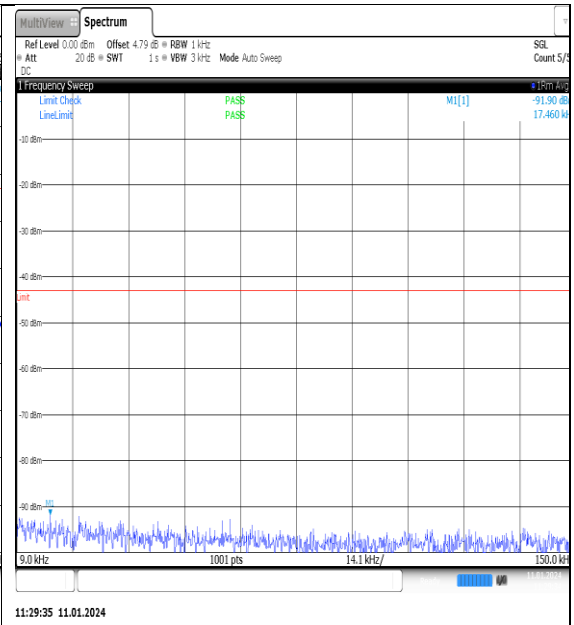
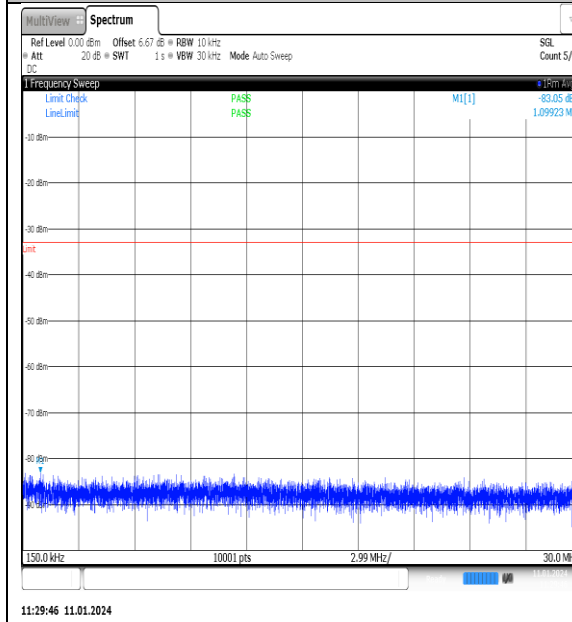


