

RF Test Data for 5G Wi-Fi (Conducted Measurements)

General Description of EUT	
EUT Name:	HDMI Wireless extender
Model:	W3103
Sample ID:	HC-C-202503-5122-01-02#
Test Standard:	FCC Part 15.407
Environmental Conditions	
Ambient Temperature:	25°C
Ambient Humidity:	45%RH
Test Power Supply:	DC 5V
Test Engineer:	Rick Chen
Note: For a more detailed features description, please refer to the report TBR-C-202503-5122-3	

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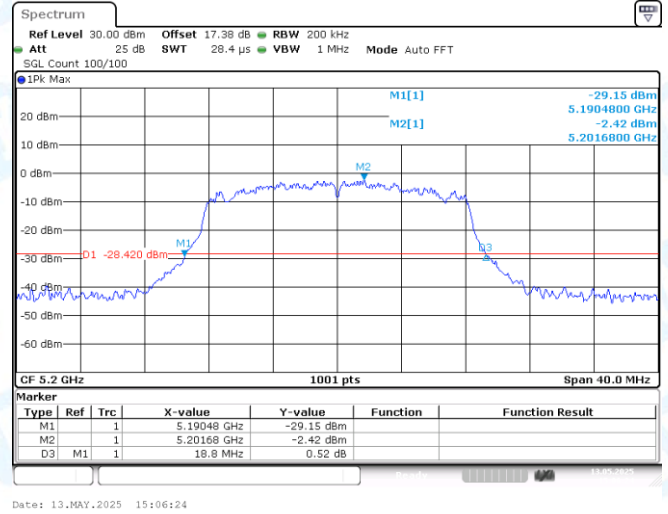
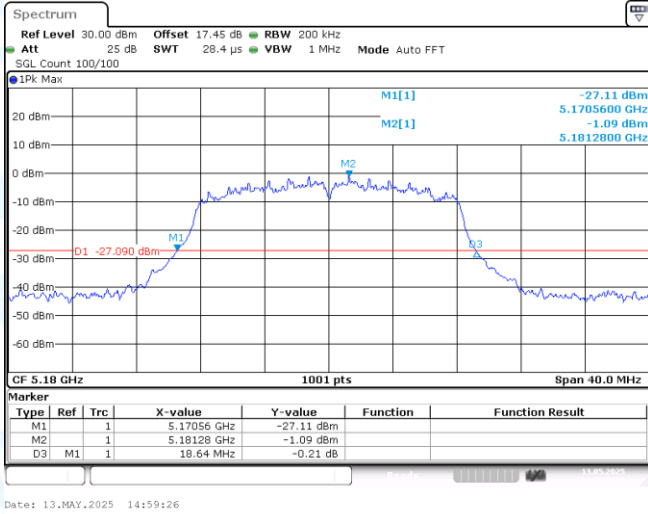
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1: Emission Bandwidth

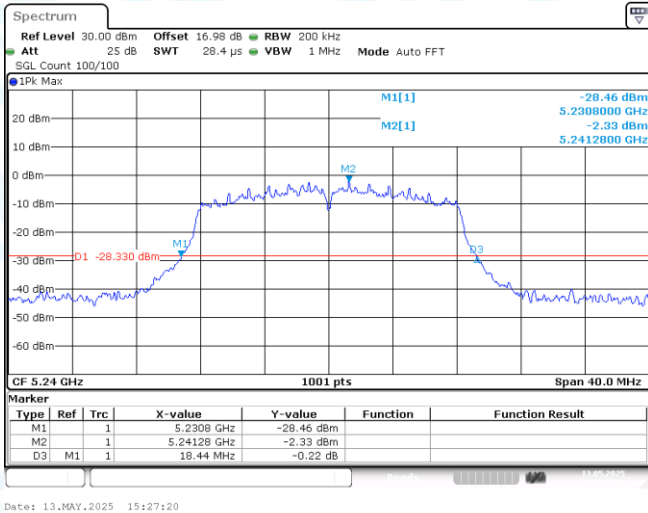
1.1 Test Result

TestMode	Antenna	Frequency[MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.64	5170.56	5189.20	---	---
11A	Ant1	5200	18.80	5190.48	5209.28	---	---
11A	Ant1	5240	18.44	5230.80	5249.24	---	---
11N20SISO	Ant1	5180	19.52	5170.36	5189.88	---	---
11N20SISO	Ant1	5200	19.16	5190.44	5209.60	---	---
11N20SISO	Ant1	5240	20.00	5229.92	5249.92	---	---

