

Appendix for LTE Band 7

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	22.27	1.9	24.17	33	PASS
			RB1#0	QPSK	23.20	1.9	25.1	33	PASS
			RB1#24	QPSK	22.98	1.9	24.88	33	PASS
		MCH	RB25#0	QPSK	22.05	1.9	23.95	33	PASS
			RB1#0	QPSK	22.91	1.9	24.81	33	PASS
			RB1#24	QPSK	22.95	1.9	24.85	33	PASS
		HCH	RB25#0	QPSK	22.12	1.9	24.02	33	PASS
			RB1#0	QPSK	22.95	1.9	24.85	33	PASS
			RB1#24	QPSK	22.98	1.9	24.88	33	PASS
	20	LCH	RB100#0	QPSK	22.98	1.9	24.88	33	PASS
			RB1#0	QPSK	22.97	1.9	24.87	33	PASS
			RB1#99	QPSK	22.65	1.9	24.55	33	PASS
		MCH	RB100#0	QPSK	22.12	1.9	24.02	33	PASS
			RB1#0	QPSK	22.64	1.9	24.54	33	PASS
			RB1#99	QPSK	22.67	1.9	24.57	33	PASS
		HCH	RB100#0	QPSK	22.05	1.9	23.95	33	PASS
			RB1#0	QPSK	22.75	1.9	24.65	33	PASS
			RB1#99	QPSK	22.70	1.9	24.6	33	PASS
TM2	5	LCH	RB25#0	16QAM	21.24	1.9	23.14	33	PASS
			RB1#0	16QAM	22.60	1.9	24.5	33	PASS
			RB1#24	16QAM	22.47	1.9	24.37	33	PASS
		MCH	RB25#0	16QAM	21.64	1.9	23.54	33	PASS
			RB1#0	16QAM	21.96	1.9	23.86	33	PASS
			RB1#24	16QAM	22.05	1.9	23.95	33	PASS
		HCH	RB25#0	16QAM	21.13	1.9	23.03	33	PASS
			RB1#0	16QAM	22.15	1.9	24.05	33	PASS
			RB1#24	16QAM	22.17	1.9	24.07	33	PASS
	20	LCH	RB100#0	16QAM	21.99	1.9	23.89	33	PASS
			RB1#0	16QAM	22.66	1.9	24.56	33	PASS
			RB1#99	16QAM	22.31	1.9	24.21	33	PASS
		MCH	RB100#0	16QAM	21.91	1.9	23.81	33	PASS
			RB1#0	16QAM	22.32	1.9	24.22	33	PASS
			RB1#99	16QAM	22.46	1.9	24.36	33	PASS
		HCH	RB100#0	16QAM	21.66	1.9	23.56	33	PASS
			RB1#0	16QAM	22.33	1.9	24.23	33	PASS
			RB1#99	16QAM	22.22	1.9	24.12	33	PASS

2 Appendix_B: Peak-to-Average Ratio

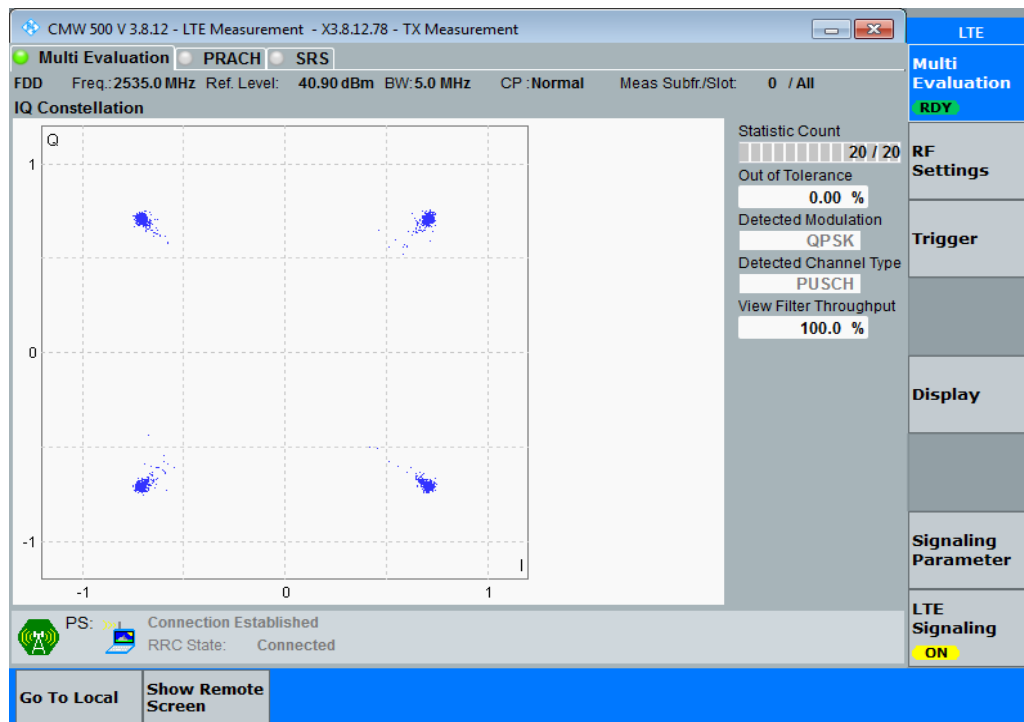
2.1 Test Results

Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured [dB]	Limit [dB]	Verdict
TM1	5	MCH	RB25#0	QPSK	5.00	13	PASS
			RB1#0	QPSK	2.91	13	PASS
			RB1#24	QPSK	2.76	13	PASS
	20		RB100#0	QPSK	4.90	13	PASS
			RB1#0	QPSK	2.98	13	PASS
			RB1#99	QPSK	2.83	13	PASS
TM2	5		RB25#0	16QAM	5.44	13	PASS
			RB1#0	16QAM	3.81	13	PASS
			RB1#24	16QAM	3.68	13	PASS
	20		RB100#0	16QAM	5.58	13	PASS
			RB1#0	16QAM	3.82	13	PASS
			RB1#99	16QAM	3.48	13	PASS
TM3	5		RB25#0	64QAM	6.47	13	PASS
			RB1#0	64QAM	4.67	13	PASS
			RB1#24	64QAM	4.64	13	PASS
	20		RB100#0	64QAM	6.87	13	PASS
			RB1#0	64QAM	5.00	13	PASS
			RB1#99	64QAM	4.83	13	PASS

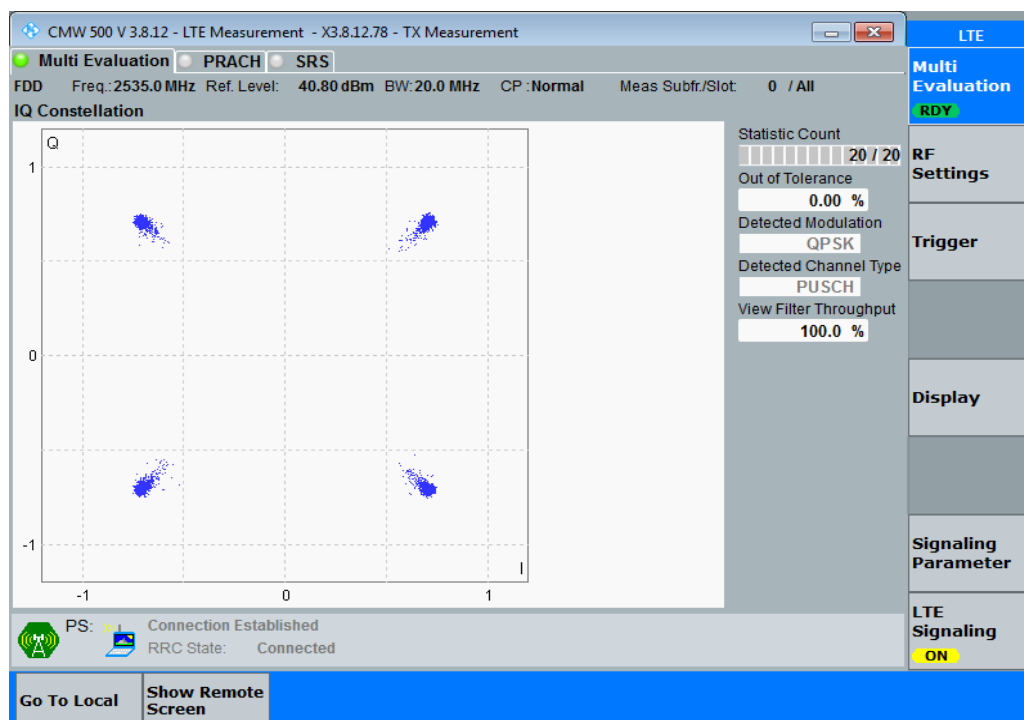
3 Appendix_C: Modulation Characteristics

3.1 Test Plots

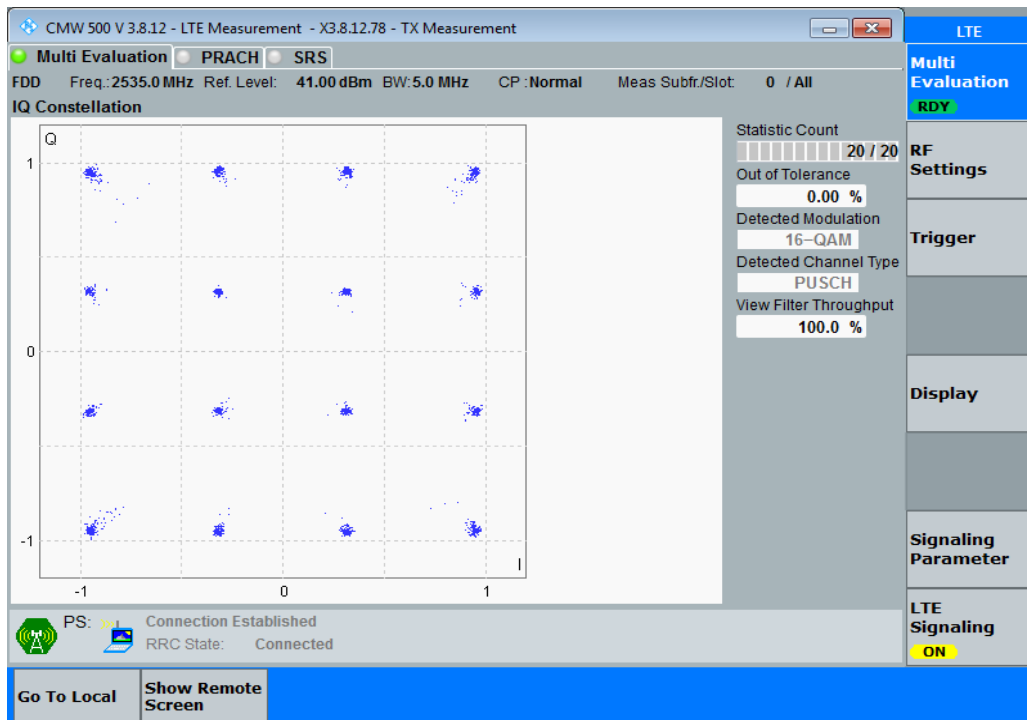
TM1_5MHz_MCH_RB25#0



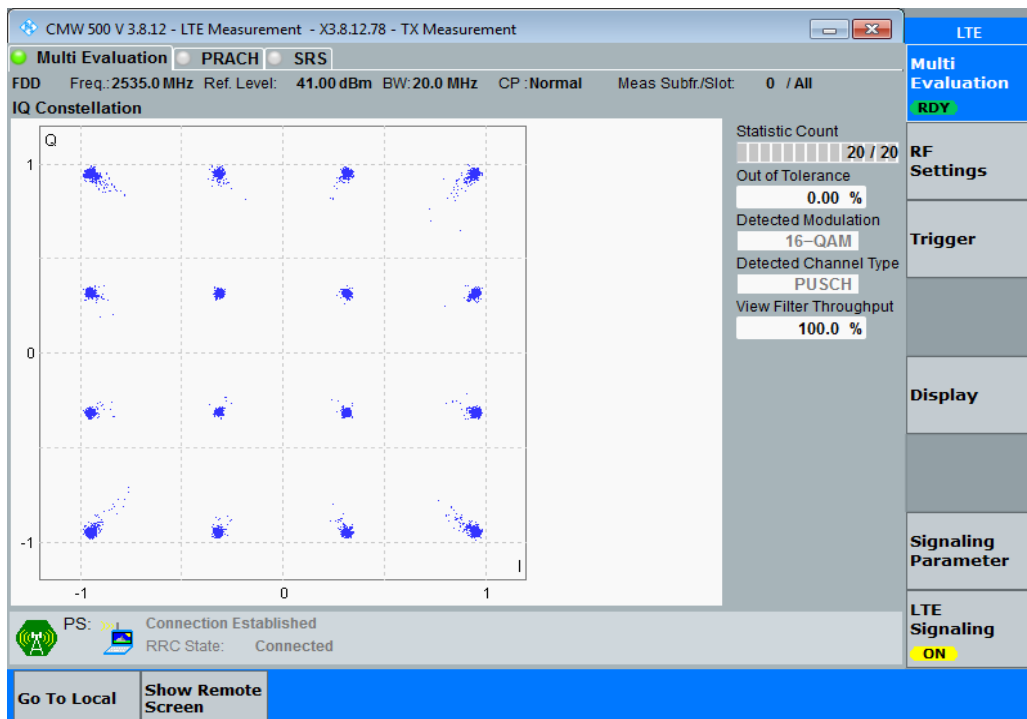
TM1_20MHz_MCH_RB100#0



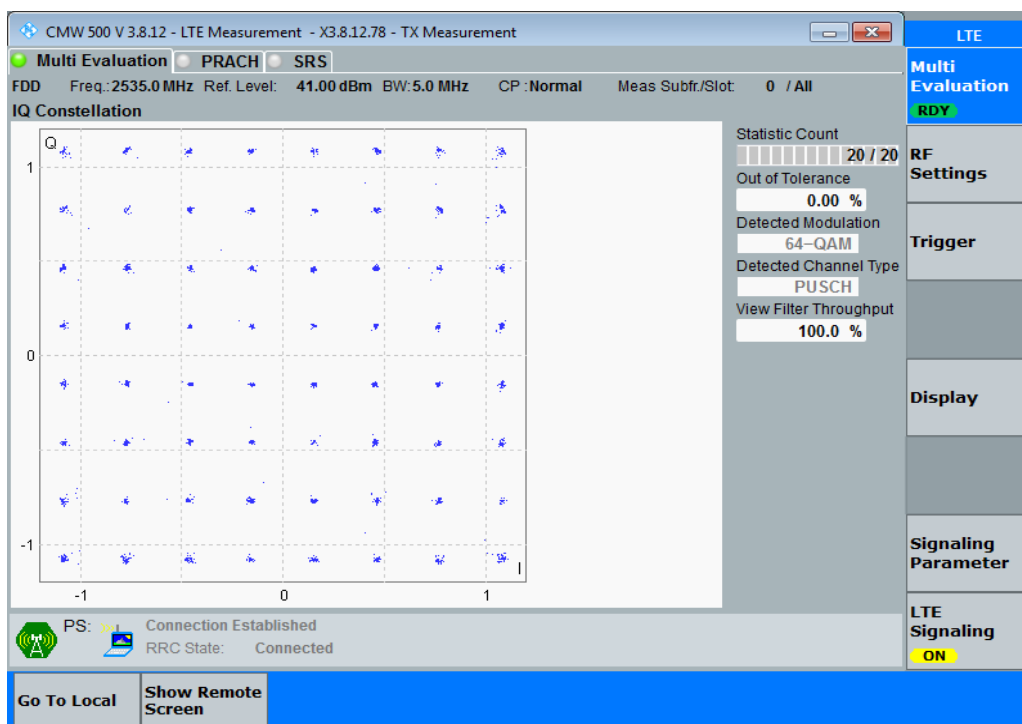
TM2_5MHz_MCH_RB25#0



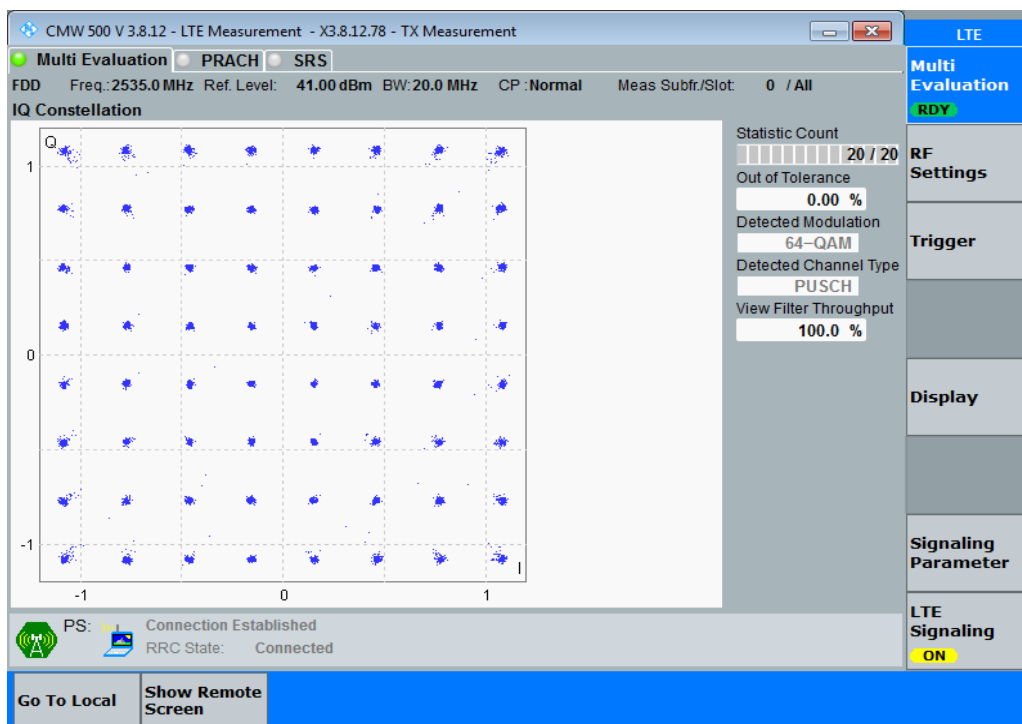
TM2_20MHz_MCH_RB100#0



TM3_5MHz_MCH_RB25#0



TM3_20MHz_MCH_RB100#0



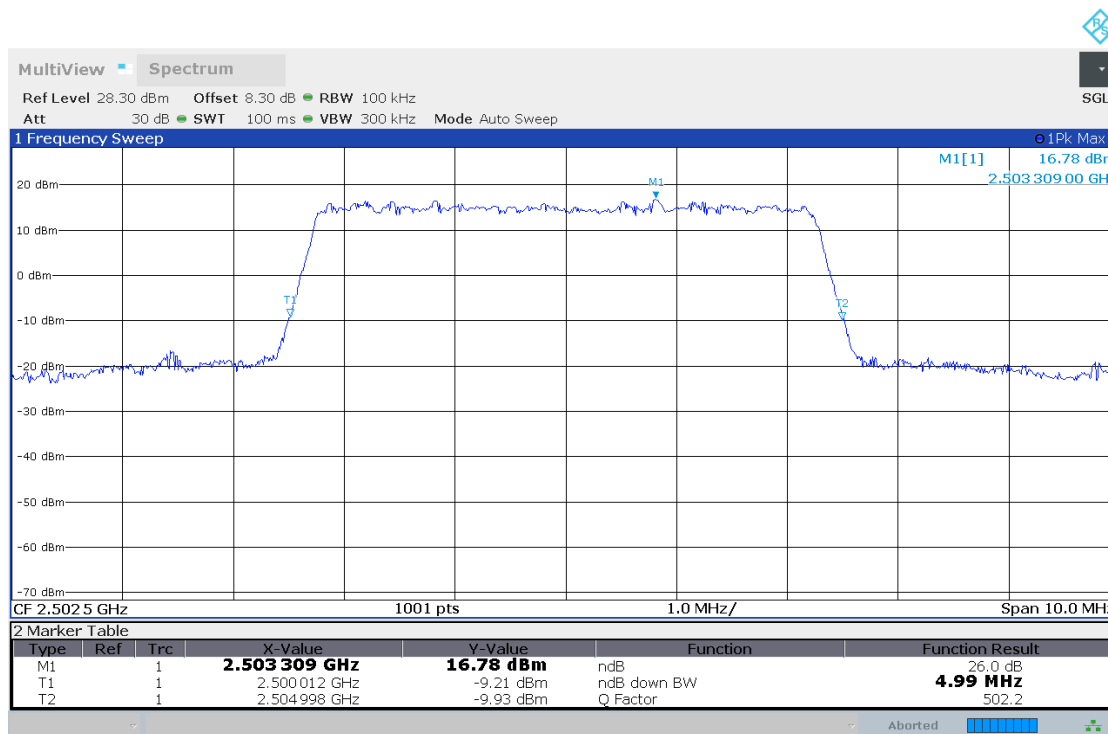
4 Appendix_D: Occupied Bandwidth

4.1 Test Results

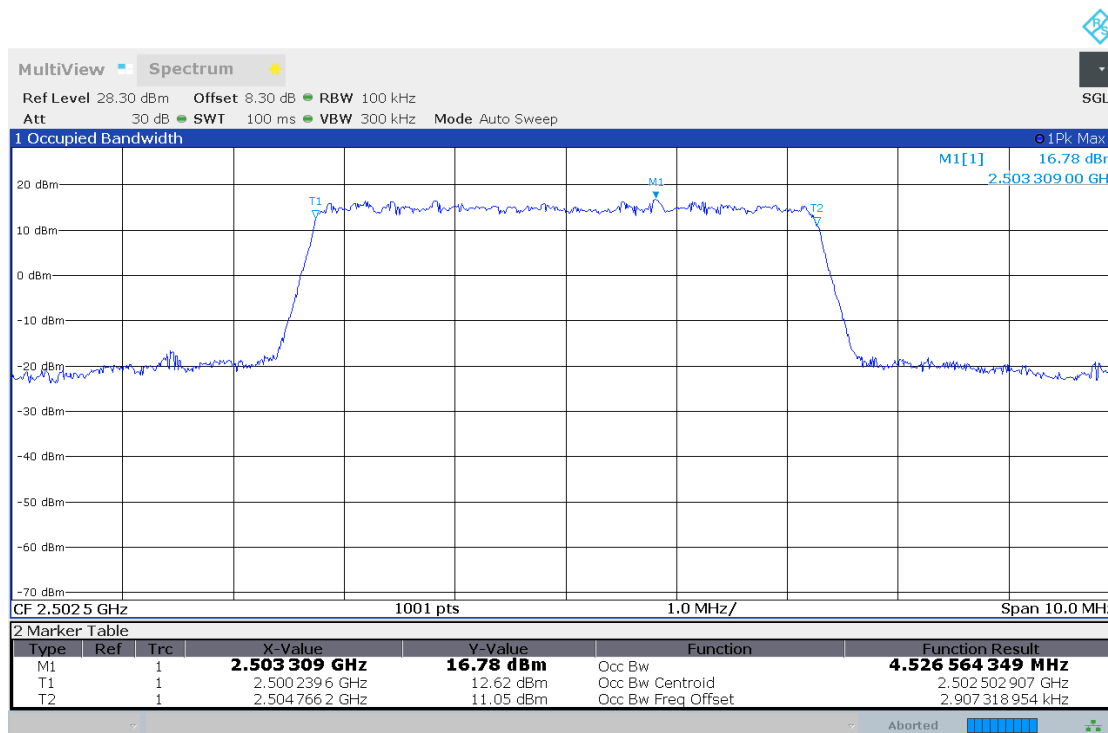
Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
TM1	5	LCH	RB25#0	QPSK	4.53	4.99	PASS
		MCH	RB25#0	QPSK	4.51	5.00	PASS
		HCH	RB25#0	QPSK	4.50	4.99	PASS
	10	LCH	RB50#0	QPSK	9.00	9.89	PASS
		MCH	RB50#0	QPSK	8.98	9.87	PASS
		HCH	RB50#0	QPSK	8.99	9.87	PASS
	15	LCH	RB75#0	QPSK	13.51	14.80	PASS
		MCH	RB75#0	QPSK	13.46	14.78	PASS
		HCH	RB75#0	QPSK	13.46	14.84	PASS
	20	LCH	RB100#0	QPSK	18.03	19.78	PASS
		MCH	RB100#0	QPSK	18.08	19.90	PASS
		HCH	RB100#0	QPSK	18.00	19.70	PASS
TM2	5	LCH	RB25#0	16QAM	4.51	4.99	PASS
		MCH	RB25#0	16QAM	4.50	4.99	PASS
		HCH	RB25#0	16QAM	4.51	5.01	PASS
	10	LCH	RB50#0	16QAM	8.99	9.91	PASS
		MCH	RB50#0	16QAM	9.02	9.89	PASS
		HCH	RB50#0	16QAM	9.00	9.91	PASS
	15	LCH	RB75#0	16QAM	13.47	14.71	PASS
		MCH	RB75#0	16QAM	13.50	14.71	PASS
		HCH	RB75#0	16QAM	13.46	14.74	PASS
	20	LCH	RB100#0	16QAM	18.02	19.82	PASS
		MCH	RB100#0	16QAM	18.08	19.66	PASS
		HCH	RB100#0	16QAM	17.99	19.70	PASS
TM3	5	LCH	RB25#0	64QAM	4.52	5.00	PASS
		MCH	RB25#0	64QAM	4.52	5.00	PASS
		HCH	RB25#0	64QAM	4.53	5.01	PASS
	10	LCH	RB50#0	64QAM	8.99	9.85	PASS
		MCH	RB50#0	64QAM	9.00	9.95	PASS
		HCH	RB50#0	64QAM	9.00	9.83	PASS
	15	LCH	RB75#0	64QAM	13.49	14.71	PASS
		MCH	RB75#0	64QAM	13.51	14.71	PASS
		HCH	RB75#0	64QAM	13.47	14.71	PASS
	20	LCH	RB100#0	64QAM	18.05	19.78	PASS
		MCH	RB100#0	64QAM	18.05	19.82	PASS
		HCH	RB100#0	64QAM	18.02	19.70	PASS

4.2 Test Plots

TM1_5MHz_LCH_RB25#0

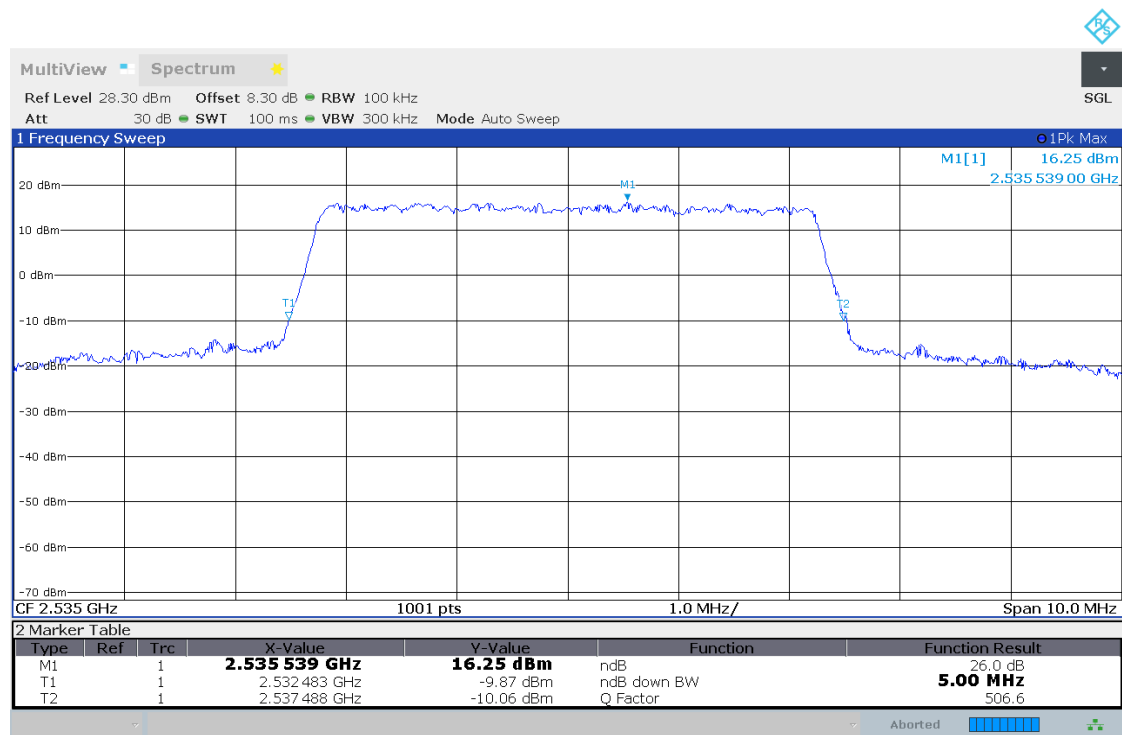


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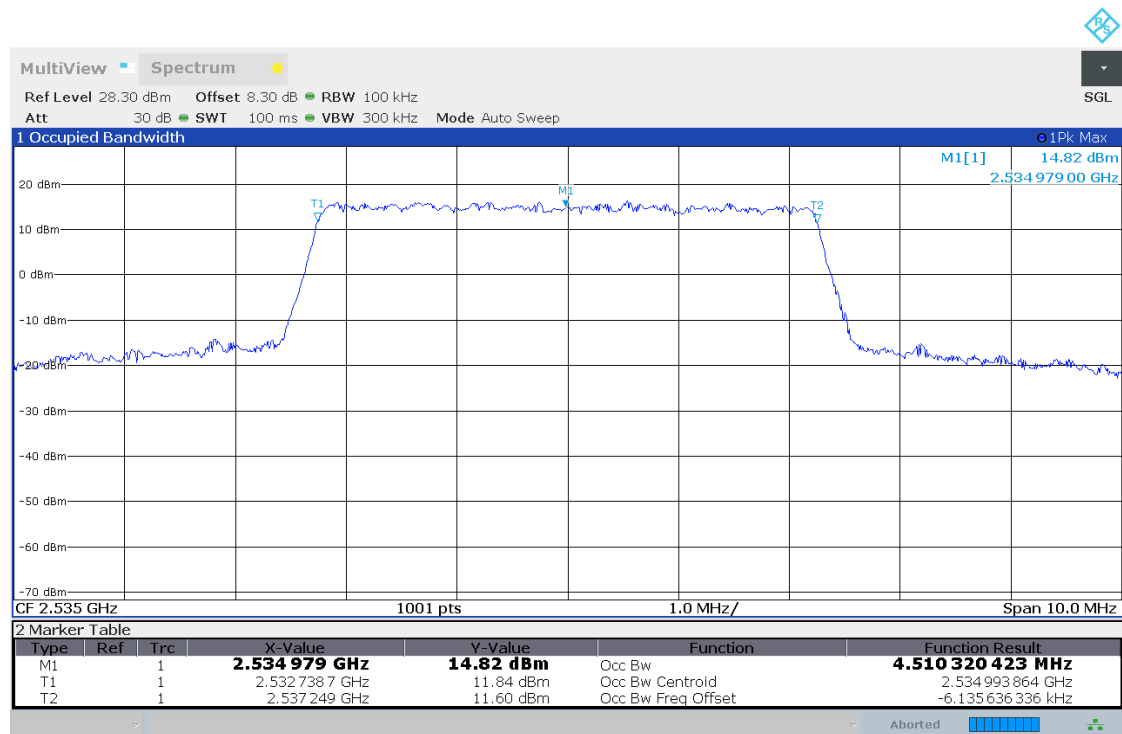


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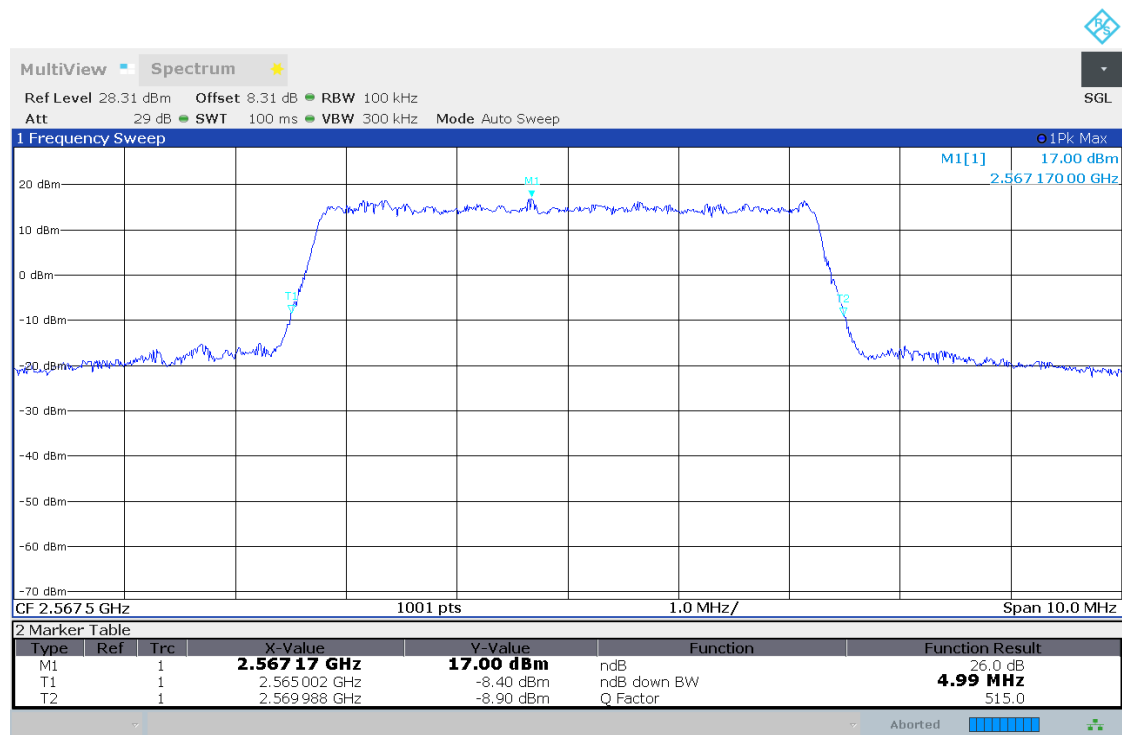


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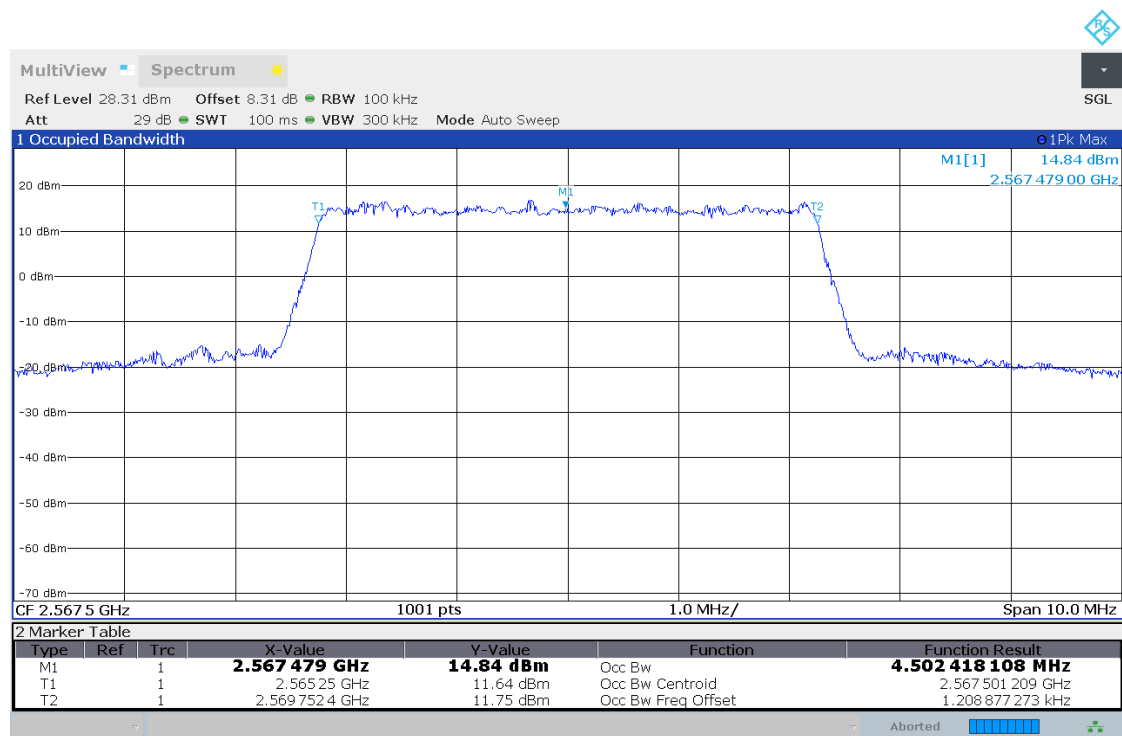


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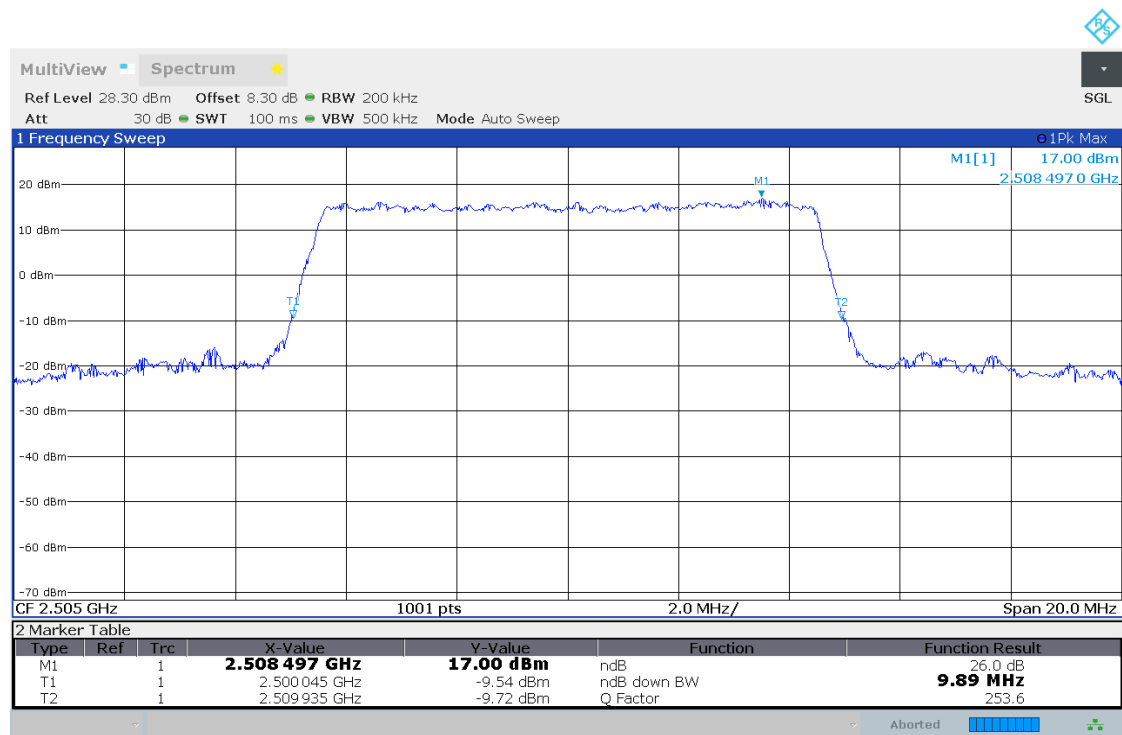


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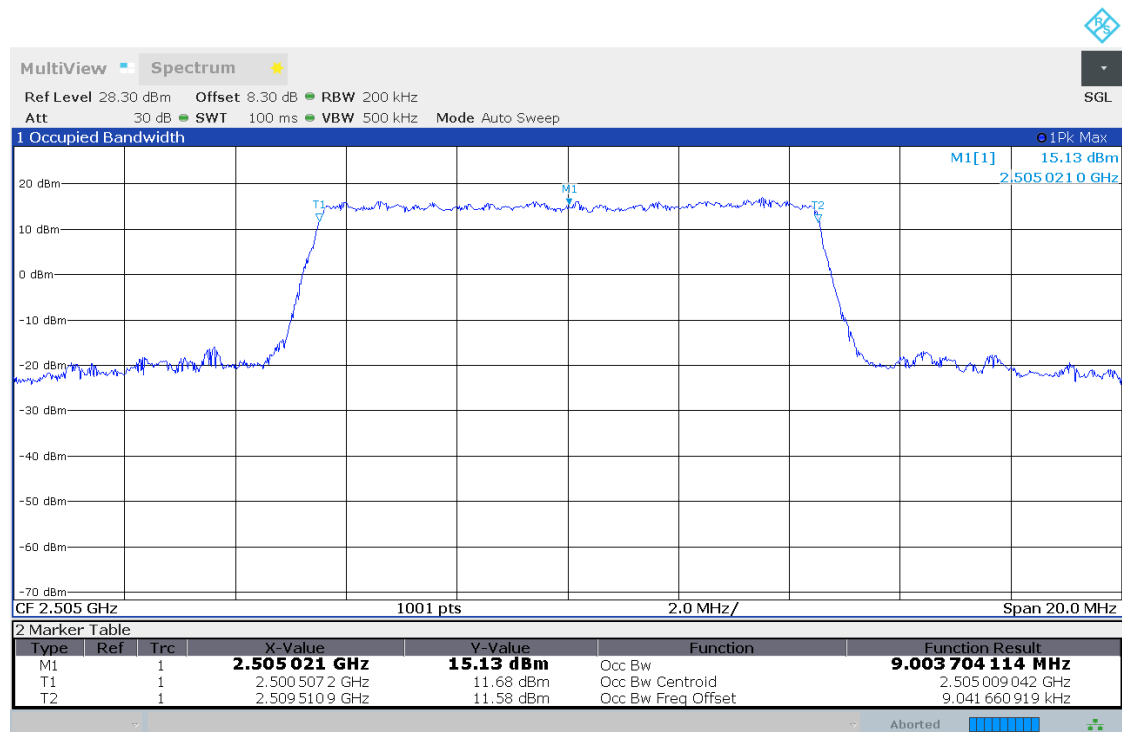


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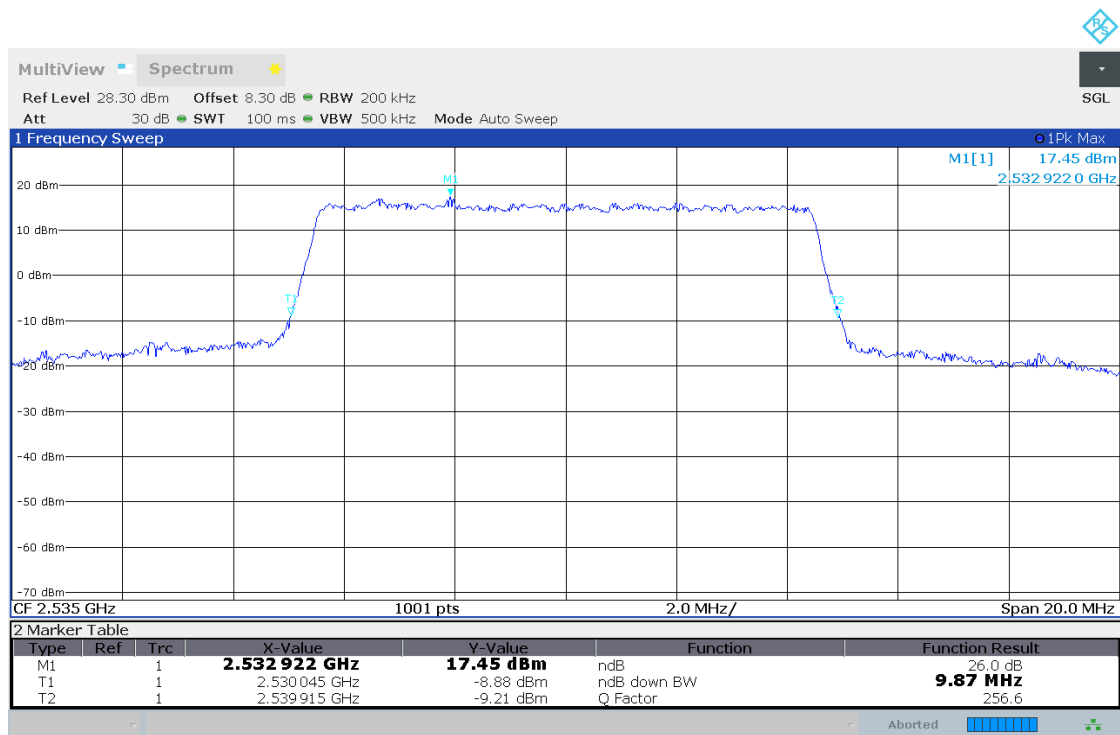


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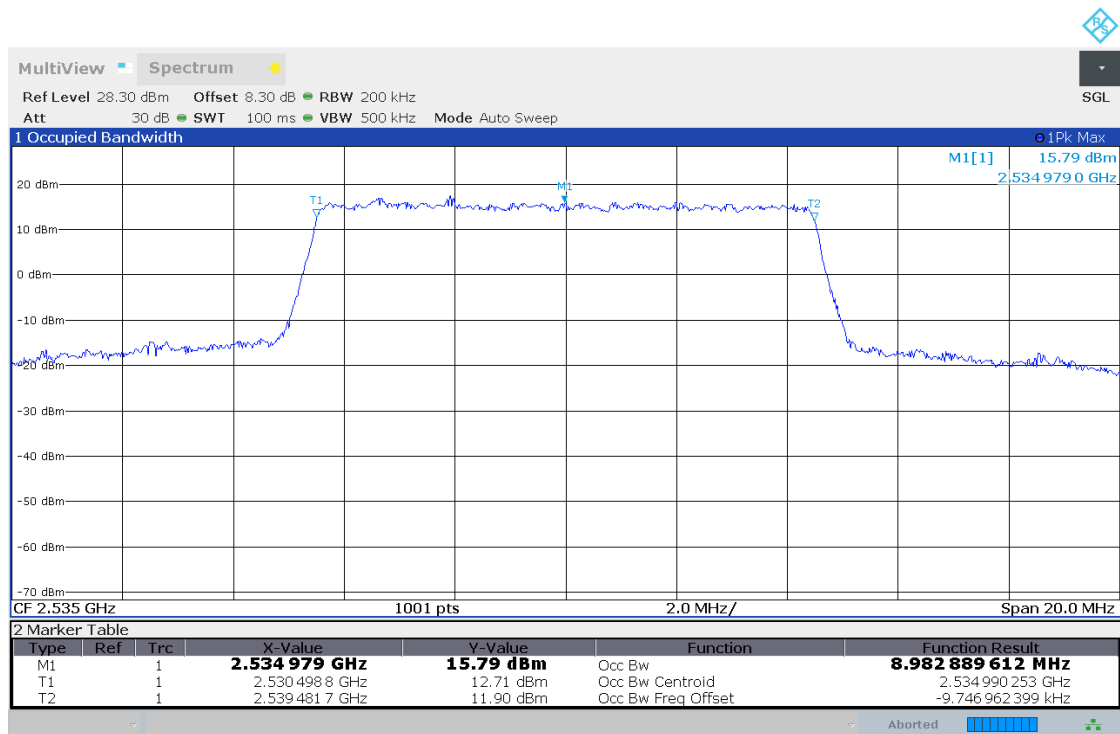


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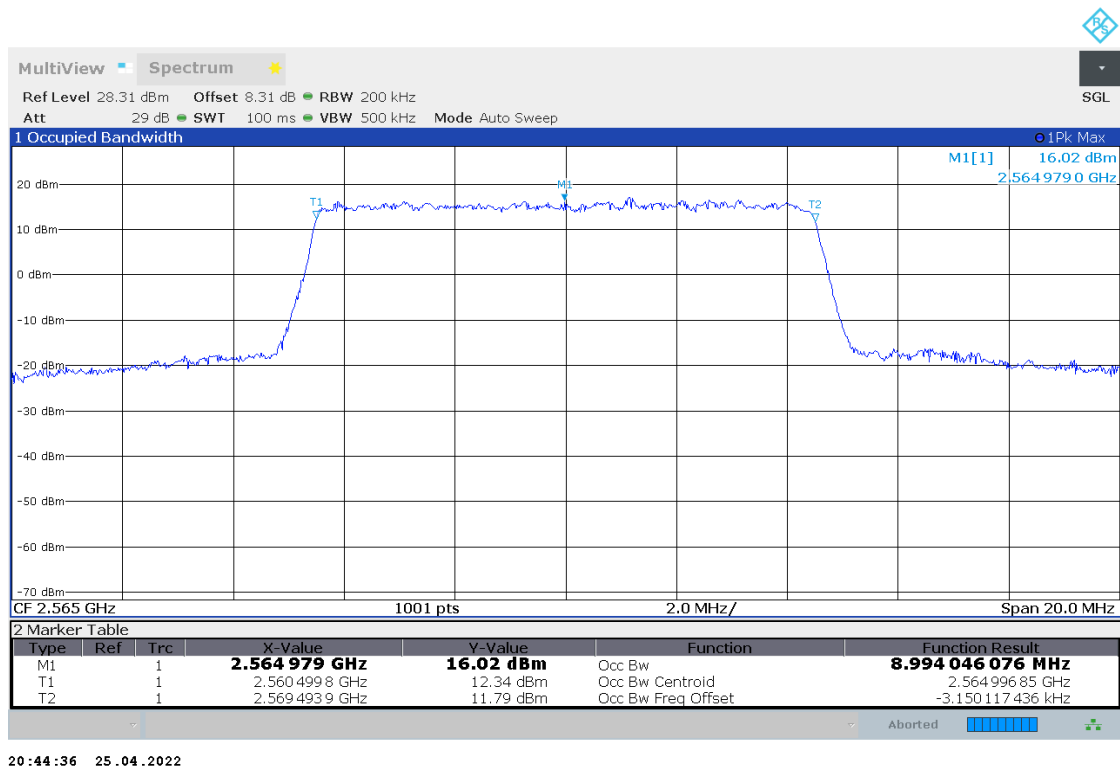
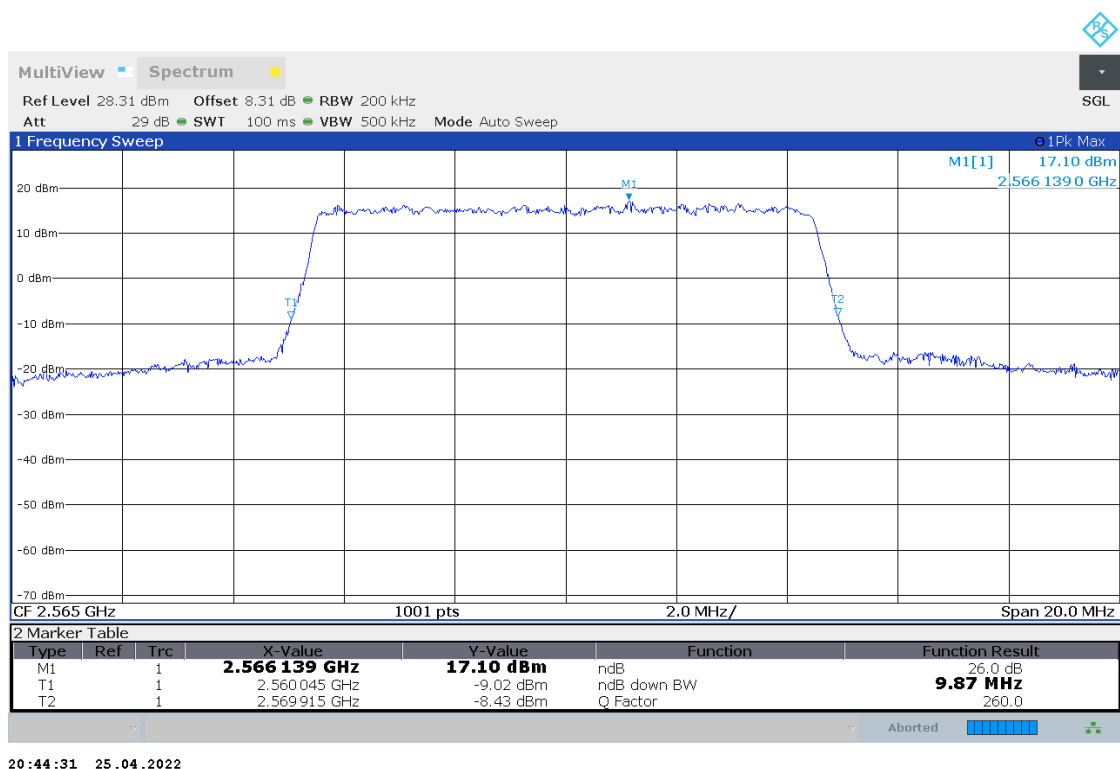


