

RF Test Data for 2.4G Wi-Fi

(Conducted Measurements)

General Description of EUT	
Product Name:	Wireless USB Adapter
Test Model:	NCU-L150
Sample ID:	20210924-02-02
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-FCC184207	

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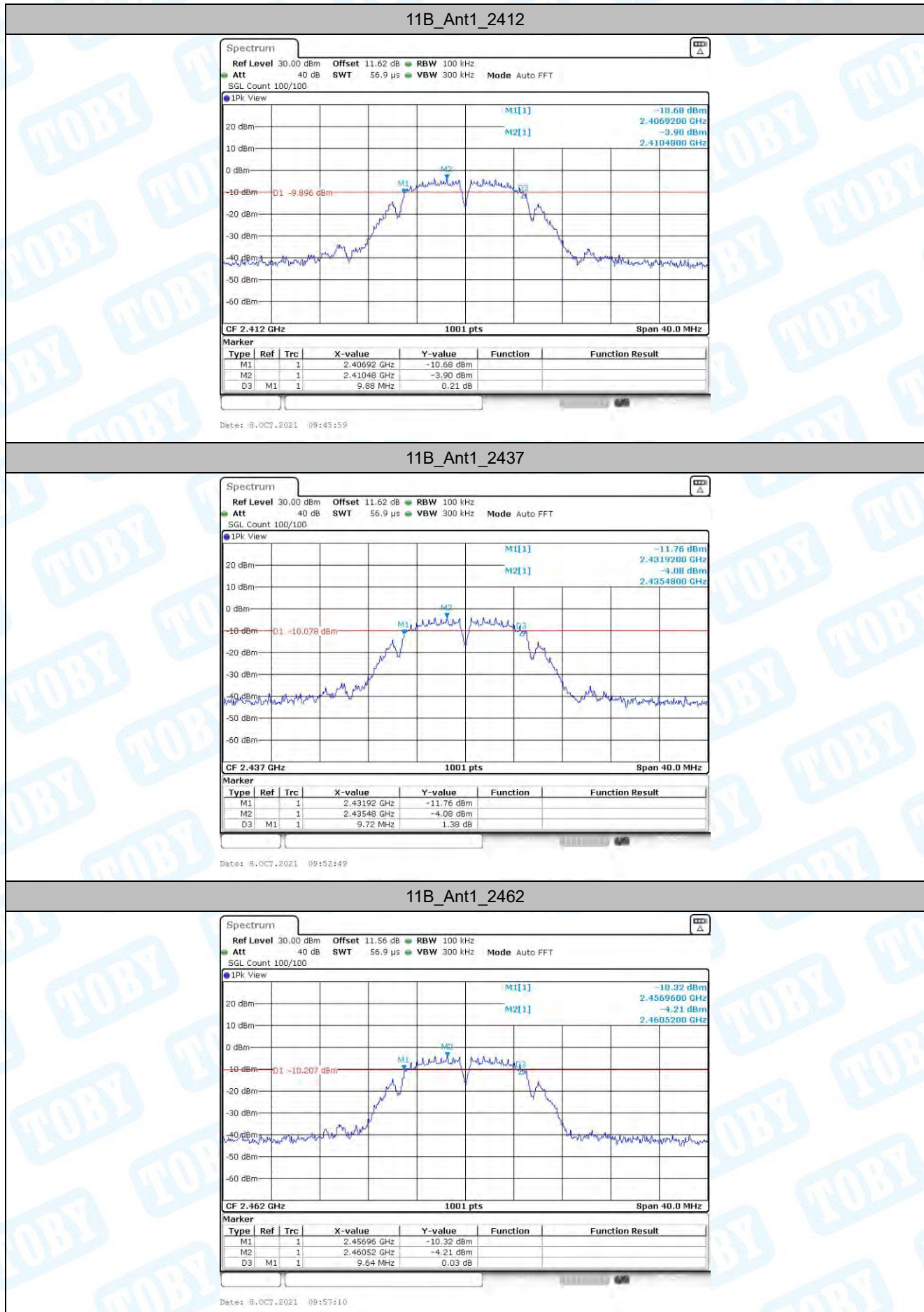
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1. DTS Bandwidth

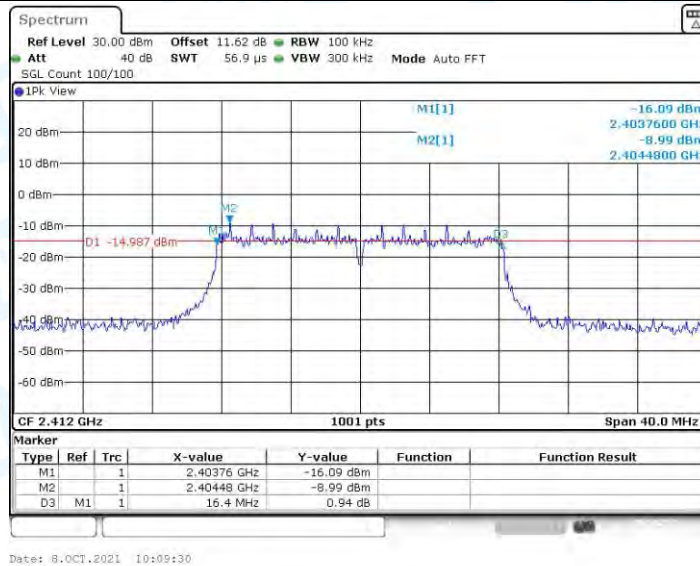
1.1. Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.880	2406.920	2416.800	0.5	PASS
		2437	9.720	2431.920	2441.640	0.5	PASS
		2462	9.640	2456.960	2466.600	0.5	PASS
11G	Ant1	2412	16.400	2403.760	2420.160	0.5	PASS
		2437	16.520	2428.680	2445.200	0.5	PASS
		2462	16.520	2453.680	2470.200	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.160	2420.800	0.5	PASS
		2437	17.400	2428.160	2445.560	0.5	PASS
		2462	17.680	2453.120	2470.800	0.5	PASS
11N40SISO	Ant1	2422	36.560	2403.680	2440.240	0.5	PASS
		2437	35.840	2418.760	2454.600	0.5	PASS
		2452	36.560	2433.680	2470.240	0.5	PASS

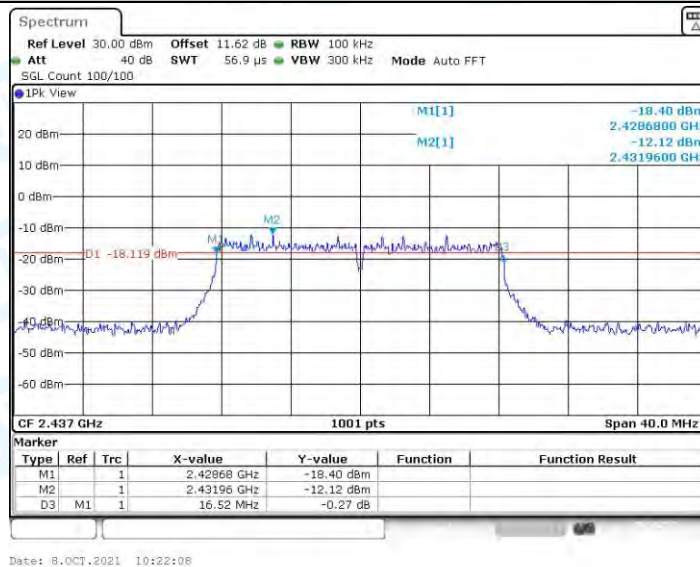
1.2. Test Graphs



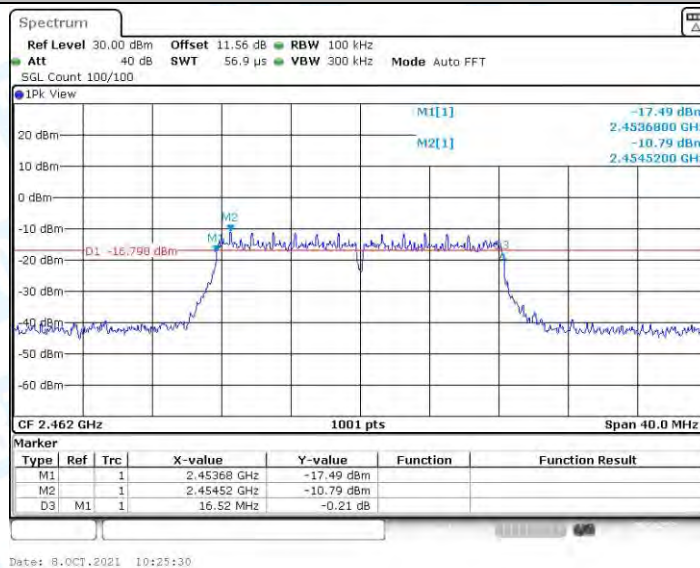
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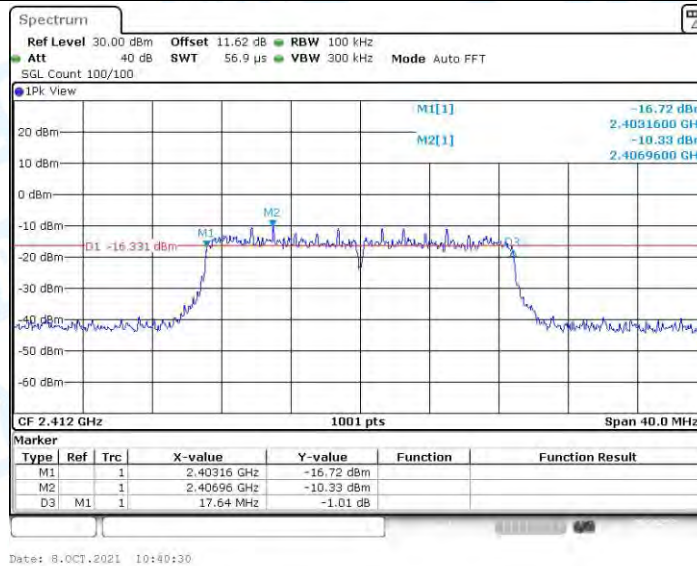
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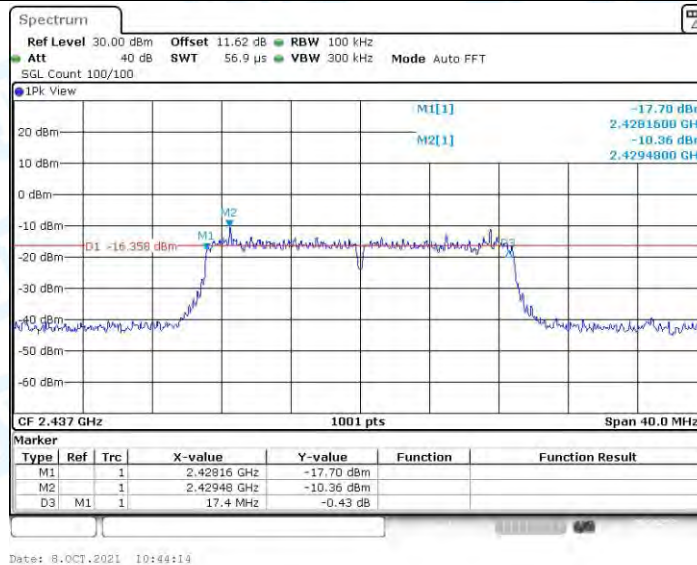
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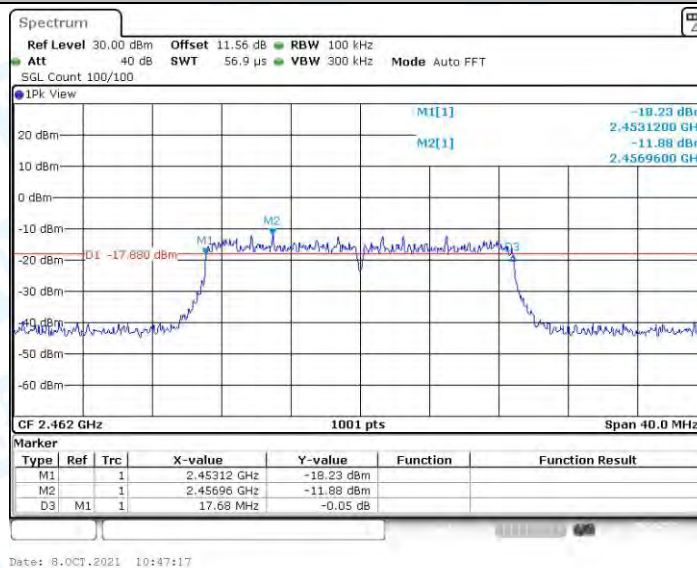
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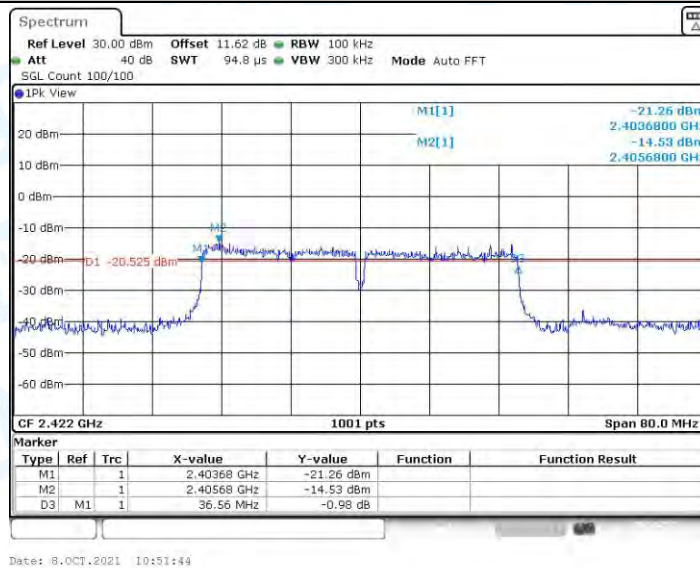
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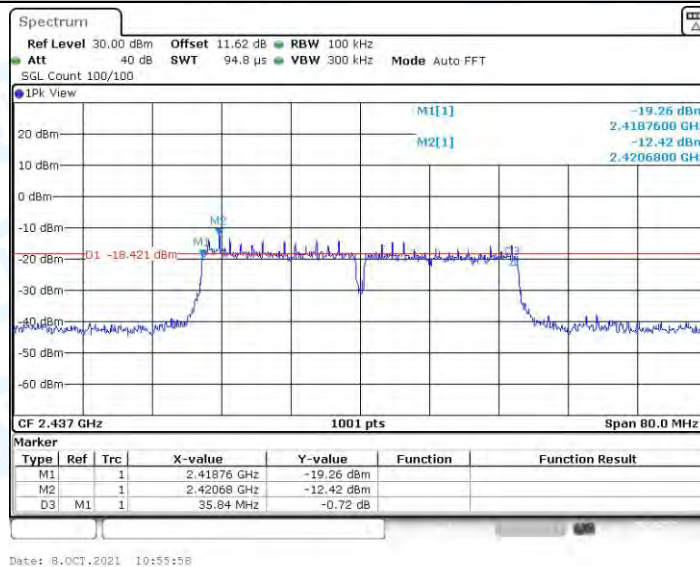
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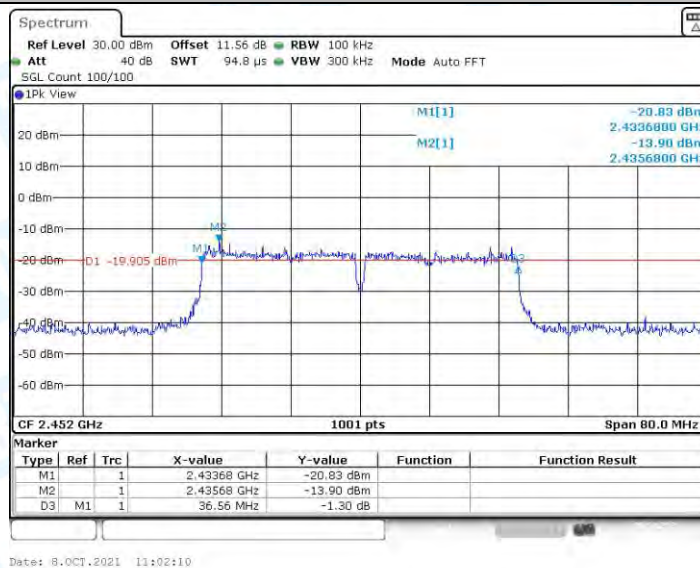
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