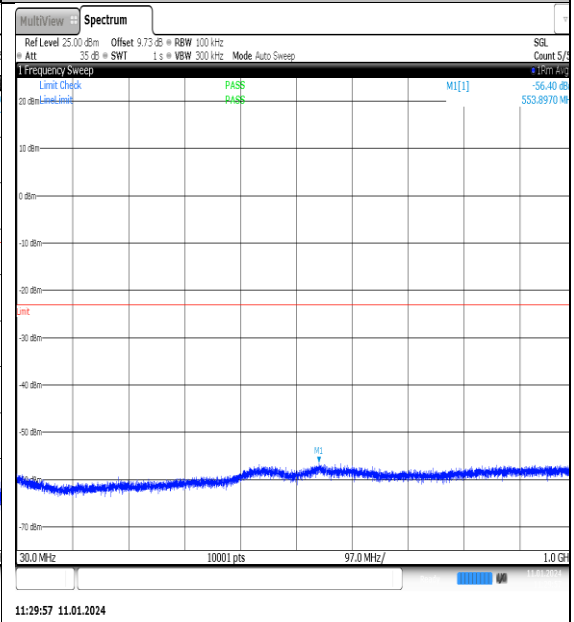
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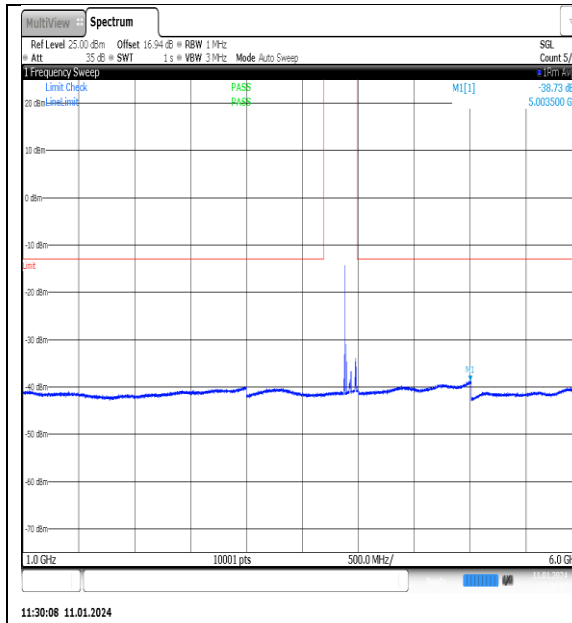
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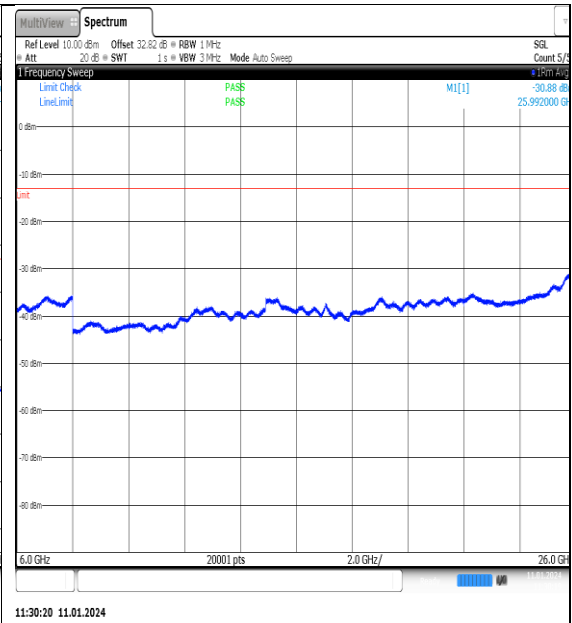
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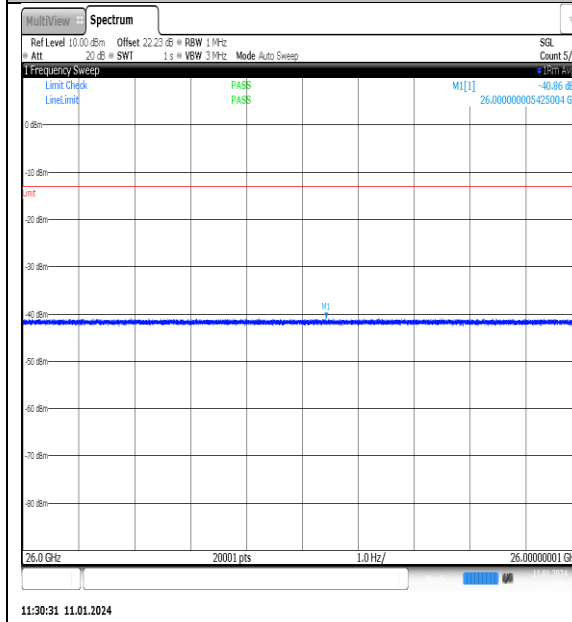
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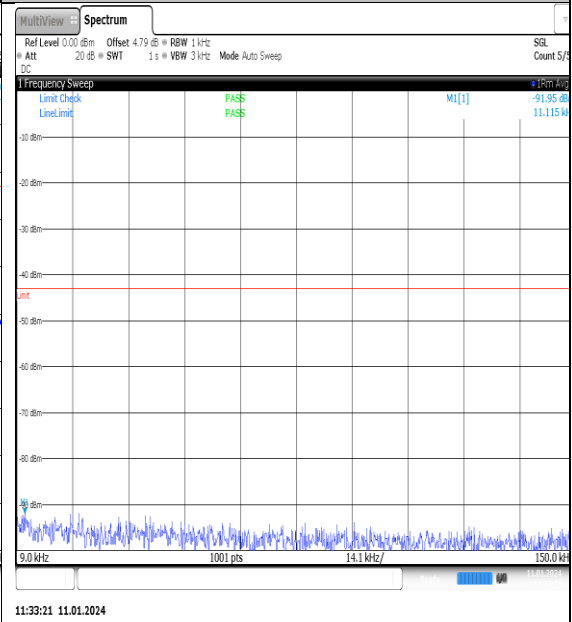
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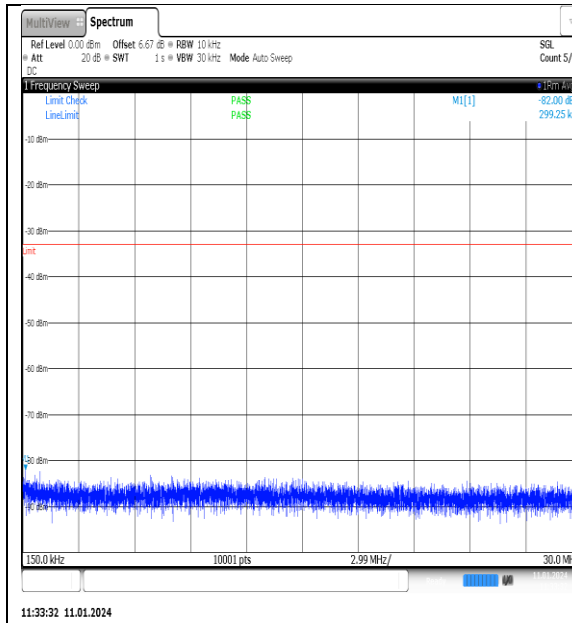
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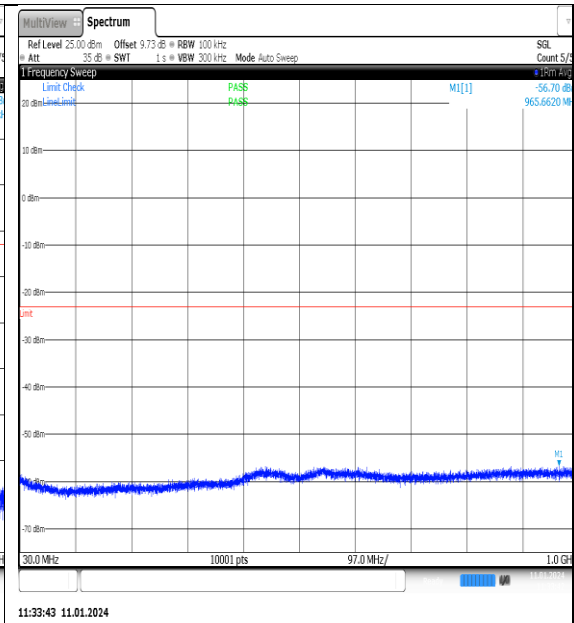
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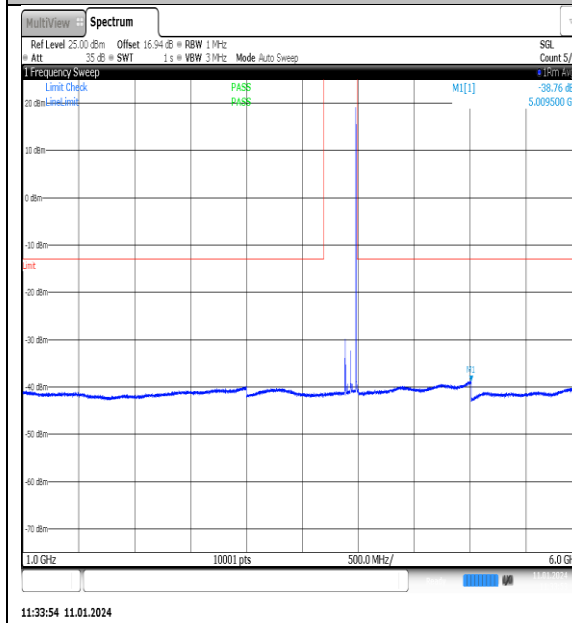
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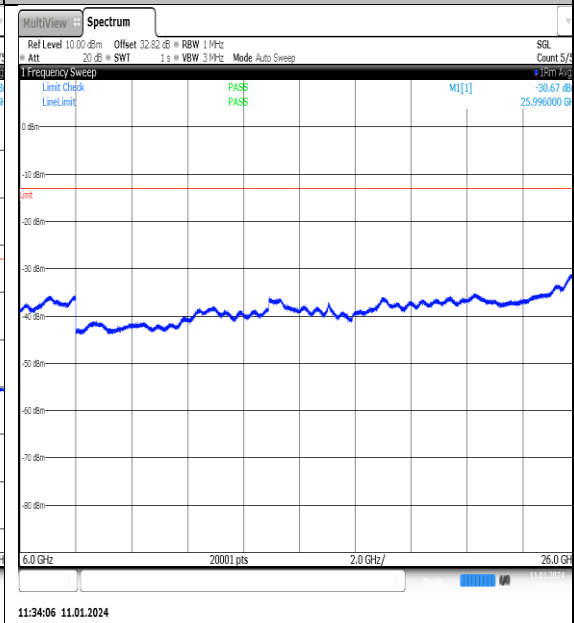