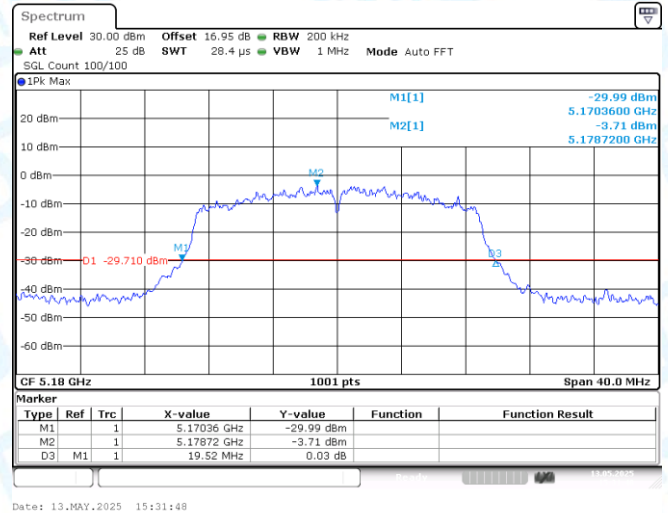
1.2 Test Graphs



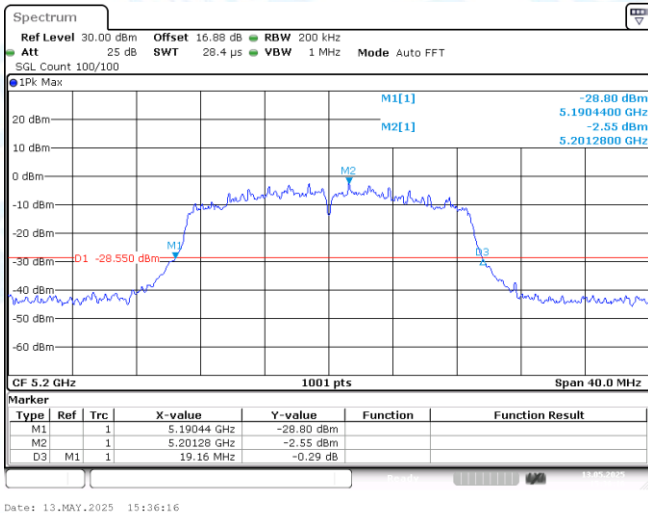
11A-Ant1-5180



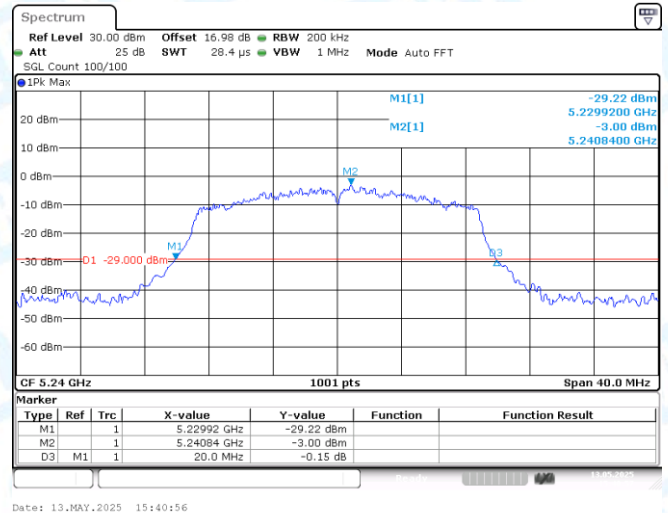
11A-Ant1-5200



11A-Ant1-5240



11N20SISO-Ant1-5180



11N20SISO-Ant1-5200

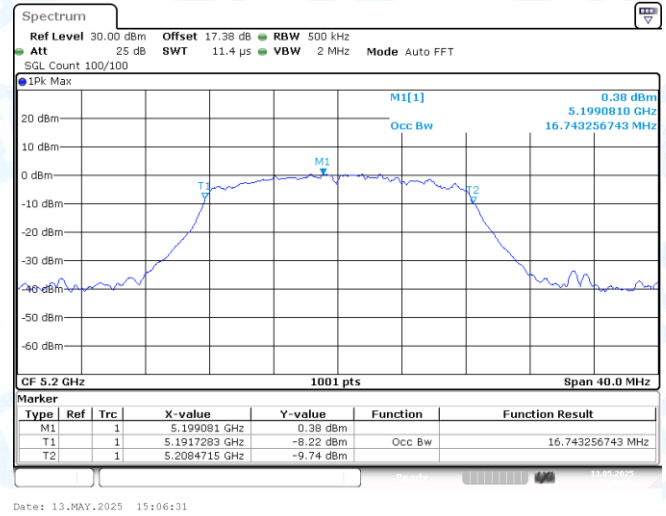
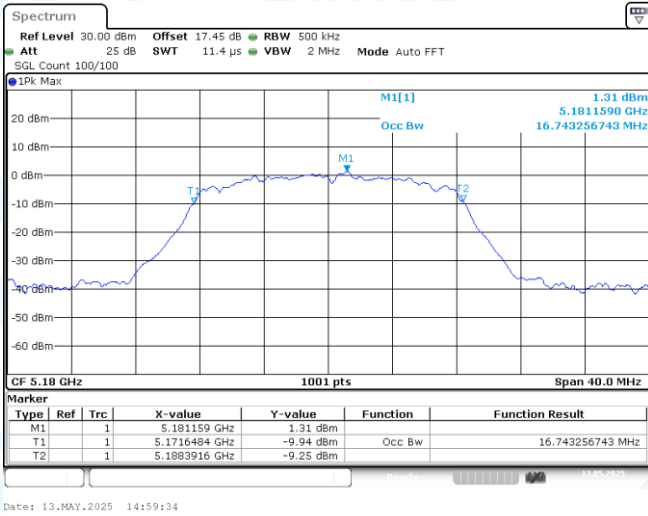
11N20SISO-Ant1-5240

2: Occupied channel bandwidth

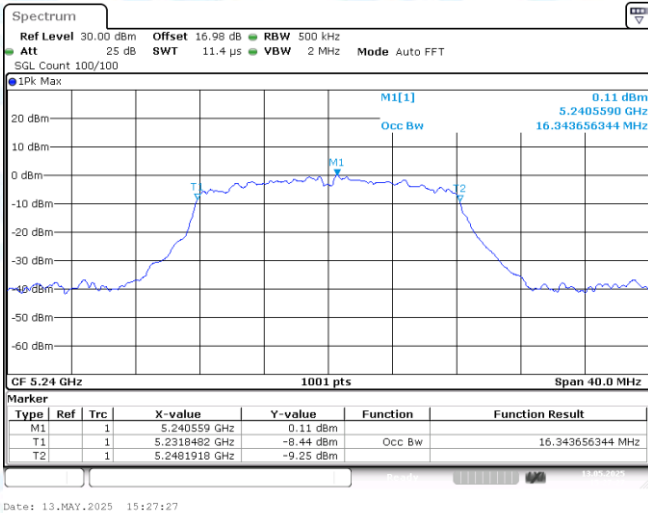
2.1 Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.743	5171.6484	5188.3916	---	---
11A	Ant1	5200	16.743	5191.7283	5208.4715	---	---
11A	Ant1	5240	16.344	5231.8482	5248.1918	---	---
11N20SISO	Ant1	5180	17.502	5171.2887	5188.7912	---	---
11N20SISO	Ant1	5200	17.383	5191.2887	5208.6713	---	---
11N20SISO	Ant1	5240	17.463	5231.3287	5248.7912	---	---

