RF Test Data for 2.4G Wi-Fi (Conducted Measurements)

General Description of EUT	
Product Name:	**Smart POS Payment Terminal**
Test Model:	**CS50**
Sample ID:	**20211111-01_01-02#**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 7.6V**
Test Engineer:	**Huangjianping**
Note: For a more detailed features description, please refer to the report TB-FCC185237	

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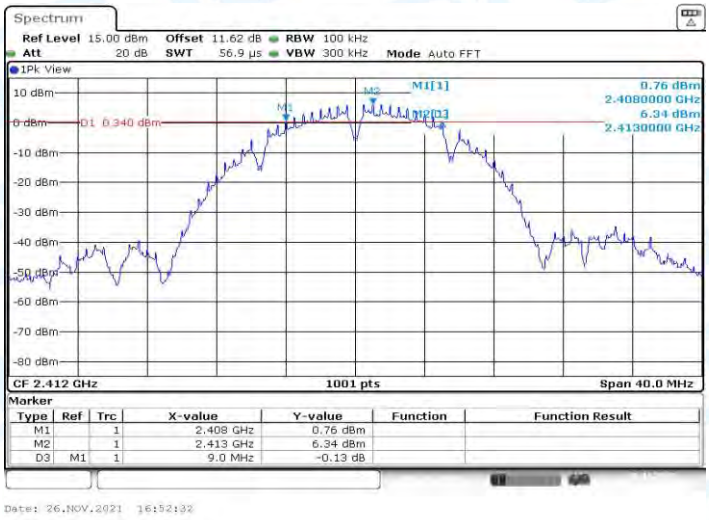
1. DTS Bandwidth

1.1.Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.00	2408.00	2417.00	0.5	PASS
		2437	8.56	2431.96	2440.52	0.5	PASS
		2462	7.04	2458.00	2465.04	0.5	PASS
11G	Ant1	2412	14.44	2405.72	2420.16	0.5	PASS
		2437	15.76	2428.76	2444.52	0.5	PASS
		2462	10.04	2456.96	2467.00	0.5	PASS
11N20SISO	Ant1	2412	16.36	2404.48	2420.84	0.5	PASS
		2437	16.36	2428.16	2444.52	0.5	PASS
		2462	10.04	2456.96	2467.00	0.5	PASS
11N40SISO	Ant1	2422	11.28	2418.24	2429.52	0.5	PASS
		2437	15.04	2419.48	2434.52	0.5	PASS
		2452	11.28	2454.48	2465.76	0.5	PASS

1.2.Test Graphs



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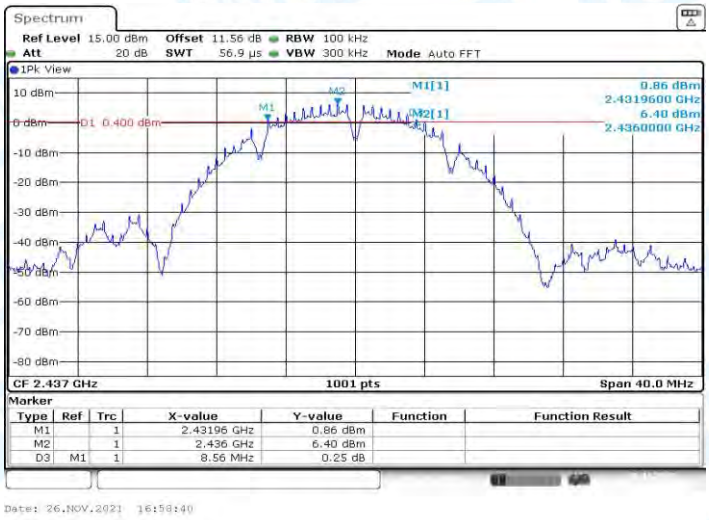

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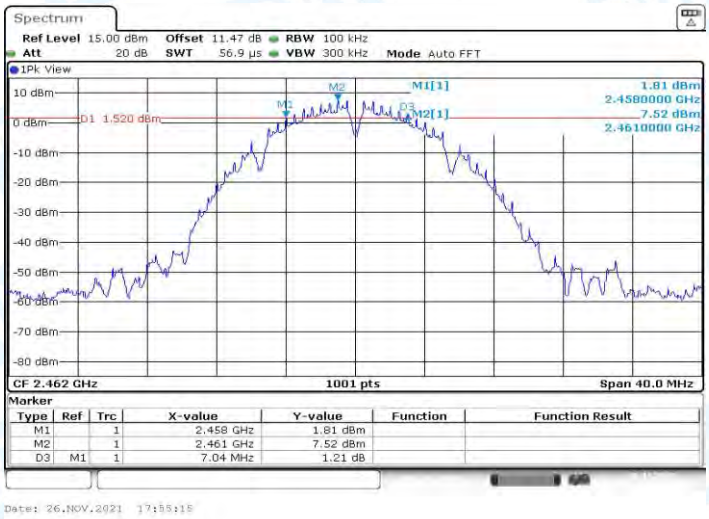

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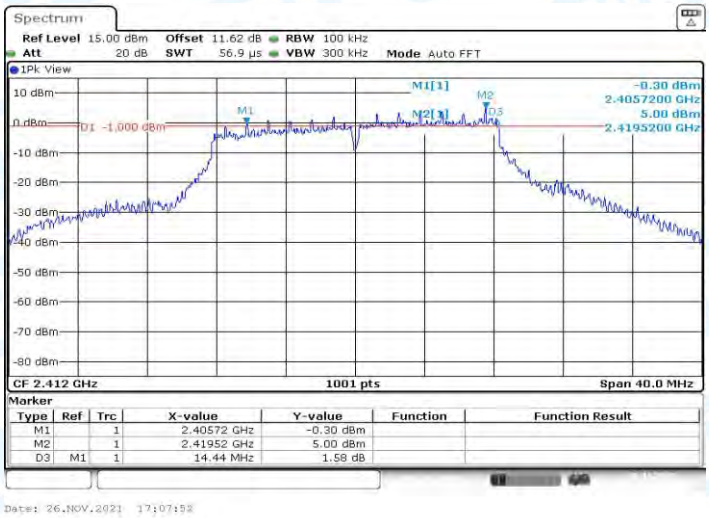

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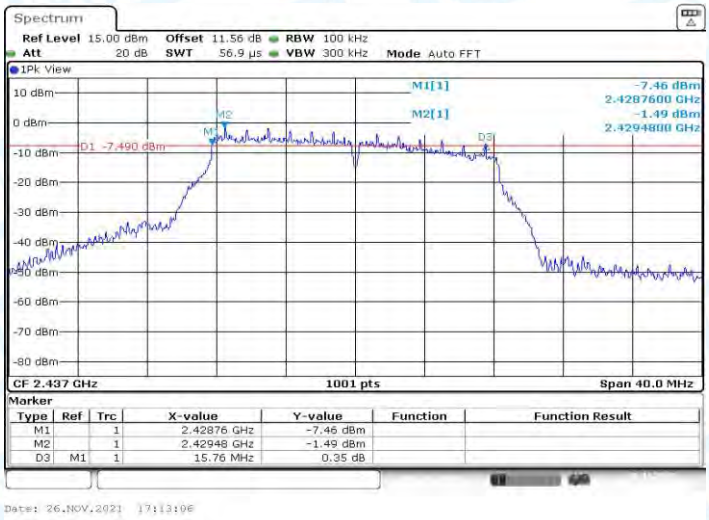

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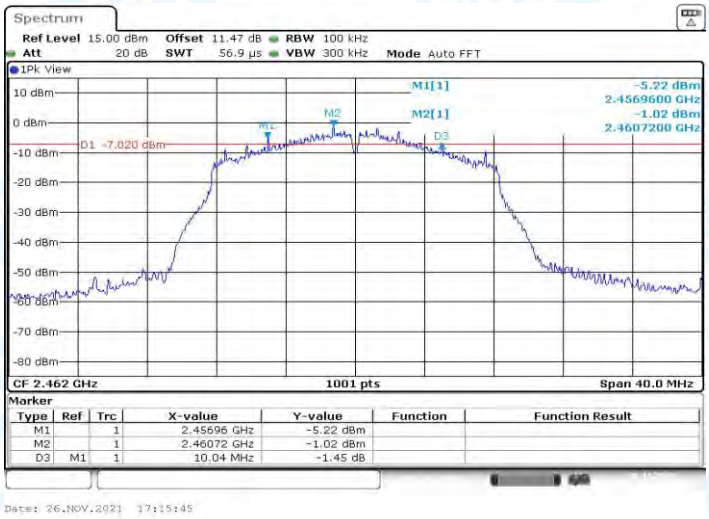

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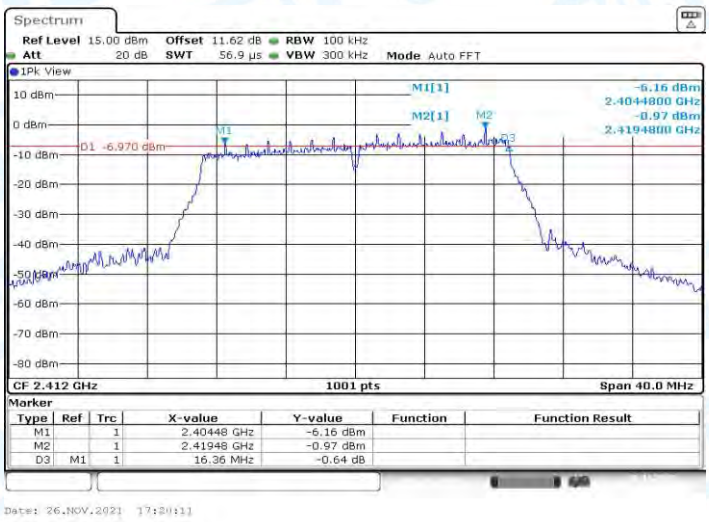

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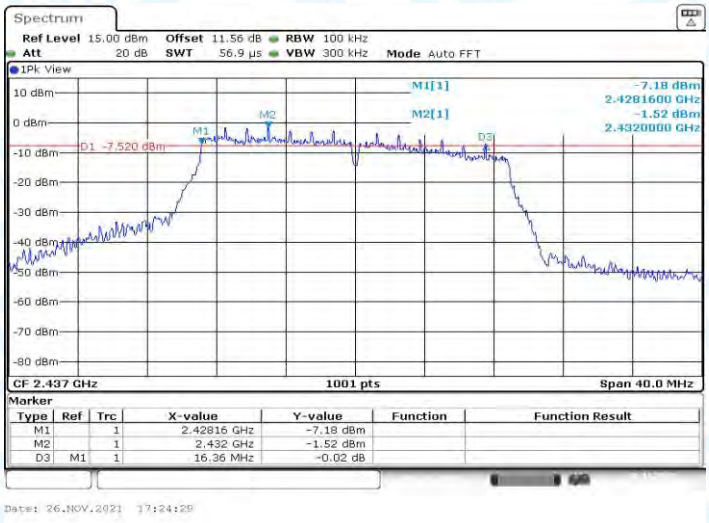

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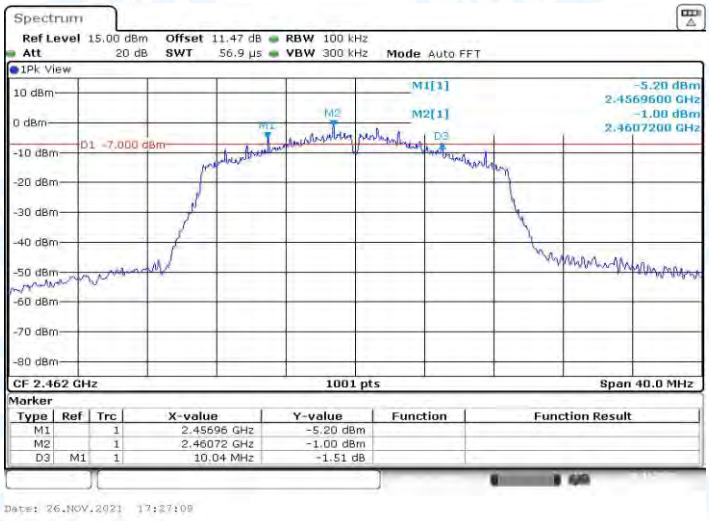

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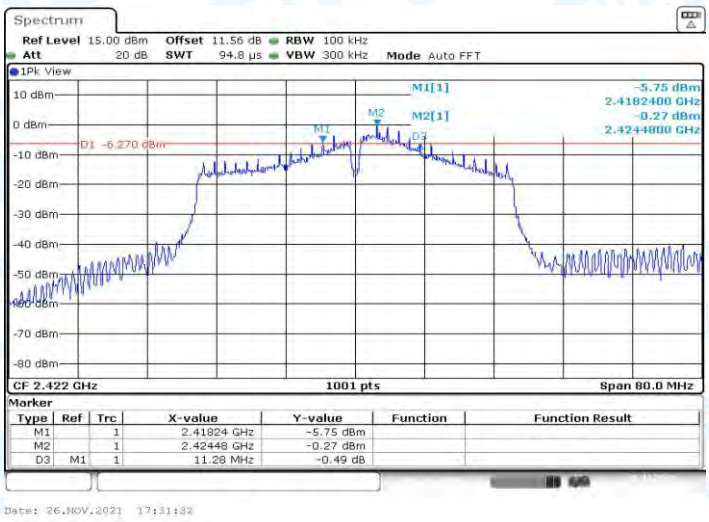
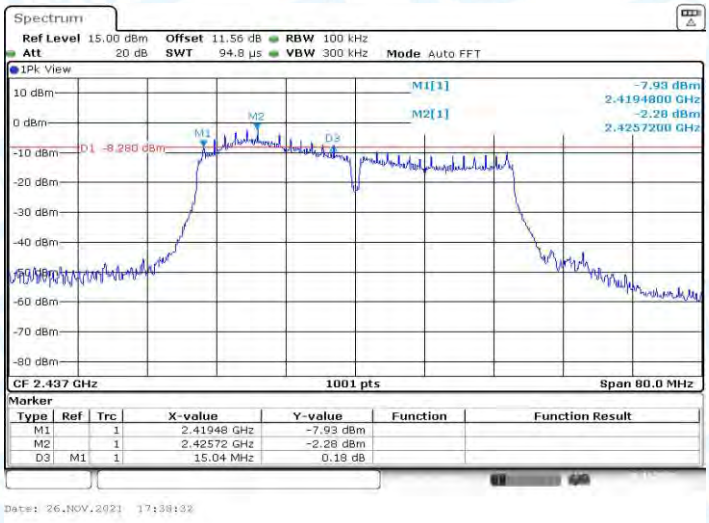


11N40SISO_Ant1_2422



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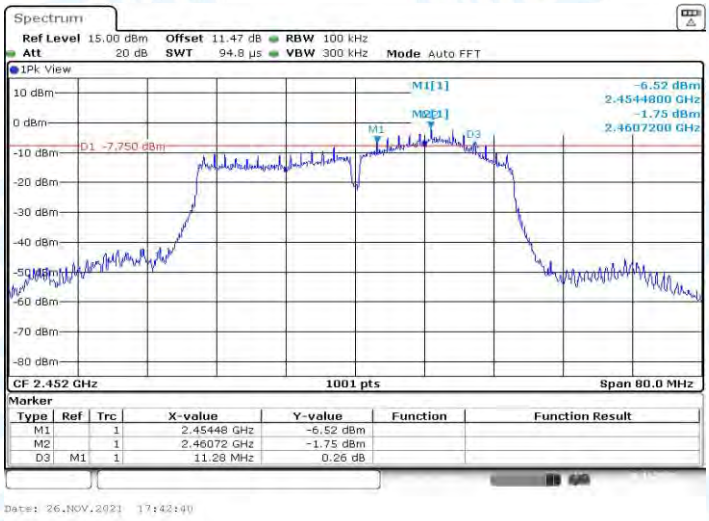


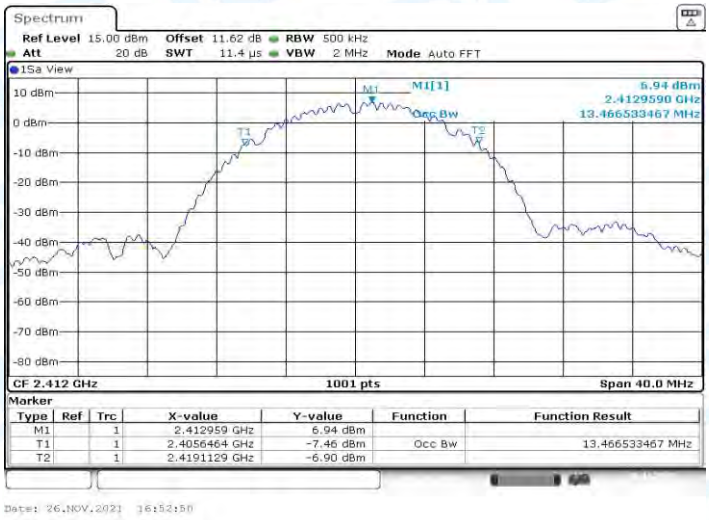
11N40SISO_Ant1_2452

2. Occupied Channel Bandwidth

2.1.Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.467	2405.646	2419.113	---	---
		2437	13.427	2429.767	2443.194	---	---
		2462	11.349	2456.286	2467.634	---	---
11G	Ant1	2412	18.142	2403.409	2421.550	---	---
		2437	17.542	2427.769	2445.312	---	---
		2462	15.904	2454.008	2469.912	---	---
11N20SISO	Ant1	2412	18.342	2403.089	2421.431	---	---
		2437	18.382	2427.410	2445.791	---	---
		2462	16.903	2453.449	2470.352	---	---
11N40SISO	Ant1	2422	34.685	2404.498	2439.183	---	---
		2437	36.204	2418.858	2455.062	---	---
		2452	35.564	2434.098	2469.662	---	---

