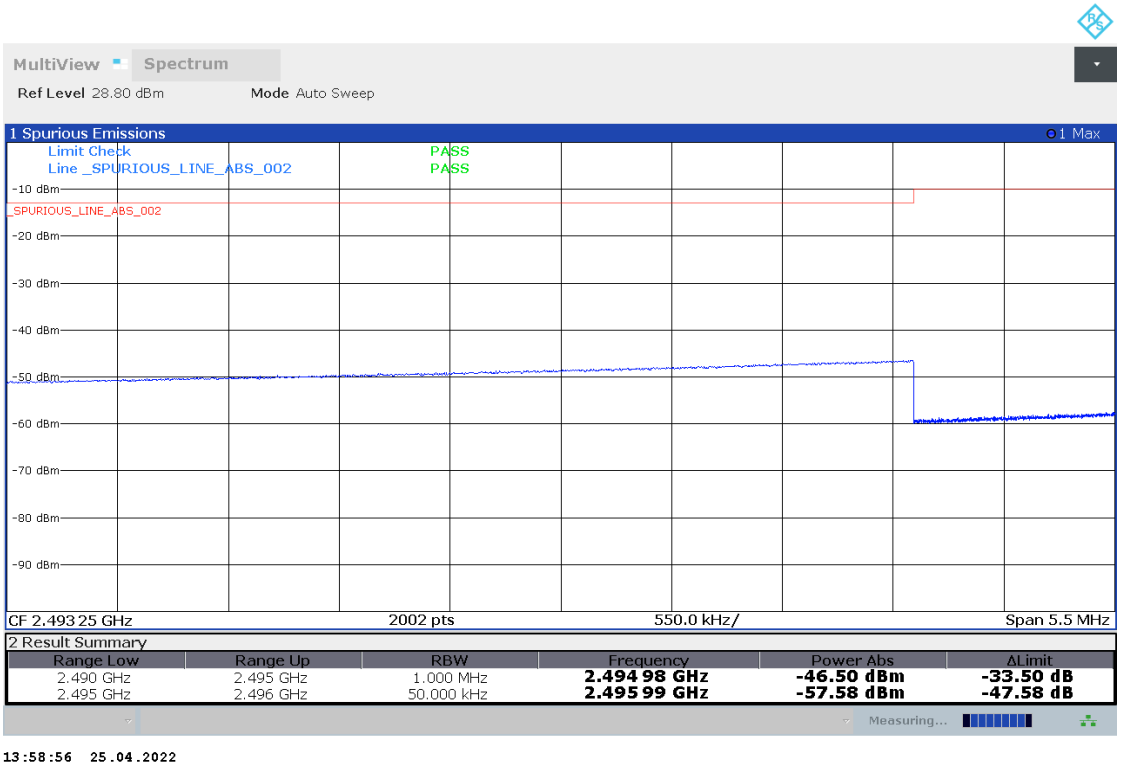
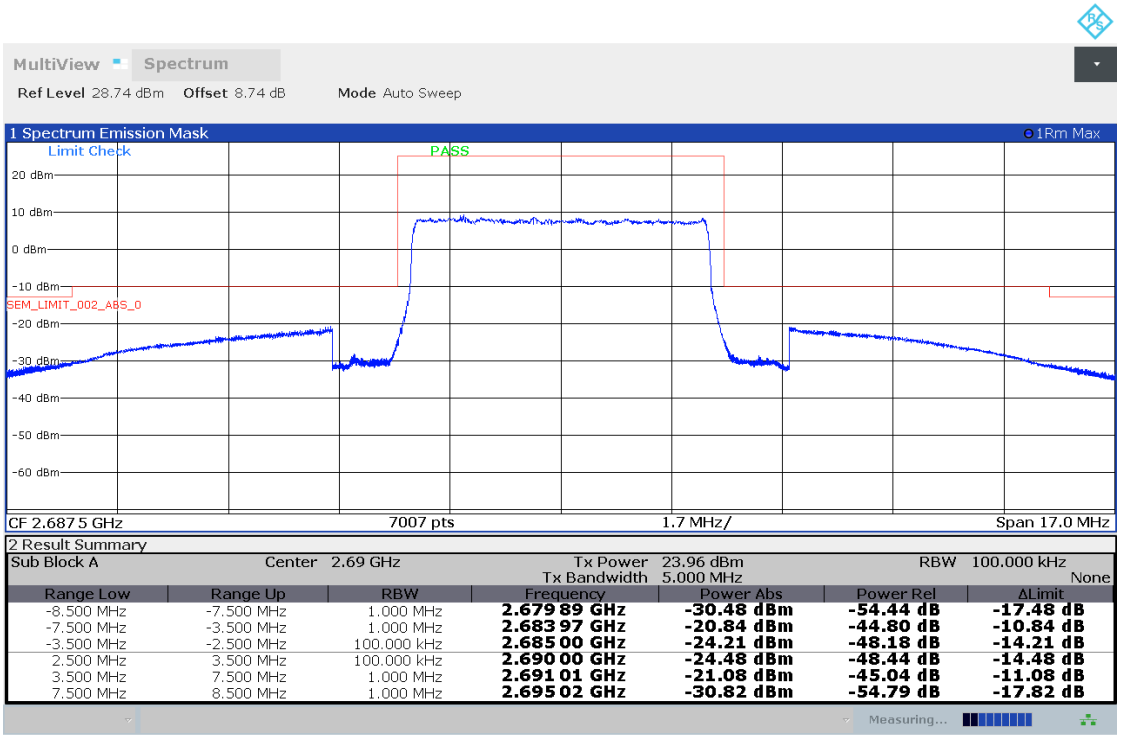
TM2_5MHz_LCH_RB1#24





TM2_5MHz_HCH_RB25#0



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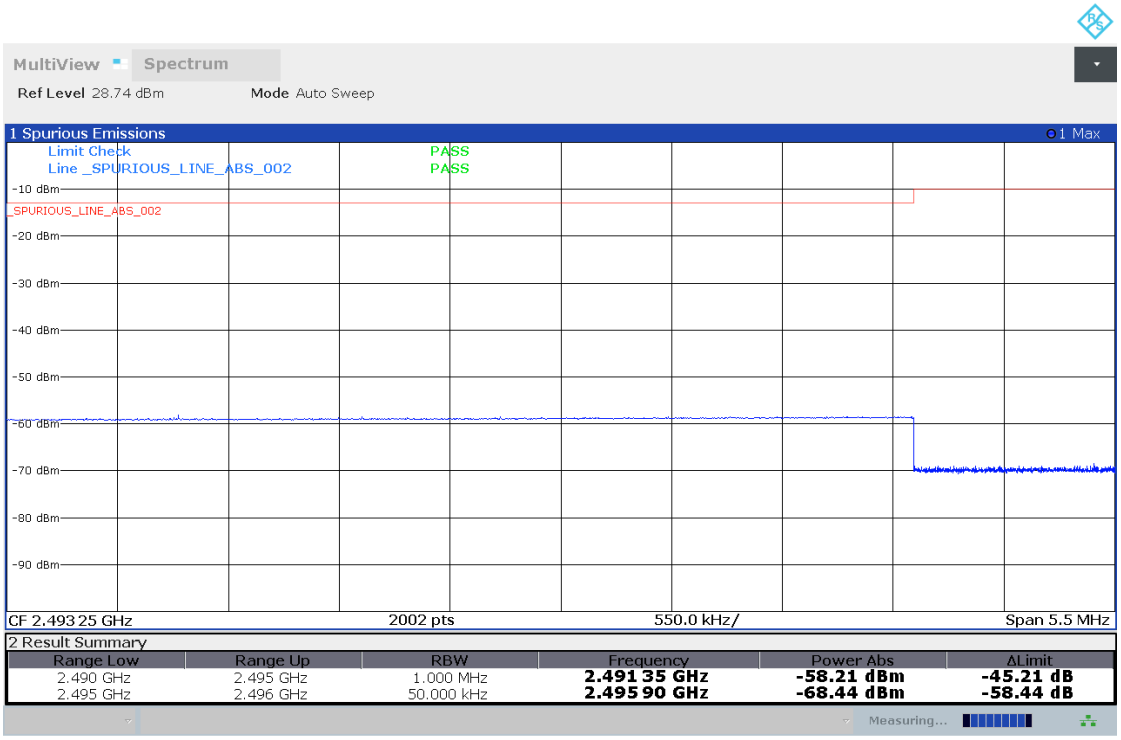

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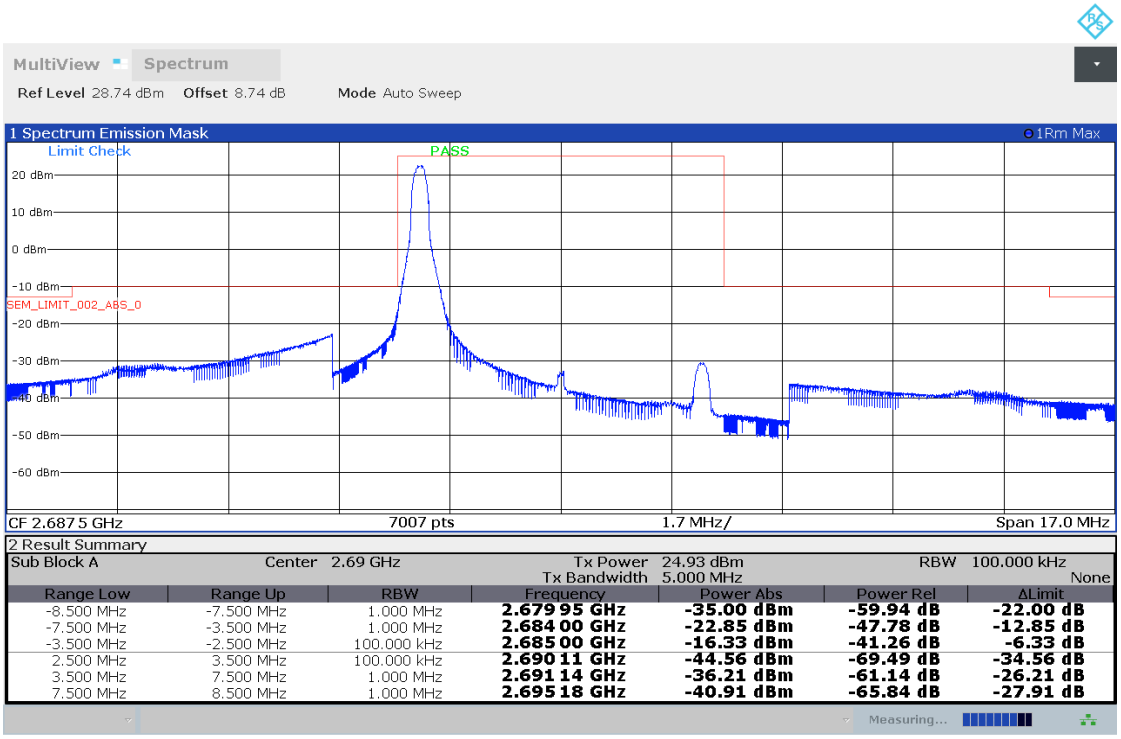

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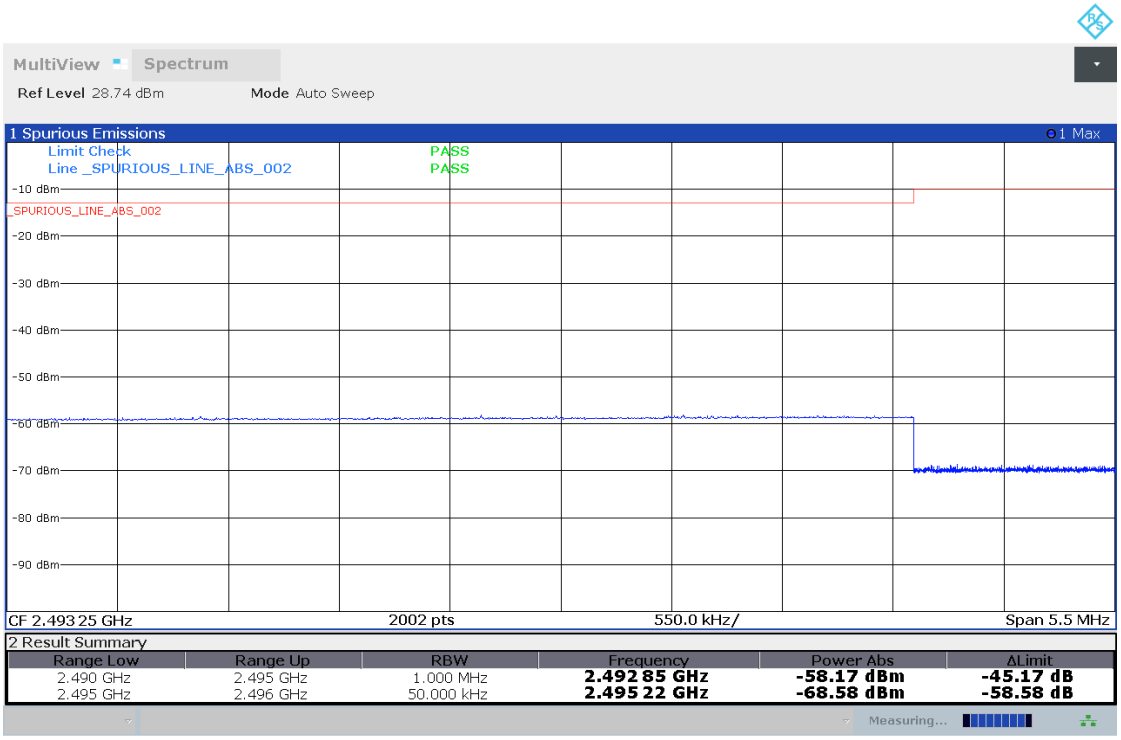