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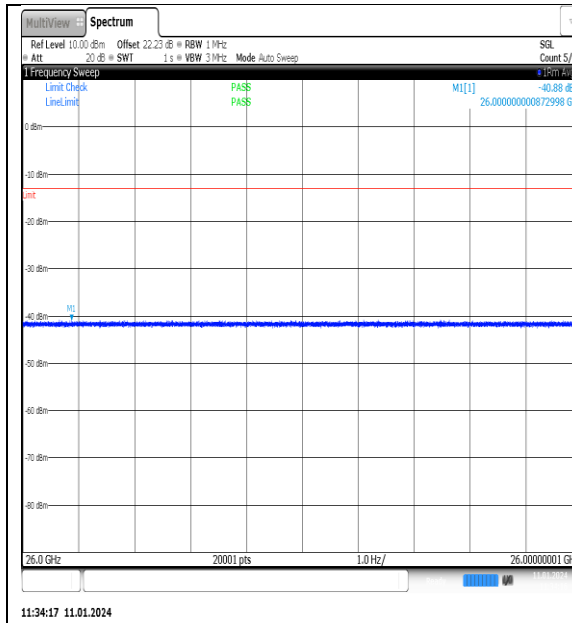
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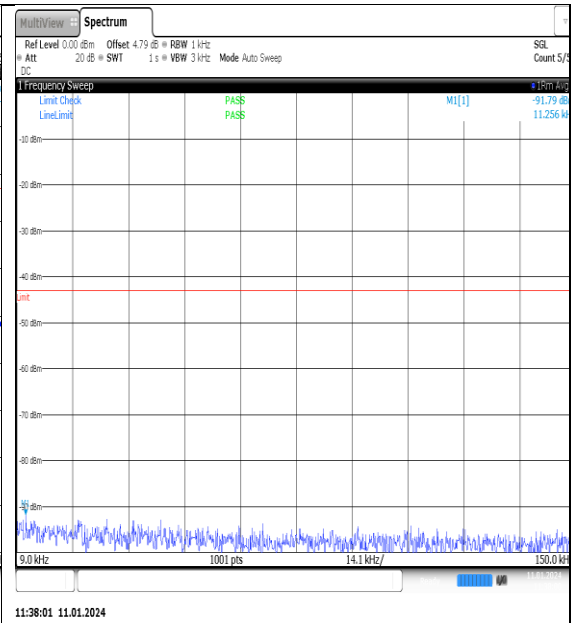
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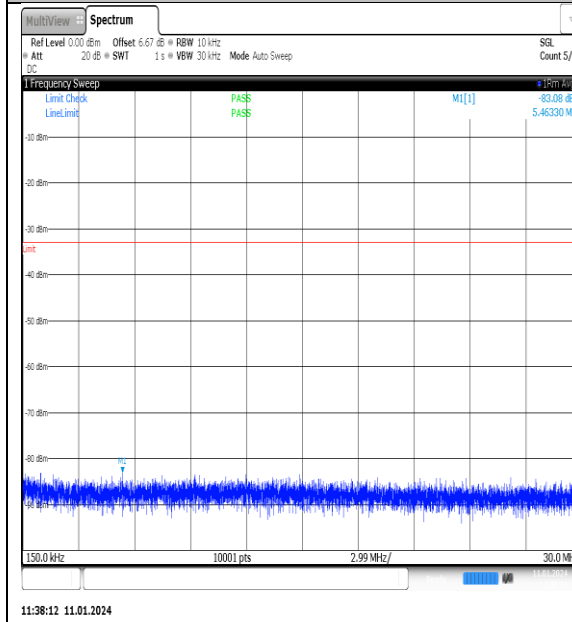
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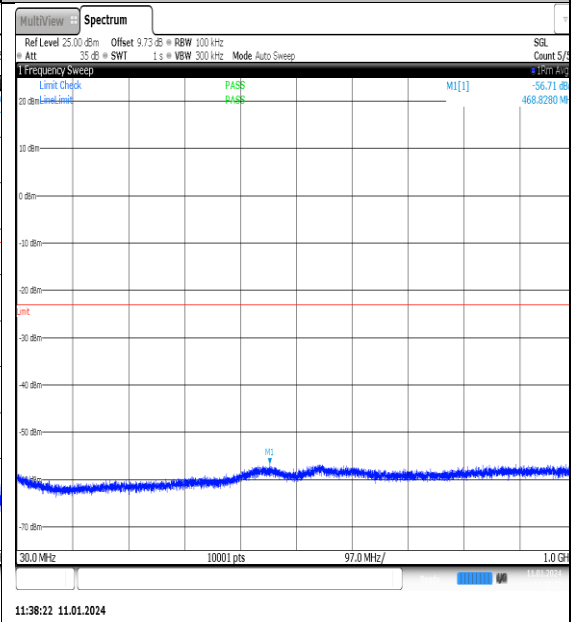
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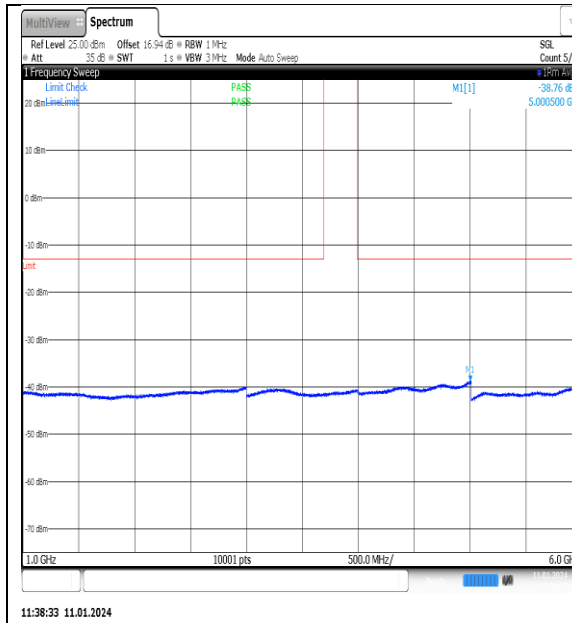
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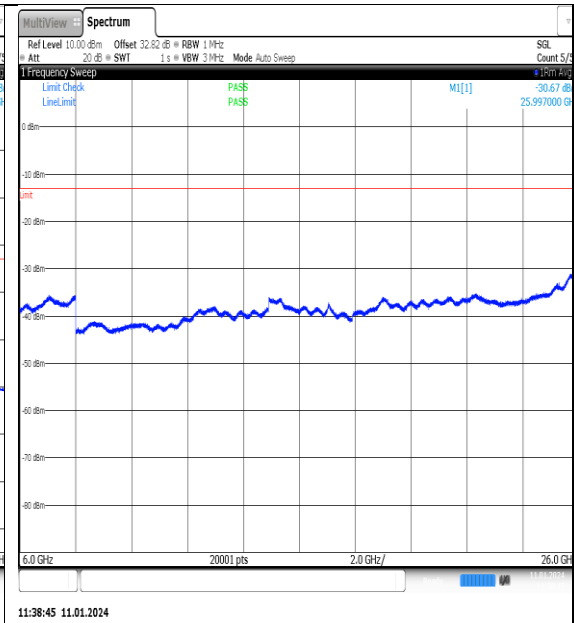
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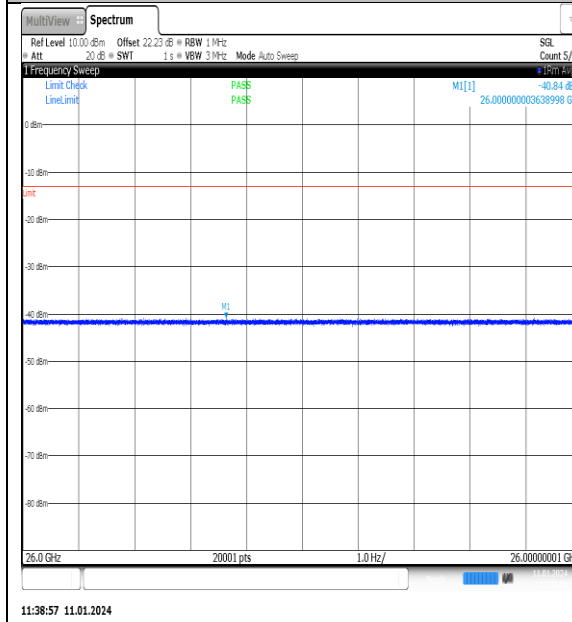
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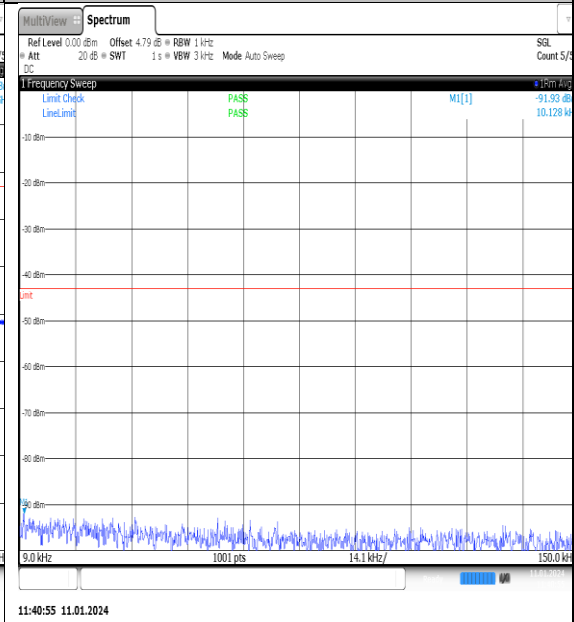
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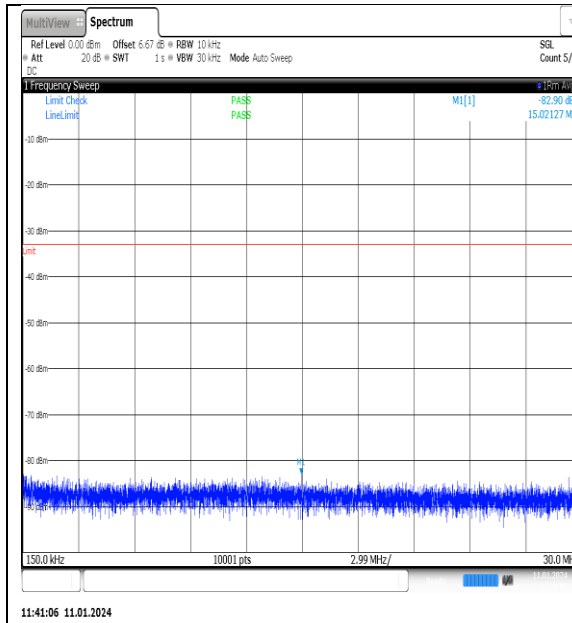