2.2.Test Graphs



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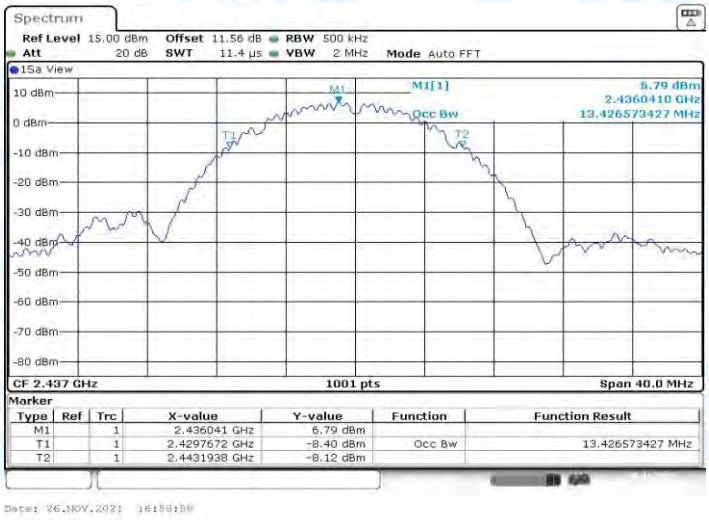

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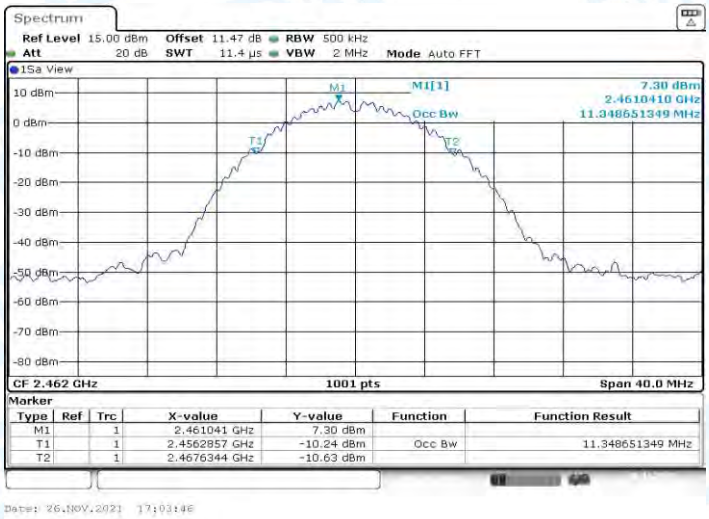

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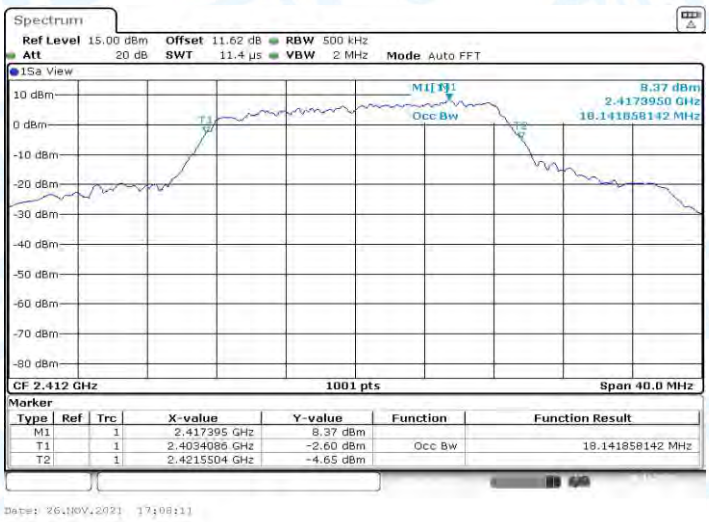

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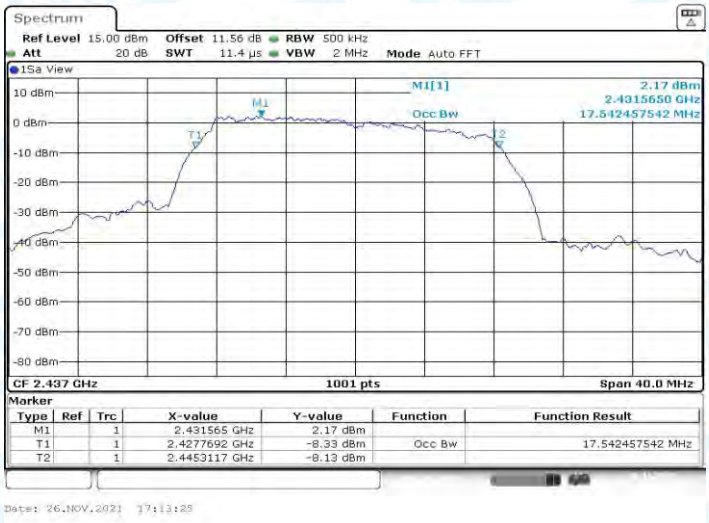

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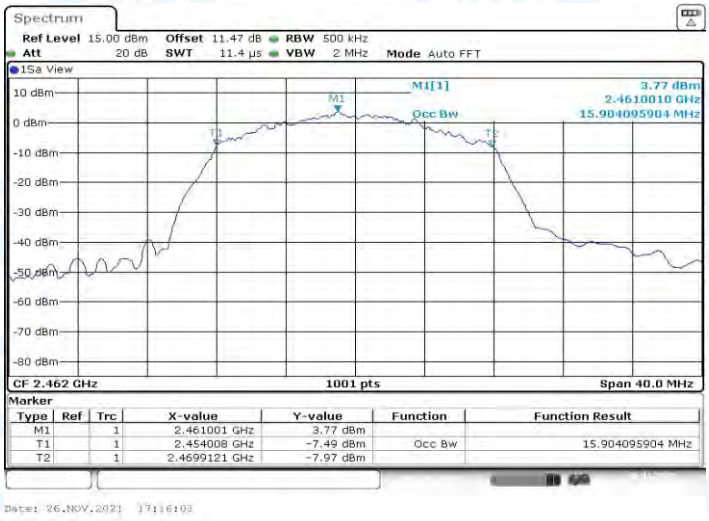

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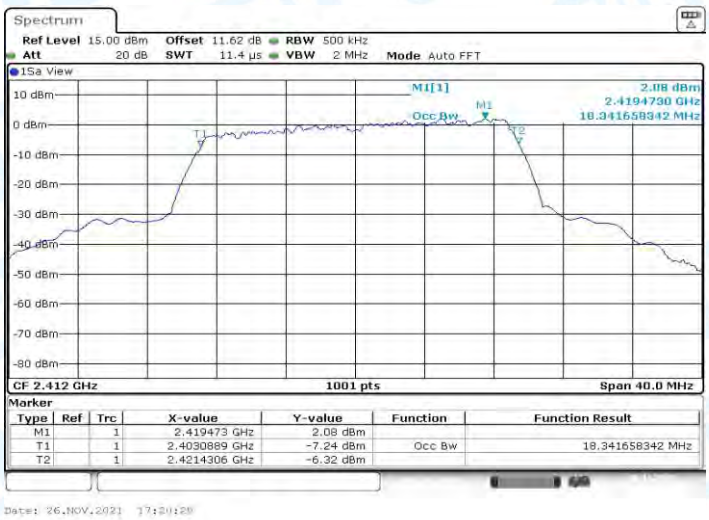
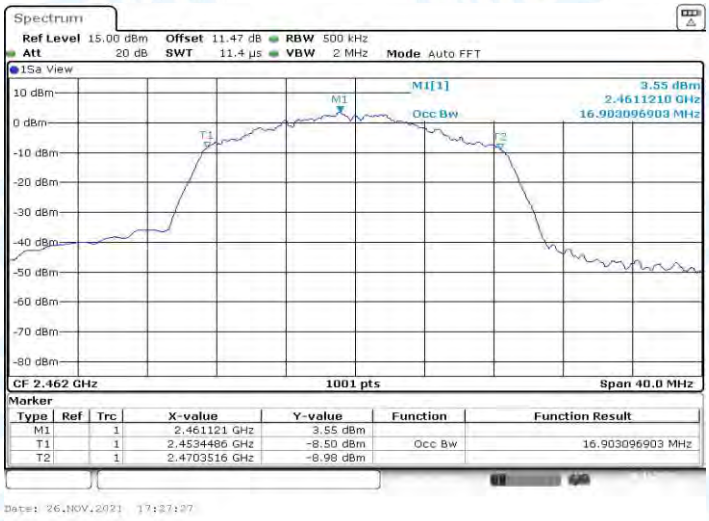


11N20SISO_Ant1_2412

11N20SISO_Ant1_2437



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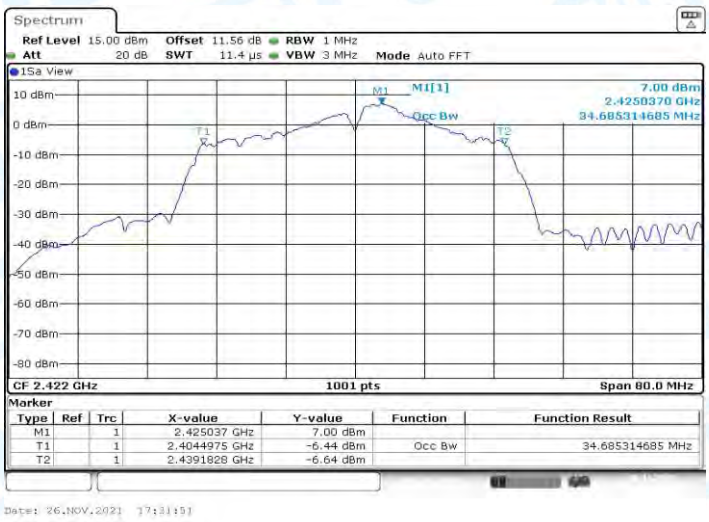

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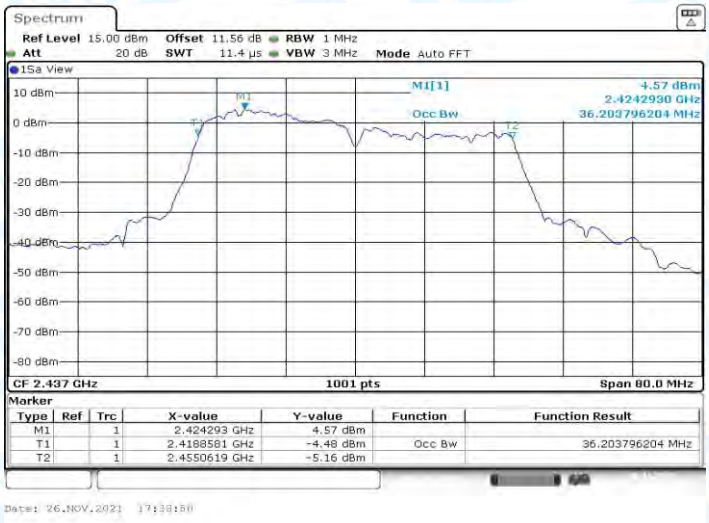

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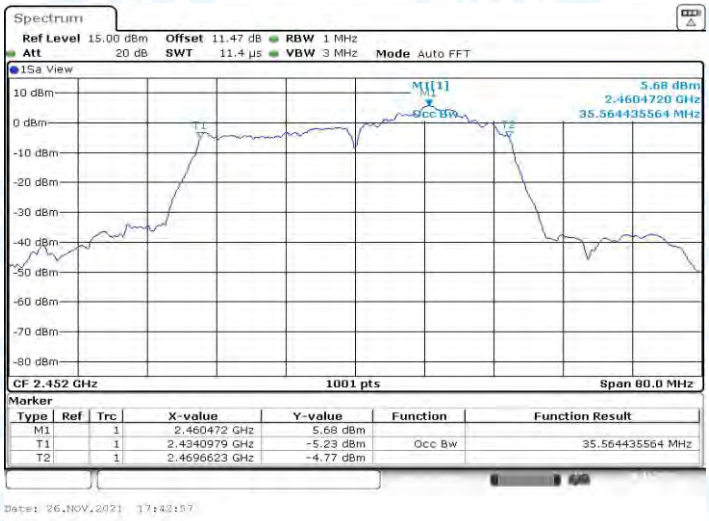


11N40SISO_Ant1_2452

3. Maximum conducted output power

3.1.Test Result

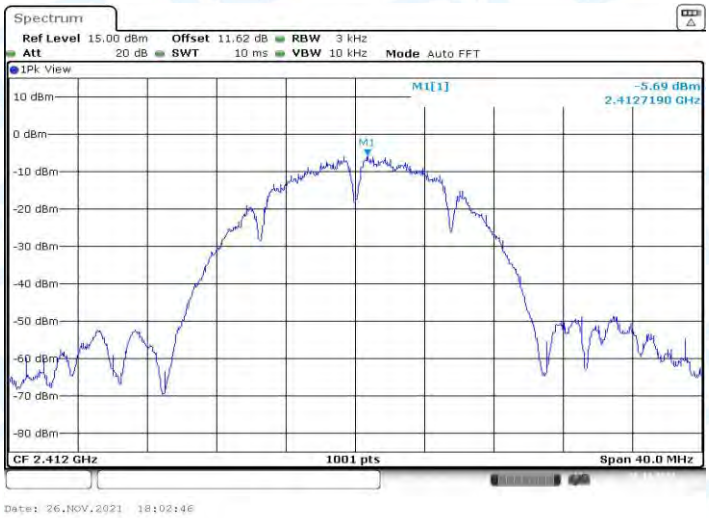
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	17.67	≤30	PASS
		2437	17.19	≤30	PASS
		2462	16.99	≤30	PASS
11G	Ant1	2412	17.55	≤30	PASS
		2437	17.36	≤30	PASS
		2462	17.47	≤30	PASS
11N20SISO	Ant1	2412	17.64	≤30	PASS
		2437	17.54	≤30	PASS
		2462	17.23	≤30	PASS
11N40SISO	Ant1	2422	17.95	≤30	PASS
		2437	17.37	≤30	PASS
		2452	17.64	≤30	PASS

4. Maximum power spectral density

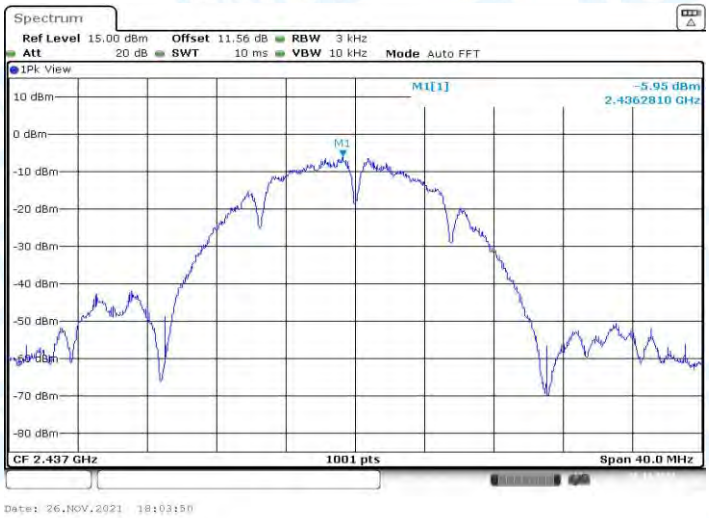
4.1.Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-5.69	≤8.00	PASS
		2437	-5.95	≤8.00	PASS
		2462	-4.83	≤8.00	PASS
11G	Ant1	2412	-13.95	≤8.00	PASS
		2437	-13.18	≤8.00	PASS
		2462	-11.9	≤8.00	PASS
11N20SISO	Ant1	2412	-13.03	≤8.00	PASS
		2437	-13.56	≤8.00	PASS
		2462	-12.6	≤8.00	PASS
11N40SISO	Ant1	2422	-14.87	≤8.00	PASS
		2437	-15.2	≤8.00	PASS
		2452	-16.31	≤8.00	PASS

4.2.Test Graphs



11B_Ant1_2412



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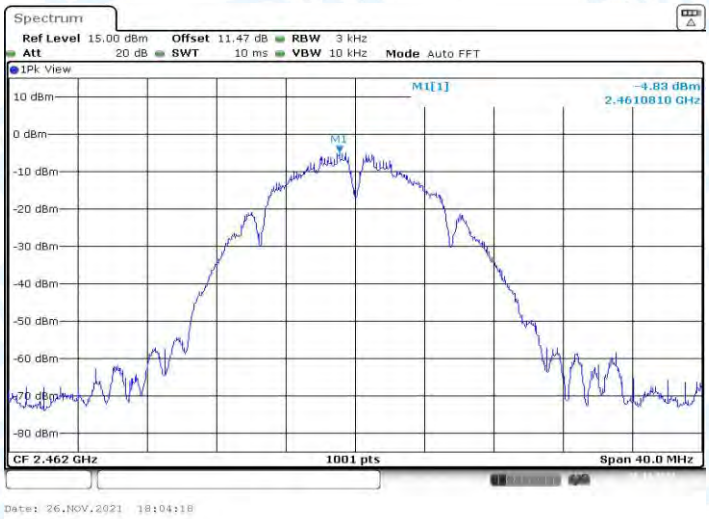
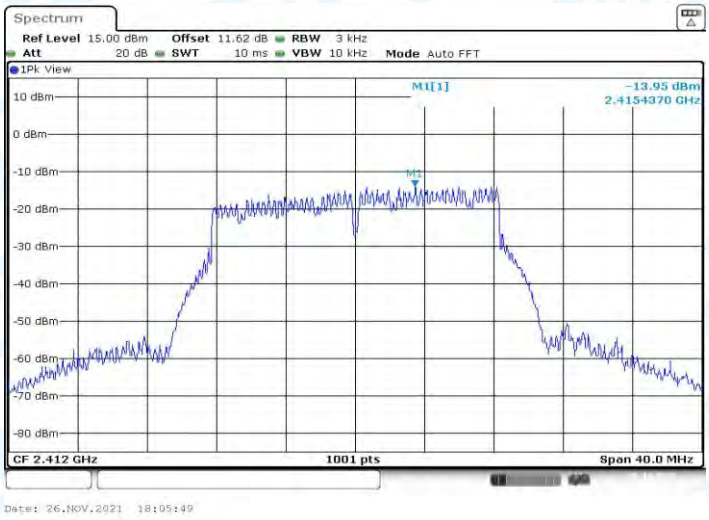