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	12.907	2405.447	2418.354	---	PASS
		2437	12.827	2430.526	2443.354	---	PASS
		2462	12.787	2455.526	2468.314	---	PASS
11G	Ant1	2412	17.502	2403.049	2420.551	---	PASS
		2437	17.343	2428.209	2445.551	---	PASS
		2462	17.183	2453.329	2470.511	---	PASS
11N20SISO	Ant1	2412	17.902	2402.969	2420.871	---	PASS
		2437	18.142	2427.769	2445.911	---	PASS
		2462	17.902	2452.969	2470.871	---	PASS
11N40SISO	Ant1	2422	37.083	2403.219	2440.302	---	PASS
		2437	37.083	2418.299	2455.382	---	PASS
		2452	37.003	2433.379	2470.382	---	PASS

2.2. Test Graphs



11G_Ant1_2412



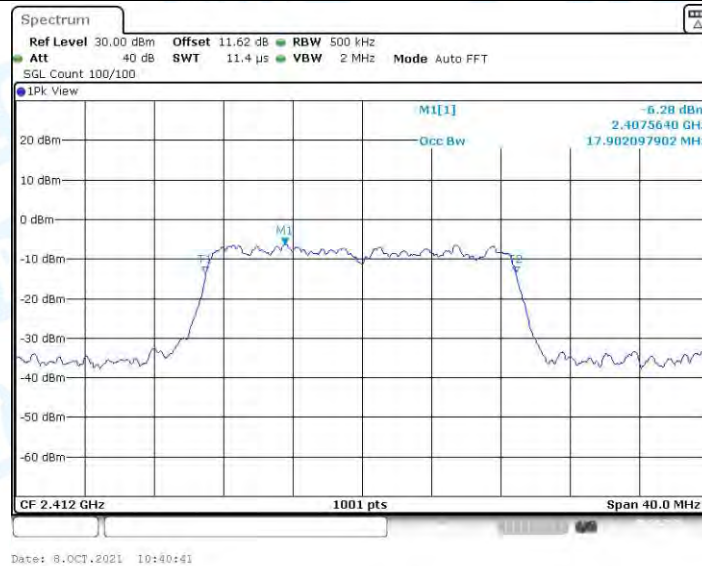
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



3. Maximum conducted output power

3.1. Test Result

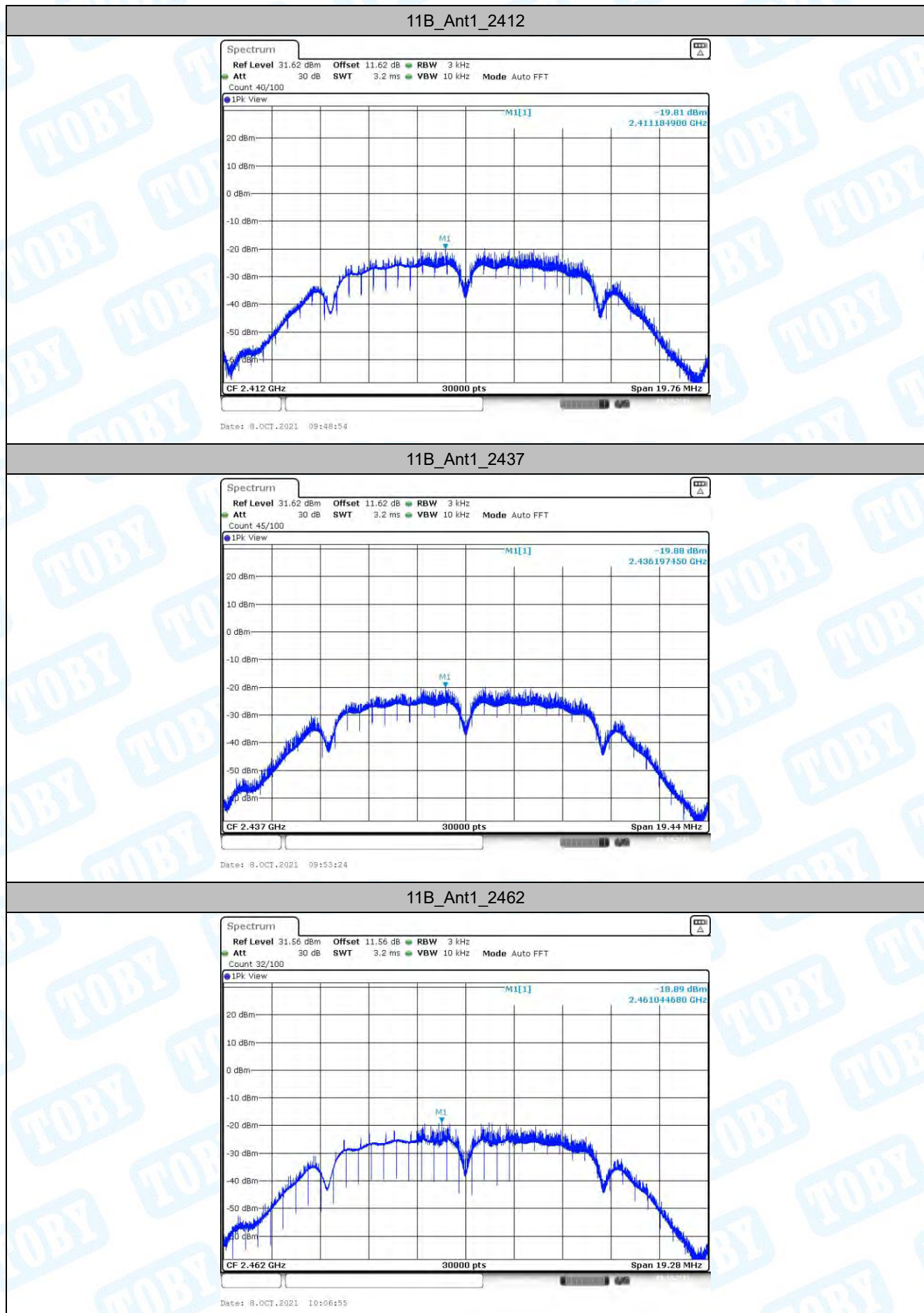
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	8.48	≤30	PASS
		2437	8.38	≤30	PASS
		2462	8.31	≤30	PASS
11G	Ant1	2412	8.84	≤30	PASS
		2437	8.23	≤30	PASS
		2462	8.29	≤30	PASS
11N20SISO	Ant1	2412	8.63	≤30	PASS
		2437	7.98	≤30	PASS
		2462	8.05	≤30	PASS
11N40SISO	Ant1	2422	8.46	≤30	PASS
		2437	7.92	≤30	PASS
		2452	7.65	≤30	PASS

4. Maximum power spectral density

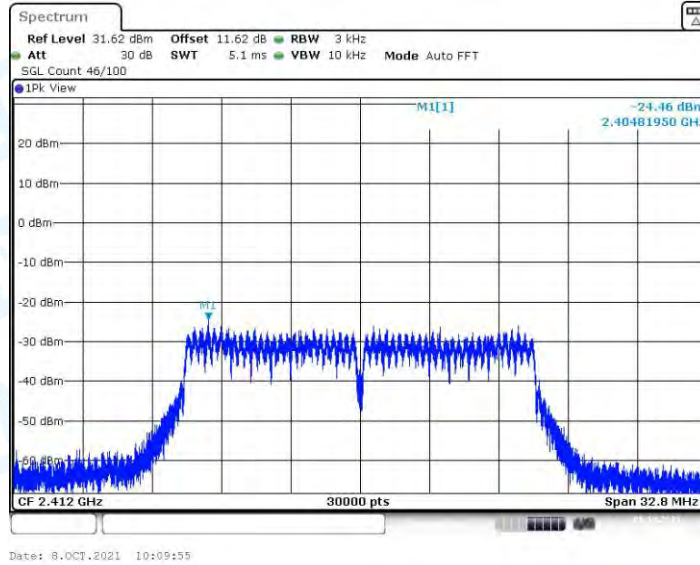
4.1. Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-19.81	≤8	PASS
		2437	-19.88	≤8	PASS
		2462	-18.89	≤8	PASS
11G	Ant1	2412	-24.46	≤8	PASS
		2437	-26.37	≤8	PASS
		2462	-26.82	≤8	PASS
11N20SISO	Ant1	2412	-25.9	≤8	PASS
		2437	-26.04	≤8	PASS
		2462	-25.13	≤8	PASS
11N40SISO	Ant1	2422	-26.81	≤8	PASS
		2437	-28.28	≤8	PASS
		2452	-27.6	≤8	PASS