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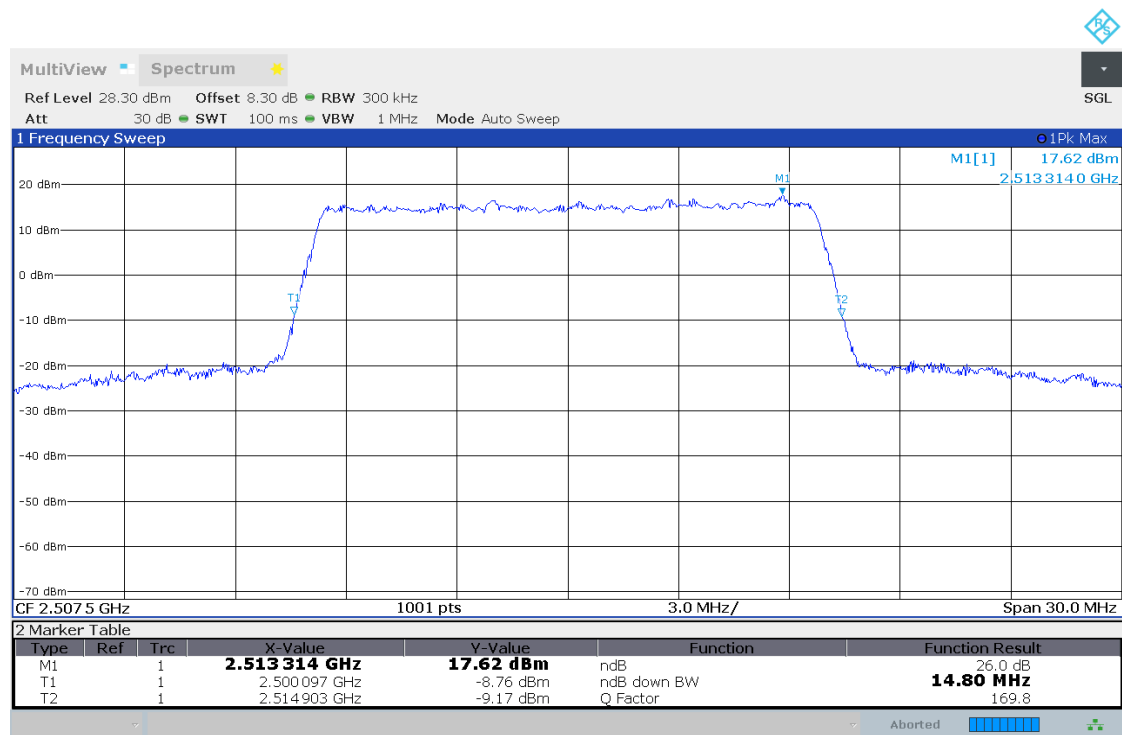


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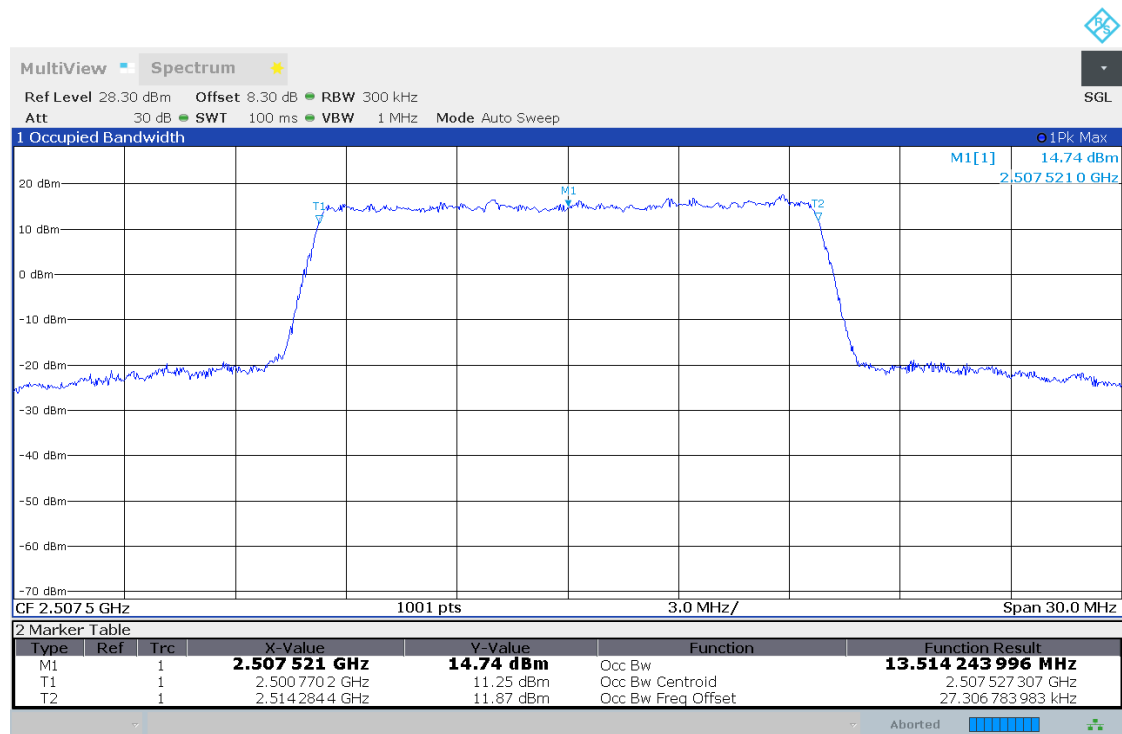
TM1_10MHz_HCH_RB50#0



TM1_15MHz_LCH_RB75#0

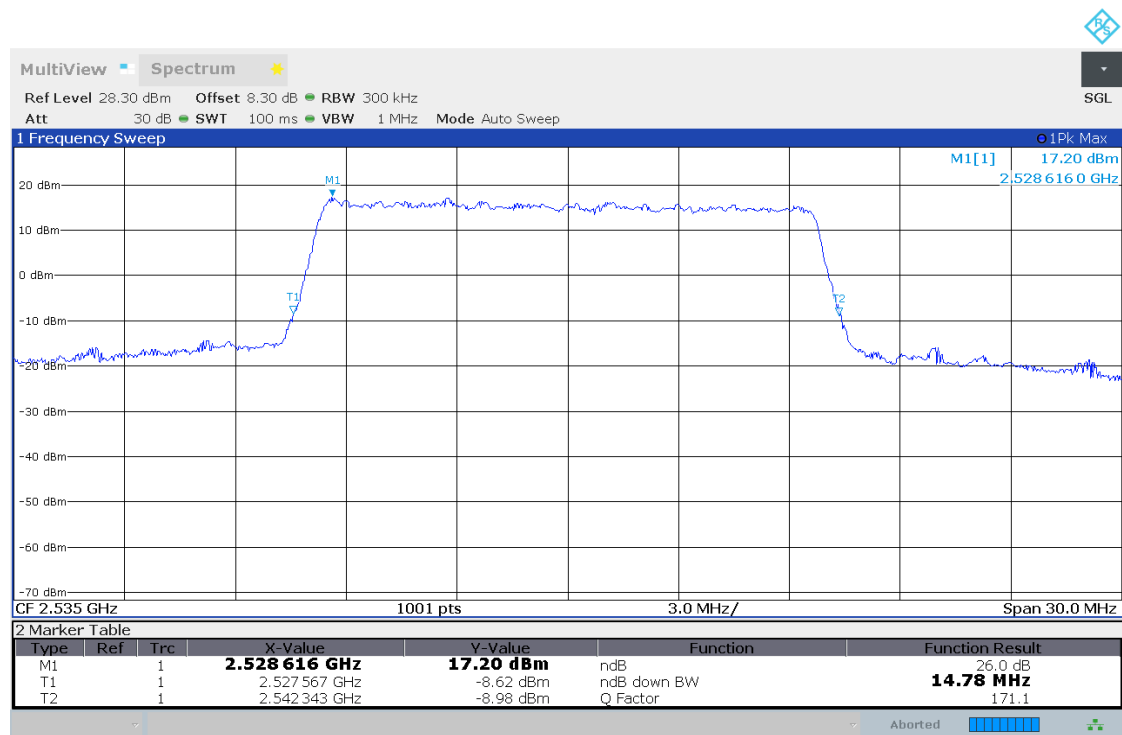


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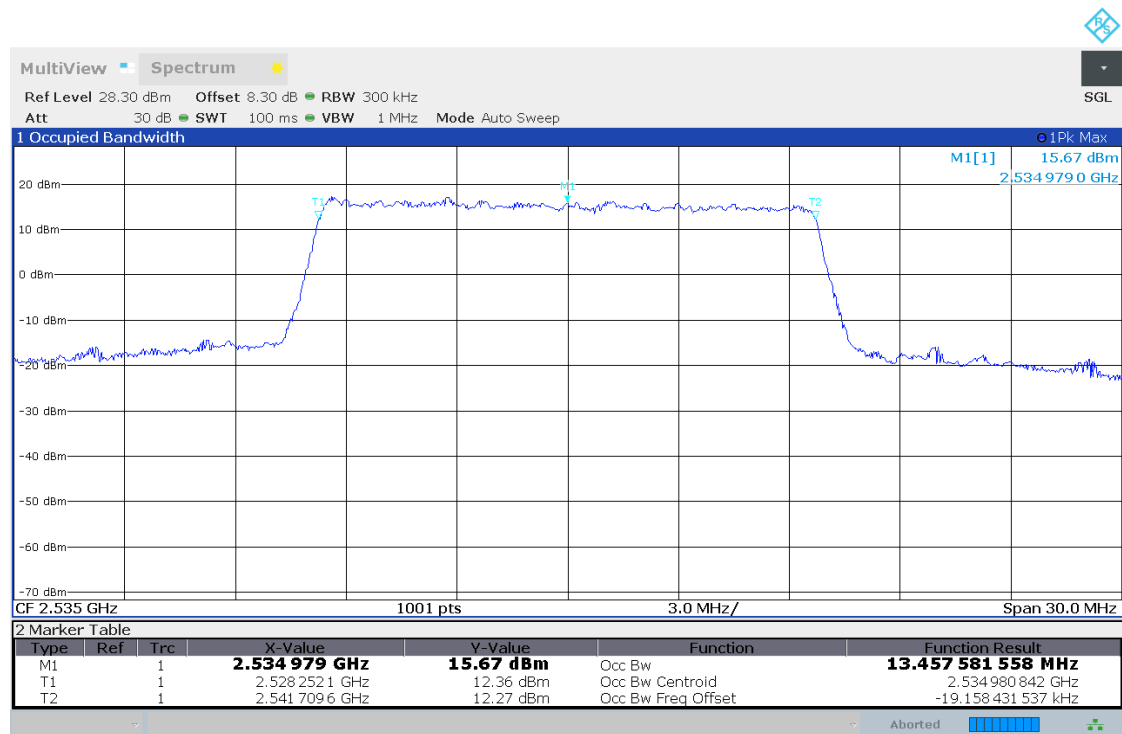


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TM1_15MHz_MCH_RB75#0

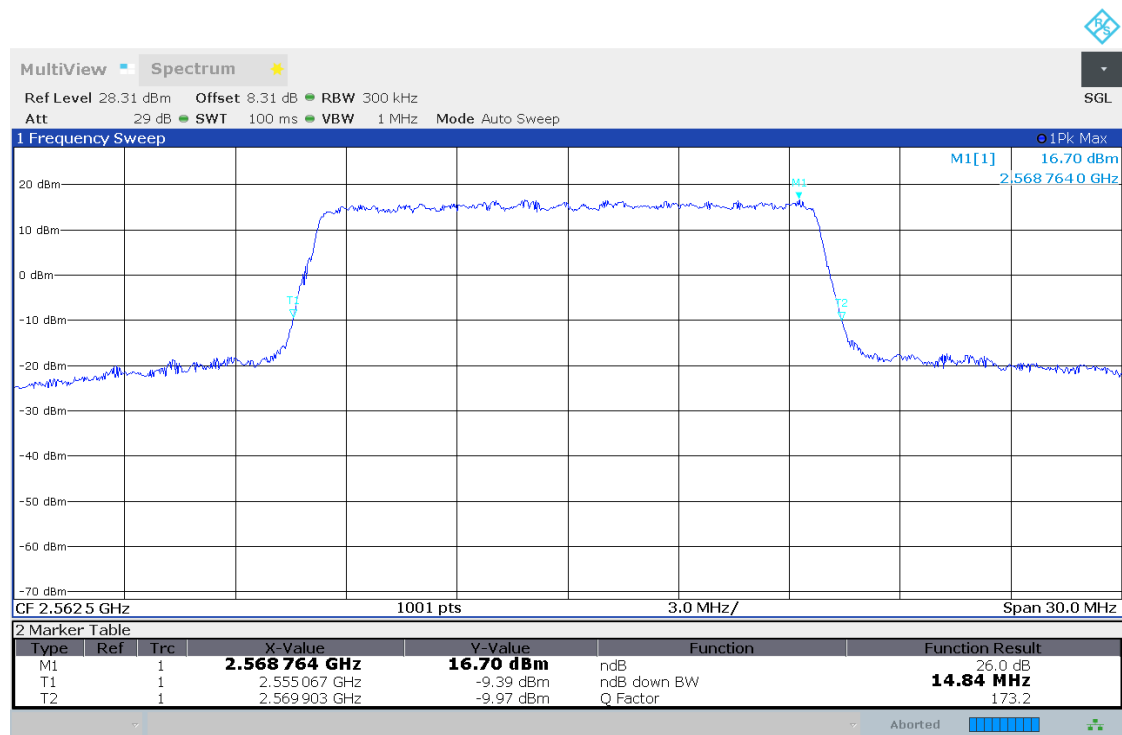


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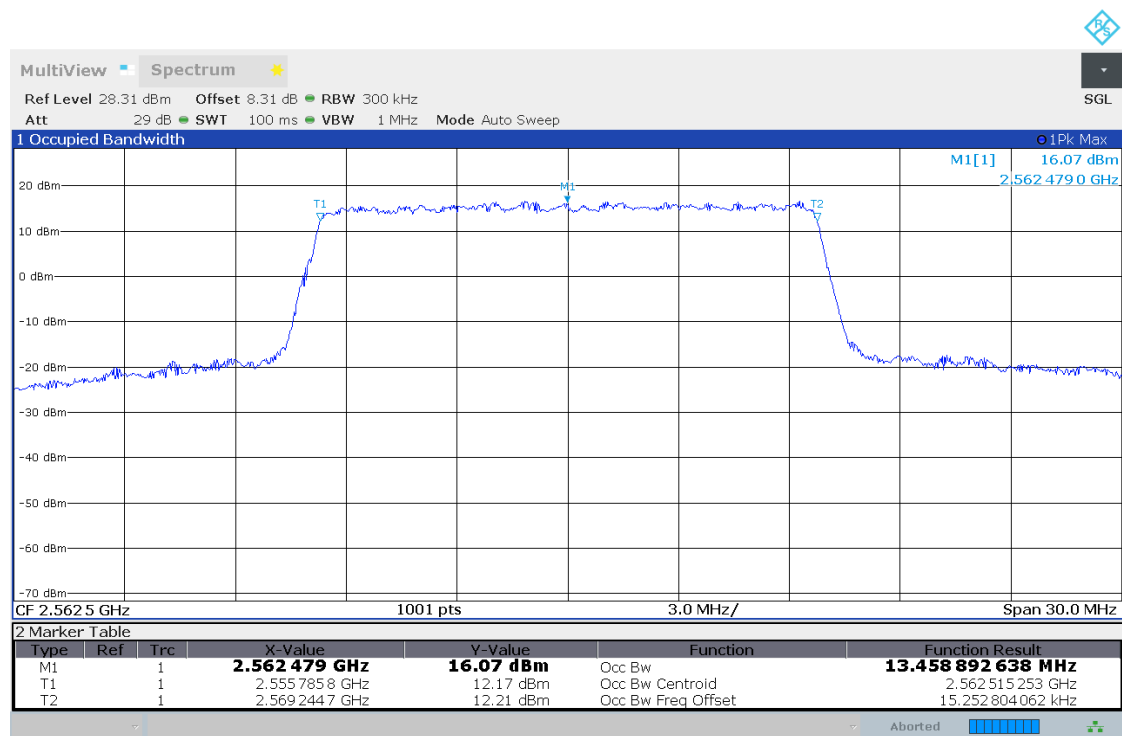


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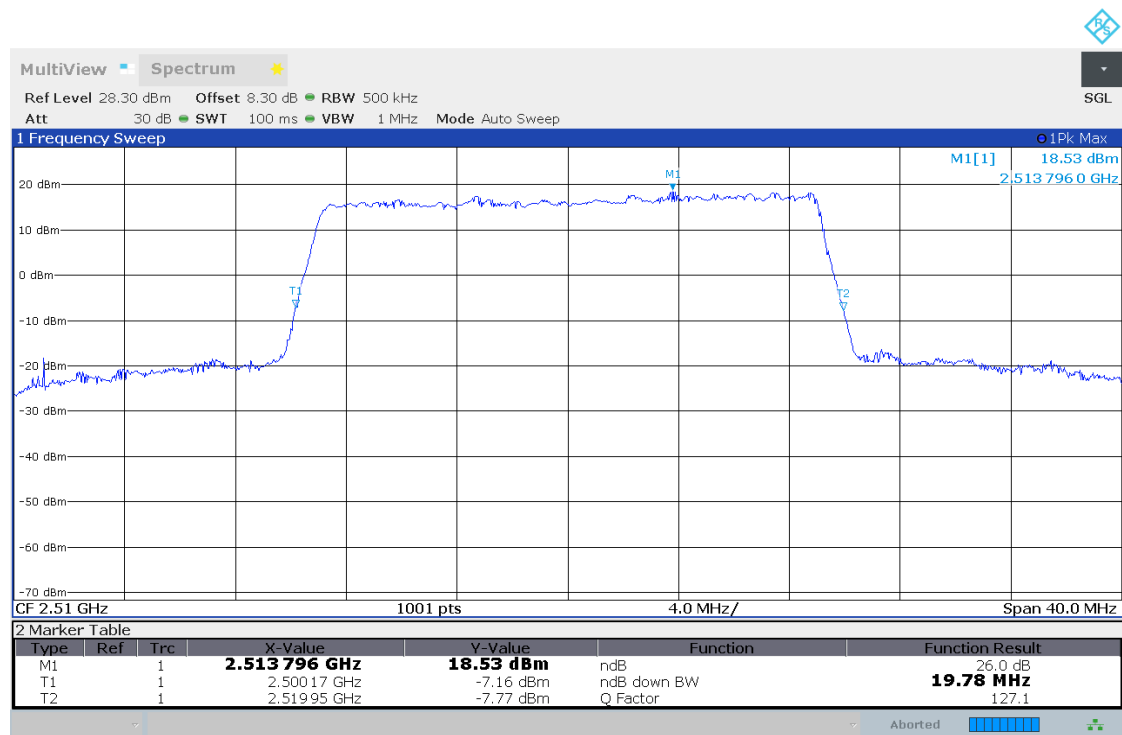


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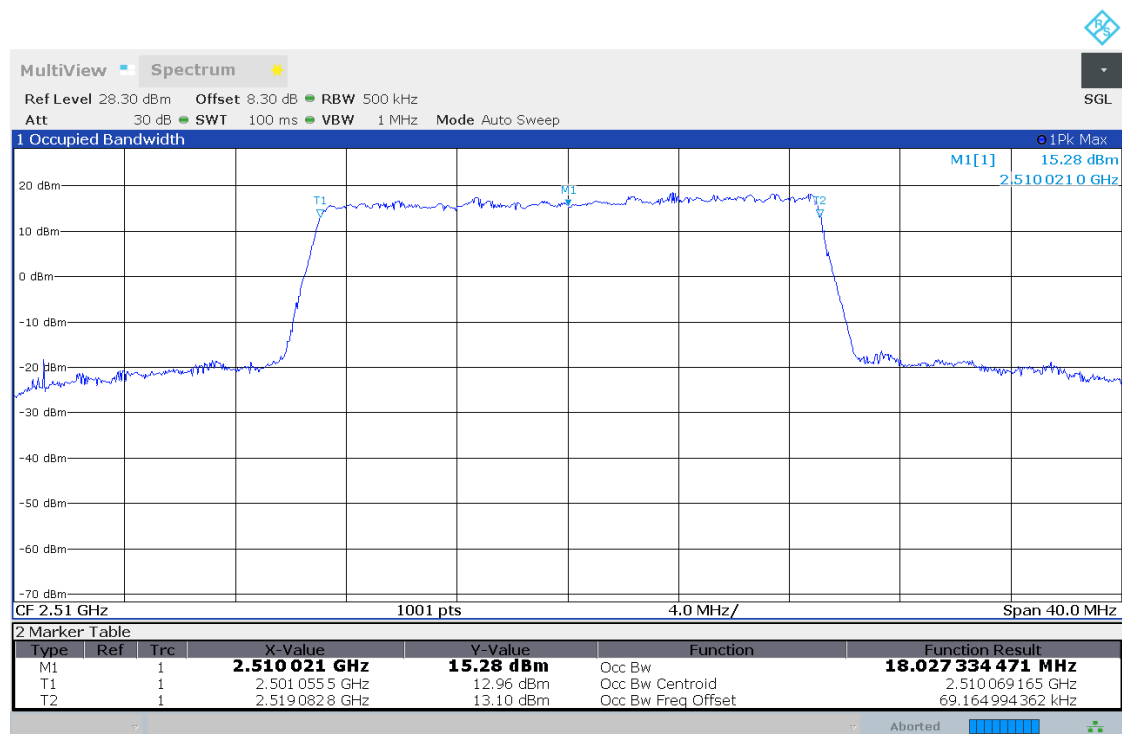


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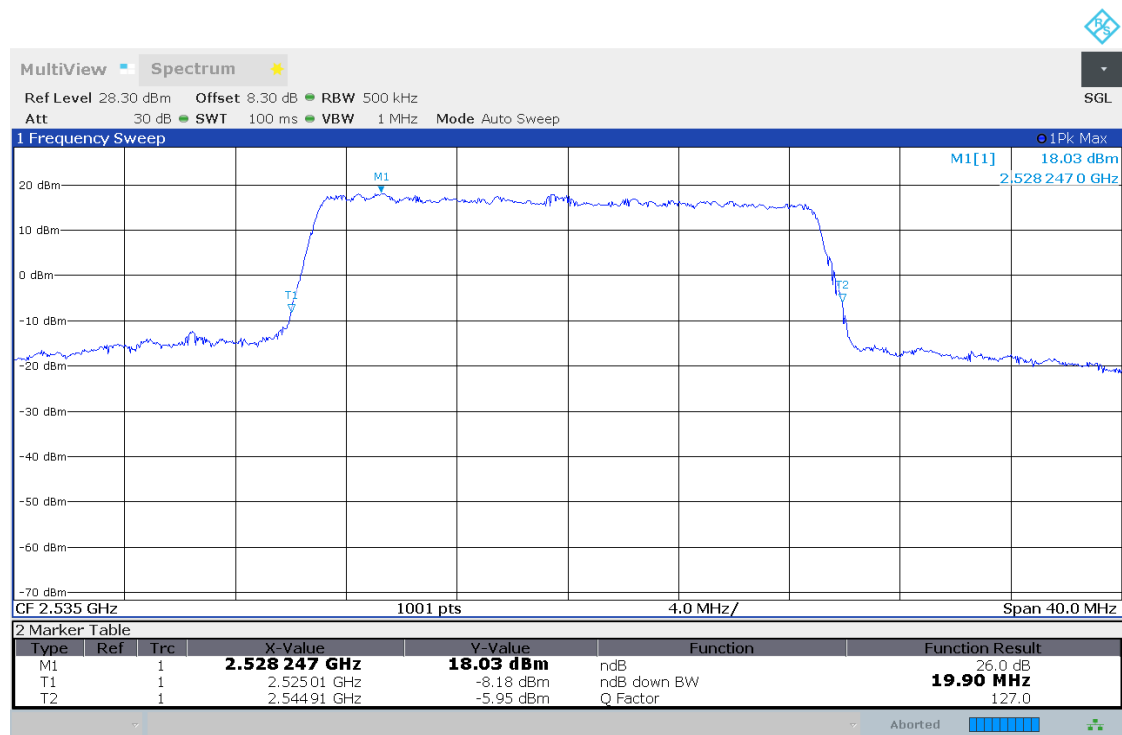


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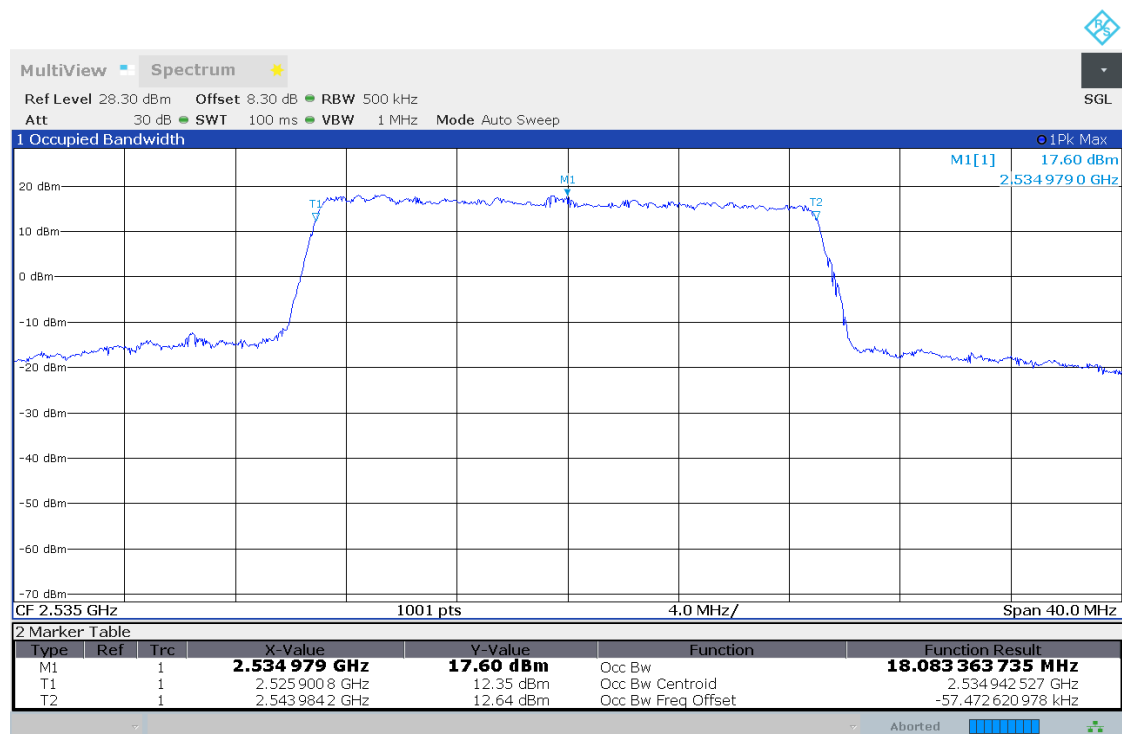


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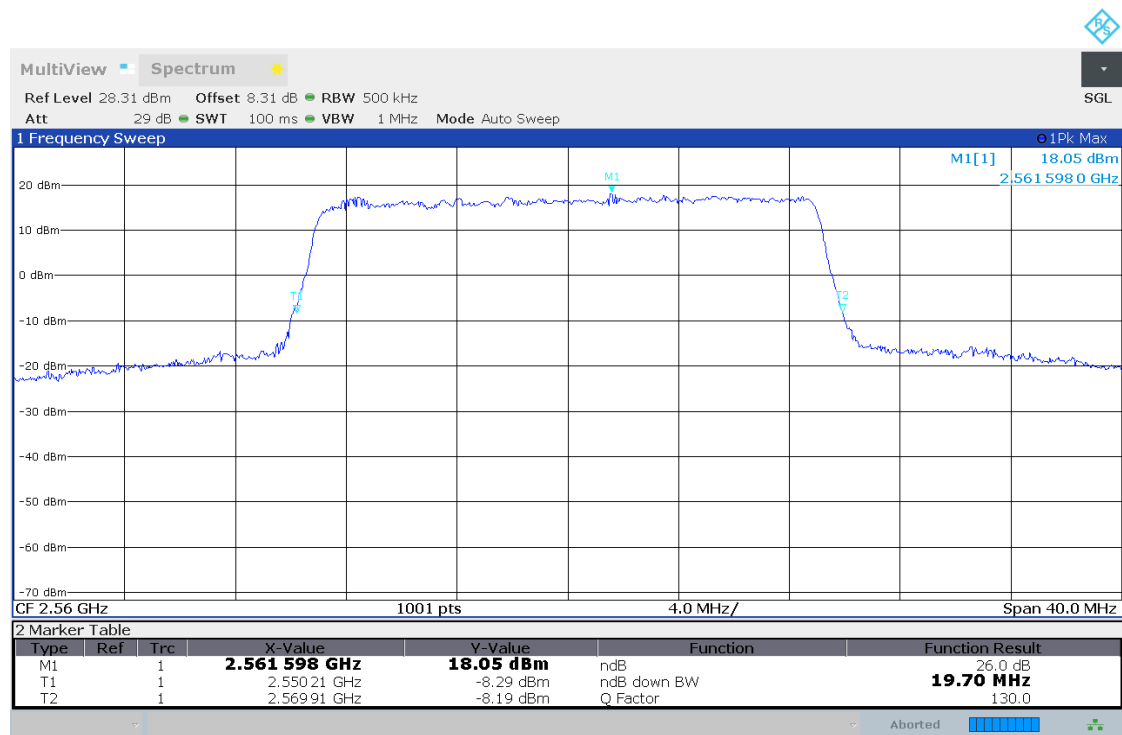


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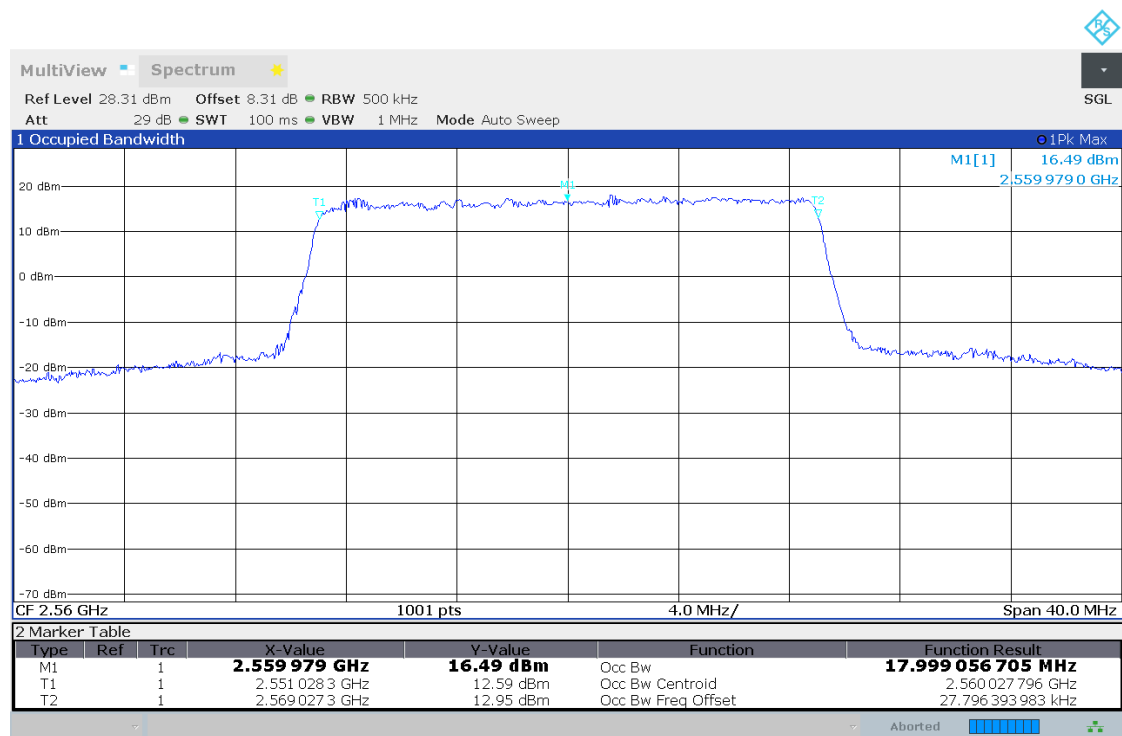


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TM1_20MHz_HCH_RB100#0

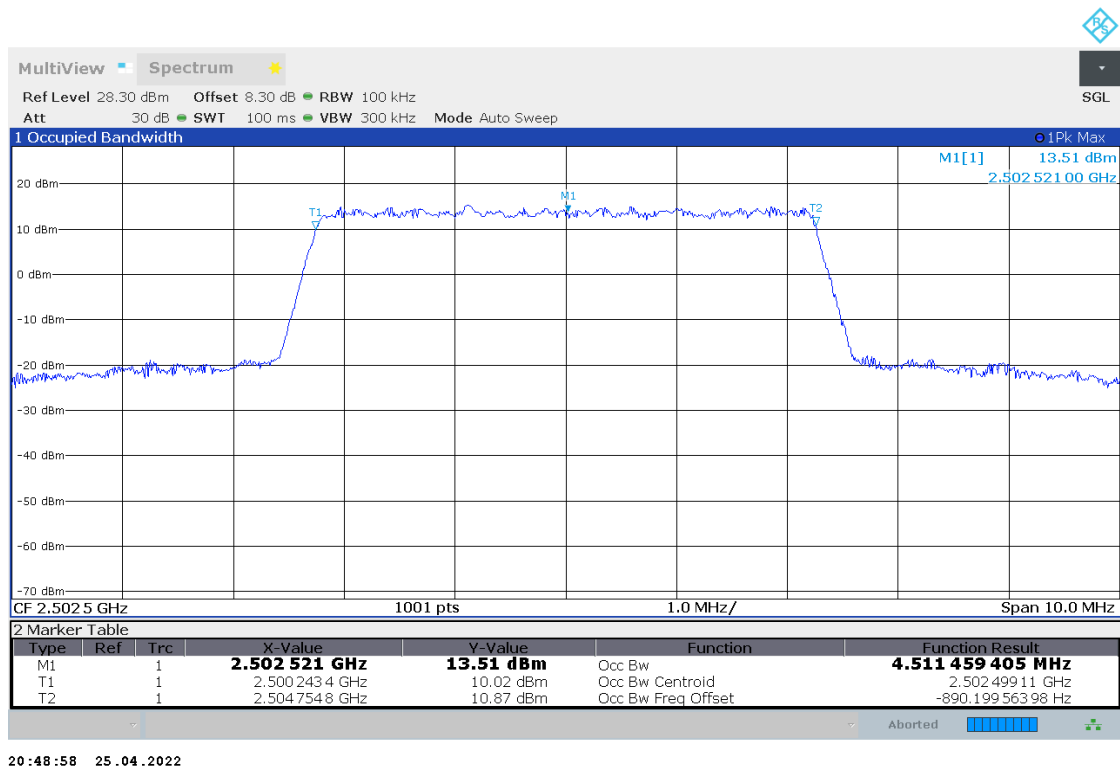
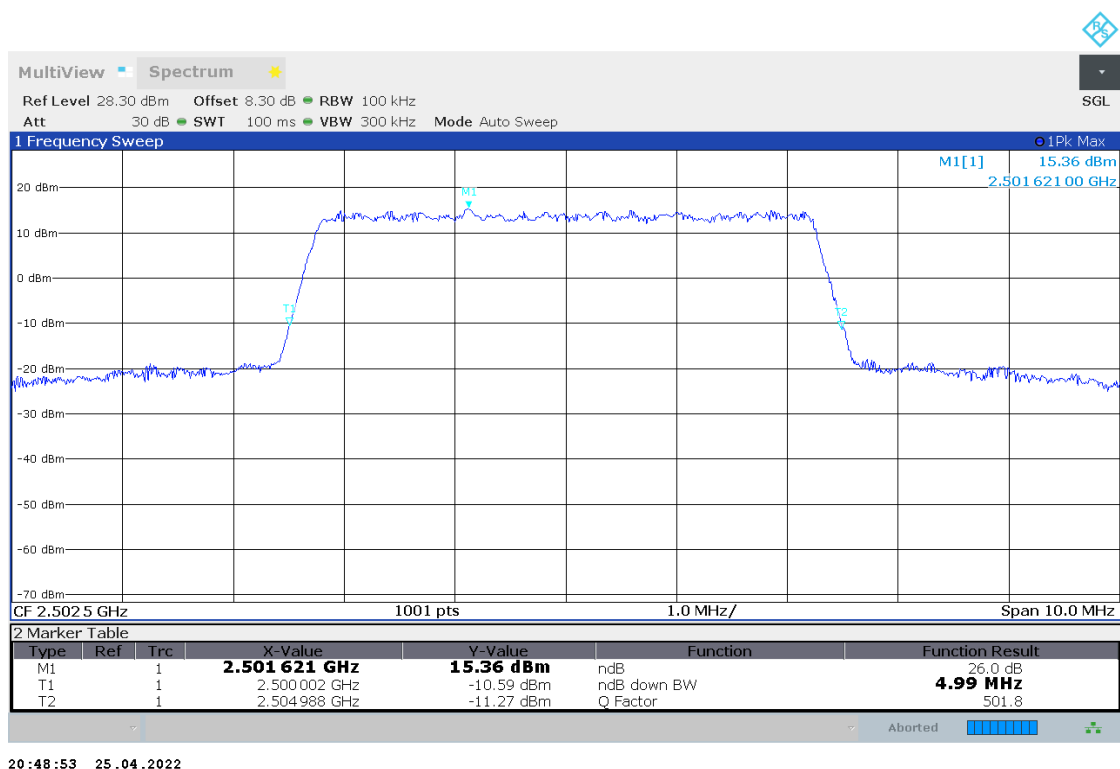


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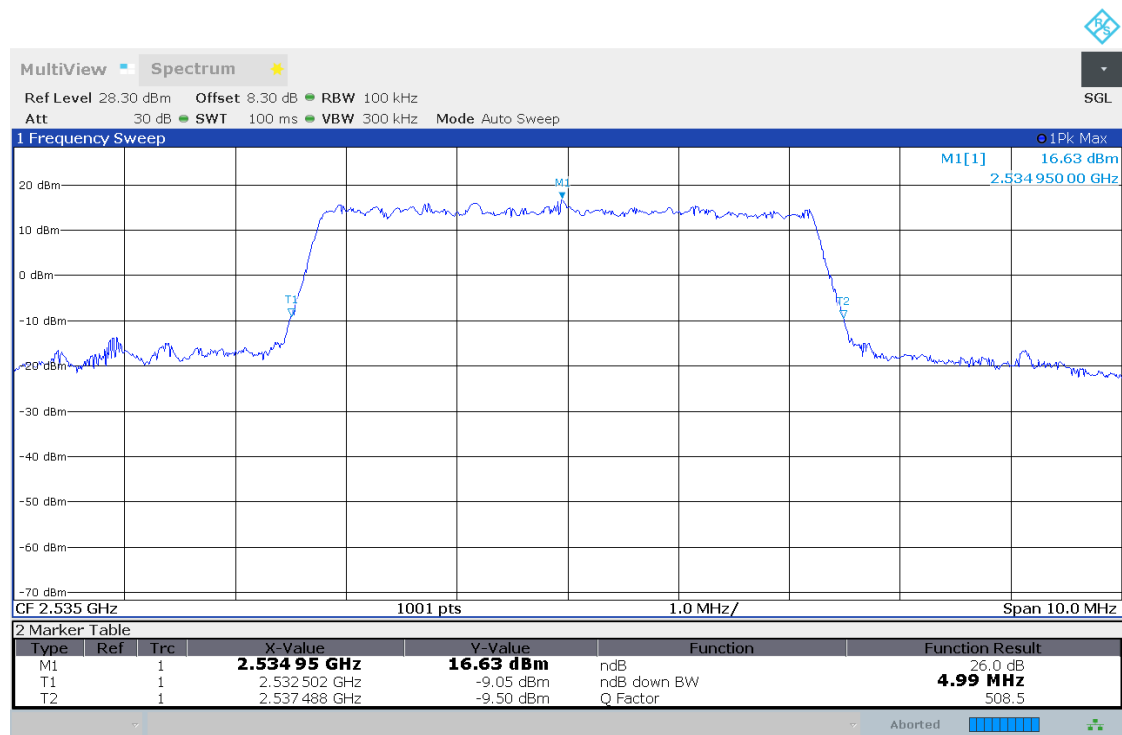


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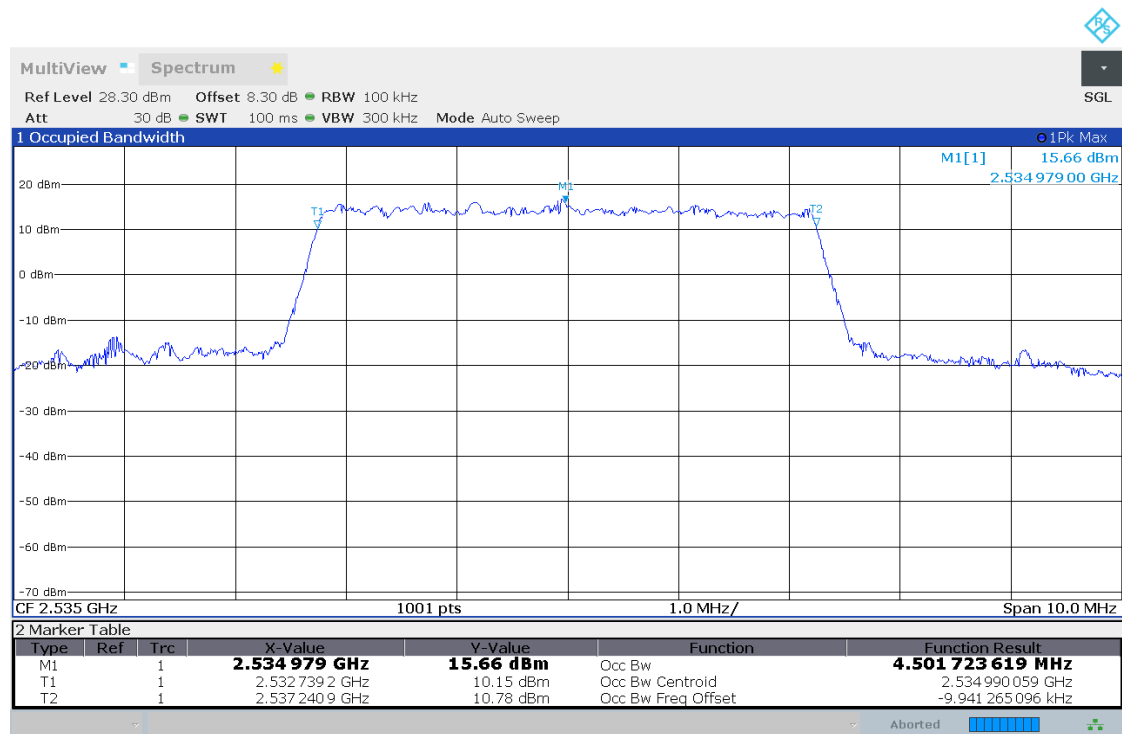
TM2_5MHz_LCH_RB25#0



TM2_5MHz_MCH_RB25#0

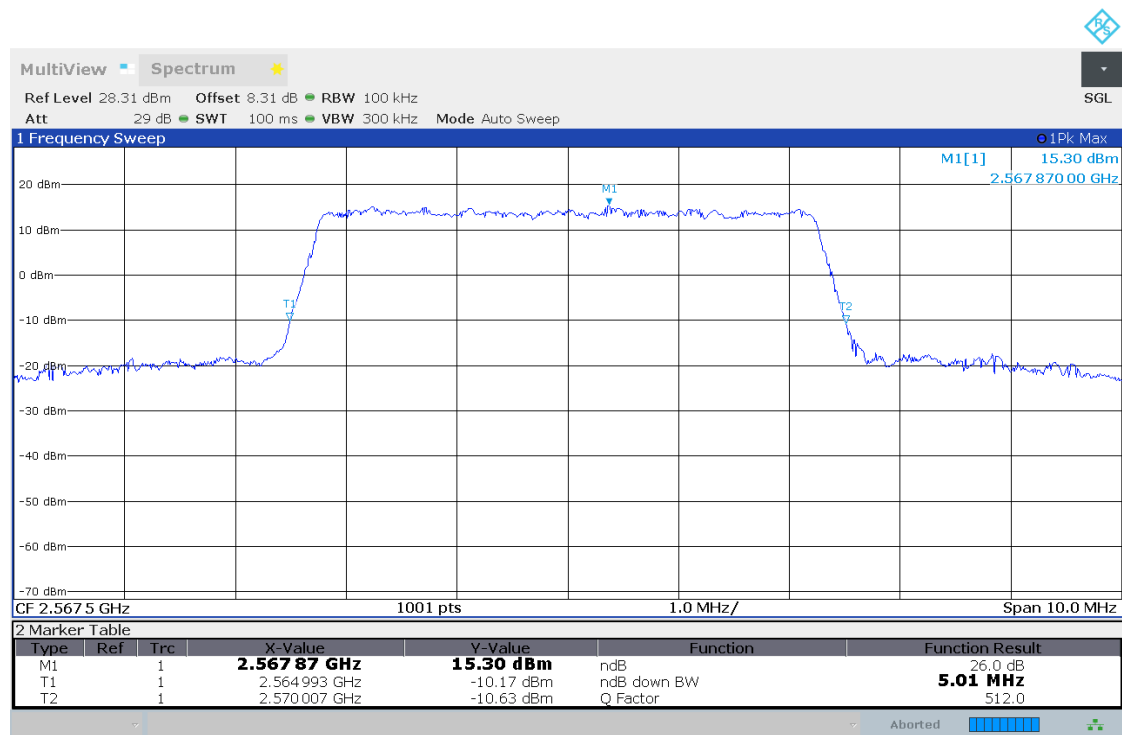


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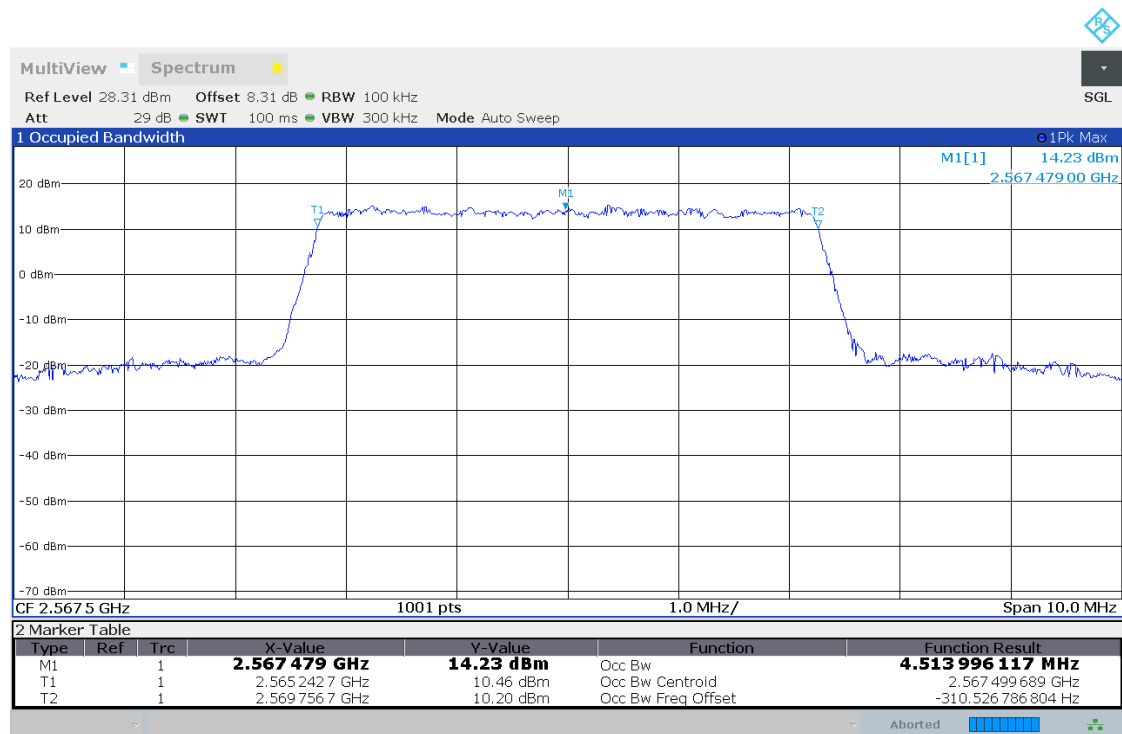


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TM2_5MHz_HCH_RB25#0

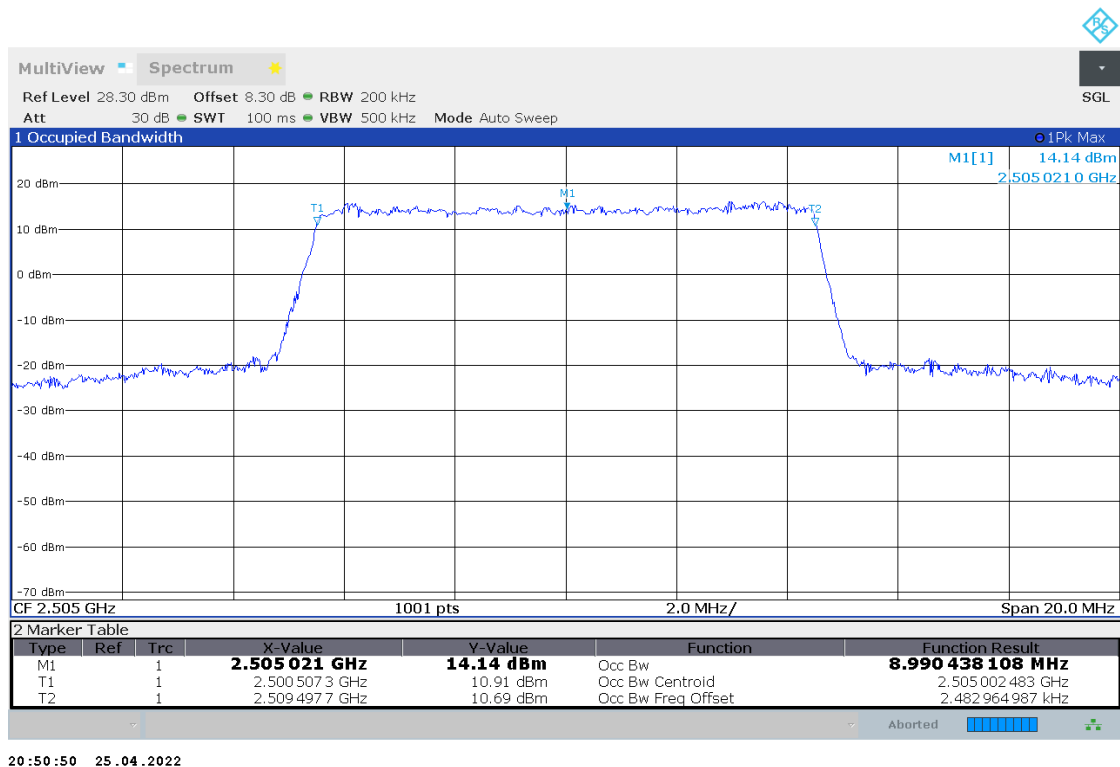
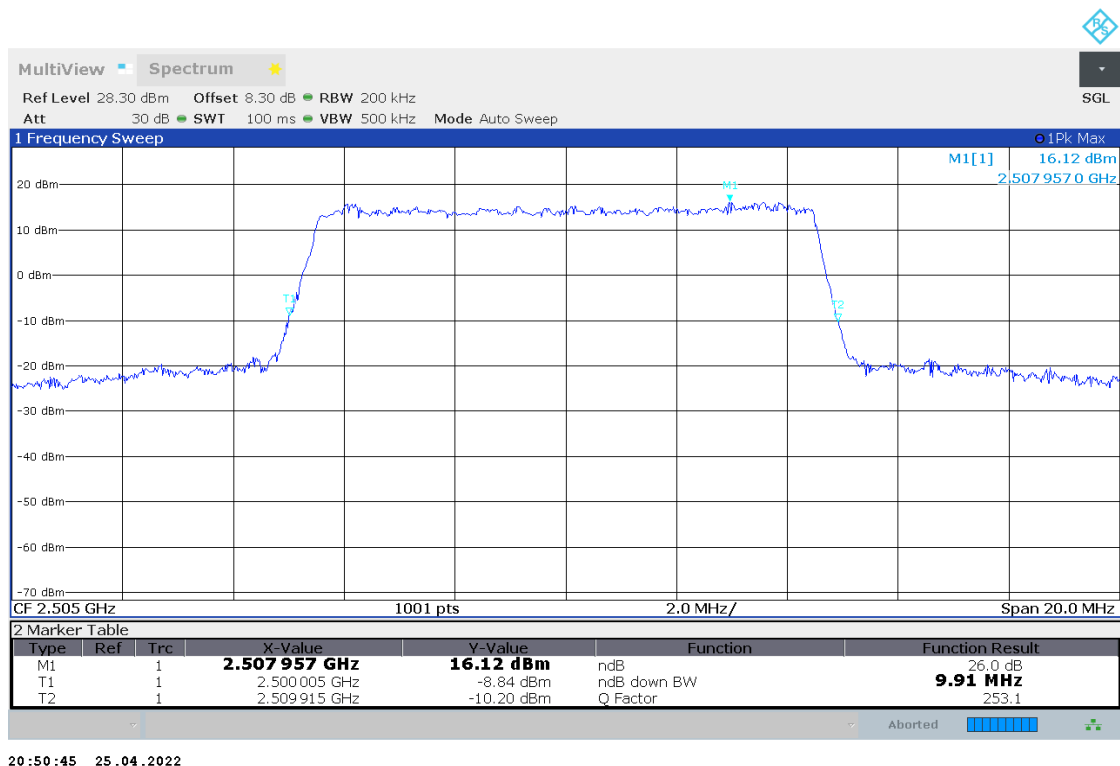