11B_Ant1_2462



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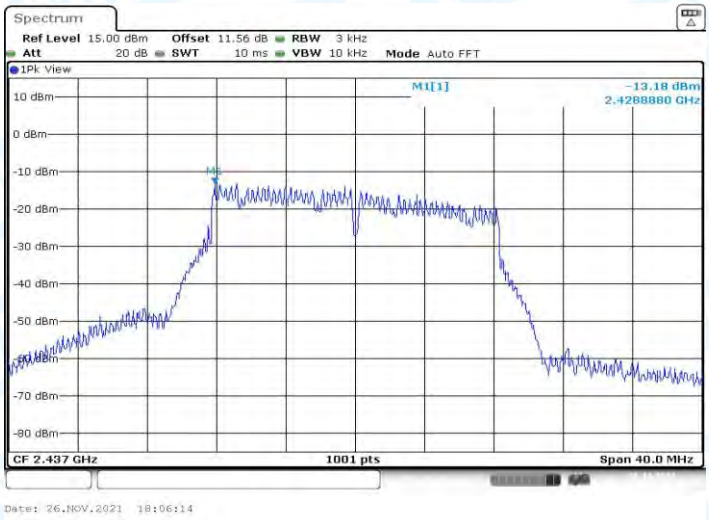

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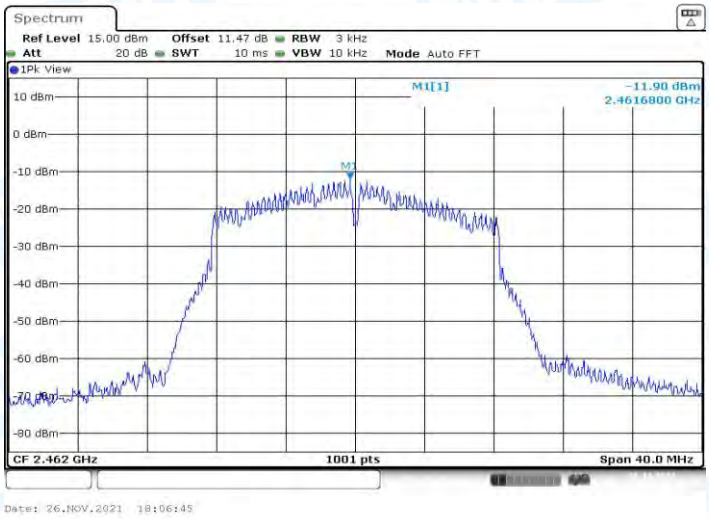

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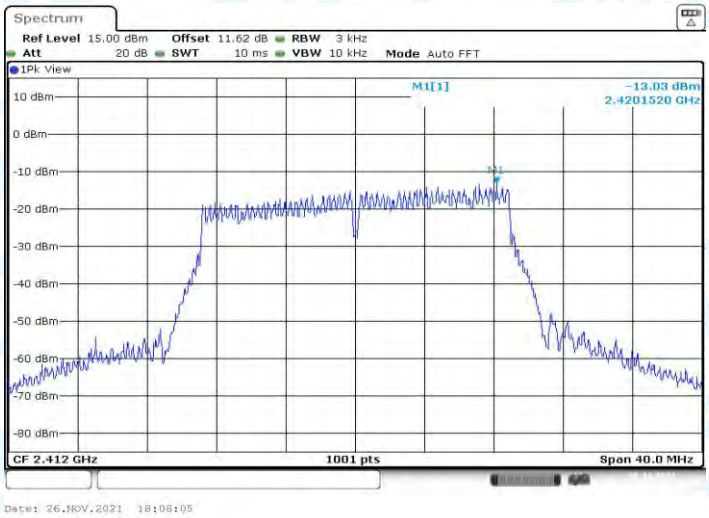

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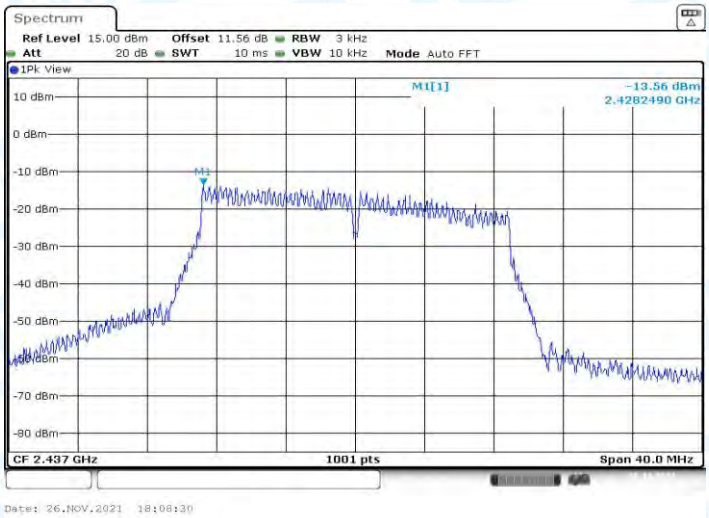

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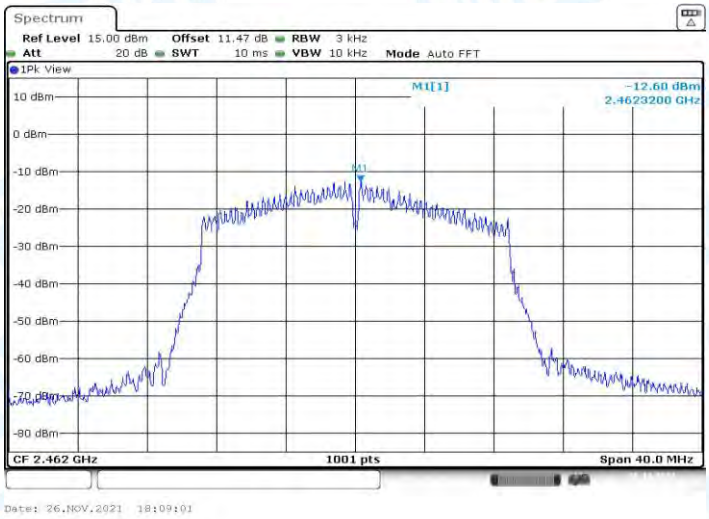

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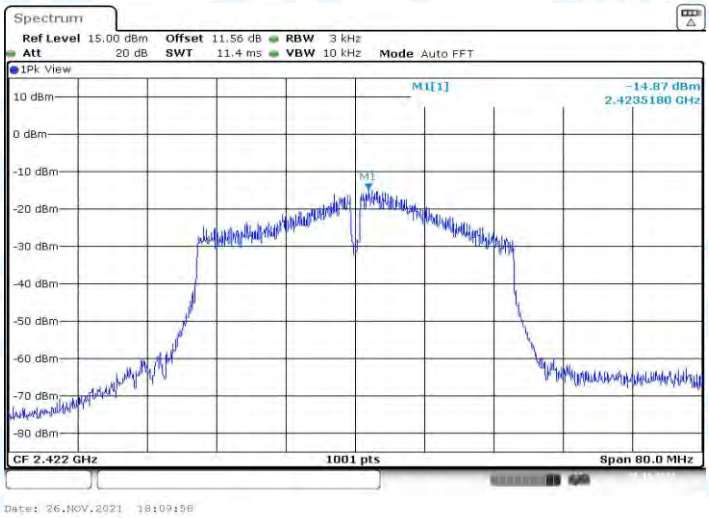

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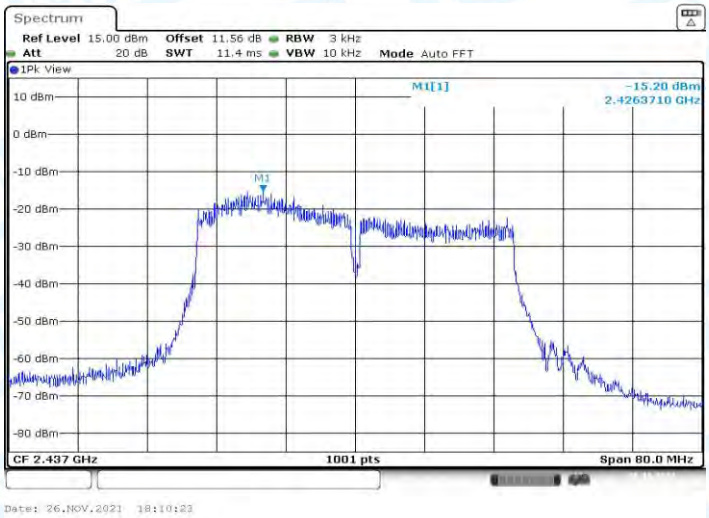

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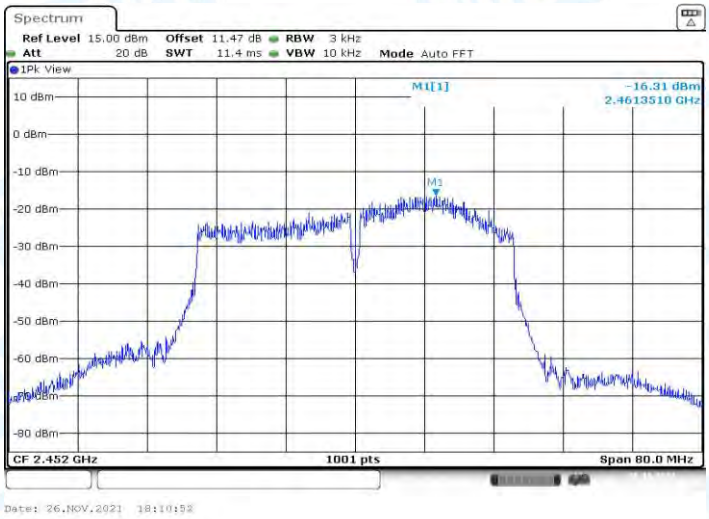


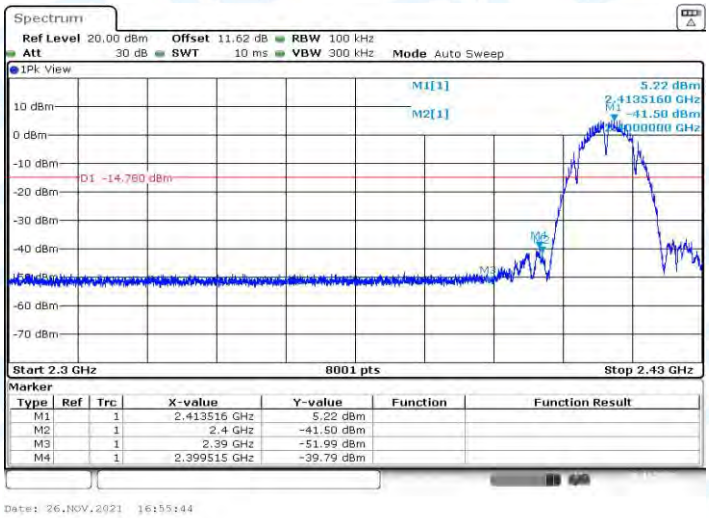
11N40SISO_Ant1_2452

5. Band edge measurements

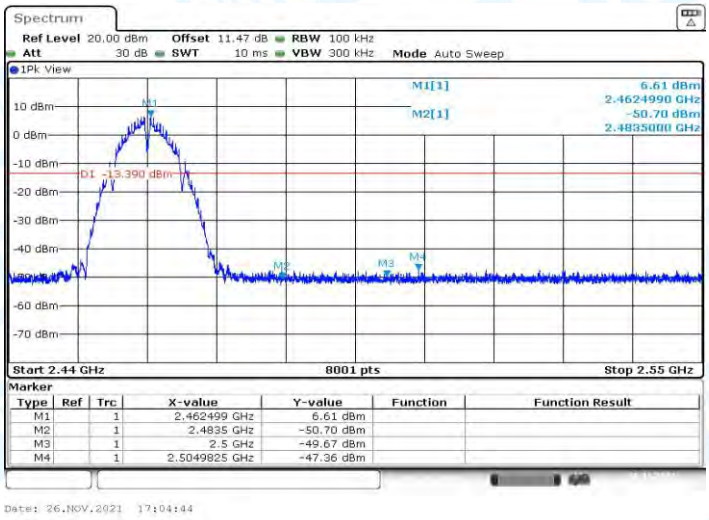
5.1.Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	5.22	-39.79	≤-14.78	PASS
		High	2462	6.61	-47.36	≤-13.39	PASS
11G	Ant1	Low	2412	-1.41	-41.75	≤-21.41	PASS
		High	2462	-1.25	-46.77	≤-21.25	PASS
11N20SISO	Ant1	Low	2412	-1.49	-41.08	≤-21.49	PASS
		High	2462	-0.60	-47.15	≤-20.6	PASS
11N40SISO	Ant1	Low	2422	-0.56	-38.66	≤-20.56	PASS
		High	2452	-1.85	-44.29	≤-21.85	PASS

5.2.Test Graphs



11B_Ant1_Low_2412



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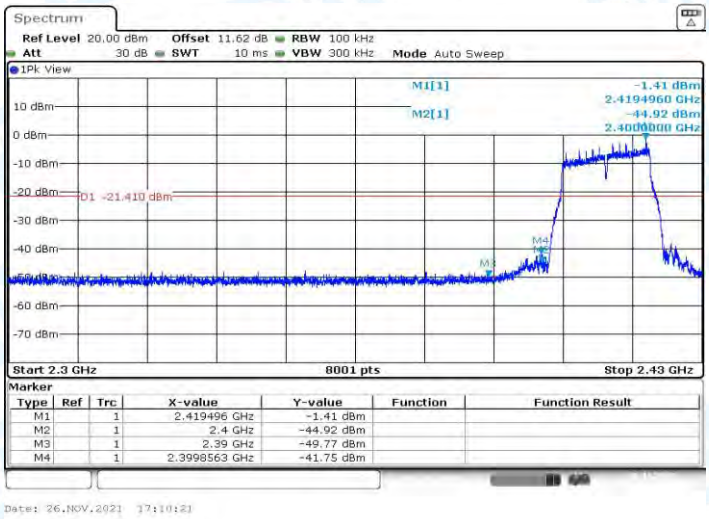

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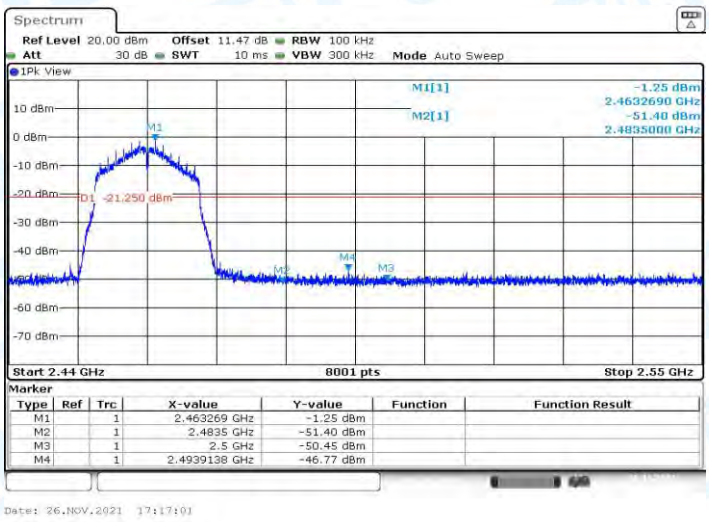