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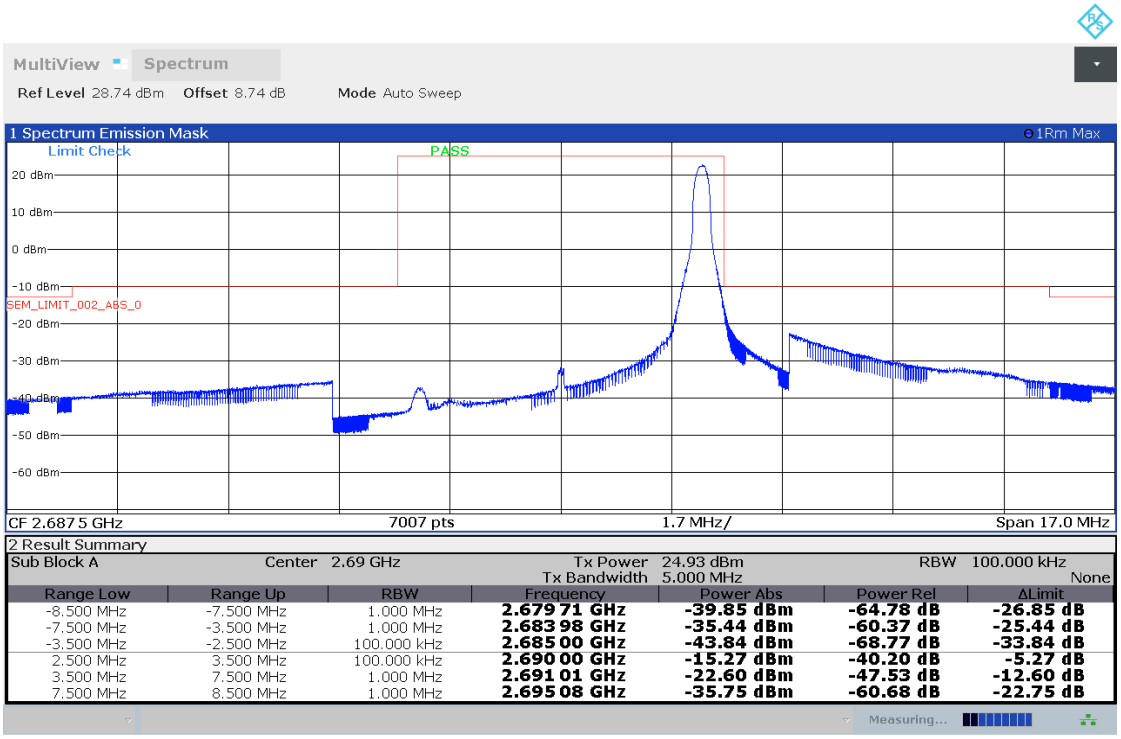
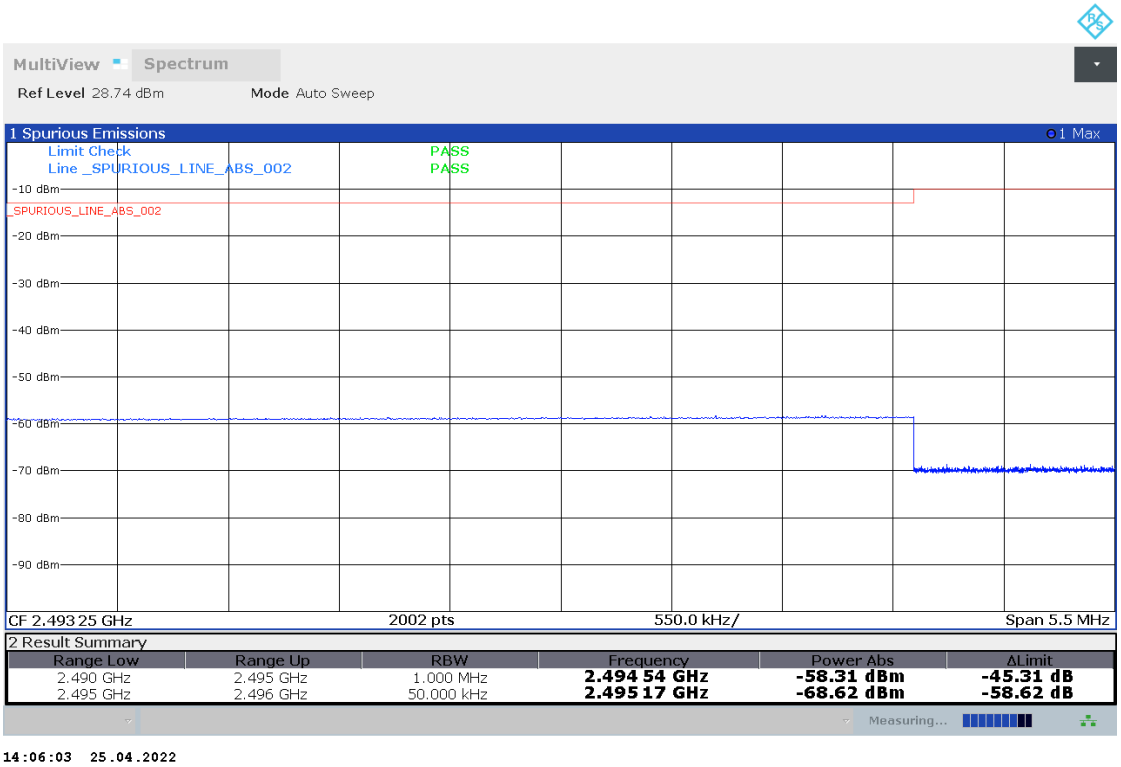
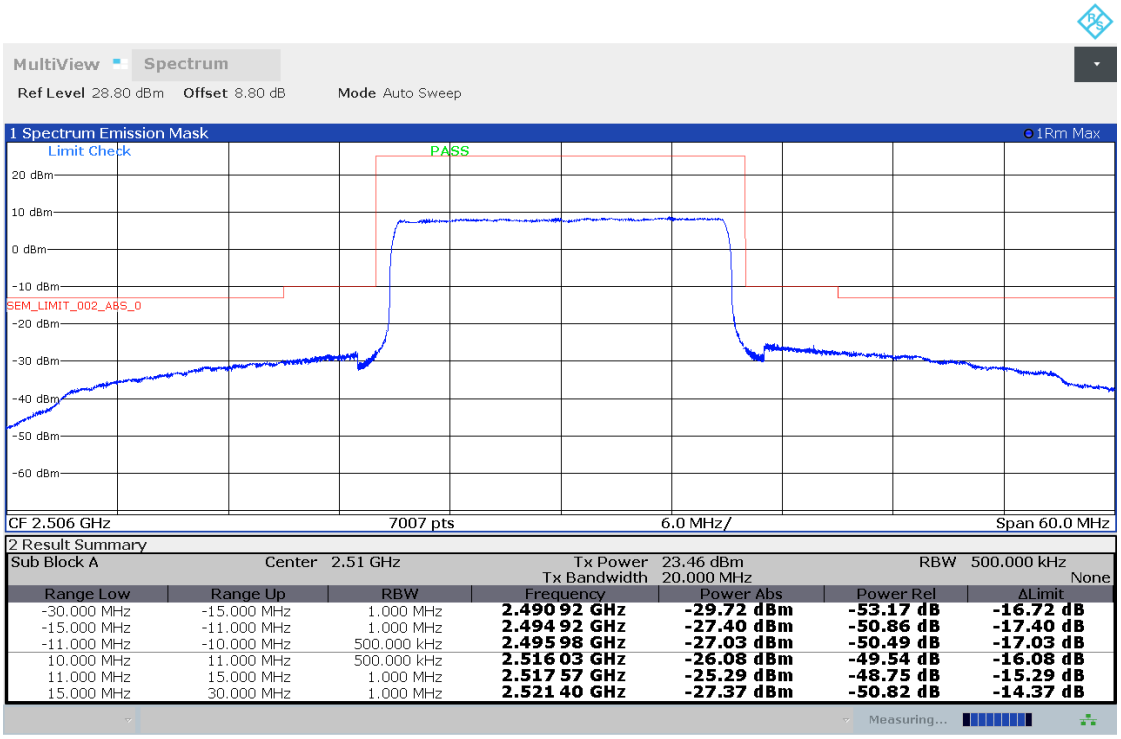
TM2_5MHz_HCH_RB1#24





TM2_20MHz_LCH_RB100#0



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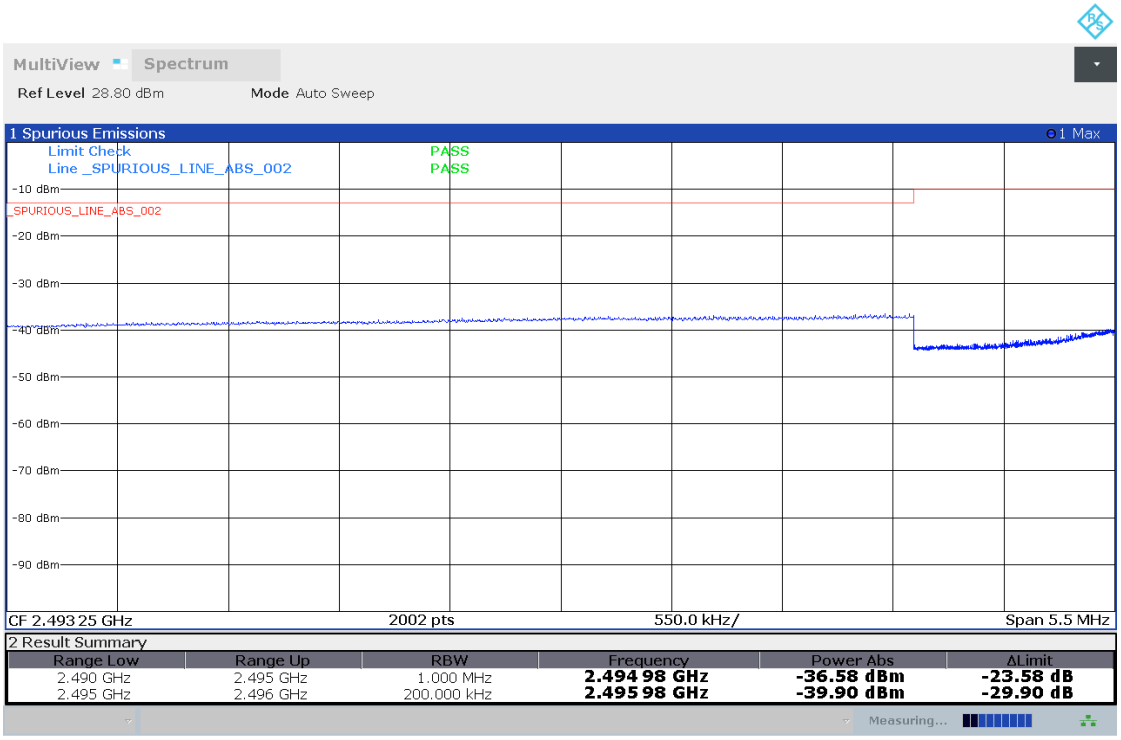

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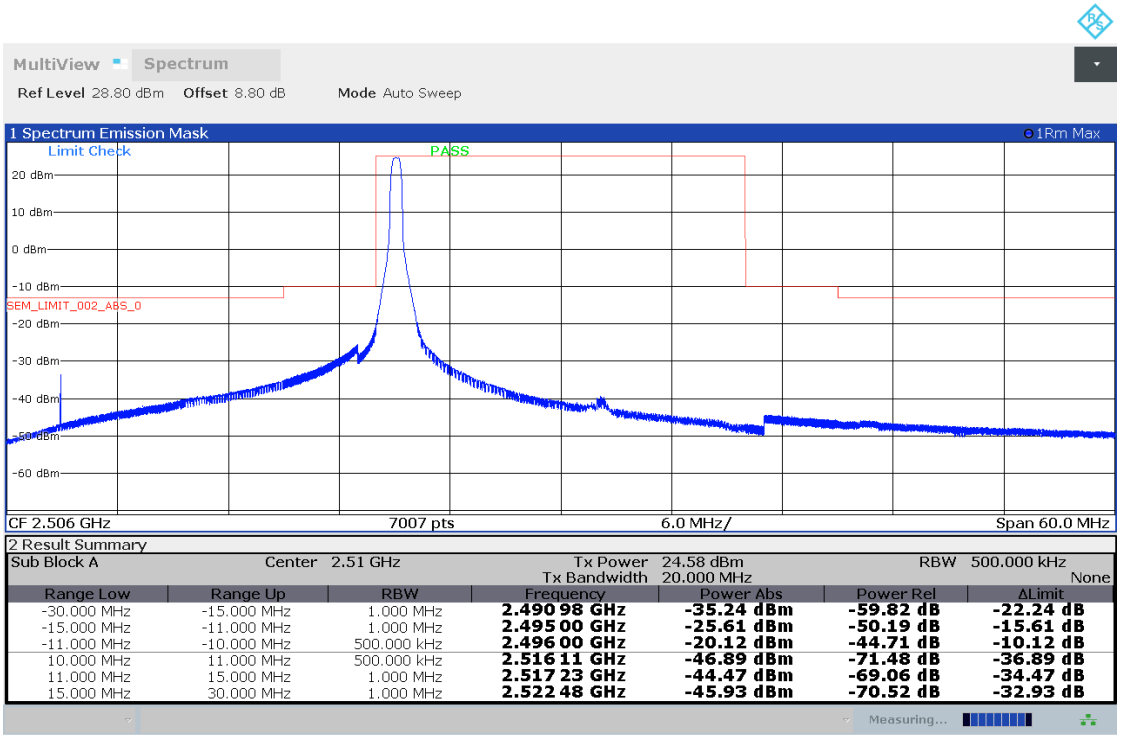