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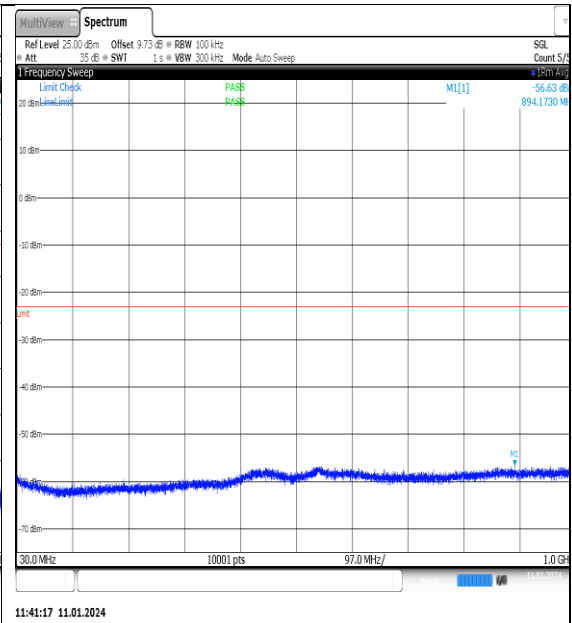
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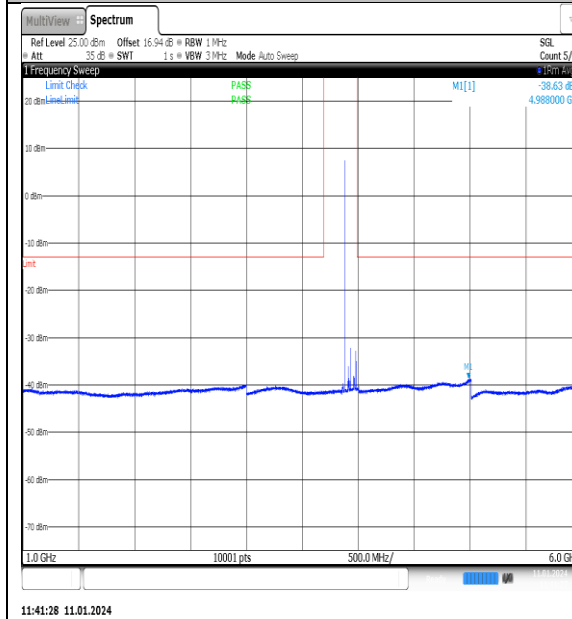
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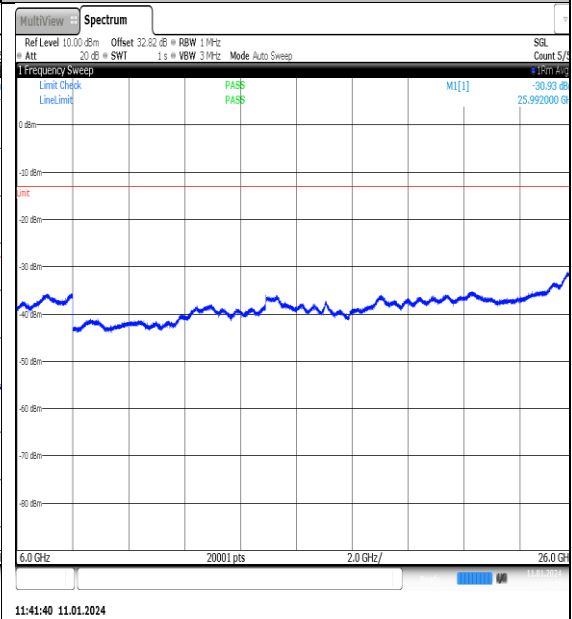
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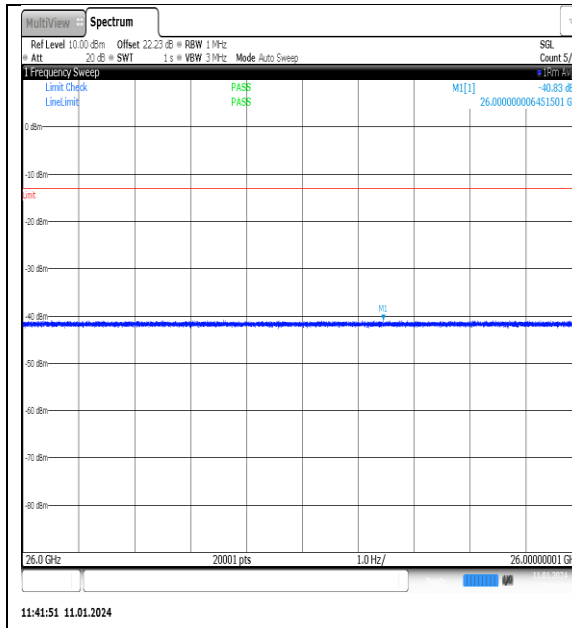
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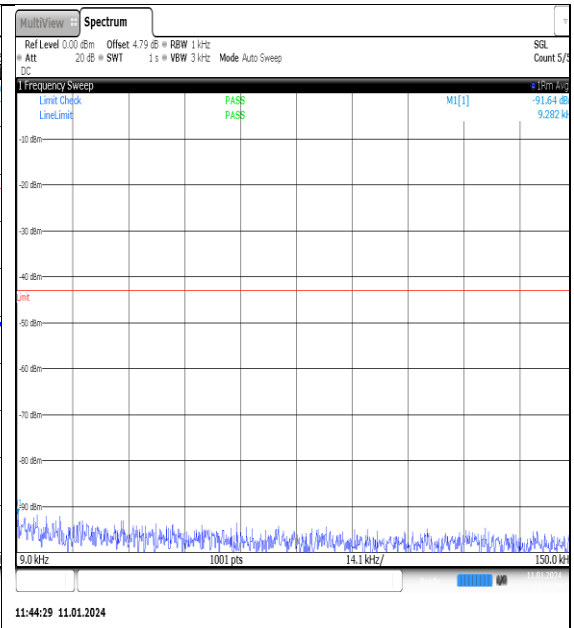
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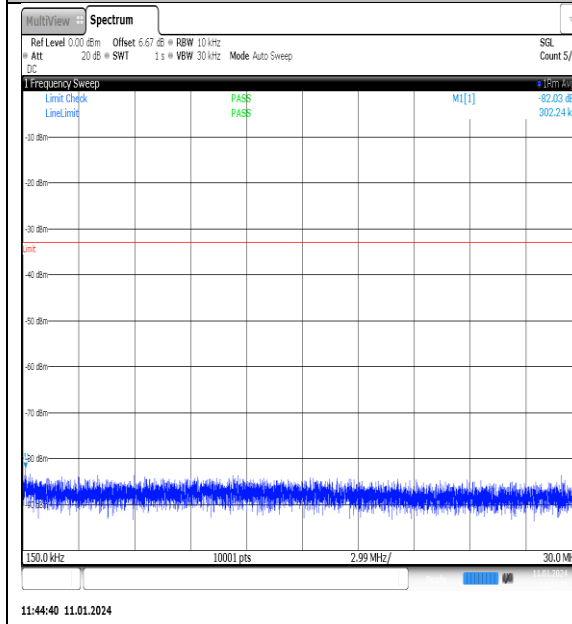
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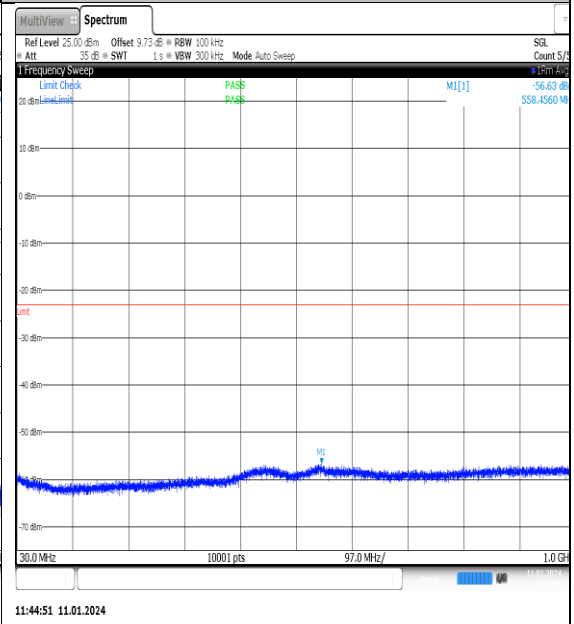
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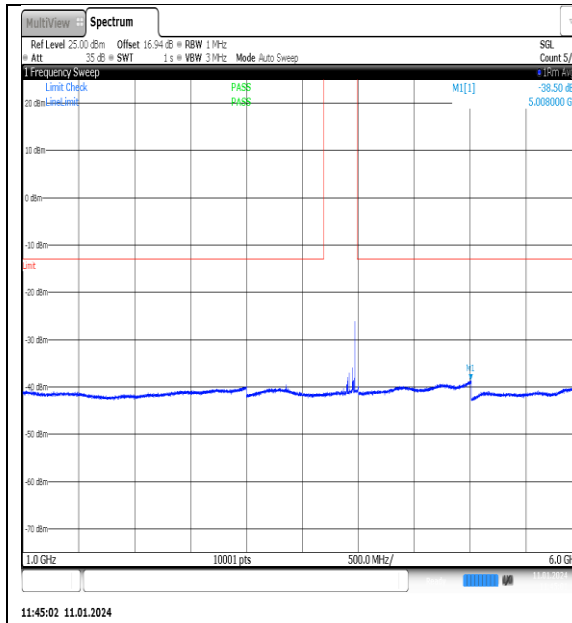