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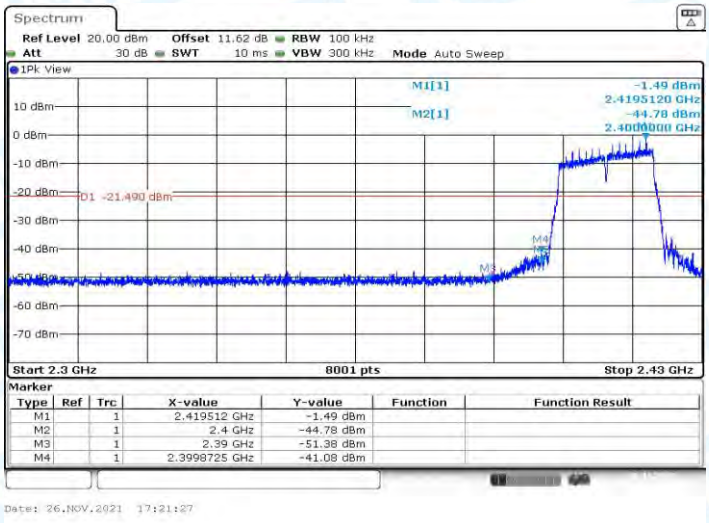
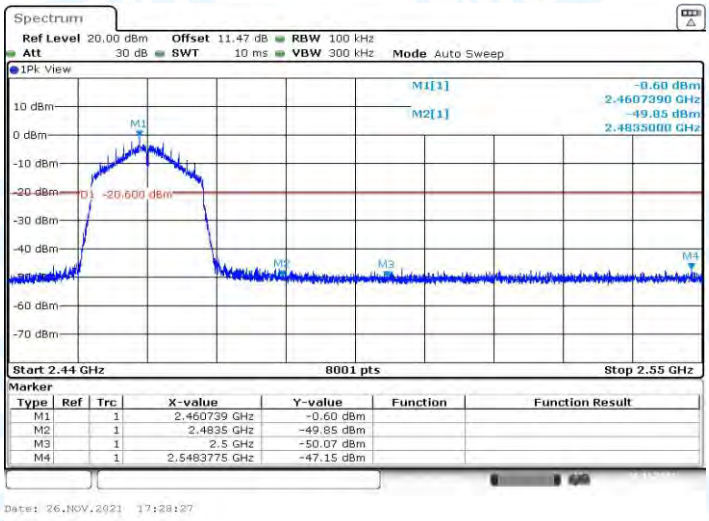
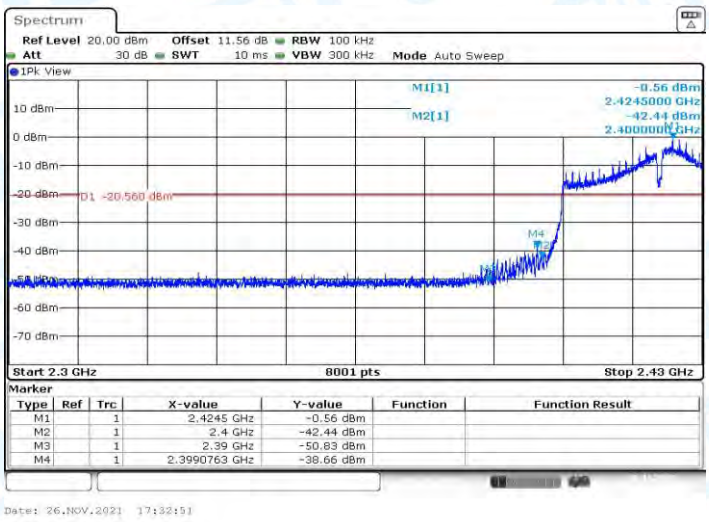


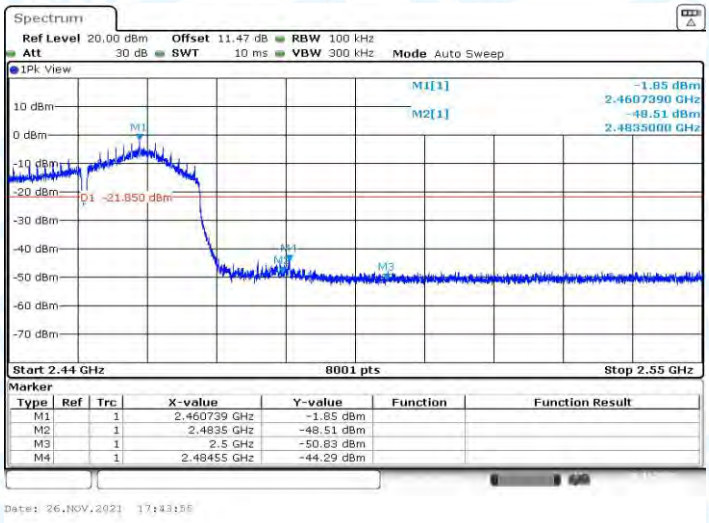
11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



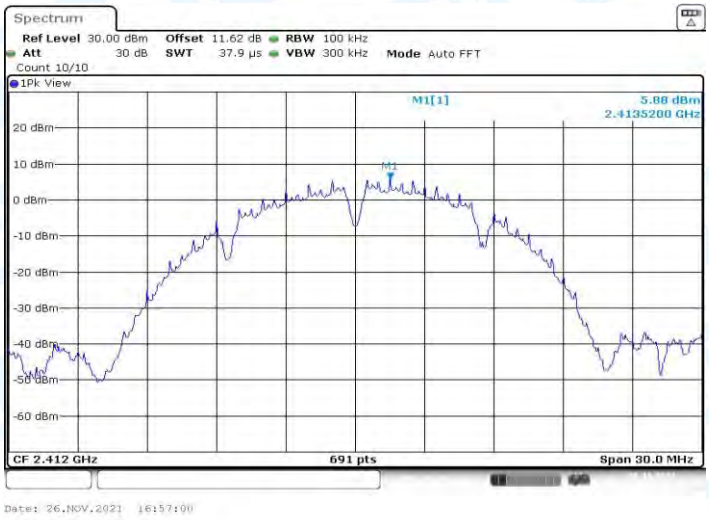
11N40SISO_Ant1_High_2452

6. Conducted Spurious Emission

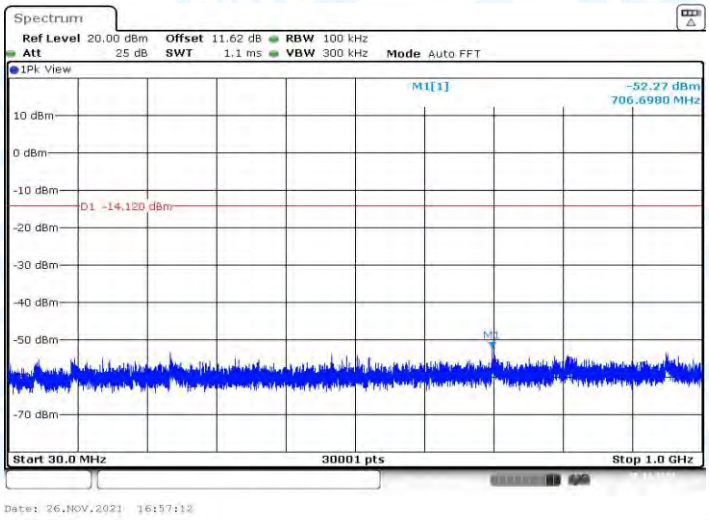
6.1.Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	5.88	5.88	---	PASS
			30~1000	5.88	-52.27	≤-14.12	PASS
			1000~26500	5.88	-42.62	≤-14.12	PASS
		2437	Reference	5.57	5.57	---	PASS
			30~1000	5.57	-53.11	≤-14.43	PASS
			1000~26500	5.57	-41.12	≤-14.43	PASS
		2462	Reference	6.43	6.43	---	PASS
			30~1000	6.43	-54.01	≤-13.57	PASS
			1000~26500	6.43	-47.44	≤-13.57	PASS
11G	Ant1	2412	Reference	-1.64	-1.64	---	PASS
			30~1000	-1.64	-53.17	≤-21.64	PASS
			1000~26500	-1.64	-46.71	≤-21.64	PASS
		2437	Reference	-1.95	-1.95	---	PASS
			30~1000	-1.95	-53.56	≤-21.95	PASS
			1000~26500	-1.95	-46.64	≤-21.95	PASS
		2462	Reference	-1.11	-1.11	---	PASS
			30~1000	-1.11	-53.68	≤-21.11	PASS
			1000~26500	-1.11	-46.95	≤-21.11	PASS
11N20SISO	Ant1	2412	Reference	-1.36	-1.36	---	PASS
			30~1000	-1.36	-52.54	≤-21.36	PASS
			1000~26500	-1.36	-46.49	≤-21.36	PASS
		2437	Reference	-1.63	-1.63	---	PASS
			30~1000	-1.63	-52.53	≤-21.63	PASS
			1000~26500	-1.63	-46.48	≤-21.63	PASS
		2462	Reference	-1.08	-1.08	---	PASS
			30~1000	-1.08	-53.09	≤-21.08	PASS
			1000~26500	-1.08	-46.53	≤-21.08	PASS
11N40SISO	Ant1	2422	Reference	-1.24	-1.24	---	PASS
			30~1000	-1.24	-53.06	≤-21.24	PASS
			1000~26500	-1.24	-47.21	≤-21.24	PASS
		2437	Reference	-2.54	-2.54	---	PASS
			30~1000	-2.54	-53.47	≤-22.54	PASS
			1000~26500	-2.54	-47.2	≤-22.54	PASS
		2452	Reference	-1.79	-1.79	---	PASS
			30~1000	-1.79	-52.41	≤-21.79	PASS
			1000~26500	-1.79	-47.49	≤-21.79	PASS