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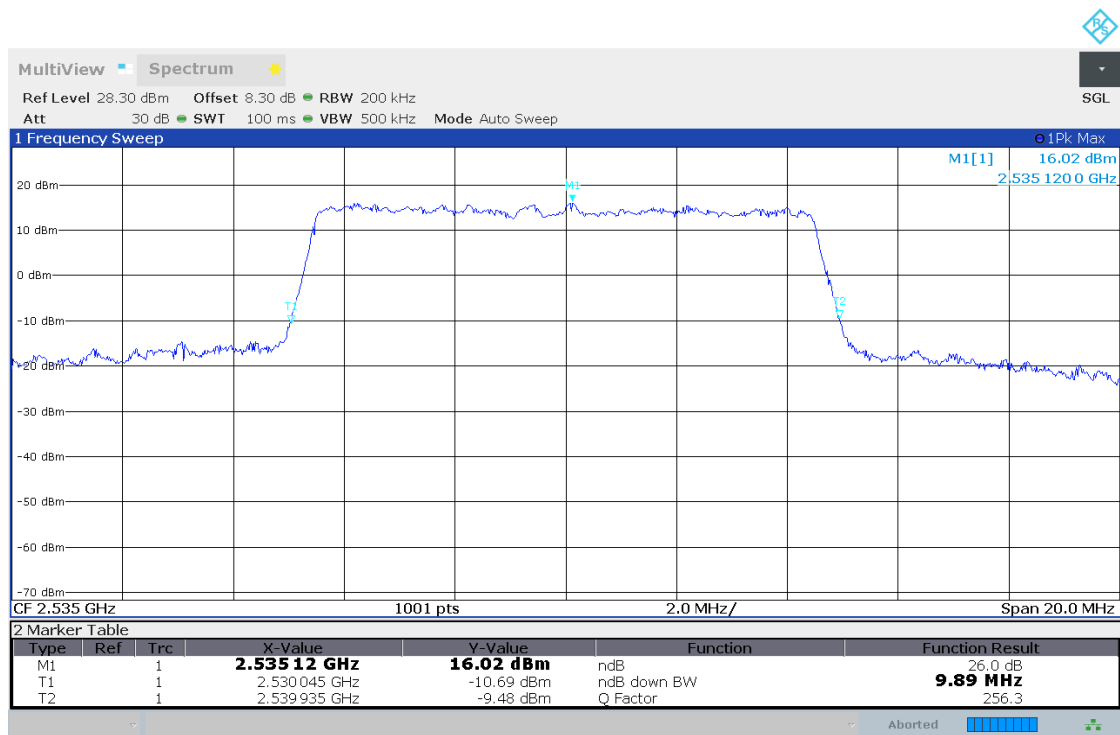


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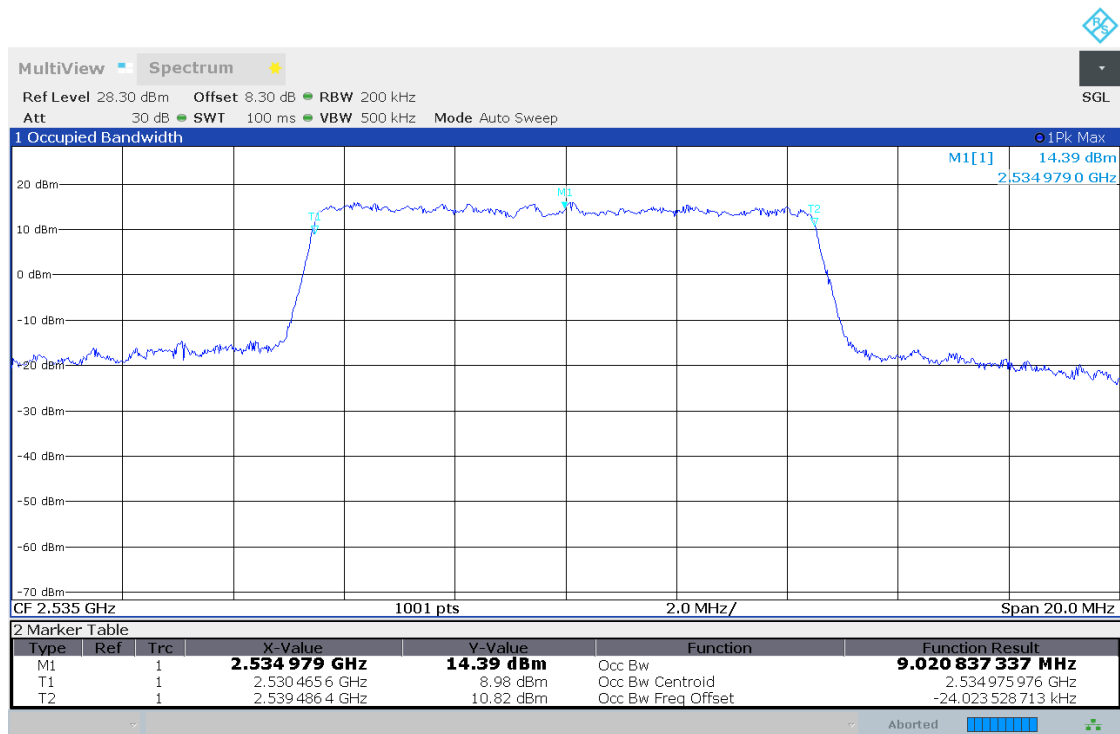
TM2_10MHz_LCH_RB50#0



TM2_10MHz_MCH_RB50#0

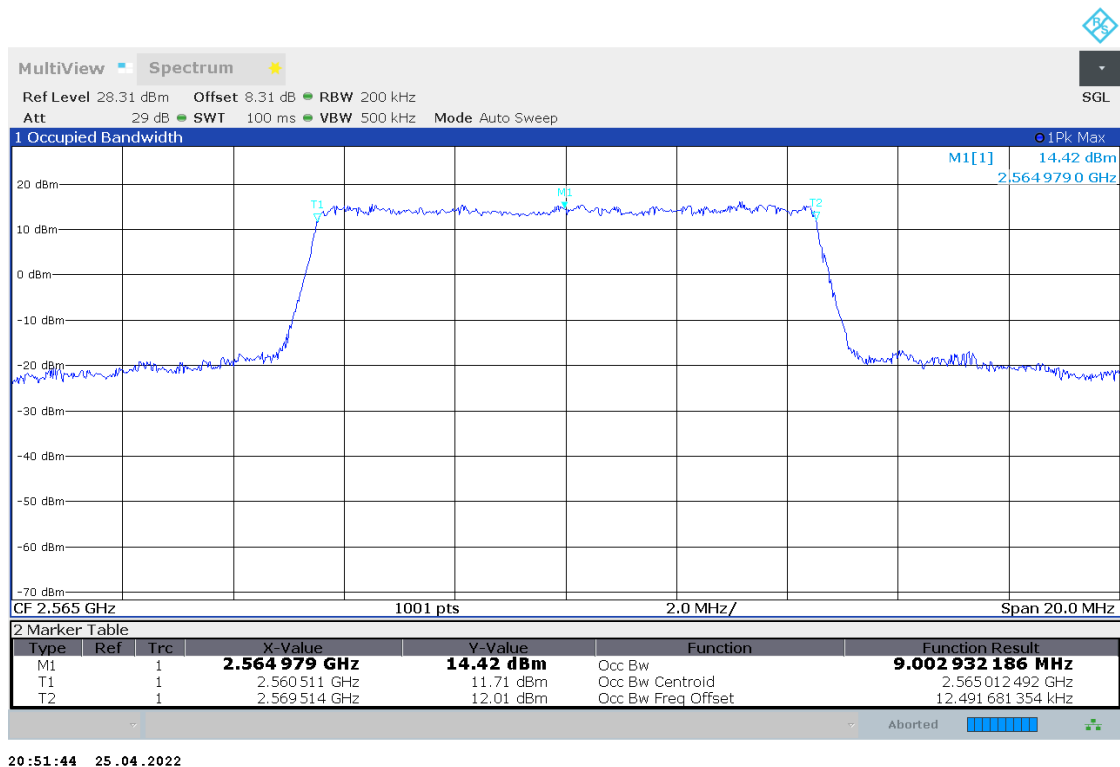
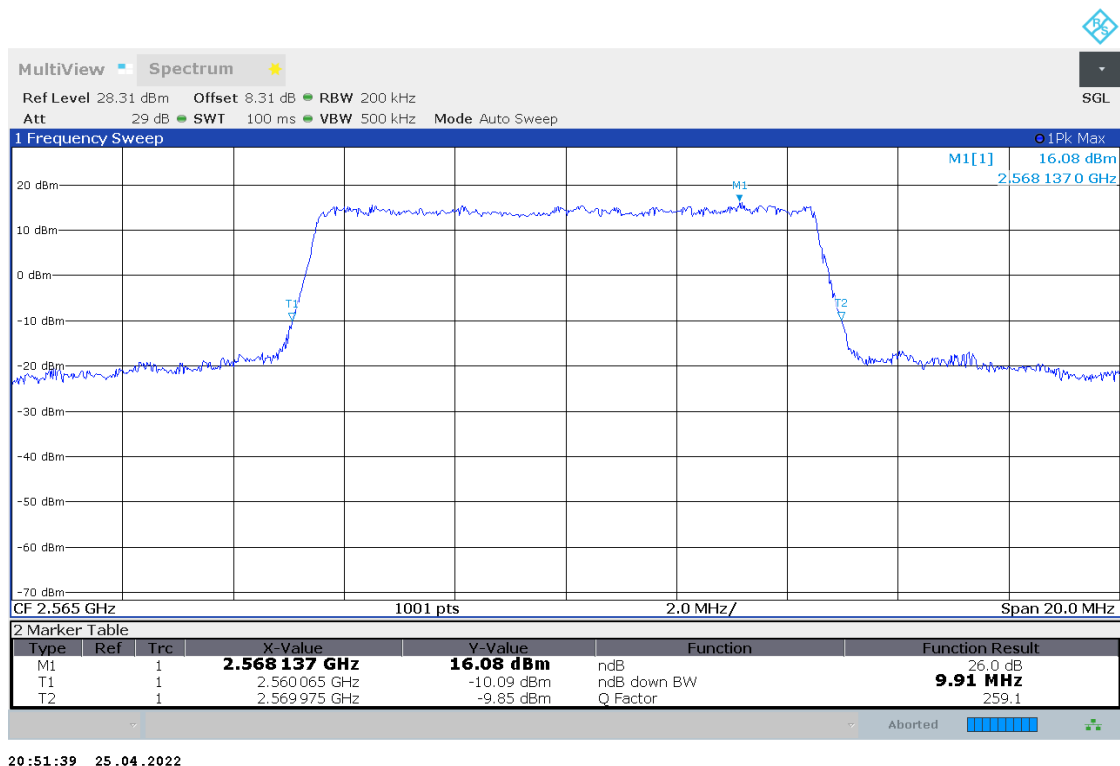


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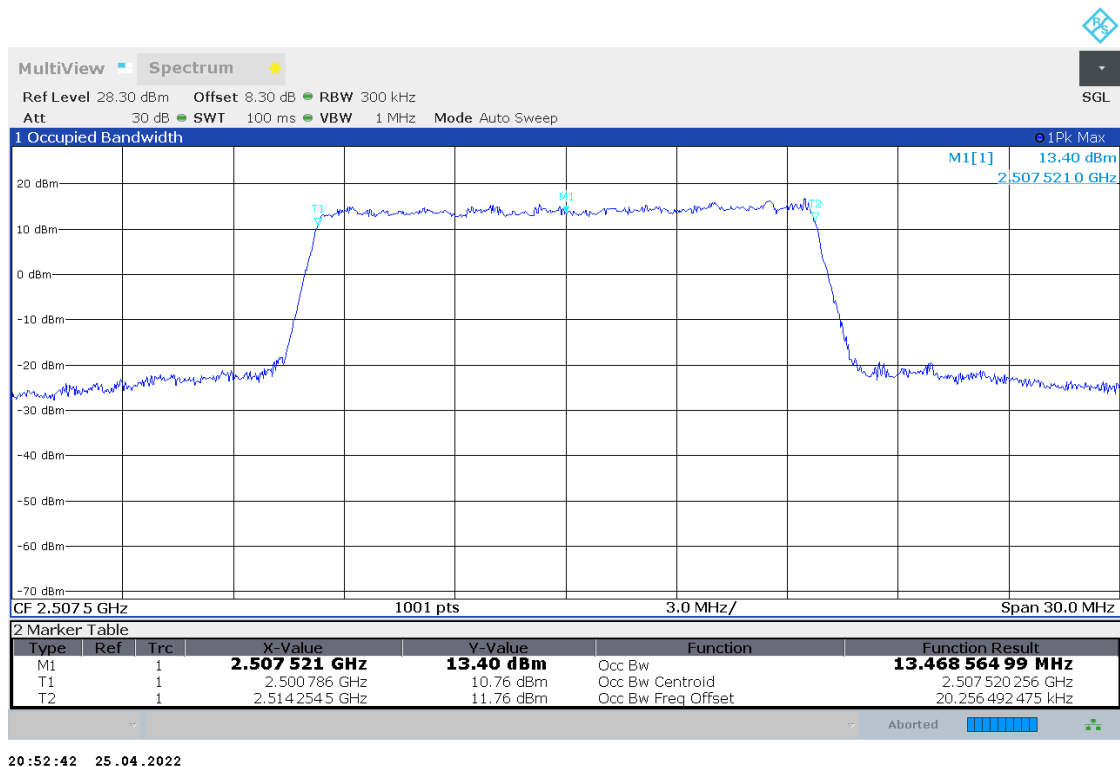
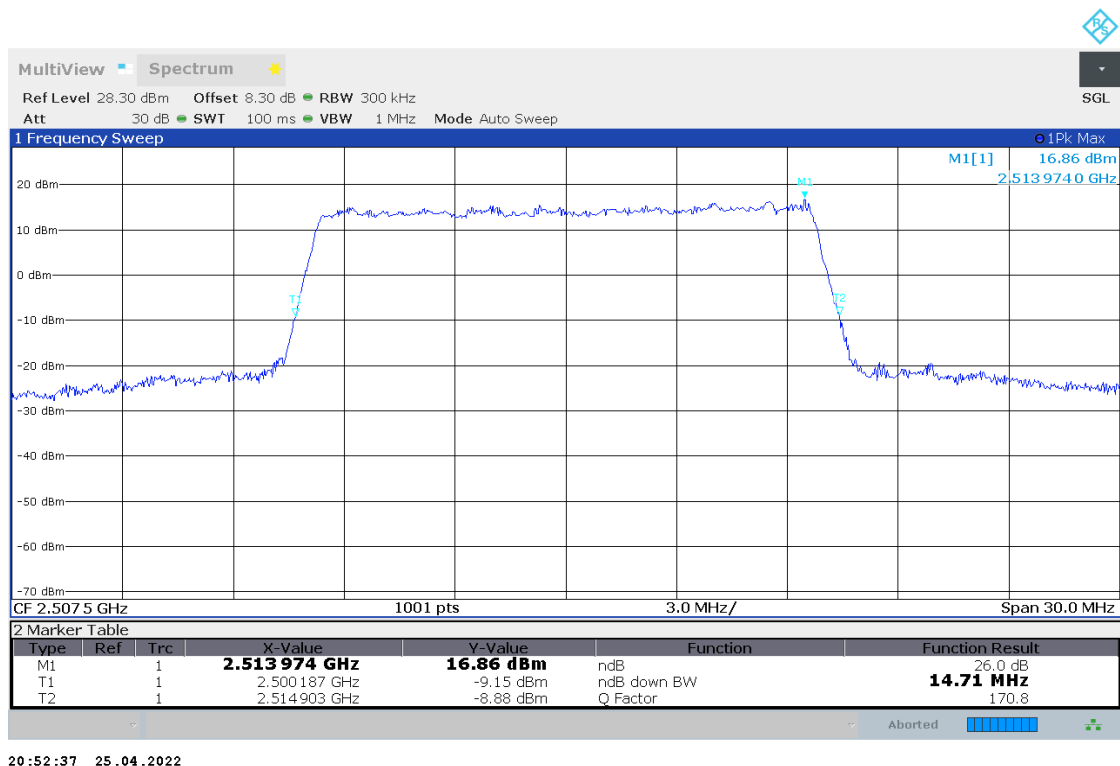


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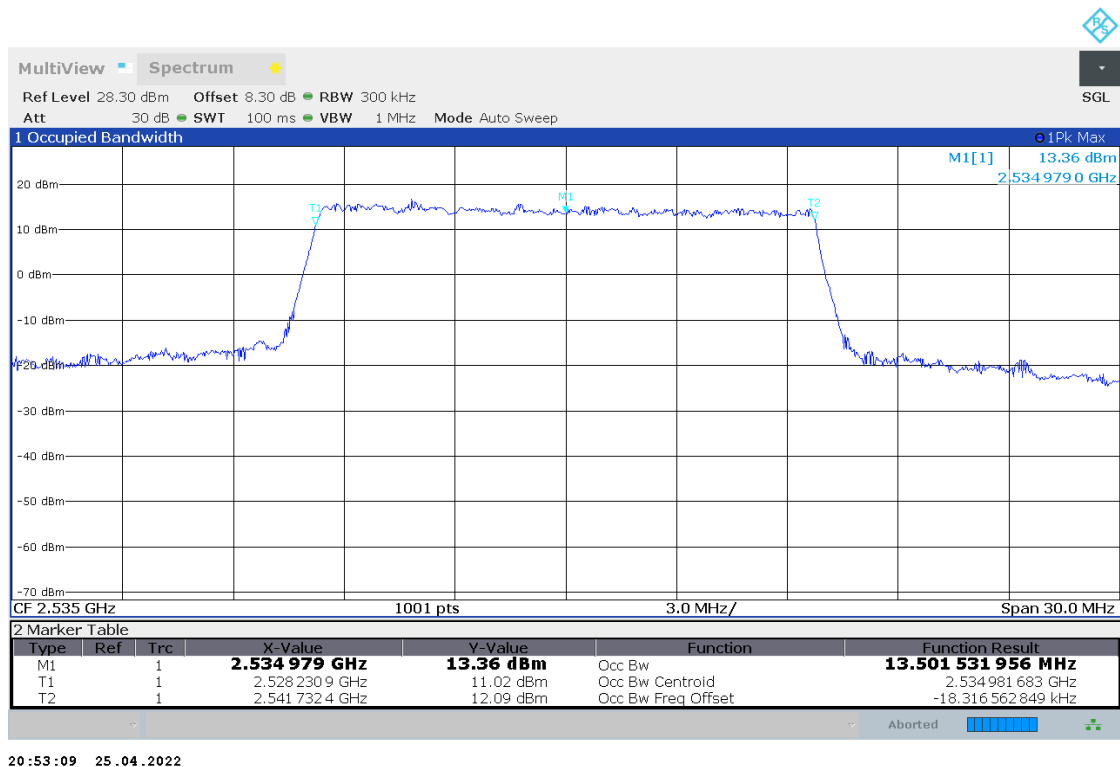
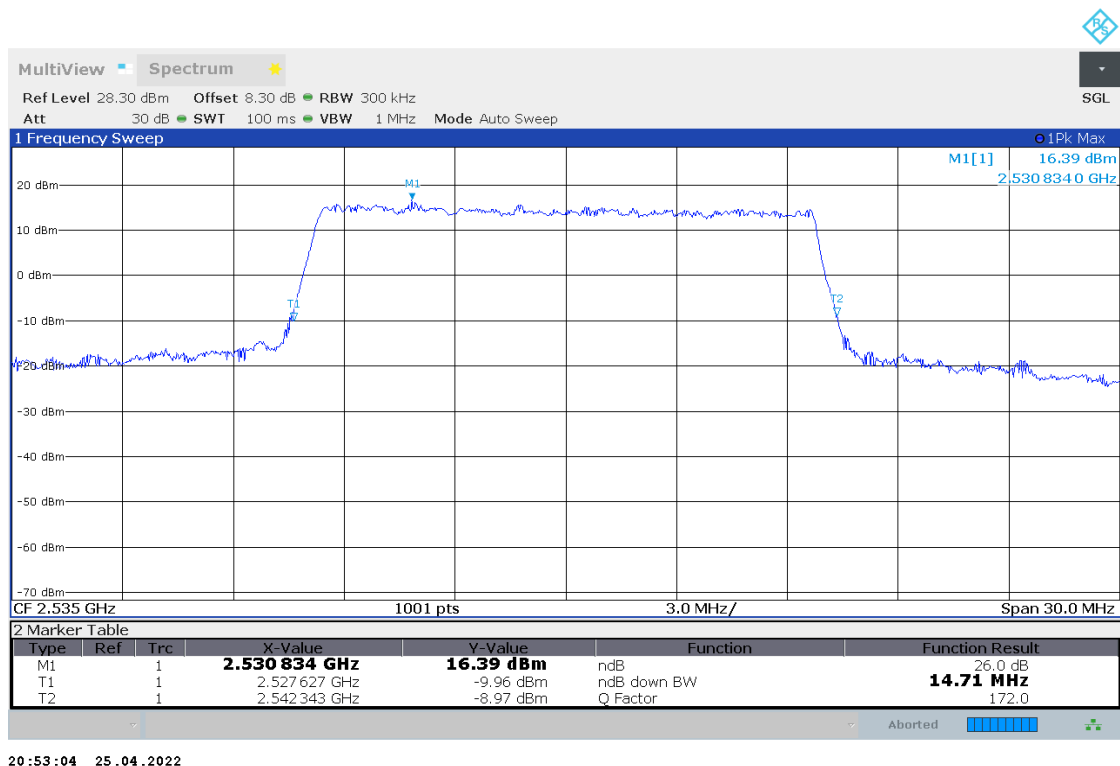
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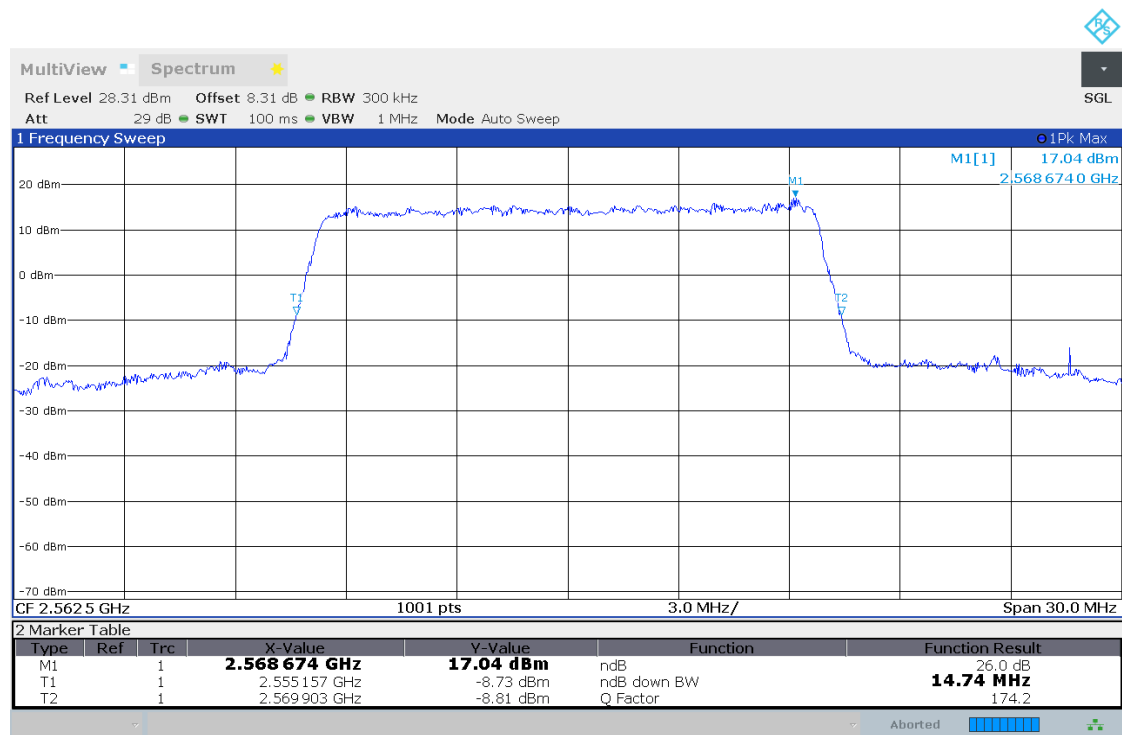
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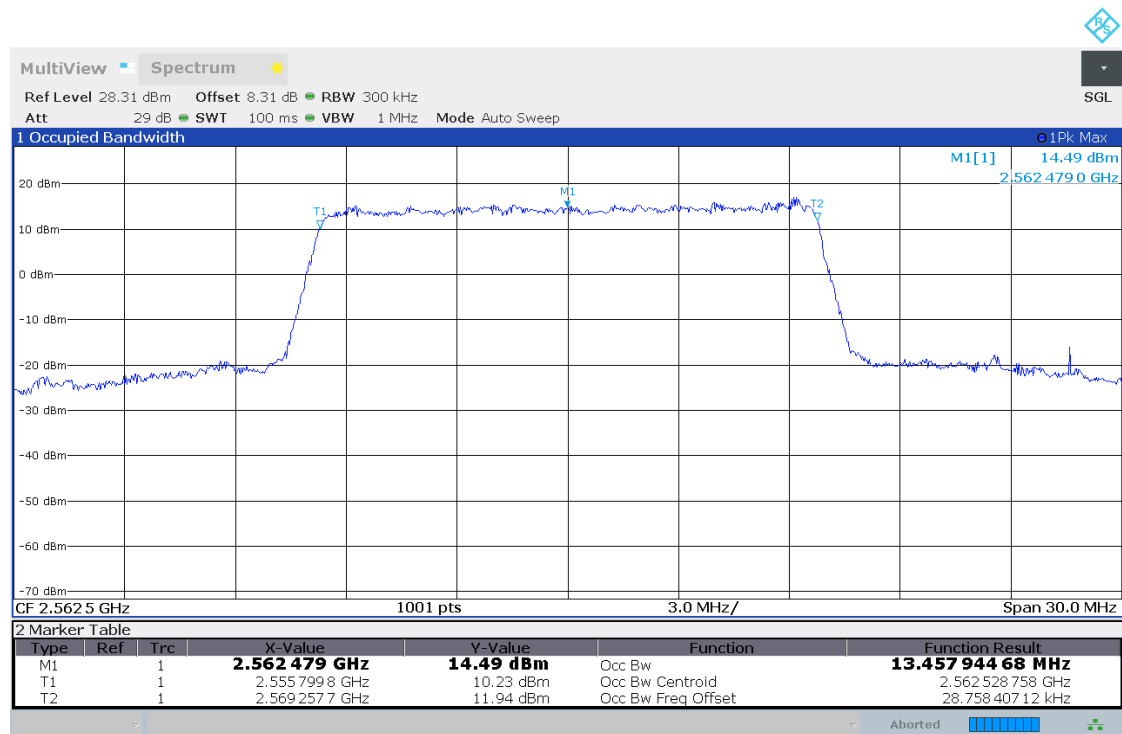
TM2_15MHz_MCH_RB75#0



TM2_15MHz_HCH_RB75#0

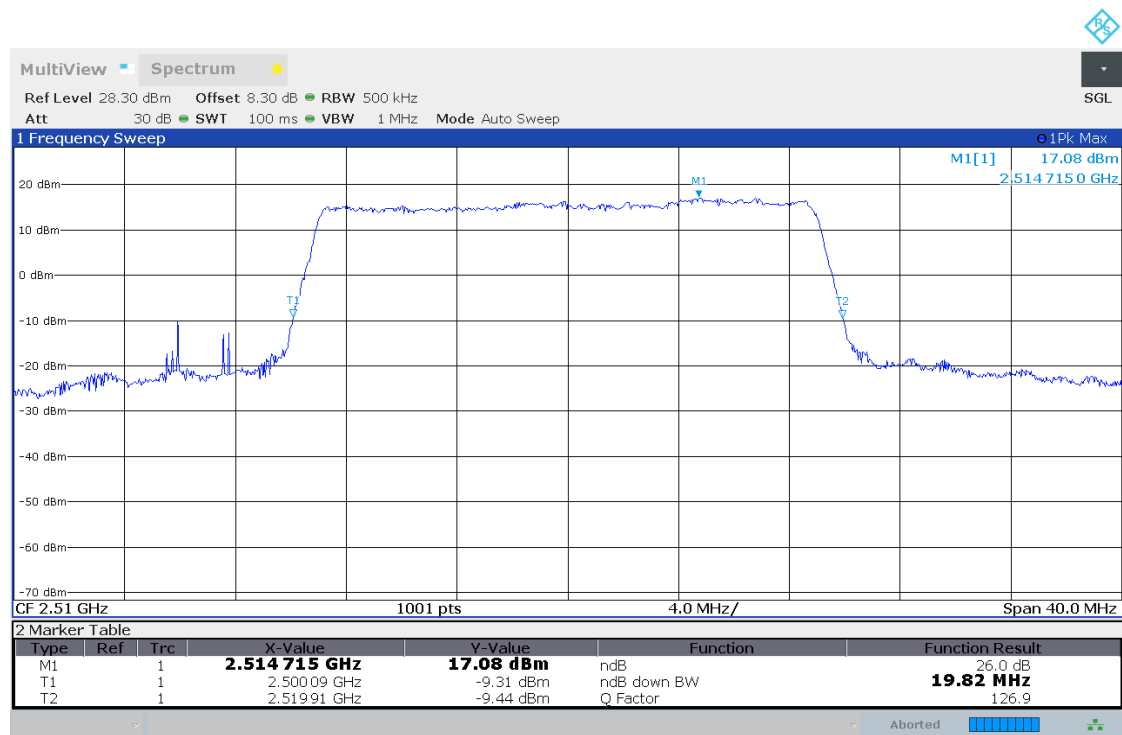


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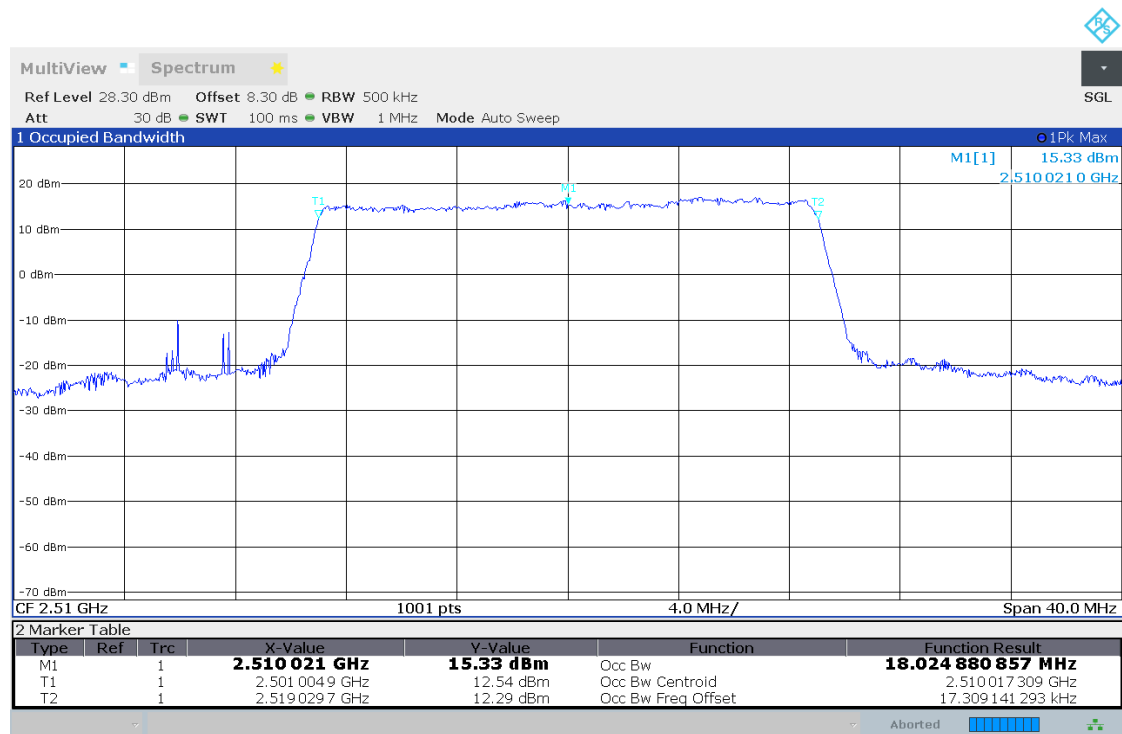


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TM2_20MHz_LCH_RB100#0

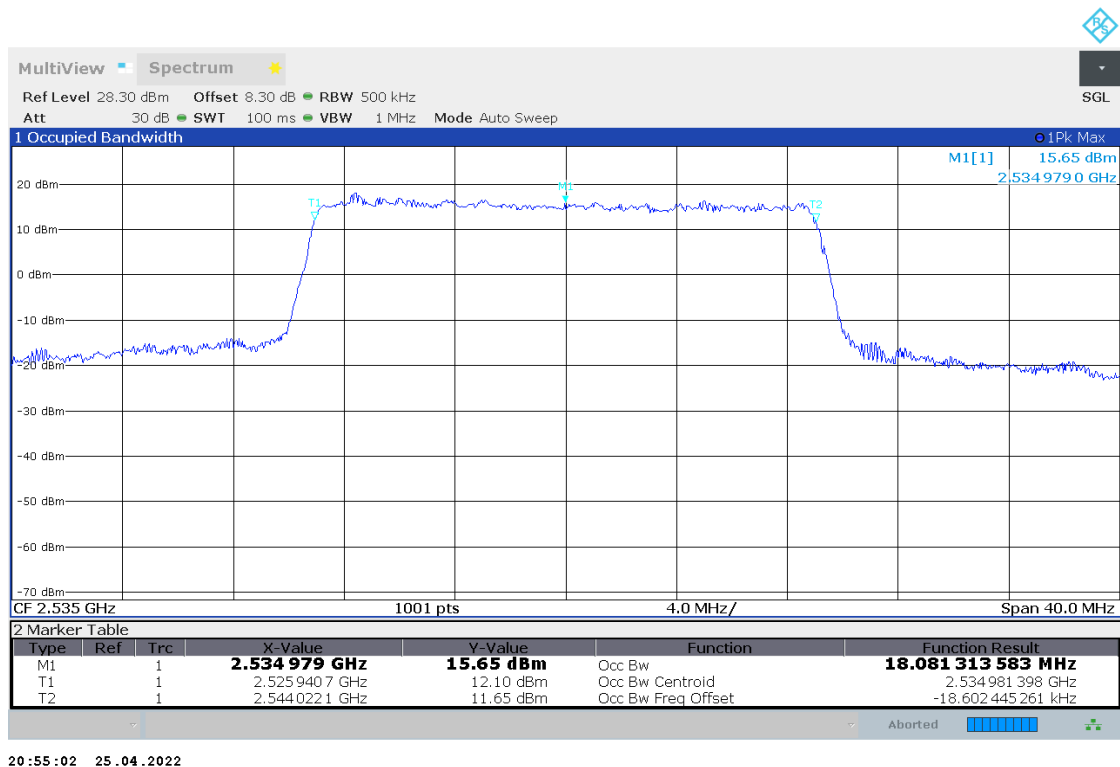
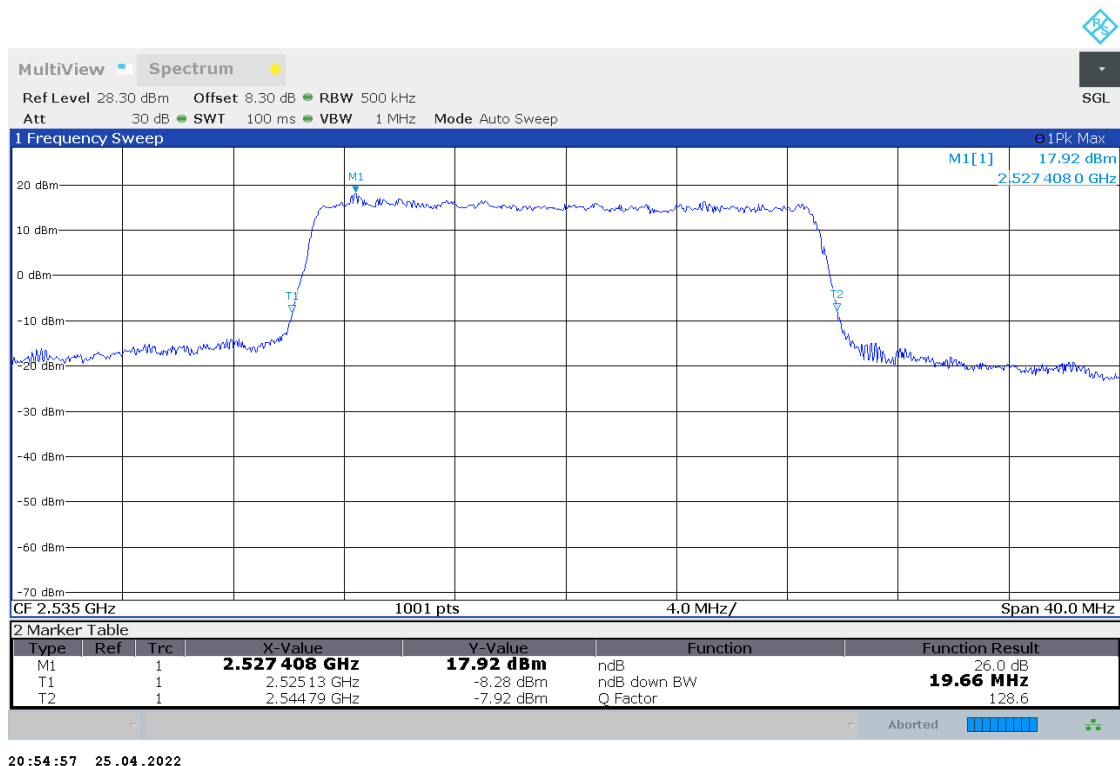


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20:54:35 25.04.2022

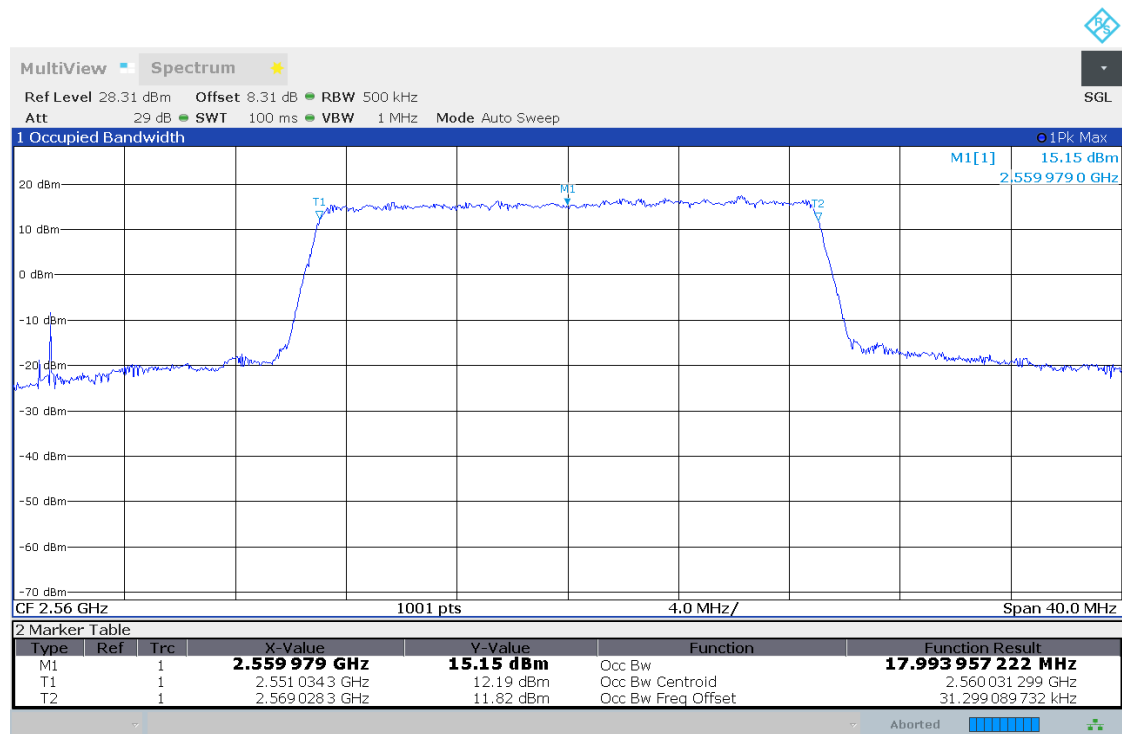
TM2_20MHz_MCH_RB100#0



TM2_20MHz_HCH_RB100#0

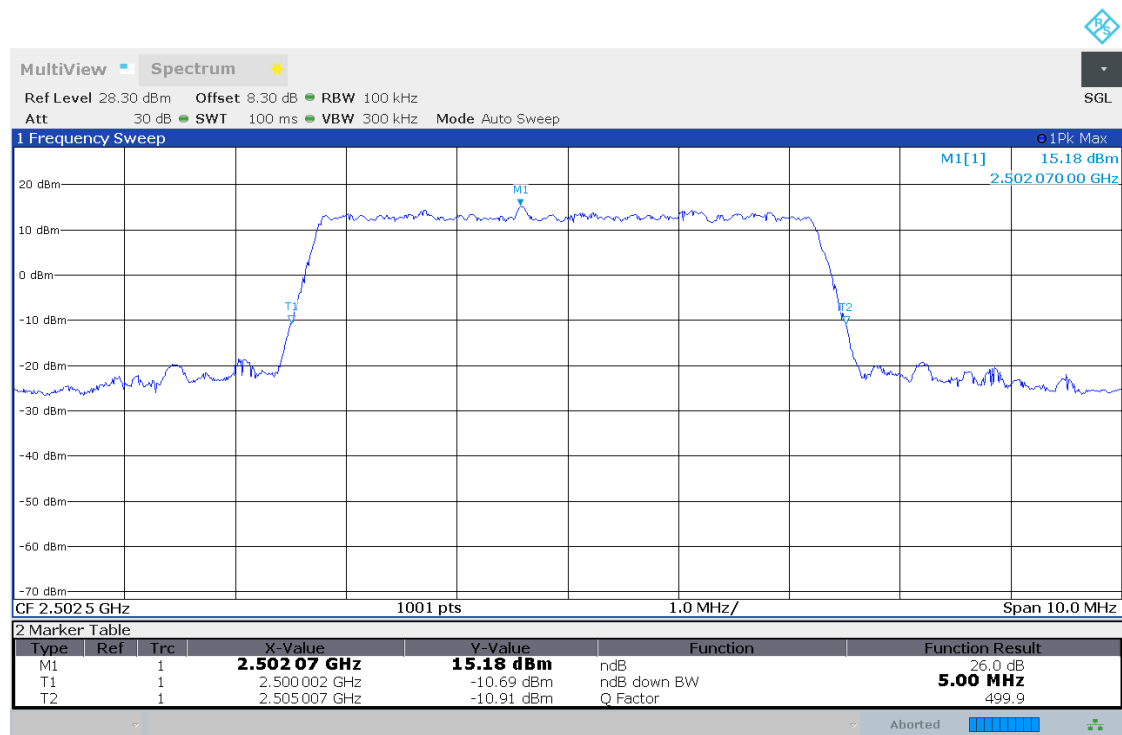


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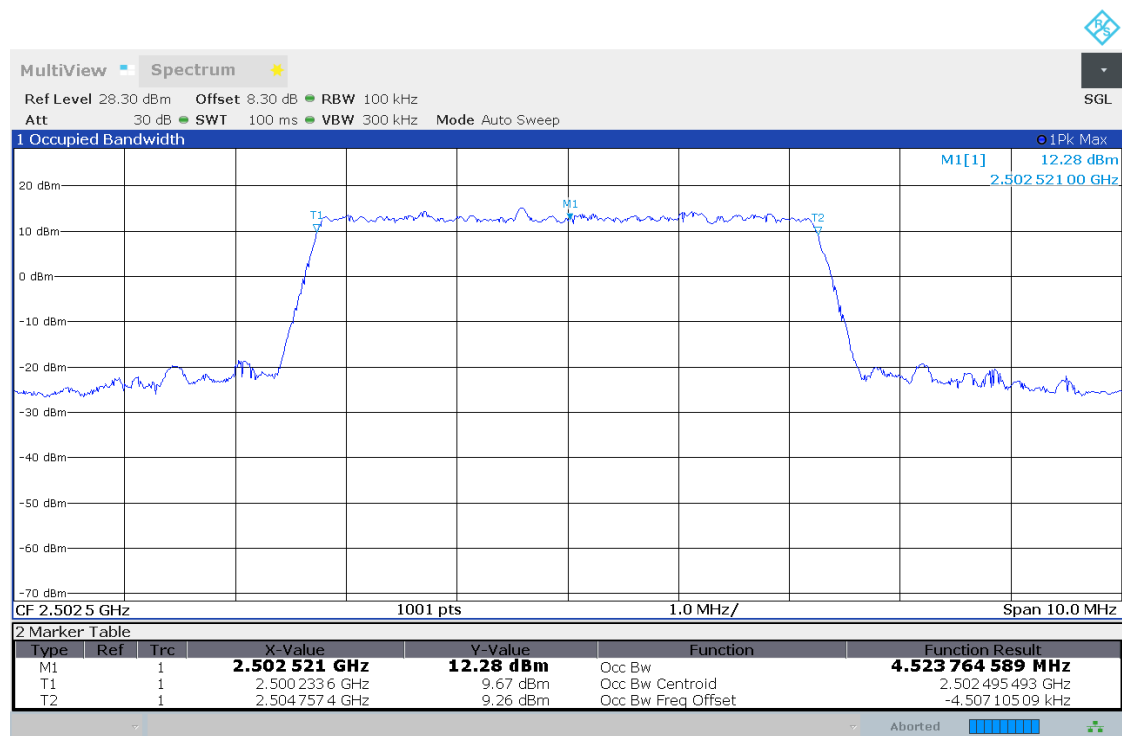