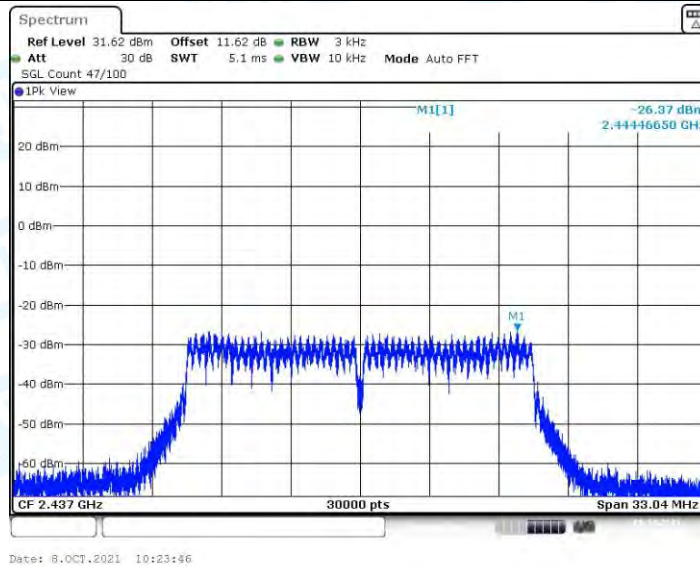
4.2. Test Graphs



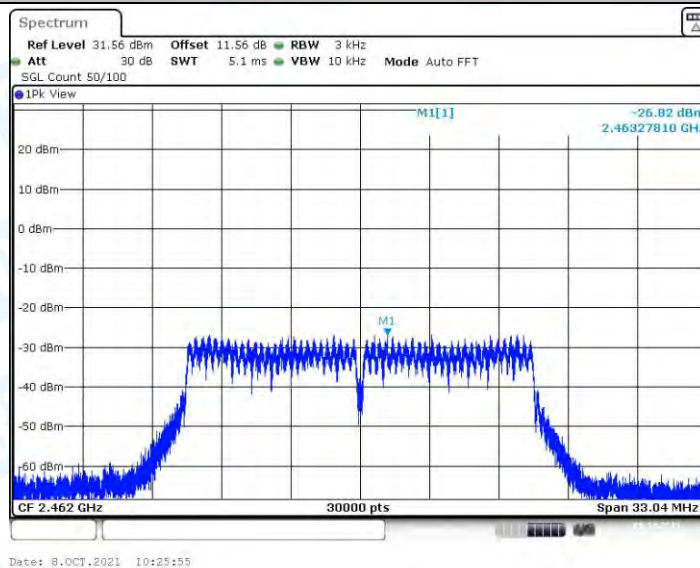
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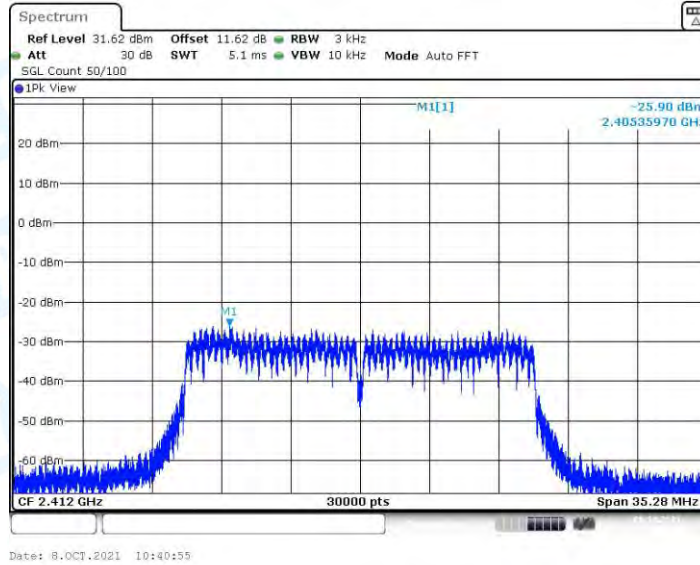
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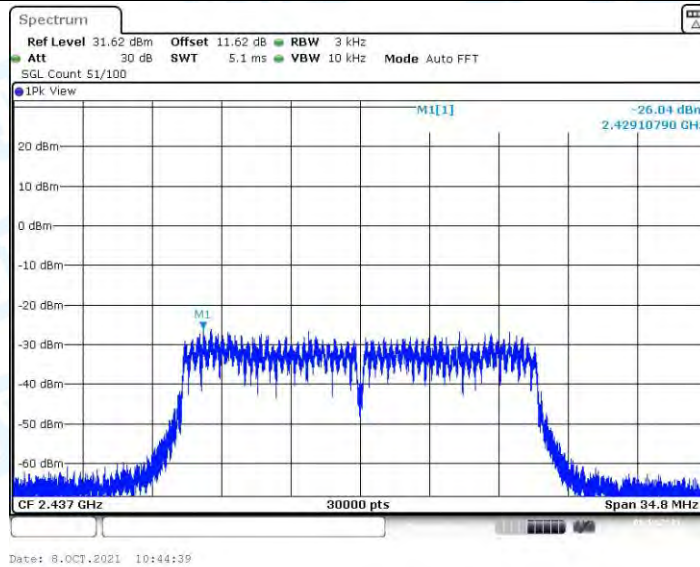
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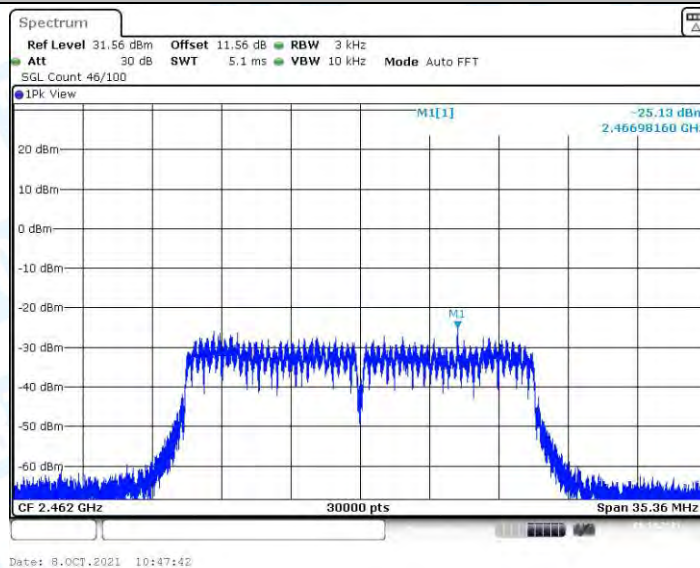
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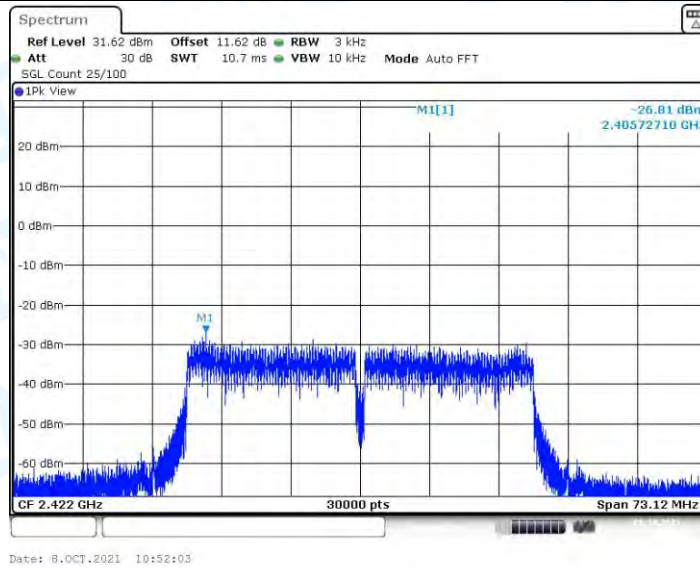
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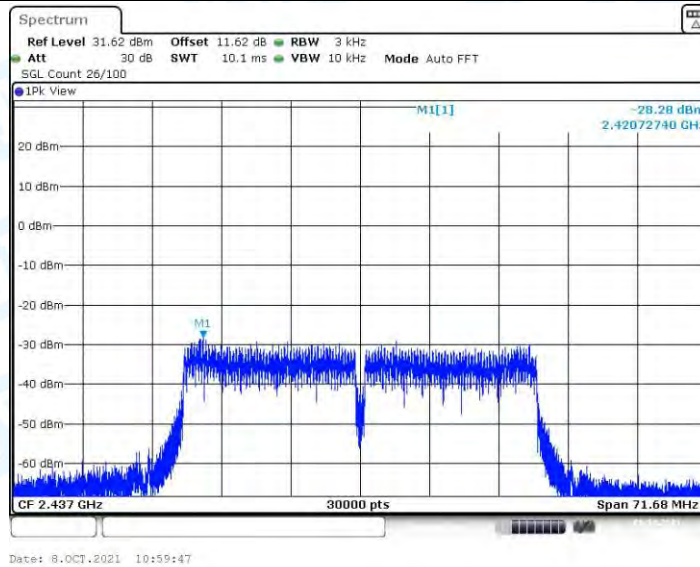
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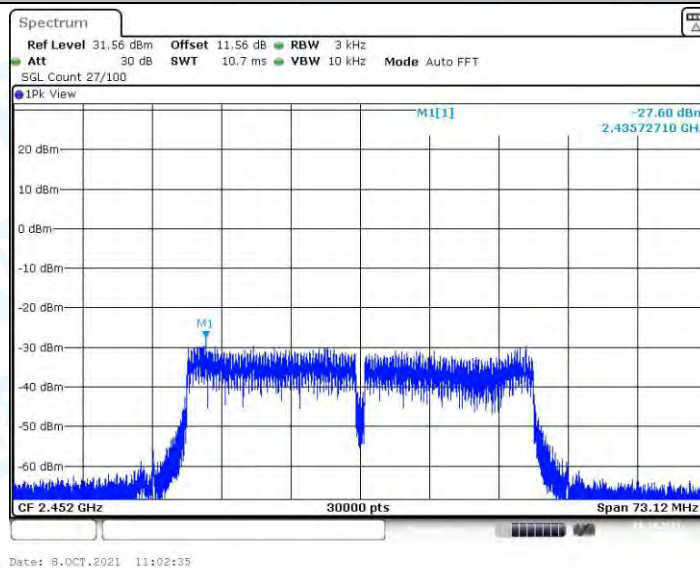
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11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



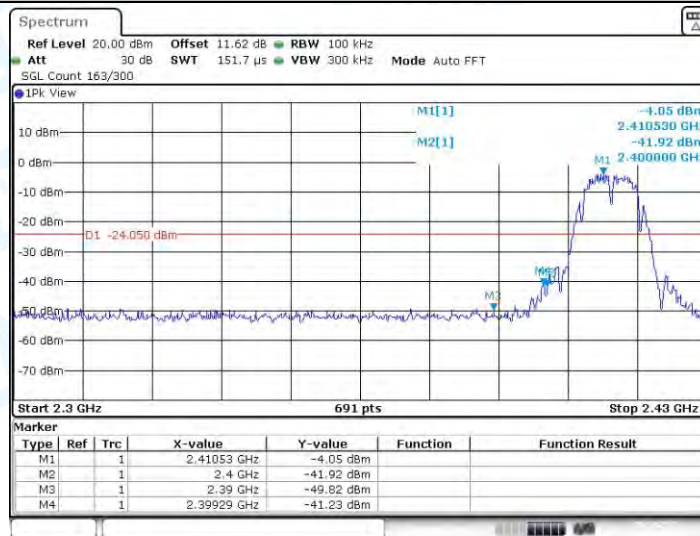
5. Band edge measurements

5.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	-4.05	-41.23	≤ -24.05	PASS
		High	2462	-4.44	-47.19	≤ -24.44	PASS
11G	Ant1	Low	2412	-10.87	-41.36	≤ -30.87	PASS
		High	2462	-11.34	-47.44	≤ -31.34	PASS
11N20SISO	Ant1	Low	2412	-9.68	-44.51	≤ -29.68	PASS
		High	2462	-10.07	-47.35	≤ -30.07	PASS
11N40SISO	Ant1	Low	2422	-12.28	-43.88	≤ -32.28	PASS
		High	2452	-14.23	-47.21	≤ -34.23	PASS