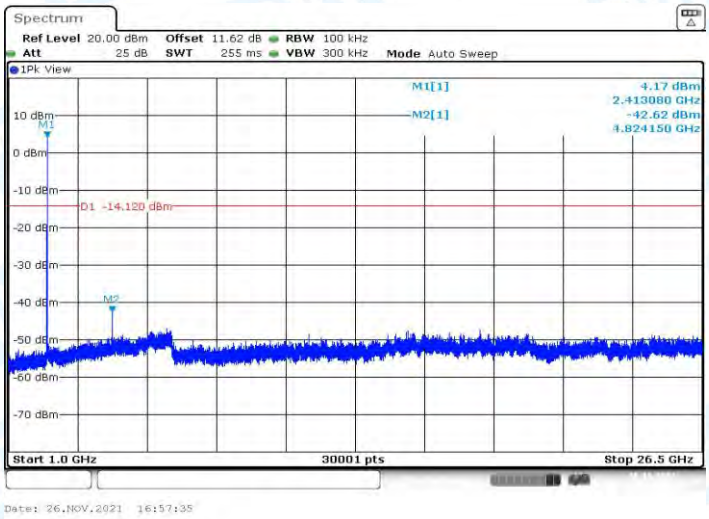
6.2.Test Graphs



11B_Ant1_2412_0~Reference

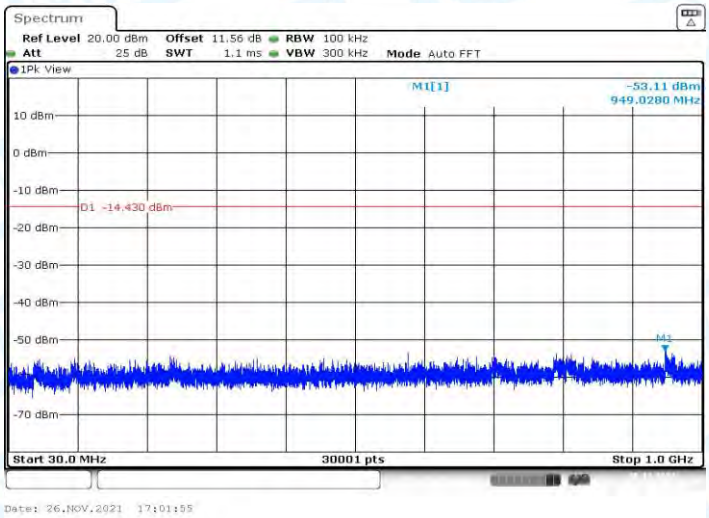


11B_Ant1_2412_30~1000

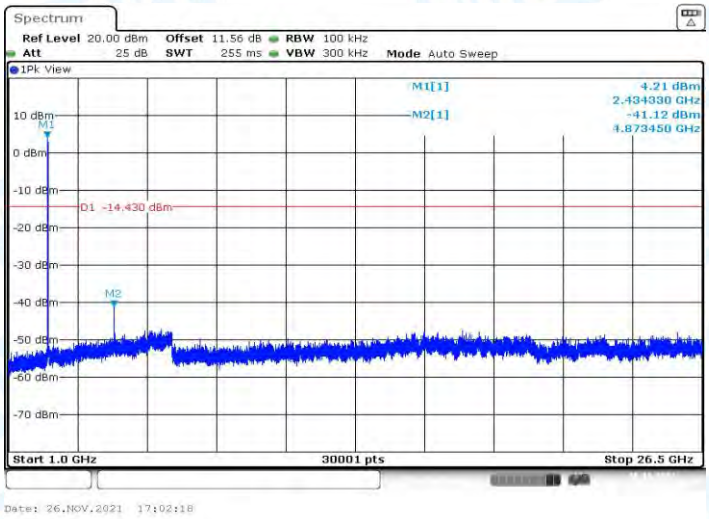


11B_Ant1_2412_1000~26500

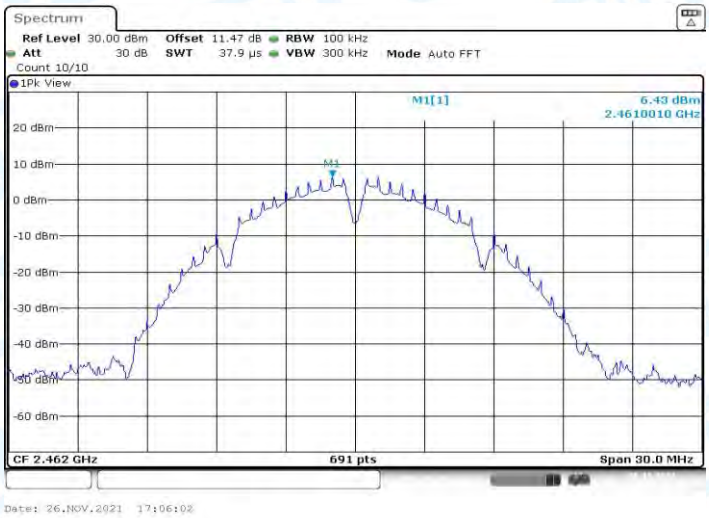
11B_Ant1_2437_0~Reference



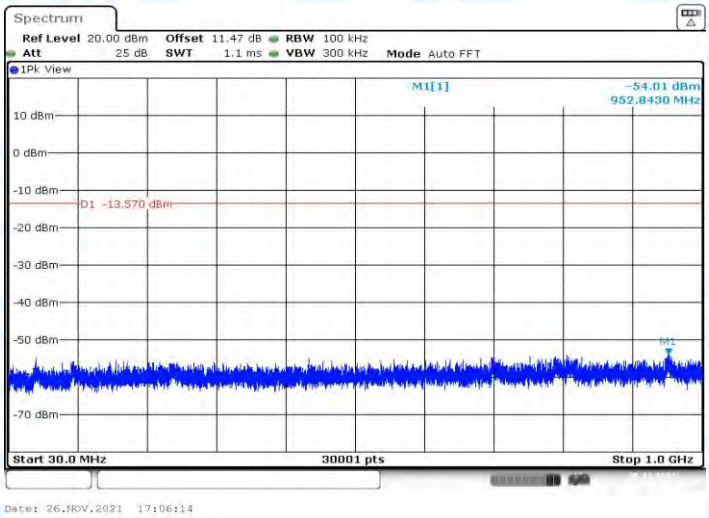
11B_Ant1_2437_30~1000



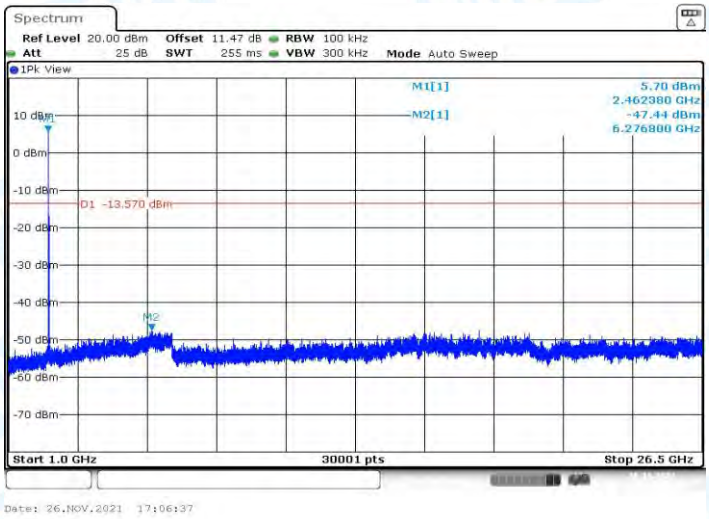
11B_Ant1_2437_1000~26500



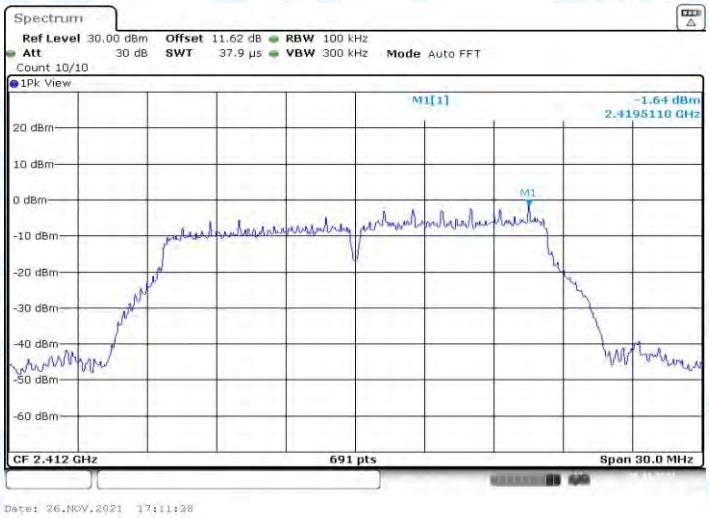
11B_Ant1_2462_0~Reference



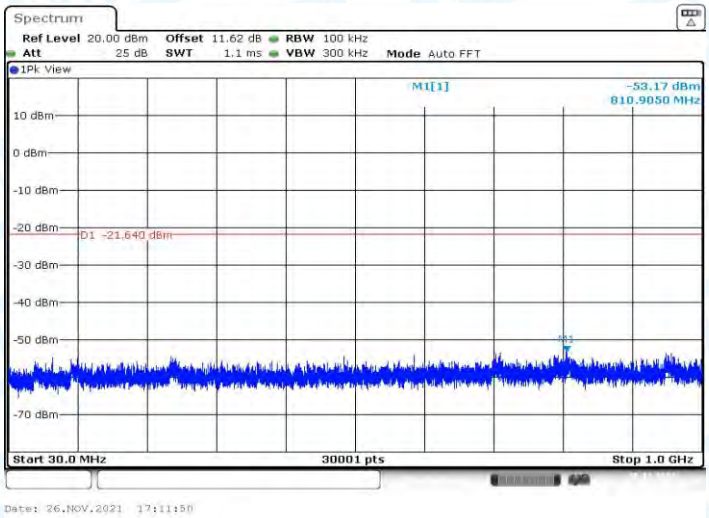
11B_Ant1_2462_30~1000



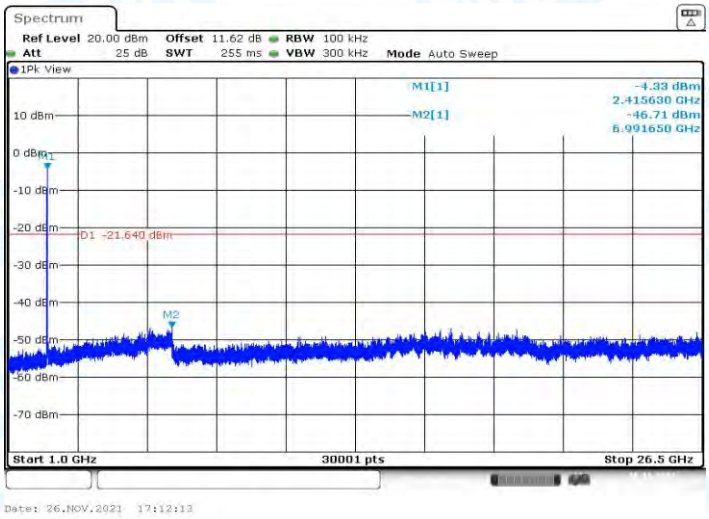
11B_Ant1_2462_1000~26500



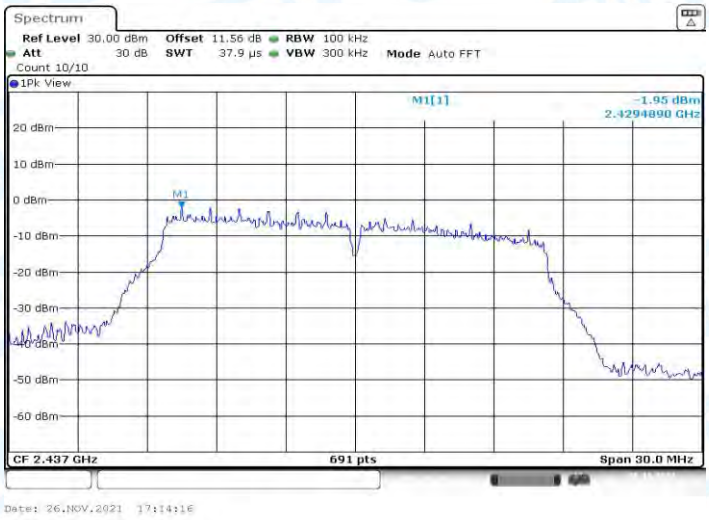
11G_Ant1_2412_0~Reference



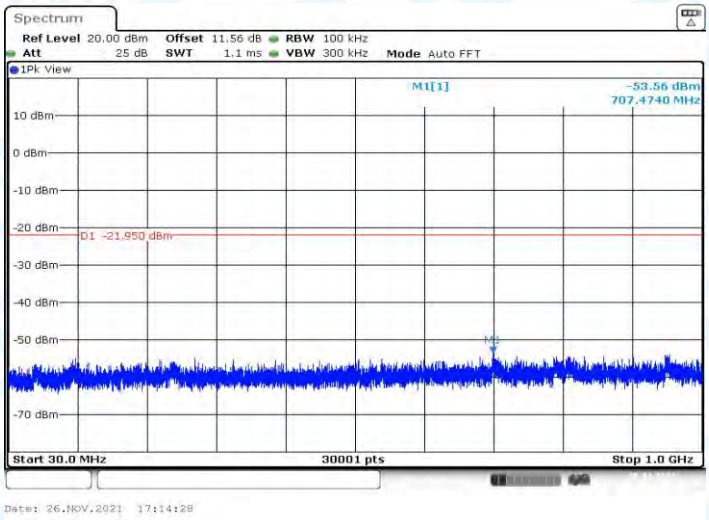
11G_Ant1_2412_30~1000



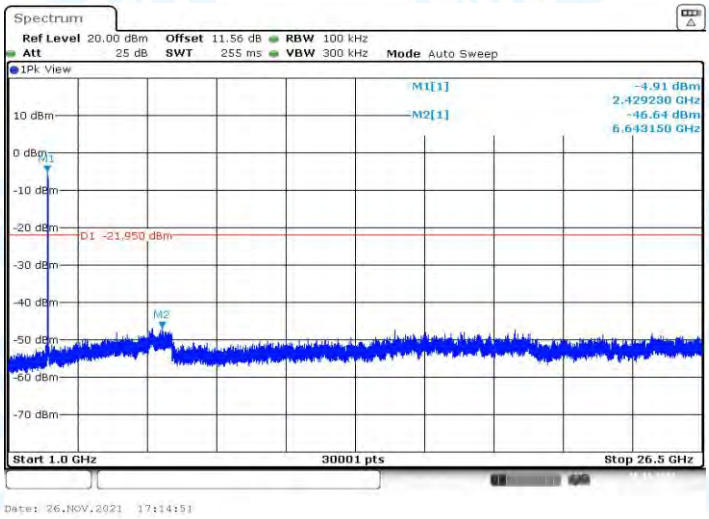
11G_Ant1_2412_1000~26500



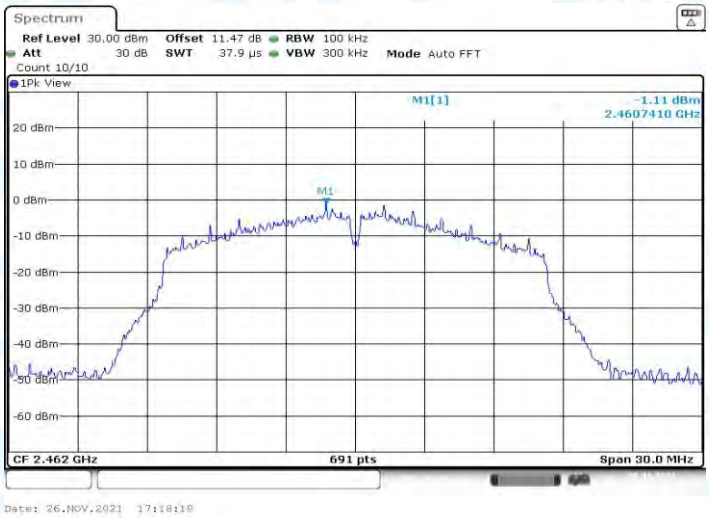
11G_Ant1_2437_0~Reference



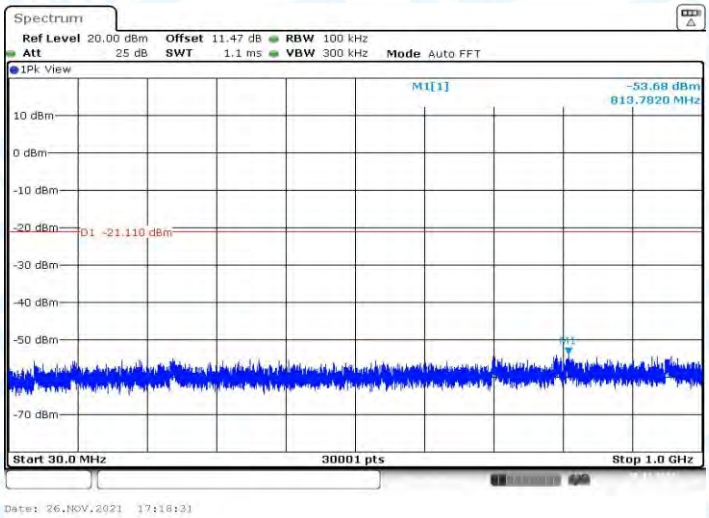
11G_Ant1_2437_30~1000



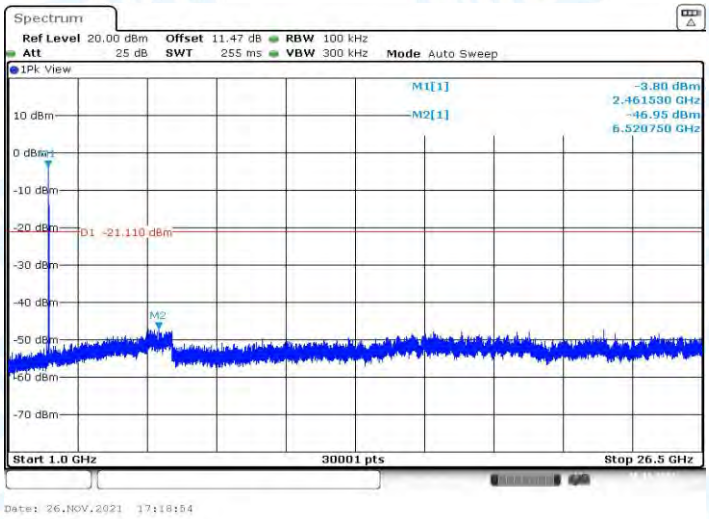
11G_Ant1_2437_1000~26500



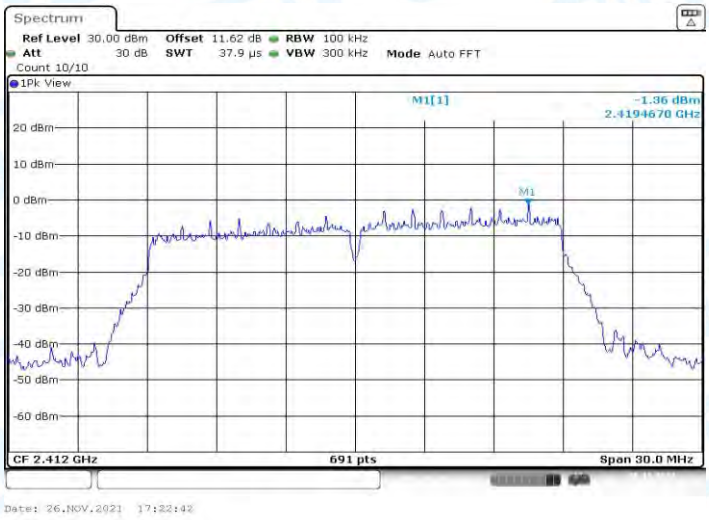
11G_Ant1_2462_0~Reference



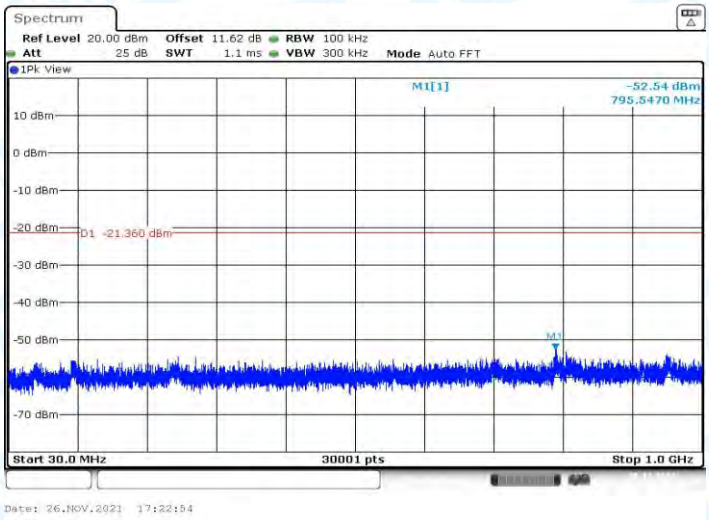
11G_Ant1_2462_30~1000



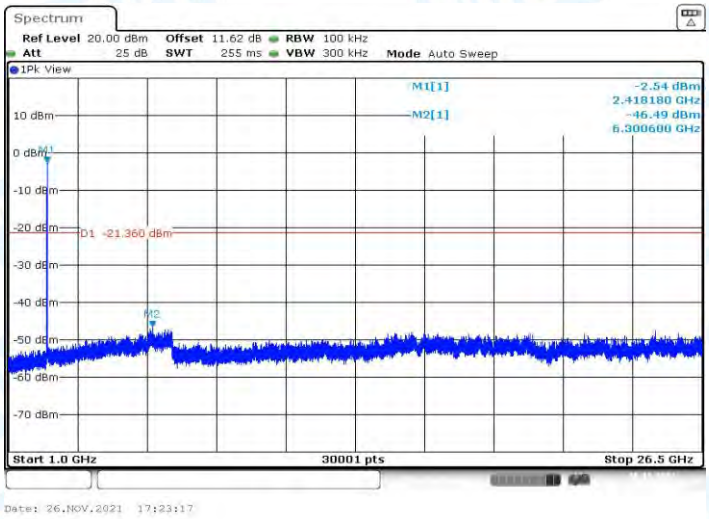
11G_Ant1_2462_1000~26500



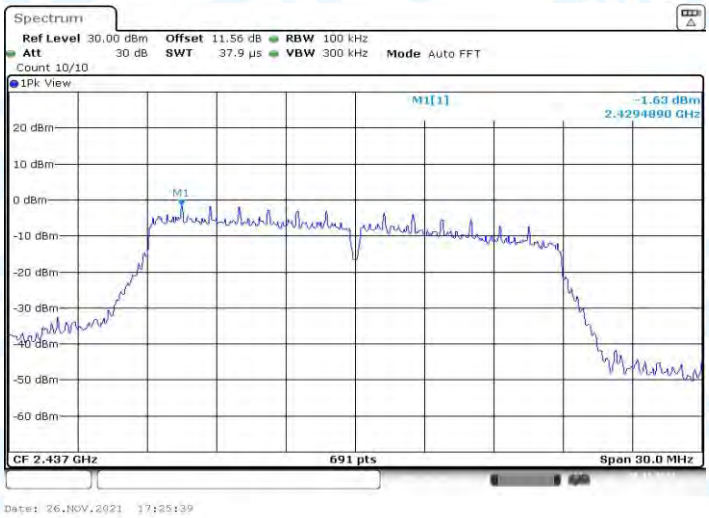
11N20SISO_Ant1_2412_0~Reference



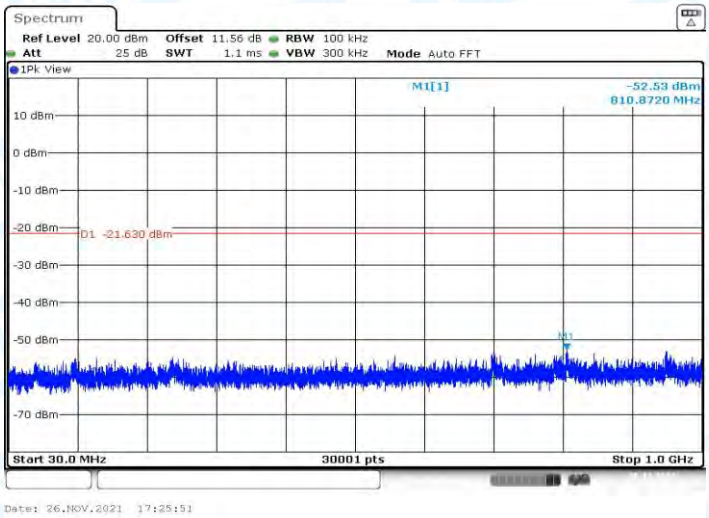
11N20SISO_Ant1_2412_30~1000



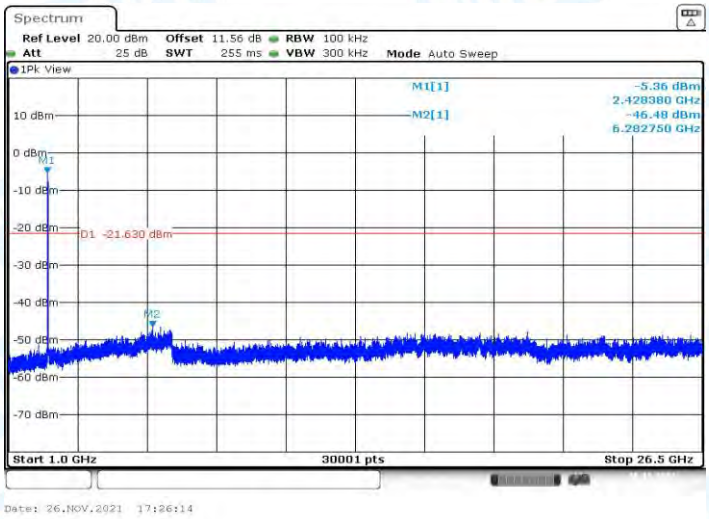
11N20SISO_Ant1_2412_1000~26500



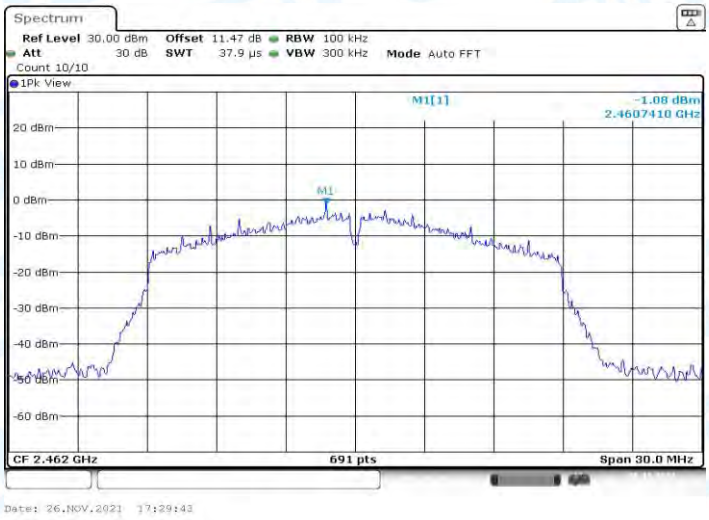
11N20SISO_Ant1_2437_0~Reference