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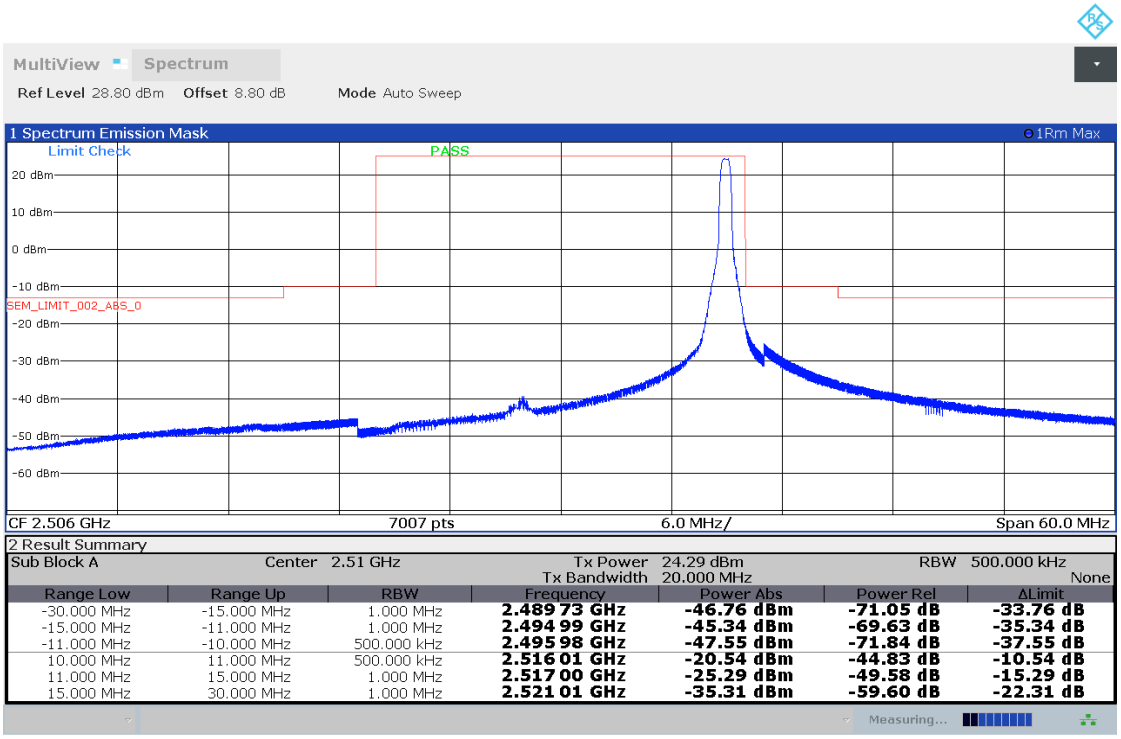

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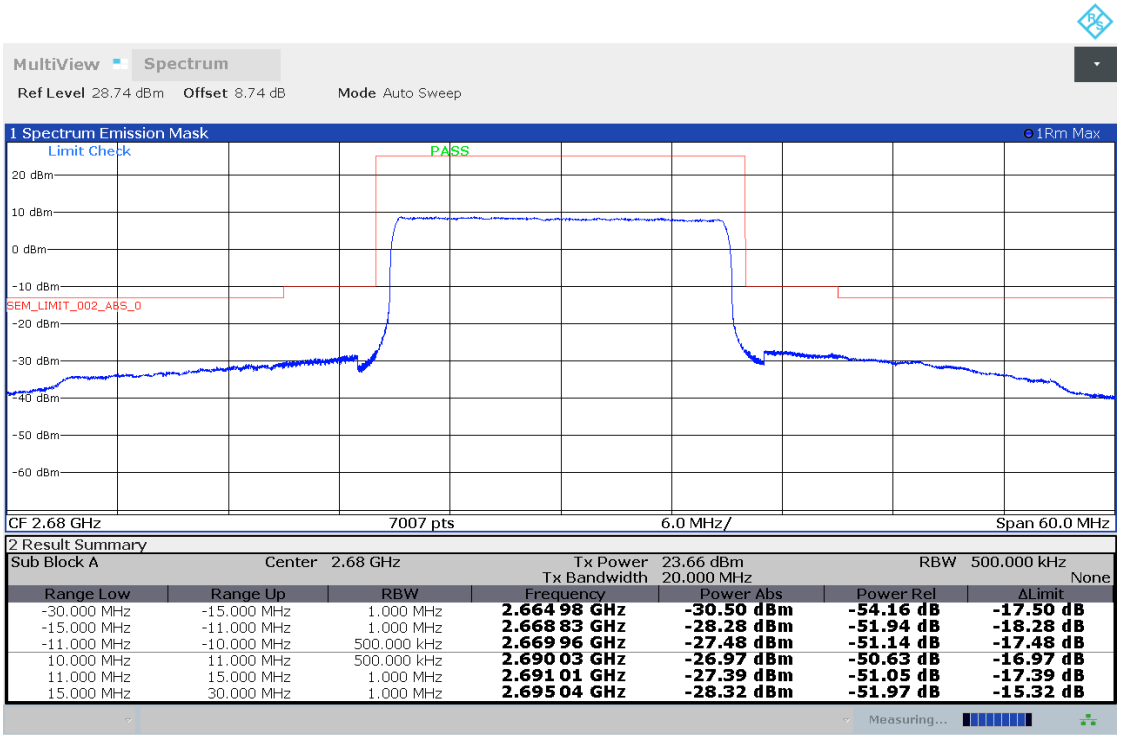
TM2_20MHz_HCH_RB100#0



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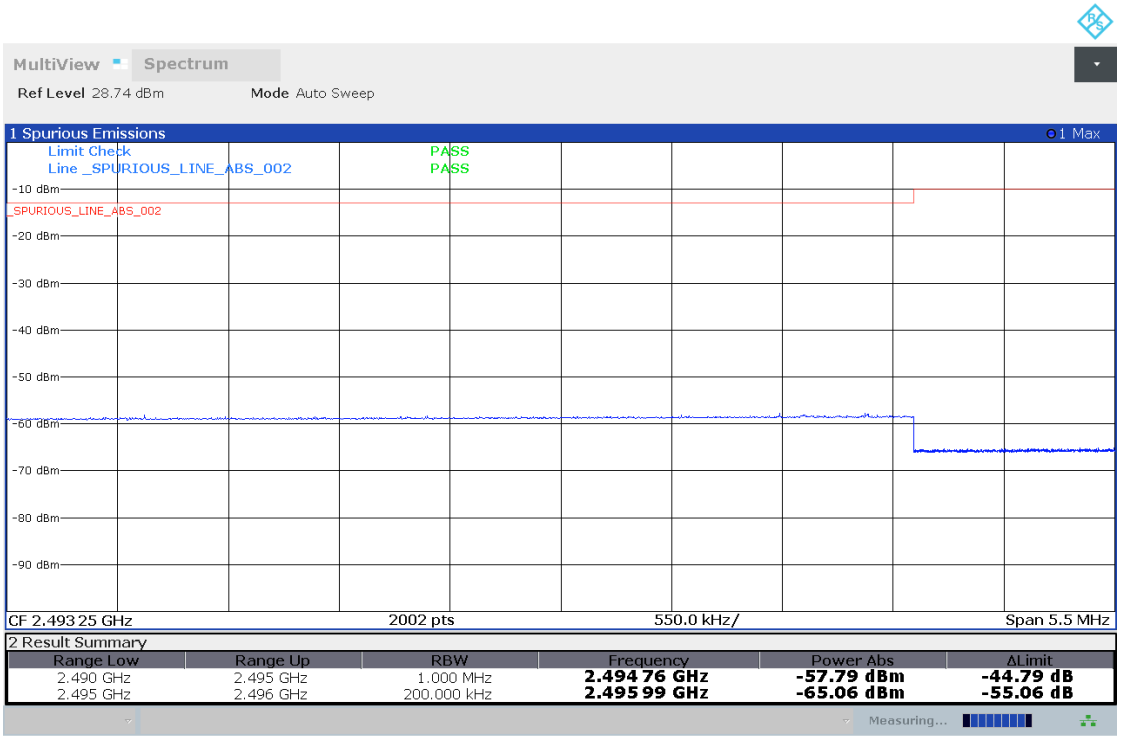

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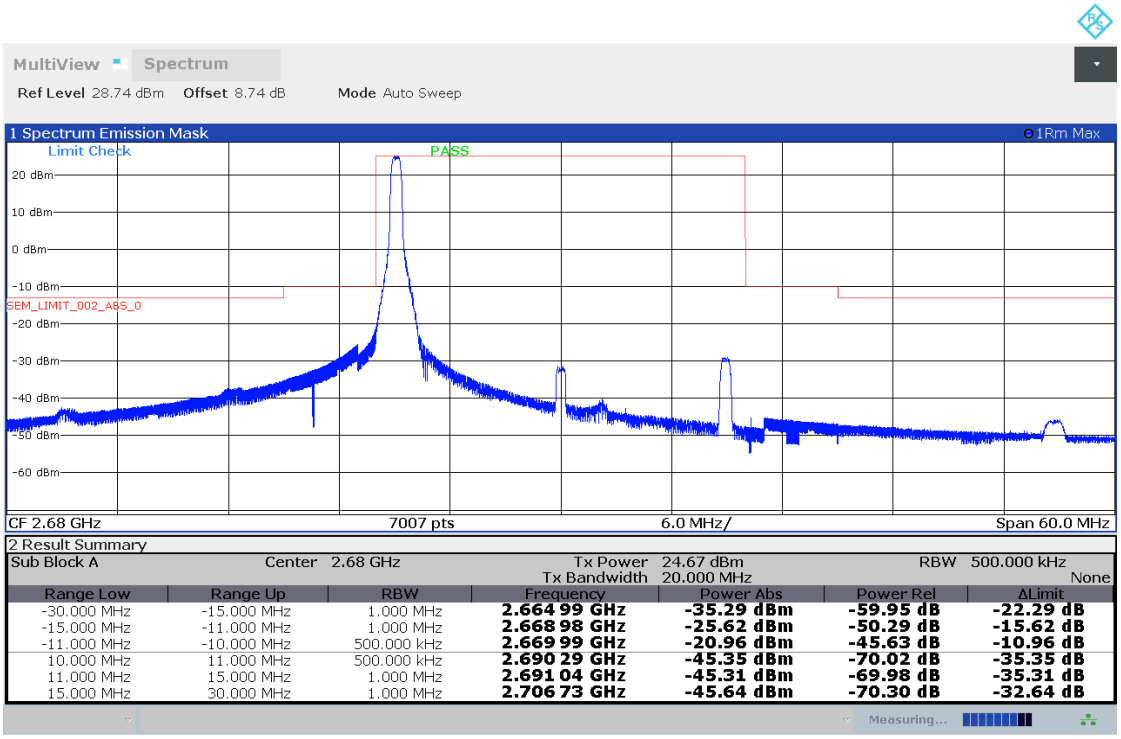
TM2_20MHz_HCH_RB1#0



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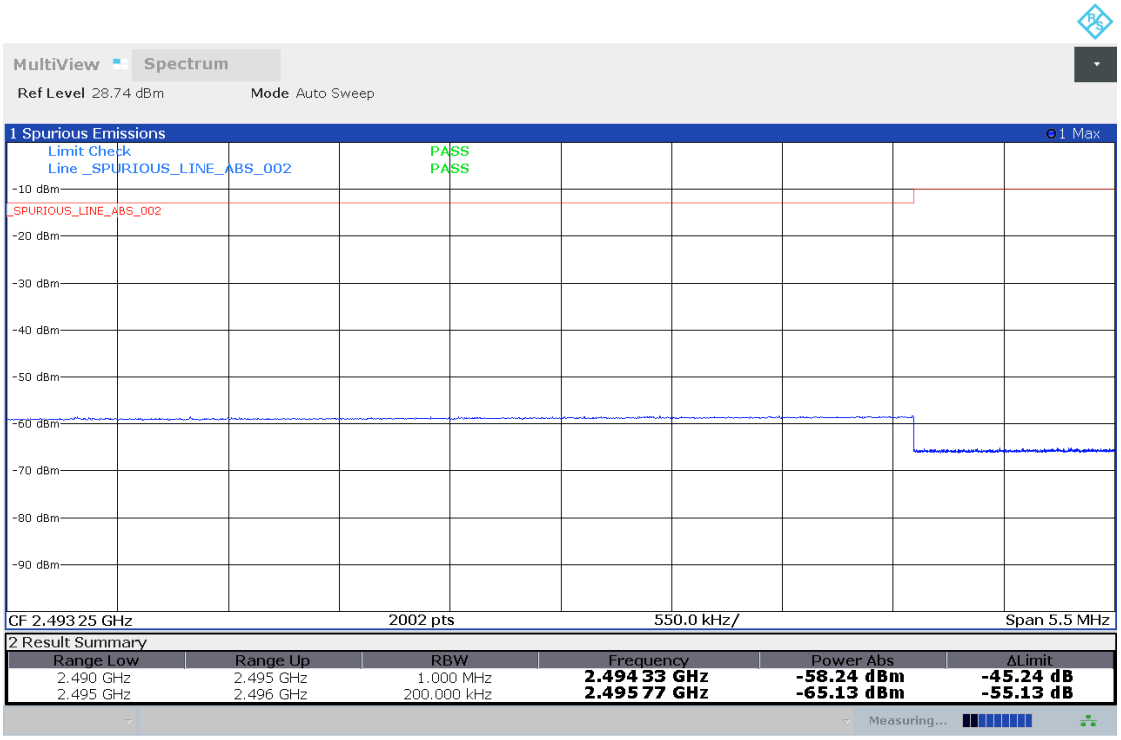