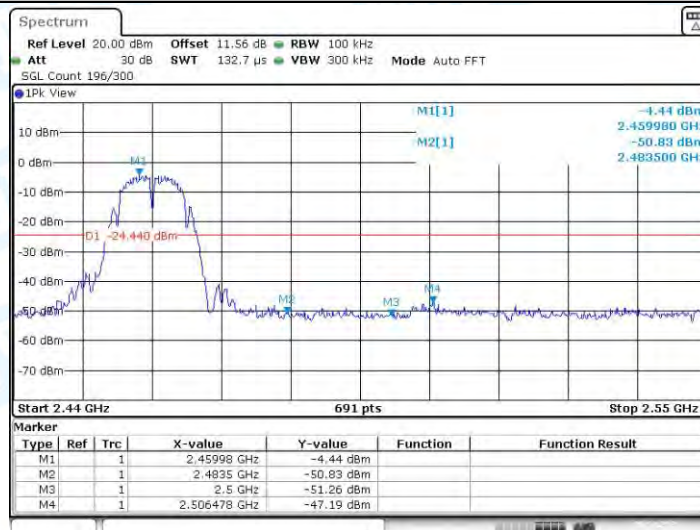
5.2. Test Graphs

11B_Ant1_Low_2412



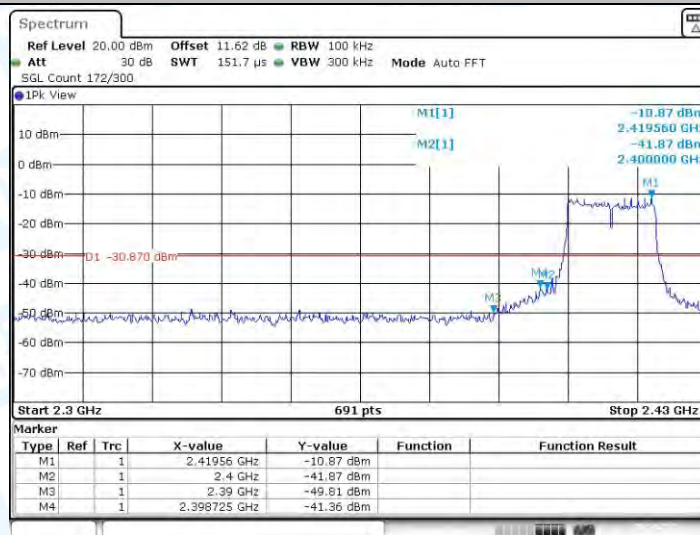
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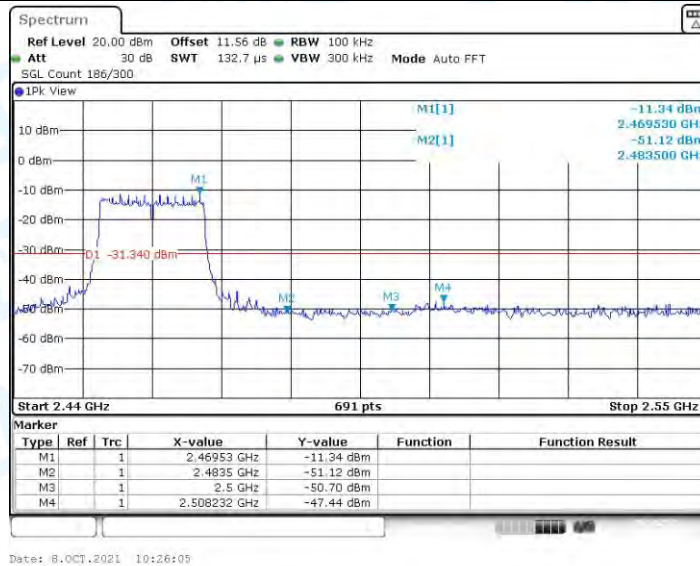
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11G_Ant1_Low_2412

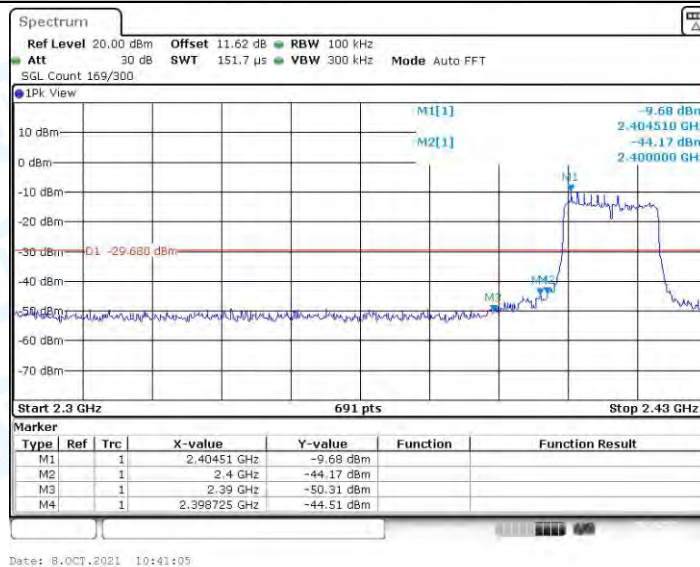


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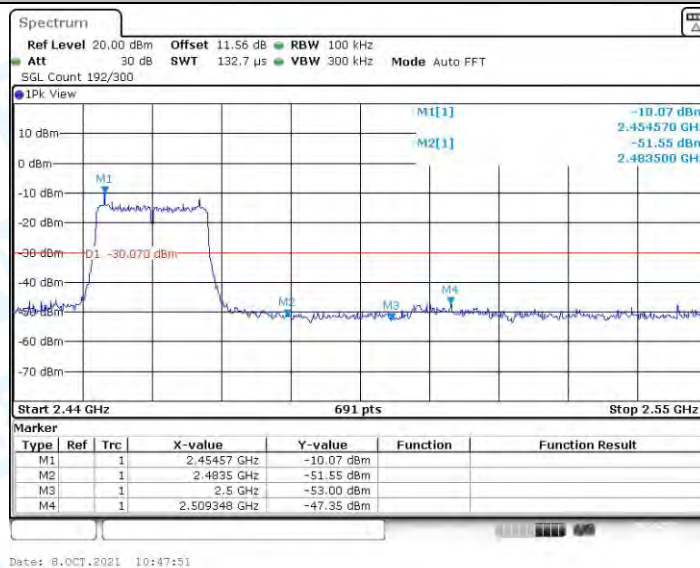
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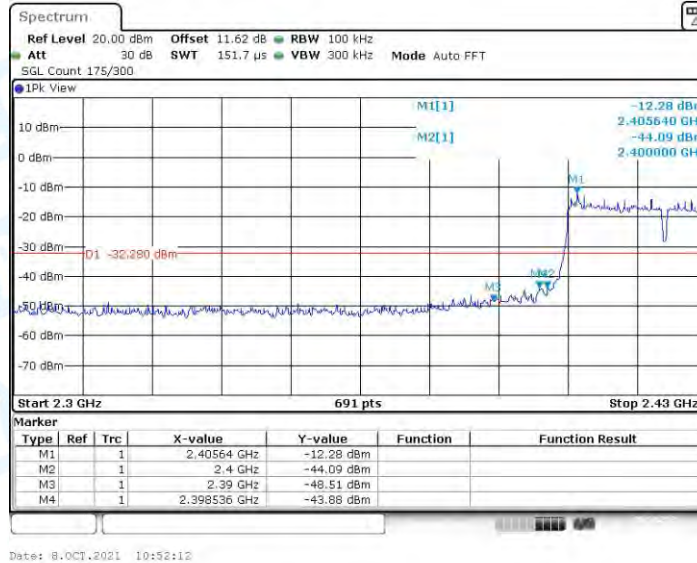
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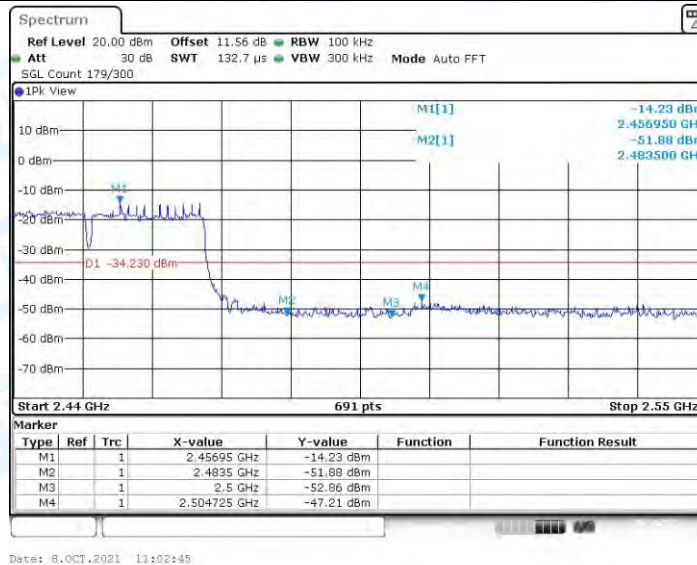
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452