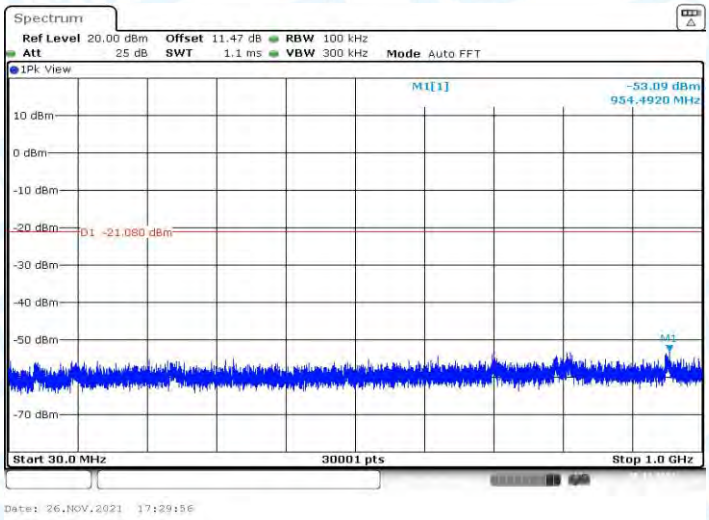
11N20SISO_Ant1_2437_30~1000



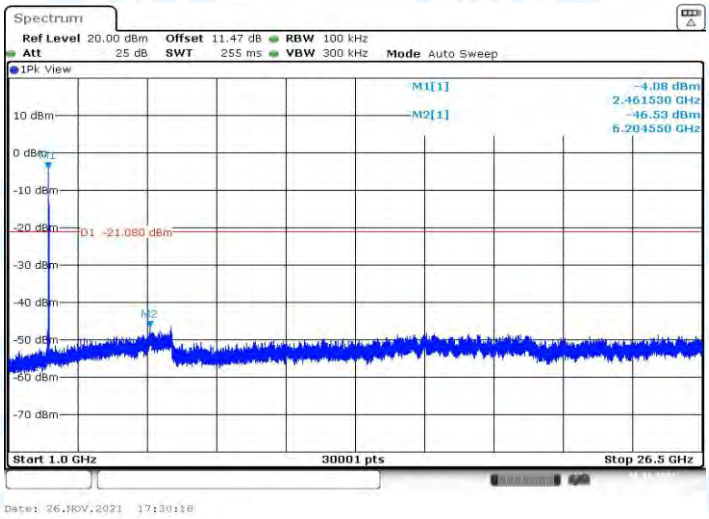
11N20SISO_Ant1_2437_1000~26500



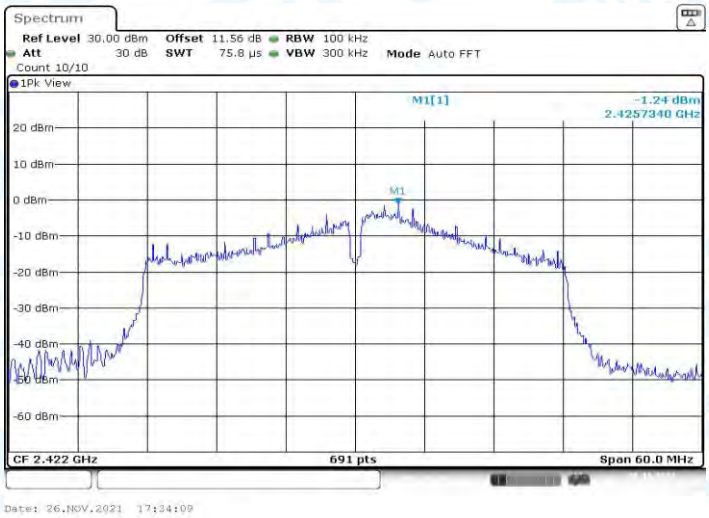
11N20SISO_Ant1_2462_0~Reference



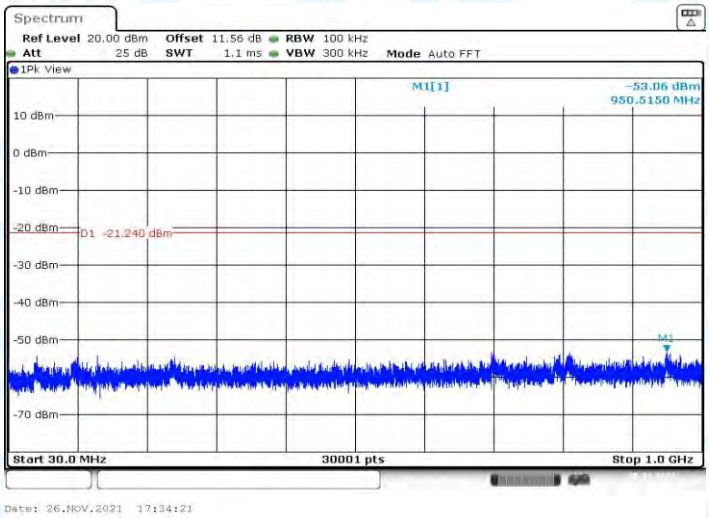
11N20SISO_Ant1_2462_30~1000



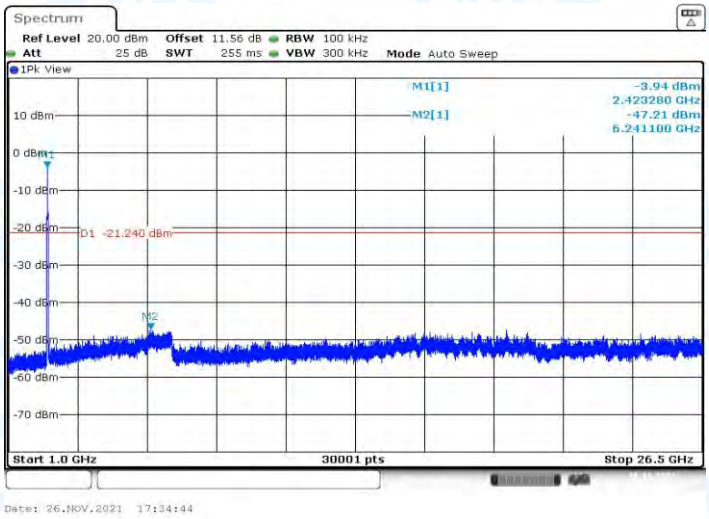
11N20SISO_Ant1_2462_1000~26500



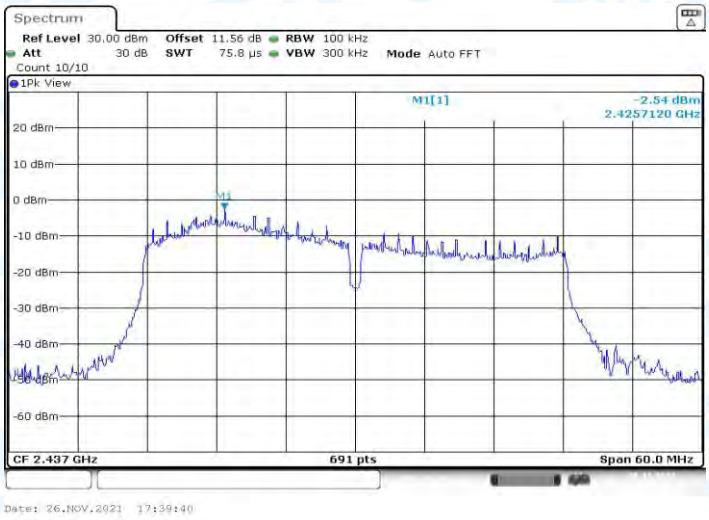
11N40SISO_Ant1_2422_0~Reference



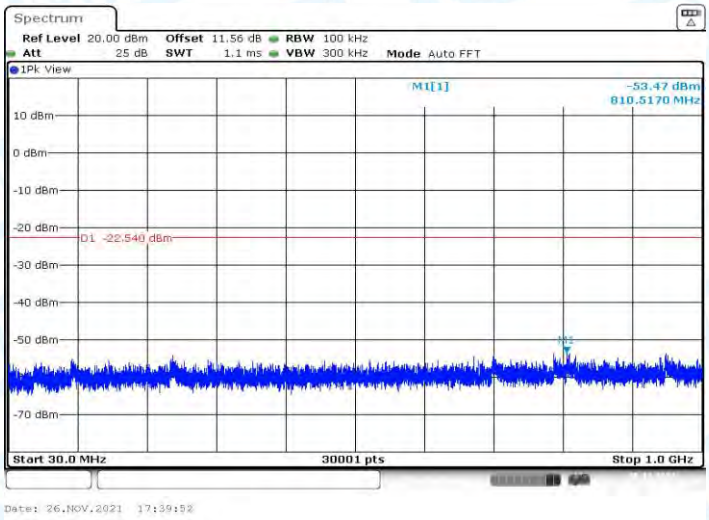
11N40SISO_Ant1_2422_30~1000



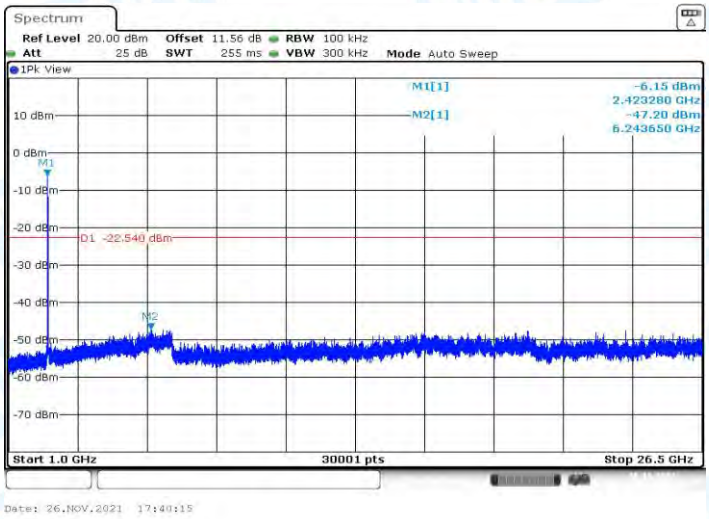
11N40SISO_Ant1_2422_1000~26500



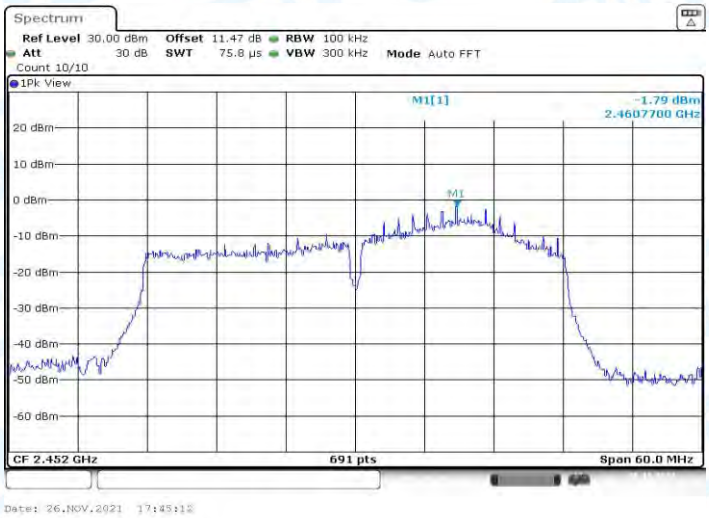
11N40SISO_Ant1_2437_0~Reference



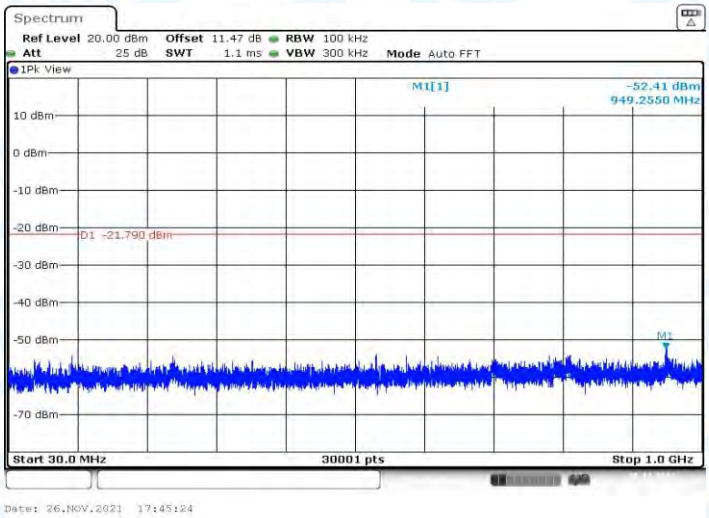
11N40SISO_Ant1_2437_30~1000



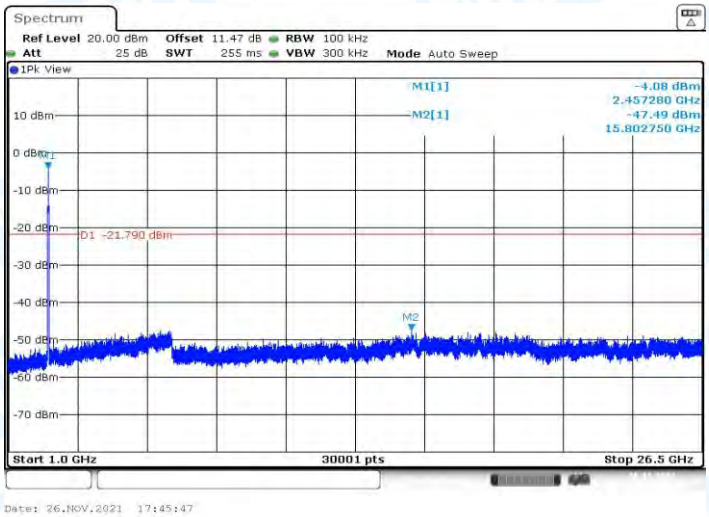
11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~1000



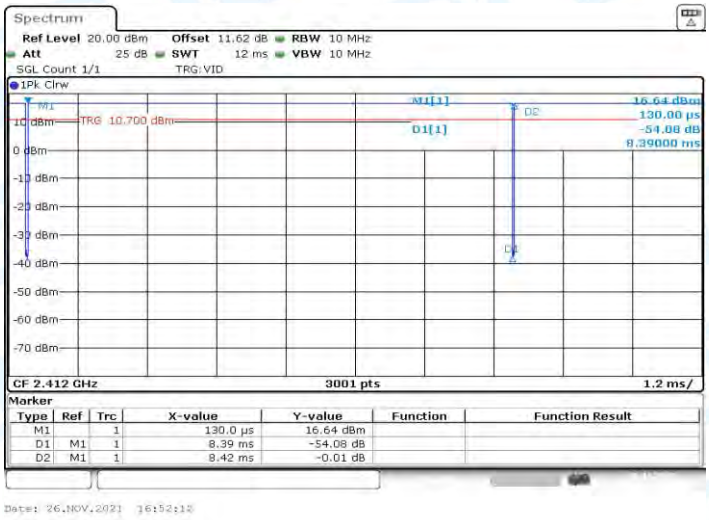
11N40SISO_Ant1_2452_1000~26500

7. Duty Cycle

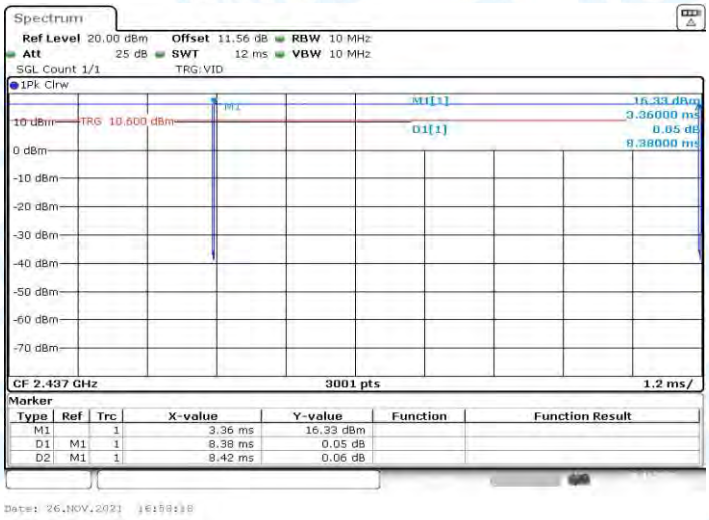
7.1.Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [KHz]	Limit	Verdict
11B	Ant1	2412	8.39	8.42	99.64	0.12	---	---
		2437	8.38	8.42	99.52	0.12	---	---
		2462	8.38	8.41	99.64	0.12	---	---
11G	Ant1	2412	1.40	1.44	97.22	0.71	---	---
		2437	1.39	1.43	97.20	0.71	---	---
		2462	1.39	1.44	96.53	0.71	---	---
11N20SISO	Ant1	2412	1.29	1.34	96.27	0.69	---	---
		2437	1.28	1.33	96.24	0.69	---	---
		2462	1.28	1.33	96.24	0.69	---	---
11N40SISO	Ant1	2422	0.64	0.68	94.12	1.47	---	---
		2437	0.64	0.68	94.12	1.47	---	---
		2452	0.64	0.68	94.12	1.47	---	---
Note:1/T=1/ Transmission Duration								