20:55:29 25.04.2022

TM3_5MHz_LCH_RB25#0

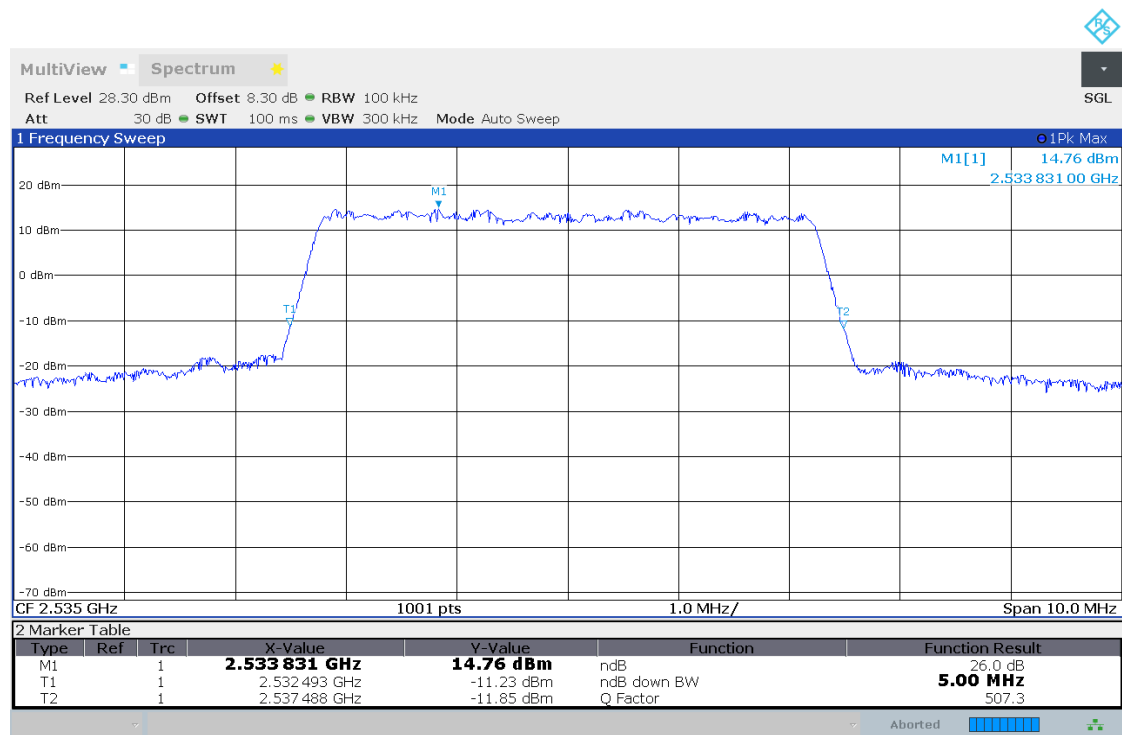


20:55:55 25.04.2022

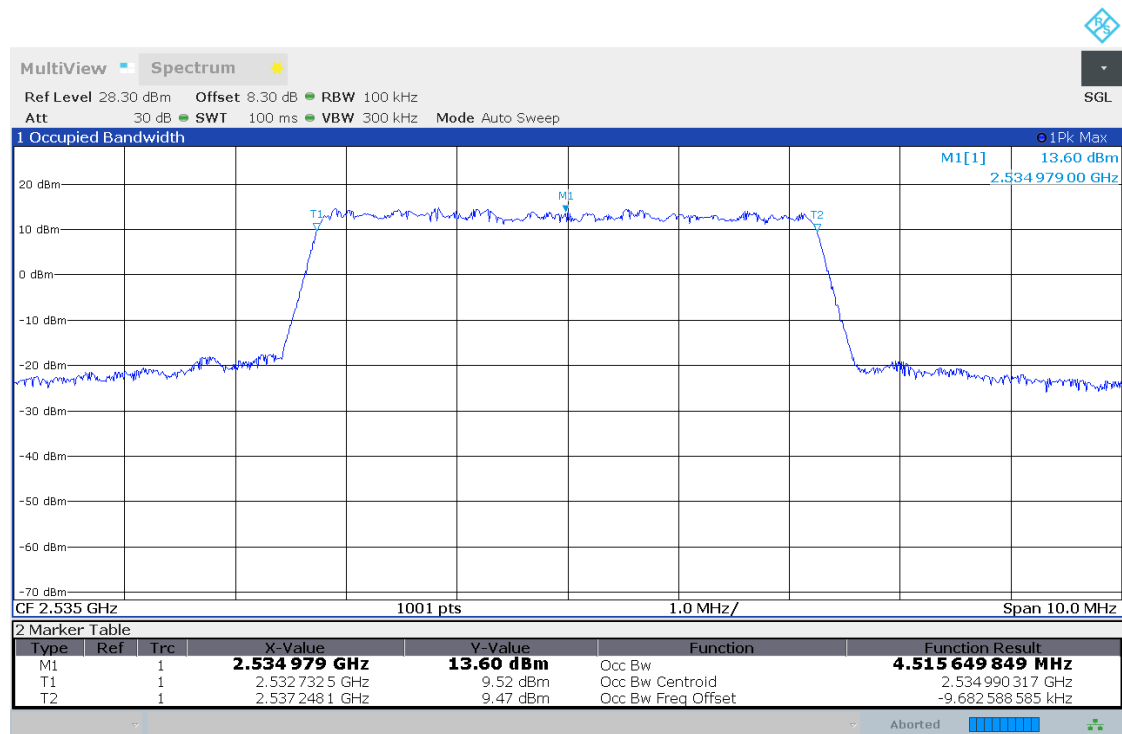


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TM3_5MHz_MCH_RB25#0

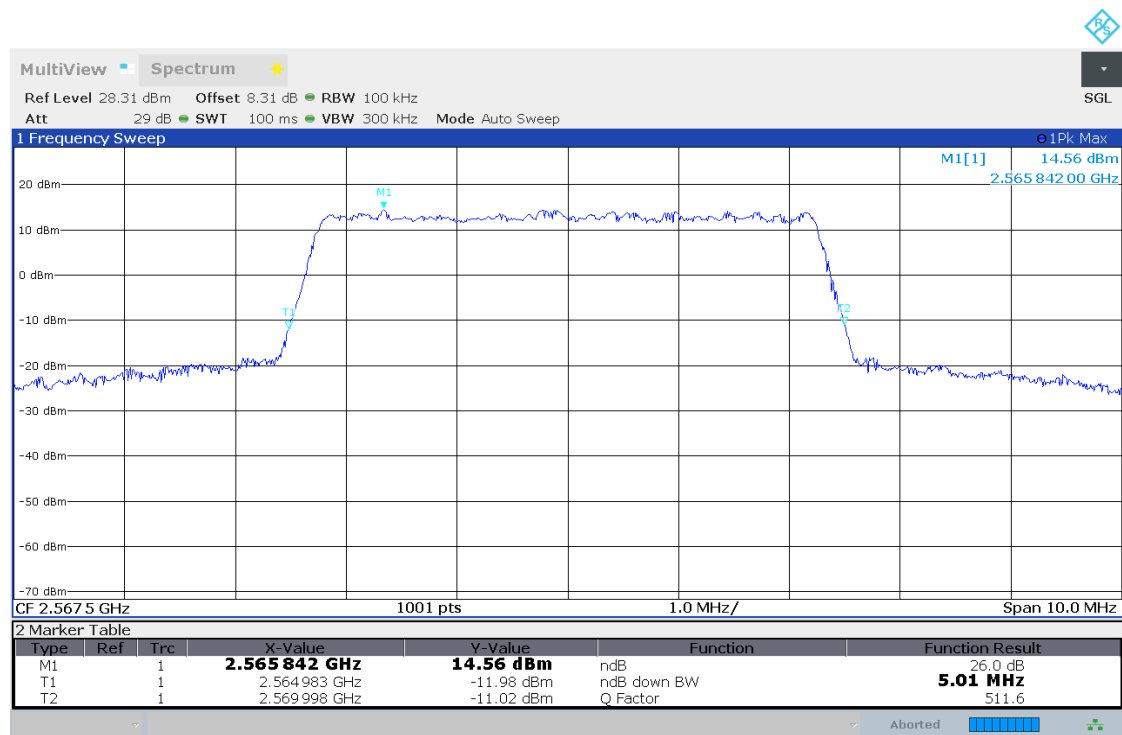


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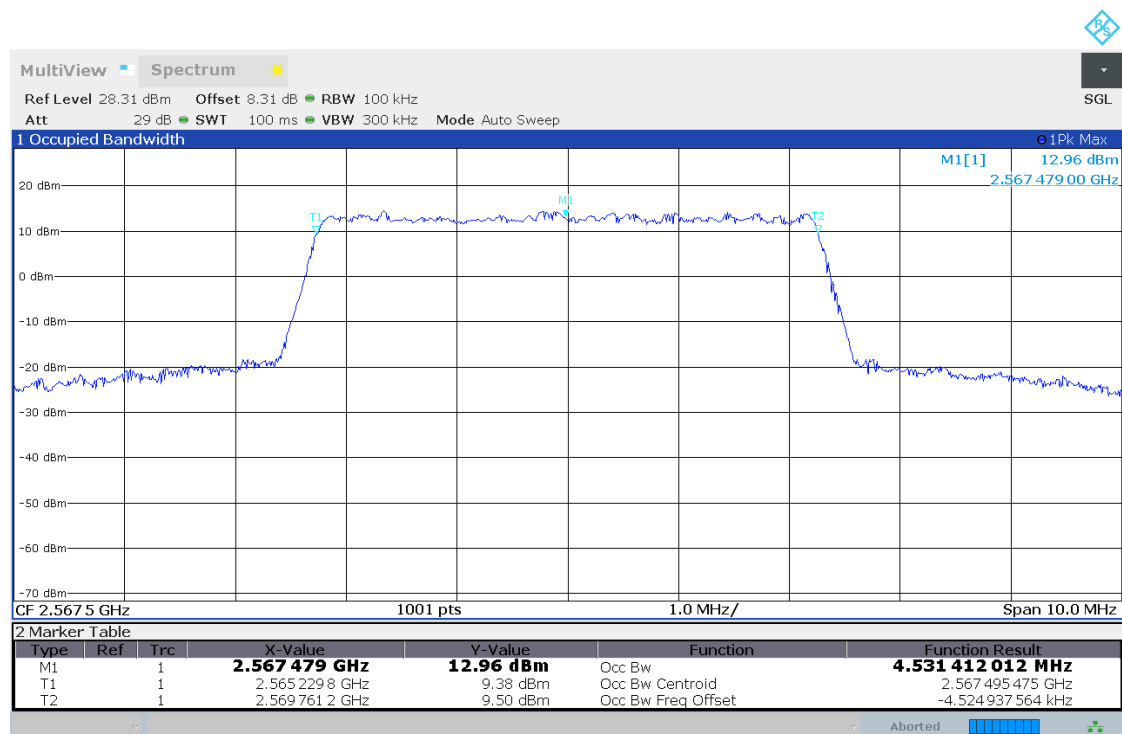


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TM3_5MHz_HCH_RB25#0

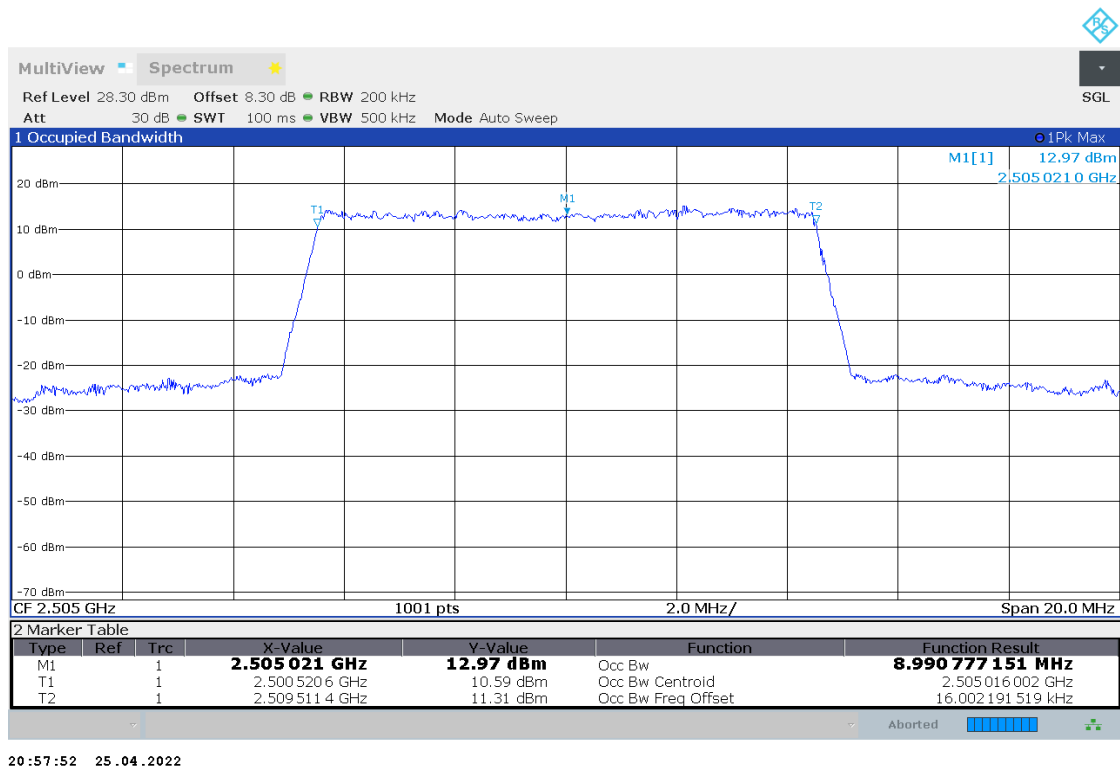
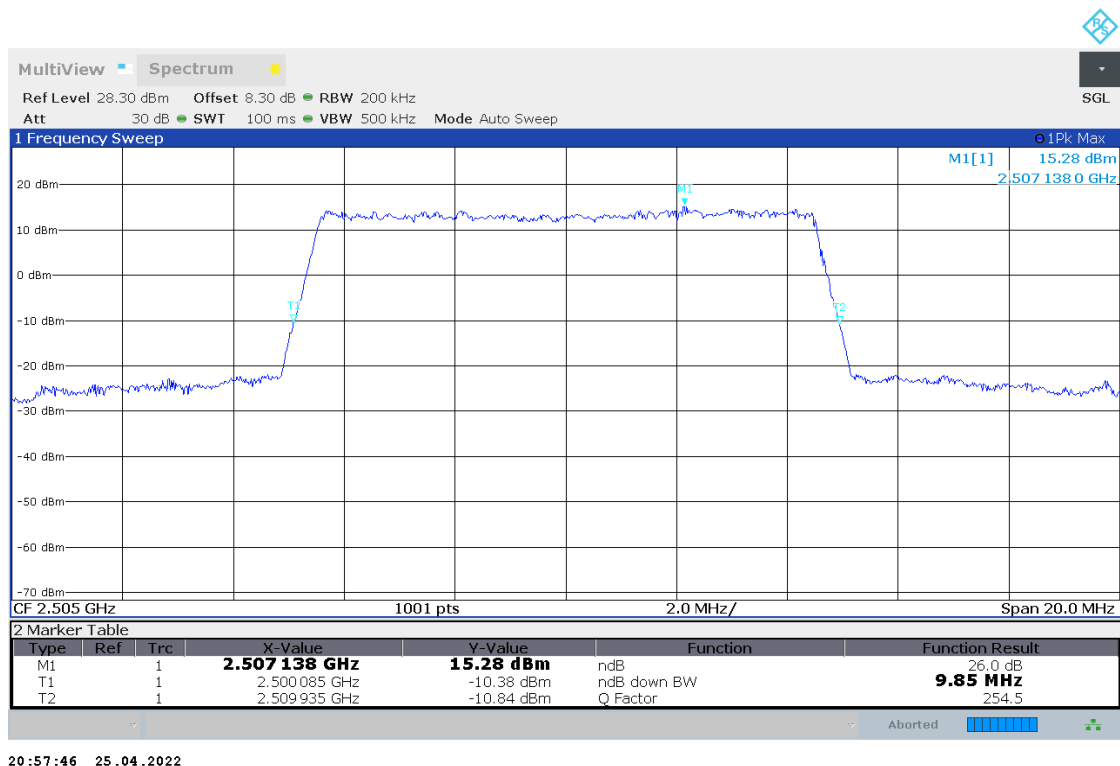


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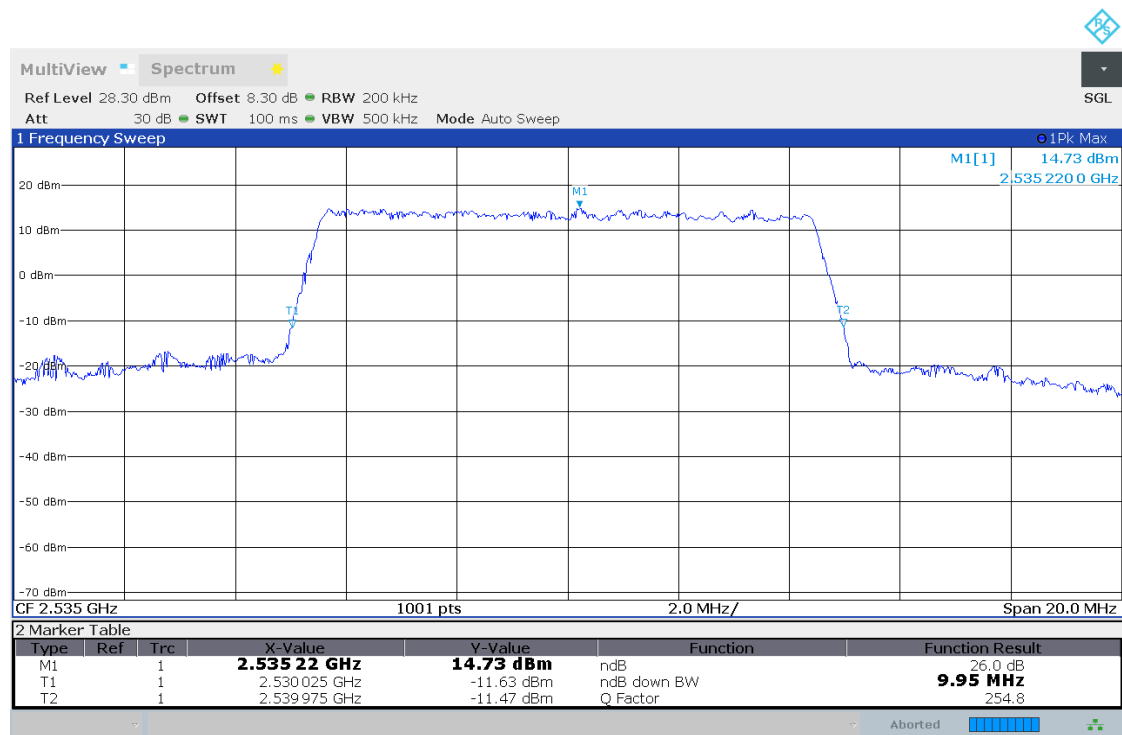


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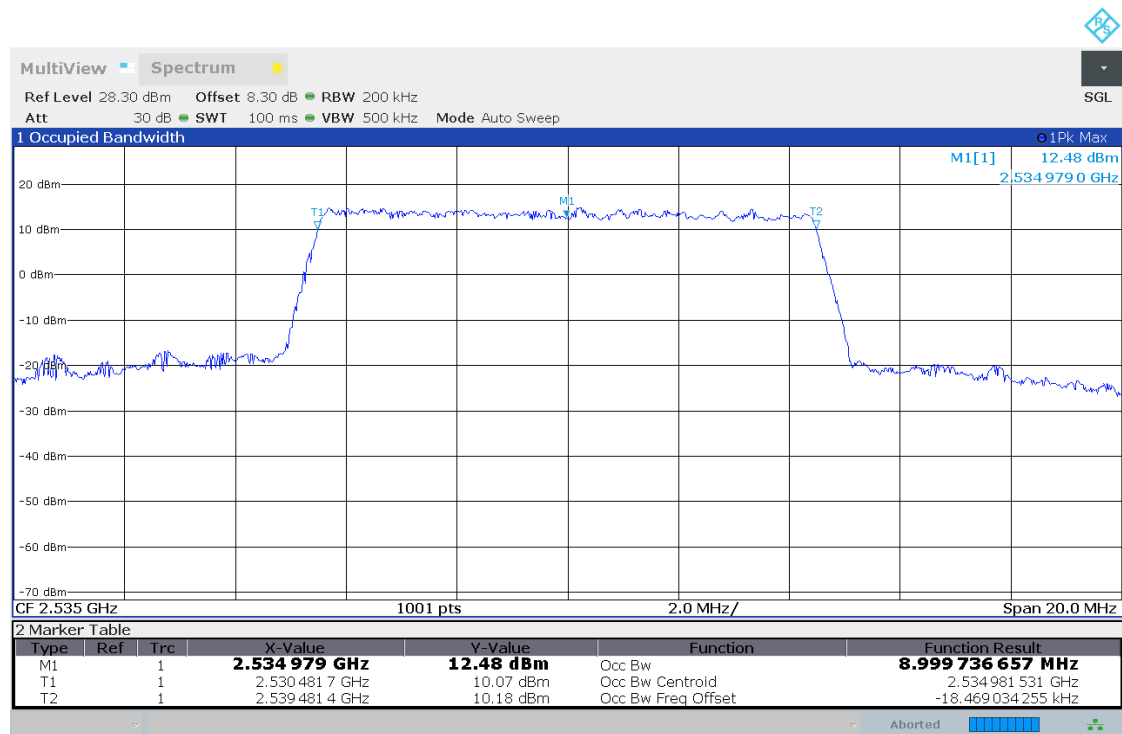
TM3_10MHz_LCH_RB50#0



TM3_10MHz_MCH_RB50#0

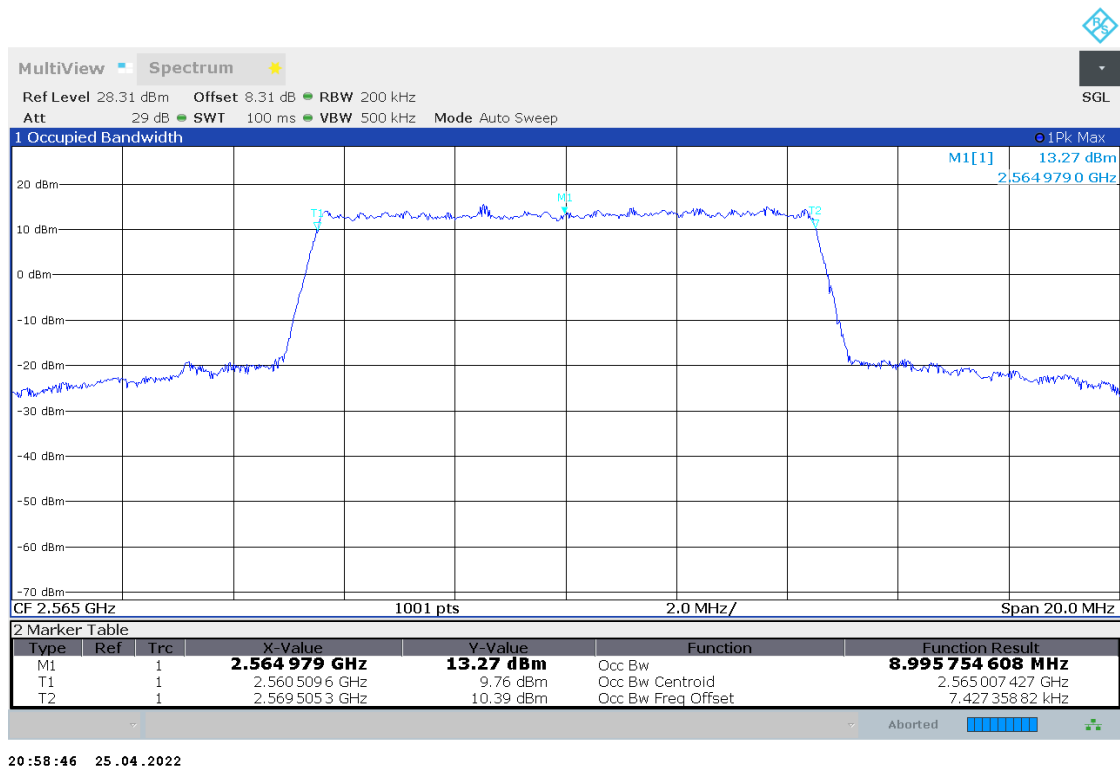
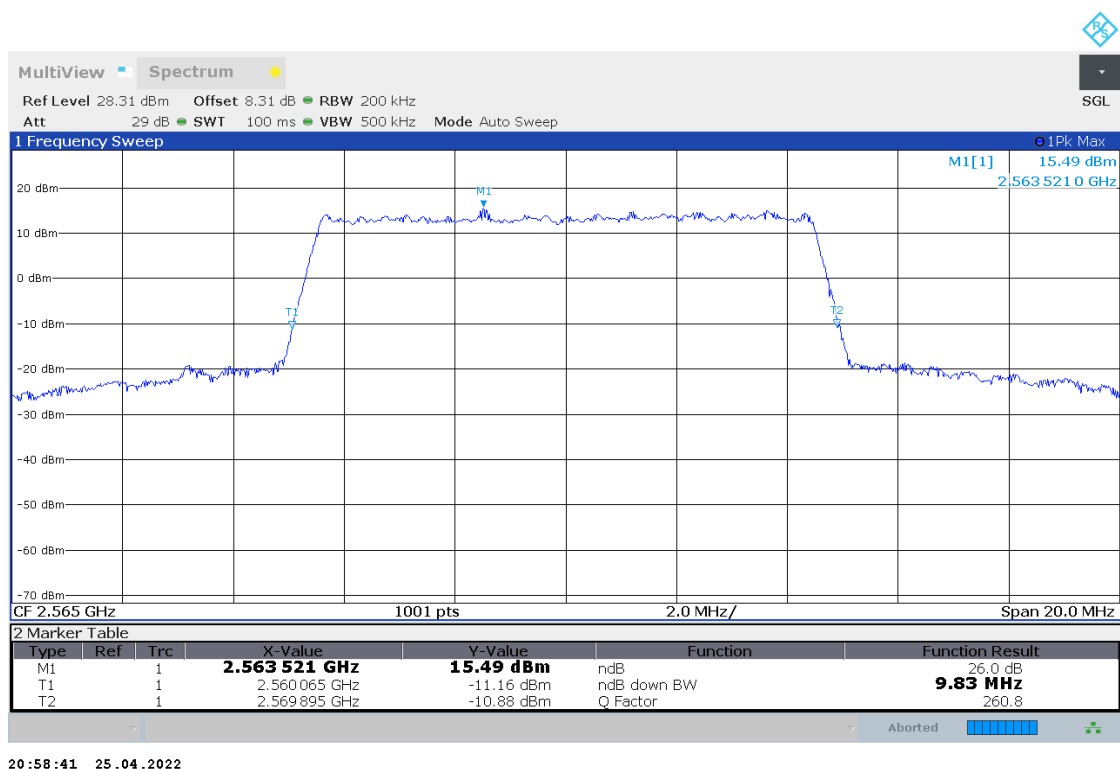


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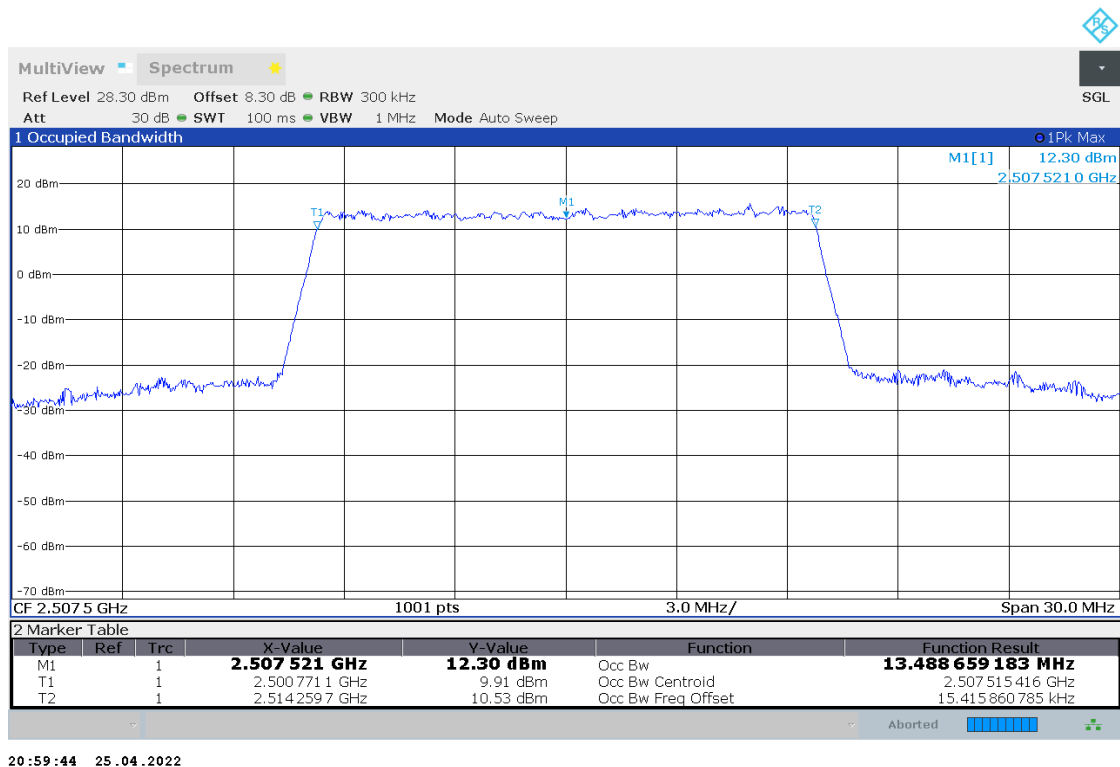
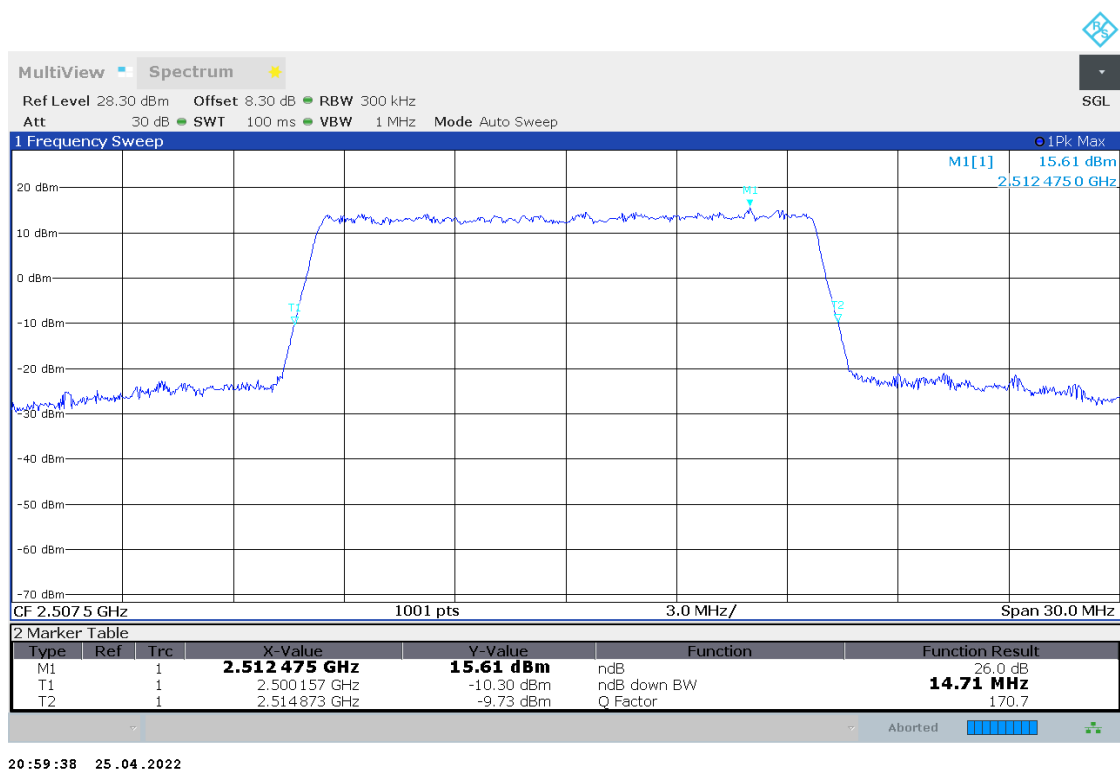


20:58:19 25.04.2022

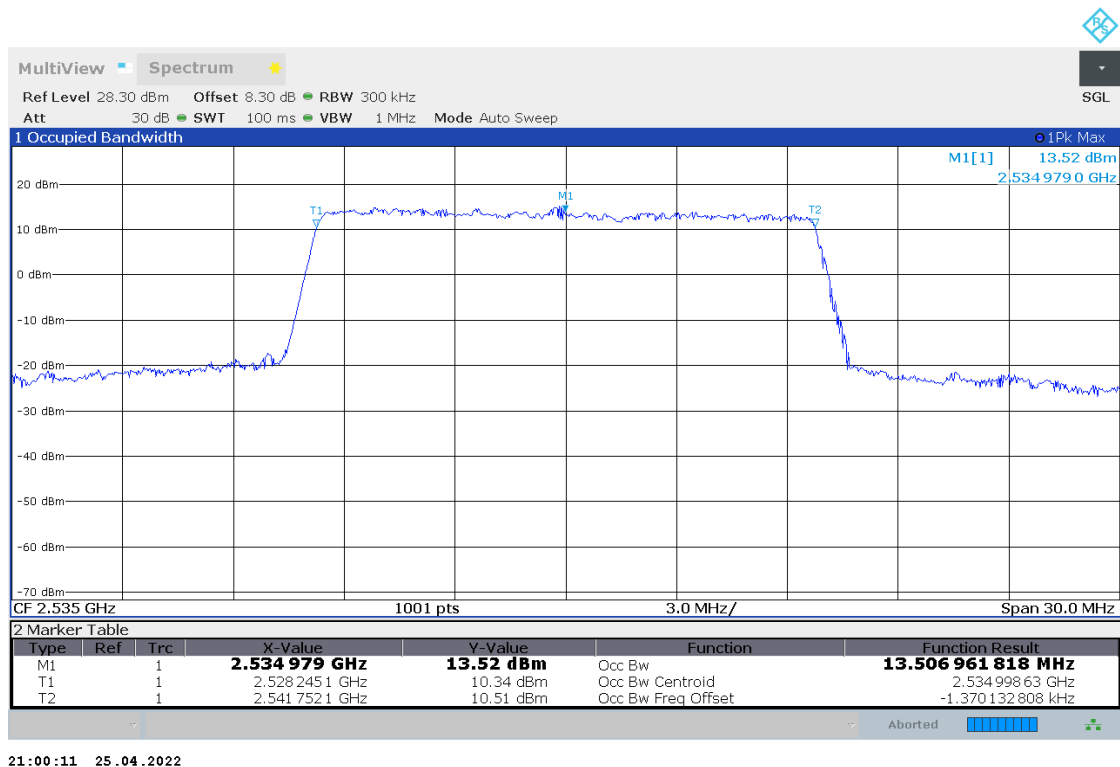
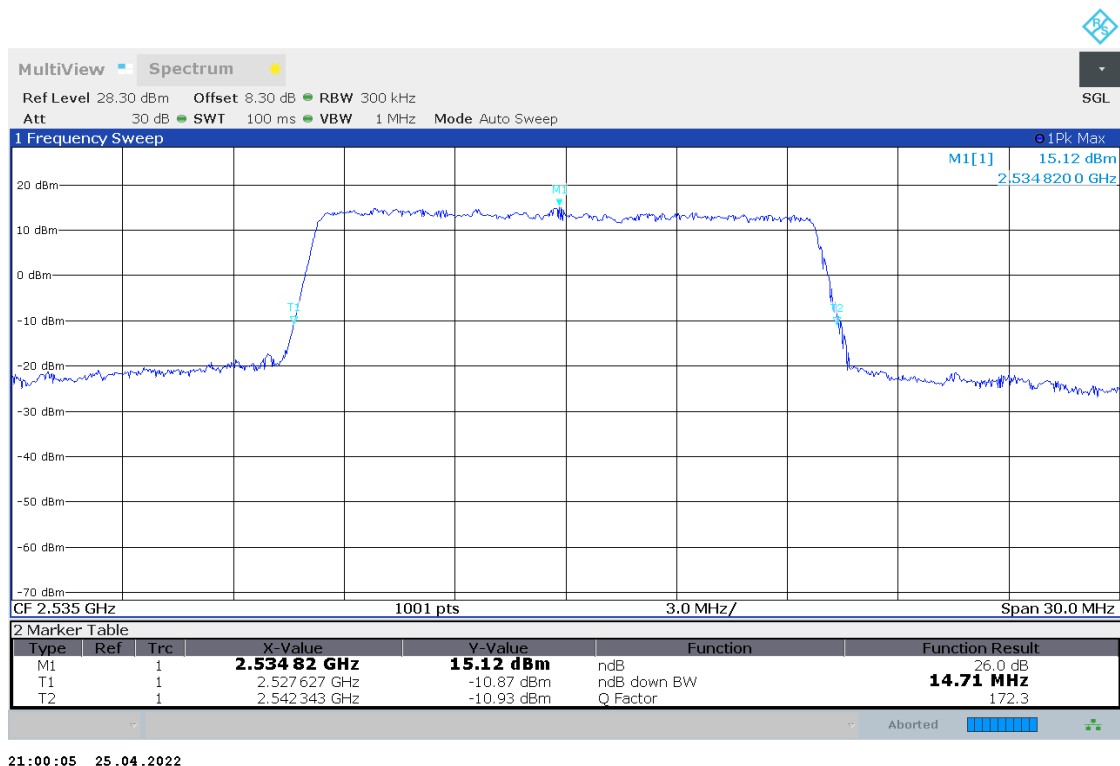
TM3_10MHz_HCH_RB50#0



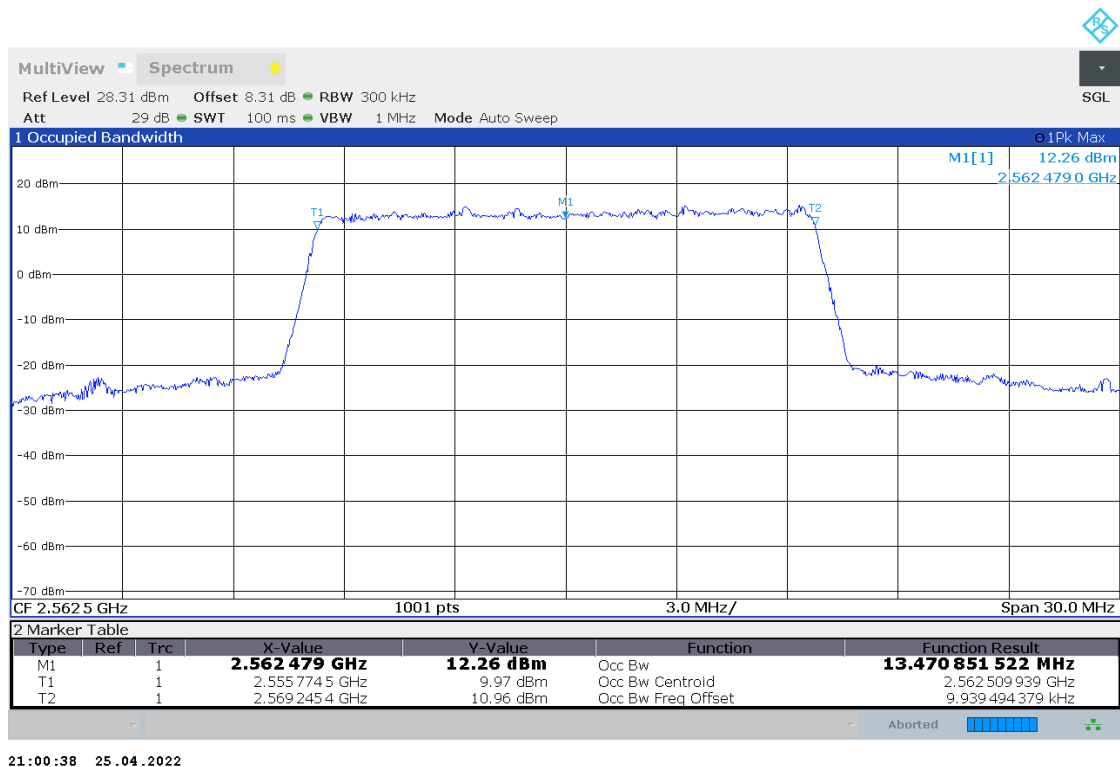
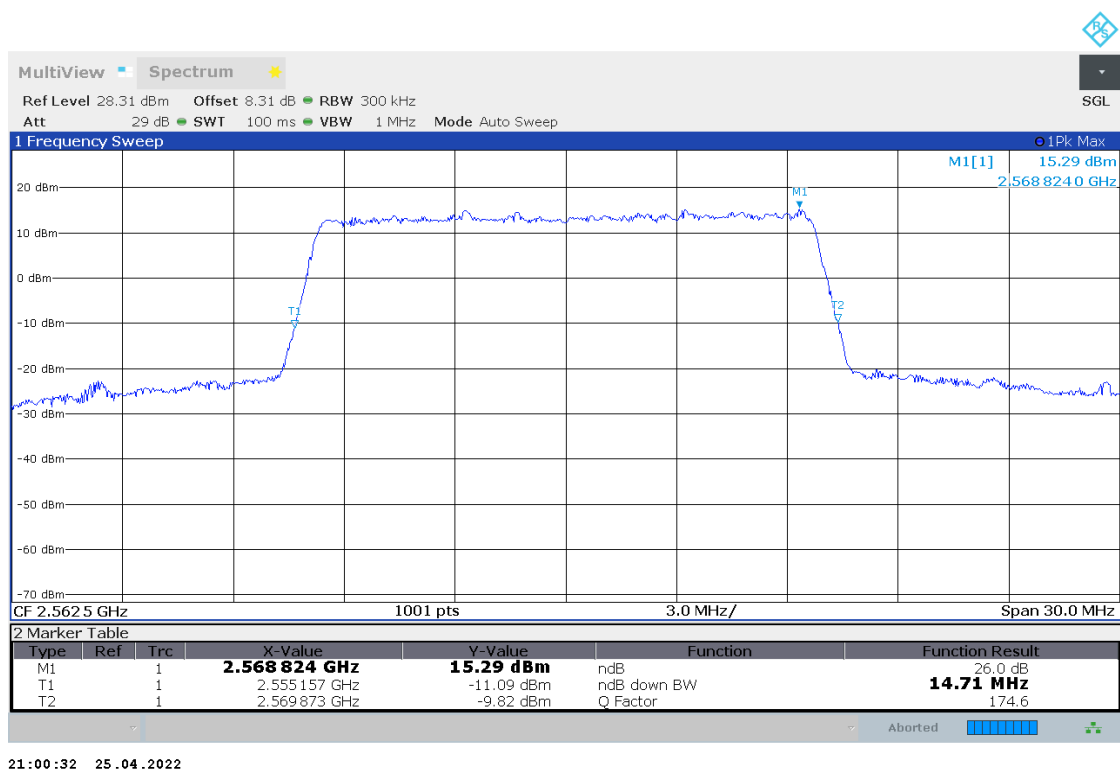
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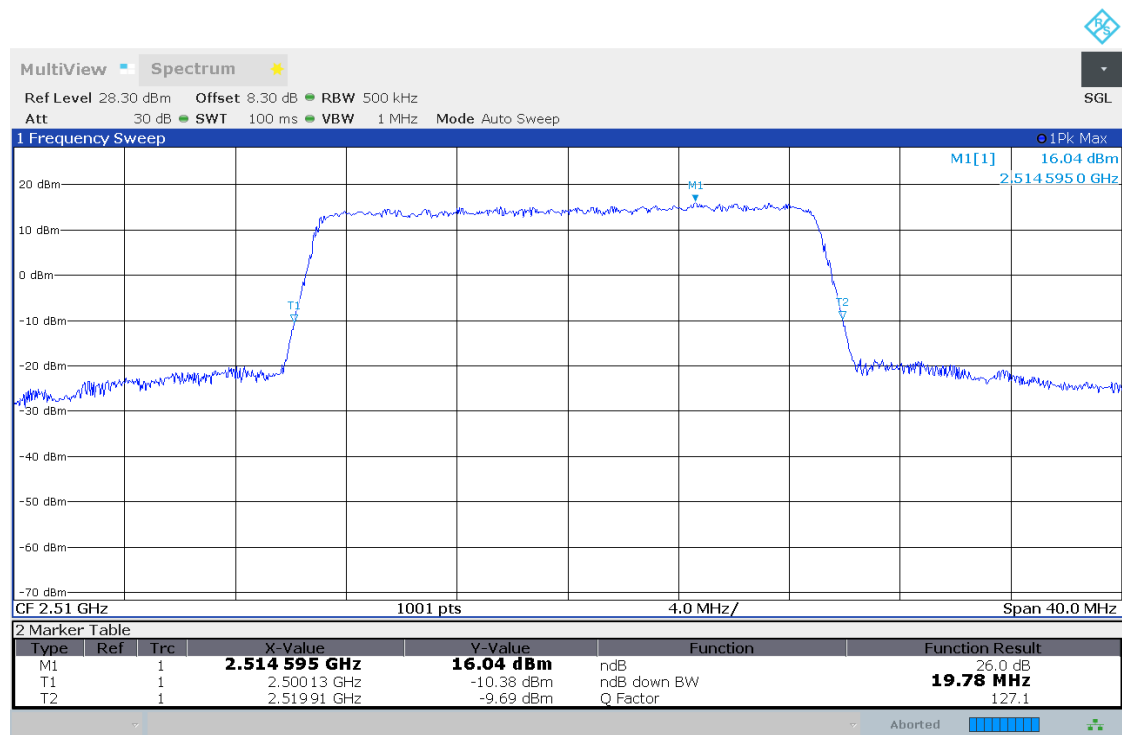
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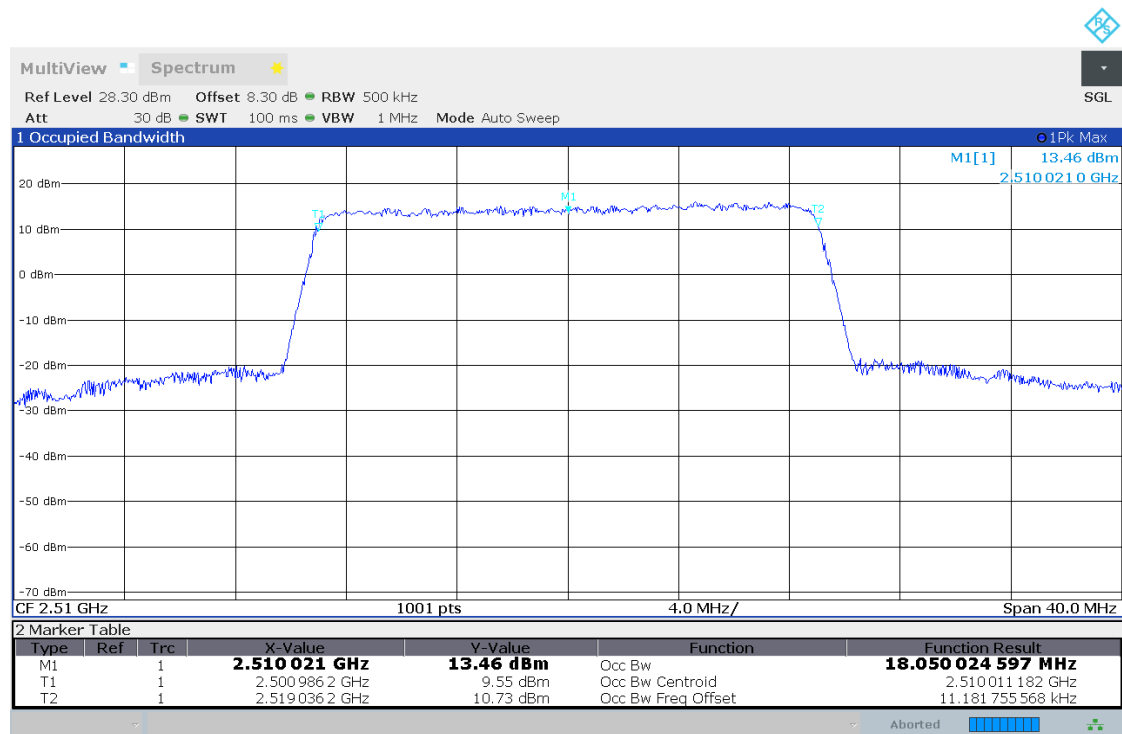
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TM3_20MHz_LCH_RB100#0

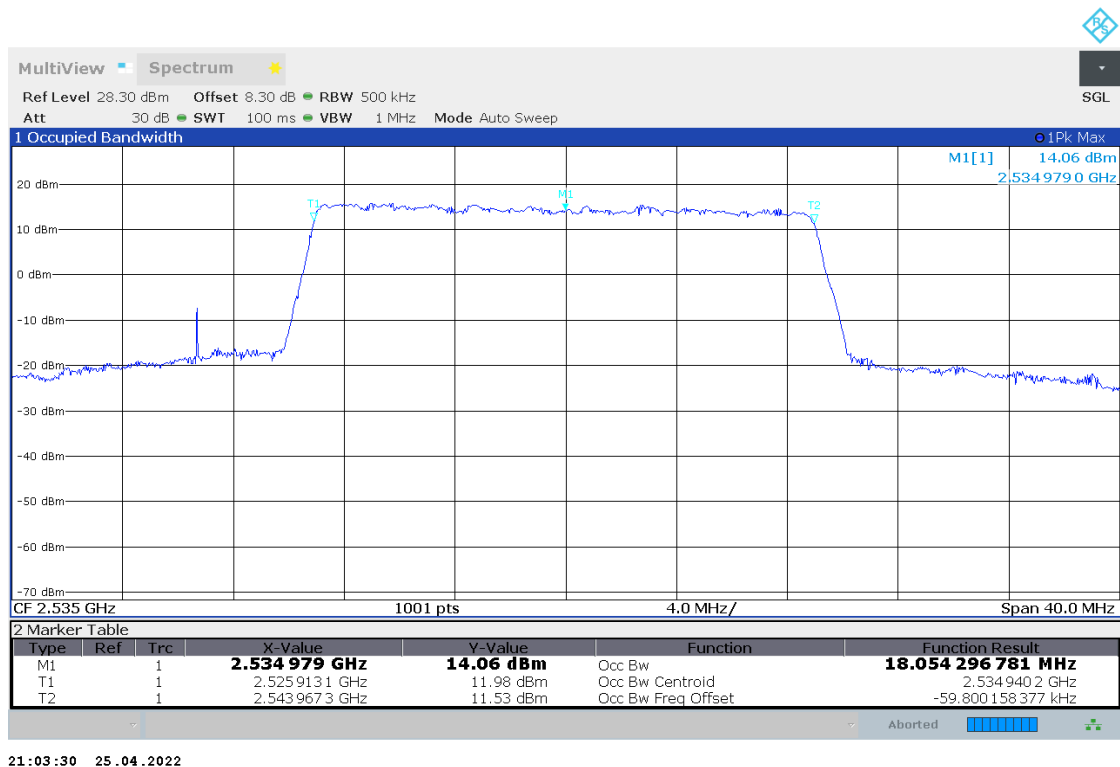
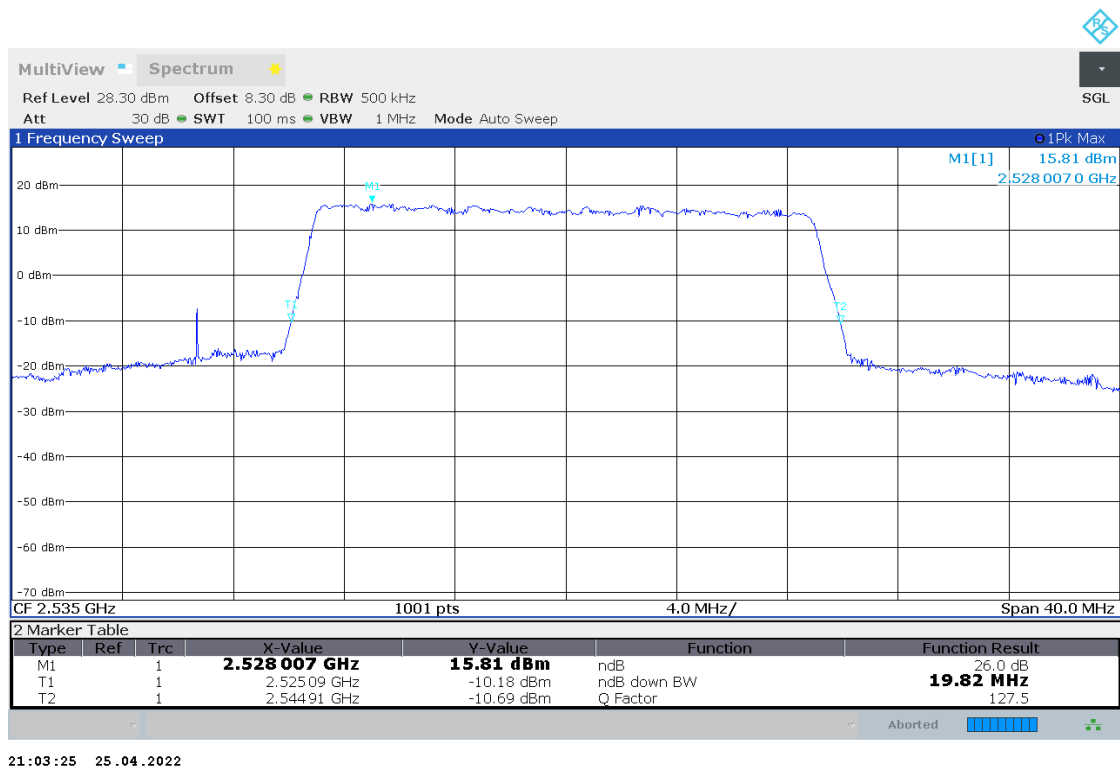


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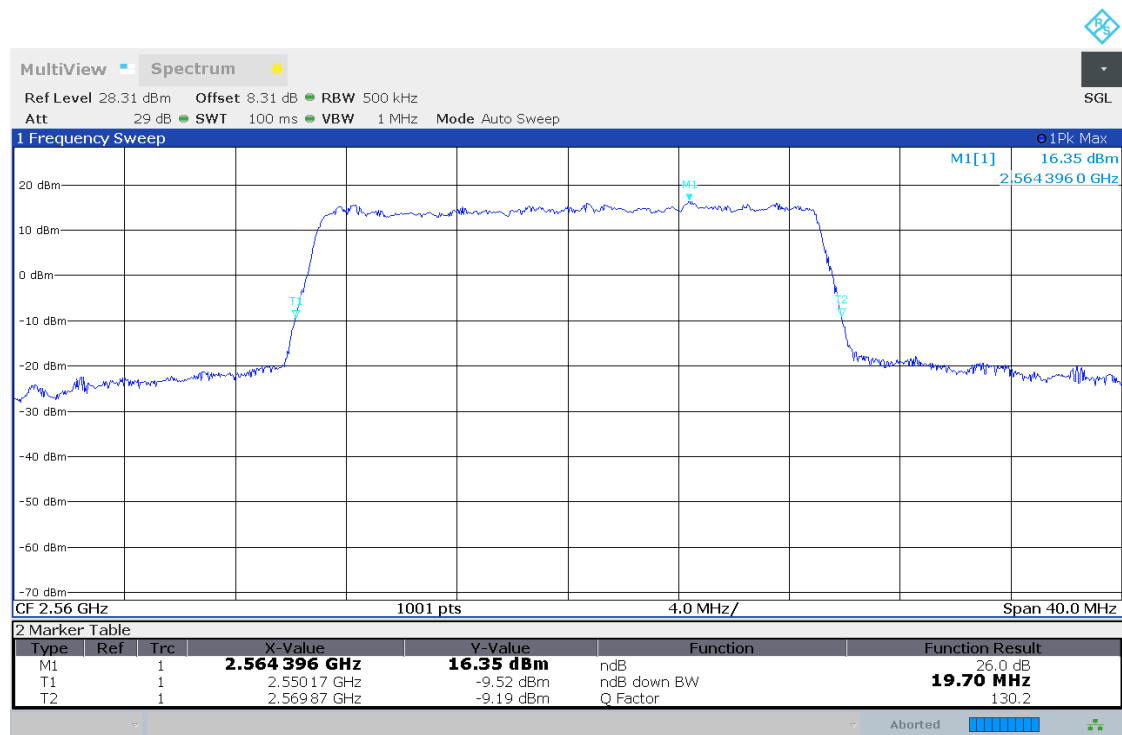