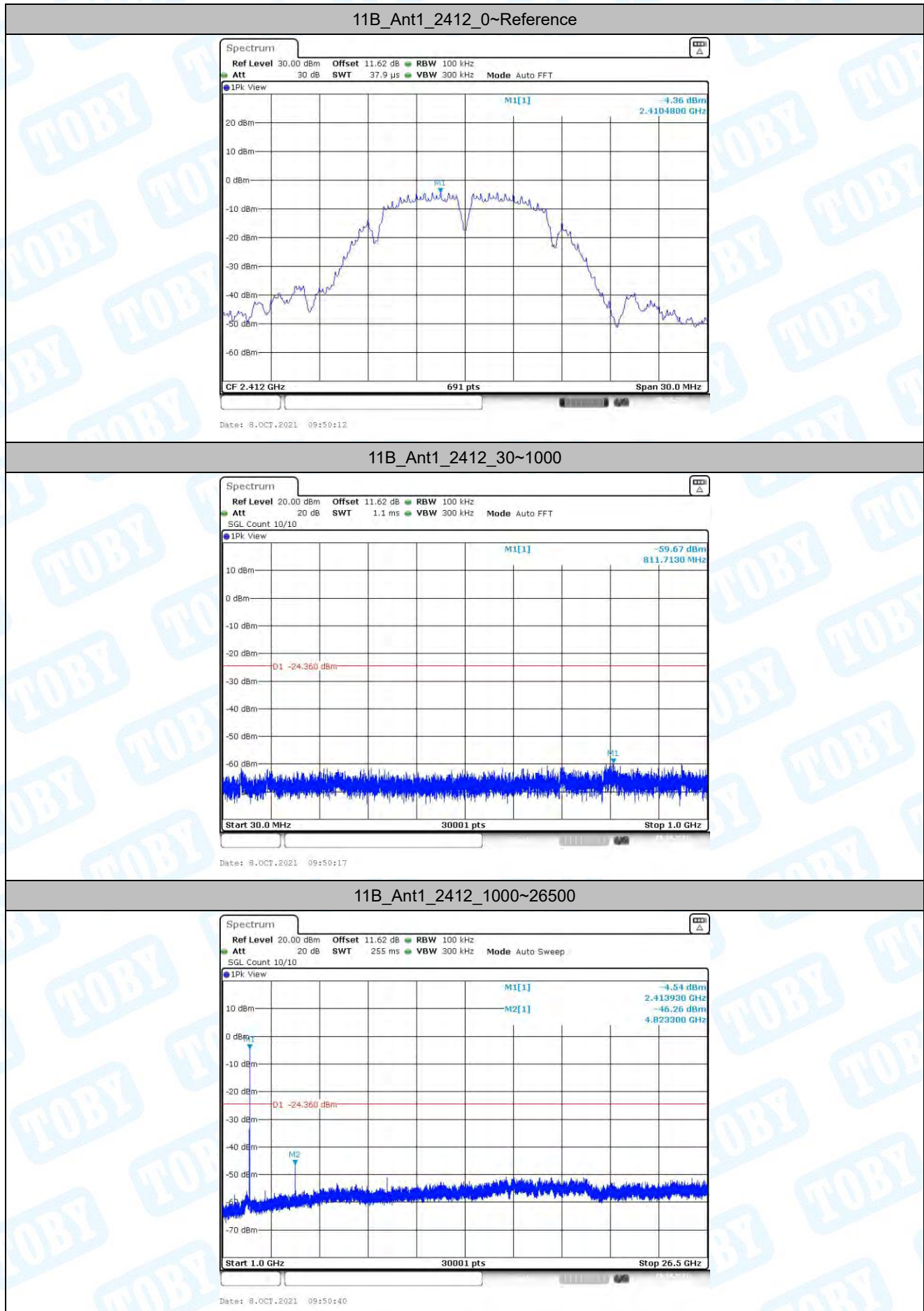


6. Conducted Spurious Emission

6.1. Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	-4.36	-4.36	---	PASS
			30~1000	-4.36	-59.67	≤ -24.36	PASS
			1000~26500	-4.36	-46.26	≤ -24.36	PASS
		2437	Reference	-4.08	-4.08	---	PASS
			30~1000	-4.08	-59.95	≤ -24.08	PASS
			1000~26500	-4.08	-43.91	≤ -24.08	PASS
		2462	Reference	-3.29	-3.29	---	PASS
			30~1000	-3.29	-60.04	≤ -23.29	PASS
			1000~26500	-3.29	-40.1	≤ -23.29	PASS
11G	Ant1	2412	Reference	-8.96	-8.96	---	PASS
			30~1000	-8.96	-59.46	≤ -28.96	PASS
			1000~26500	-8.96	-49.73	≤ -28.96	PASS
		2437	Reference	-11.52	-11.52	---	PASS
			30~1000	-11.52	-59.26	≤ -31.52	PASS
			1000~26500	-11.52	-49.67	≤ -31.52	PASS
		2462	Reference	-9.57	-9.57	---	PASS
			30~1000	-9.57	-58.66	≤ -29.57	PASS
			1000~26500	-9.57	-50.37	≤ -29.57	PASS
11N20SISO	Ant1	2412	Reference	-9.80	-9.80	---	PASS
			30~1000	-9.80	-59.56	≤ -29.8	PASS
			1000~26500	-9.80	-50.74	≤ -29.8	PASS
		2437	Reference	-10.34	-10.34	---	PASS
			30~1000	-10.34	-59.72	≤ -30.34	PASS
			1000~26500	-10.34	-49.87	≤ -30.34	PASS
		2462	Reference	-10.48	-10.48	---	PASS
			30~1000	-10.48	-59.48	≤ -30.48	PASS
			1000~26500	-10.48	-50.14	≤ -30.48	PASS
11N40SISO	Ant1	2422	Reference	-11.45	-11.45	---	PASS
			30~1000	-11.45	-59.58	≤ -31.45	PASS
			1000~26500	-11.45	-49.96	≤ -31.45	PASS
		2437	Reference	-12.01	-12.01	---	PASS
			30~1000	-12.01	-59.55	≤ -32.01	PASS
			1000~26500	-12.01	-49.83	≤ -32.01	PASS
		2452	Reference	-12.63	-12.63	---	PASS
			30~1000	-12.63	-59.36	≤ -32.63	PASS
			1000~26500	-12.63	-34.9	≤ -32.63	PASS

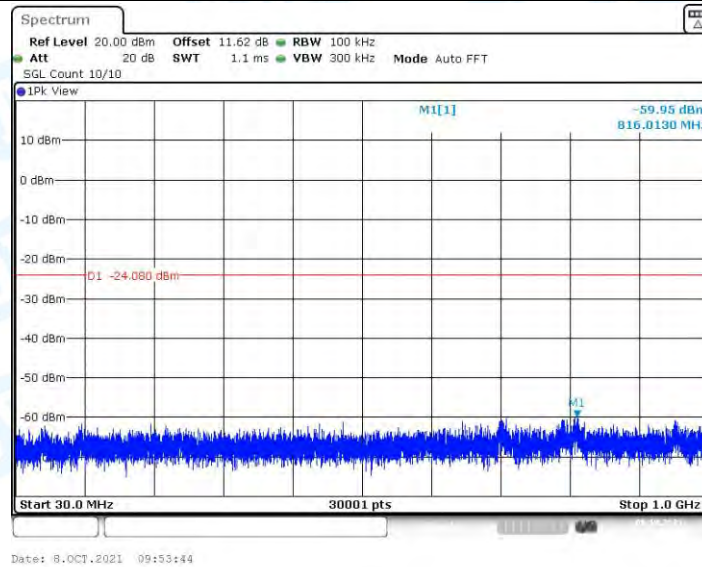
6.2.Test Graphs



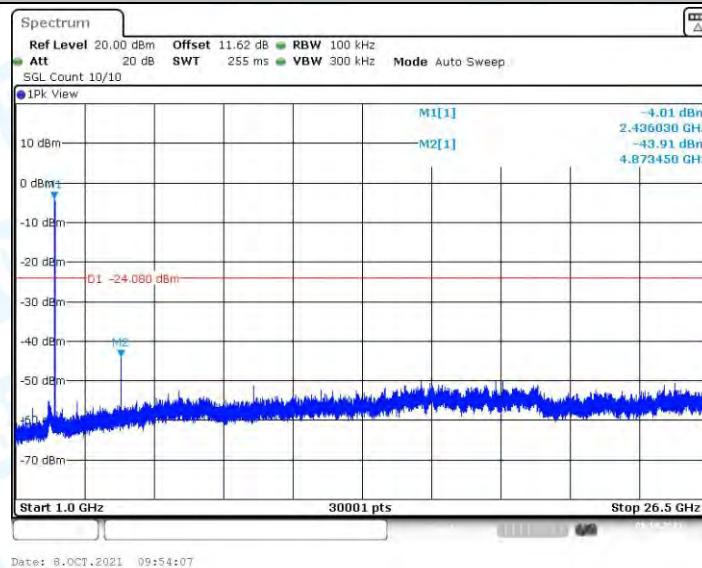
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11B_Ant1_2437_30~1000