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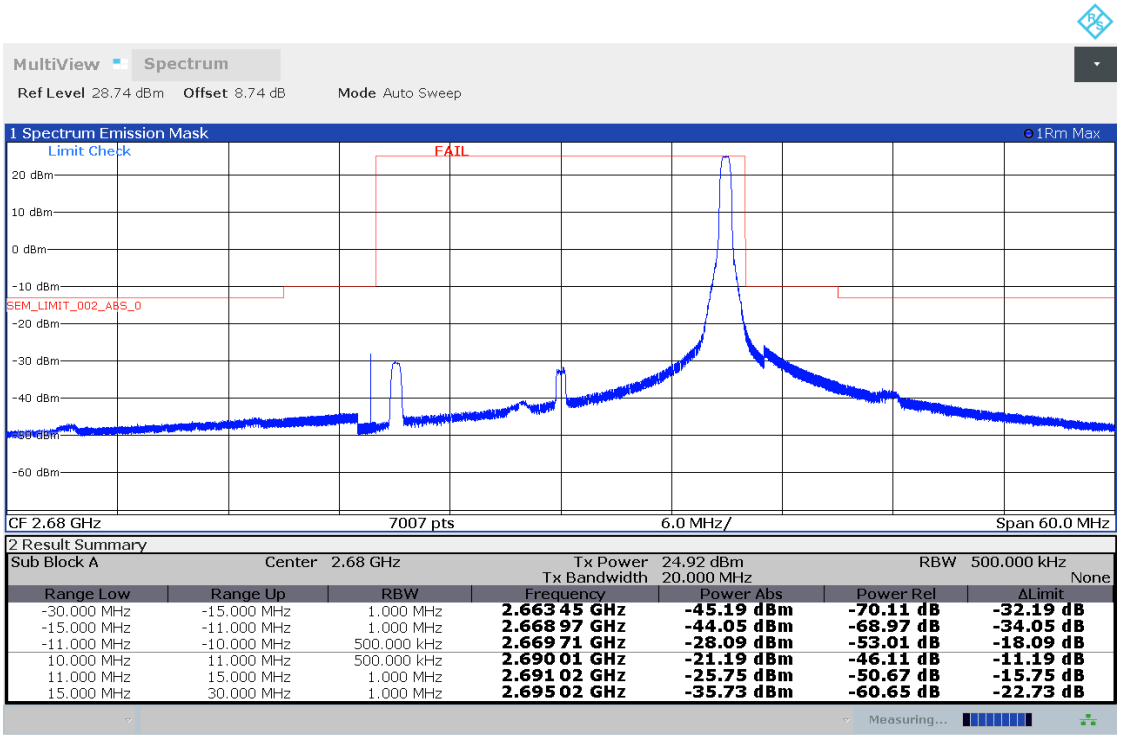

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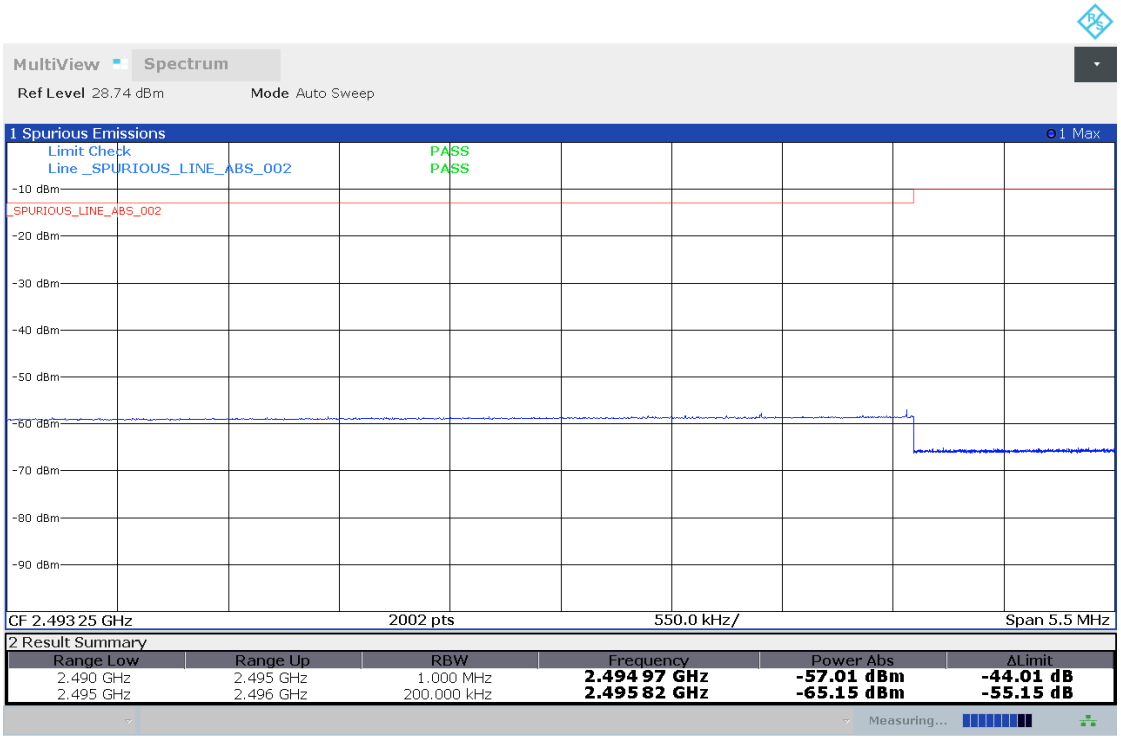

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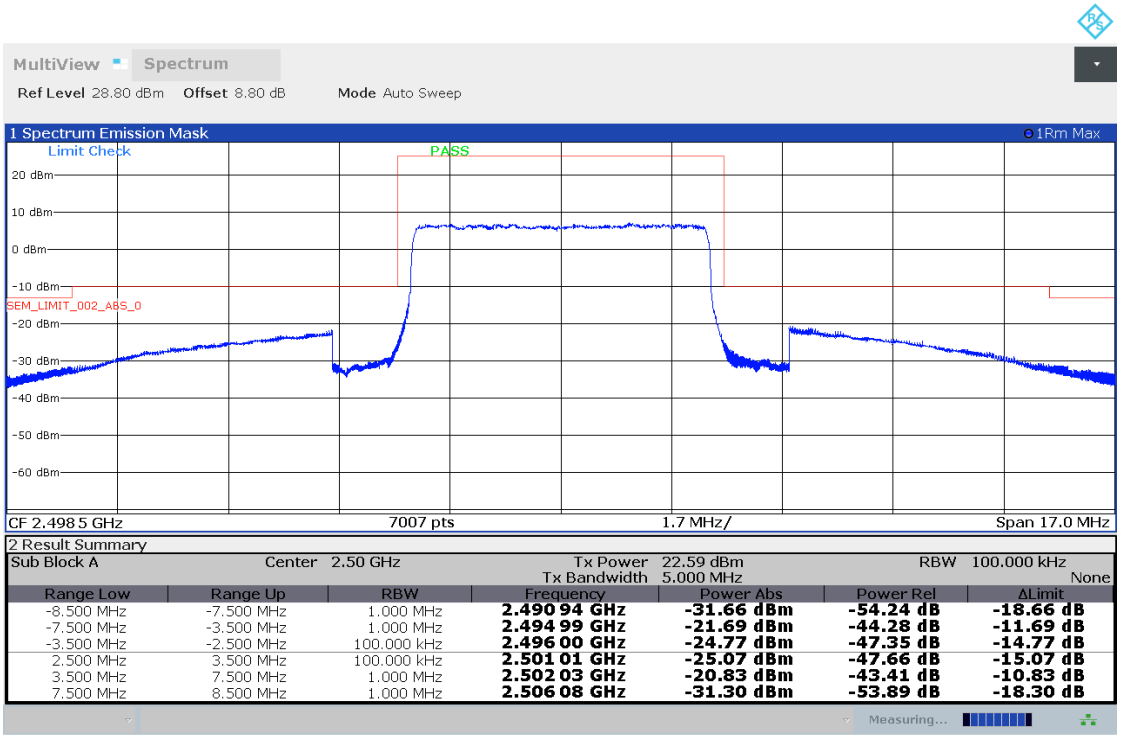
TM3_5MHz_LCH_RB25#0



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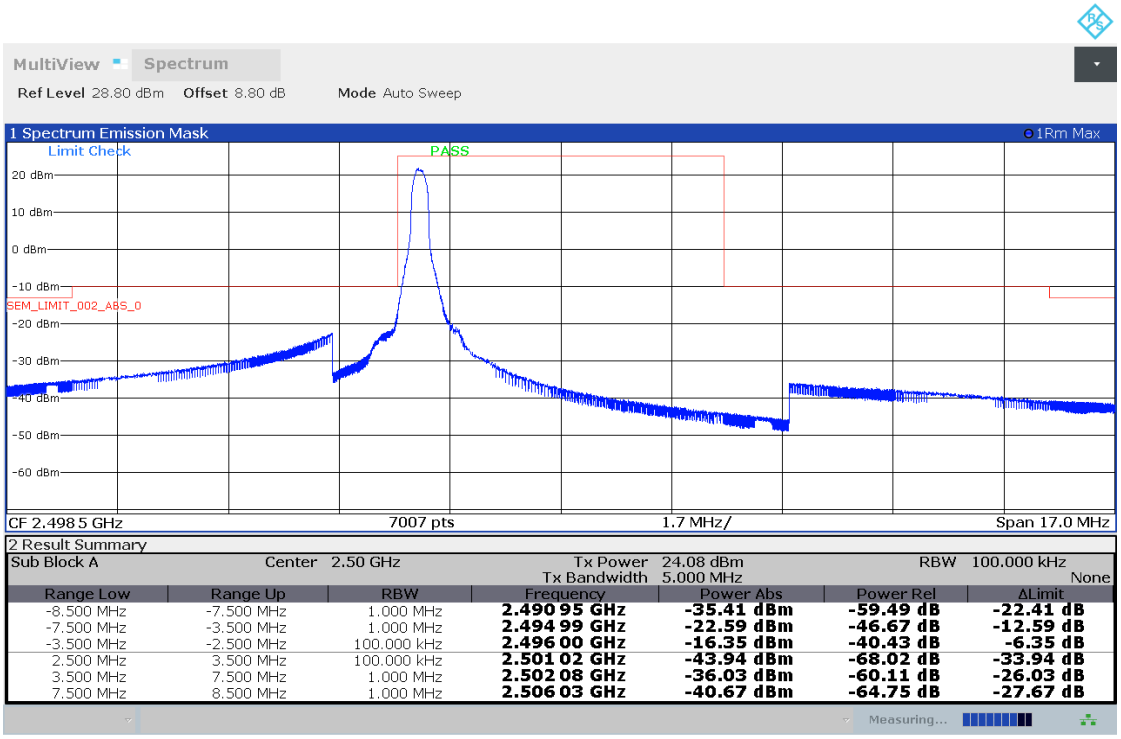

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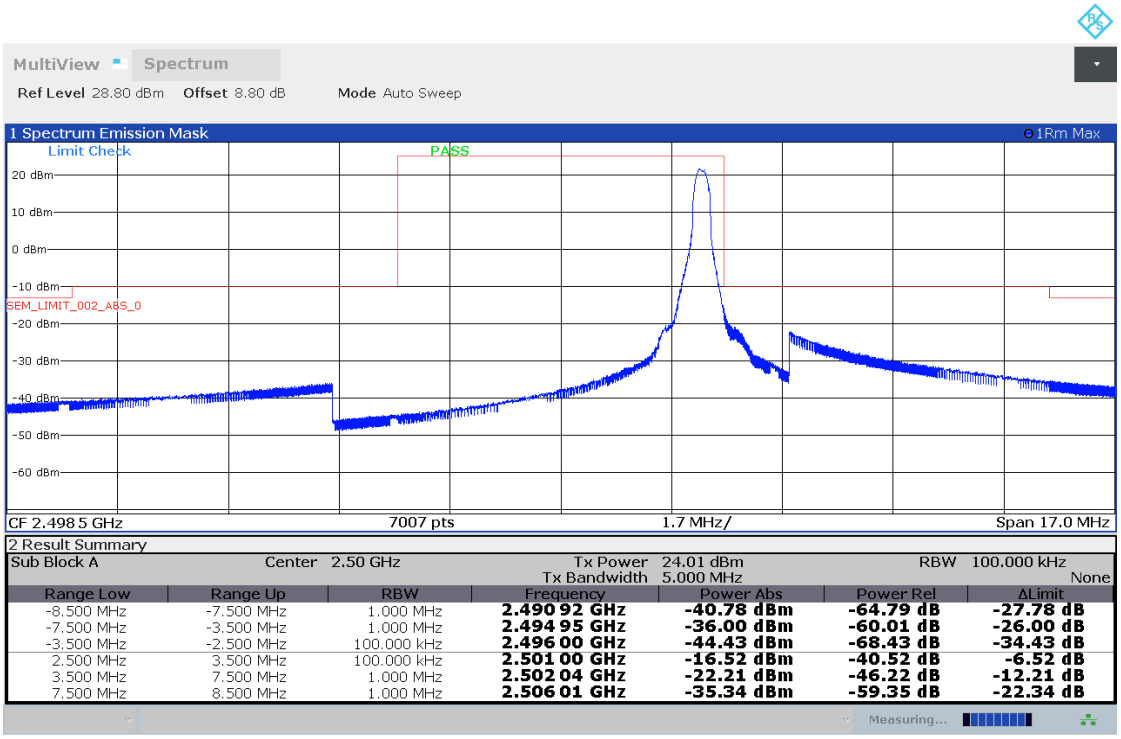