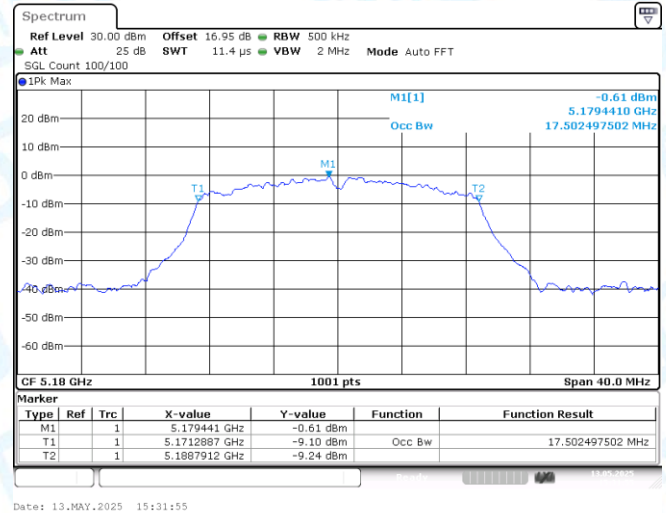
2.2 Test Graphs



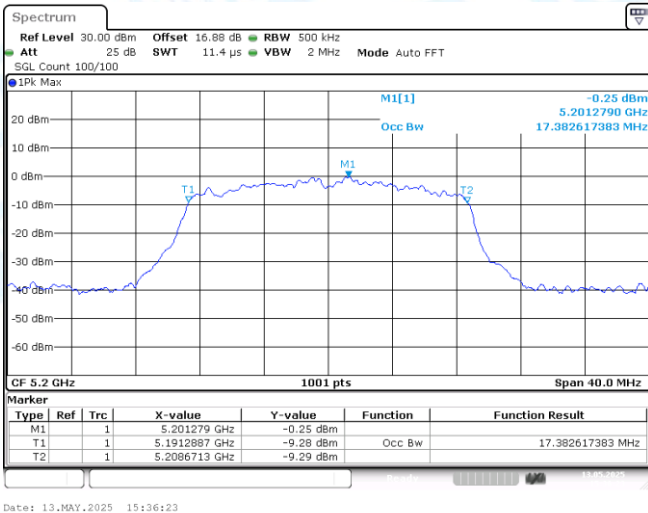
11A-Ant1-5180



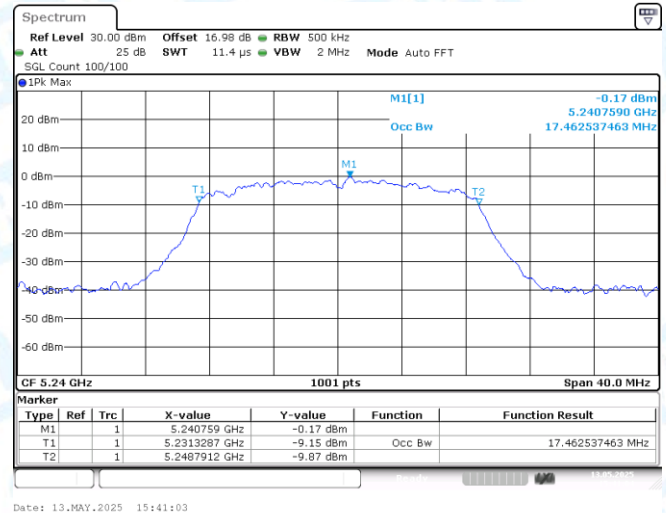
11A-Ant1-5200



11A-Ant1-5240



11N20SISO-Ant1-5180



11N20SISO-Ant1-5240

11N20SISO-Ant1-5240

3: Duty Cycle

3.1 Test Result

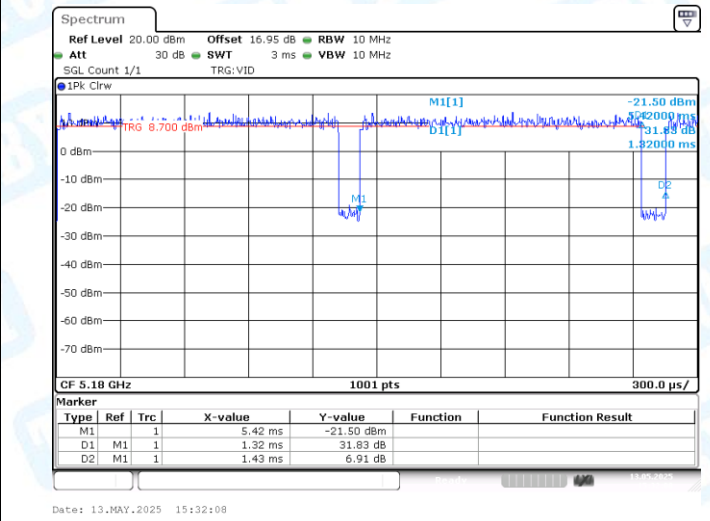
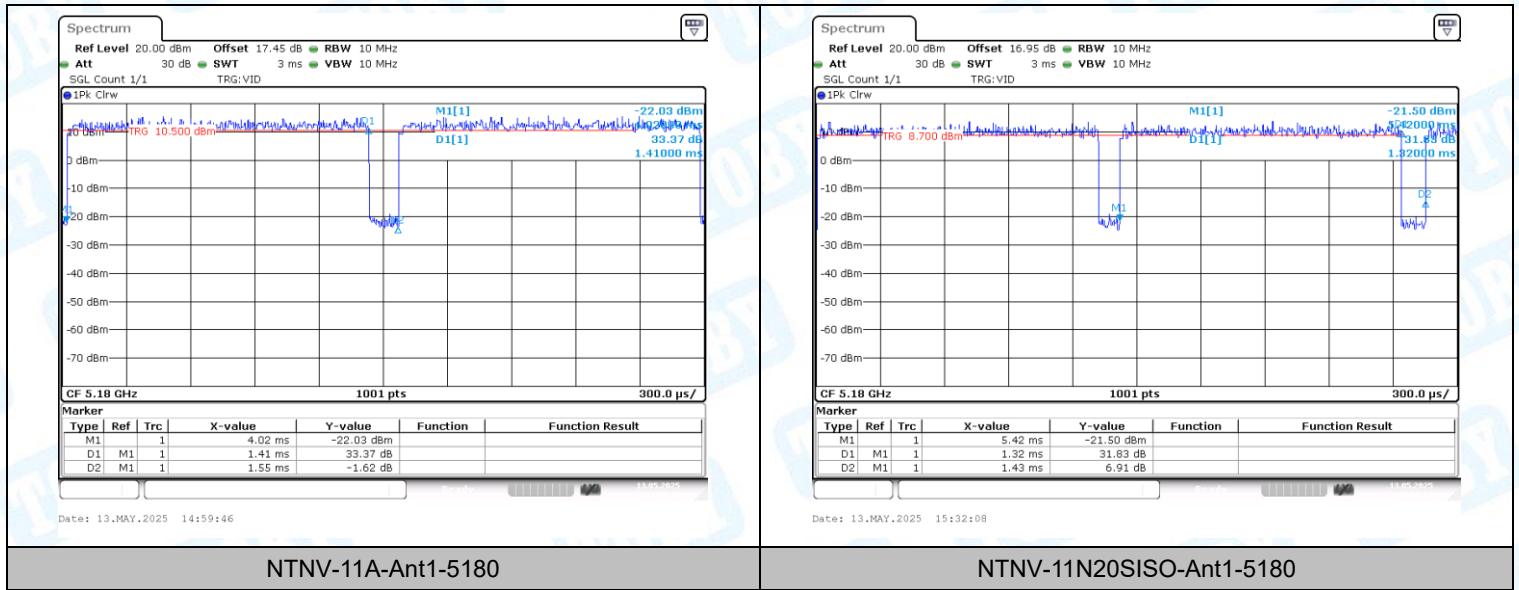
TestMode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factory	1/T [kHz]
11A	Ant1	5180	1.41	1.55	90.97	0.41	0.71
11N20SISO	Ant1	5180	1.32	1.43	92.31	0.35	0.76

Note: 1, Duty Cycle= Transmission Duration/ Transmission Period

2, DC Factory=10*Log₁₀(1/Duty Cycle)

3, 1/T=1/ Transmission Duration

3.2 Test Graphs



4: Maximum conducted output power

4.1 Test Result

TestMode	Antenna	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	5.00	≤23.98	PASS
11A	Ant1	5200	4.89	≤23.98	PASS
11A	Ant1	5240	5.58	≤23.98	PASS
11N20SISO	Ant1	5180	4.70	≤23.98	PASS
11N20SISO	Ant1	5200	4.79	≤23.98	PASS
11N20SISO	Ant1	5240	5.27	≤23.98	PASS

Note: The duty factor has been compensated into the result.

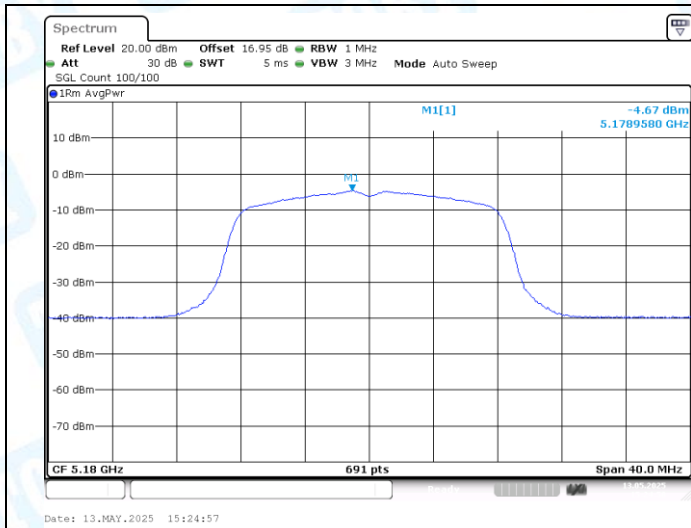
5: Maximum power spectral density

5.1 Test Result

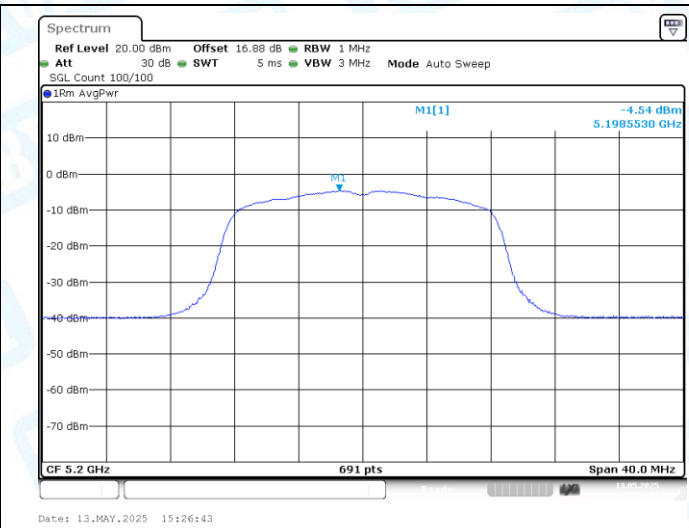
Test Mode	Ant.	Frequency [MHz]	Result [dBm/MHz] Result [dBm/500kHz]	Limit[dBm/MHz] Limit[dBm/500kHz]	Verdict
11A	Ant1	5180	-4.26	≤11.00	PASS
11A	Ant1	5200	-3.96	≤11.00	PASS
11A	Ant1	5240	-3.54	≤11.00	PASS
11N20SISO	Ant1	5180	-4.43	≤11.00	PASS
11N20SISO	Ant1	5200	-4.30	≤11.00	PASS
11N20SISO	Ant1	5240	-3.96	≤11.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
 2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