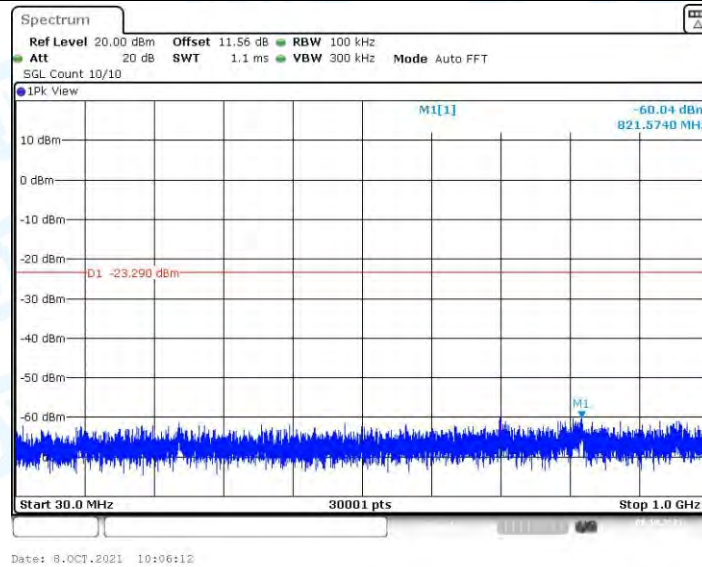
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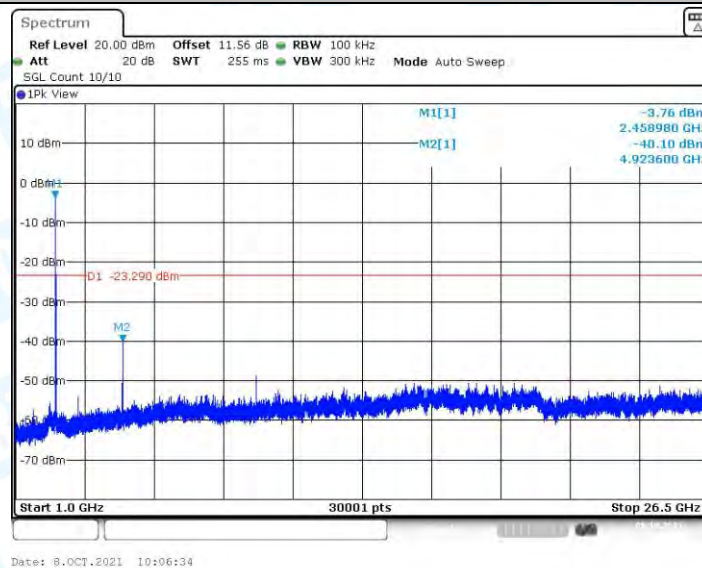
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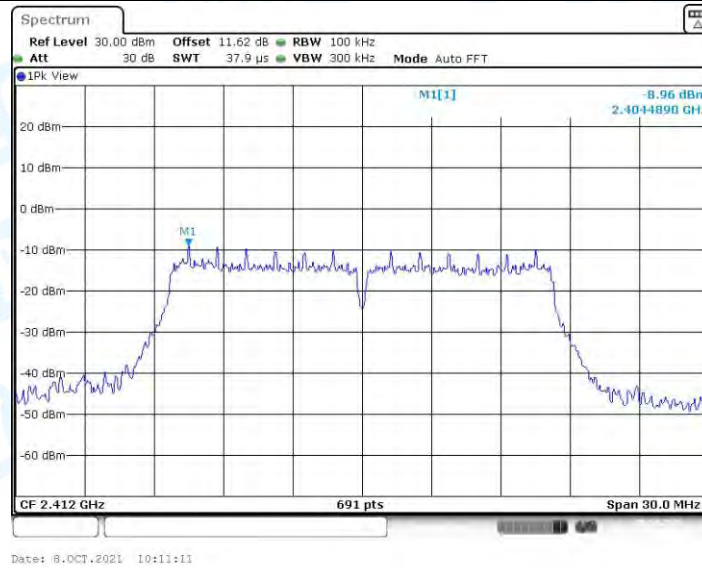
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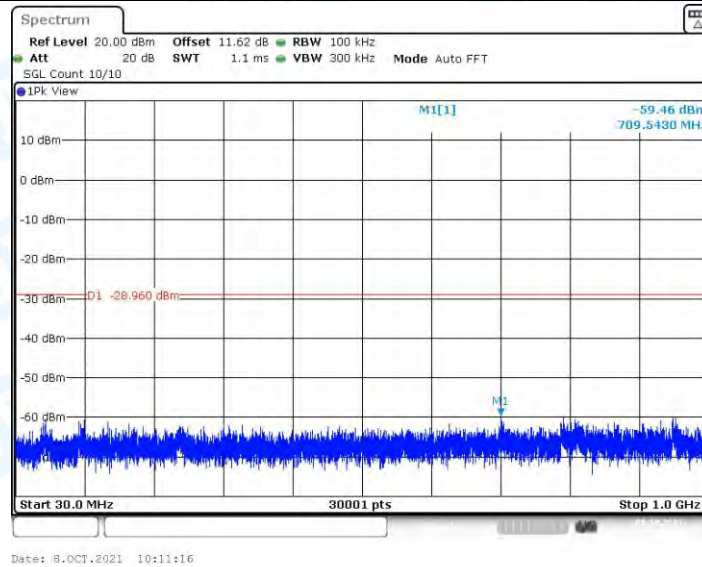
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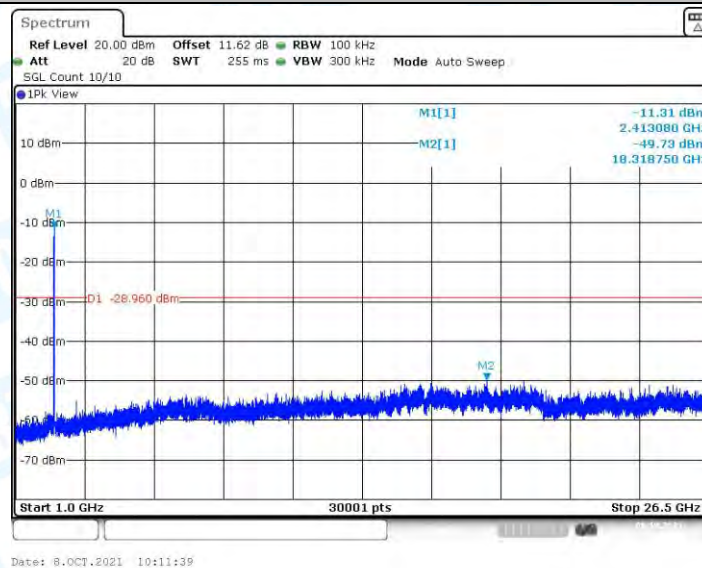
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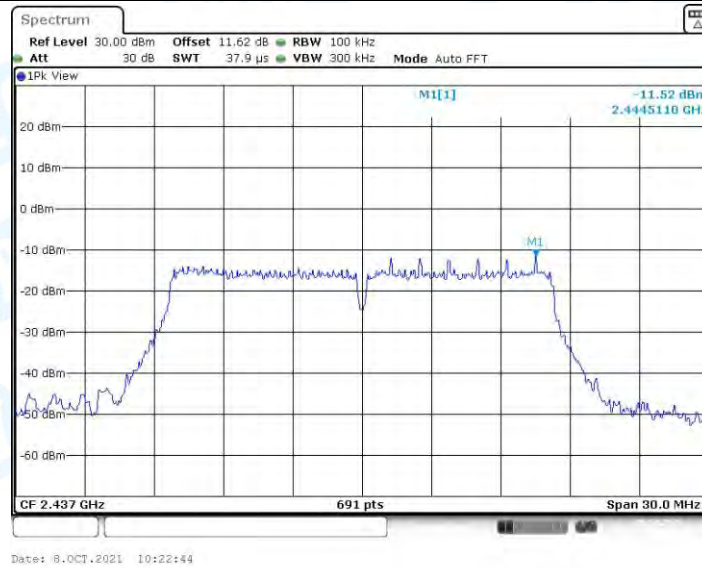
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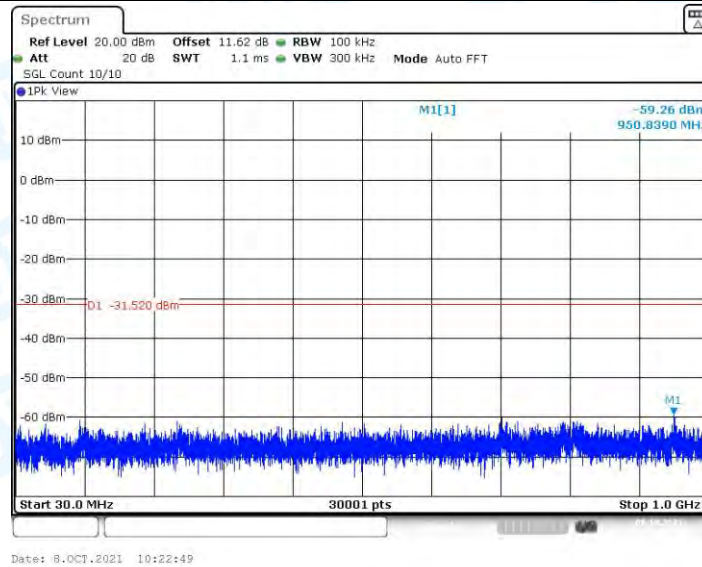
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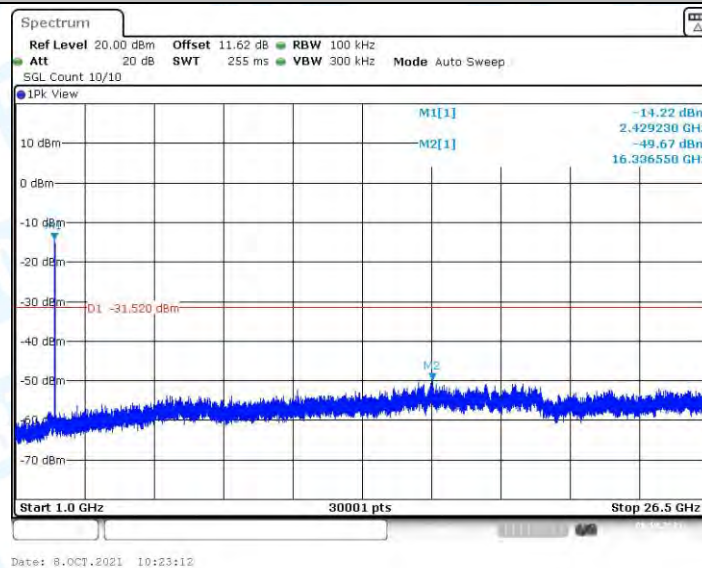
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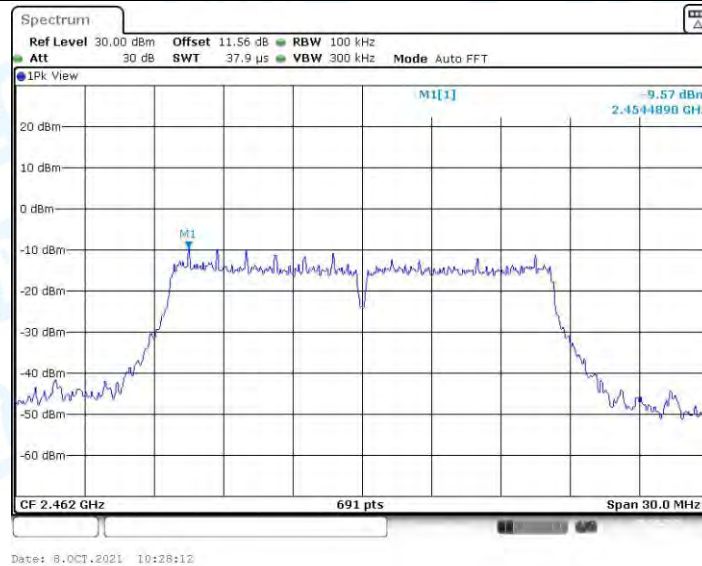
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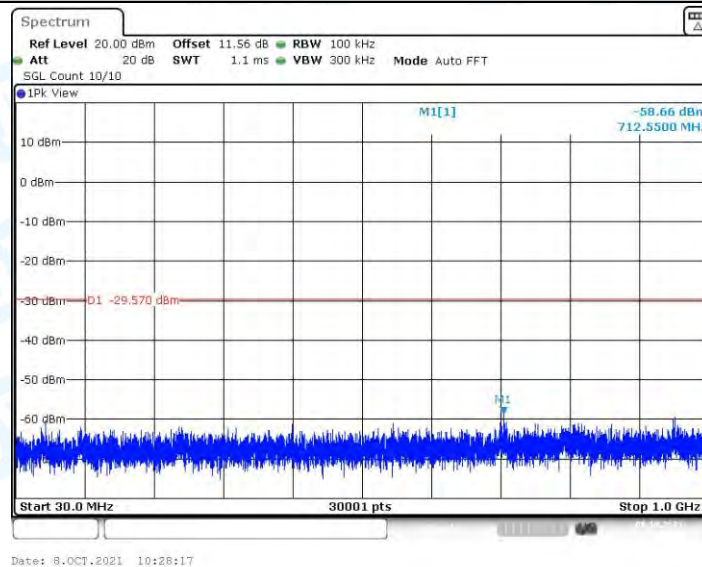
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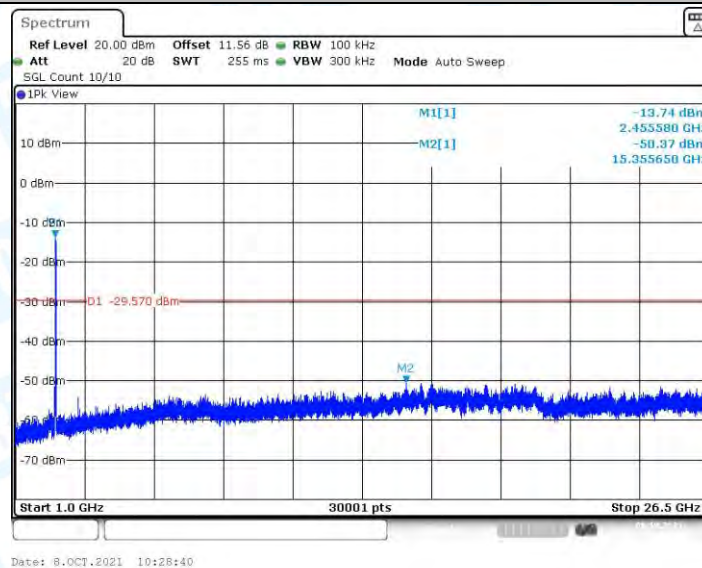