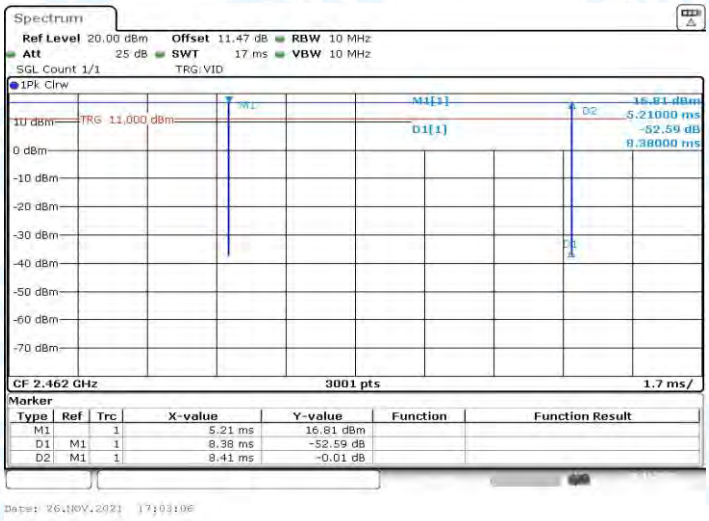
7.2.Test Graphs



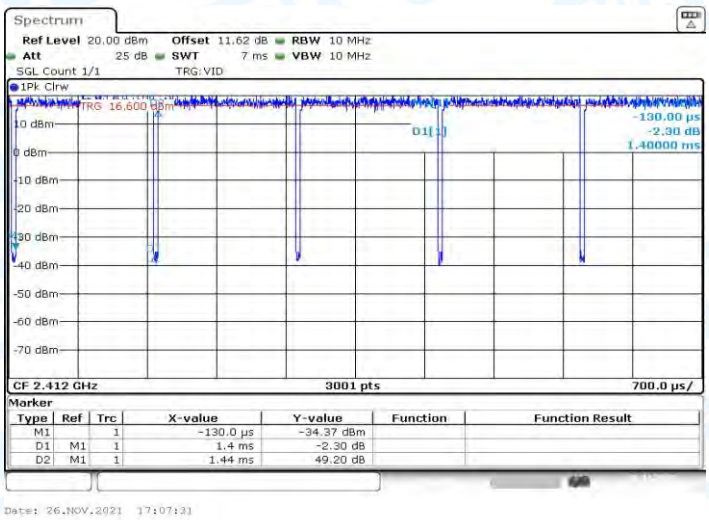
11B_Ant1_2412



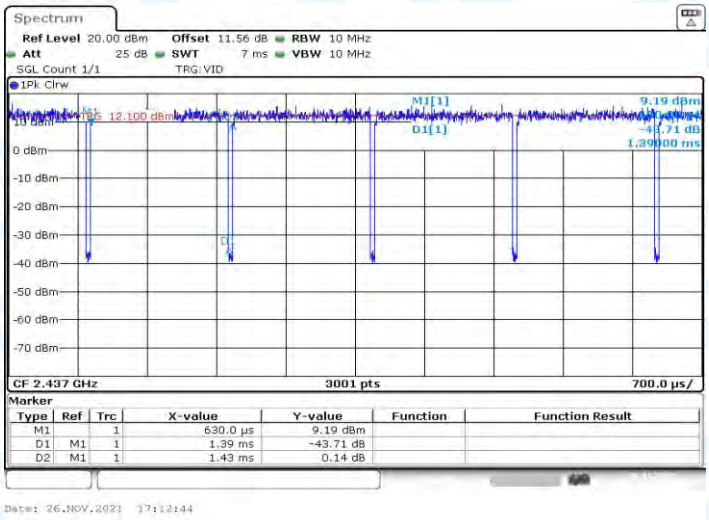
11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



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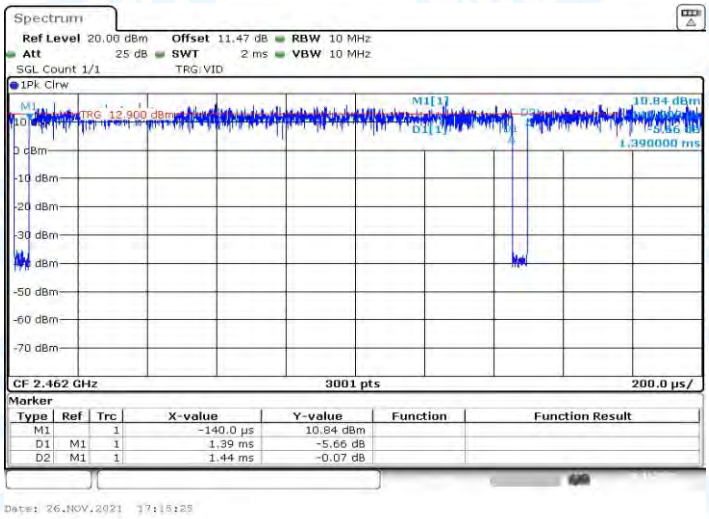

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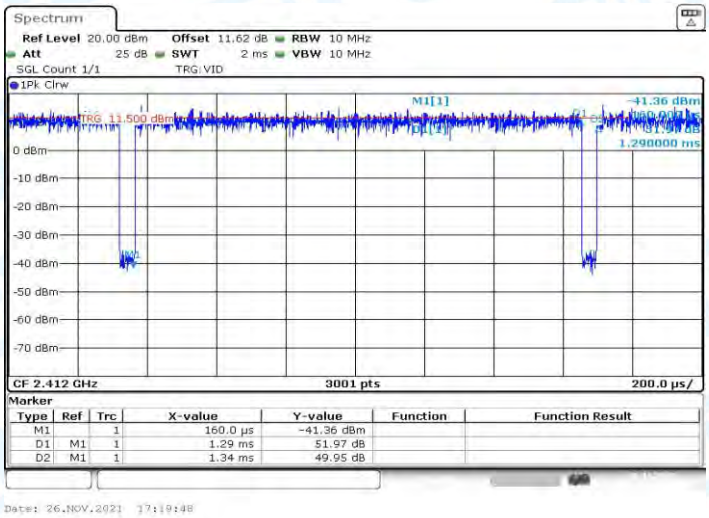

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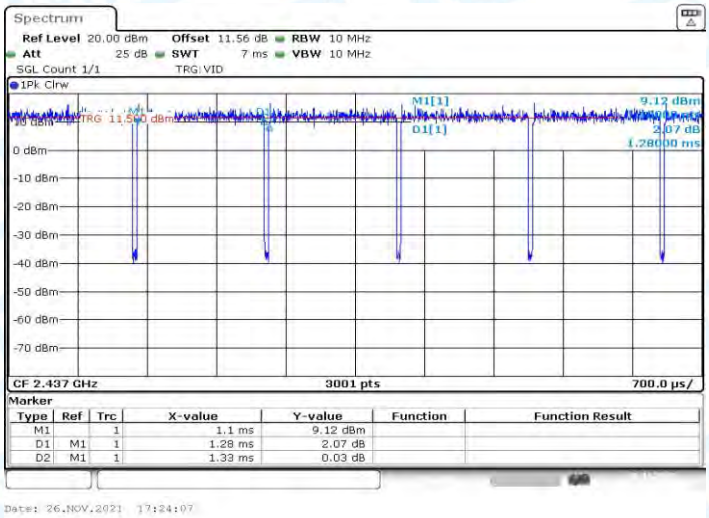

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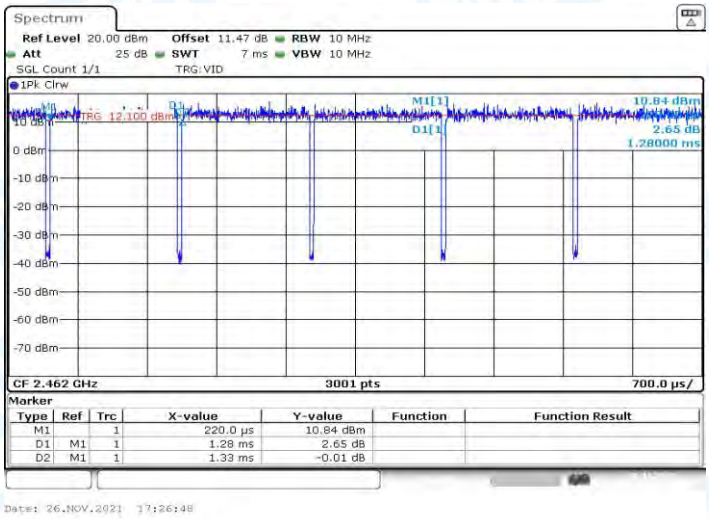

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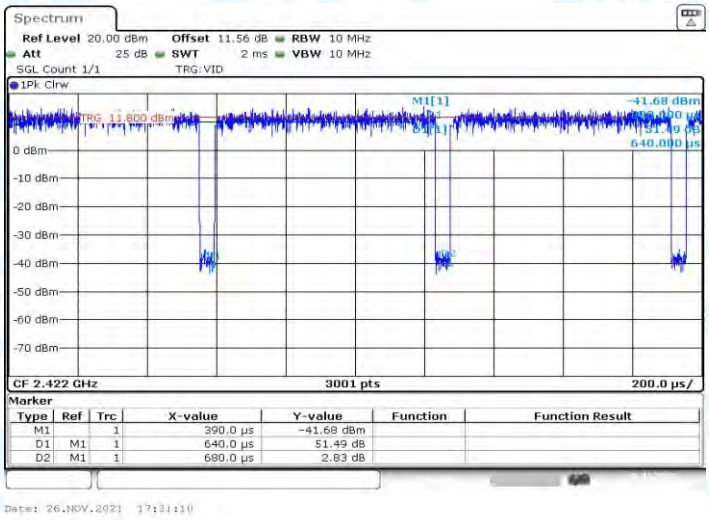
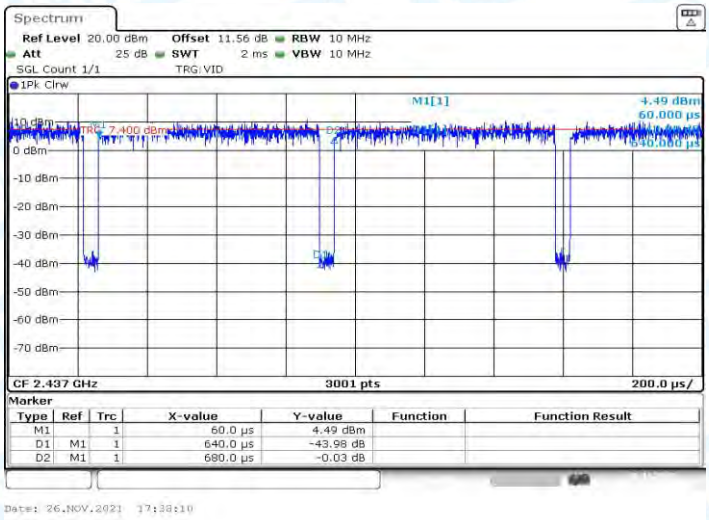


11N40SISO_Ant1_2422



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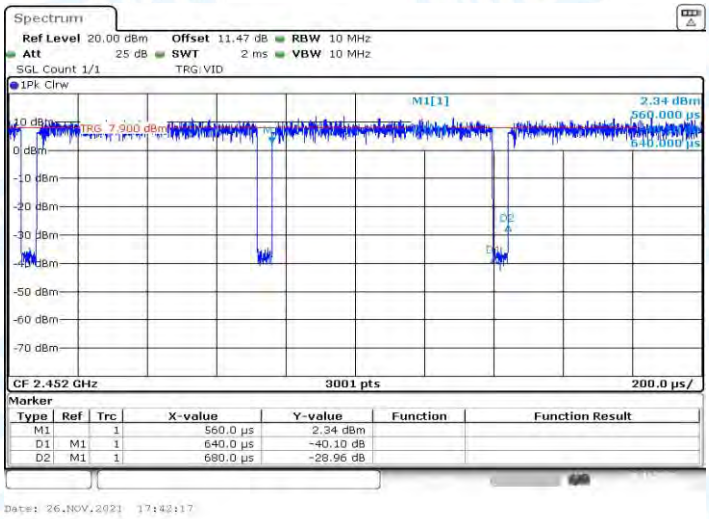


11N40SISO_Ant1_2452

8. Emissions in Restricted Bands

8.1.Test Result

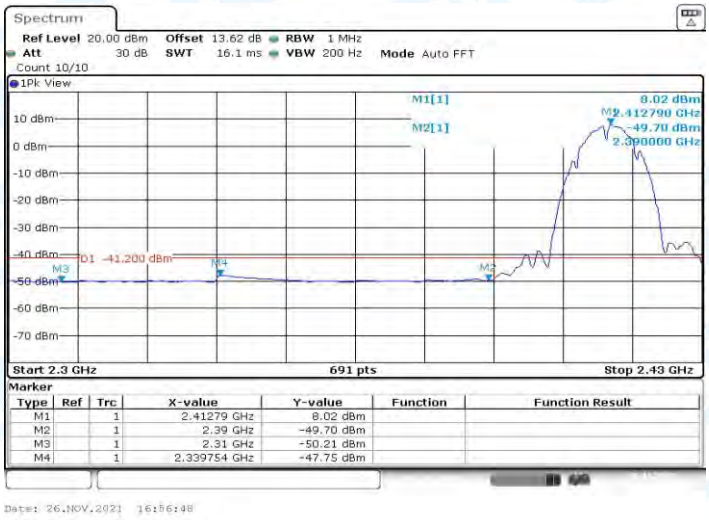
TestMode	Antenna	ChName	Channel	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-50.21	≤-41.20	PASS
				AV	2339.754	-47.75	≤-41.20	PASS
				AV	2390.000	-49.7	≤-41.20	PASS
				Peak	2310.000	-39.13	≤-21.20	PASS
				Peak	2342.391	-36.04	≤-21.20	PASS
				Peak	2390.000	-38.29	≤-21.20	PASS
		High	2462	AV	2483.500	-48.66	≤-41.20	PASS
				AV	2483.681	-48.65	≤-41.20	PASS
				AV	2500.000	-49.45	≤-41.20	PASS
				Peak	2483.500	-37.45	≤-21.20	PASS
				Peak	2496.754	-35.6	≤-21.20	PASS
				Peak	2500.000	-38.19	≤-21.20	PASS
11G	Ant1	Low	2412	AV	2310.000	-49.68	≤-41.20	PASS
				AV	2339.565	-47.46	≤-41.20	PASS
				AV	2390.000	-49.4	≤-41.20	PASS
				Peak	2310.000	-39.32	≤-21.20	PASS
				Peak	2340.319	-34.71	≤-21.20	PASS
				Peak	2390.000	-39.53	≤-21.20	PASS
		High	2462	AV	2483.500	-48.29	≤-41.20	PASS
				AV	2483.522	-48.29	≤-41.20	PASS
				AV	2500.000	-48.89	≤-41.20	PASS
				Peak	2483.500	-37.48	≤-21.20	PASS
				Peak	2498.507	-37	≤-21.20	PASS
				Peak	2500.000	-38.58	≤-21.20	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-49.77	≤-41.20	PASS
				AV	2339.942	-47.31	≤-41.20	PASS
				AV	2390.000	-49	≤-41.20	PASS
				Peak	2310.000	-39.79	≤-21.20	PASS
				Peak	2341.261	-35.88	≤-21.20	PASS
				Peak	2390.000	-38.63	≤-21.20	PASS
		High	2462	AV	2483.500	-48.23	≤-41.20	PASS
				AV	2483.522	-48.23	≤-41.20	PASS
				AV	2500.000	-49.03	≤-41.20	PASS
				Peak	2483.500	-38.01	≤-21.20	PASS
				Peak	2490.536	-35.65	≤-21.20	PASS
				Peak	2500.000	-38.89	≤-21.20	PASS
11N40SISO	Ant1	Low	2422	AV	2310.000	-49.58	≤-41.20	PASS
				AV	2339.754	-46.86	≤-41.20	PASS
				AV	2390.000	-48.68	≤-41.20	PASS
				Peak	2310.000	-40.1	≤-21.20	PASS
				Peak	2339.942	-34.1	≤-21.20	PASS

				Peak	2390.000	-35.33	≤-21.20	PASS
		High	2452	AV	2483.500	-46.82	≤-41.20	PASS
				AV	2483.841	-46.62	≤-41.20	PASS
				AV	2500.000	-48.78	≤-41.20	PASS
				Peak	2483.500	-34.02	≤-21.20	PASS
				Peak	2483.522	-34.02	≤-21.20	PASS
				Peak	2500.000	-39.33	≤-21.20	PASS

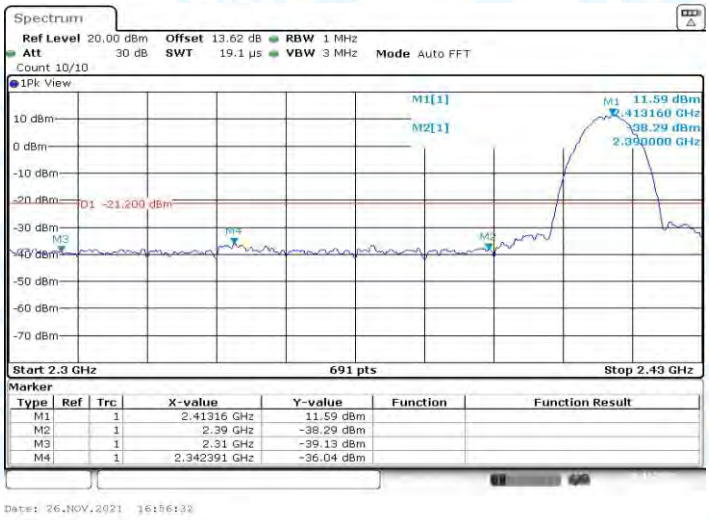
Note:

1. The Antenna Gain is compensated in the graph.
2. 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.

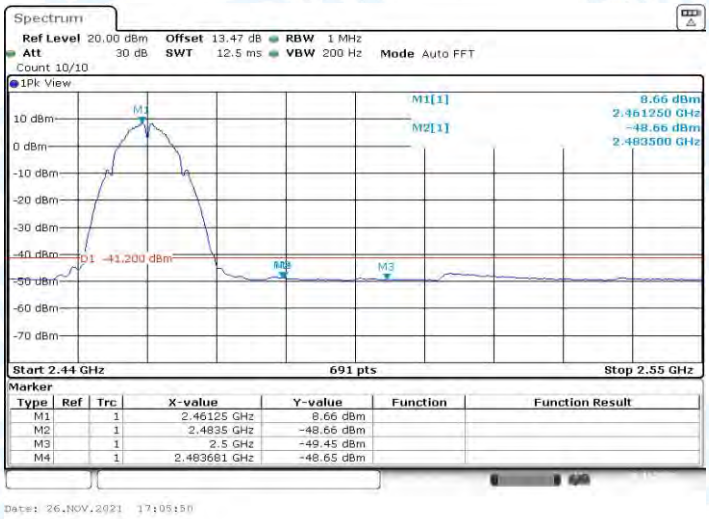
8.2.Test Graphs



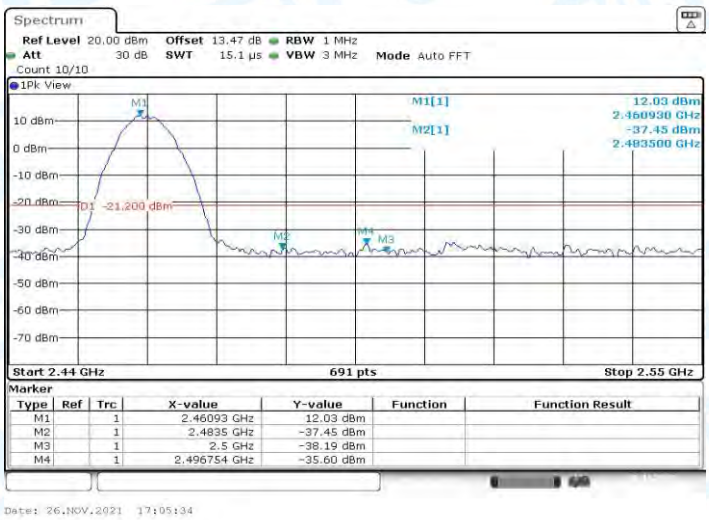
11B_Ant1_Low_2412_AV



11B_Ant1_Low_2412_Peak



11B_Ant1_High_2462_AV



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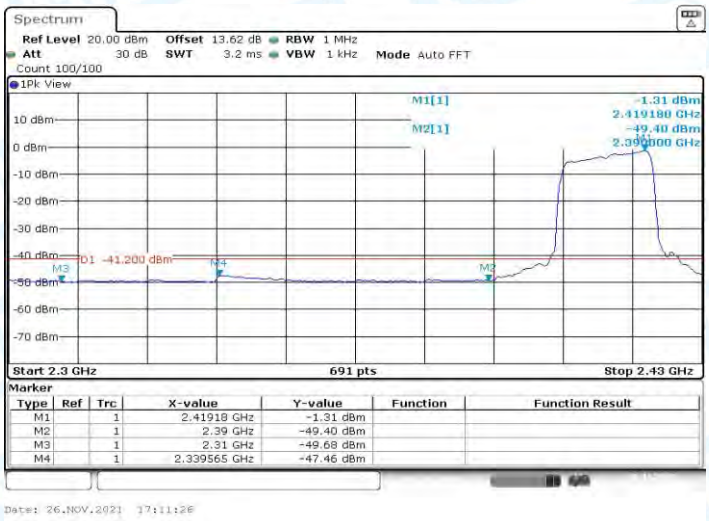
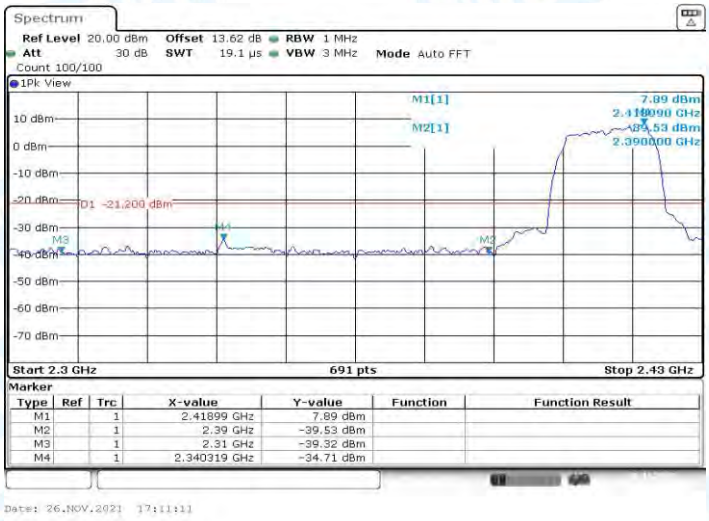


11G_Ant1_Low_2412_AV



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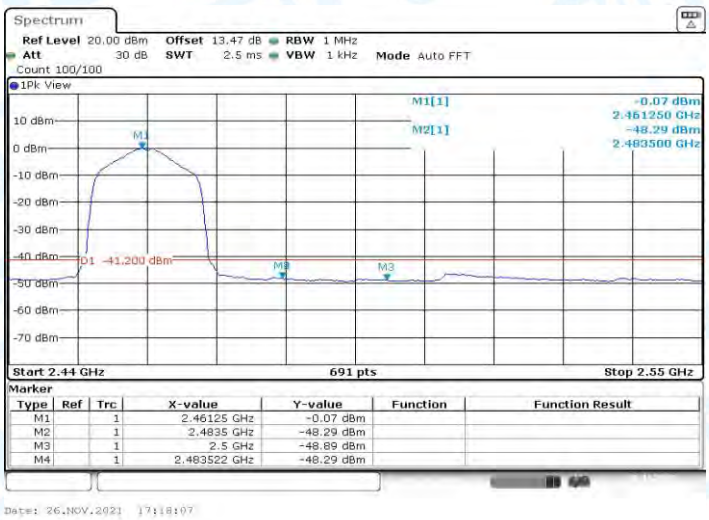

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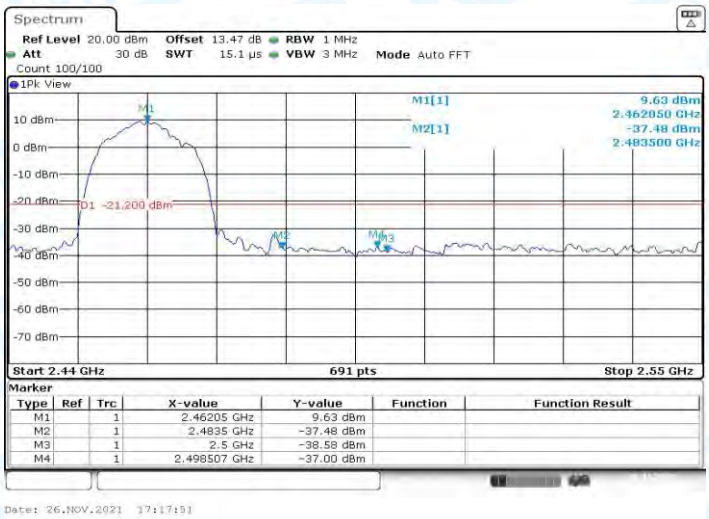

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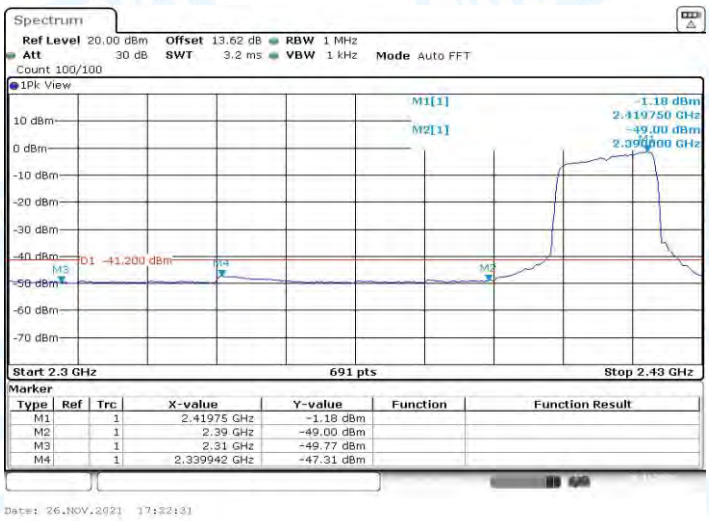
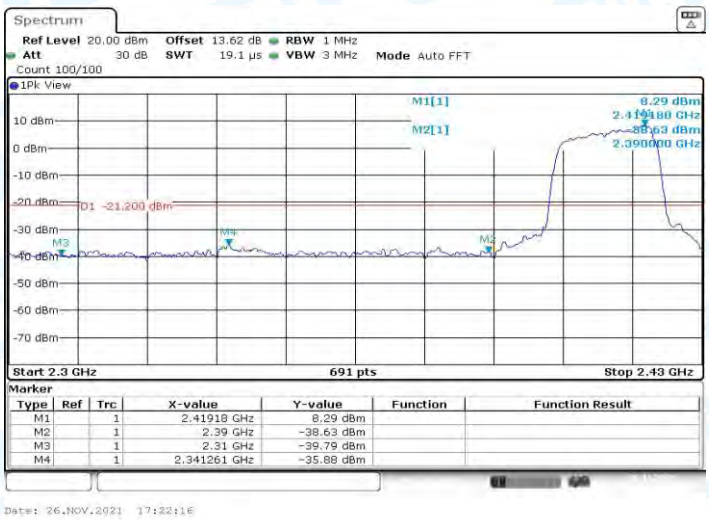


11N20SISO_Ant1_Low_2412_AV



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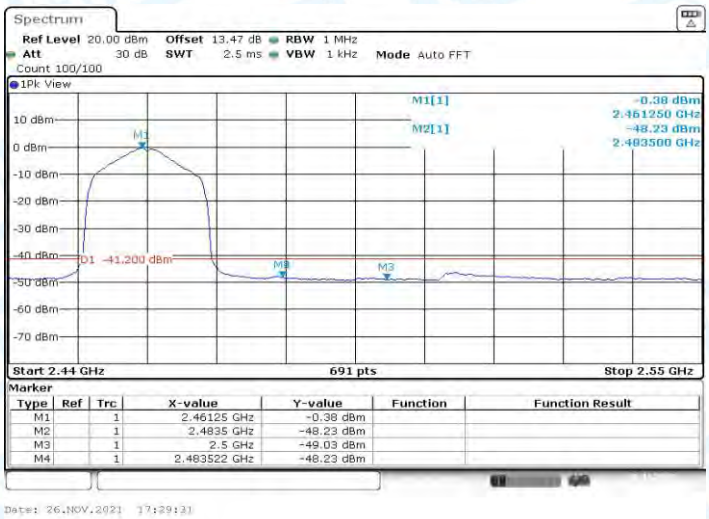
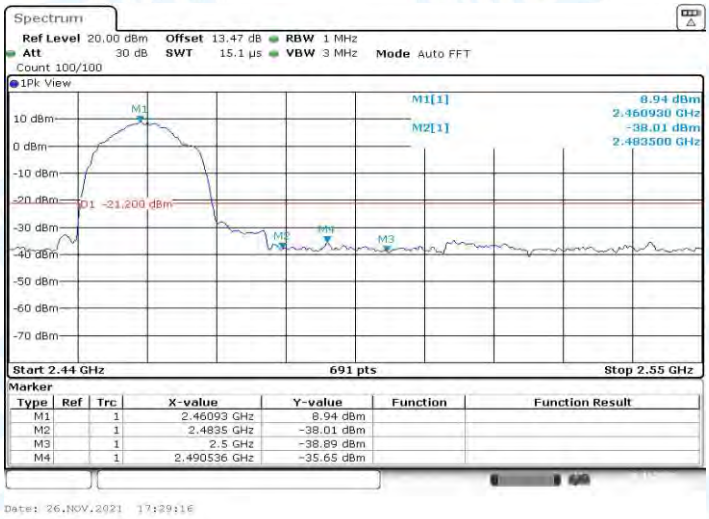
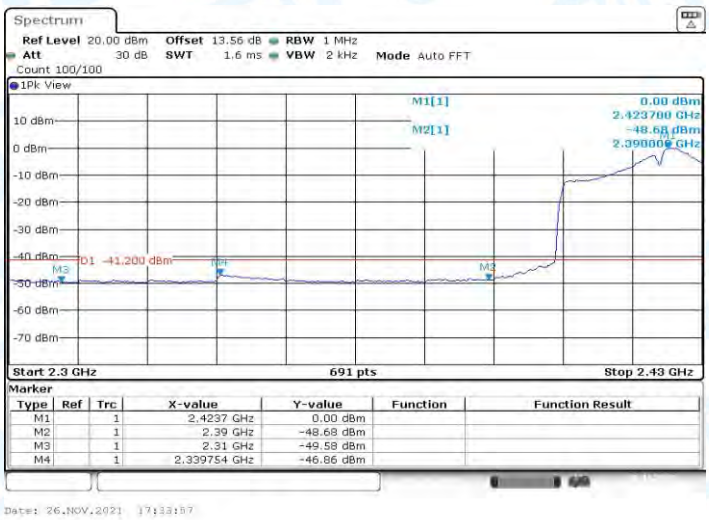


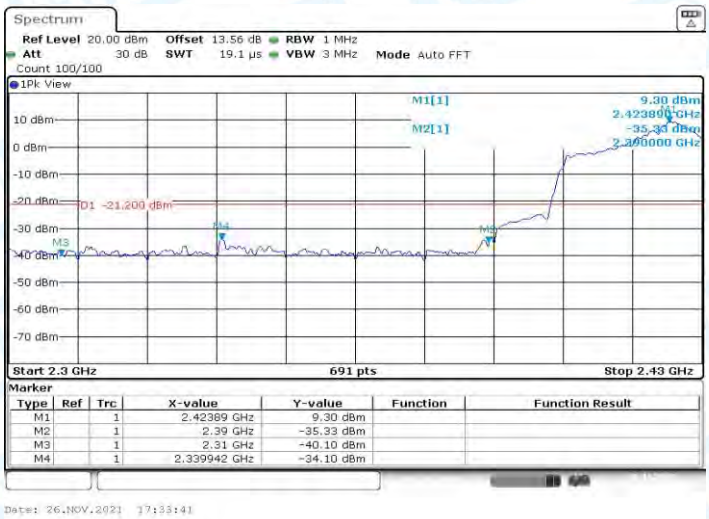
11N20SISO_Ant1_High_2462_AV



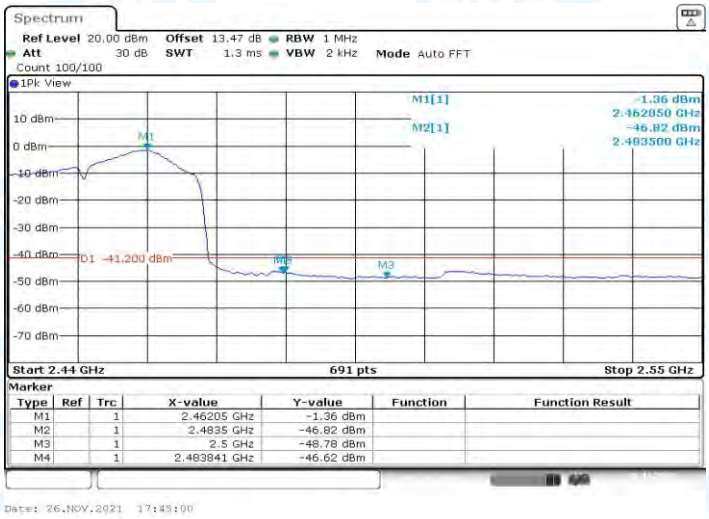
11N20SISO_Ant1_High_2462_Peak



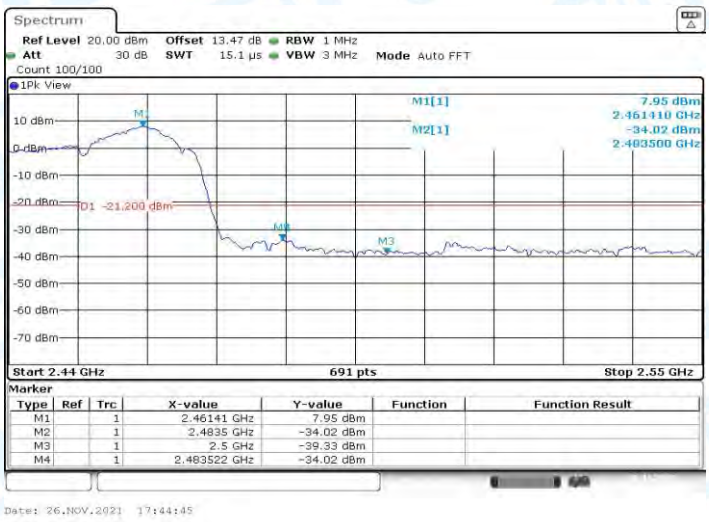
11N40SISO_Ant1_Low_2422_AV



11N40SISO_Ant1_Low_2422_Peak



11N40SISO_Ant1_High_2452_AV



11N40SISO_Ant1_High_2452_Peak

-----End of the report-----