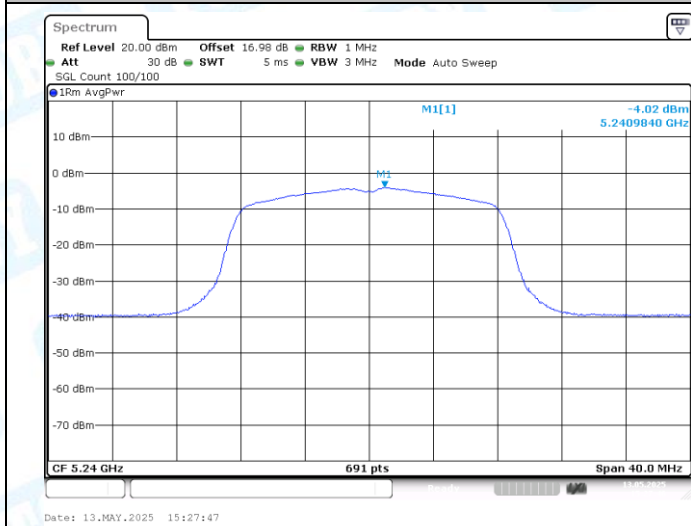
5.2 Test Graphs



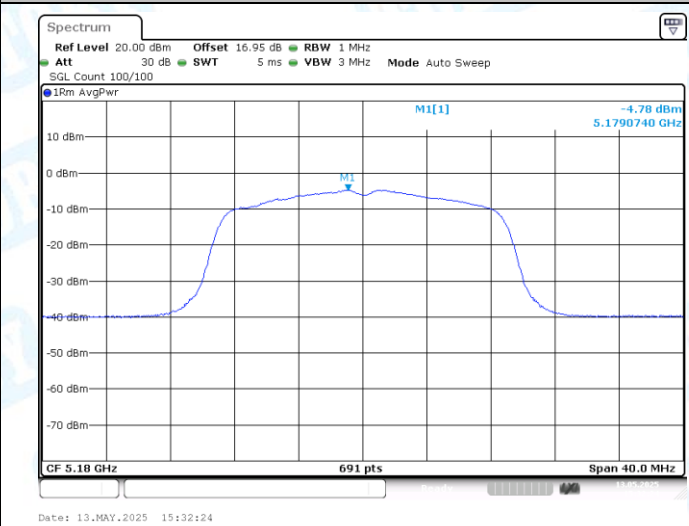
11A-Ant1-5180-PASS



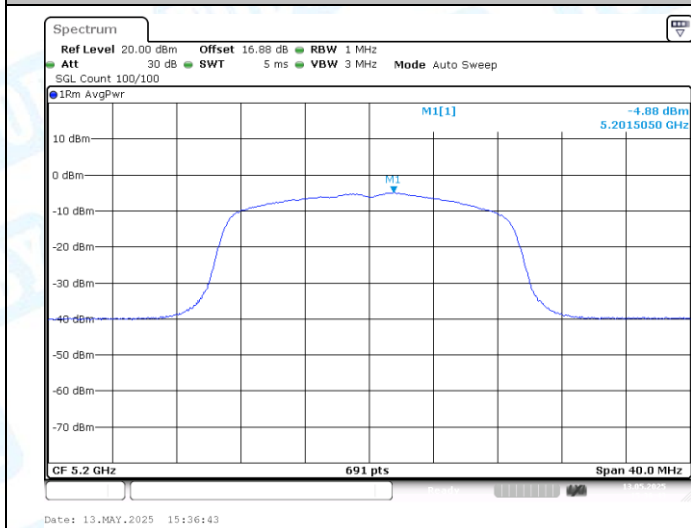
11A-Ant1-5200-PASS



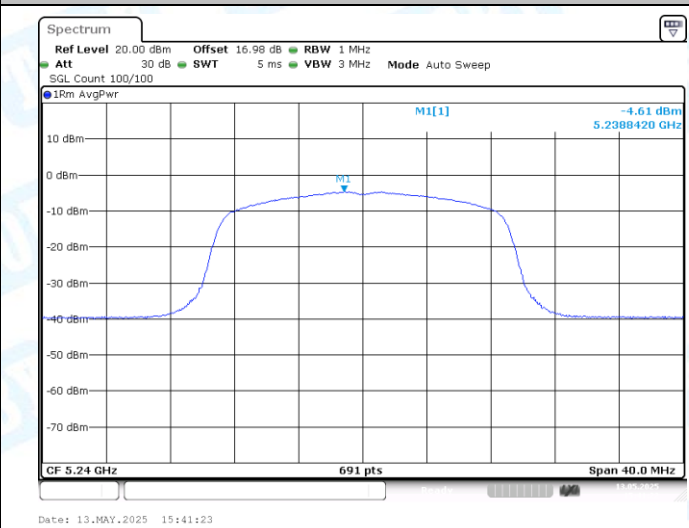
11A-Ant1-5240-PASS



11N20SISO-Ant1-5180-PASS



11N20SISO-Ant1-5200-PASS



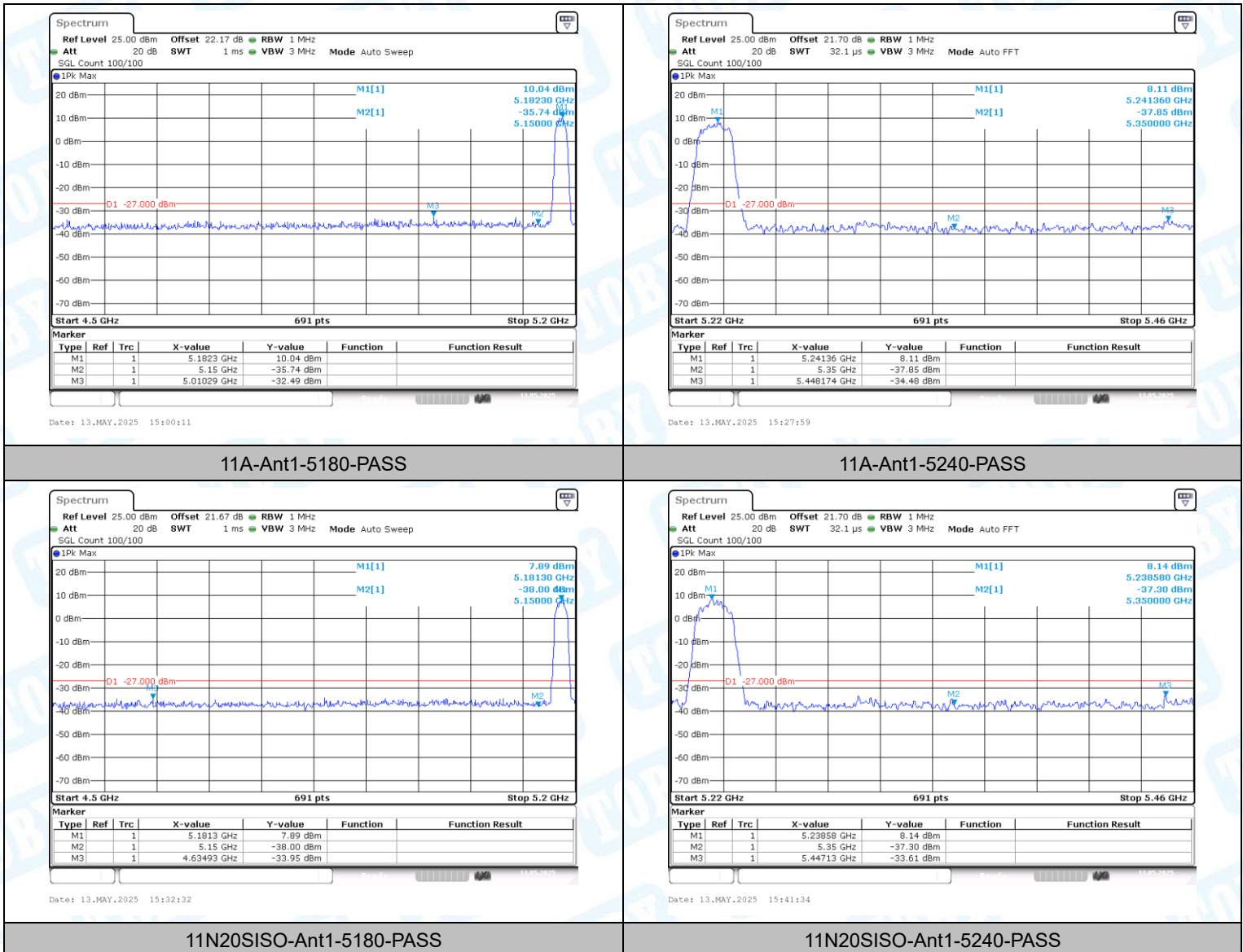
11N20SISO-Ant1-5240-PASS

6: Band edge measurements

6.1 Test Result B1

TestMode	Antenna	ChName	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-32.49	≤-27	PASS
11A	Ant1	High	5240	-34.48	≤-27	PASS
11N20SISO	Ant1	Low	5180	-33.95	≤-27	PASS
11N20SISO	Ant1	High	5240	-33.61	≤-27	PASS