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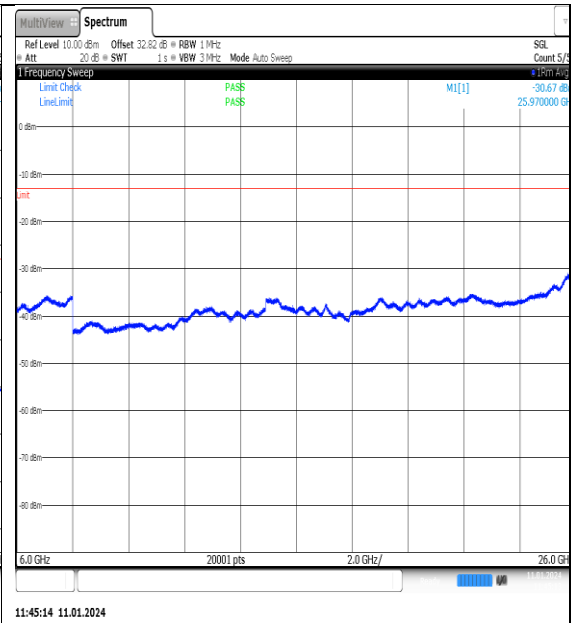
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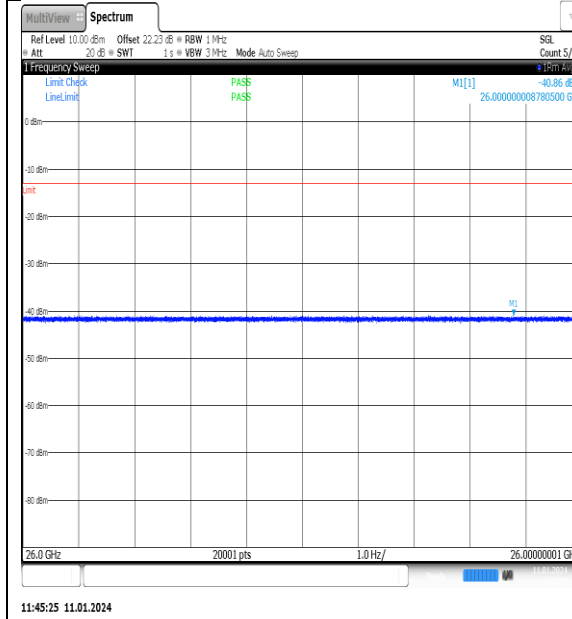
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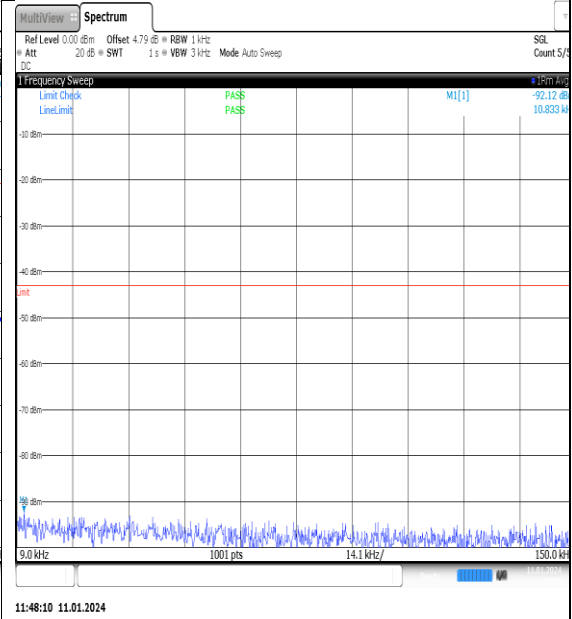
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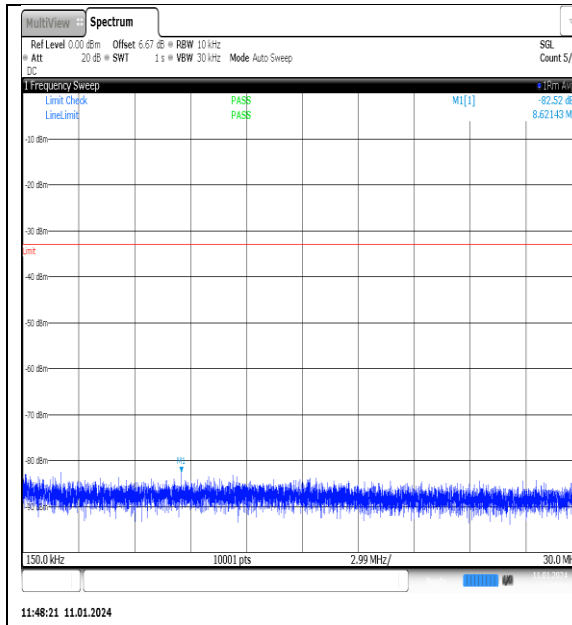
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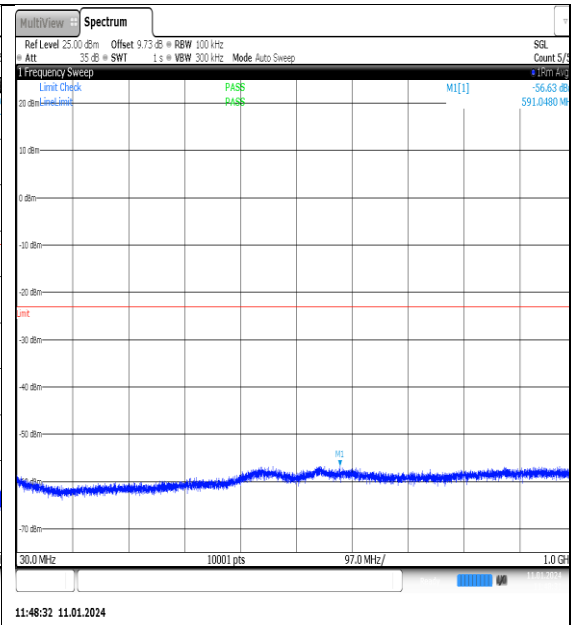
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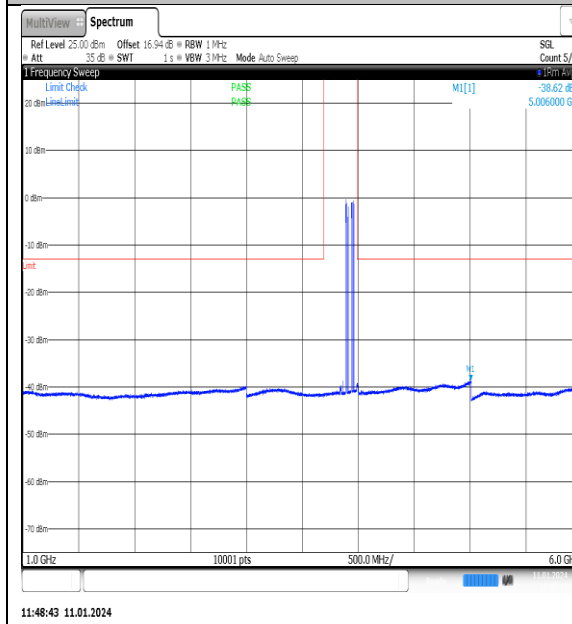
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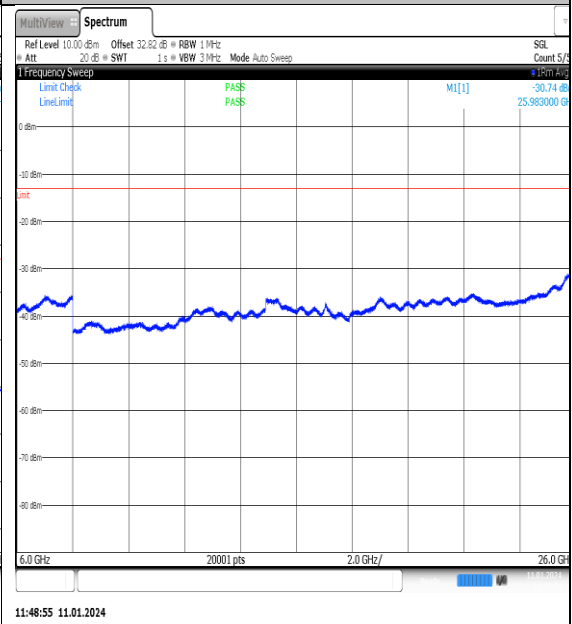
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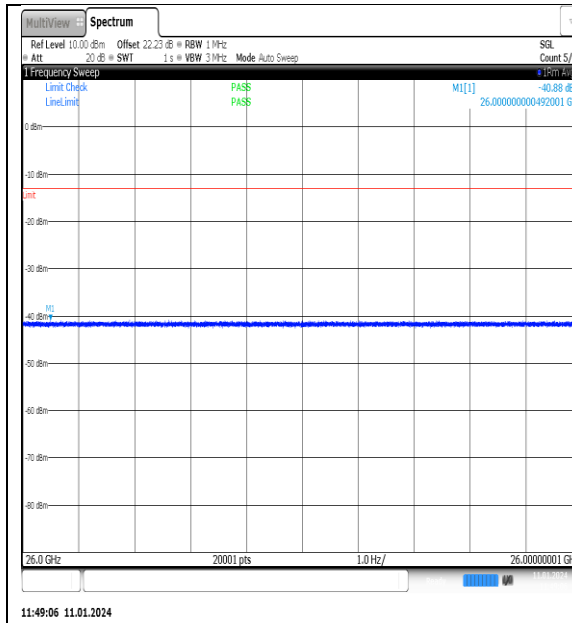
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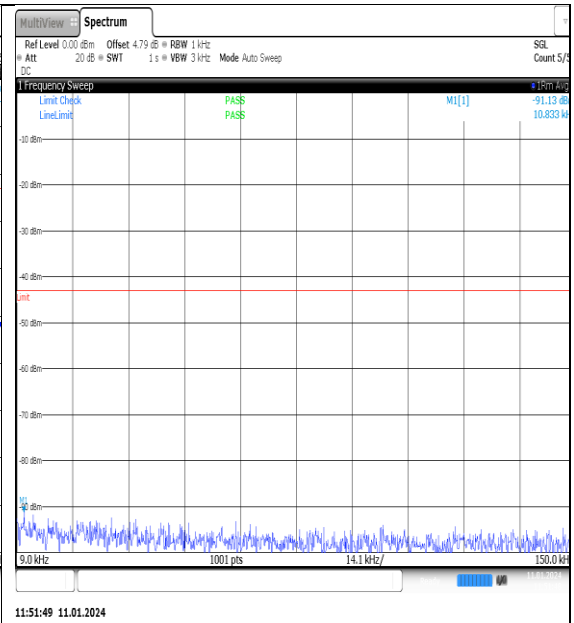