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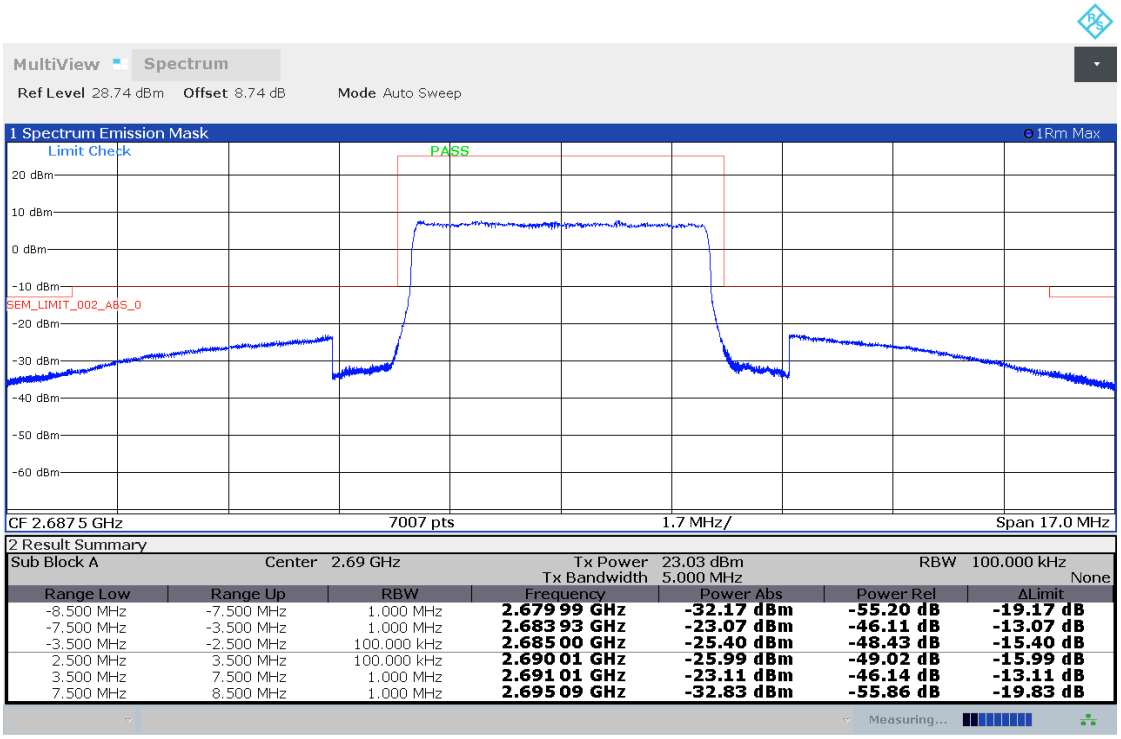

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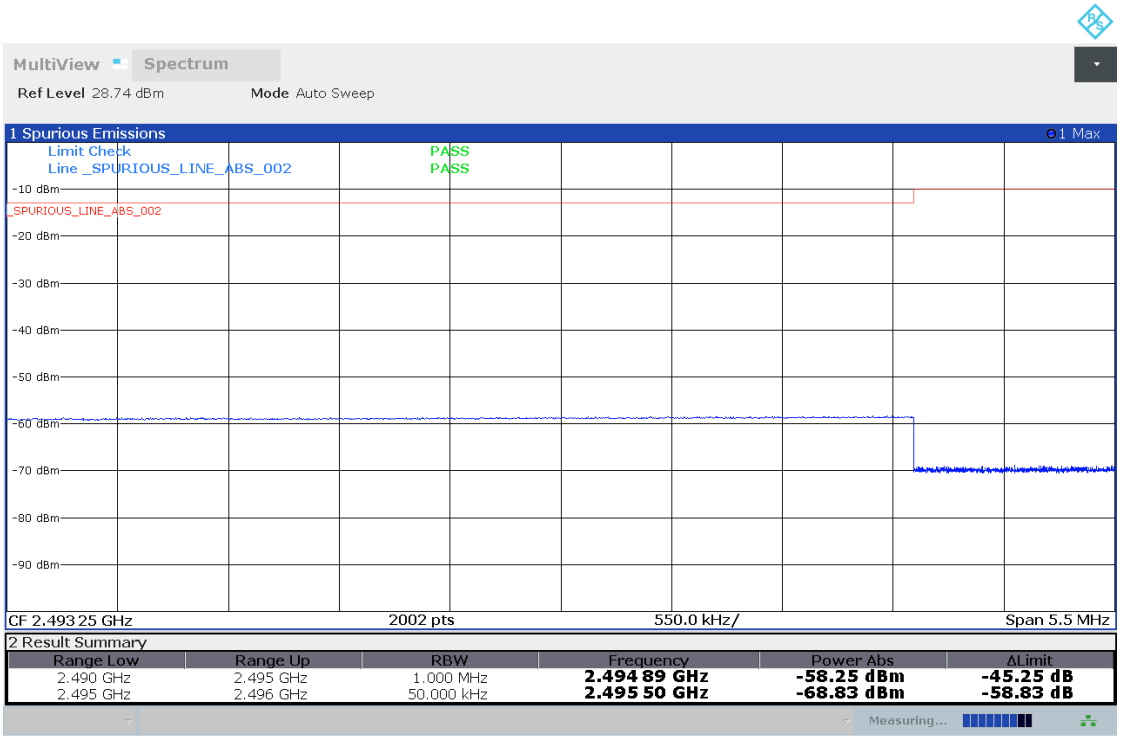

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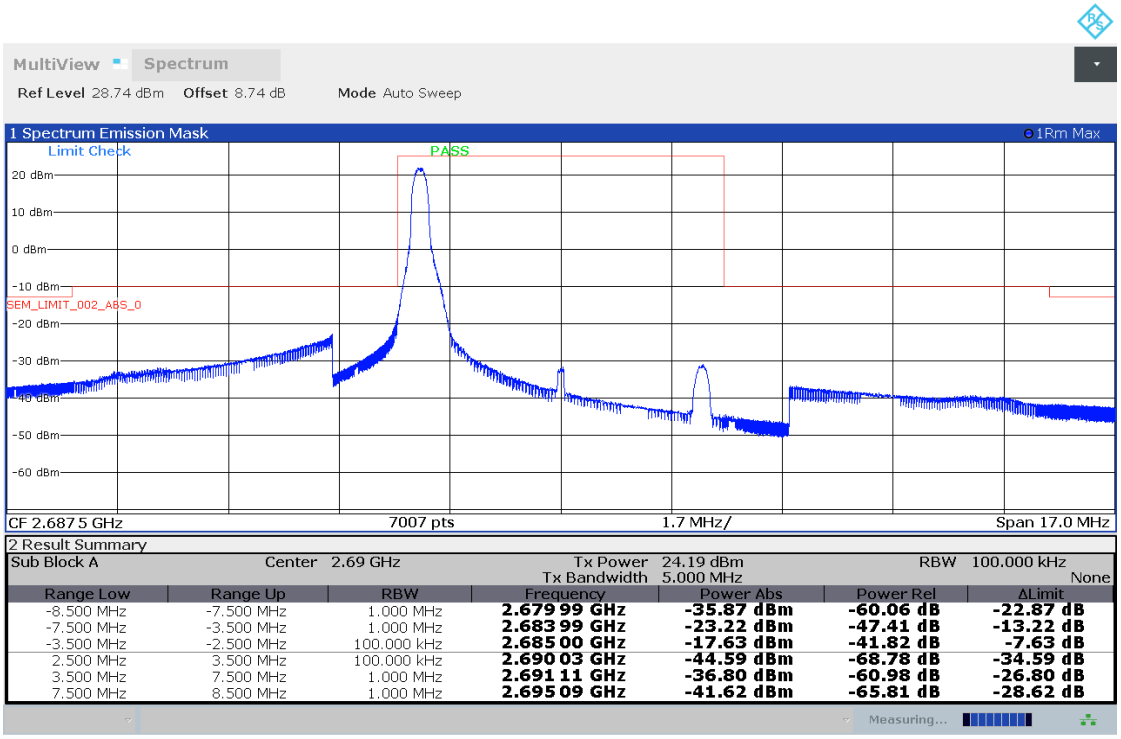
TM3_5MHz_HCH_RB1#0



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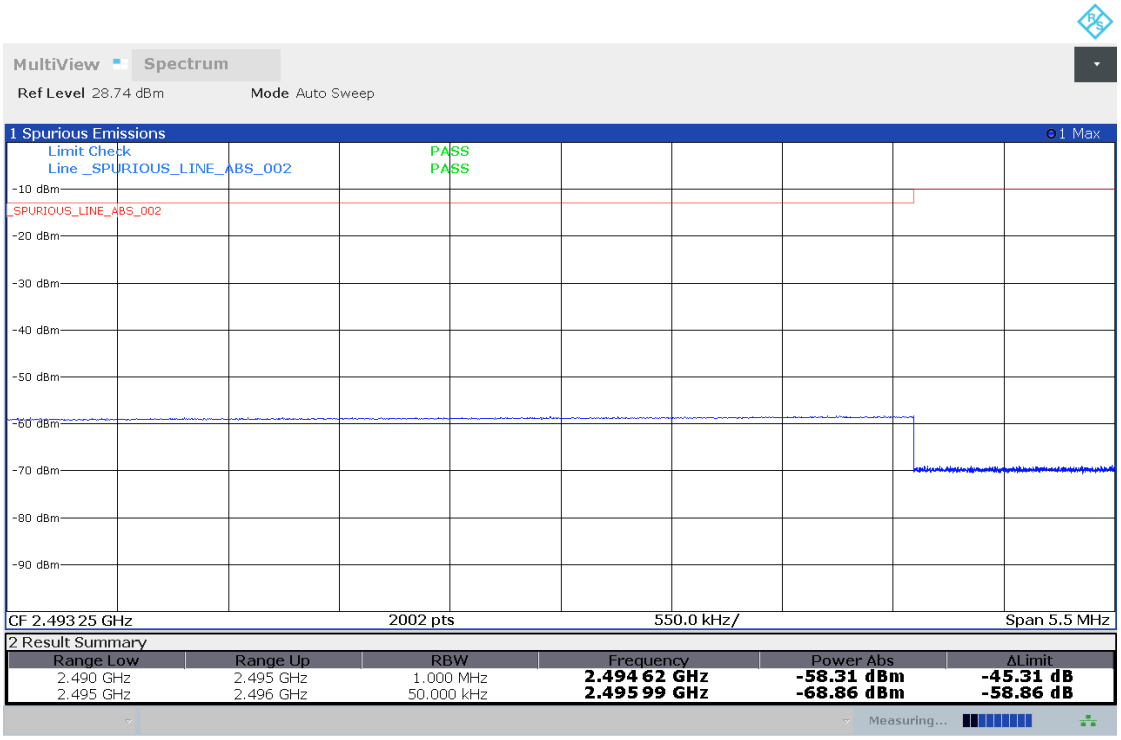

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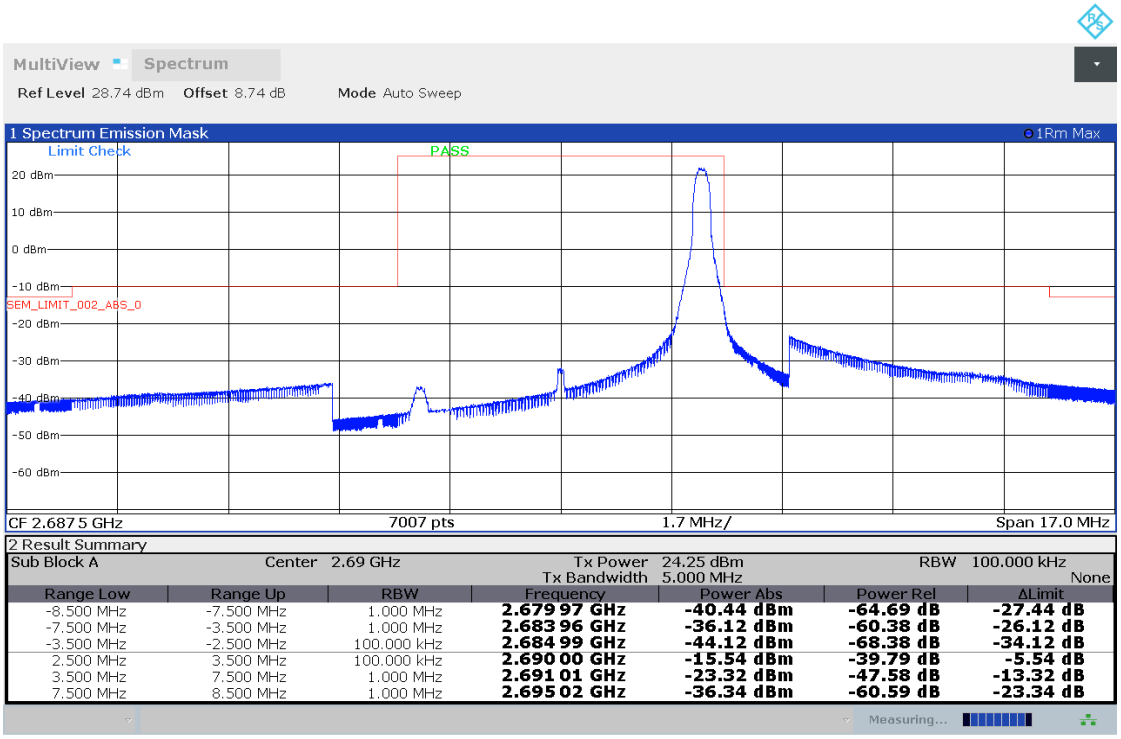
TM3_5MHz_HCH_RB1#24