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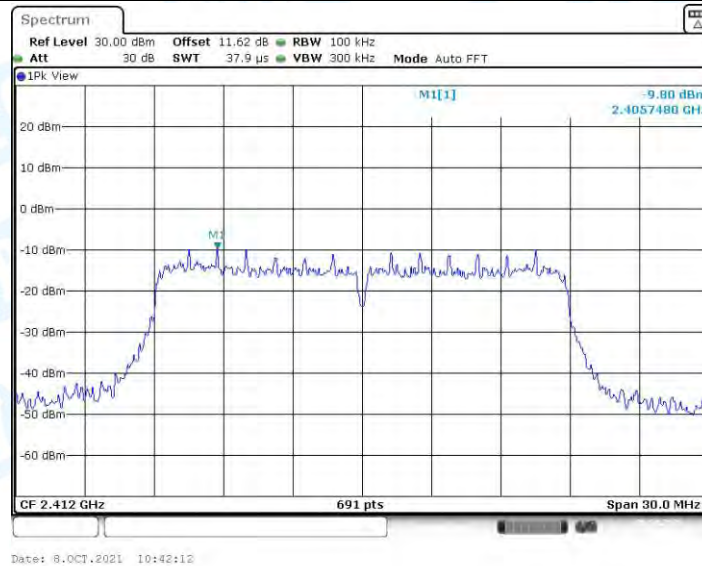
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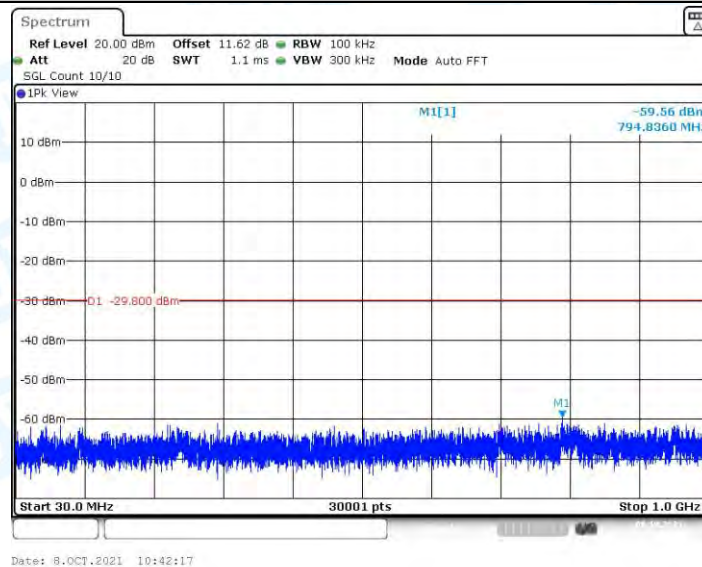
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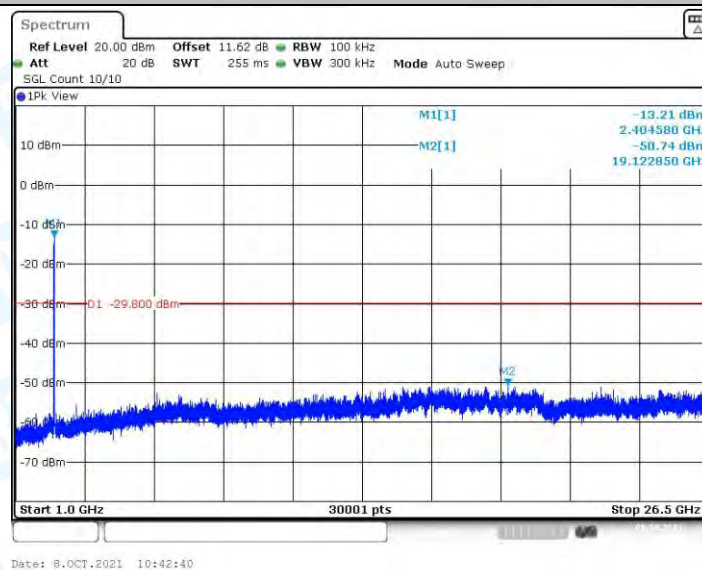
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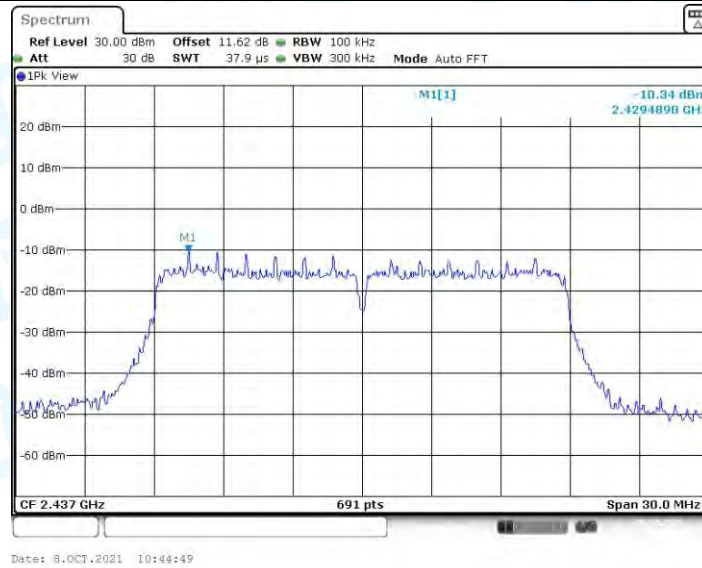
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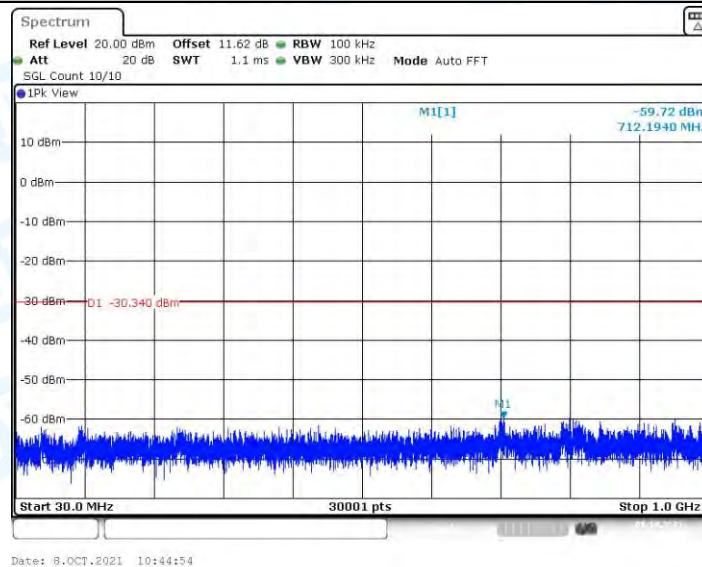
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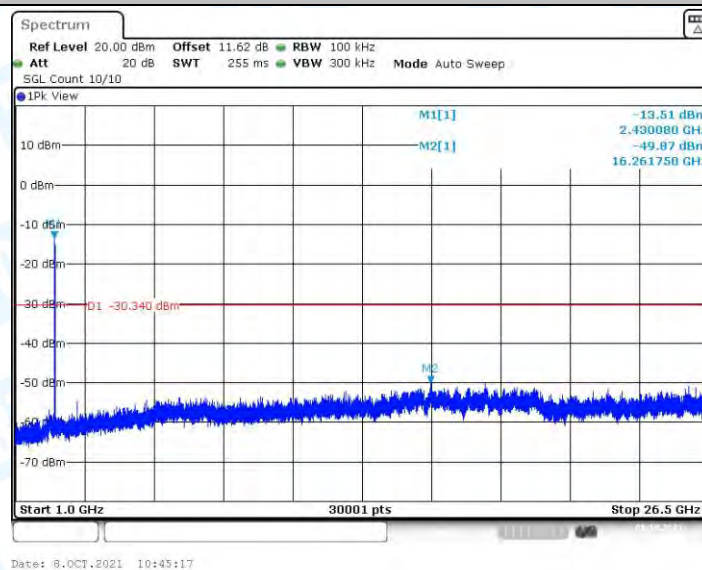
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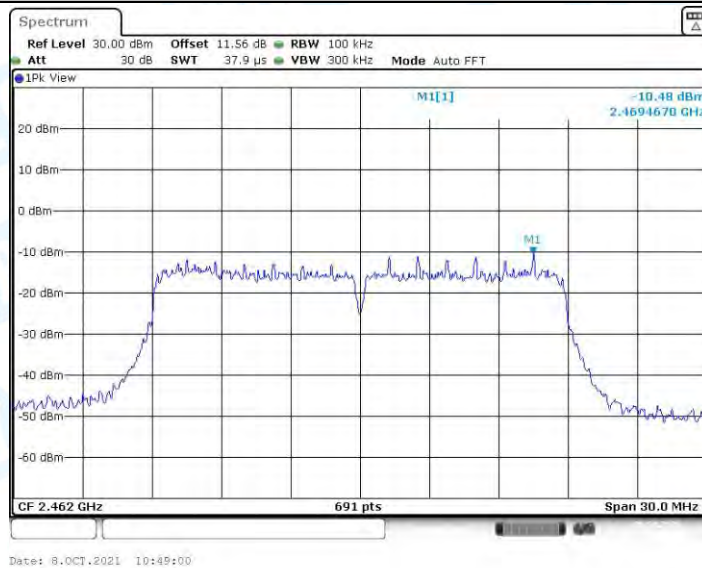
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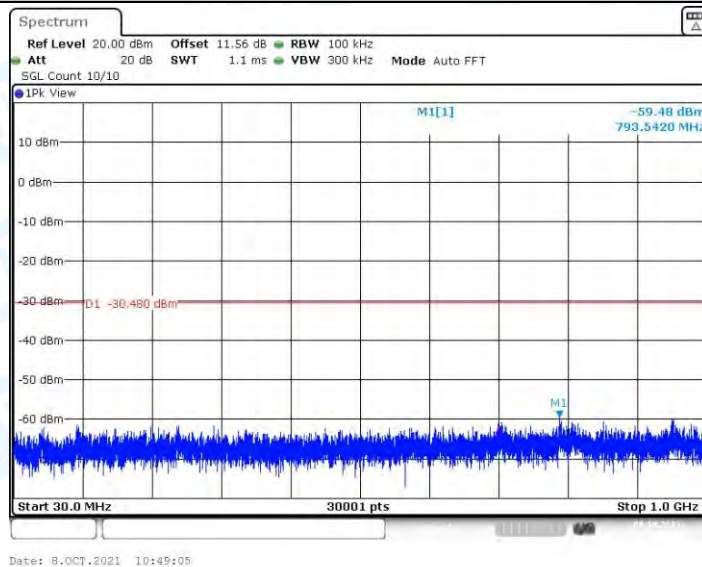
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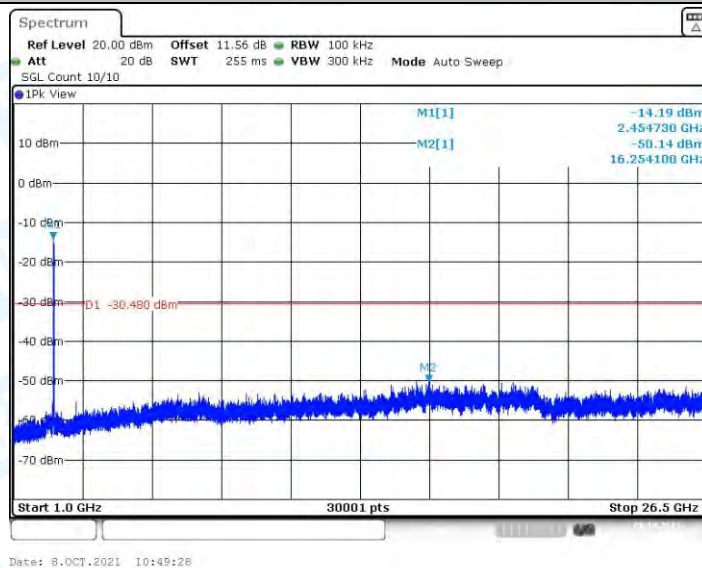
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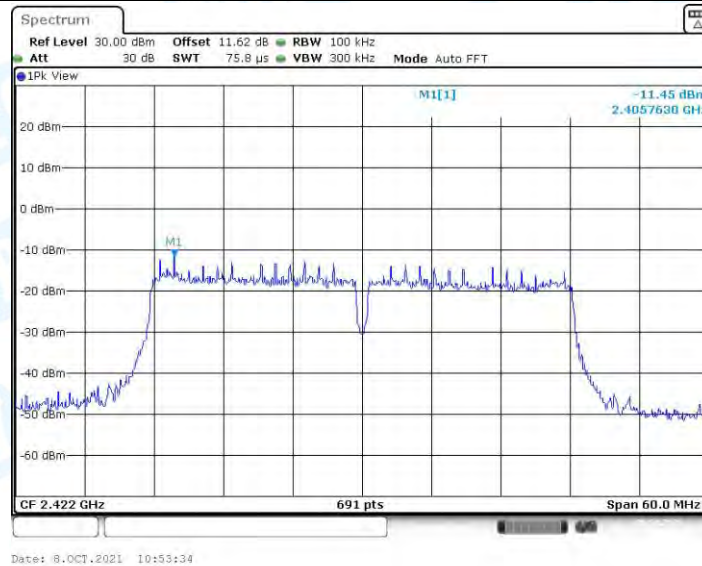
11N20SISO_Ant1_2462_30~1000