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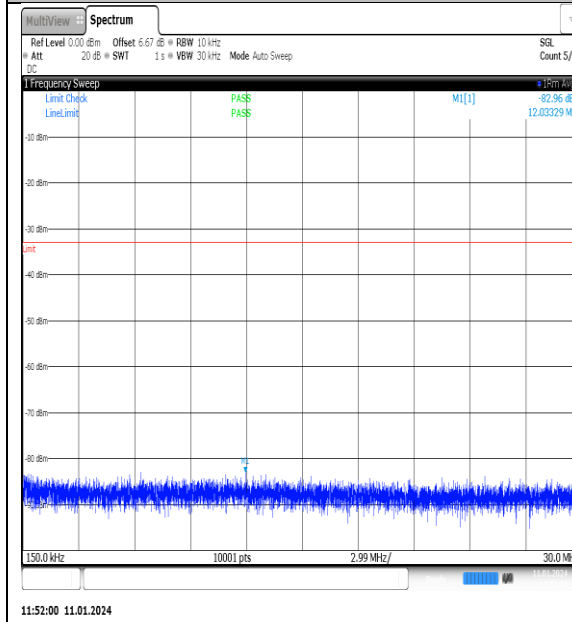
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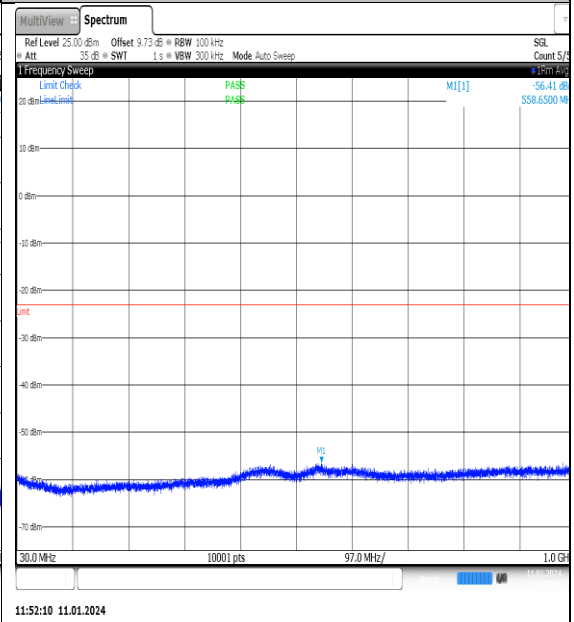
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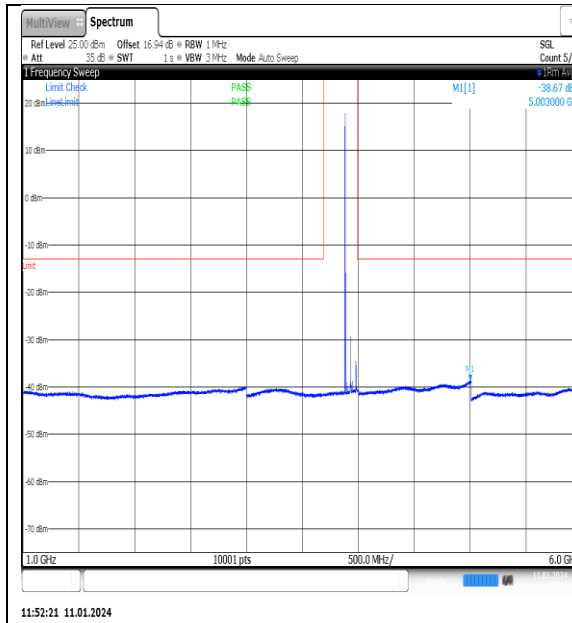
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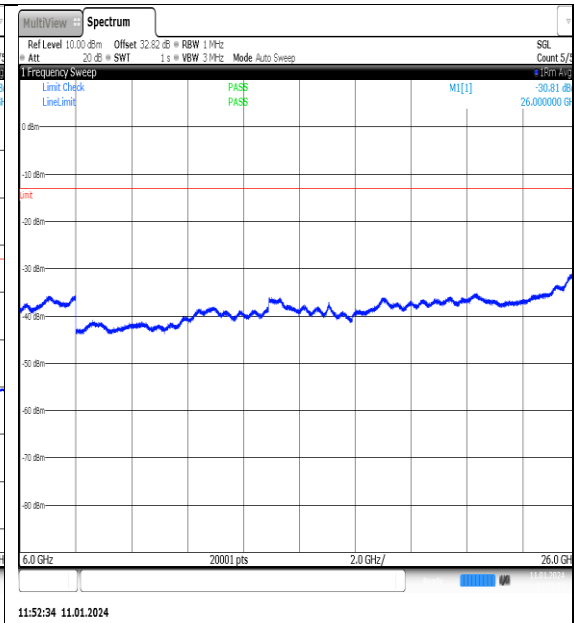
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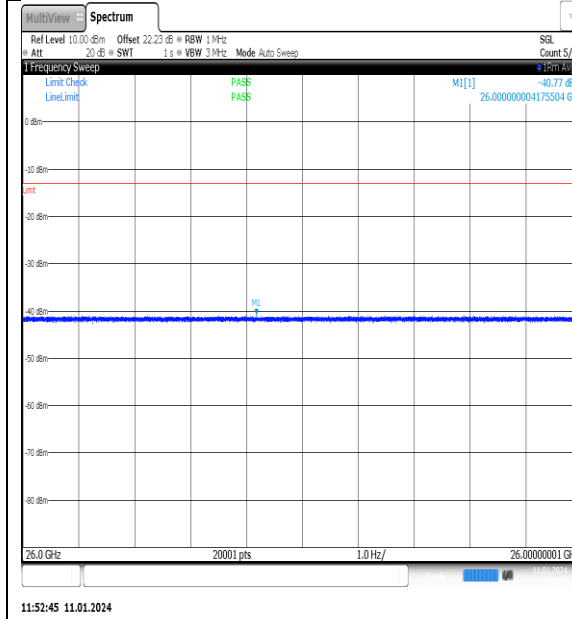
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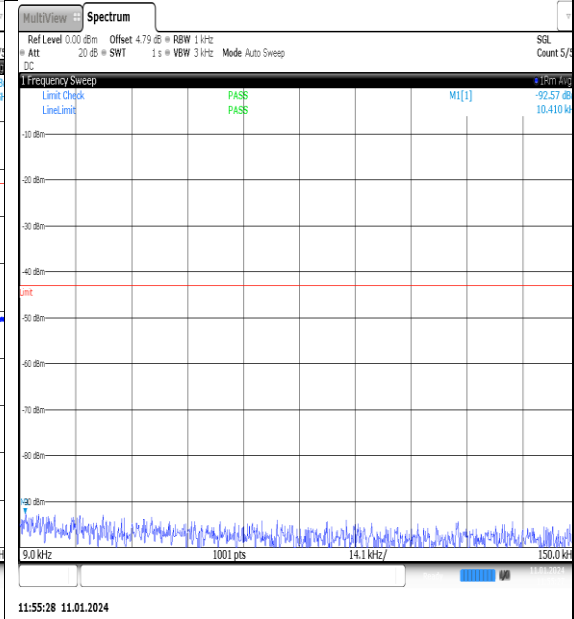
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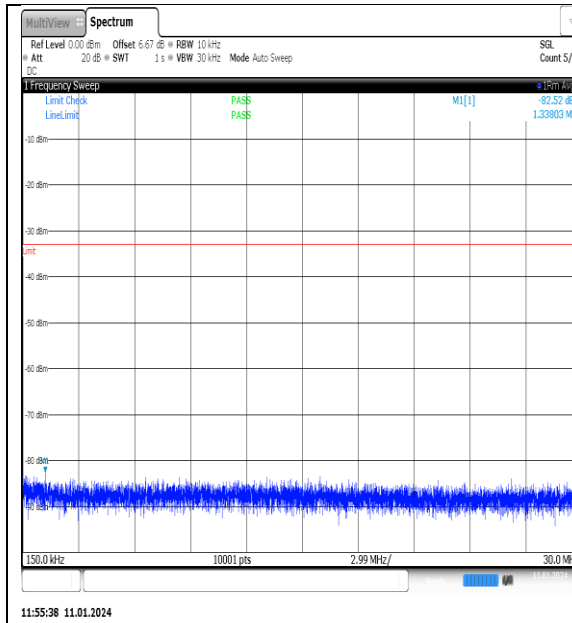
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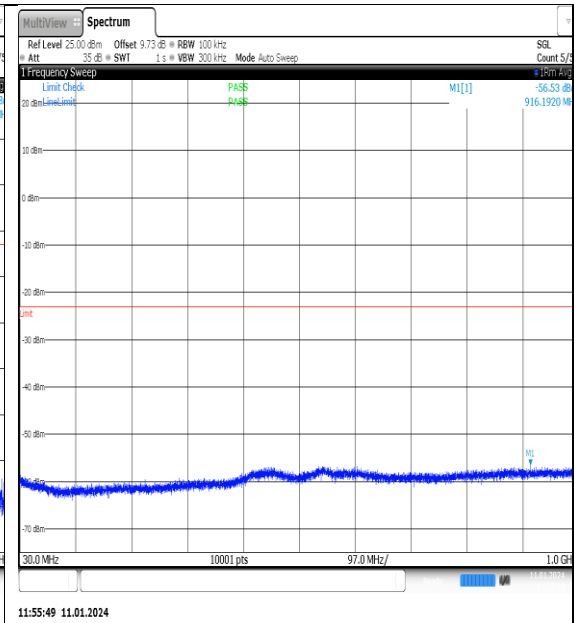