6.2 Test Graphs B1

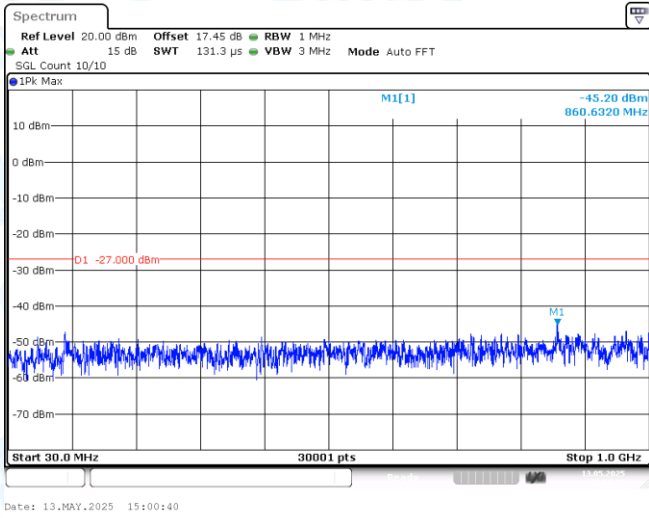


7: Conducted Spurious Emission

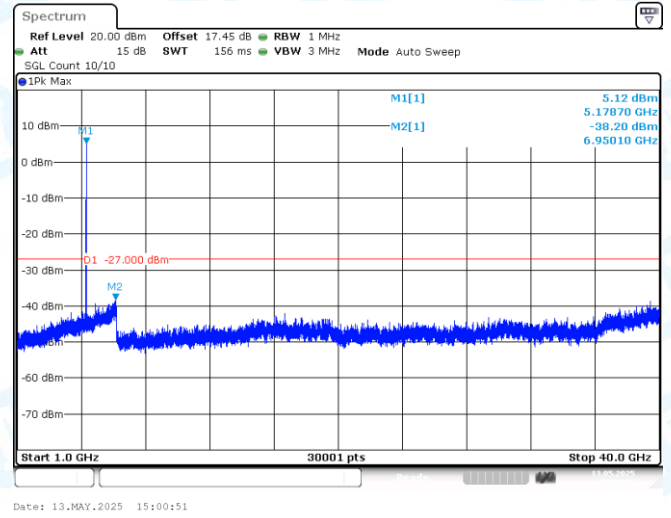
7.1 Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~1000	860.63	-45.2	≤-27	PASS
11A	Ant1	5180	1000~40000	6950.1	-38.2	≤-27	PASS
11A	Ant1	5200	30~1000	894.42	-46.32	≤-27	PASS
11A	Ant1	5200	1000~40000	6991.7	-38.96	≤-27	PASS
11A	Ant1	5240	30~1000	860.63	-46.38	≤-27	PASS
11A	Ant1	5240	1000~40000	6991.7	-39.7	≤-27	PASS
11N20SISO	Ant1	5180	30~1000	508.83	-45.23	≤-27	PASS
11N20SISO	Ant1	5180	1000~40000	6872.1	-39.56	≤-27	PASS
11N20SISO	Ant1	5200	30~1000	958.79	-47.03	≤-27	PASS
11N20SISO	Ant1	5200	1000~40000	6916.3	-39.49	≤-27	PASS
11N20SISO	Ant1	5240	30~1000	868.2	-46.37	≤-27	PASS
11N20SISO	Ant1	5240	1000~40000	6978.7	-38.87	≤-27	PASS