21:03:03 25.04.2022

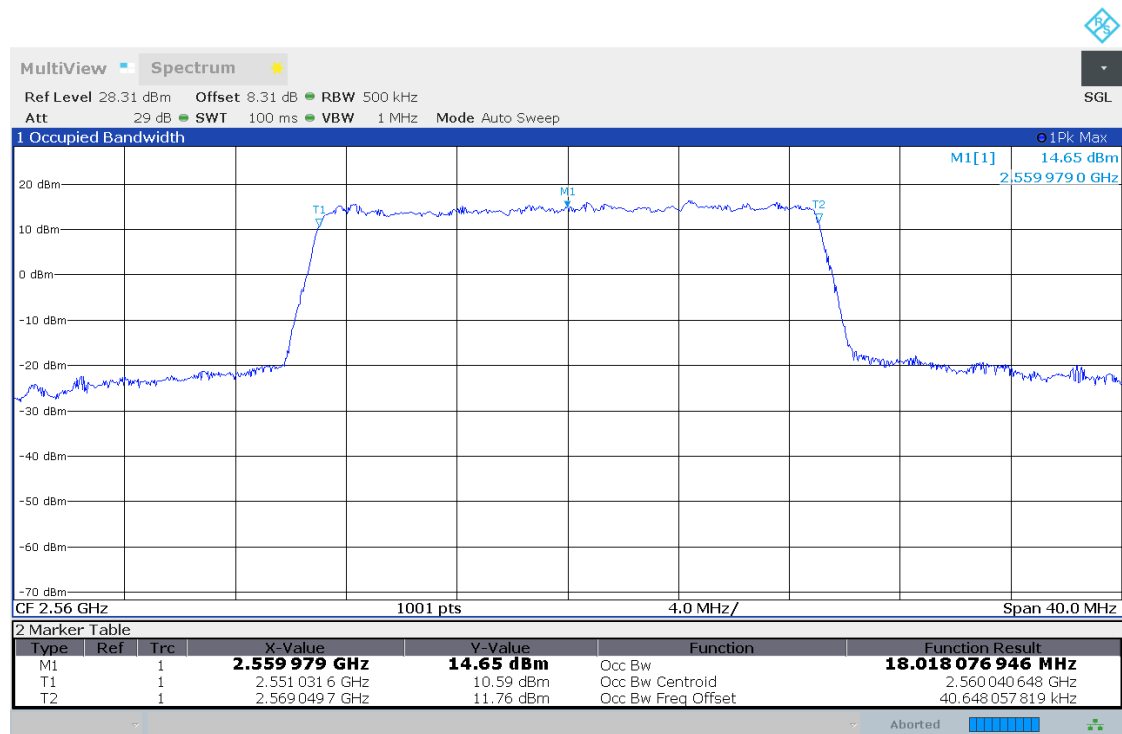
TM3_20MHz_MCH_RB100#0



TM3_20MHz_HCH_RB100#0



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21:03:57 25.04.2022

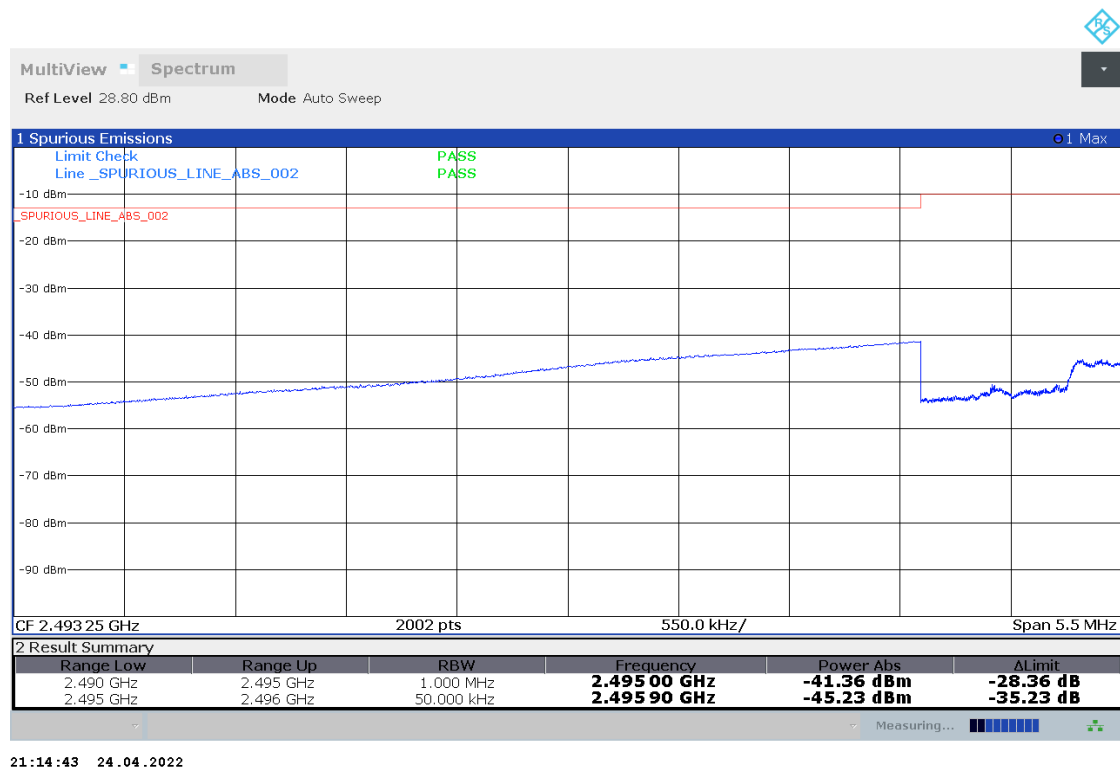
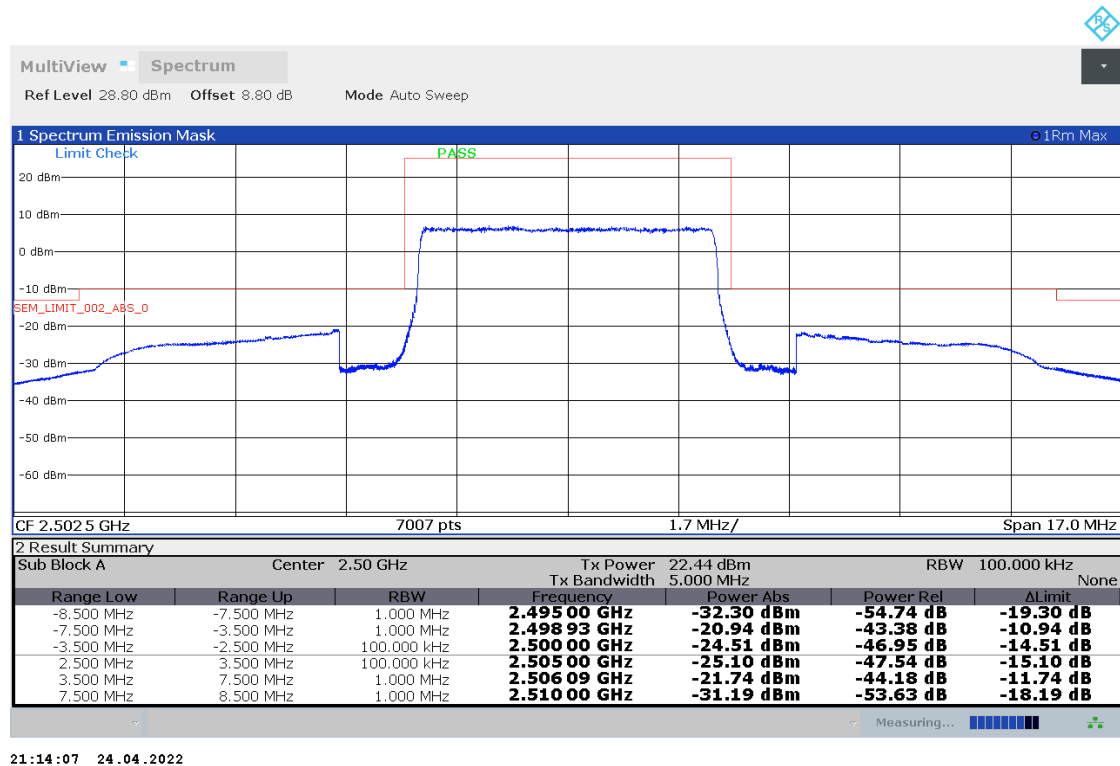
5 Appendix_E: Band Edges Compliance

5.1 Test Results

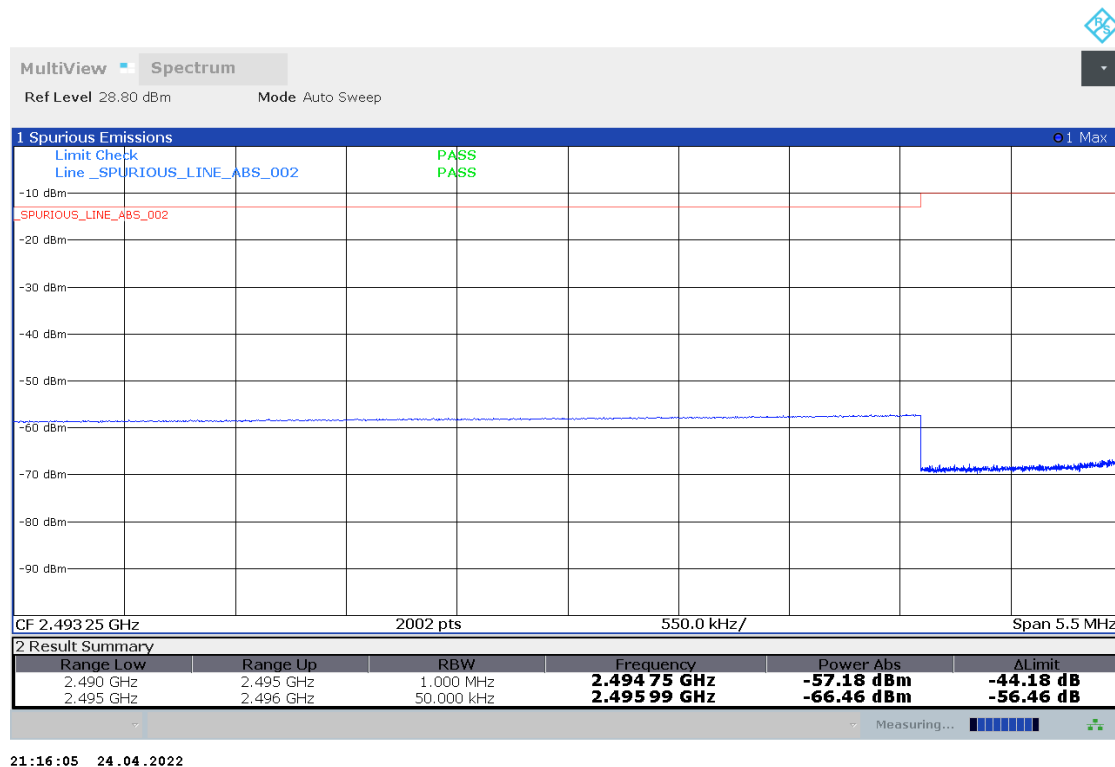
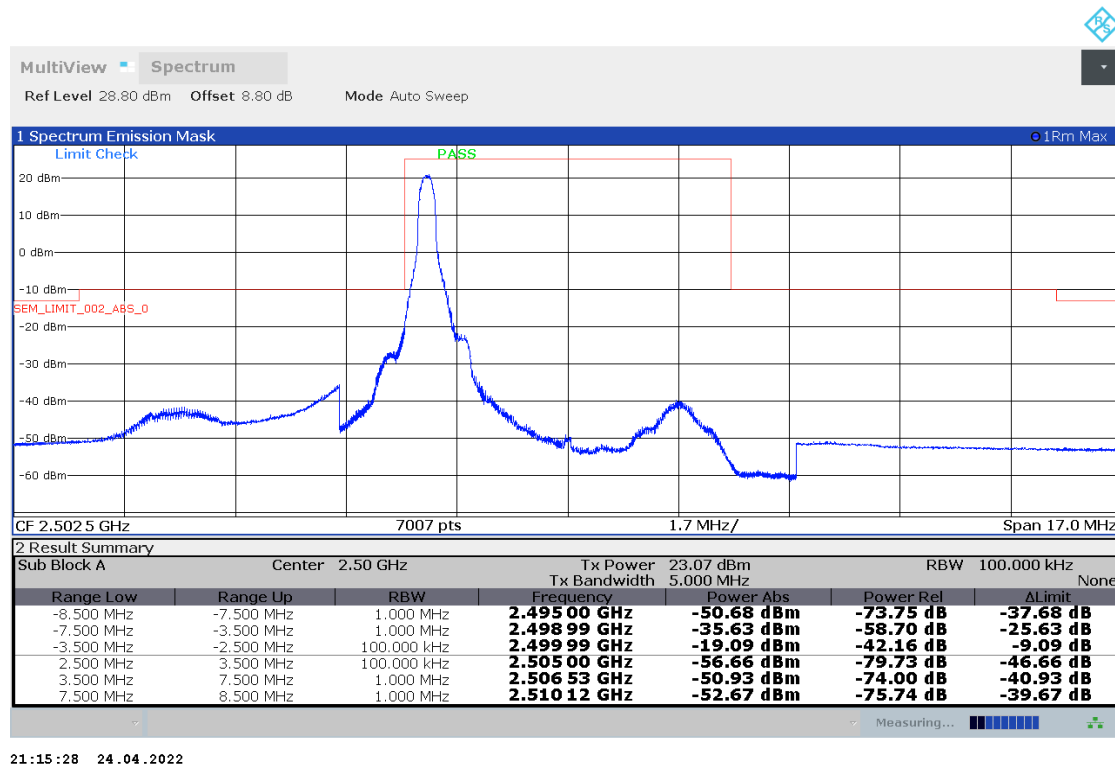
Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured Emissions Conformed to the Relevant Limits?	Verdict
TM1	5	LCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		HCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
	20	LCH	RB100#0	QPSK	Yes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

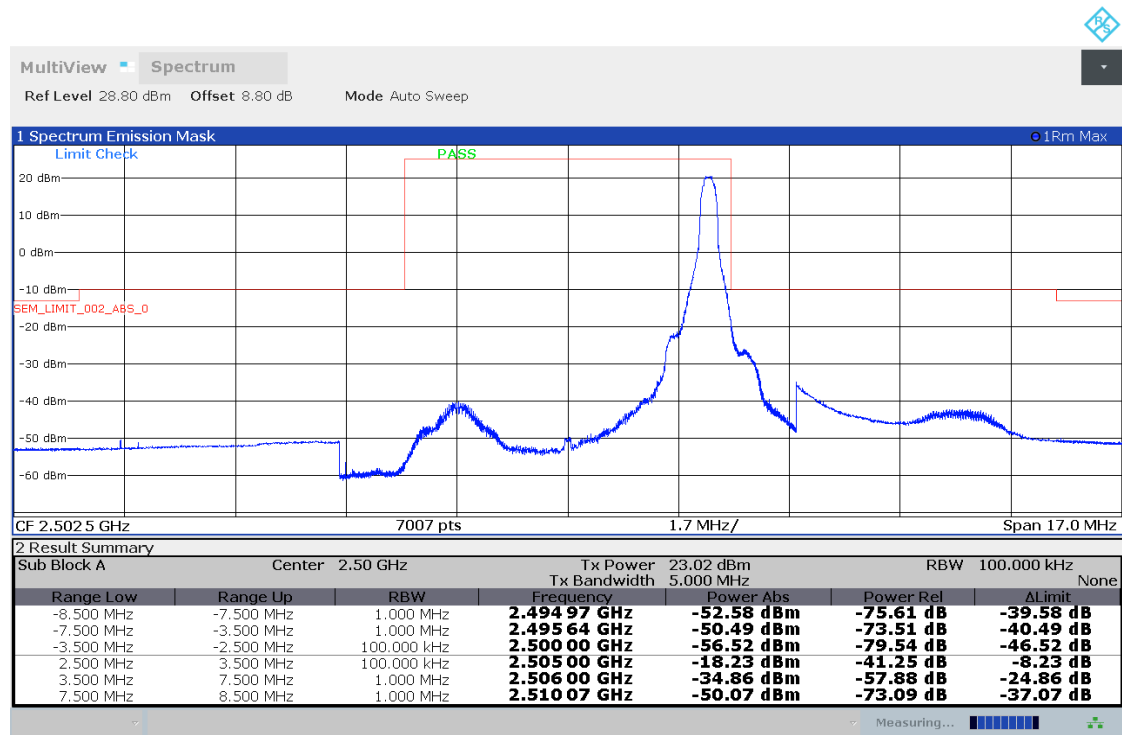
TM1_5MHz_LCH_RB25#0



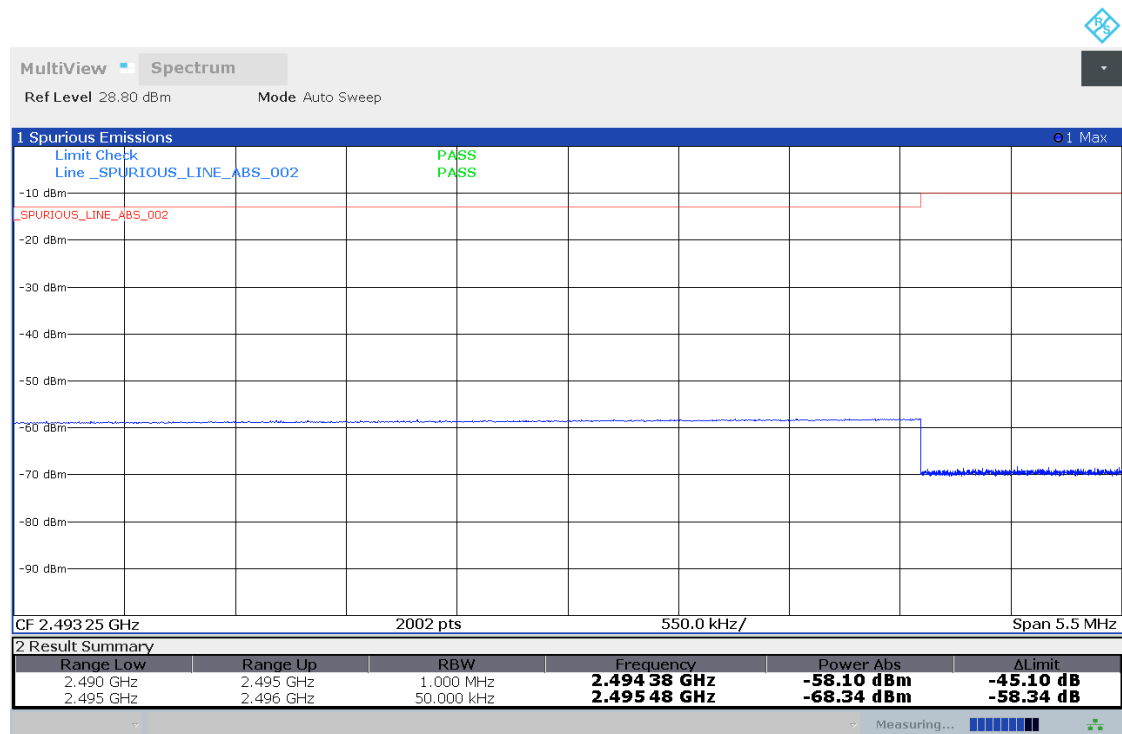
TM1_5MHz_LCH_RB1#0



TM1_5MHz_LCH_RB1#24

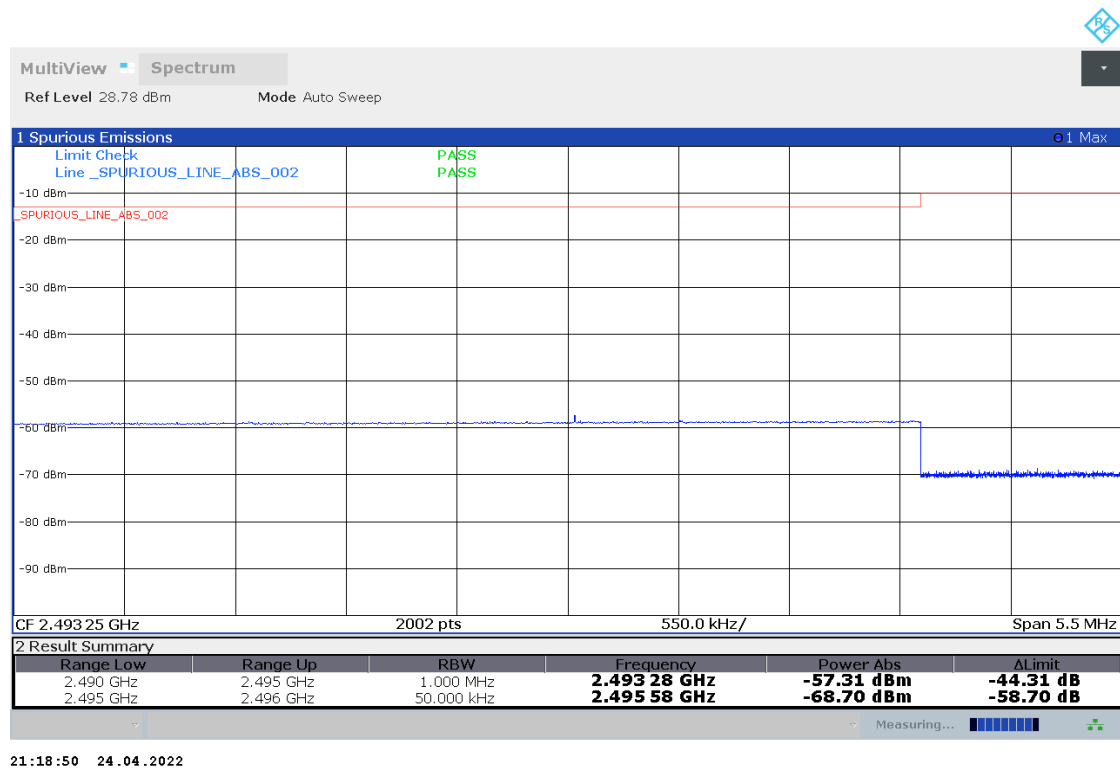
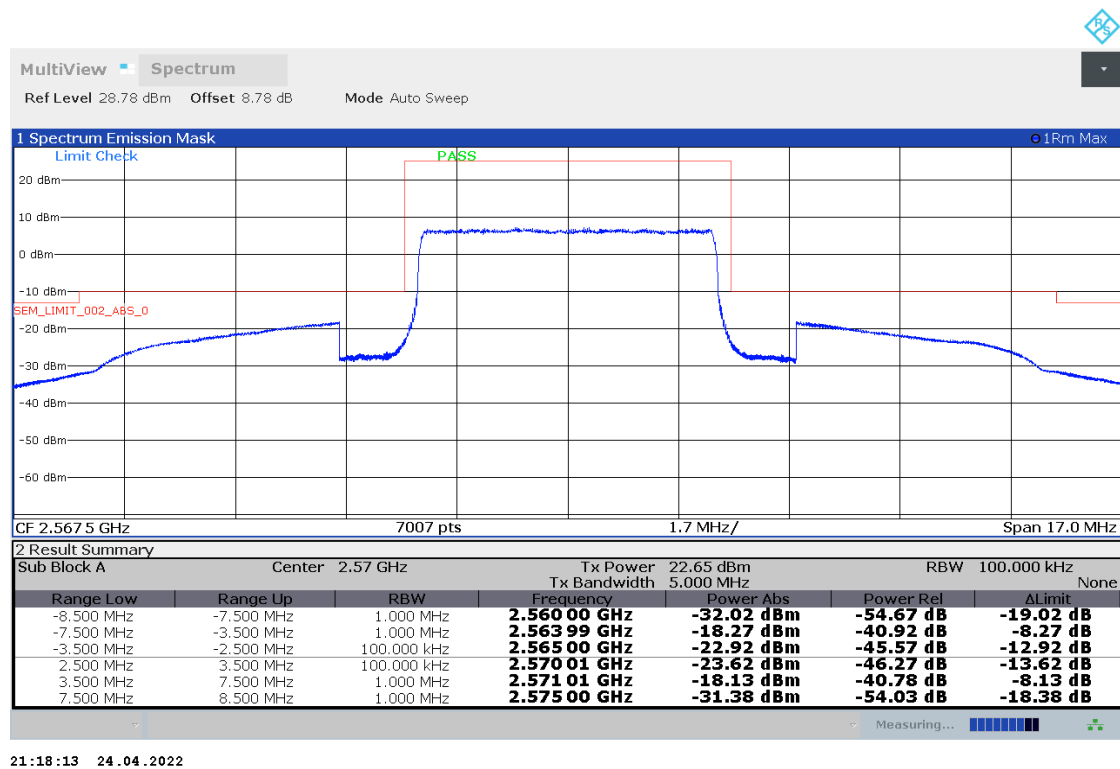


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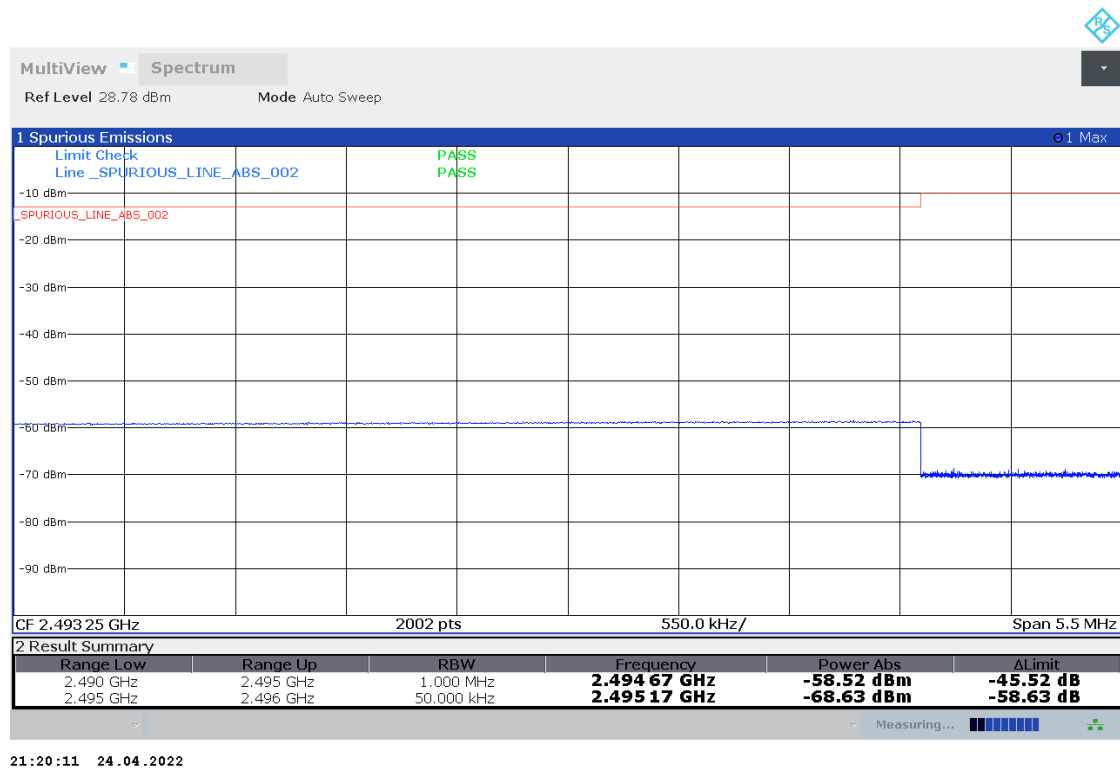
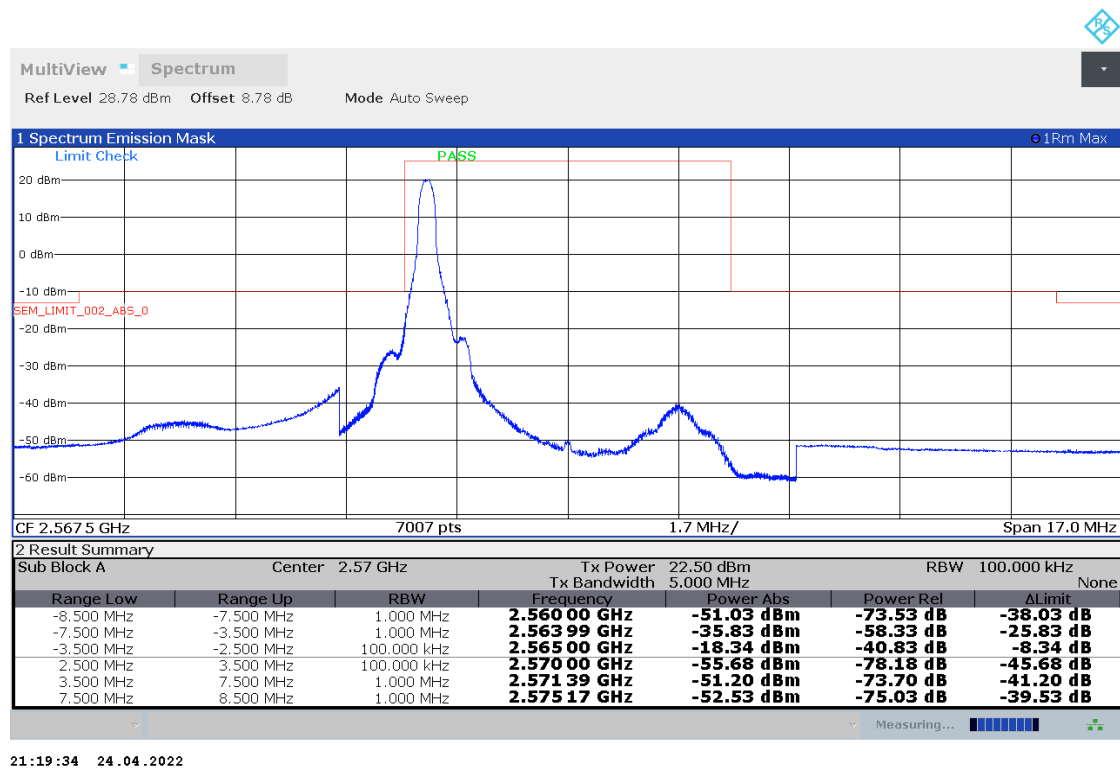


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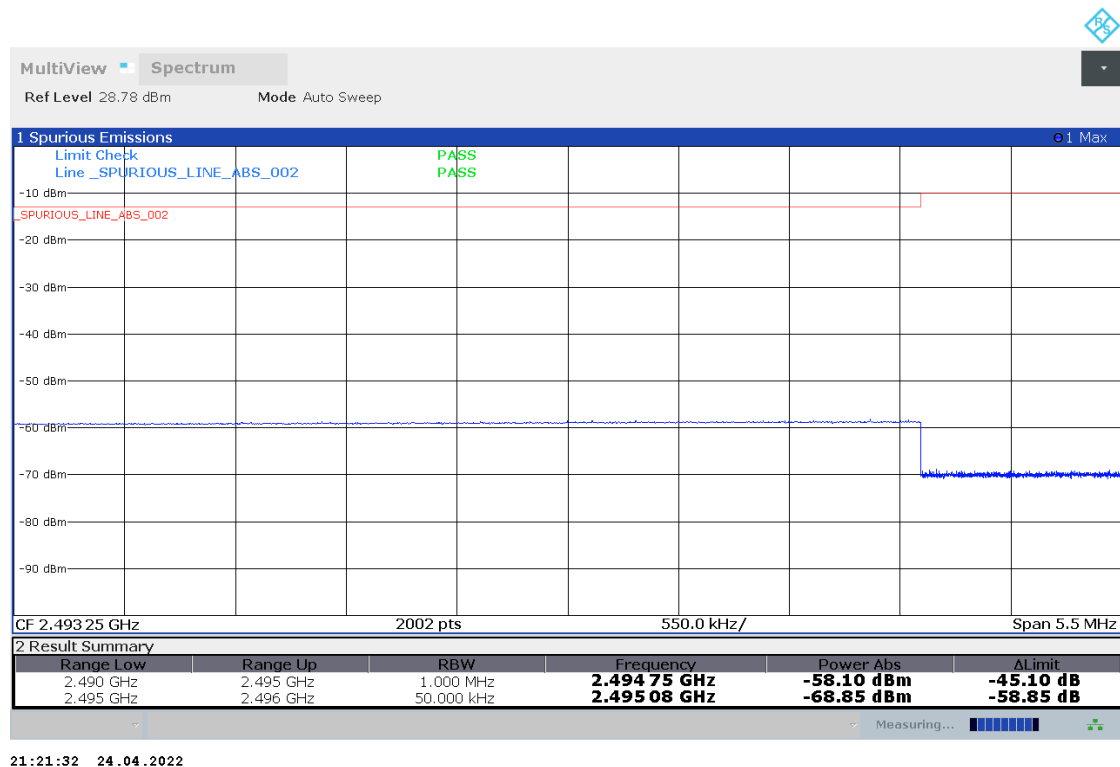
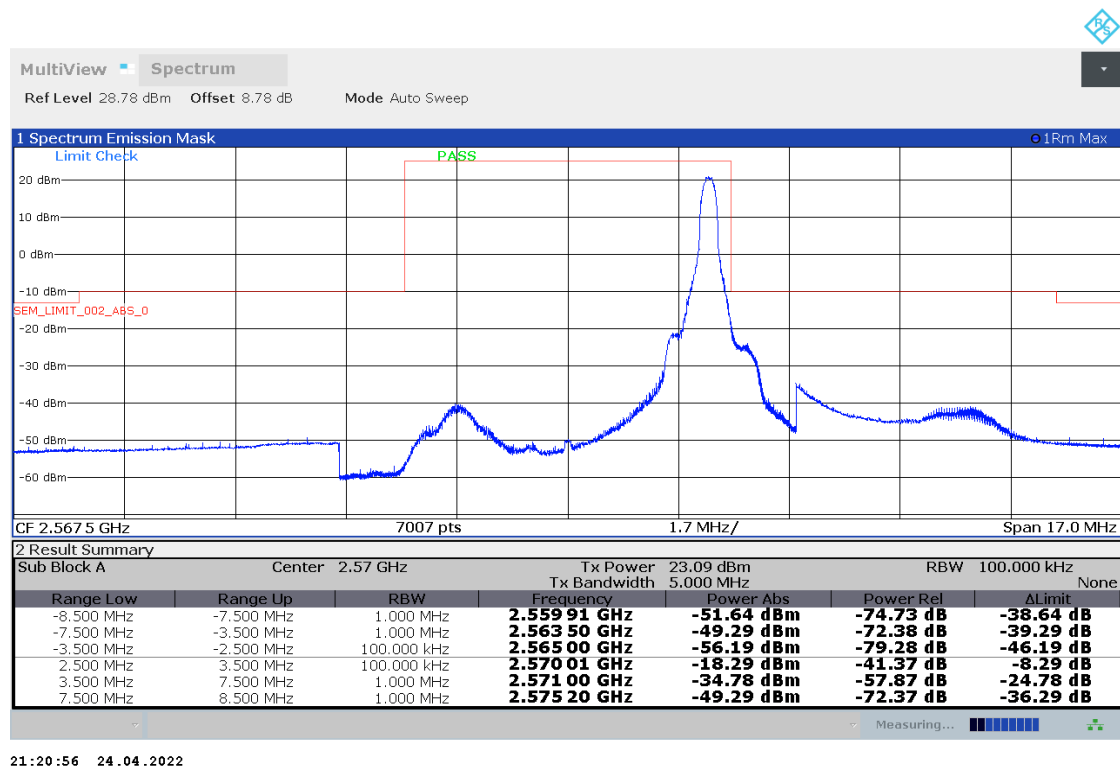
TM1_5MHz_HCH_RB25#0



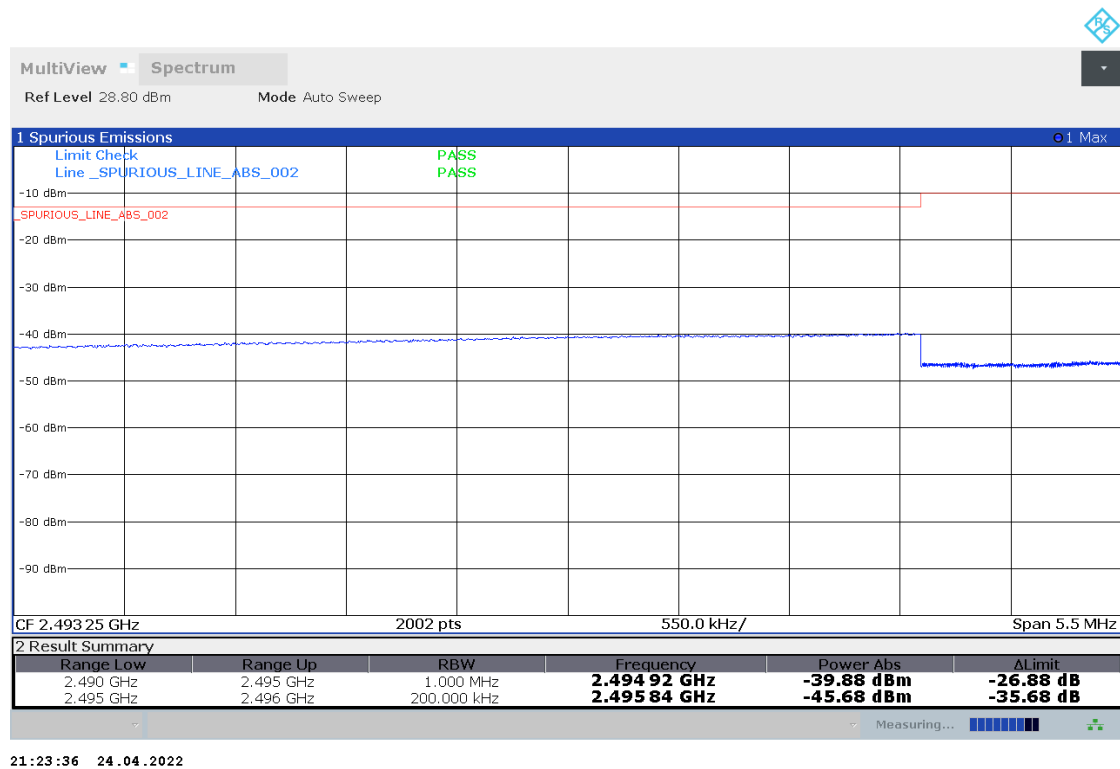
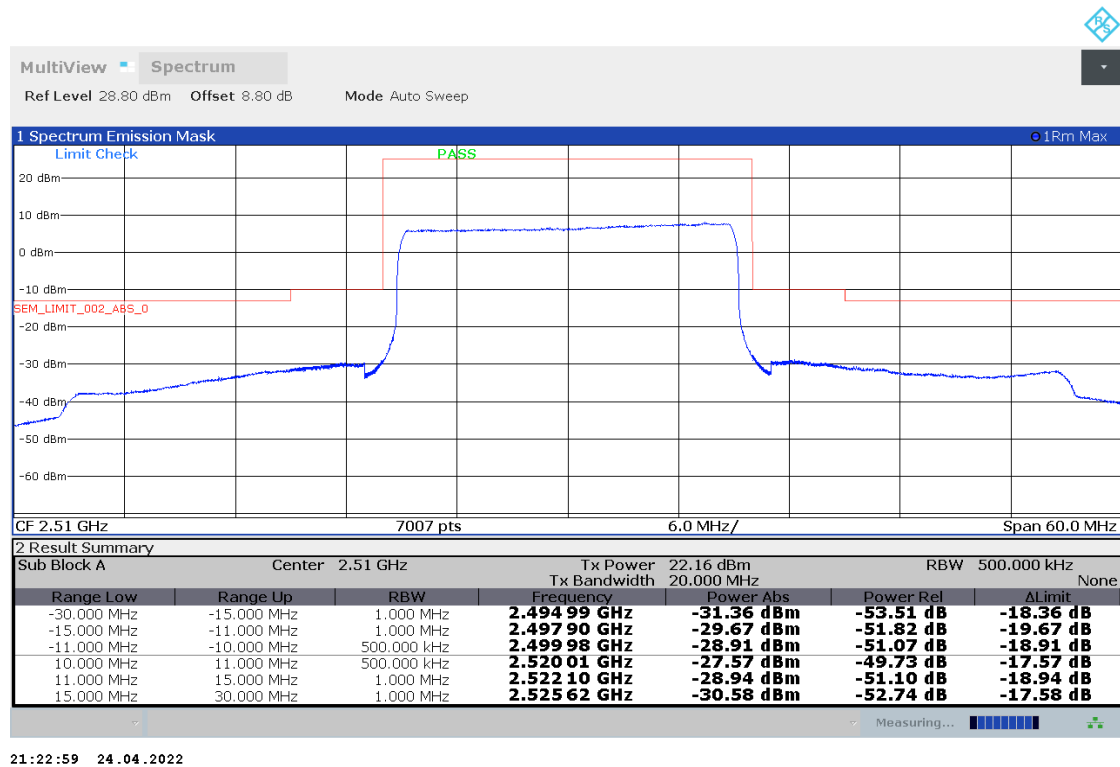
TM1_5MHz_HCH_RB1#0



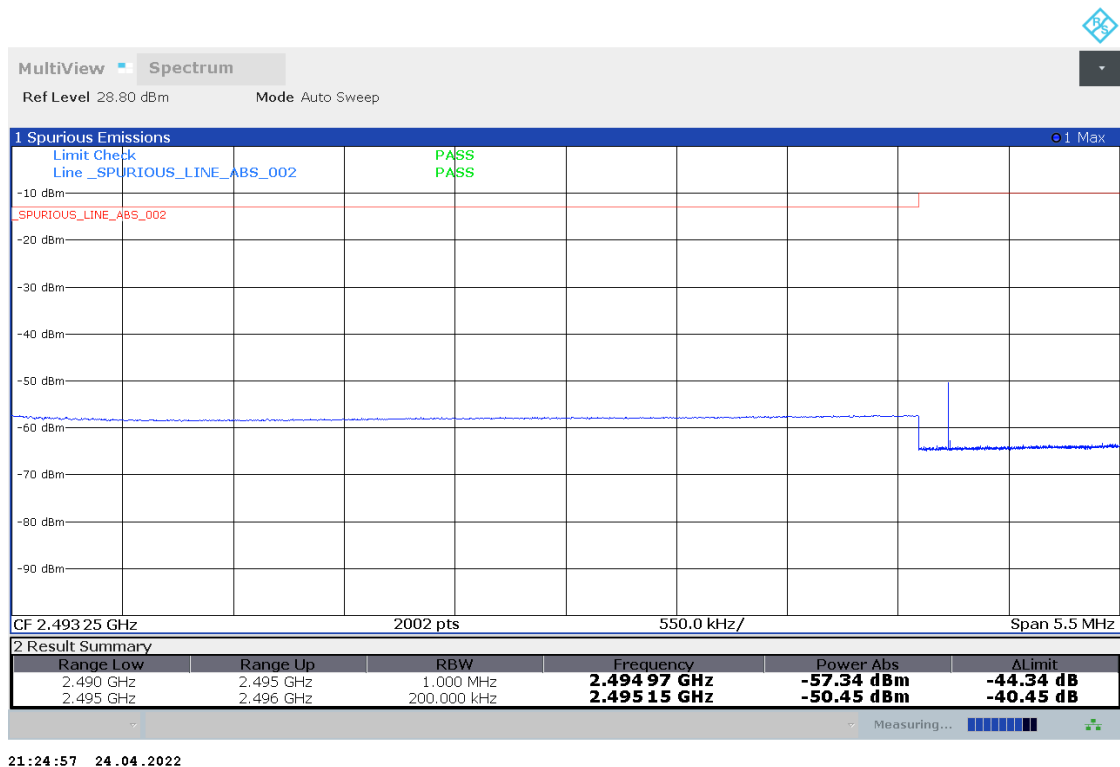
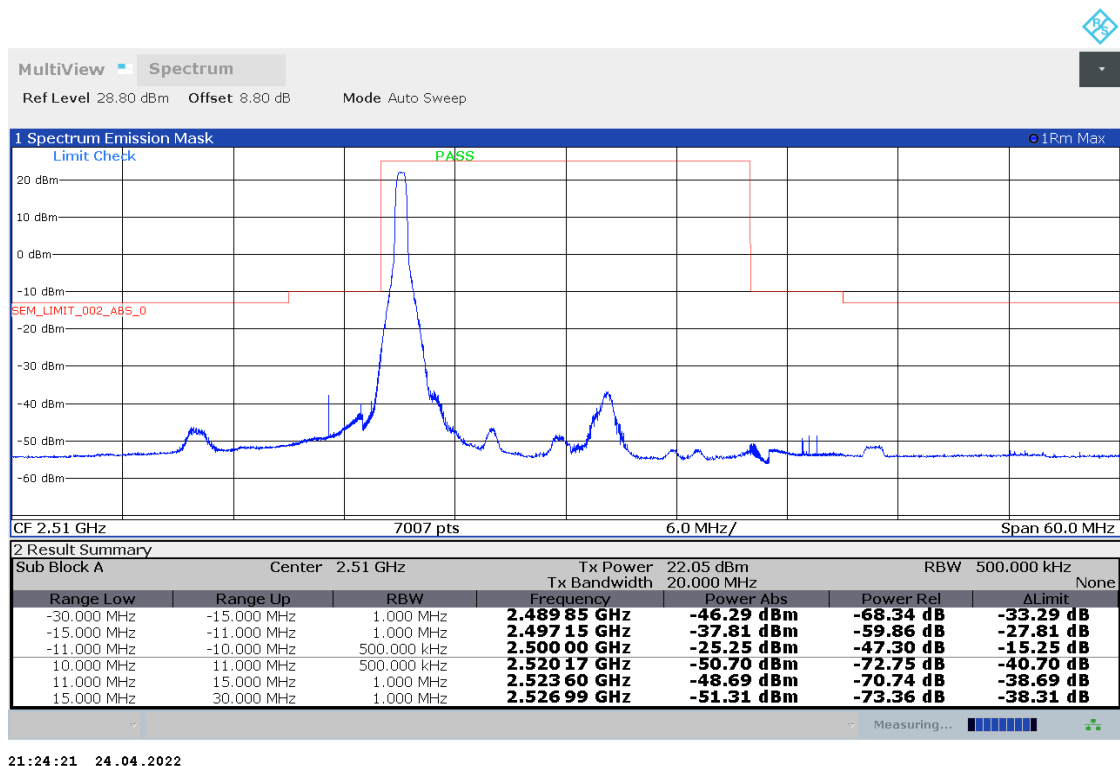
TM1_5MHz_HCH_RB1#24



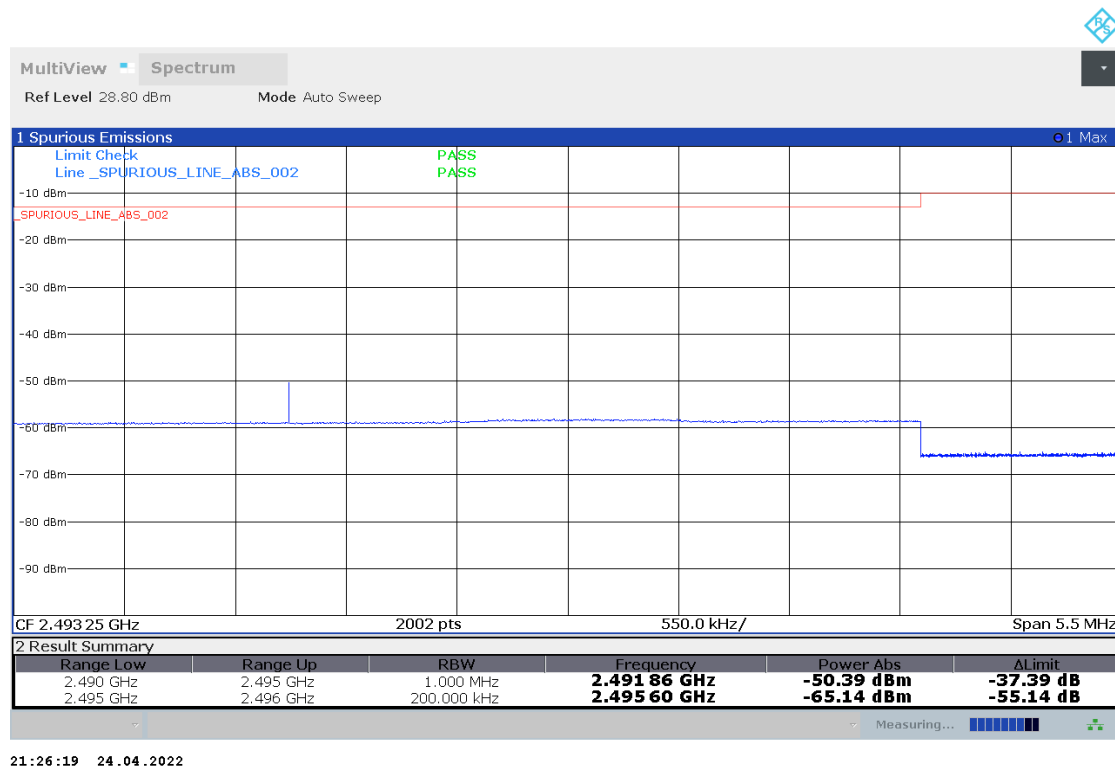
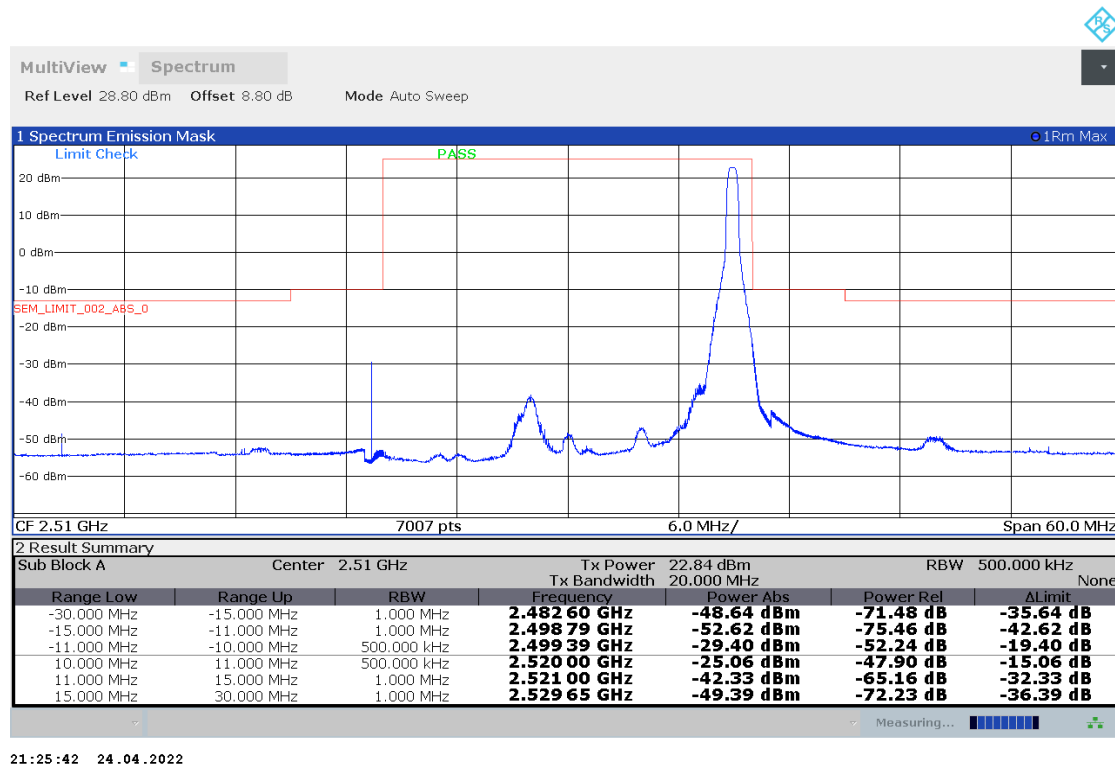
TM1_20MHz_LCH_RB100#0