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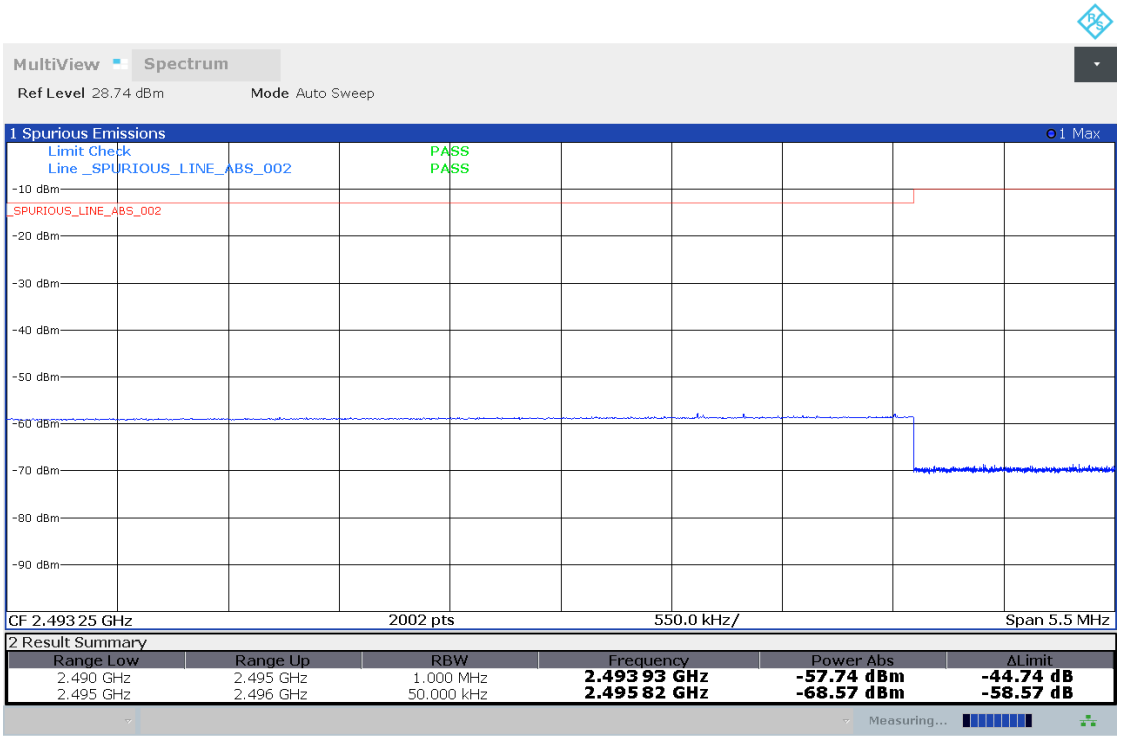

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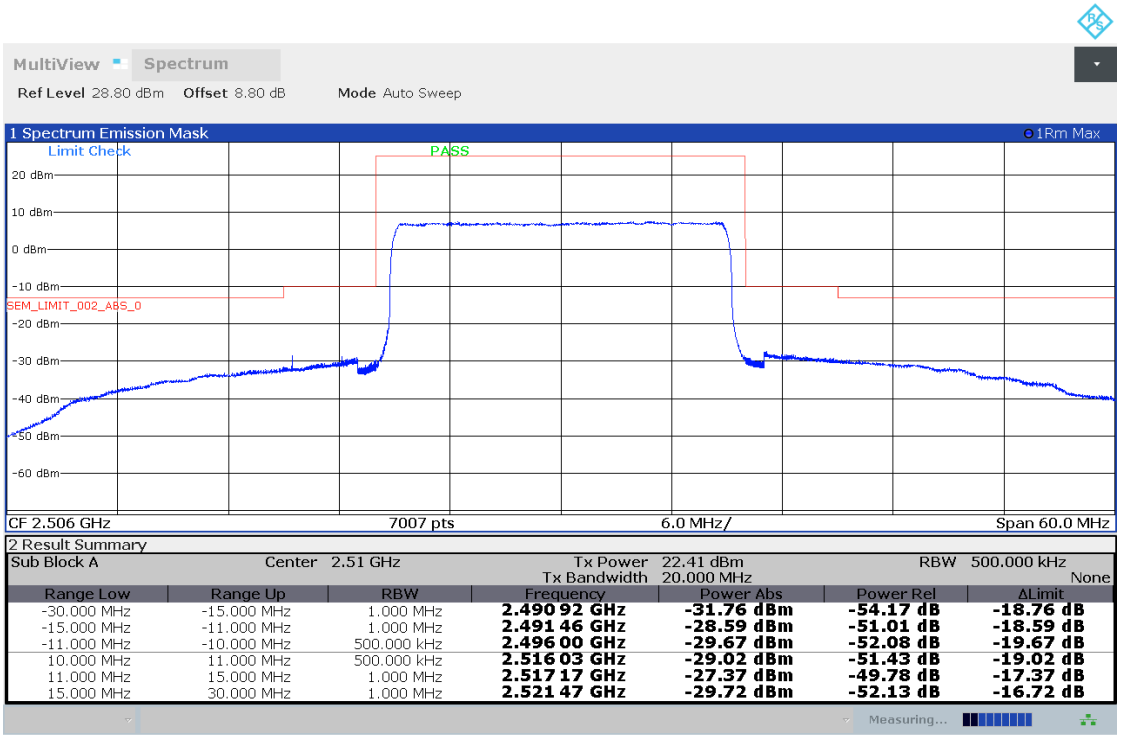
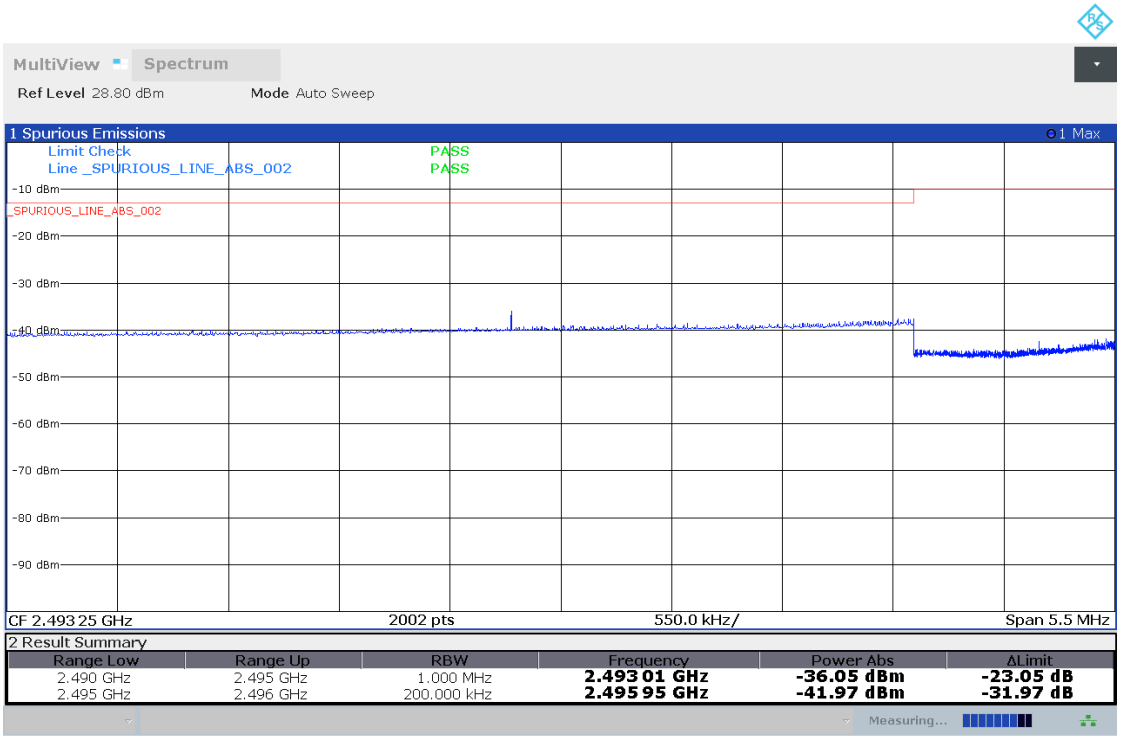
TM3_20MHz_LCH_RB100#0



14:38:26 25.04.2022



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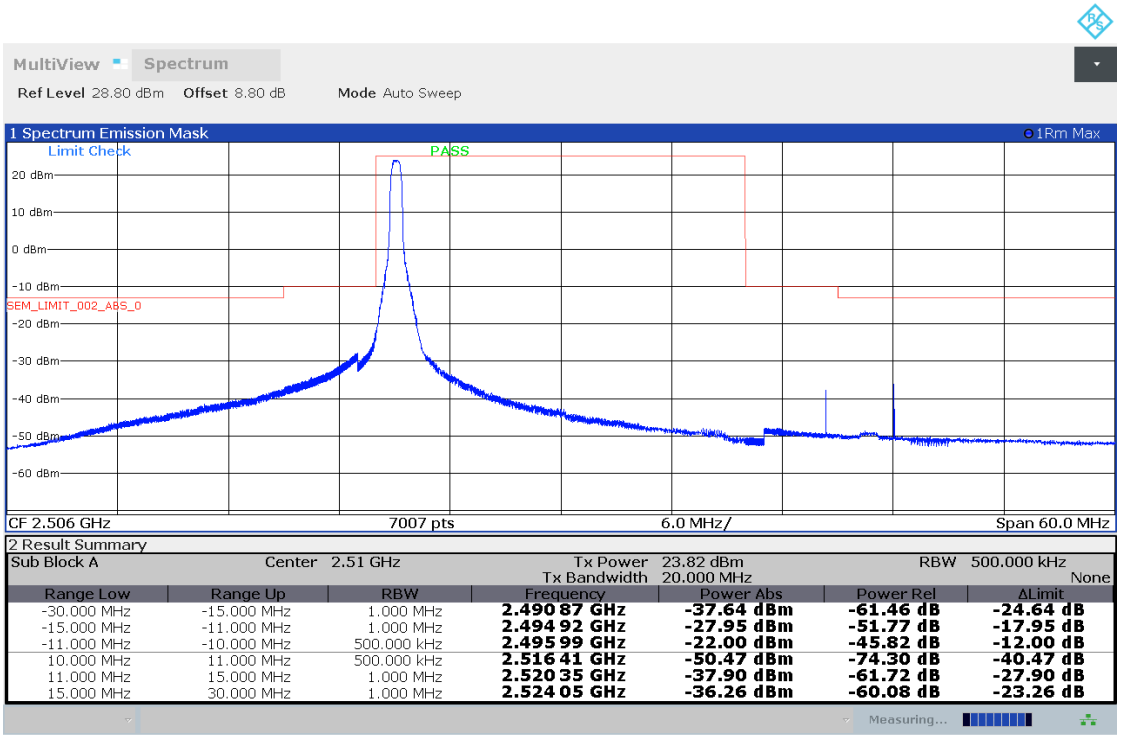
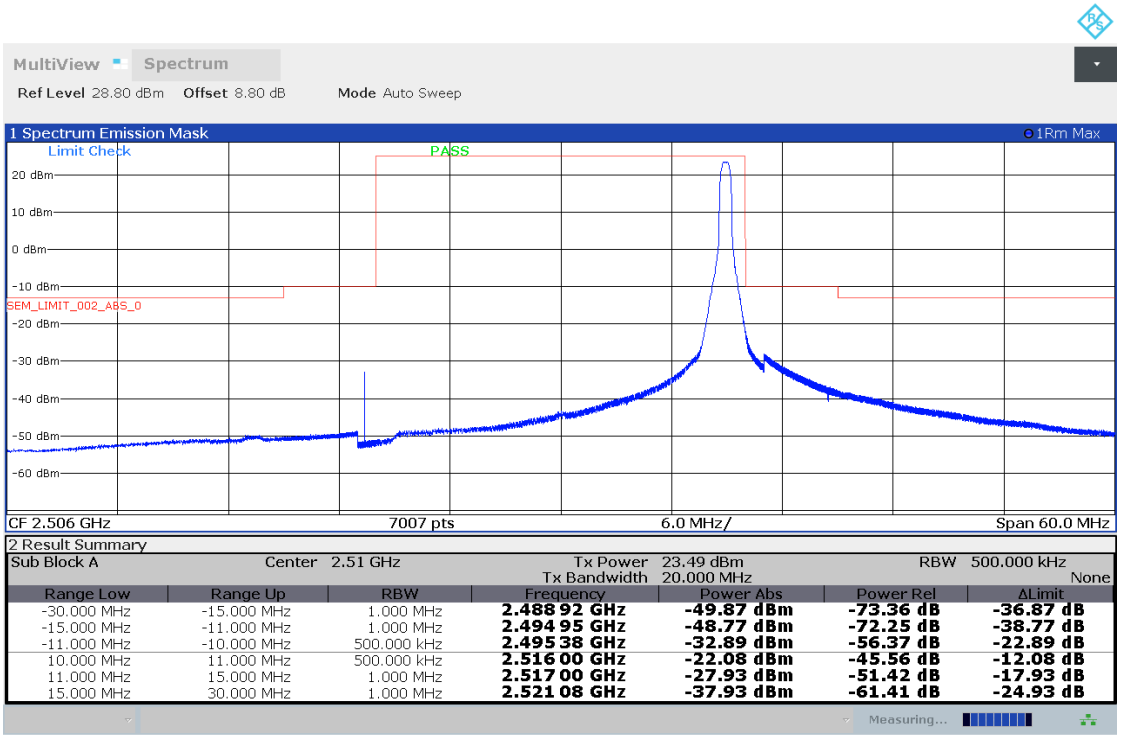
TM3_20MHz_LCH_RB1#0