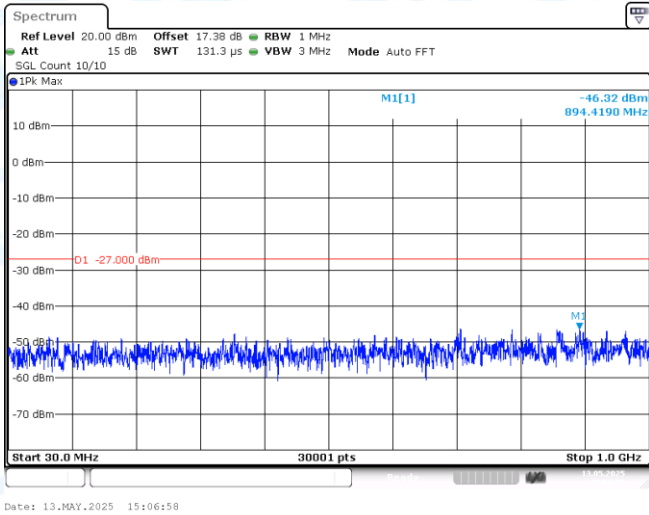
7.2 Test Graphs



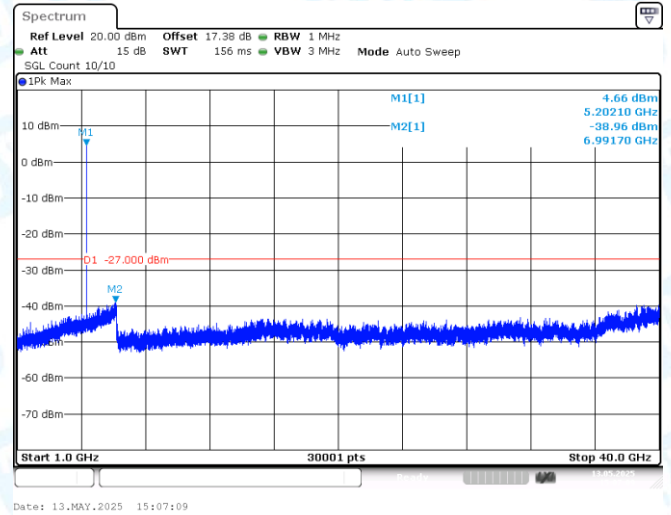
11A-Ant1-5180-30~1000-PASS



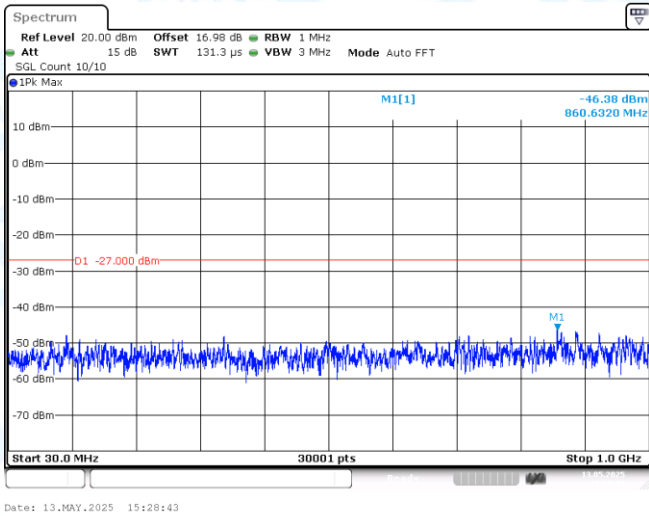
11A-Ant1-5180-1000~40000-PASS



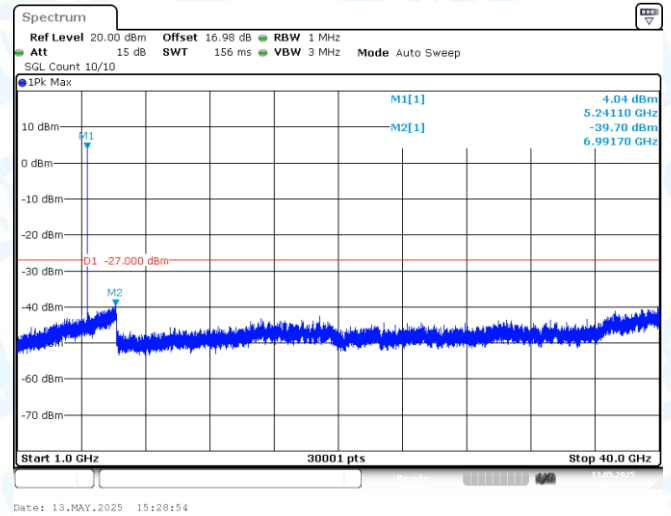
11A-Ant1-5200-30~1000-PASS



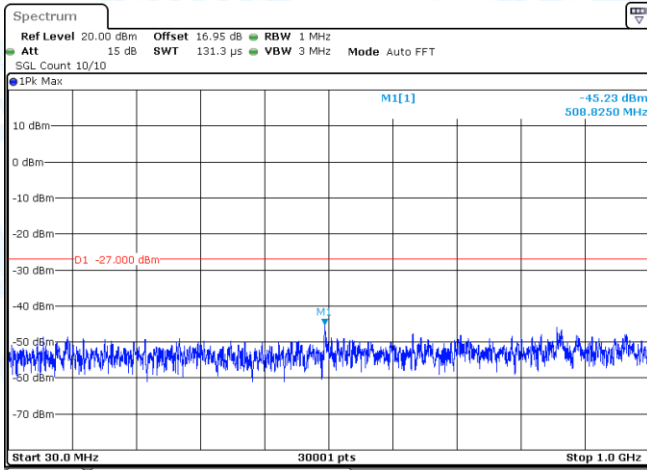
11A-Ant1-5200-1000~40000-PASS



11A-Ant1-5240-30~1000-PASS

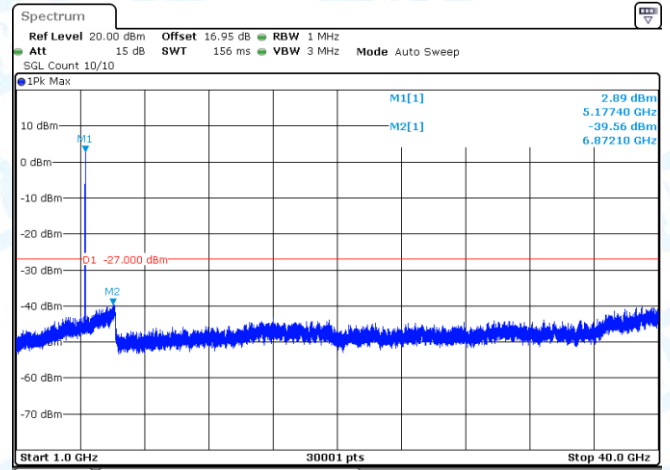


11A-Ant1-5240-1000~40000-PASS



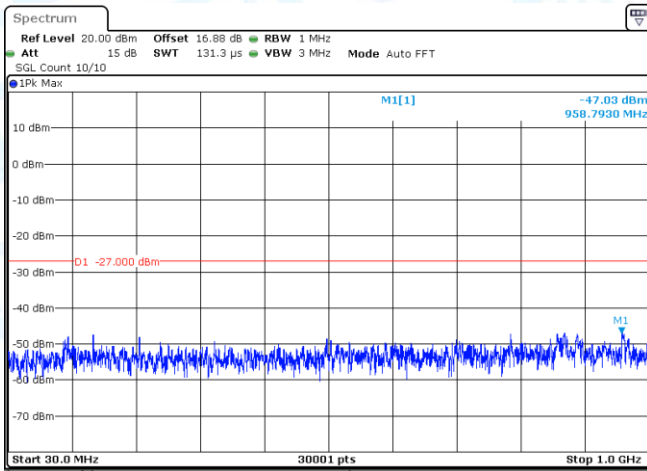
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11N20SISO-Ant1-5180-30~1000-PASS



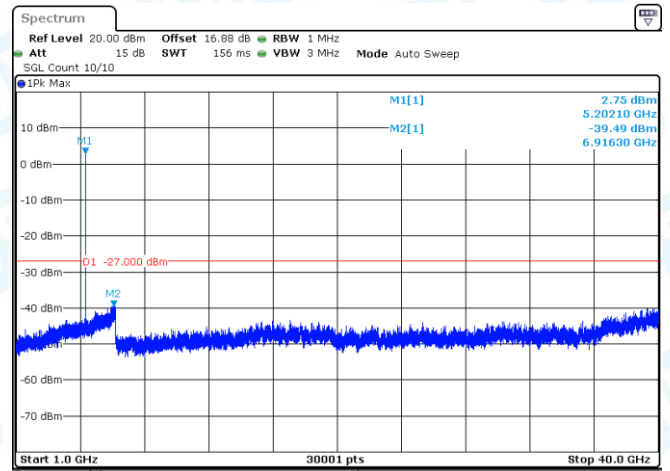
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11N20SISO-Ant1-5180-1000~40000-PASS



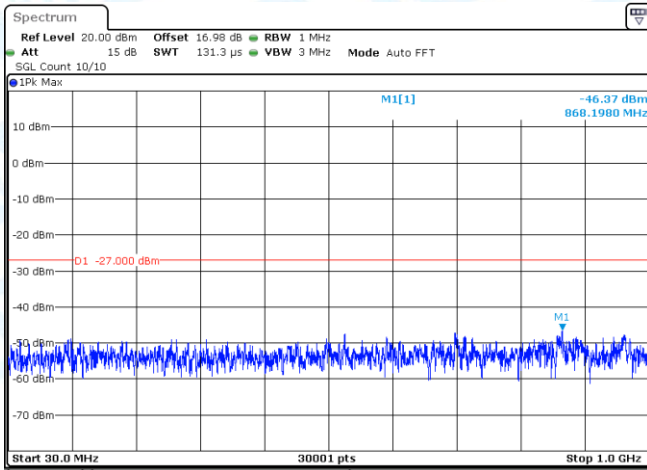
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11N20SISO-Ant1-5200-30~1000-PASS



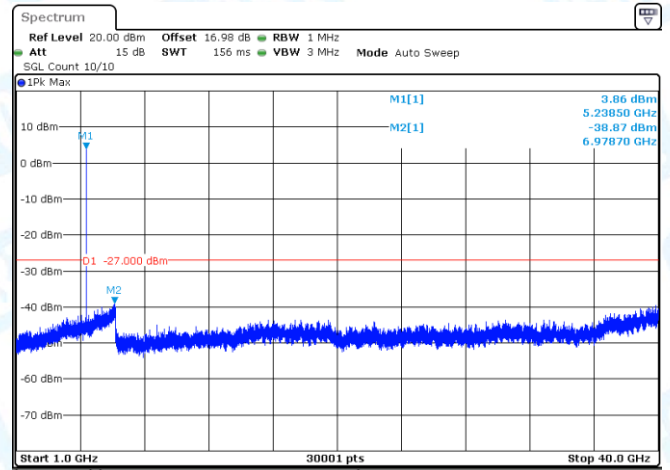
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11N20SISO-Ant1-5200-1000~40000-PASS