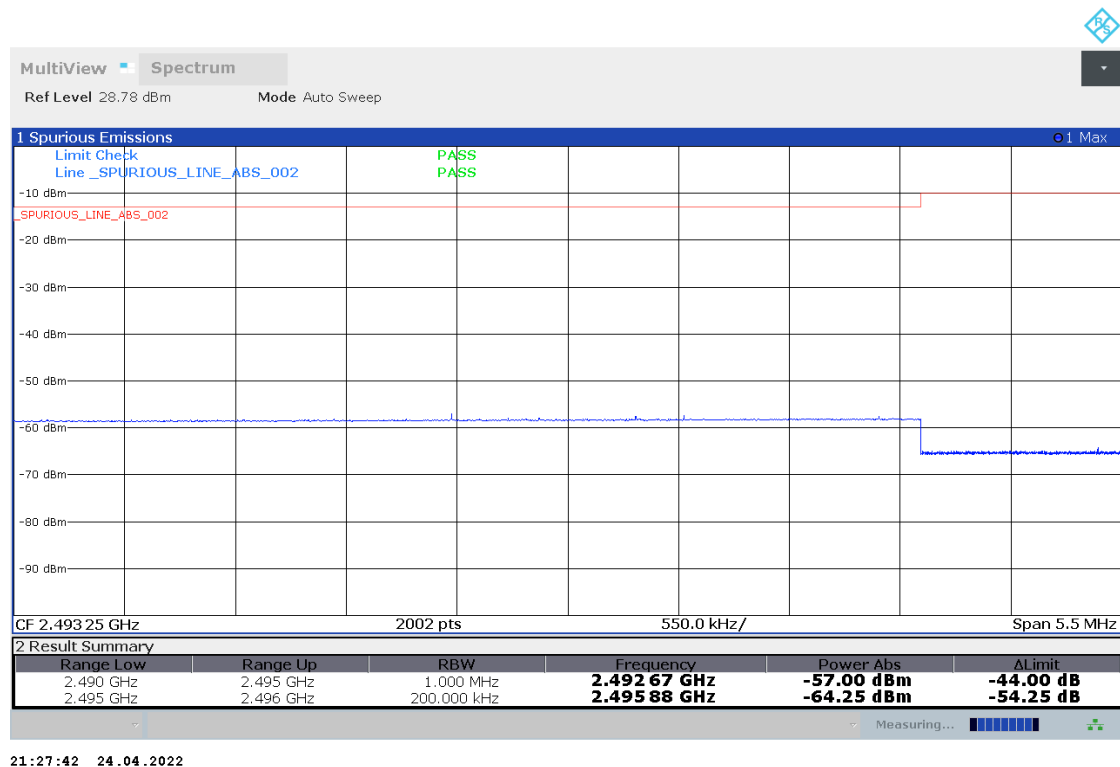
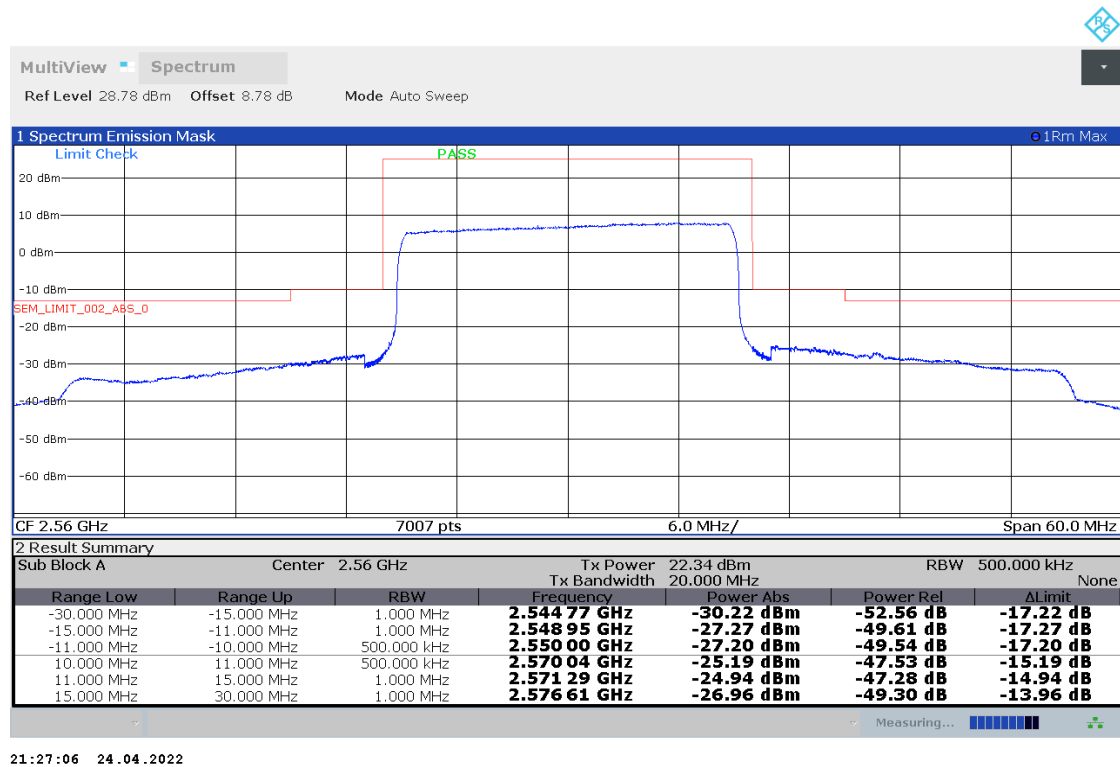
TM1_20MHz_LCH_RB1#0



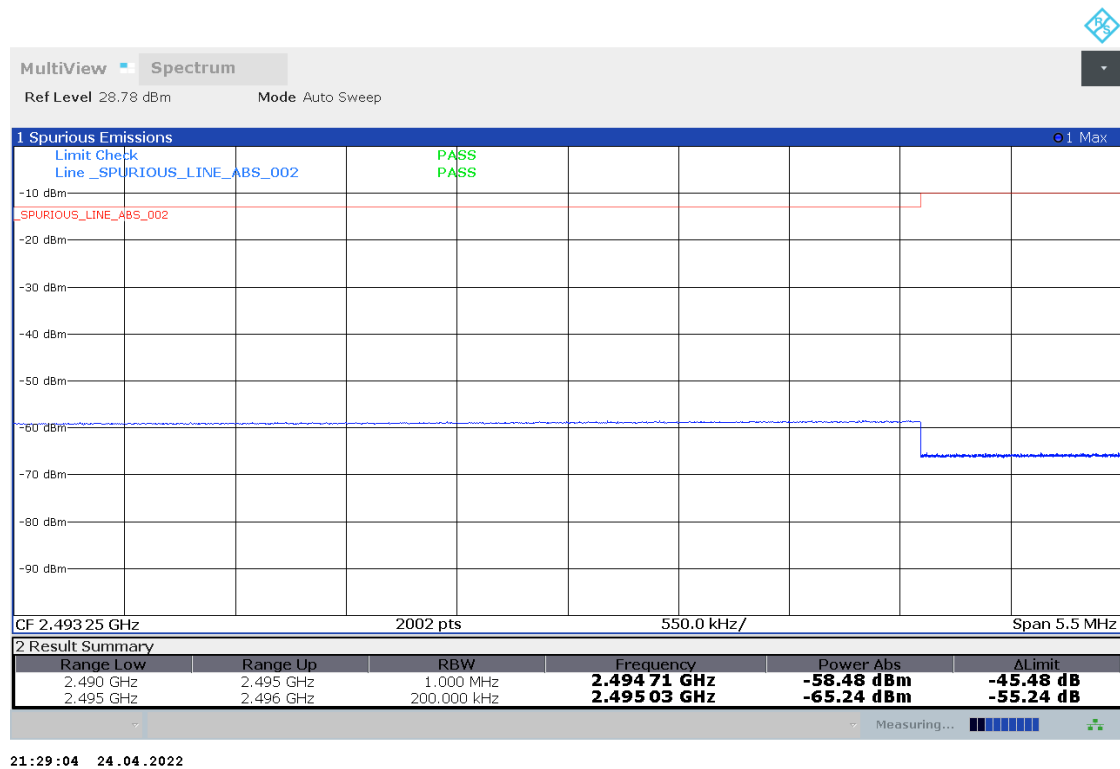
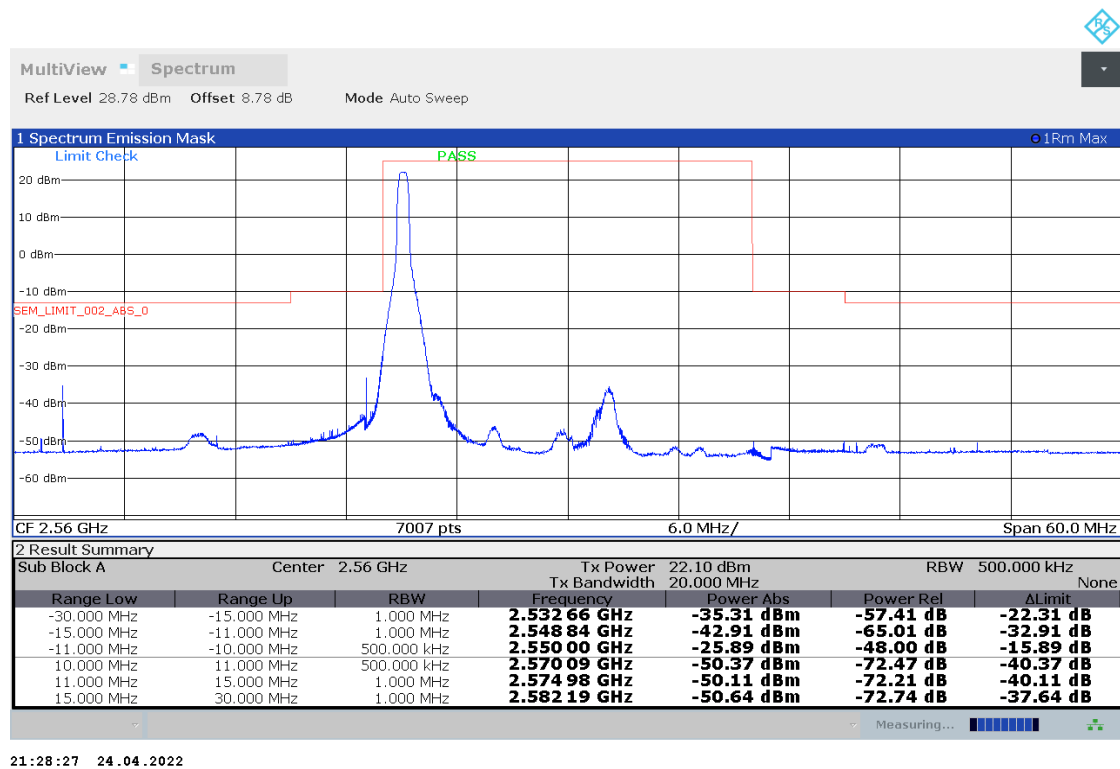
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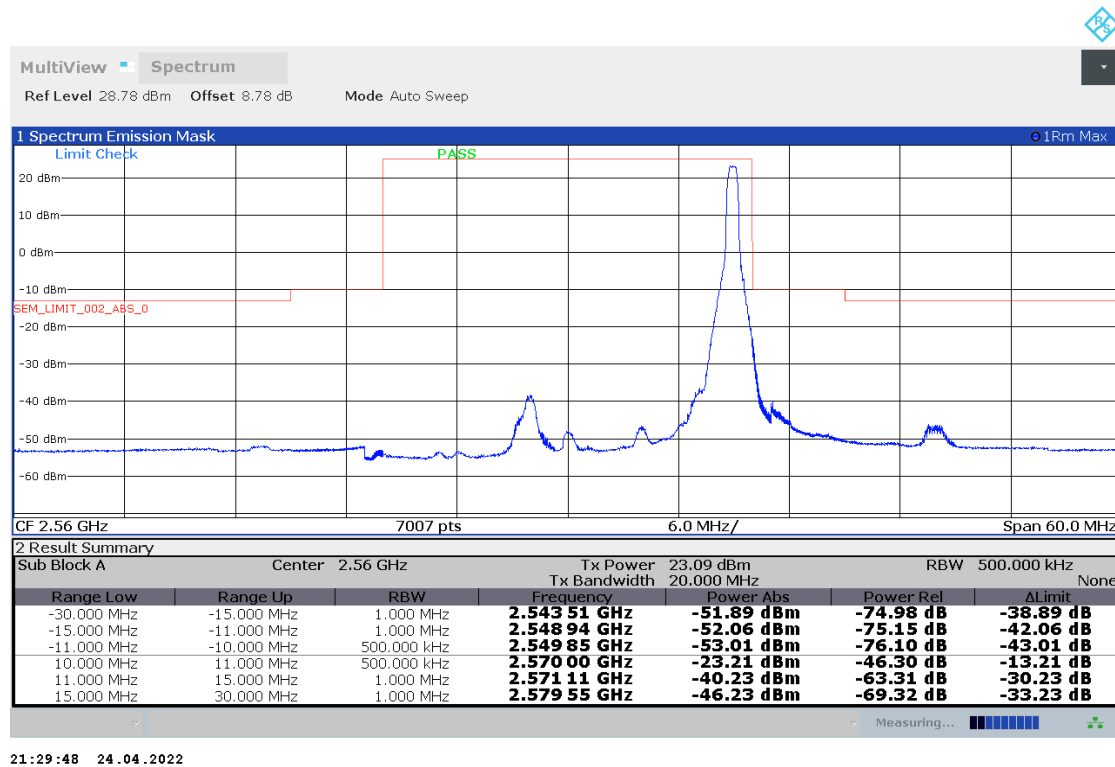
TM1_20MHz_HCH_RB100#0



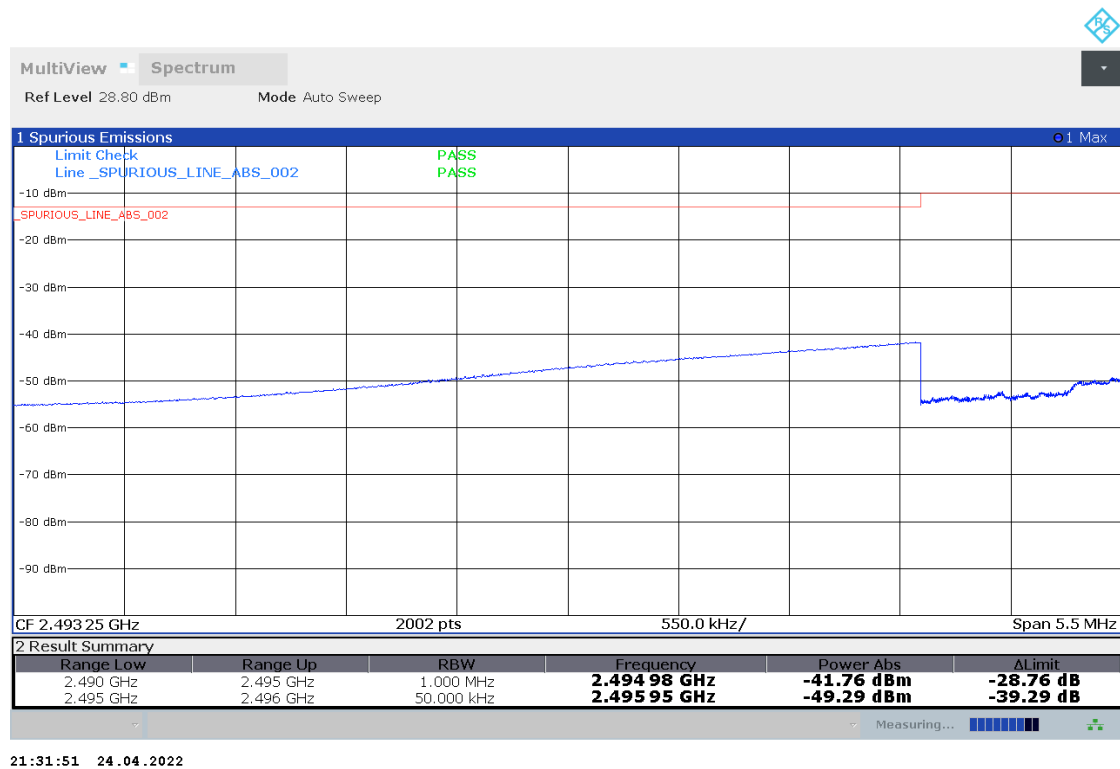
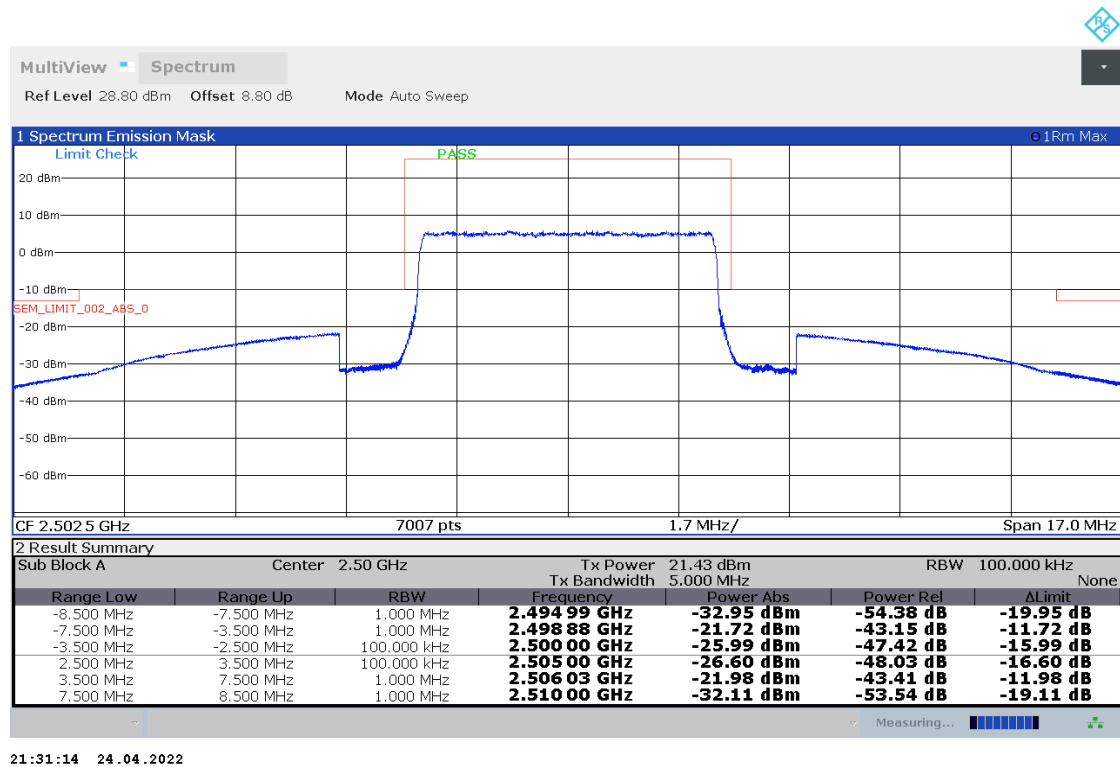
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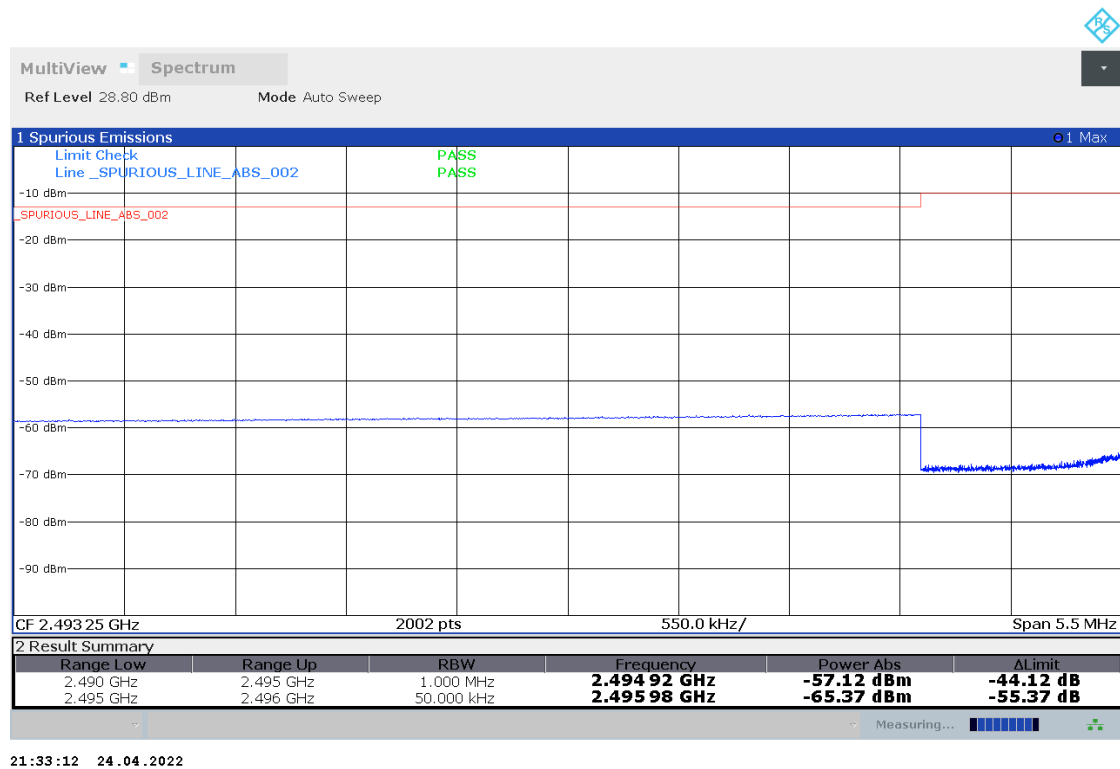
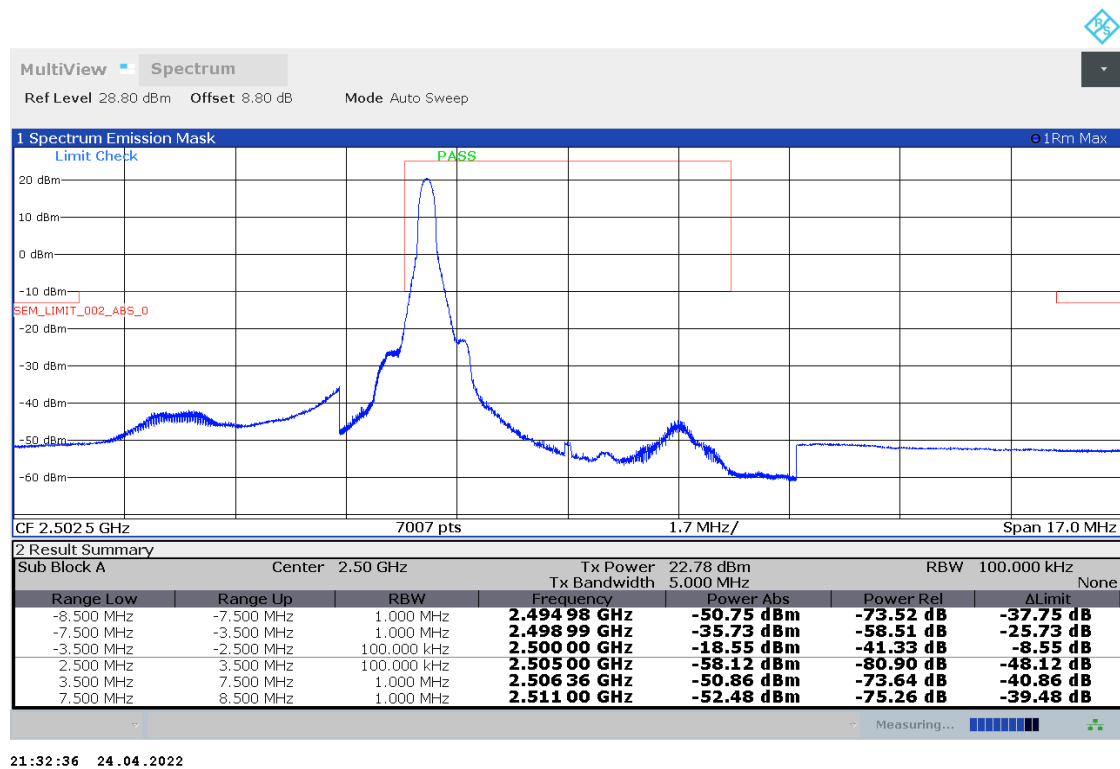
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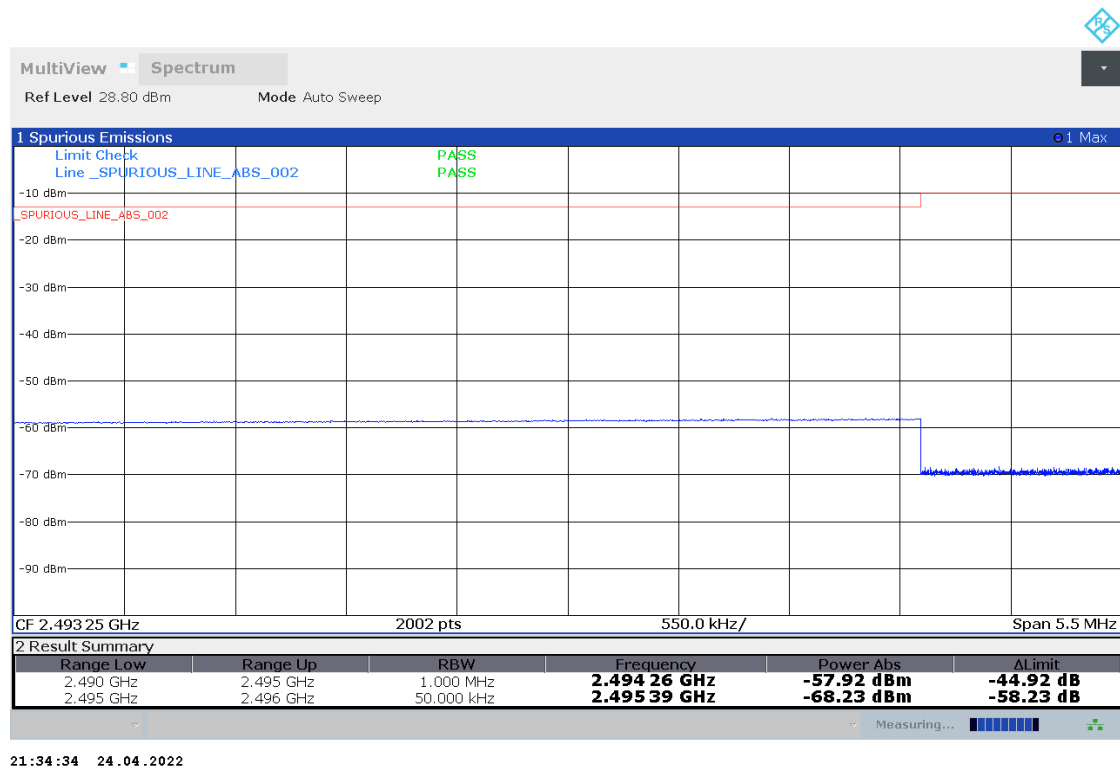
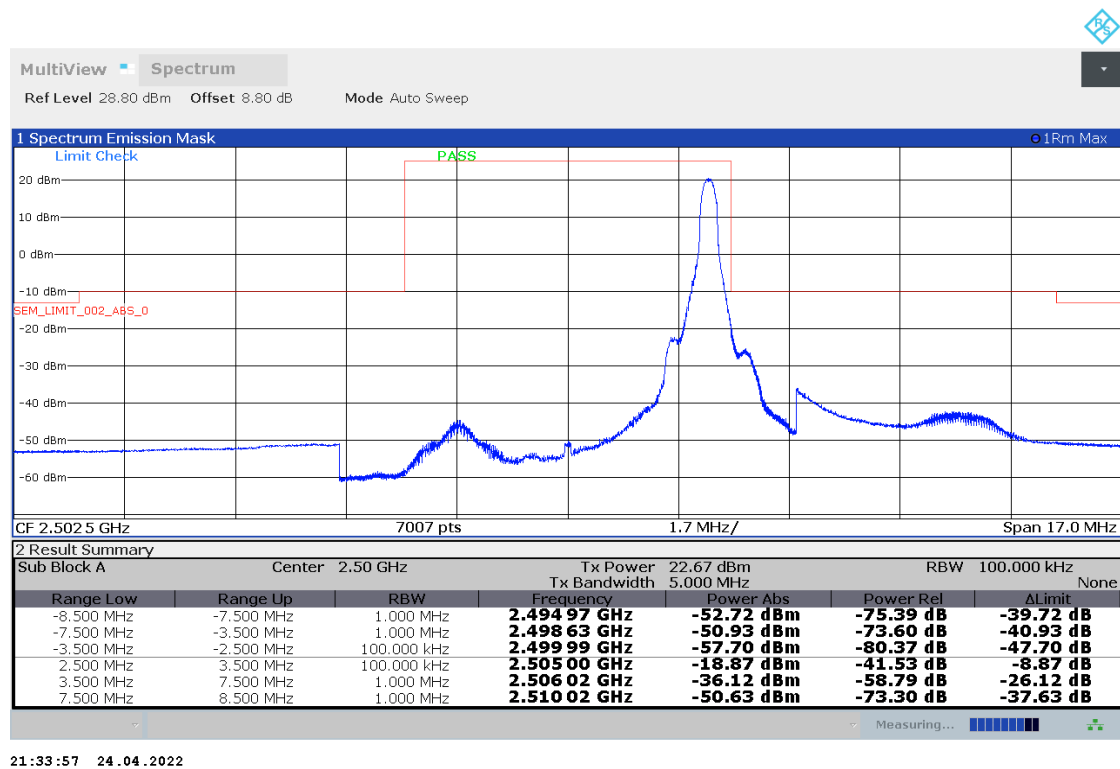
TM2_5MHz_LCH_RB25#0



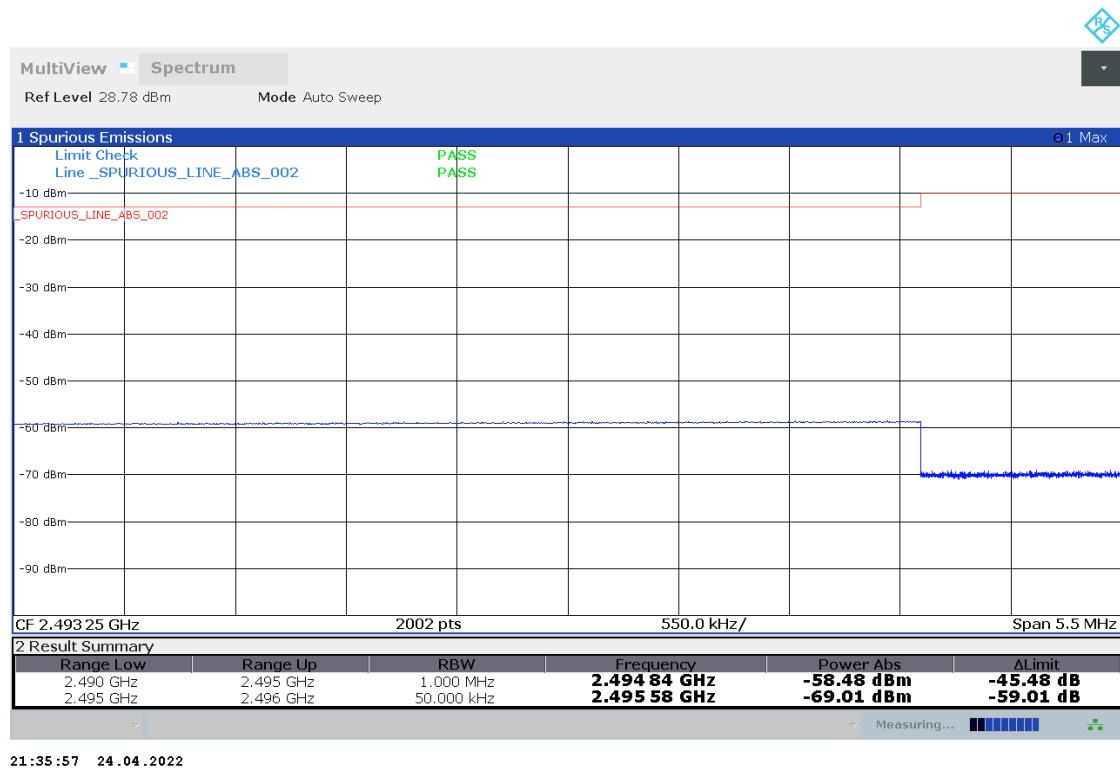
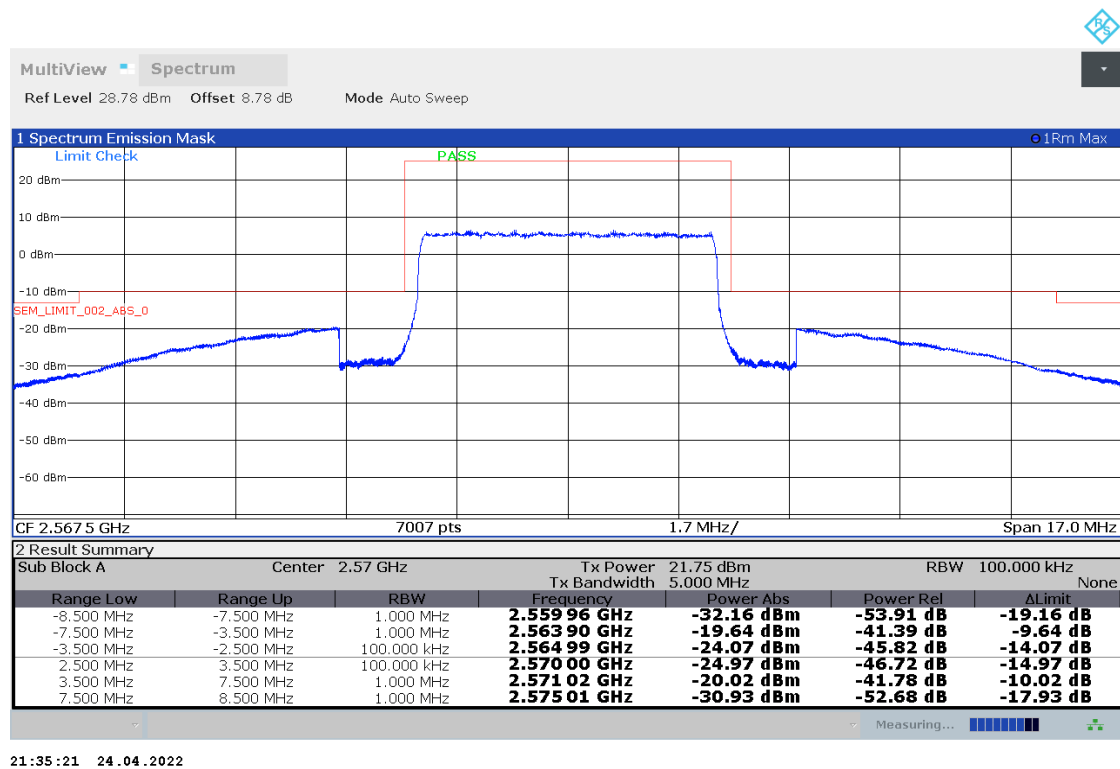
TM2_5MHz_LCH_RB1#0



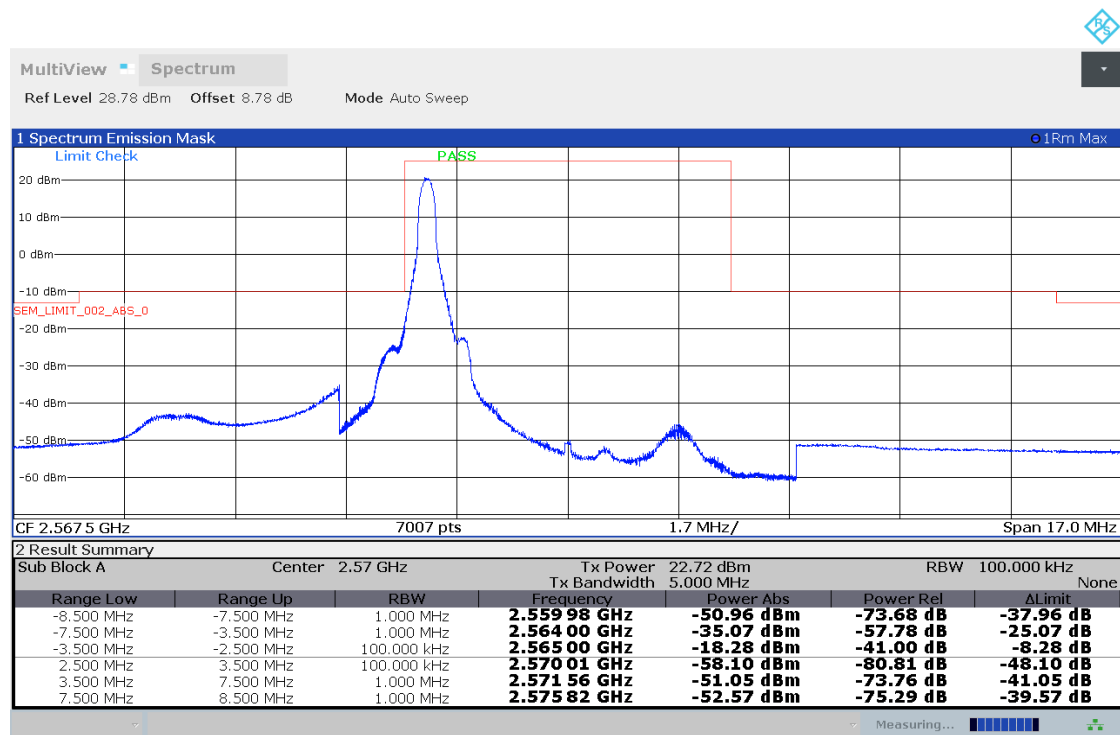
TM2_5MHz_LCH_RB1#24



TM2_5MHz_HCH_RB25#0



TM2_5MHz_HCH_RB1#0

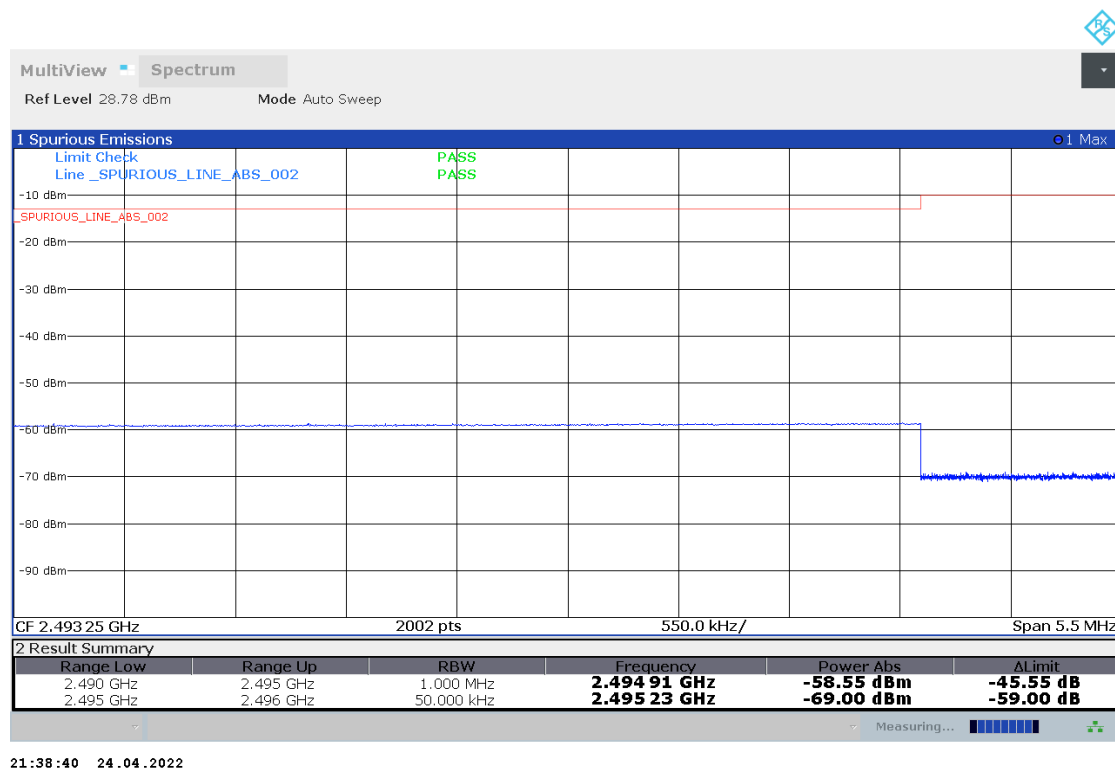
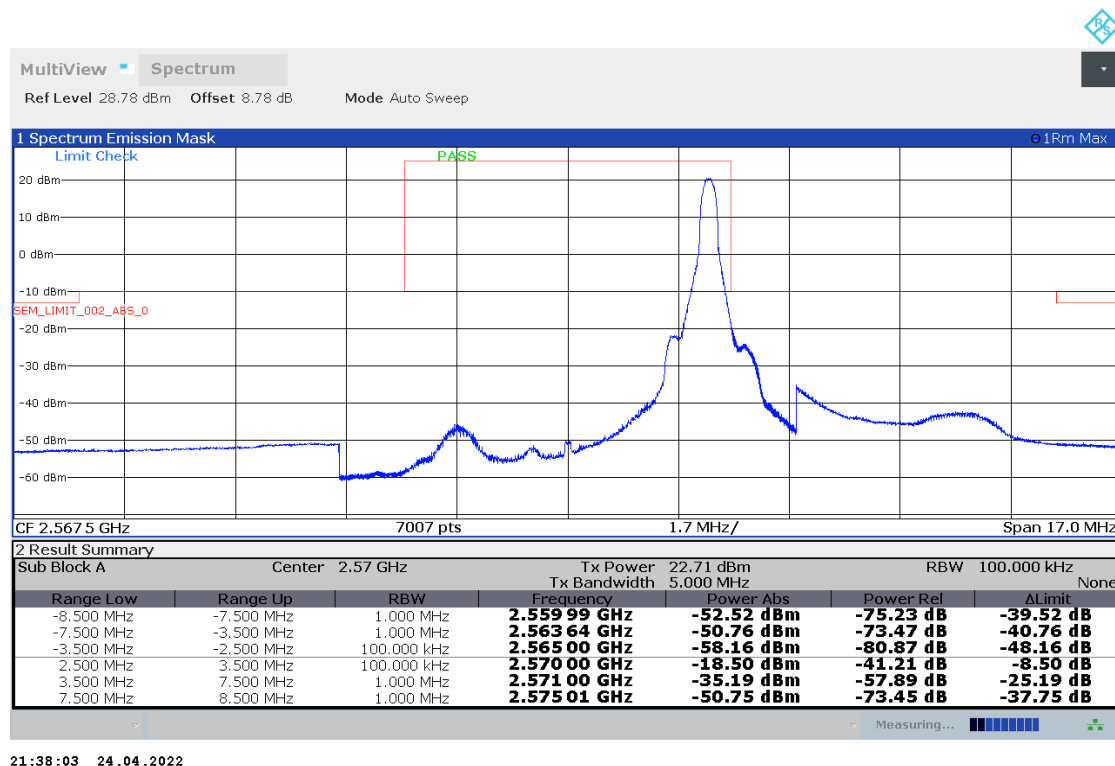


21:36:42 24.04.2022

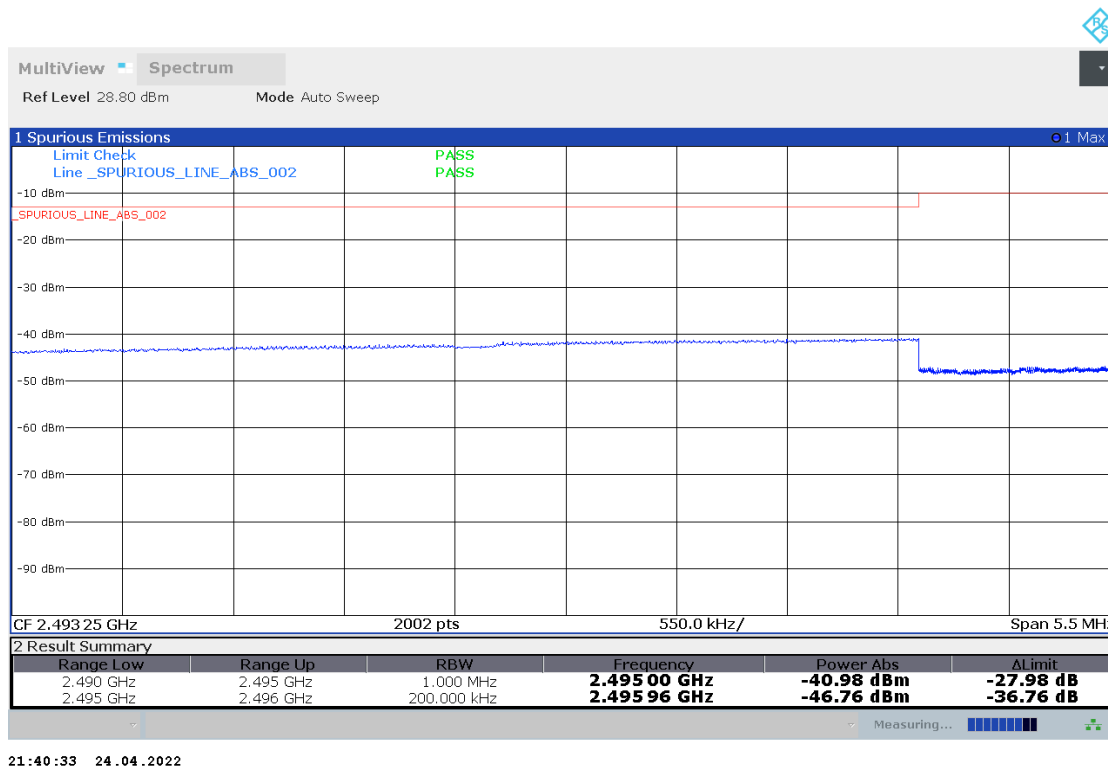
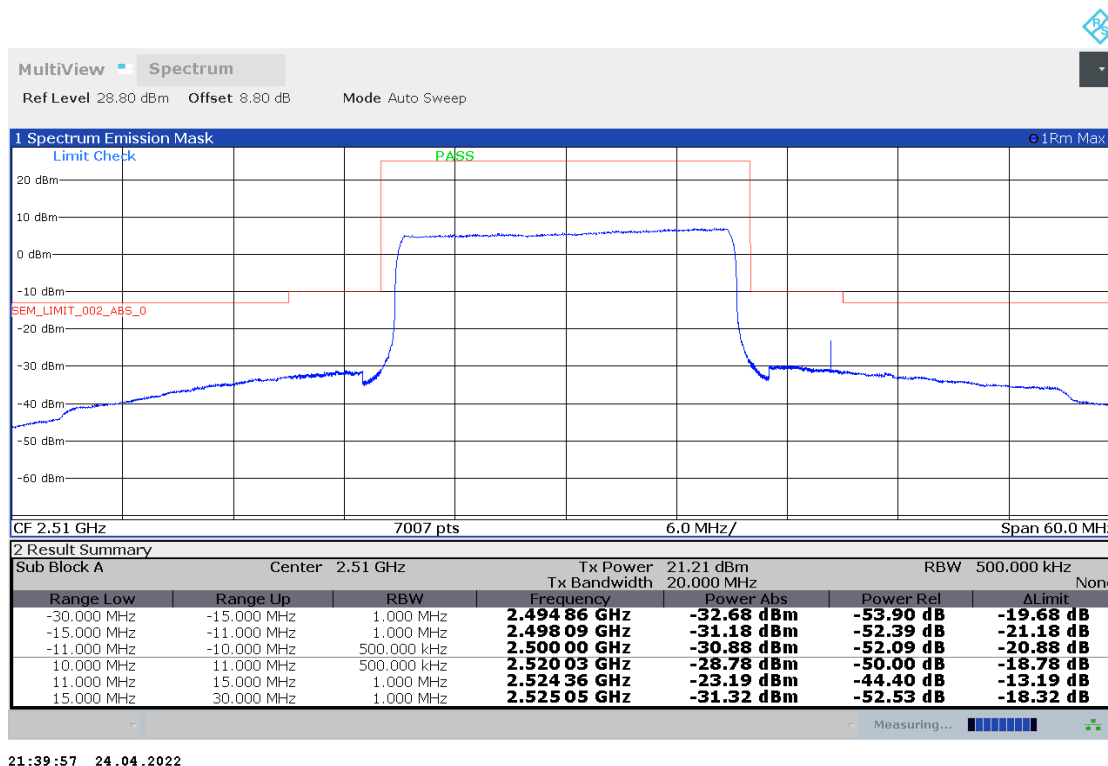


21:37:19 24.04.2022

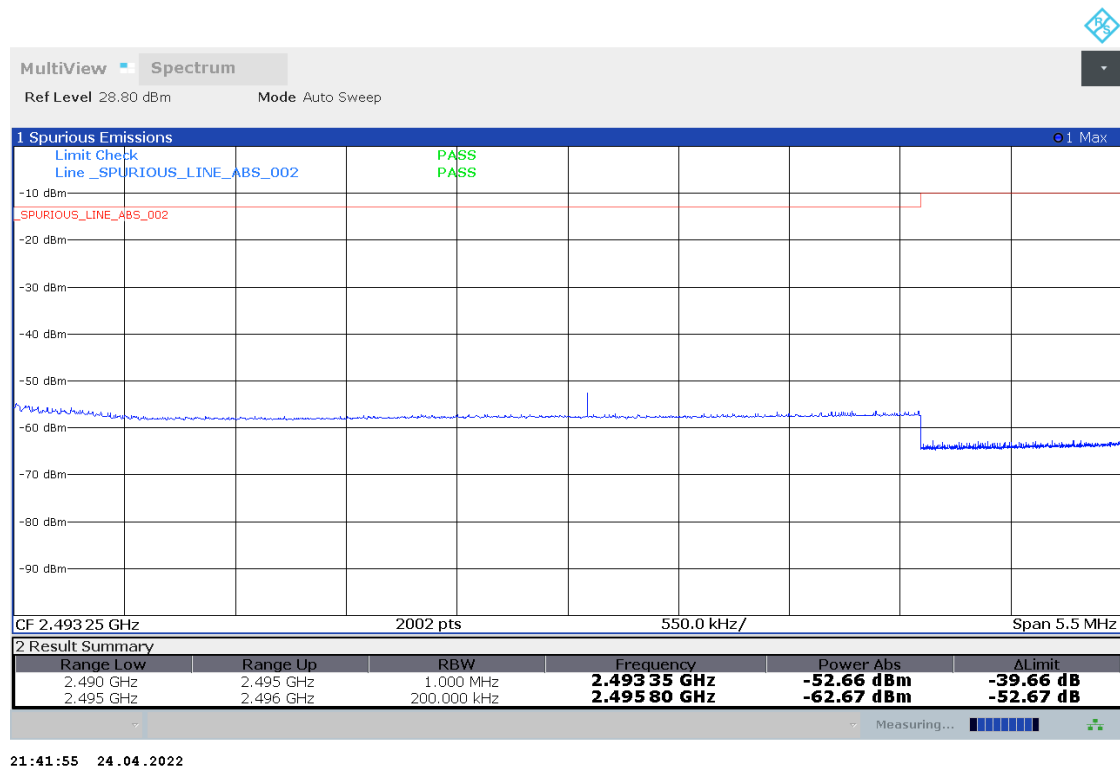
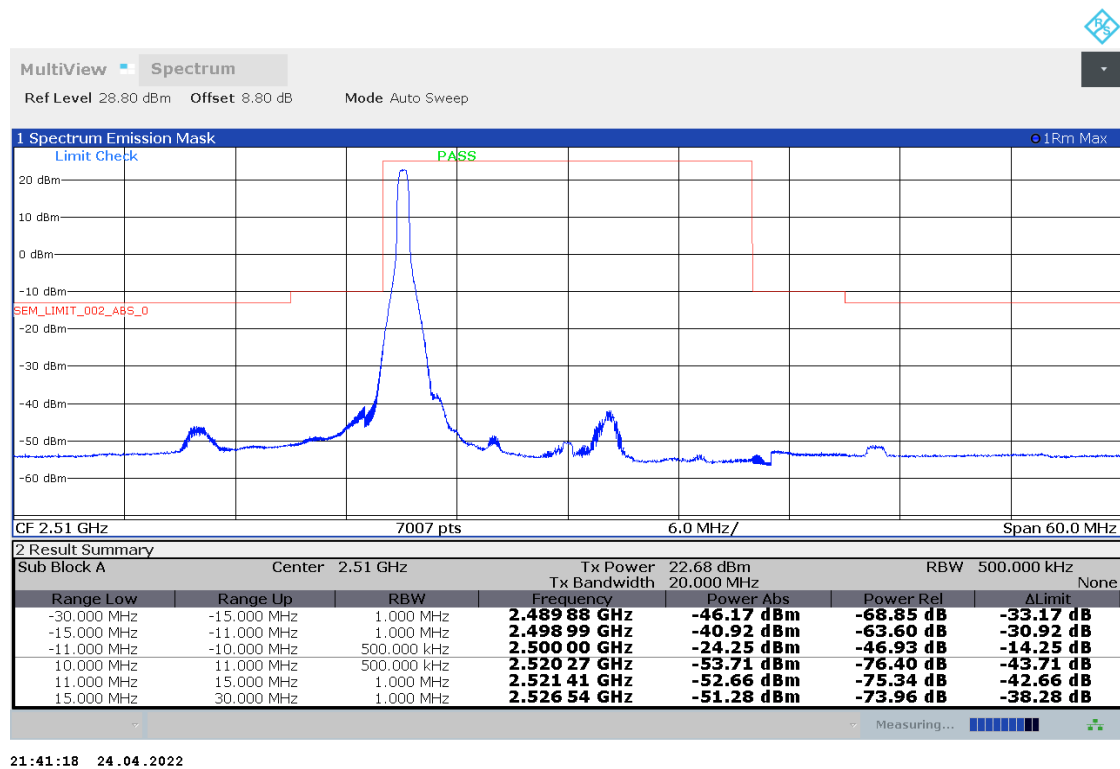
TM2_5MHz_HCH_RB1#24