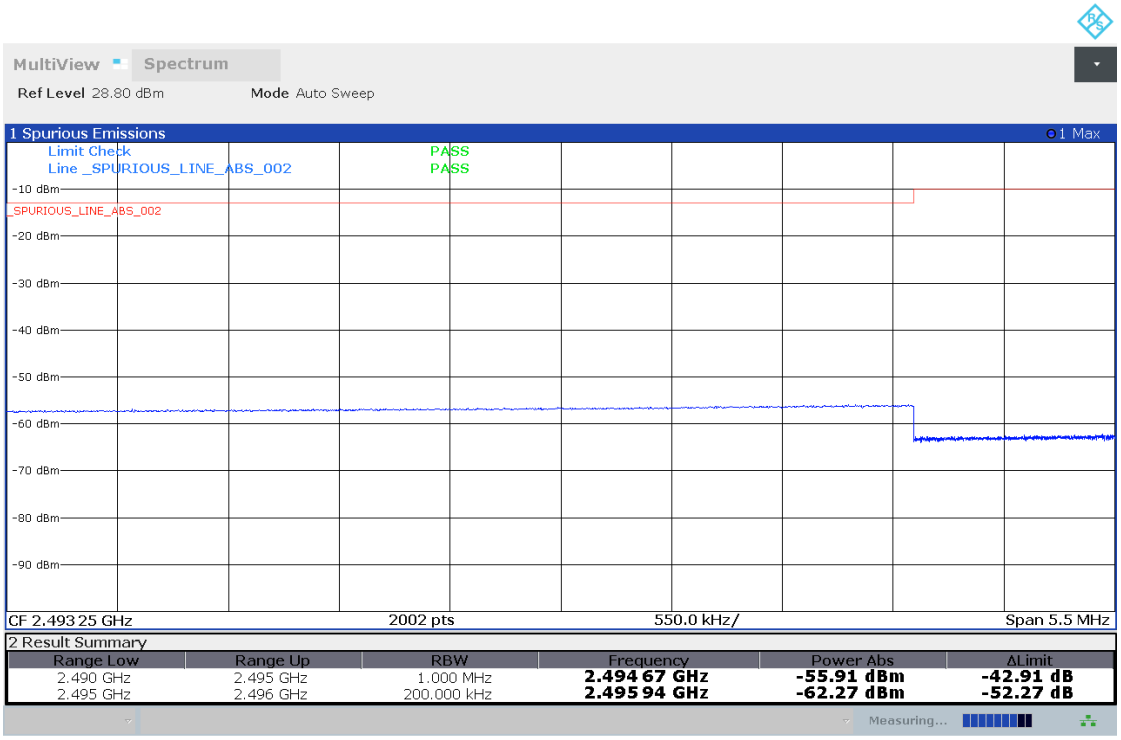
14:40:48 25.04.2022

14:41:44 25.04.2022

TM3_20MHz_LCH_RB1#99

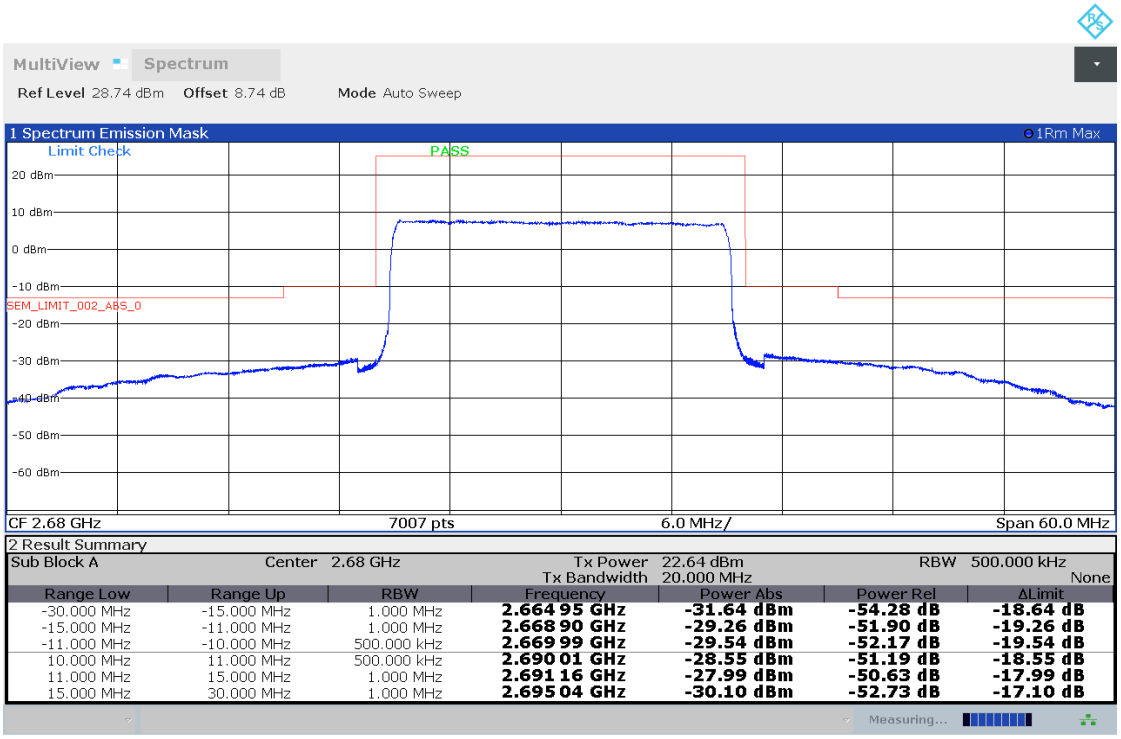


14:43:09 25.04.2022



14:44:06 25.04.2022

TM3_20MHz_HCH_RB100#0



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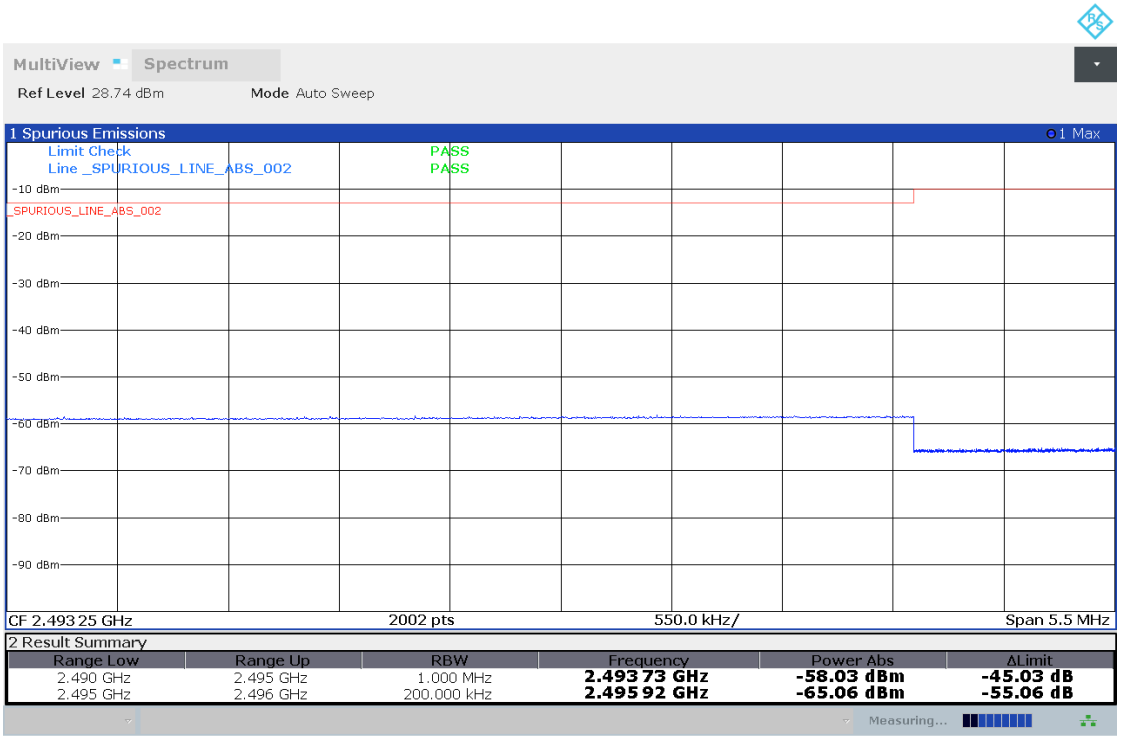
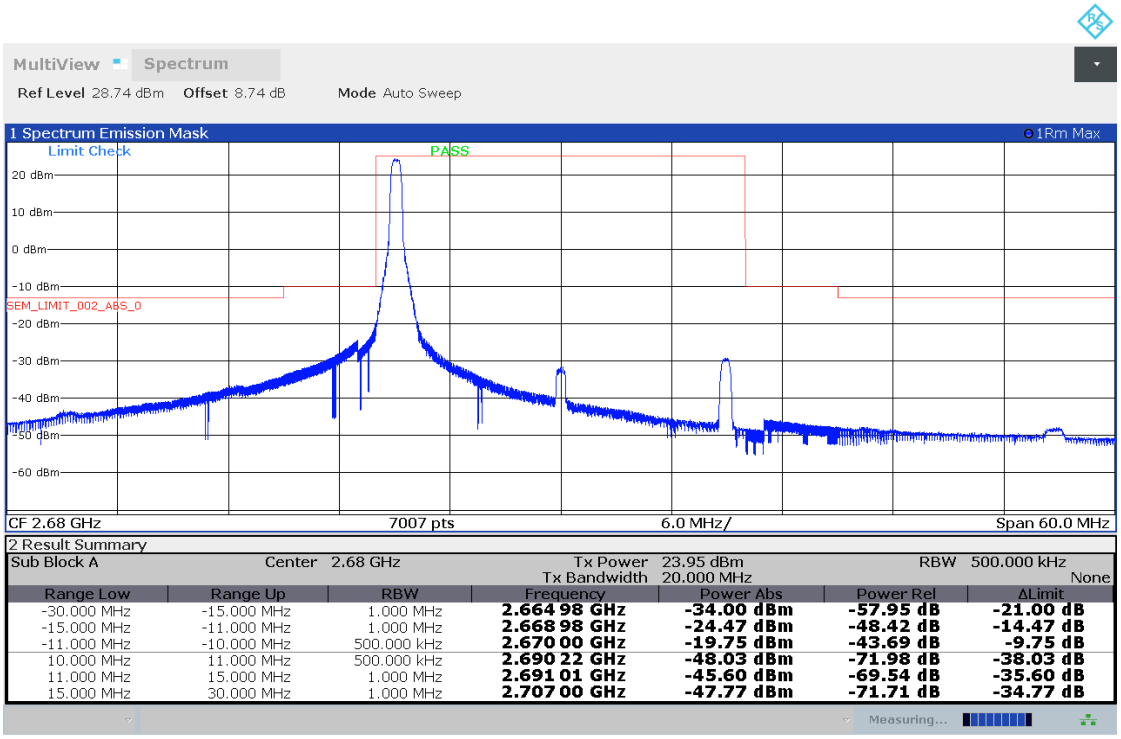
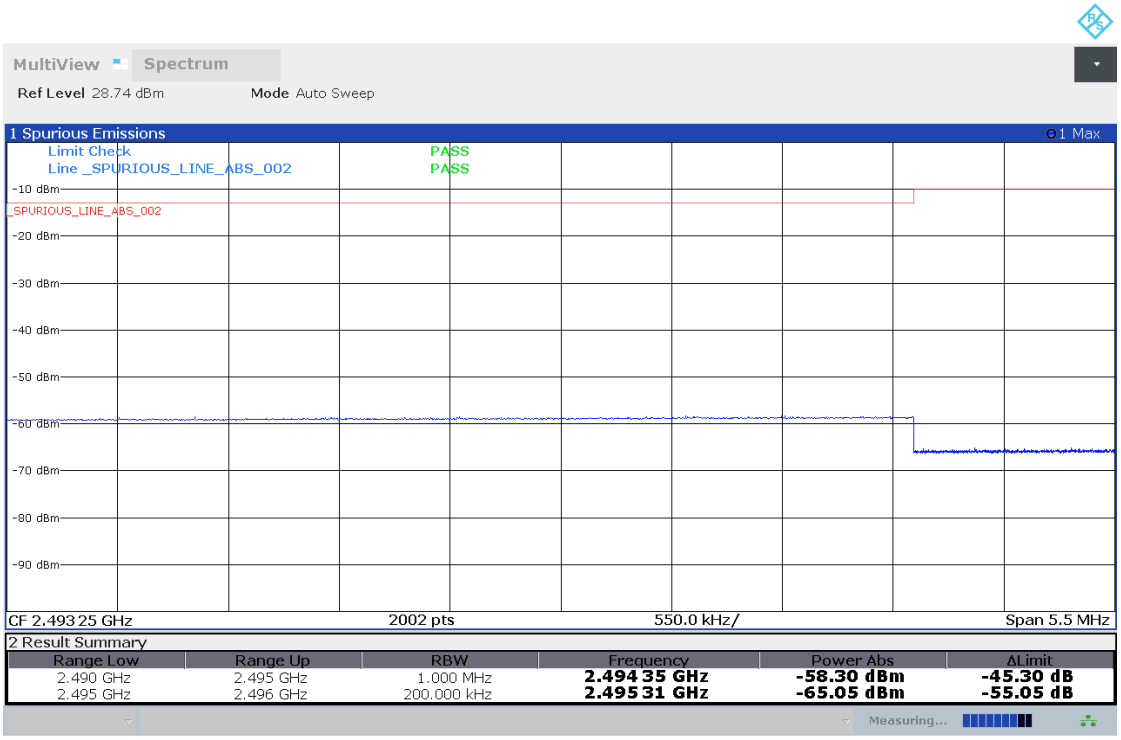