Date: 13.MAY.2025 15:42:19

11N20SISO-Ant1-5240-30~1000-PASS



Date: 13.MAY.2025 15:42:30

11N20SISO-Ant1-5240-1000~40000-PASS

8: Frequency Stability

8.1 Test Result

TestMode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	0.00	0.000000	20	PASS
11A	Ant1	5180	LV	NT	0.00	0.000000	20	PASS
11A	Ant1	5180	HV	NT	0.00	0.000000	20	PASS
11A	Ant1	5200	NV	NT	0.00	0.000000	20	PASS
11A	Ant1	5200	LV	NT	20000.00	3.846154	20	PASS
11A	Ant1	5200	HV	NT	0.00	0.000000	20	PASS
11A	Ant1	5240	NV	NT	20000.00	3.816794	20	PASS
11A	Ant1	5240	LV	NT	0.00	0.000000	20	PASS
11A	Ant1	5240	HV	NT	-20000.00	-3.816794	20	PASS
11N20SISO	Ant1	5180	NV	NT	-40000.00	-7.722008	20	PASS
11N20SISO	Ant1	5180	LV	NT	20000.00	3.861004	20	PASS
11N20SISO	Ant1	5180	HV	NT	-40000.00	-7.722008	20	PASS
11N20SISO	Ant1	5200	NV	NT	-40000.00	-7.692308	20	PASS
11N20SISO	Ant1	5200	LV	NT	20000.00	3.846154	20	PASS
11N20SISO	Ant1	5200	HV	NT	20000.00	3.846154	20	PASS
11N20SISO	Ant1	5240	NV	NT	0.00	0.000000	20	PASS
11N20SISO	Ant1	5240	LV	NT	-20000.00	-3.816794	20	PASS
11N20SISO	Ant1	5240	HV	NT	20000.00	3.816794	20	PASS

TestMode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	0	20000.00	3.861004	20	PASS
11A	Ant1	5180	NV	10	40000.00	7.722008	20	PASS
11A	Ant1	5180	NV	20	20000.00	3.861004	20	PASS
11A	Ant1	5180	NV	30	0.00	0.000000	20	PASS
11A	Ant1	5180	NV	45	0.00	0.000000	20	PASS
11A	Ant1	5200	NV	0	-20000.00	-3.846154	20	PASS
11A	Ant1	5200	NV	10	-40000.00	-7.692308	20	PASS
11A	Ant1	5200	NV	20	-20000.00	-3.846154	20	PASS
11A	Ant1	5200	NV	30	-40000.00	-7.692308	20	PASS
11A	Ant1	5200	NV	45	-40000.00	-7.692308	20	PASS
11A	Ant1	5240	NV	0	-20000.00	-3.816794	20	PASS
11A	Ant1	5240	NV	10	0.00	0.000000	20	PASS
11A	Ant1	5240	NV	20	20000.00	3.816794	20	PASS
11A	Ant1	5240	NV	30	-20000.00	-3.816794	20	PASS
11A	Ant1	5240	NV	45	-20000.00	-3.816794	20	PASS
11N20SISO	Ant1	5180	NV	0	20000.00	3.861004	20	PASS
11N20SISO	Ant1	5180	NV	10	0.00	0.000000	20	PASS
11N20SISO	Ant1	5180	NV	20	20000.00	3.861004	20	PASS
11N20SISO	Ant1	5180	NV	30	20000.00	3.861004	20	PASS
11N20SISO	Ant1	5180	NV	45	-20000.00	-3.861004	20	PASS
11N20SISO	Ant1	5200	NV	0	-20000.00	-3.846154	20	PASS
11N20SISO	Ant1	5200	NV	10	0.00	0.000000	20	PASS
11N20SISO	Ant1	5200	NV	20	-20000.00	-3.846154	20	PASS
11N20SISO	Ant1	5200	NV	30	0.00	0.000000	20	PASS
11N20SISO	Ant1	5200	NV	45	40000.00	7.692308	20	PASS
11N20SISO	Ant1	5240	NV	0	40000.00	7.633588	20	PASS
11N20SISO	Ant1	5240	NV	10	20000.00	3.816794	20	PASS
11N20SISO	Ant1	5240	NV	20	-40000.00	-7.633588	20	PASS
11N20SISO	Ant1	5240	NV	30	0.00	0.000000	20	PASS
11N20SISO	Ant1	5240	NV	45	-40000.00	-7.633588	20	PASS

9: Emissions in Restricted Bands

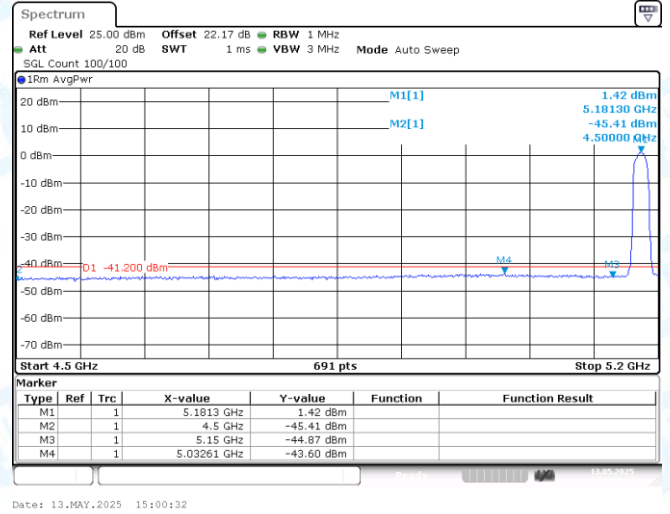
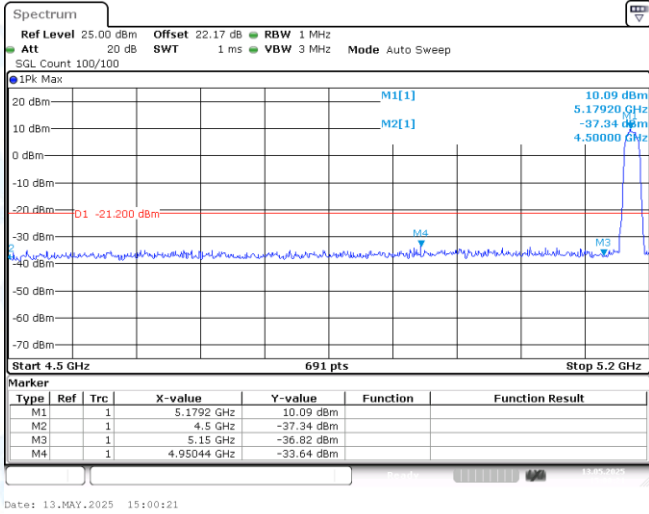
9.1 Test Result

TestMode	Ant.	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant1	Low	5180	Peak	4500.000	-37.34	≤-21.20	57.86	≤74	PASS
11A	Ant1	Low	5180	Peak	5150.000	-36.82	≤-21.20	58.38	≤74	PASS
11A	Ant1	Low	5180	Peak	4950.435	-33.64	≤-21.20	61.56	≤74	PASS
11A	Ant1	Low	5180	AV	4500.000	-45.41	≤-41.20	49.79	≤54	PASS
11A	Ant1	Low	5180	AV	5150.000	-44.87	≤-41.20	50.33	≤54	PASS
11A	Ant1	Low	5180	AV	5032.609	-43.6	≤-41.20	51.60	≤54	PASS
11A	Ant1	High	5240	Peak	5350.000	-38.18	≤-21.20	57.02	≤74	PASS
11A	Ant1	High	5240	Peak	5460.000	-34.22	≤-21.20	60.98	≤74	PASS
11A	Ant1	High	5240	Peak	5451.652	-33.56	≤-21.20	61.64	≤74	PASS
11A	Ant1	High	5240	AV	5350.000	-45.35	≤-41.20	49.85	≤54	PASS
11A	Ant1	High	5240	AV	5460.000	-43.67	≤-41.20	51.53	≤54	PASS
11A	Ant1	High	5240	AV	5448.174	-42.08	≤-41.20	53.12	≤54	PASS
11N20SISO	Ant1	Low	5180	Peak	4500.000	-38.46	≤-21.20	56.74	≤74	PASS
11N20SISO	Ant1	Low	5180	Peak	5150.000	-34.97	≤-21.20	60.23	≤74	PASS
11N20SISO	Ant1	Low	5180	Peak	4929.130	-33.98	≤-21.20	61.22	≤74	PASS
11N20SISO	Ant1	Low	5180	AV	4500.000	-45.86	≤-41.20	49.34	≤54	PASS
11N20SISO	Ant1	Low	5180	AV	5150.000	-44.79	≤-41.20	50.41	≤54	PASS
11N20SISO	Ant1	Low	5180	AV	5009.275	-44.25	≤-41.20	50.95	≤54	PASS
11N20SISO	Ant1	High	5240	Peak	5350.000	-37.56	≤-21.20	57.64	≤74	PASS
11N20SISO	Ant1	High	5240	Peak	5460.000	-37.6	≤-21.20	57.60	≤74	PASS
11N20SISO	Ant1	High	5240	Peak	5447.826	-33.98	≤-21.20	61.22	≤74	PASS
11N20SISO	Ant1	High	5240	AV	5350.000	-44.1	≤-41.20	51.10	≤54	PASS
11N20SISO	Ant1	High	5240	AV	5460.000	-45	≤-41.20	50.20	≤54	PASS
11N20SISO	Ant1	High	5240	AV	5446.783	-42.33	≤-41.20	52.87	≤54	PASS