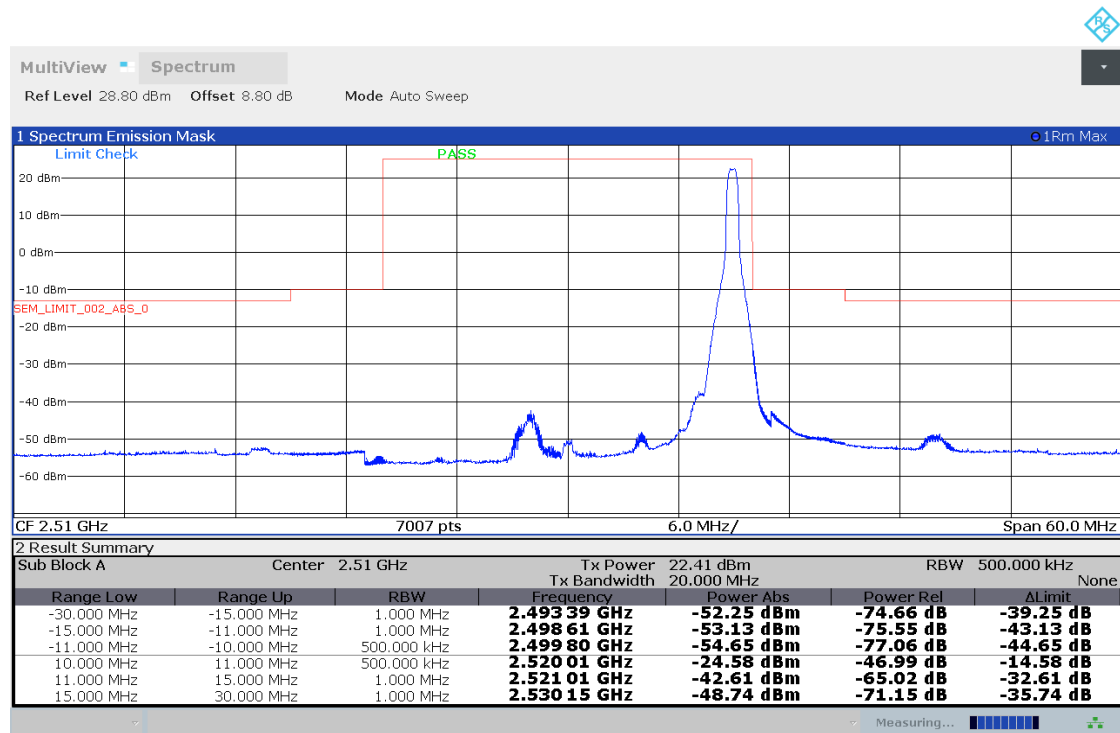
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TM2_20MHz_LCH_RB1#0



TM2_20MHz_LCH_RB1#99

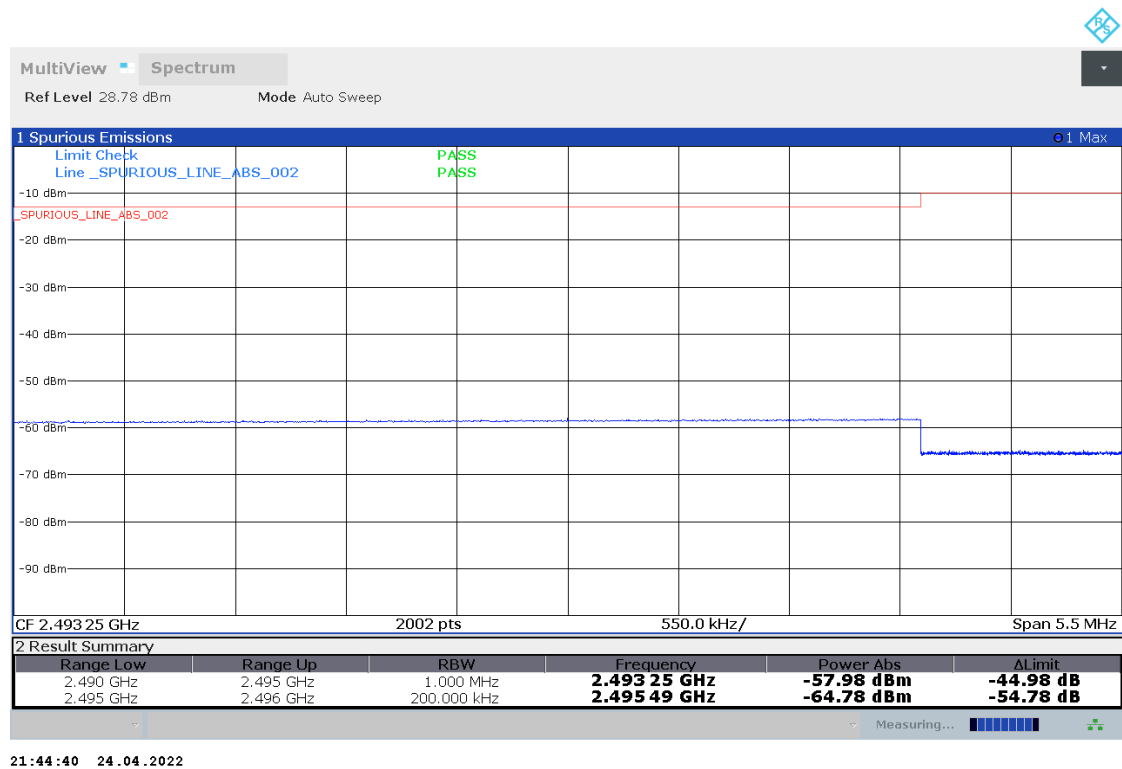
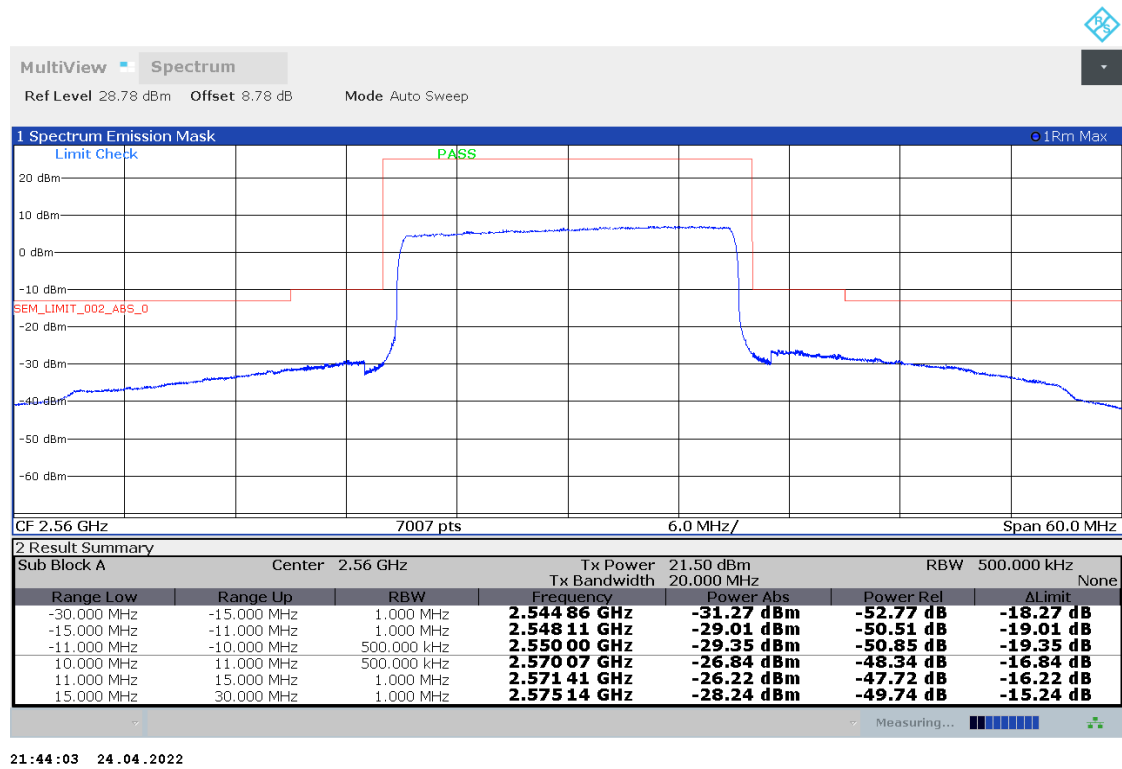


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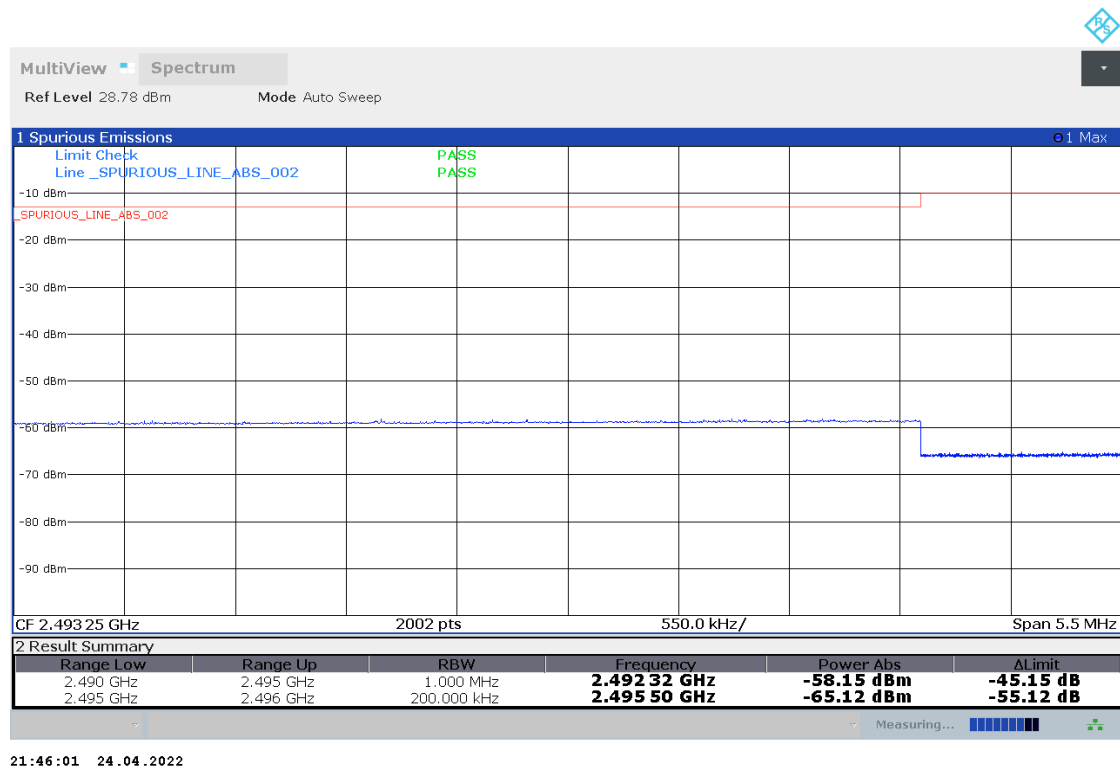
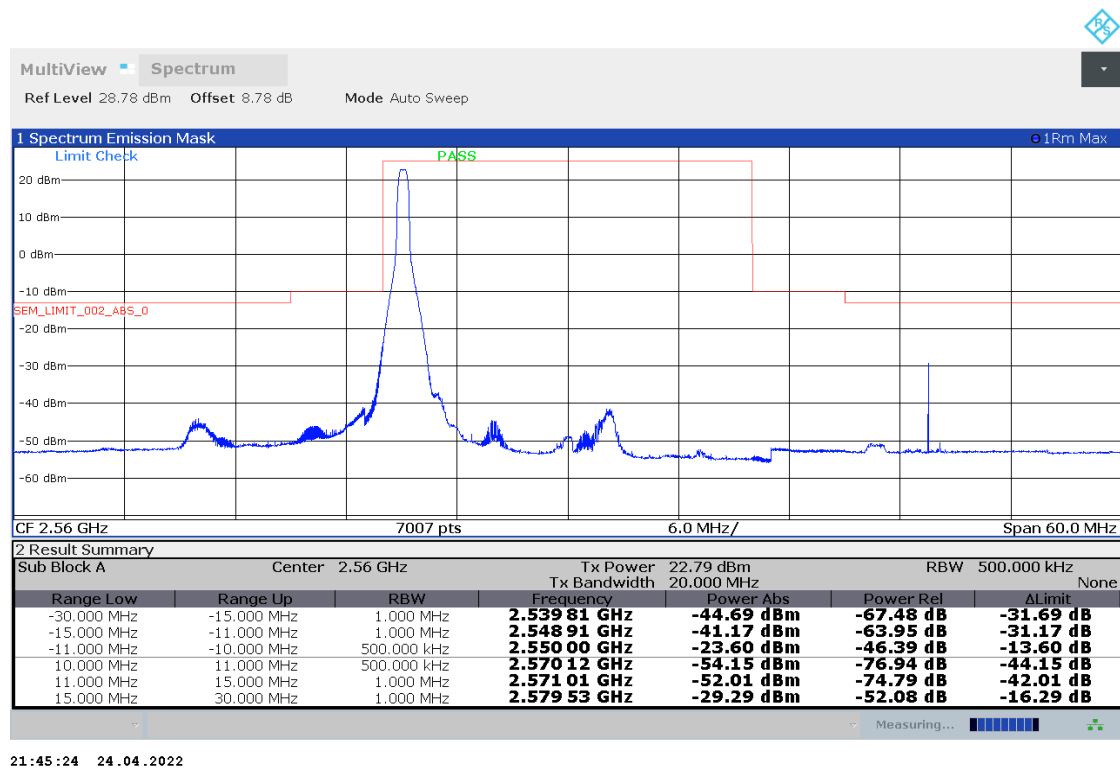


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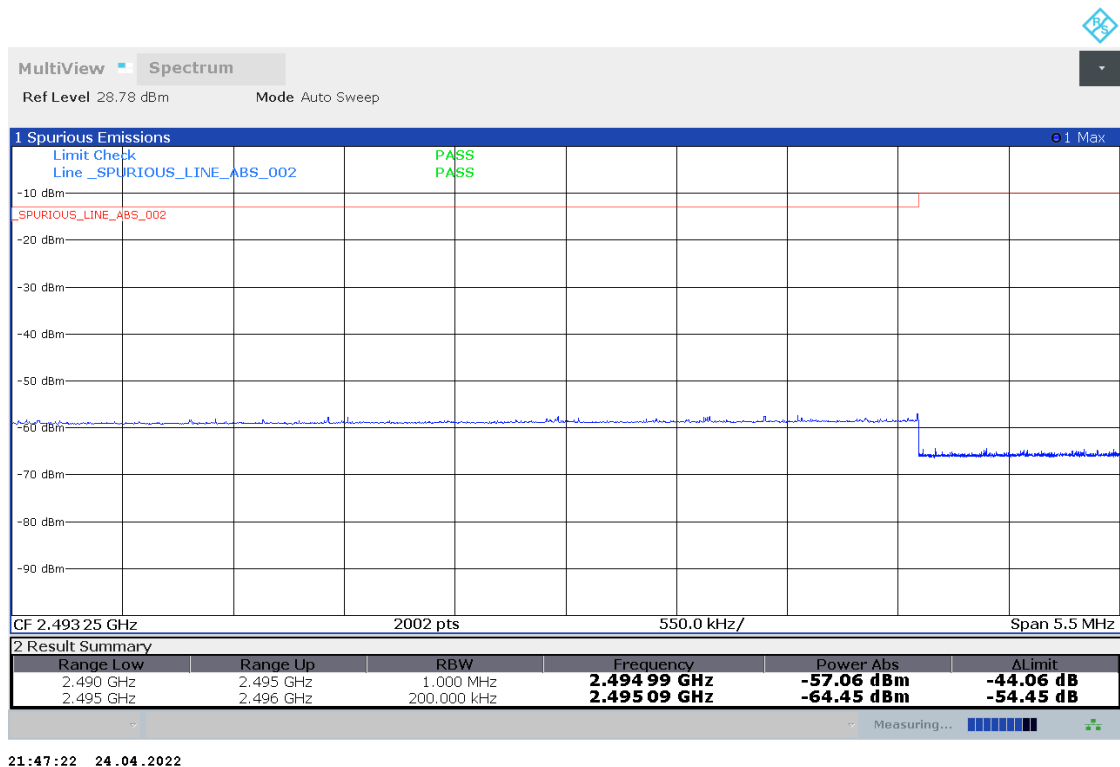
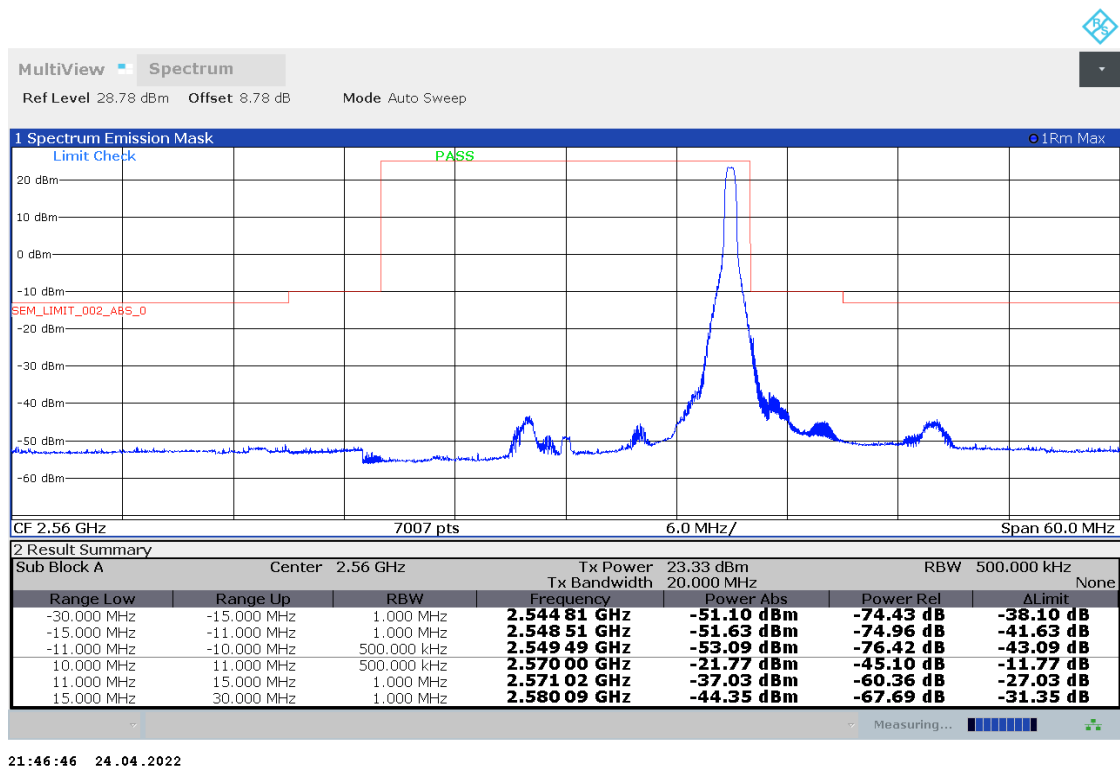
TM2_20MHz_HCH_RB100#0



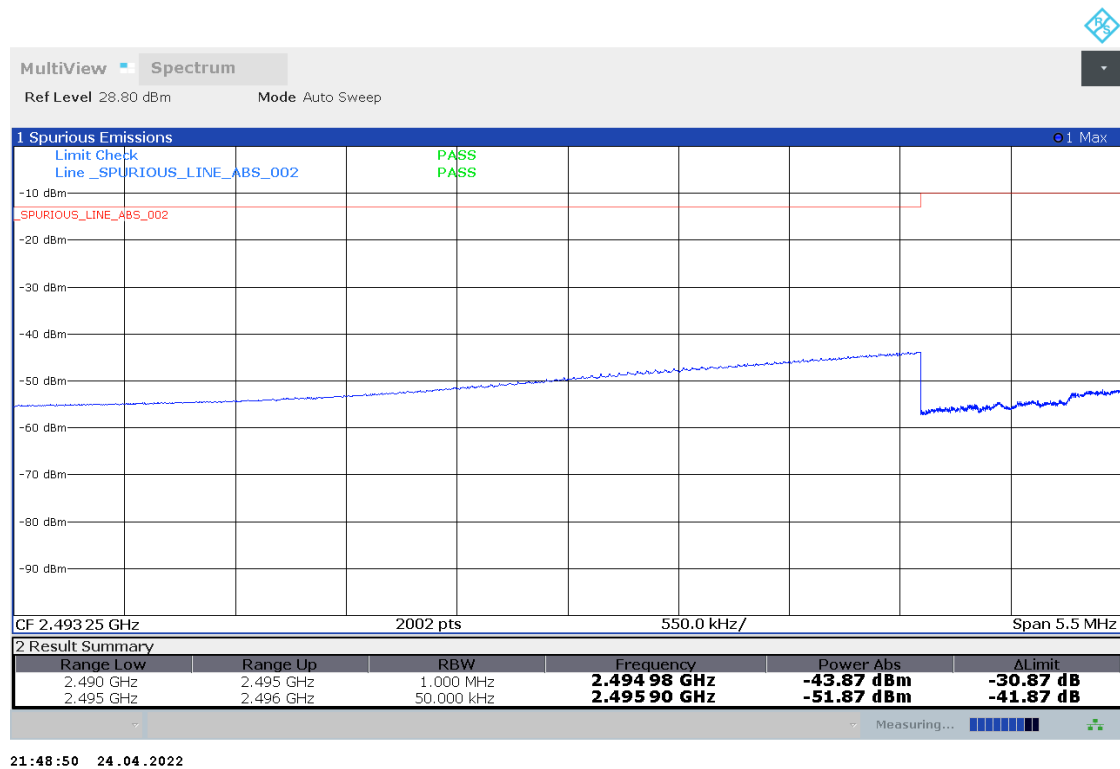
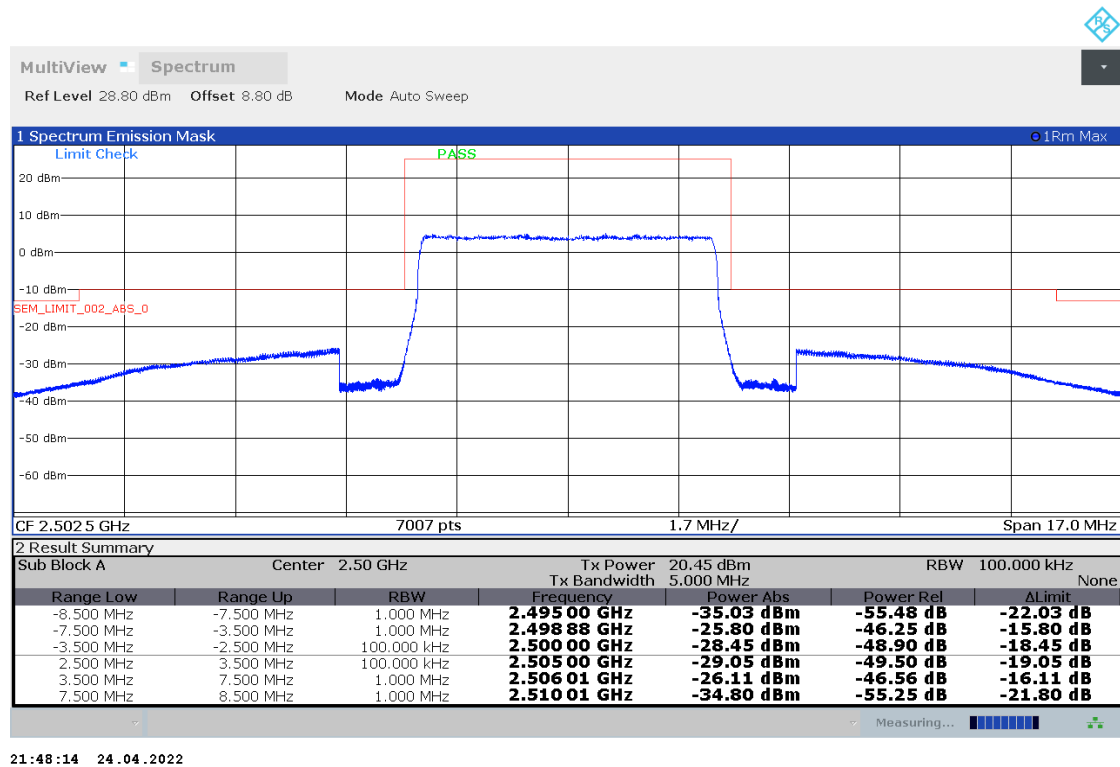
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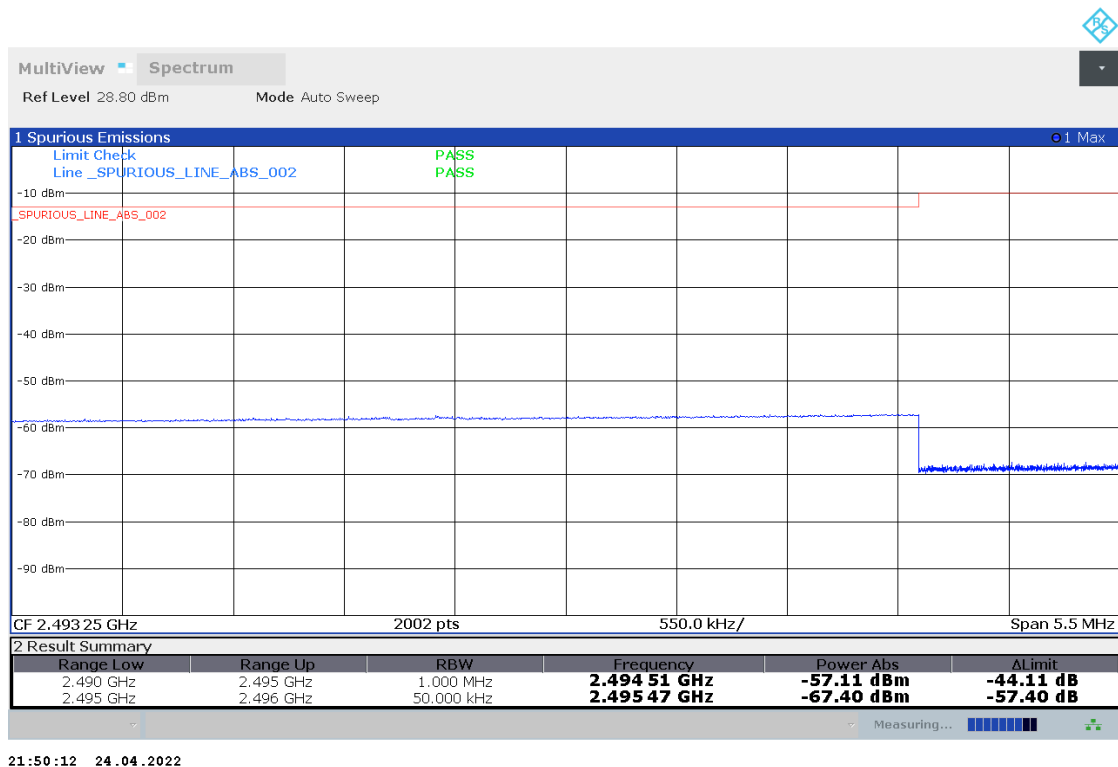
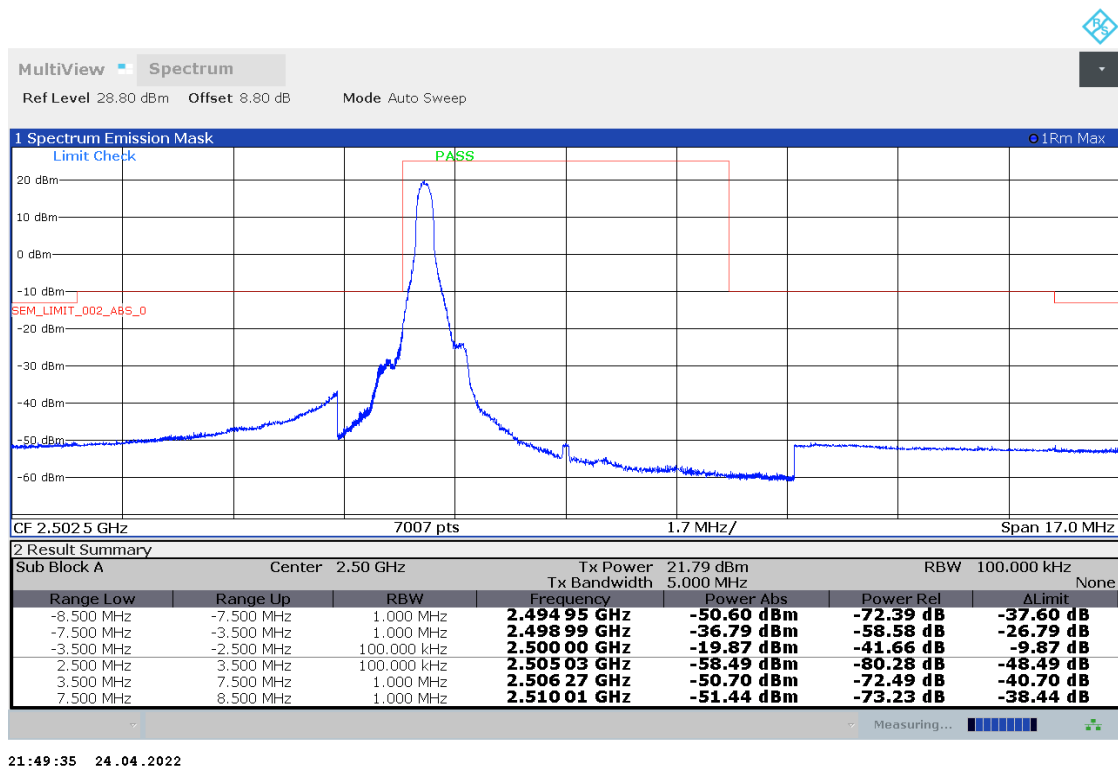
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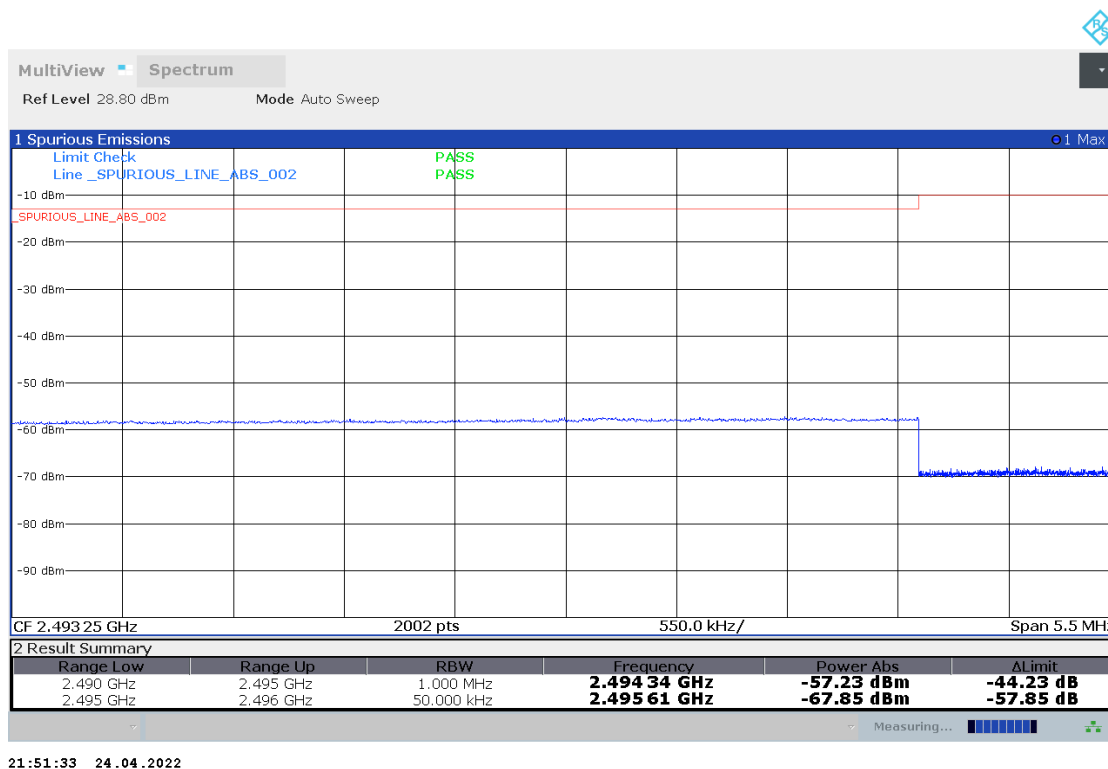
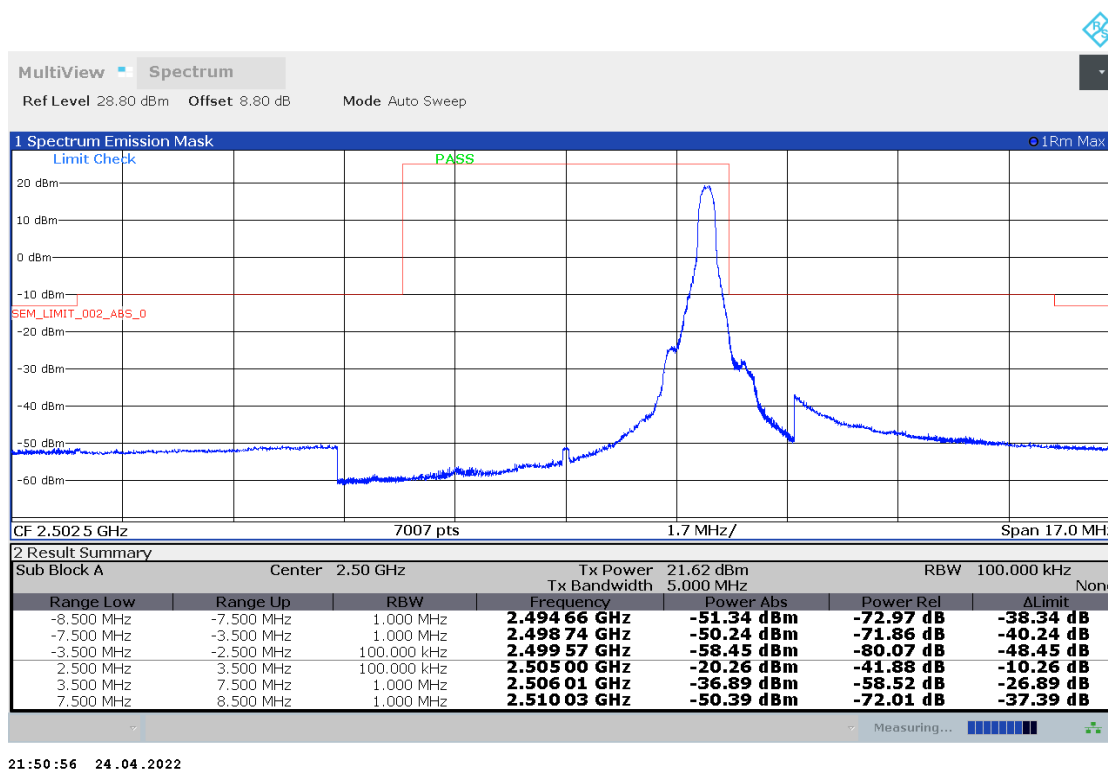
TM3_5MHz_LCH_RB25#0



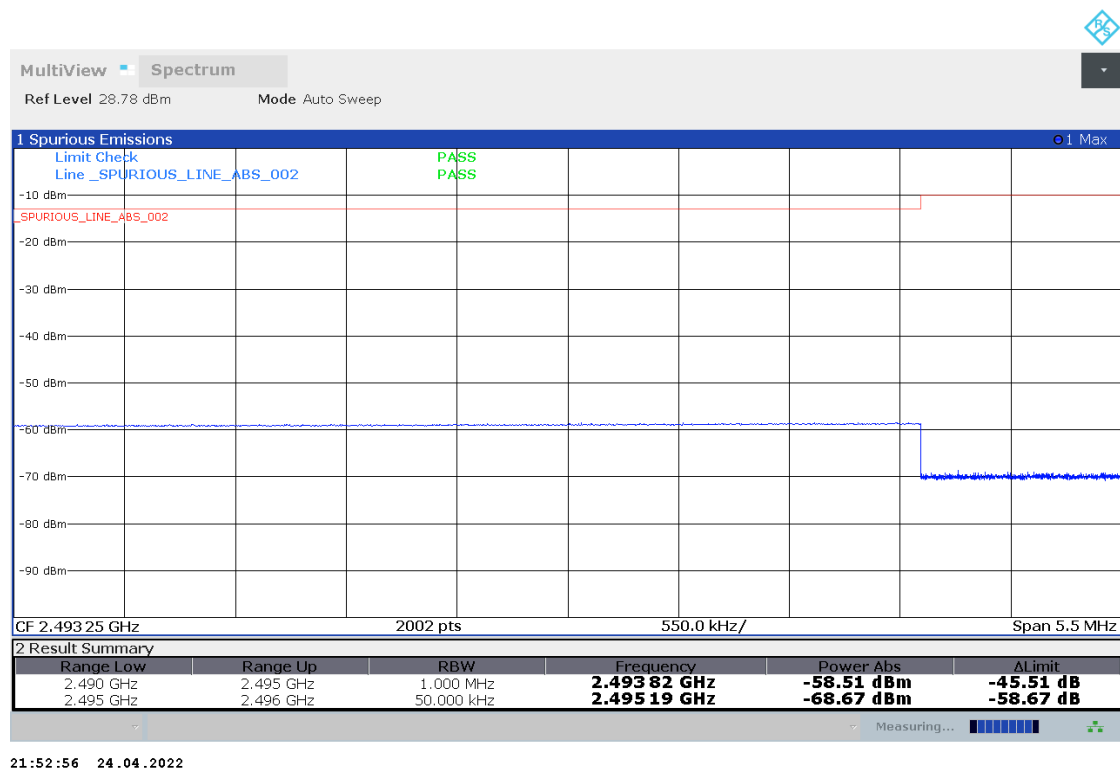
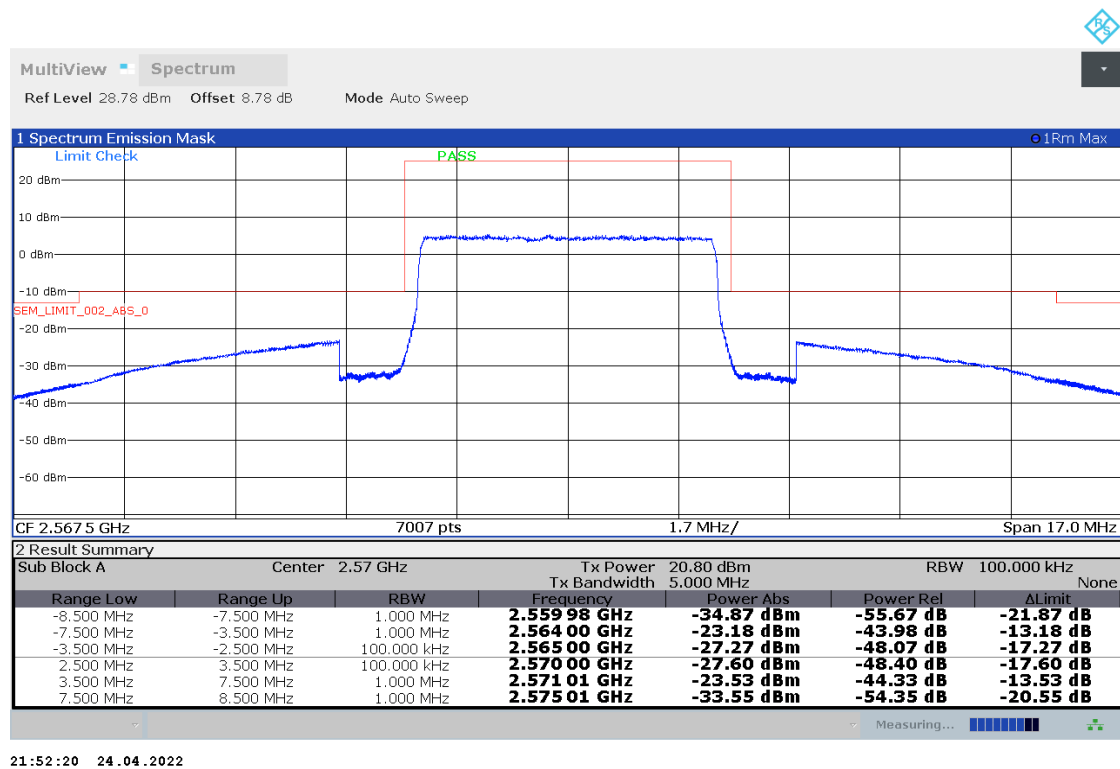
TM3_5MHz_LCH_RB1#0



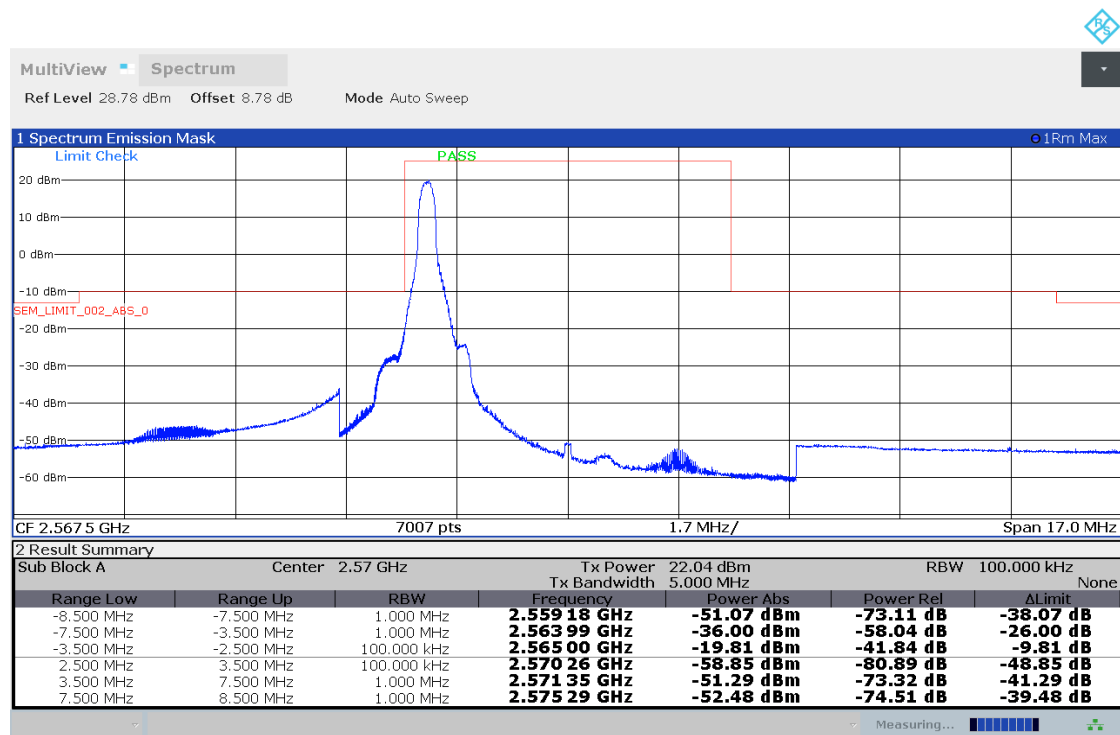
TM3_5MHz_LCH_RB1#24



TM3_5MHz_HCH_RB25#0



TM3_5MHz_HCH_RB1#0

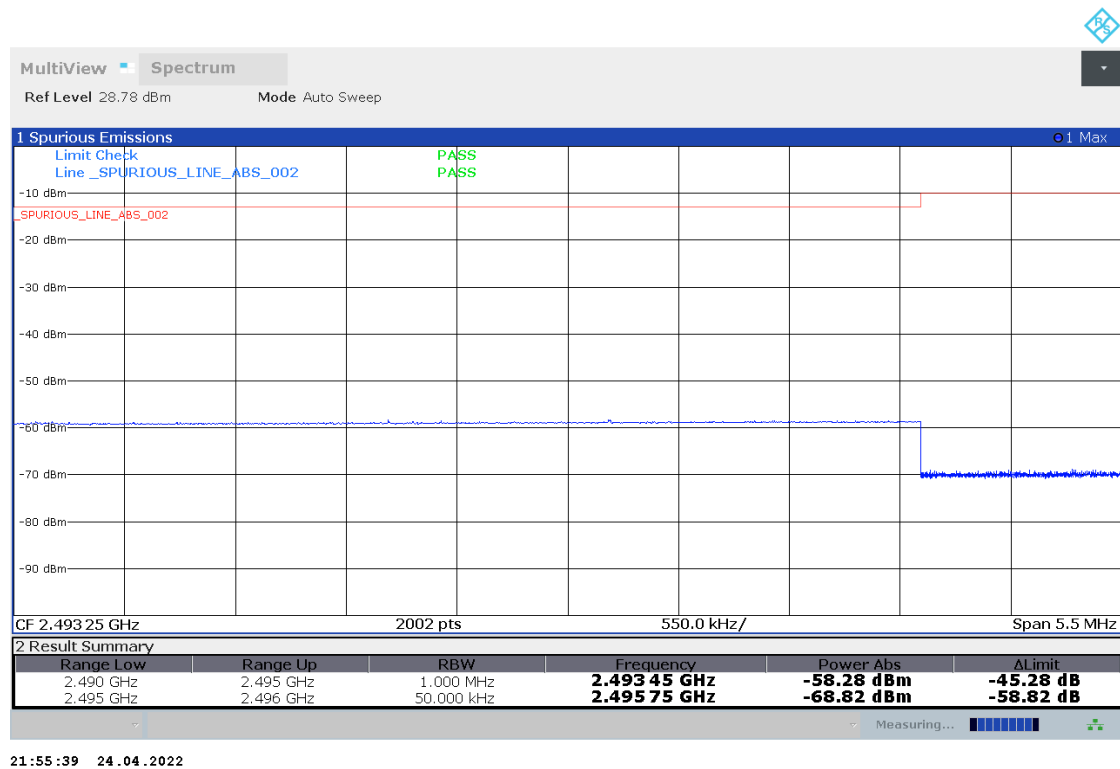
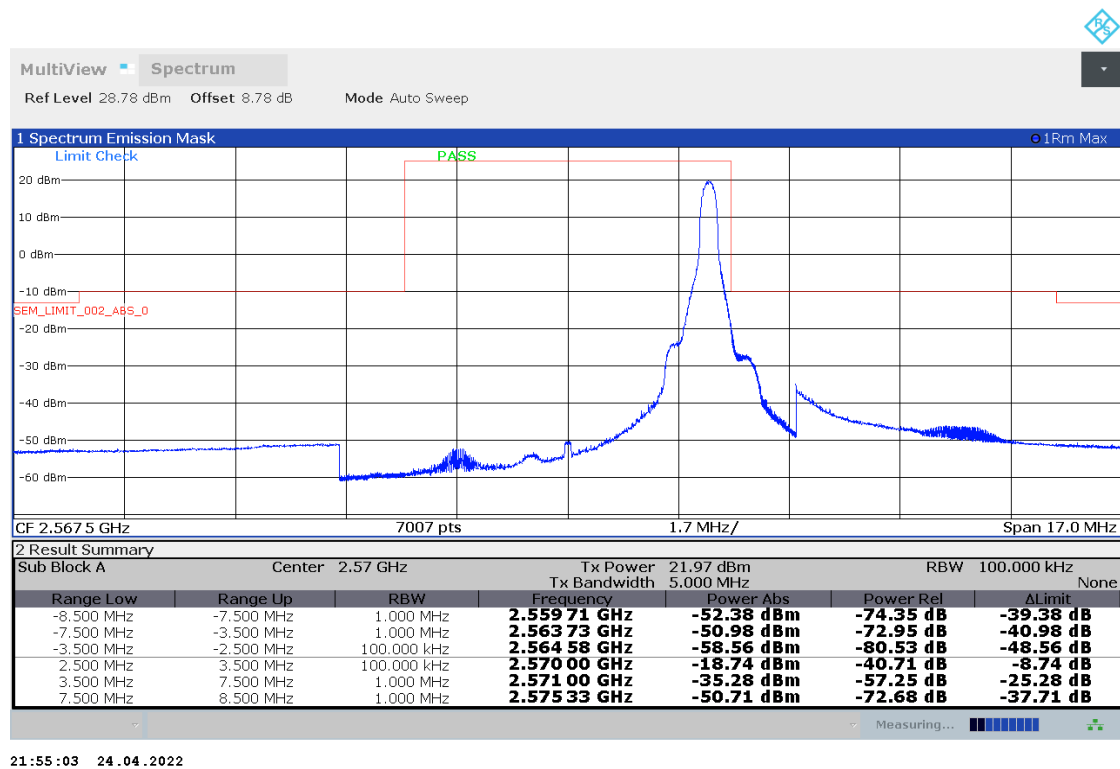