14:46:29 25.04.2022

TM3_20MHz_HCH_RB1#0

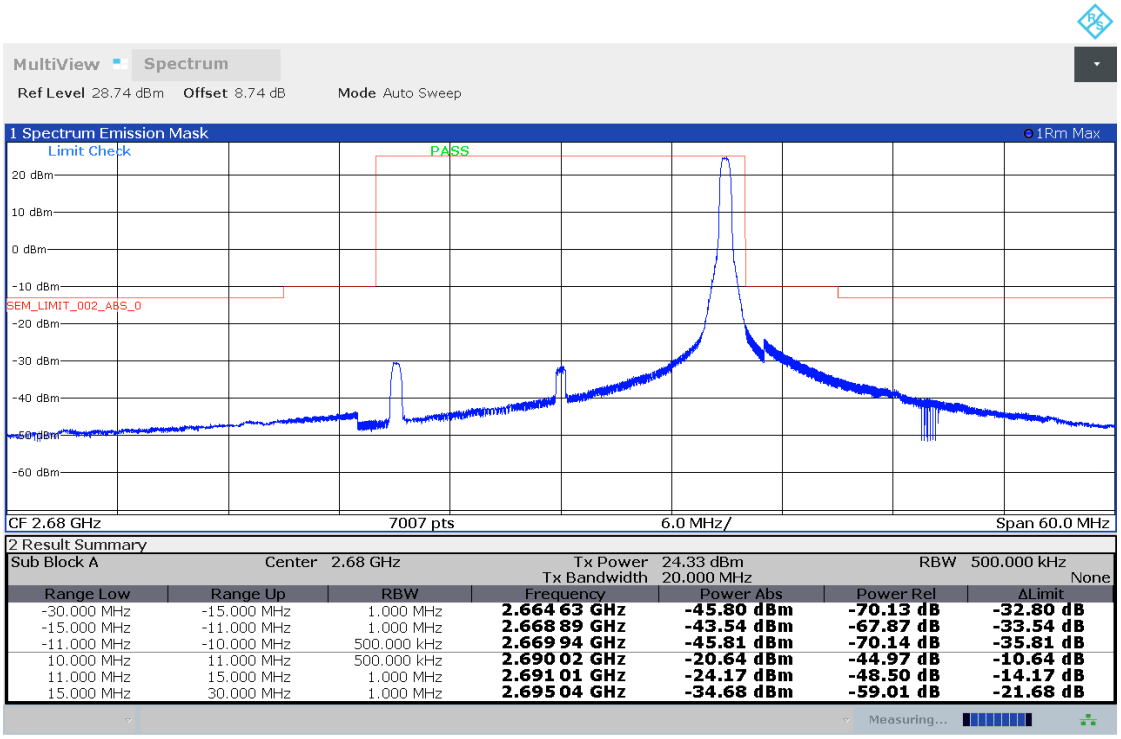


14:47:54 25.04.2022

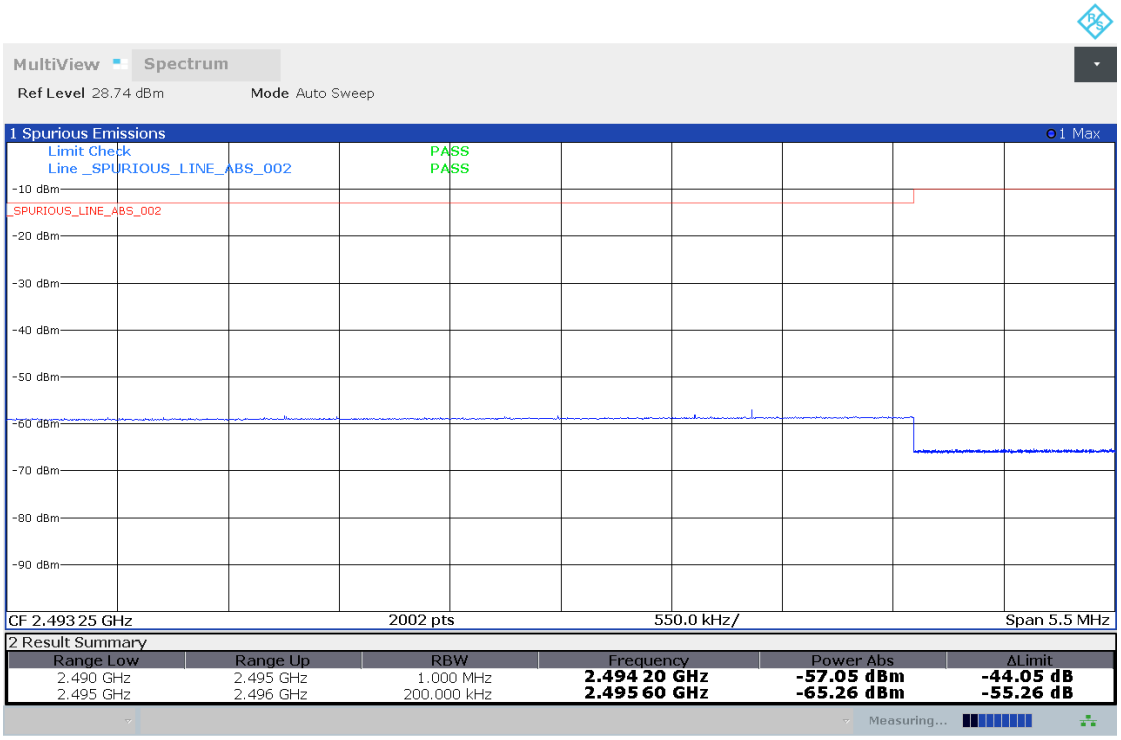


14:48:51 25.04.2022

TM3_20MHz_HCH_RB1#99



14:50:16 25.04.2022



14:51:12 25.04.2022

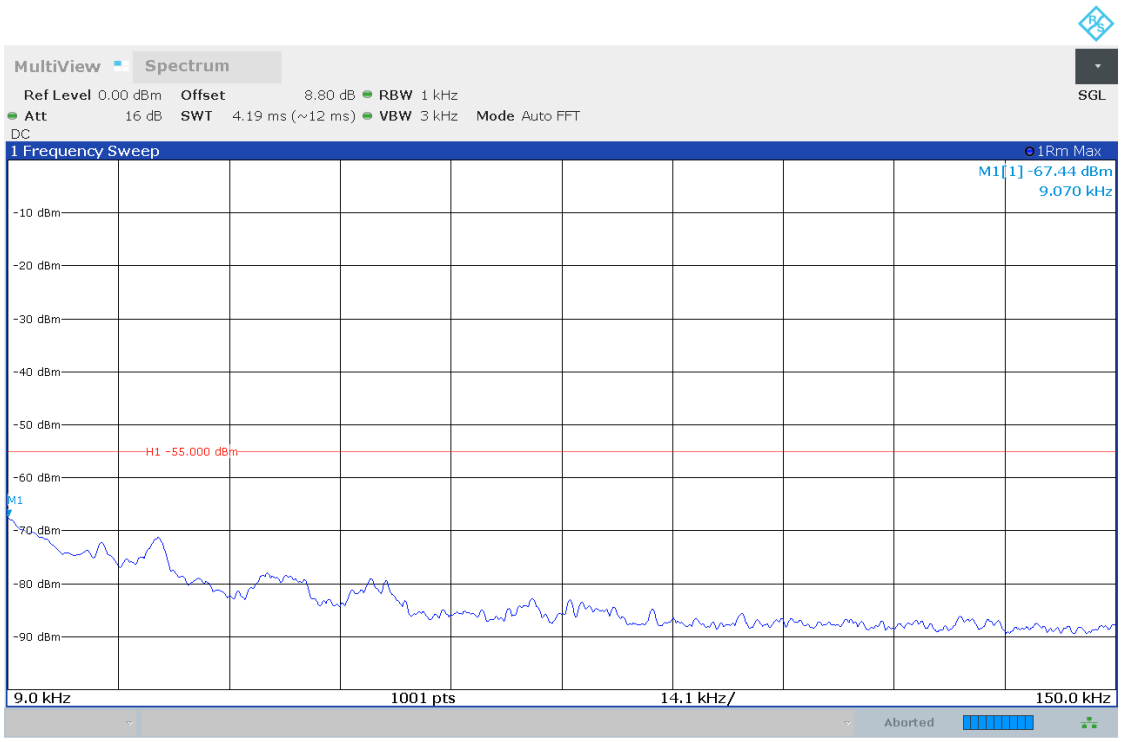
6 Appendix_F: Spurious Emission at Antenna Terminal

6.1 Test Results

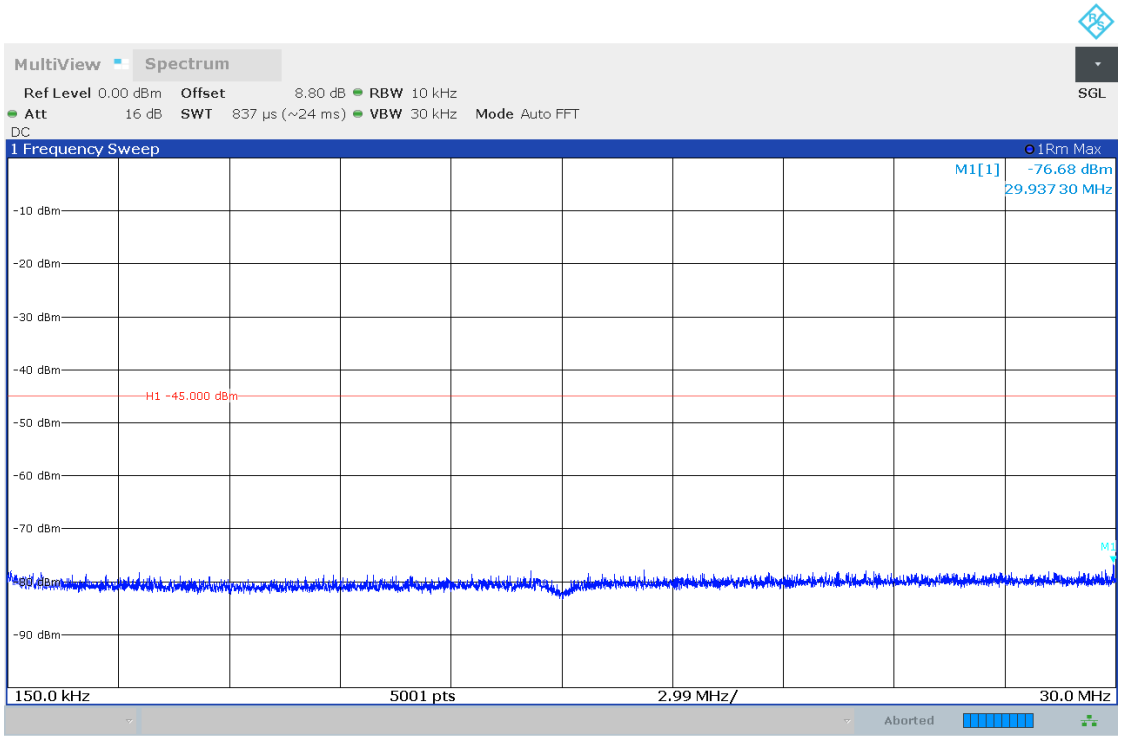
Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured Emissions Conformed to the Relevant Limits?	Verdict
TM1	5	LCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		MCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		HCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
	20	LCH	RB100#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#99	QPSK	Yes	PASS
		MCH	RB100#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#99	QPSK	Yes	PASS
		HCH	RB100#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#99	QPSK	Yes	PASS
TM2	5	LCH	RB25#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#24	16QAM	Yes	PASS
		MCH	RB25#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#24	16QAM	Yes	PASS
		HCH	RB25#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#24	16QAM	Yes	PASS
	20	LCH	RB100#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#99	16QAM	Yes	PASS
		MCH	RB100#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#99	16QAM	Yes	PASS
		HCH	RB100#0	16QAM	Yes	PASS
			RB1#0	16QAM	Yes	PASS
			RB1#99	16QAM	Yes	PASS

6.2 Test Plots

TM1_5MHz_LCH_RB25#0



14:54:18 25.04.2022



14:54:48 25.04.2022