Note:

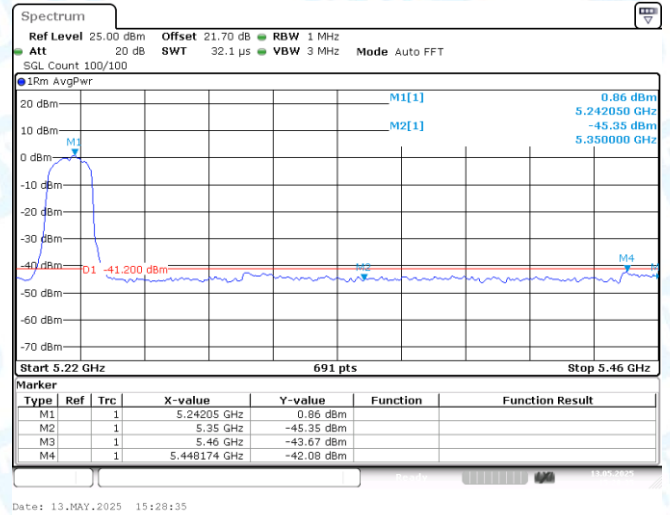
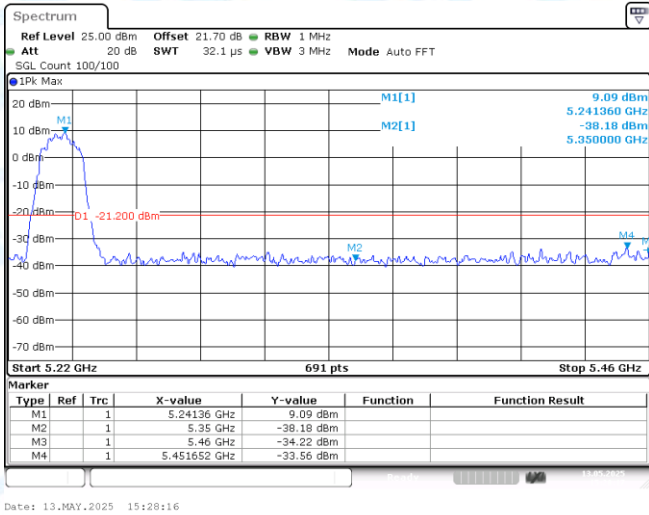
1. The Antenna Gain is compensated in the graph.
2. For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

9.2 Test Graphs



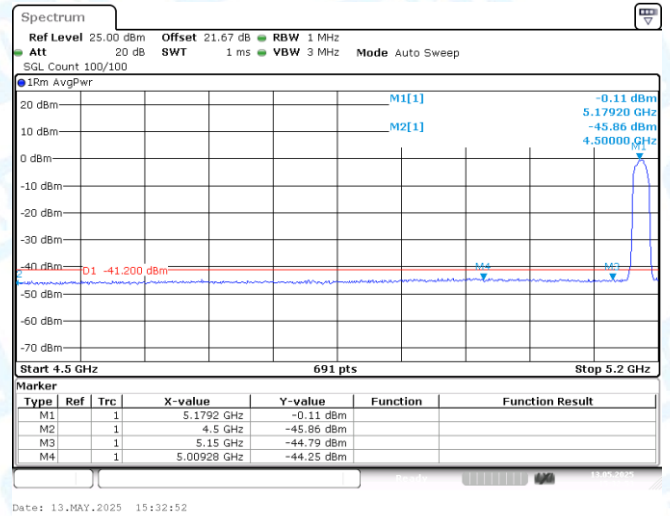
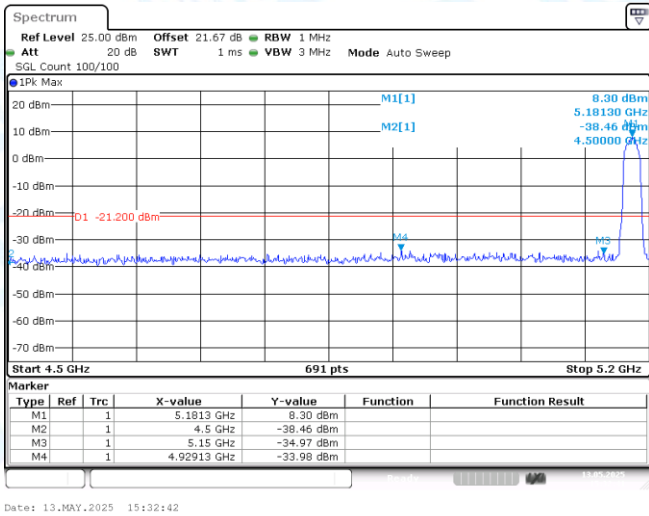
11A-Ant1-5180-PASS

11A-Ant1-5180-PASS



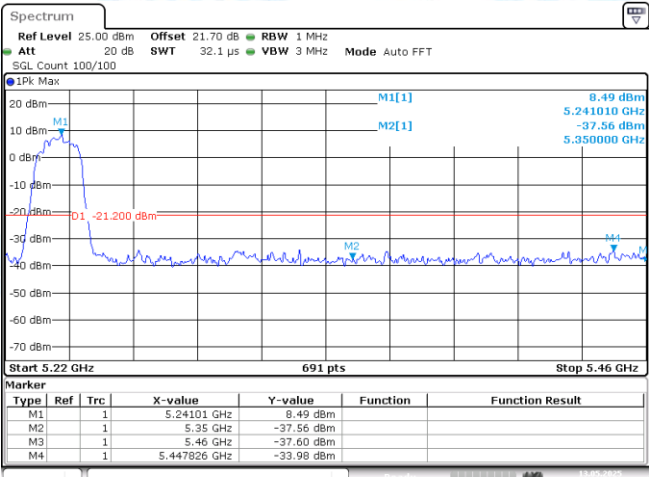
11A-Ant1-5240-PASS

11A-Ant1-5240-PASS

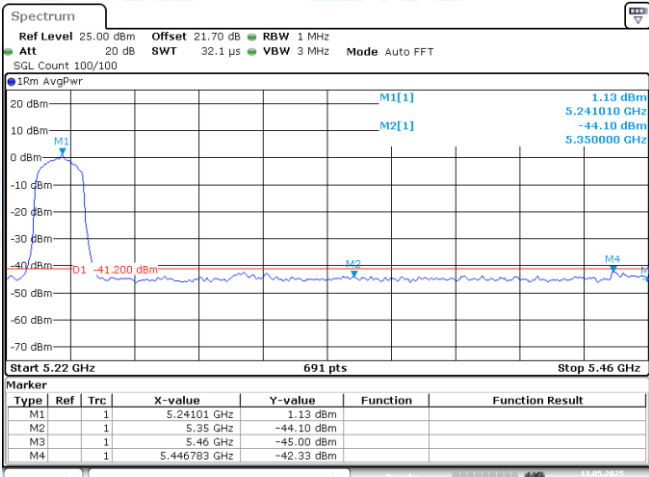


11N20SISO-Ant1-5180-PASS

11N20SISO-Ant1-5180-PASS



11N20SISO-Ant1-5240-PASS



11N20SISO-Ant1-5240-PASS

-----END OF THE REPORT-----