21:53:41 24.04.2022

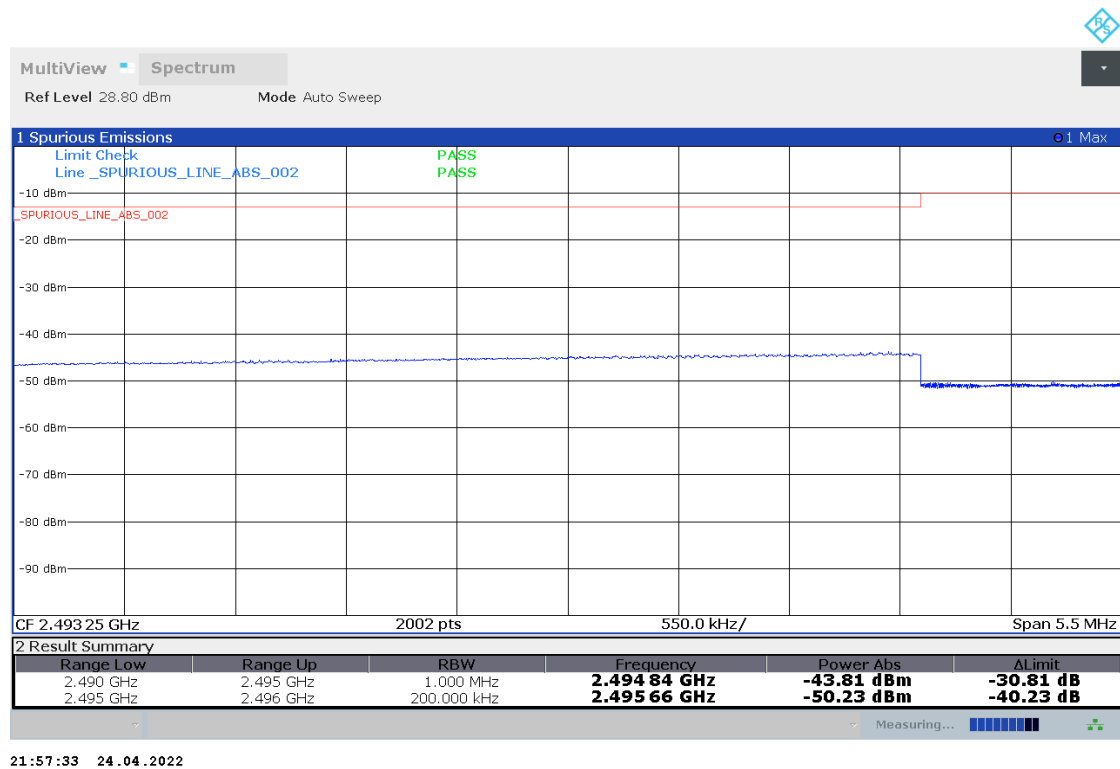
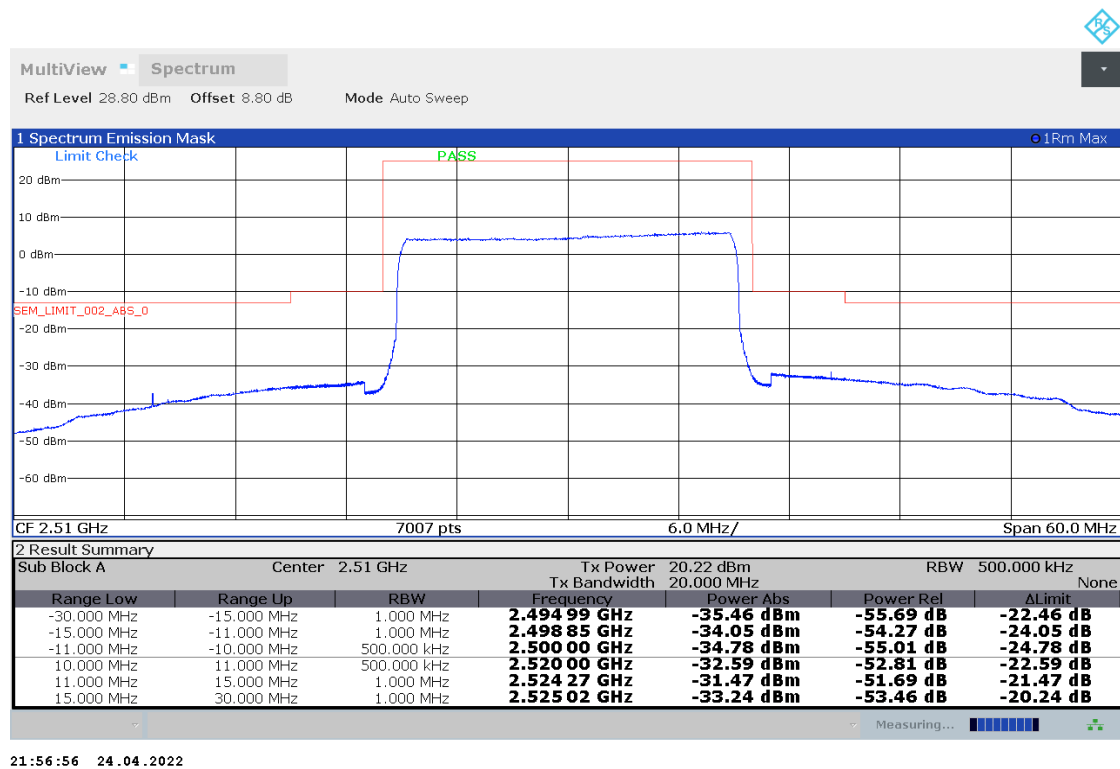


21:54:18 24.04.2022

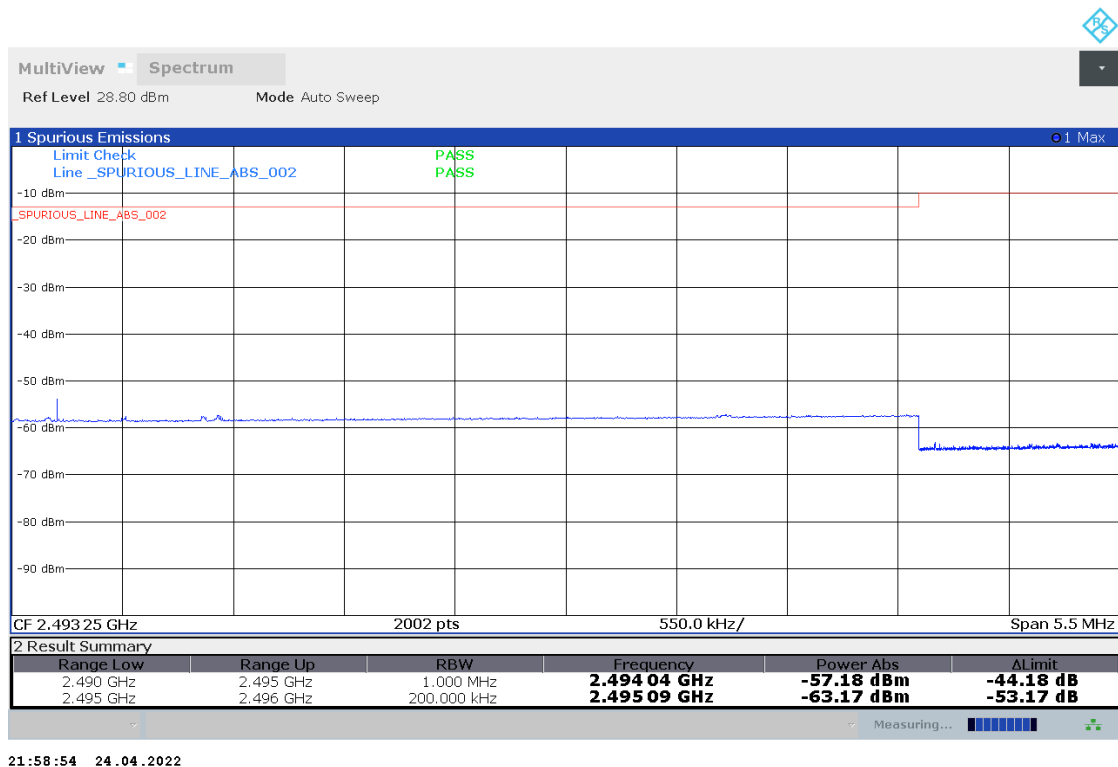
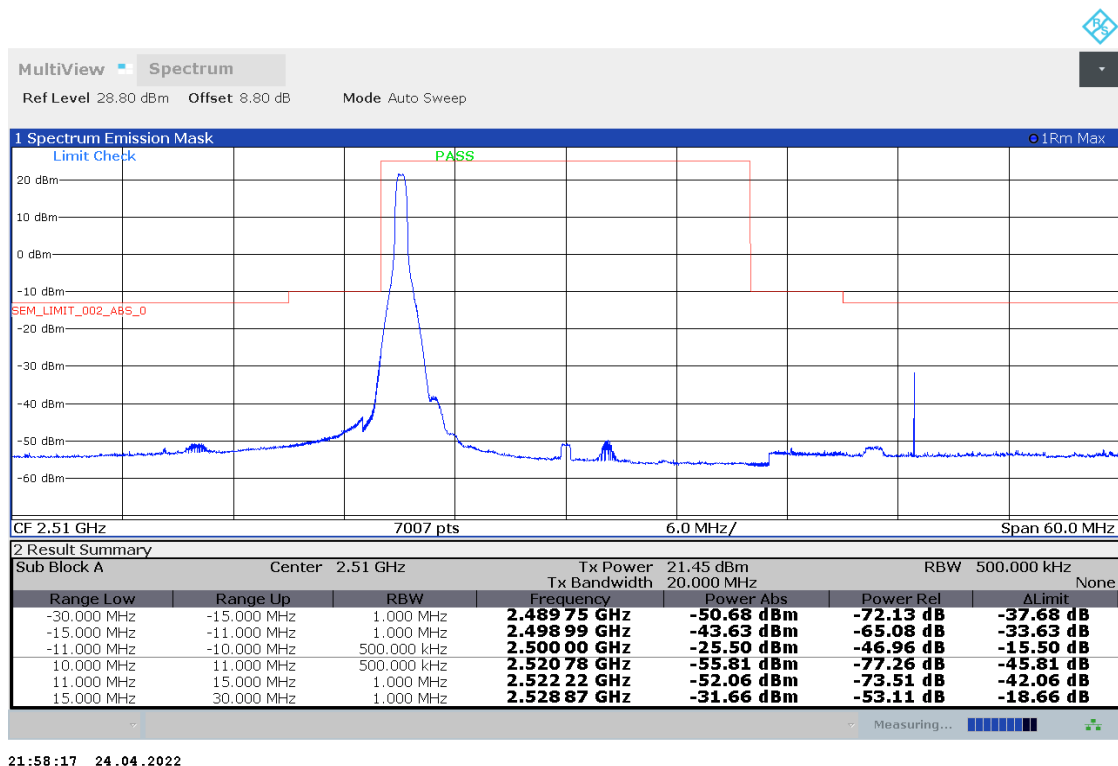
TM3_5MHz_HCH_RB1#24



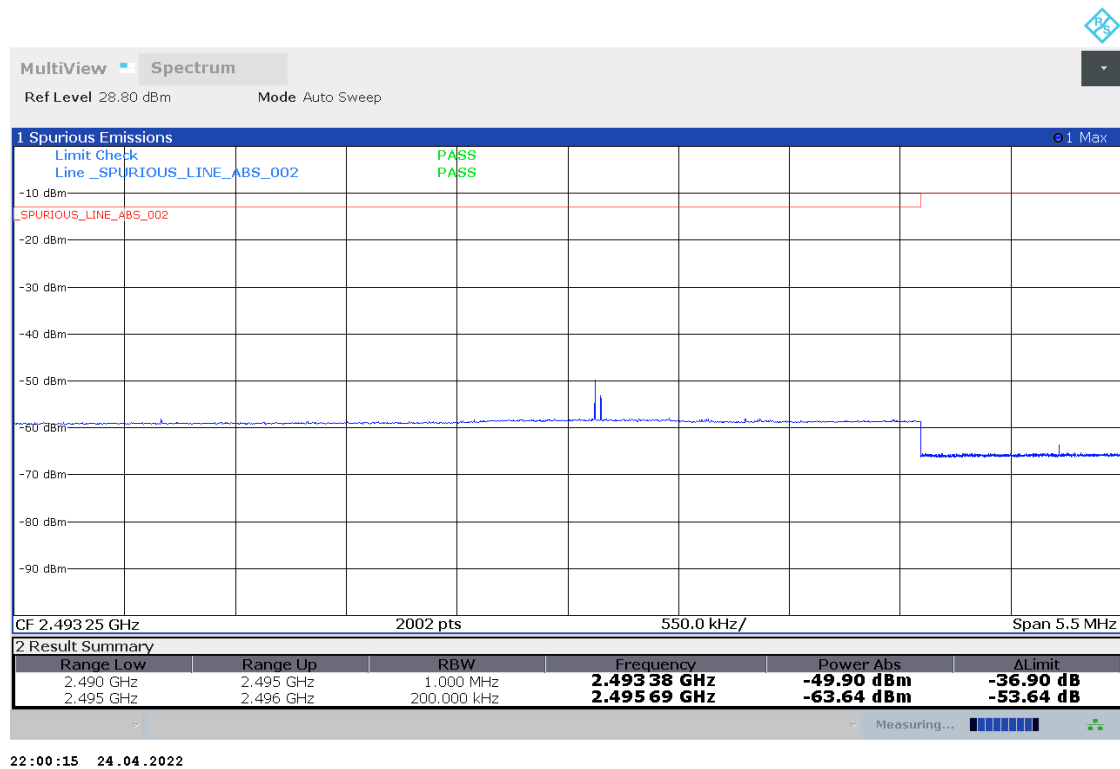
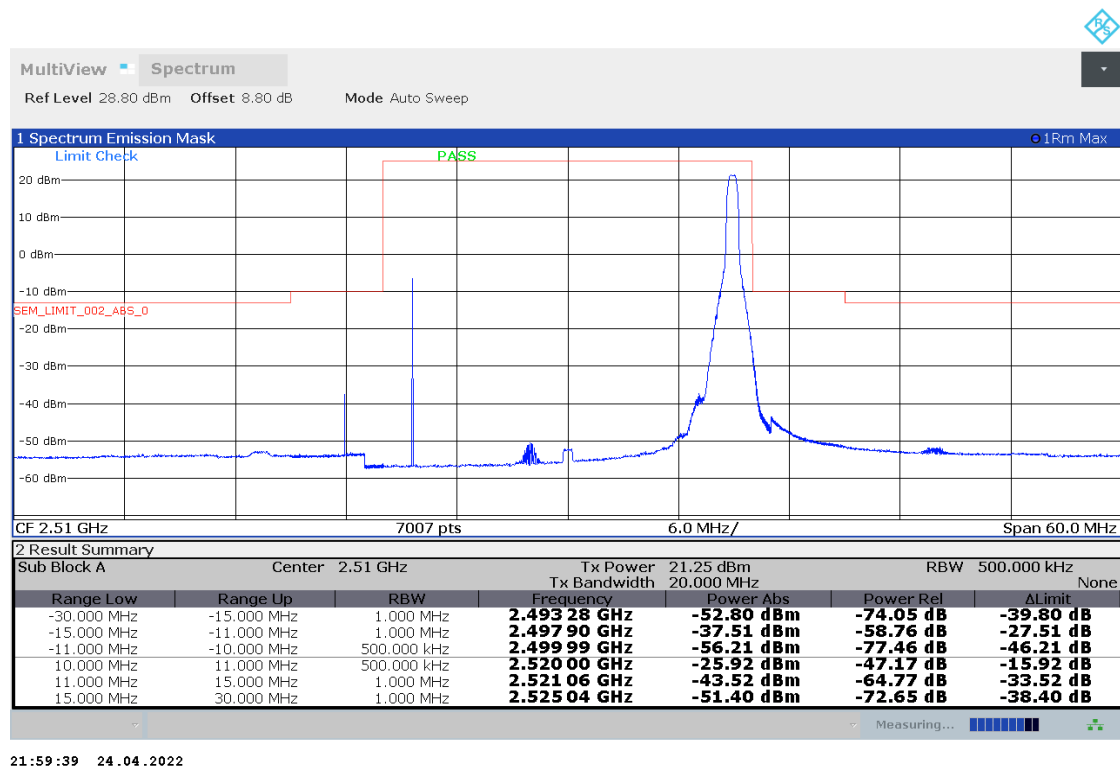
TM3_20MHz_LCH_RB100#0



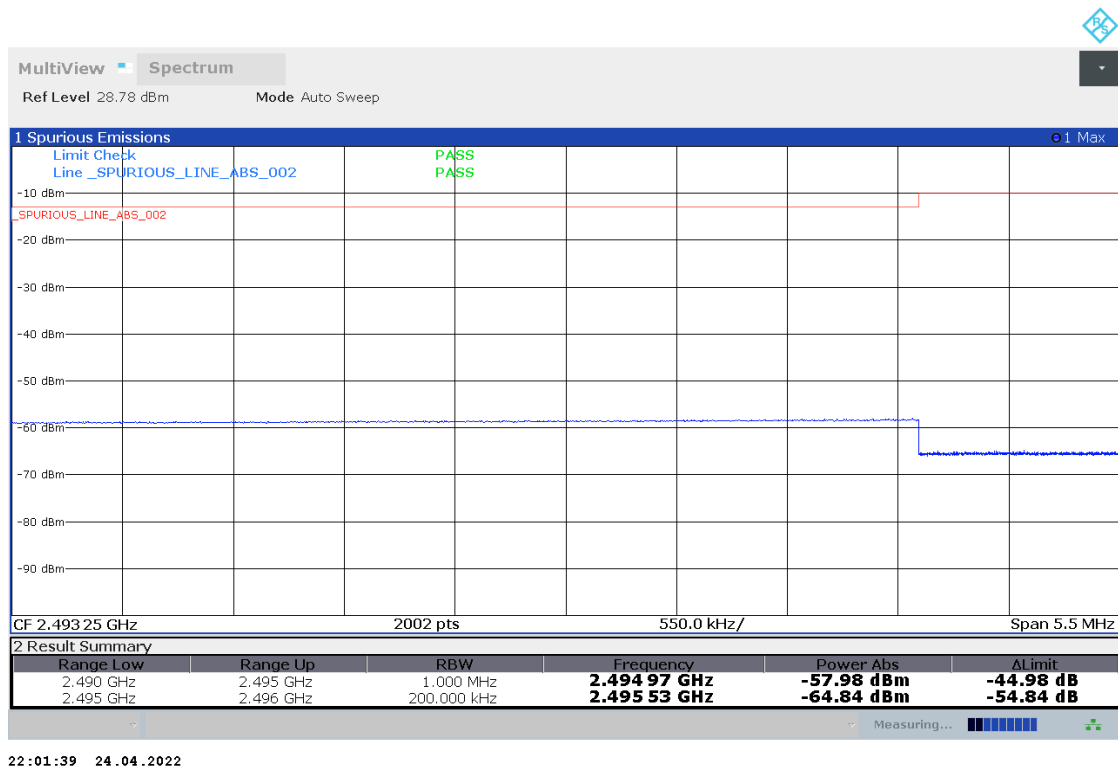
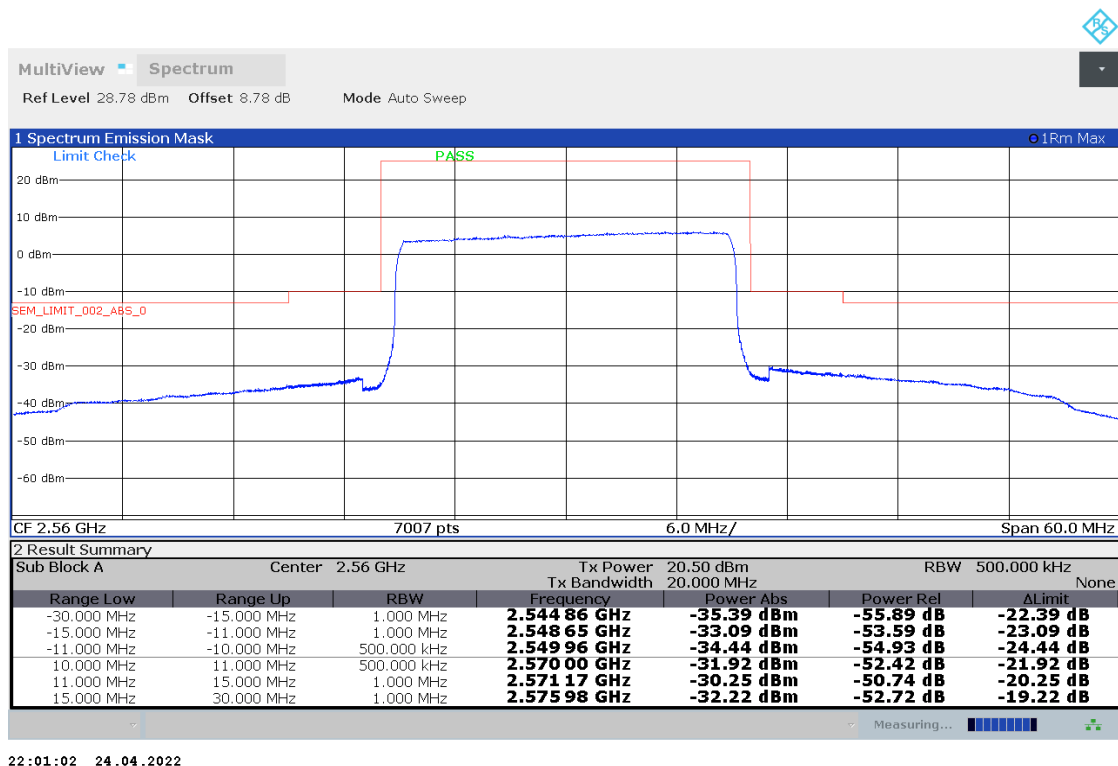
TM3_20MHz_LCH_RB1#0



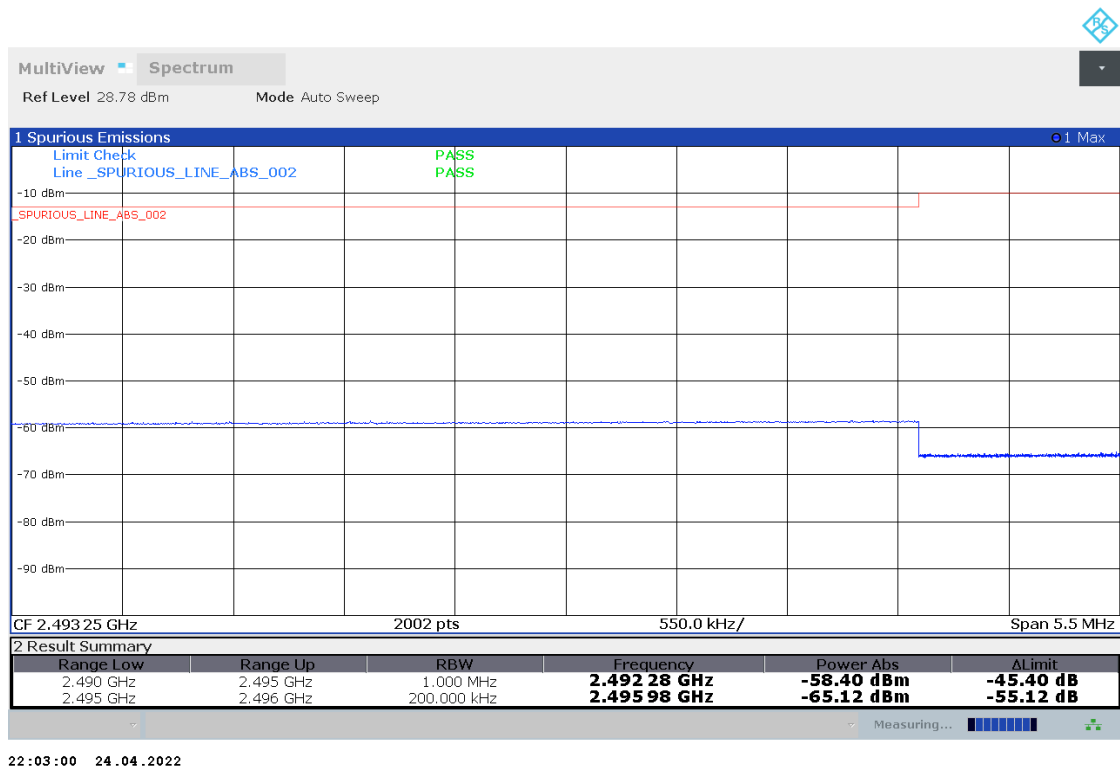
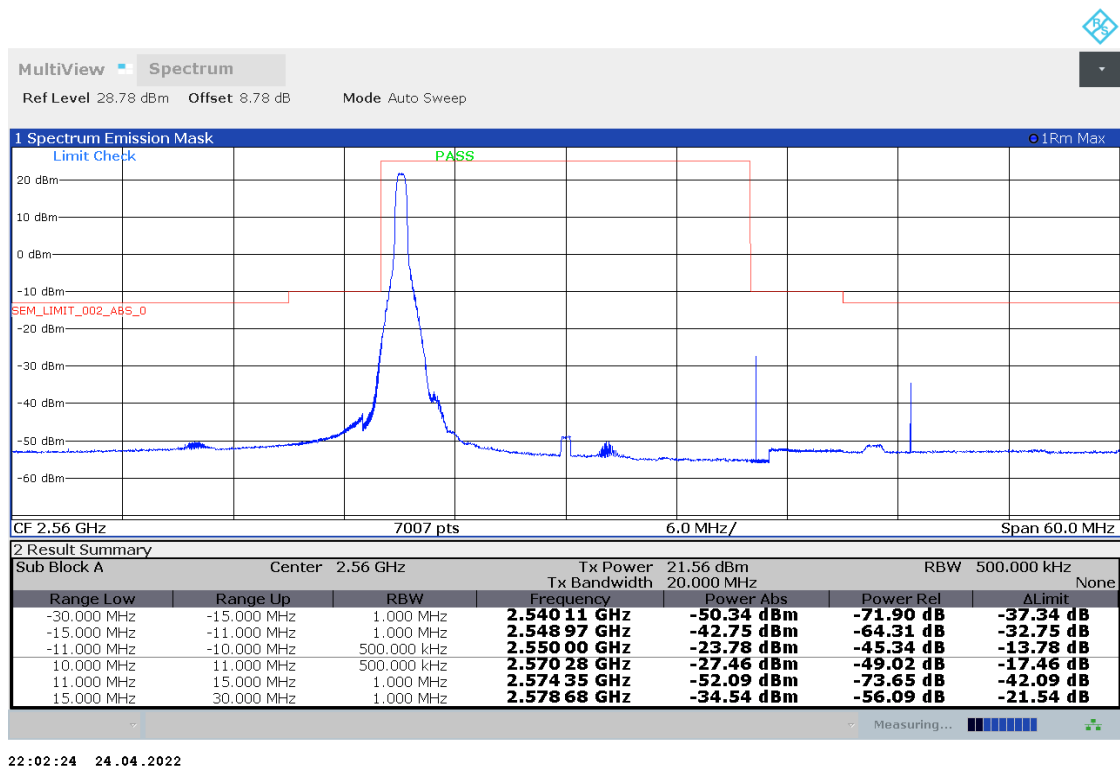
TM3_20MHz_LCH_RB1#99



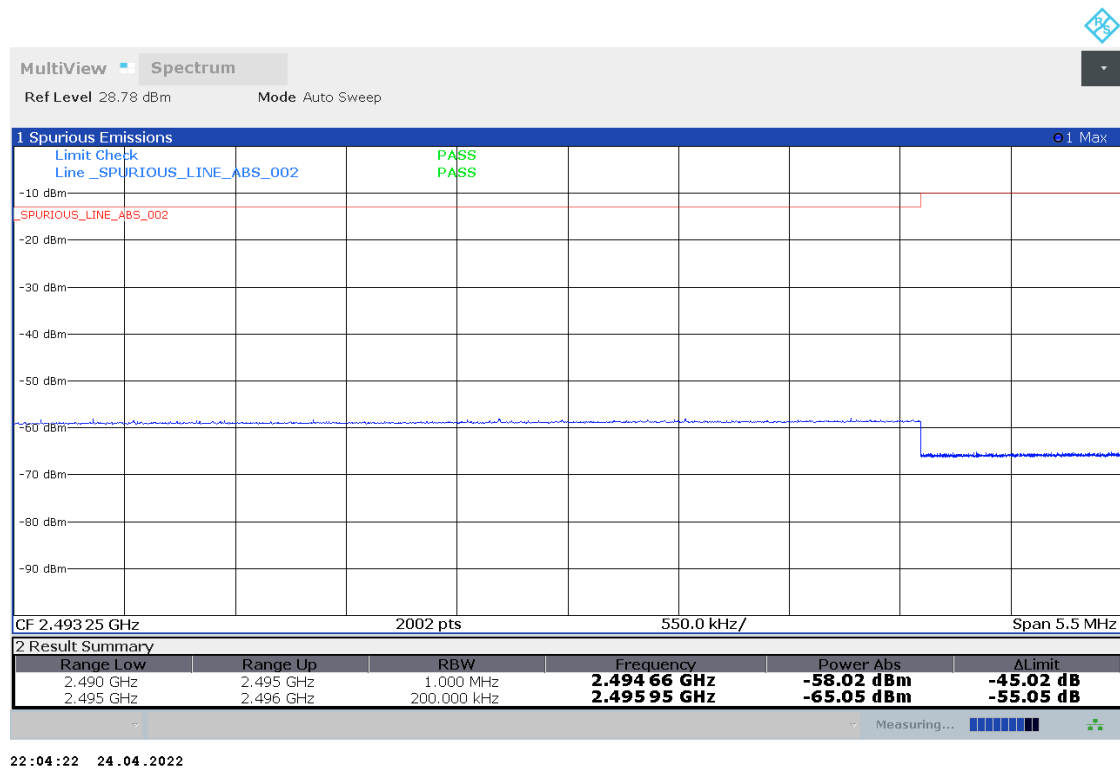
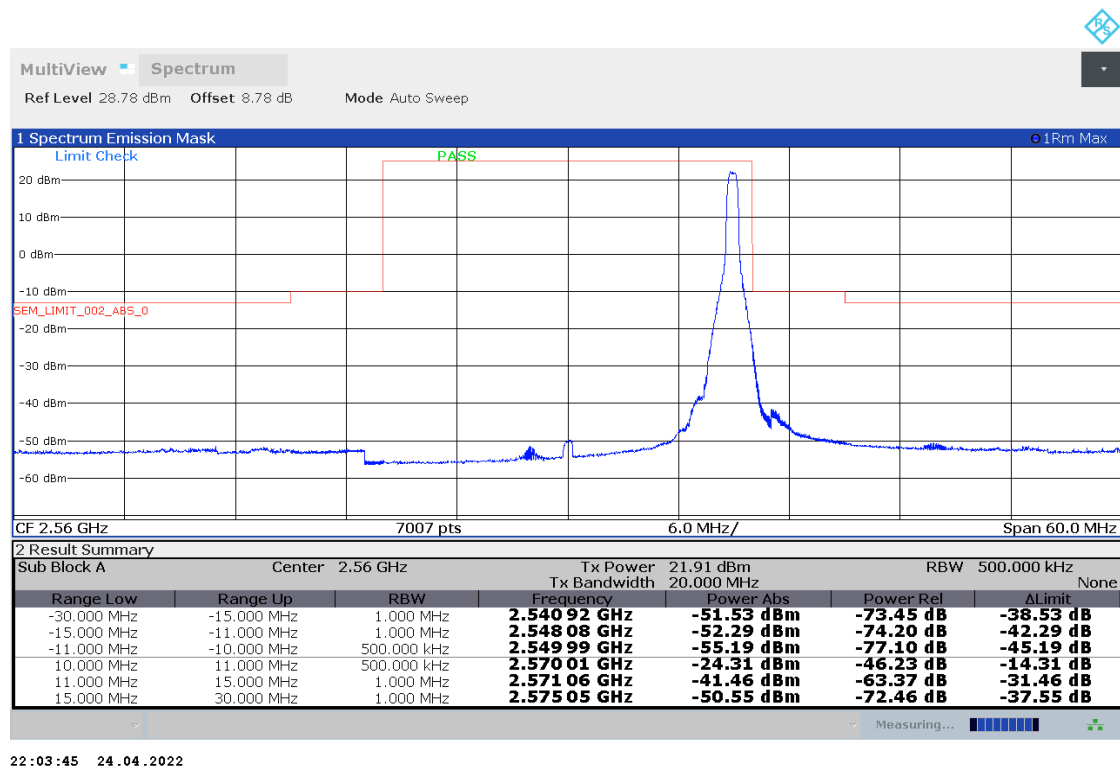
TM3_20MHz_HCH_RB100#0



TM3_20MHz_HCH_RB1#0



TM3_20MHz_HCH_RB1#99



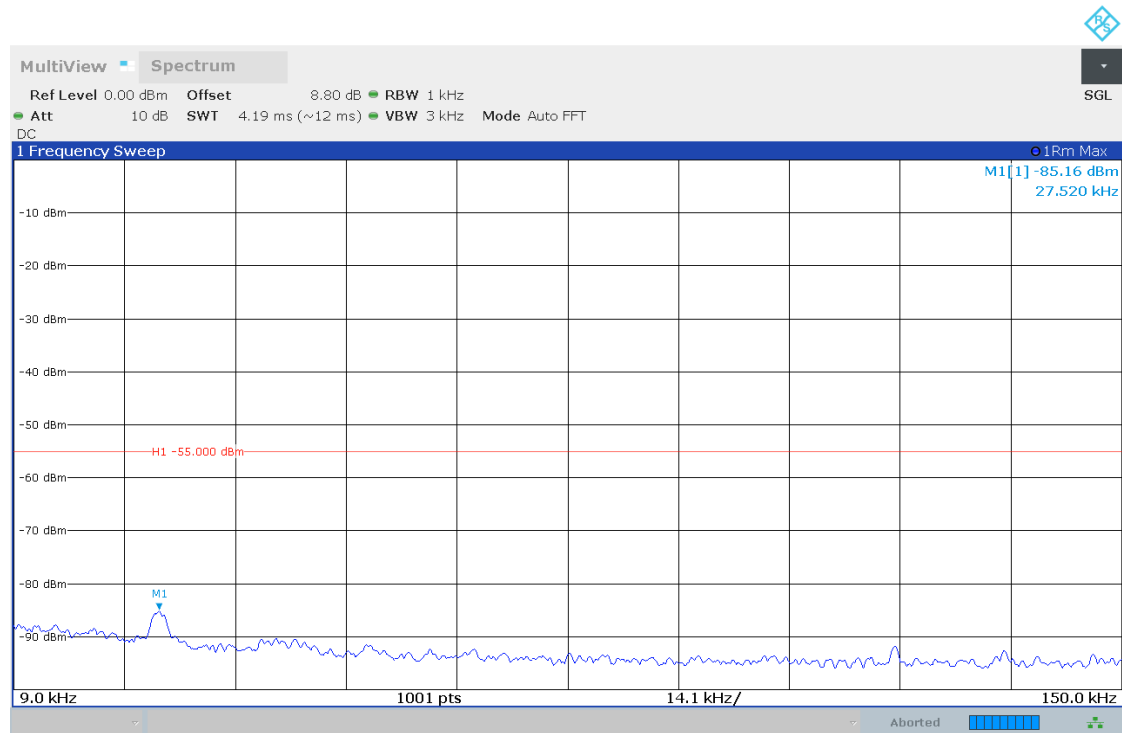
6 Appendix_F: Spurious Emission at Antenna Terminal

6.1 Test Results

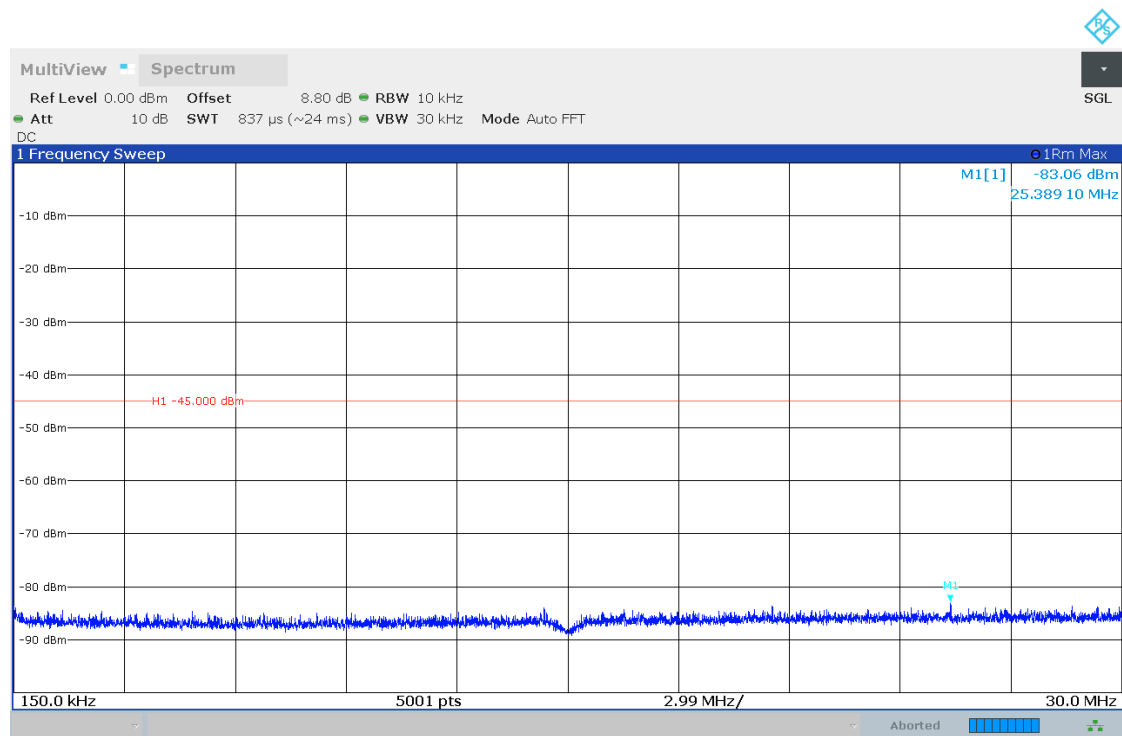
Test Mode	Test Bandwidth [MHz]	Test Channel	Test RB	Modulation	Measured Emissions Conformed to the Relevant Limits?	Verdict
TM1	5	LCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		MCH	RB25#0	QPSK	Yes	PASS
			RB1#0	QPSK	Yes	PASS
			RB1#24	QPSK	Yes	PASS
		HCH	RB25#0	QPSK	Yes	PASS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

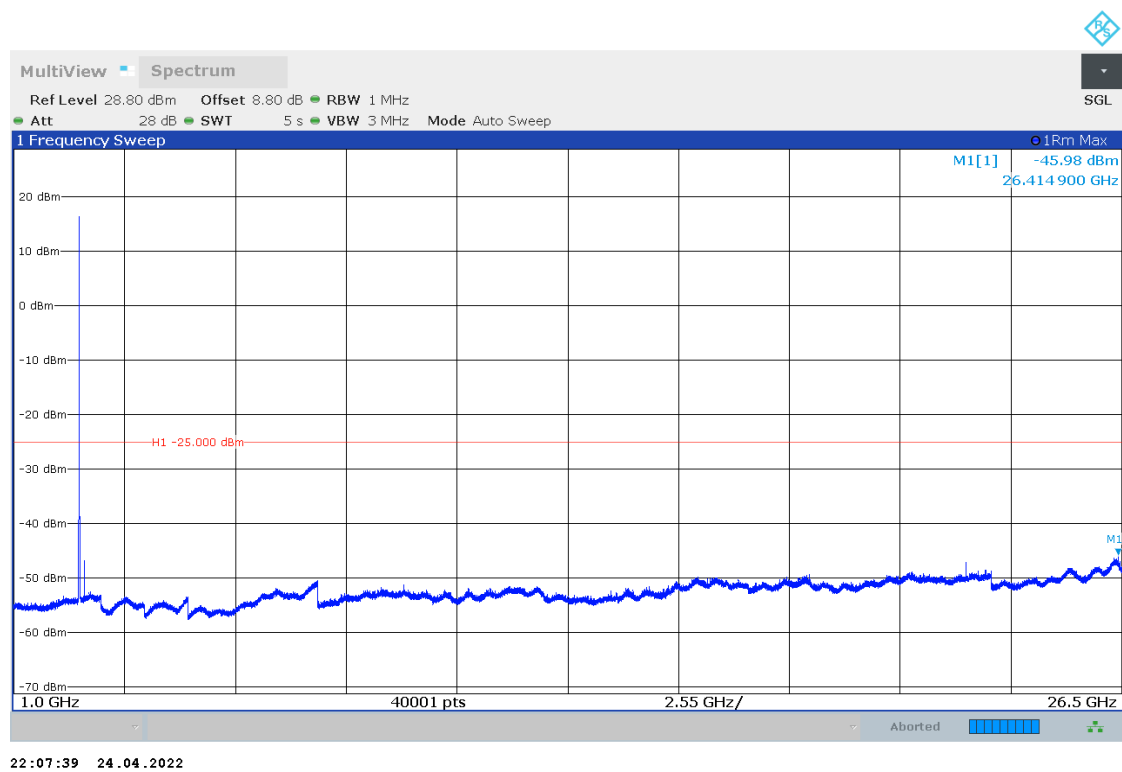
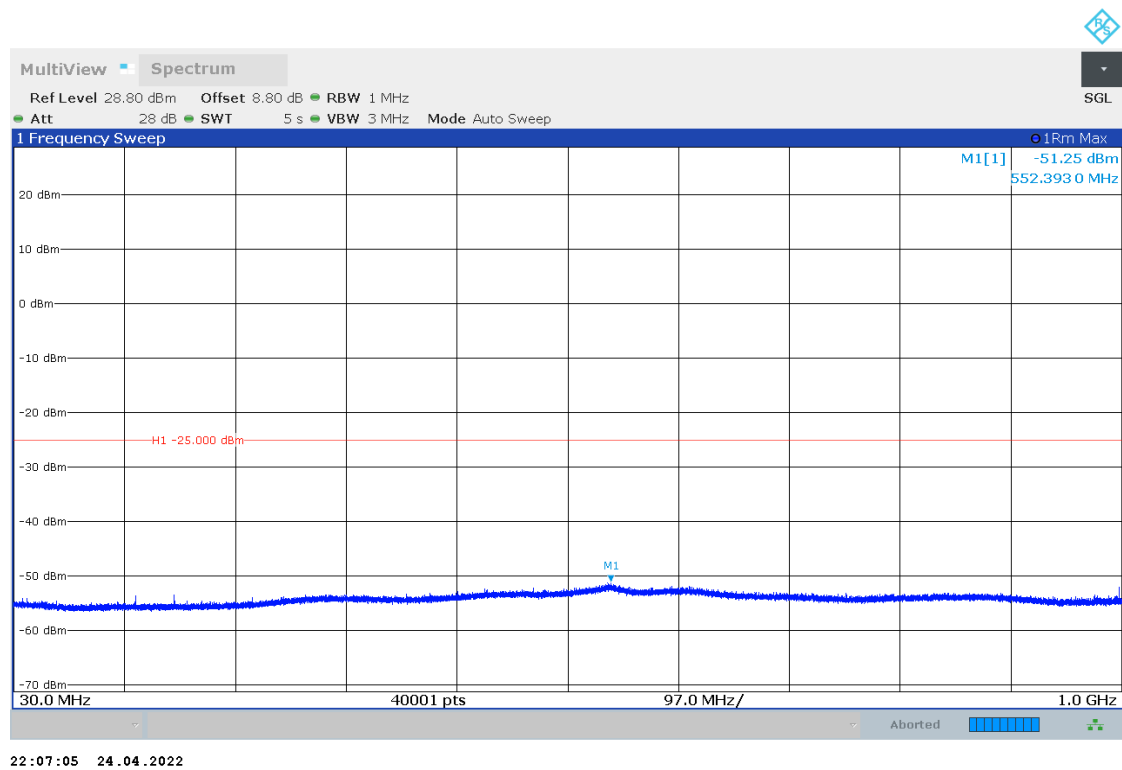
TM1_5MHz_LCH_RB25#0



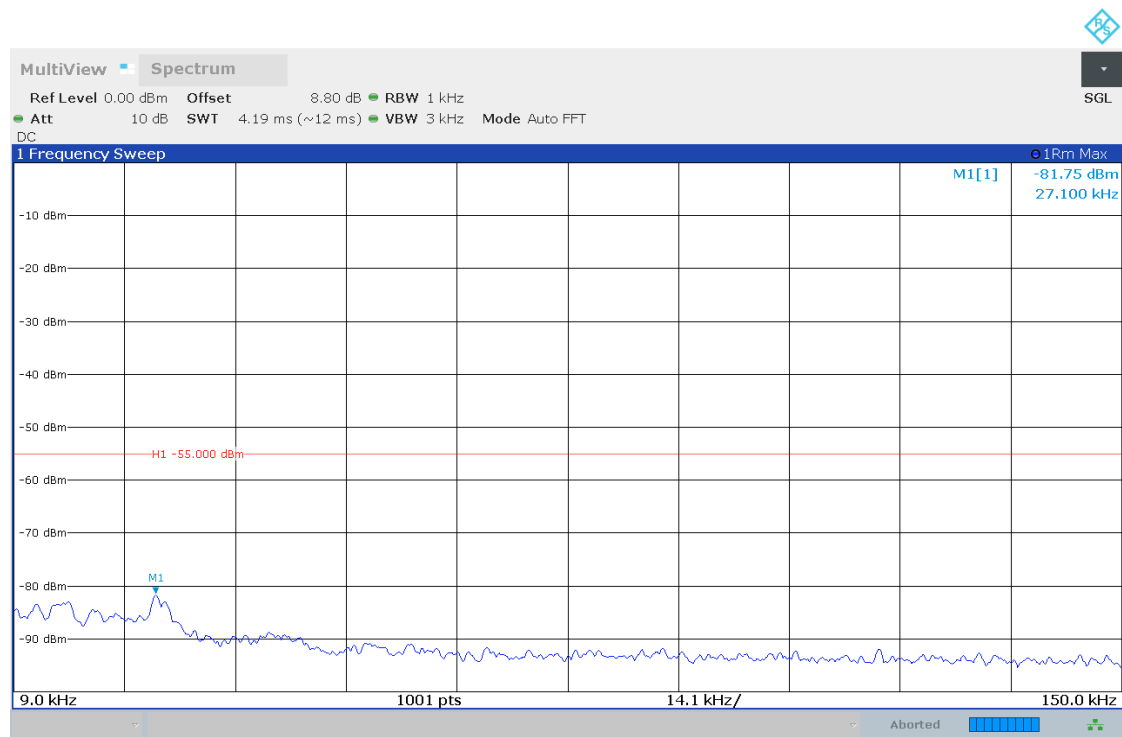
22:06:06 24.04.2022



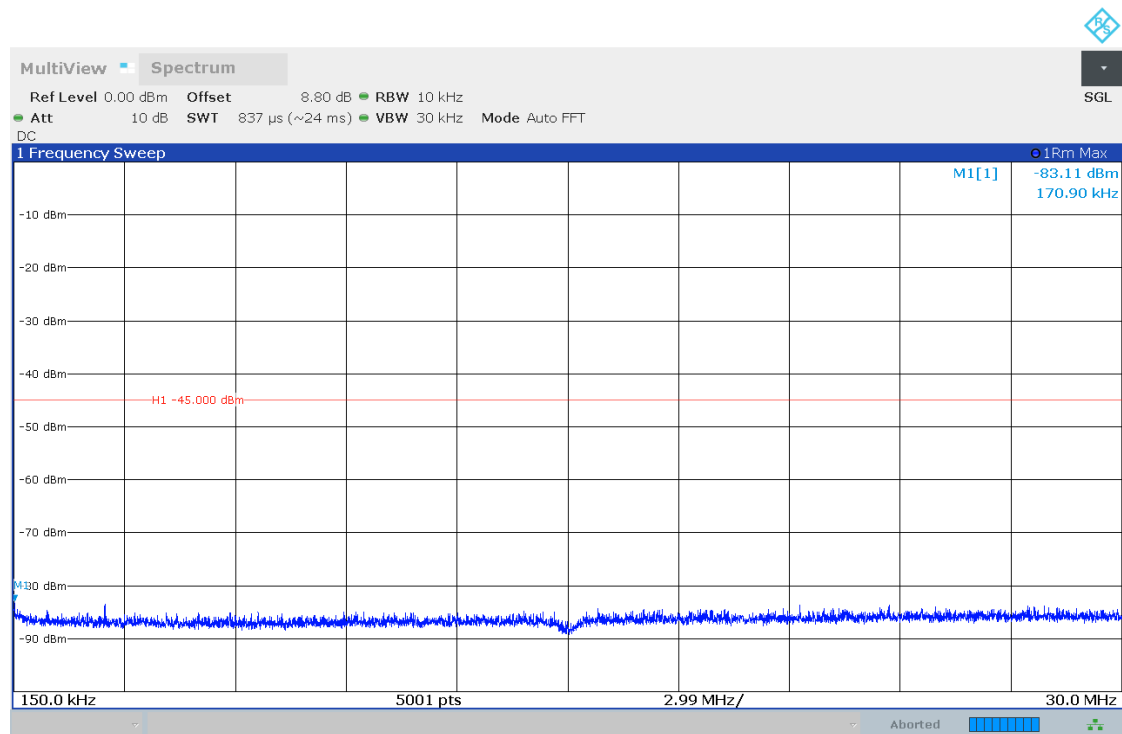
22:06:35 24.04.2022



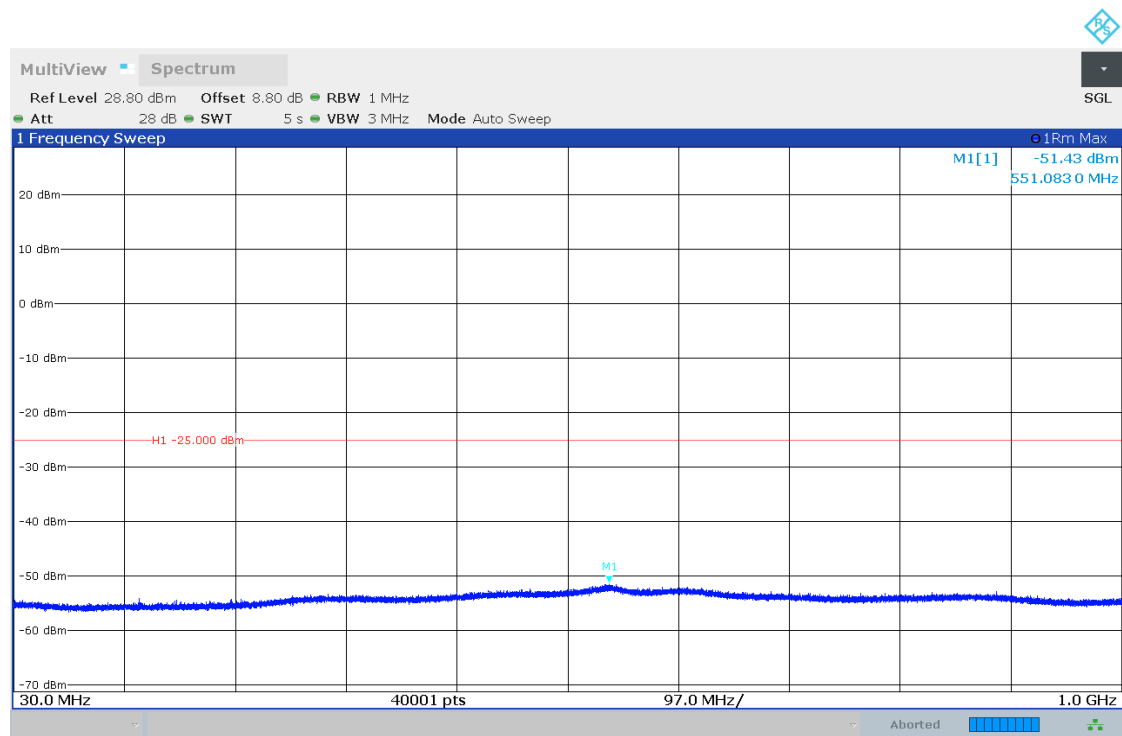
TM1_5MHz_LCH_RB1#0



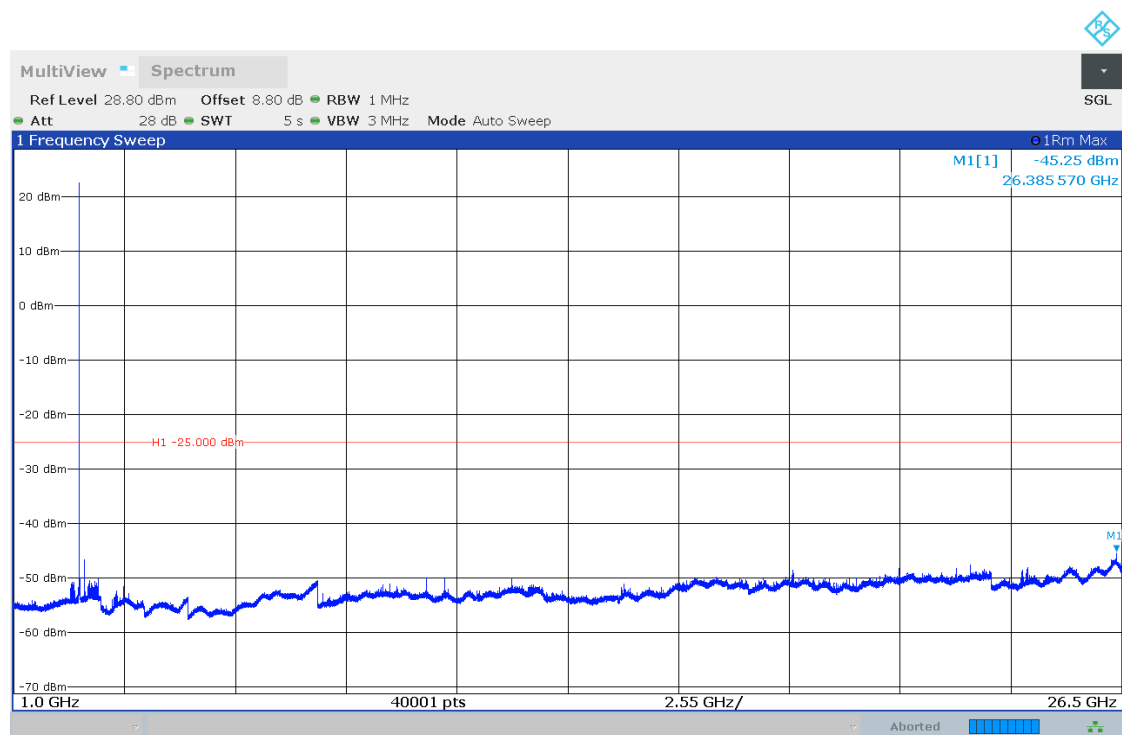
22:08:10 24.04.2022



22:08:39 24.04.2022



22:09:09 24.04.2022



22:09:43 24.04.2022

TM1_5MHz_LCH_RB1#24