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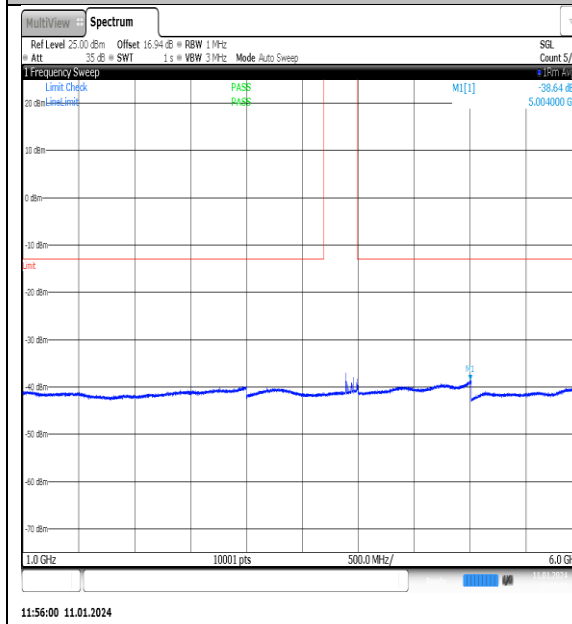
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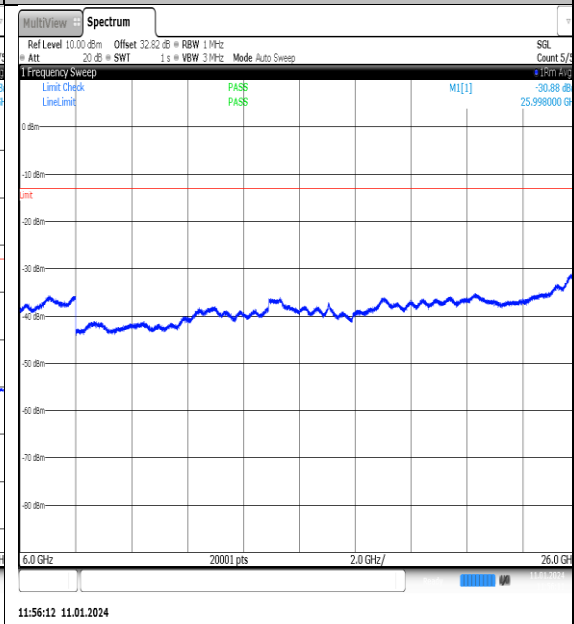
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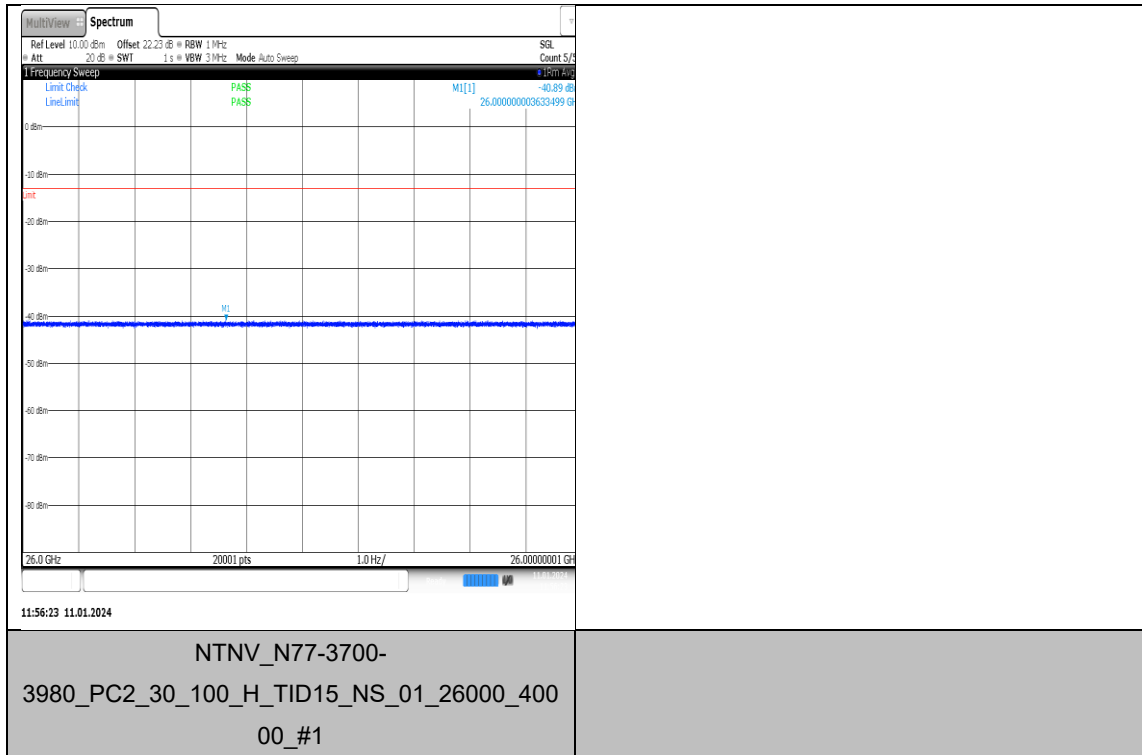
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11:56:12 11.01.2024

NTNV_N77-3700-
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Appendix F: Frequency Stability for SA

Test Result

5G NR Band n2 QPSK(20MHz BANDWIDTH)

Limit		1850	1910	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	1850.13	1909.48		
Extreme (50°C)		1850.13	1909.48	-6	-0.003
Extreme (40°C)		1850.13	1909.48	-5.05	-0.003
Extreme (30°C)		1850.13	1909.48	-8.31	-0.004
Extreme (10°C)		1850.13	1909.48	-5.14	-0.003
Extreme (0°C)		1850.13	1909.48	-5.51	-0.003
Extreme (-10°C)		1850.13	1909.48	-2	-0.001
Extreme (-20°C)		1850.13	1909.48	-9.53	-0.005
Extreme (-30°C)		1850.13	1909.48	-1.8	-0.001
20°C		15%	1850.13	1909.48	-4.42
	-15%	1850.13	1909.48	-8.35	-0.005
	End Point	1850.13	1909.48	-0.99	-0.001

5GNR Band n5 QPSK(20MHz BANDWIDTH)

Limit		824	849	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	824.14	848.46		
Extreme (50°C)		824.14	848.46	-9.01	-0.011
Extreme (40°C)		824.14	848.46	-6.54	-0.008
Extreme (30°C)		824.14	848.46	-4.34	-0.005
Extreme (10°C)		824.14	848.46	-7	-0.008
Extreme (0°C)		824.14	848.46	-2.15	-0.003
Extreme (-10°C)		824.14	848.46	-3.12	-0.004
Extreme (-20°C)		824.14	848.46	-7.65	-0.009
Extreme (-30°C)		824.14	848.46	-11.65	-0.014
20°C	15%	824.14	848.46	-7.37	-0.009
	-15%	824.14	848.46	-7.36	-0.009
	End Point	824.14	848.46	-5.42	-0.007

5G NR Band n7 QPSK(40MHz BANDWIDTH)

Limit		2500	2570	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	2500.13	2569.45		
Extreme (50°C)		2500.13	2569.45	-0.95	0.000
Extreme (40°C)		2500.13	2569.45	-2.03	-0.001
Extreme (30°C)		2500.13	2569.45	-5.84	-0.002
Extreme (10°C)		2500.13	2569.45	-2.73	-0.001
Extreme (0°C)		2500.13	2569.45	-12.57	-0.005
Extreme (-10°C)		2500.13	2569.45	-3.56	-0.001
Extreme (-20°C)		2500.13	2569.45	-1.59	-0.001
Extreme (-30°C)		2500.13	2569.45	-6.13	-0.002
20°C		15%	2500.13	2569.45	-12.09
	-15%	2500.13	2569.45	-4.99	-0.002
	End Point	2500.13	2569.45	-4.08	-0.002

**5GNR Band n25 QPSK(20MHz
BANDWIDTH)**

Limit		1850	1915	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	1850.1	1914.7		
Extreme (50°C)		1850.1	1914.7	-11.67	-0.006
Extreme (40°C)		1850.1	1914.7	-0.95	-0.001
Extreme (30°C)		1850.1	1914.7	-2.97	-0.002
Extreme (10°C)		1850.1	1914.7	-12.94	-0.007
Extreme (0°C)		1850.1	1914.7	-5.92	-0.003
Extreme (-10°C)		1850.1	1914.7	-9.73	-0.005
Extreme (-20°C)		1850.1	1914.7	-7.25	-0.004
Extreme (-30°C)		1850.1	1914.7	-4.14	-0.002
20°C		15%	1850.1	1914.7	-2.65
	-15%	1850.1	1914.7	-7.71	-0.004
	End Point	1850.1	1914.7	-5.79	-0.003

**5GNR Band n41 QPSK(100MHz
BANDWIDTH)**

Limit		2496	2690	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	2496.15	2689.66		
Extreme (50°C)		2496.15	2689.66	-5.1	-0.002
Extreme (40°C)		2496.15	2689.66	-3.6	-0.001
Extreme (30°C)		2496.15	2689.66	-10.3	-0.004
Extreme (10°C)		2496.15	2689.66	-8.47	-0.003
Extreme (0°C)		2496.15	2689.66	-12.74	-0.005
Extreme (-10°C)		2496.15	2689.66	-4.44	-0.002
Extreme (-20°C)		2496.15	2689.66	-4.76	-0.002
Extreme (-30°C)		2496.15	2689.66	-0.86	0.000
20°C	15%	2496.15	2689.66	-11.68	-0.005
	-15%	2496.15	2689.66	-12.37	-0.005
	End Point	2496.15	2689.66	-7.56	-0.003

**5GNR Band n66 QPSK(40MHz
BANDWIDTH)**

Limit		1710	1780	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	1710.19	1779.4		
Extreme (50°C)		1710.19	1779.4	-8.13	-0.005
Extreme (40°C)		1710.19	1779.4	-4.54	-0.003
Extreme (30°C)		1710.19	1779.4	-3.35	-0.002
Extreme (10°C)		1710.19	1779.4	-11.16	-0.007
Extreme (0°C)		1710.19	1779.4	-10.07	-0.006
Extreme (-10°C)		1710.19	1779.4	-3.05	-0.002
Extreme (-20°C)		1710.19	1779.4	-4.47	-0.003
Extreme (-30°C)		1710.19	1779.4	-8.42	-0.005
20°C	15%	1710.19	1779.4	-7.67	-0.004
	-15%	1710.19	1779.4	-5.91	-0.003
	End Point	1710.19	1779.4	-6.16	-0.004

**5GNR Band n71 QPSK(20MHz
BANDWIDTH)**

Limit		663	698	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	663.18	697.62		
Extreme (50°C)		663.18	697.62	-9.93	-0.015
Extreme (40°C)		663.18	697.62	-2.19	-0.003
Extreme (30°C)		663.18	697.62	-4.98	-0.008
Extreme (10°C)		663.18	697.62	-6.99	-0.011
Extreme (0°C)		663.18	697.62	-11.07	-0.017
Extreme (-10°C)		663.18	697.62	-7.18	-0.011
Extreme (-20°C)		663.18	697.62	-3.32	-0.005
Extreme (-30°C)		663.18	697.62	-12.67	-0.019
20°C	15%	663.18	697.62	-10	-0.015
	-15%	663.18	697.62	-11.7	-0.018
	End Point	663.18	697.62	-4.88	-0.007

5GNR Band n77(3450-3550) QPSK(100MHz BANDWIDTH)

Limit		3450	3550	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	3450.2	3549.66		
Extreme (50°C)		3450.2	3549.66	-32.66	-0.009
Extreme (40°C)		3450.2	3549.66	-34.9	-0.010
Extreme (30°C)		3450.2	3549.66	-42.43	-0.012
Extreme (10°C)		3450.2	3549.66	-37.03	-0.011
Extreme (0°C)		3450.2	3549.66	-49.42	-0.014
Extreme (-10°C)		3450.2	3549.66	-38.61	-0.011
Extreme (-20°C)		3450.2	3549.66	-27.07	-0.008
Extreme (-30°C)		3450.2	3549.66	-40.06	-0.012
20°C		15%	3450.2	3549.66	-21.94
	-15%	3450.2	3549.66	-47.28	-0.014
	End Point	3450.2	3549.66	-30	-0.009

5G NR Band n77(3700-3980) QPSK(100MHz BANDWIDTH)

Limit		3700	3980	Delta(Hz)	Frequency Stability (ppm)
Condition		F low@-13dBm(MHz)	F High@-13dBm(MHz)		
Temperature	Voltage				
Normal (20°C)	Normal	3700.15	3979.49		
Extreme (50°C)		3700.15	3979.49	-28.8	-0.008
Extreme (40°C)		3700.15	3979.49	-37.13	-0.010
Extreme (30°C)		3700.15	3979.49	-52.41	-0.014
Extreme (10°C)		3700.15	3979.49	-37.02	-0.010
Extreme (0°C)		3700.15	3979.49	-41.8	-0.011
Extreme (-10°C)		3700.15	3979.49	-33.93	-0.009
Extreme (-20°C)		3700.15	3979.49	-41.42	-0.011
Extreme (-30°C)		3700.15	3979.49	-42.78	-0.012
20°C	15%	3700.15	3979.49	-37.34	-0.010
	-15%	3700.15	3979.49	-42.62	-0.012
	End Point	3700.15	3979.49	-47.74	-0.013