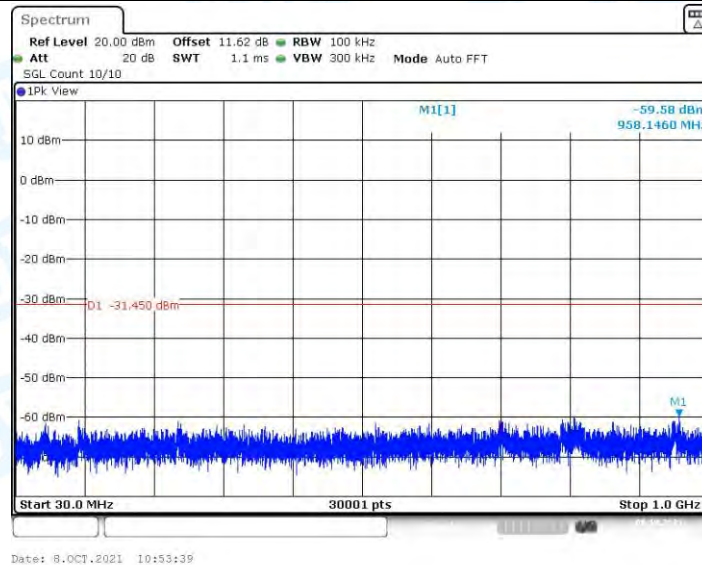
11N20SISO_Ant1_2462_1000~26500



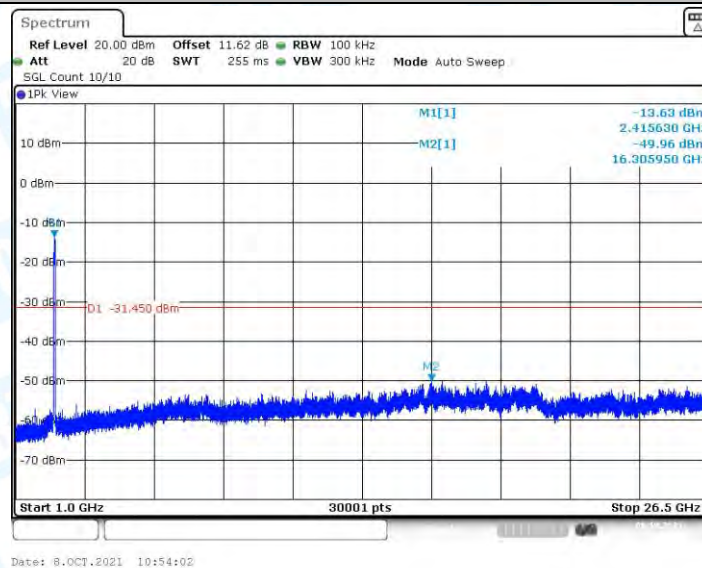
11N40SISO_Ant1_2422_0~Reference



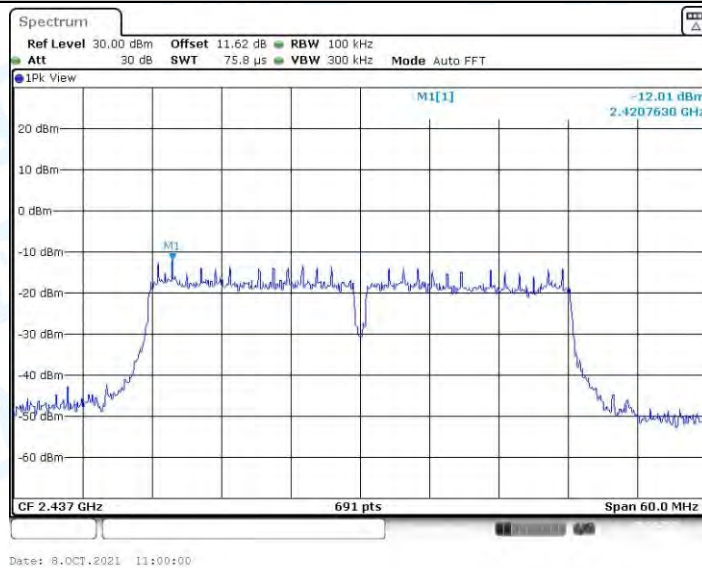
11N40SISO_Ant1_2422_30~1000



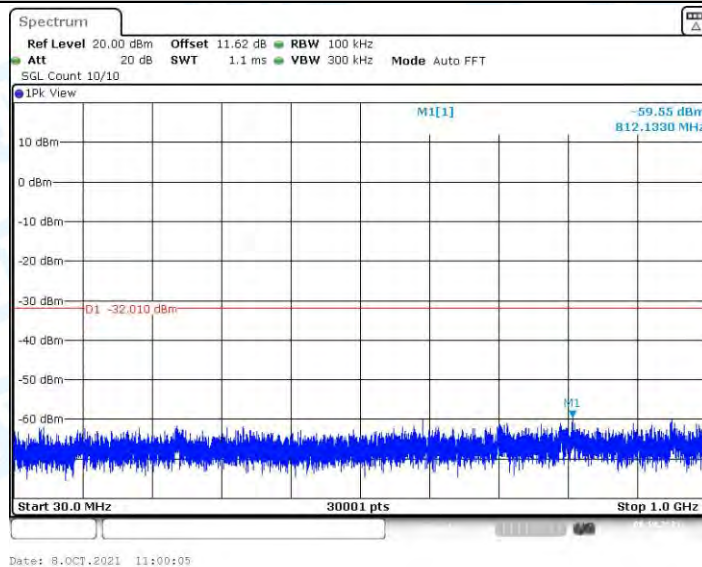
11N40SISO_Ant1_2422_1000~26500



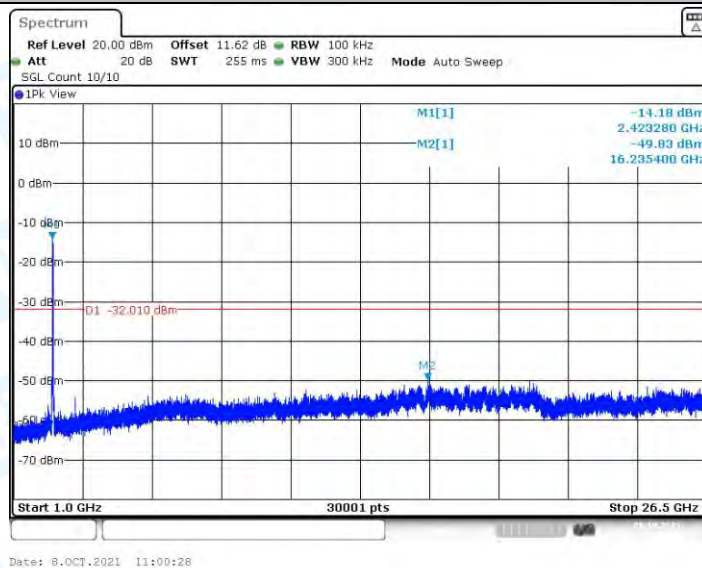
11N40SISO_Ant1_2437_0~Reference



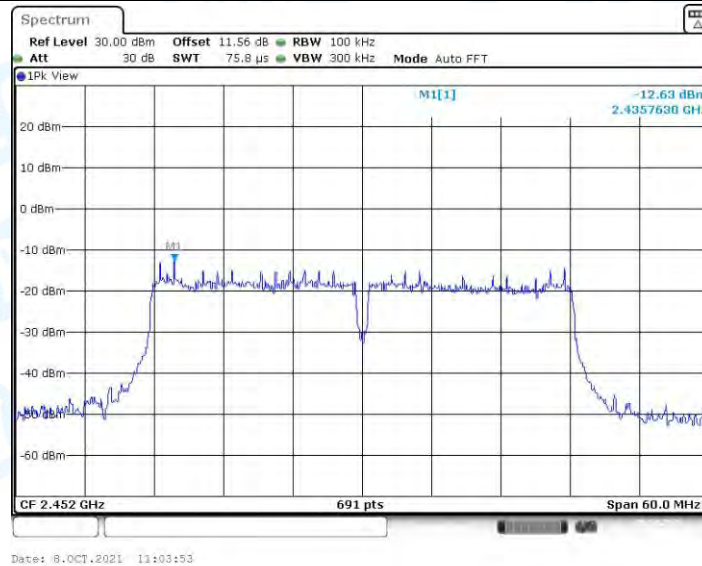
11N40SISO_Ant1_2437_30~1000



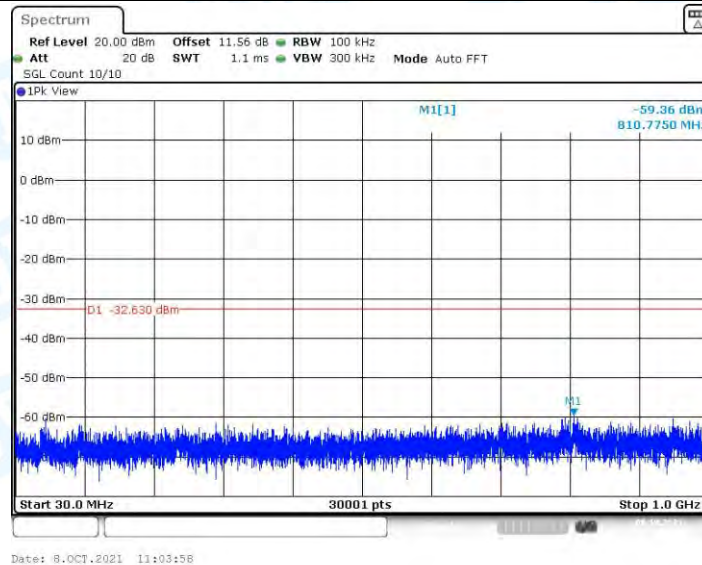
11N40SISO_Ant1_2437_1000~26500



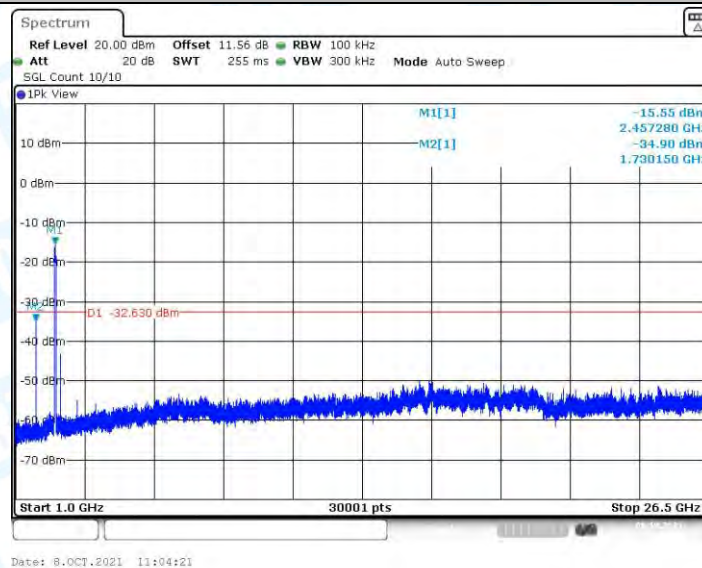
11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500

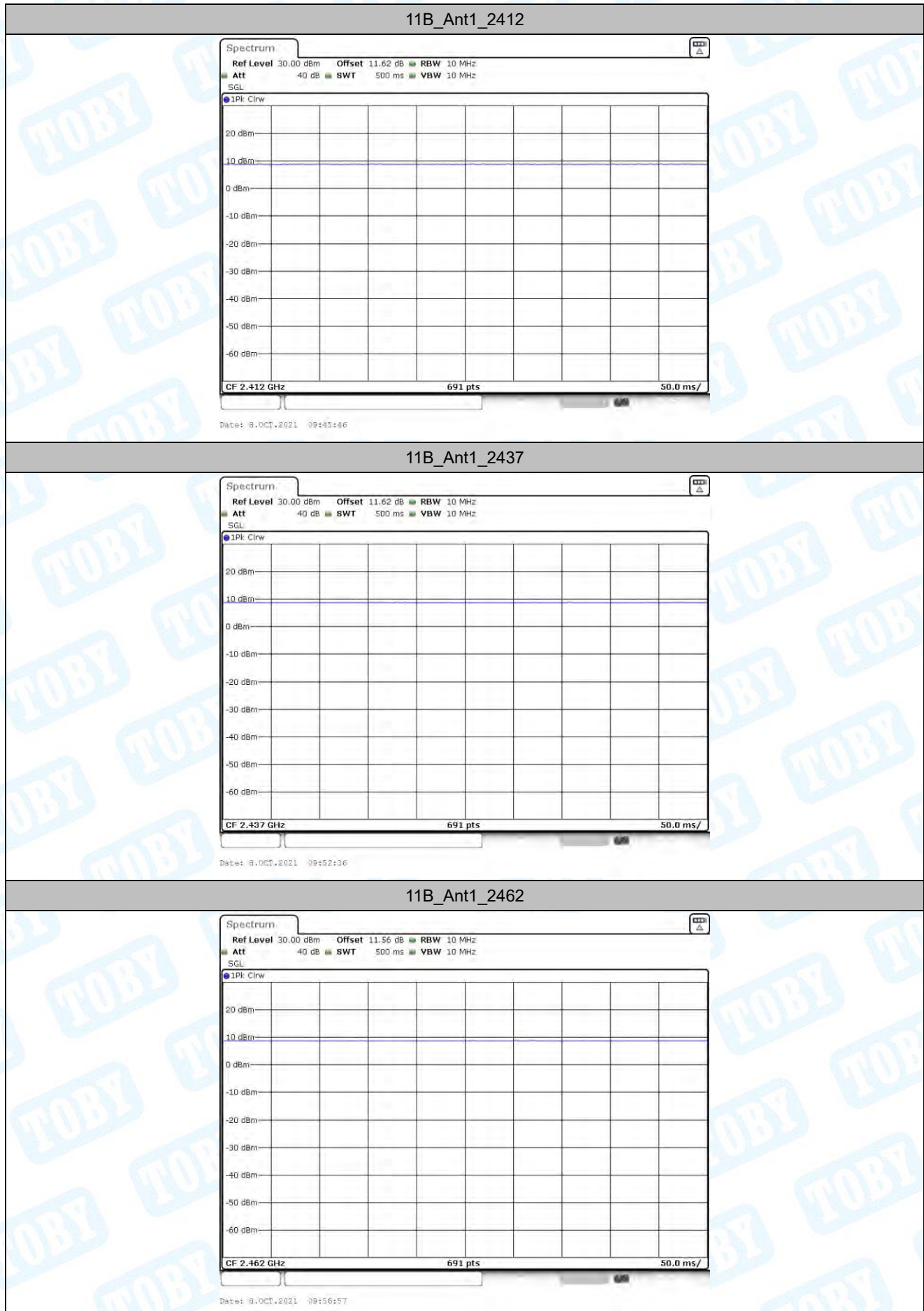


7. Duty Cycle

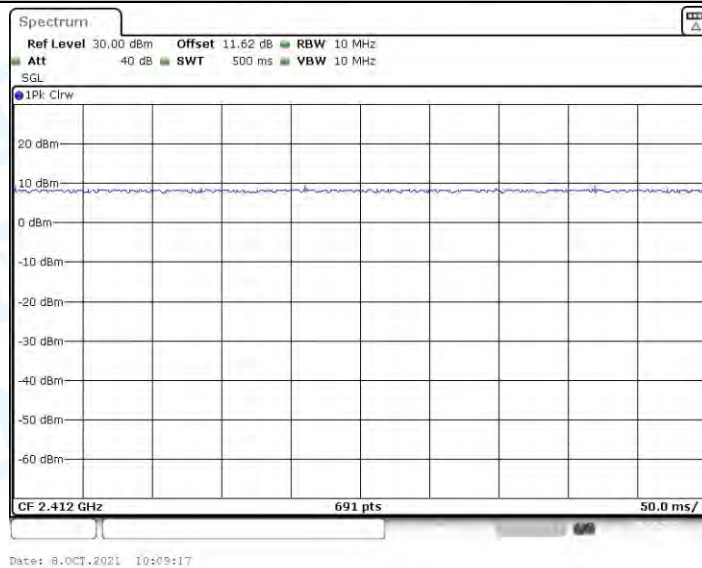
7.1. Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	0.00	0.00	100	---	PASS
		2437	0.00	0.00	100	---	PASS
		2462	0.00	0.00	100	---	PASS
11G	Ant1	2412	0.00	0.00	100	---	PASS
		2437	0.00	0.00	100	---	PASS
		2462	0.00	0.00	100	---	PASS
11N20SISO	Ant1	2412	0.00	0.00	100	---	PASS
		2437	0.00	0.00	100	---	PASS
		2462	0.00	0.00	100	---	PASS
11N40SISO	Ant1	2422	0.00	0.00	100	---	PASS
		2437	0.00	0.00	100	---	PASS
		2452	0.00	0.00	100	---	PASS

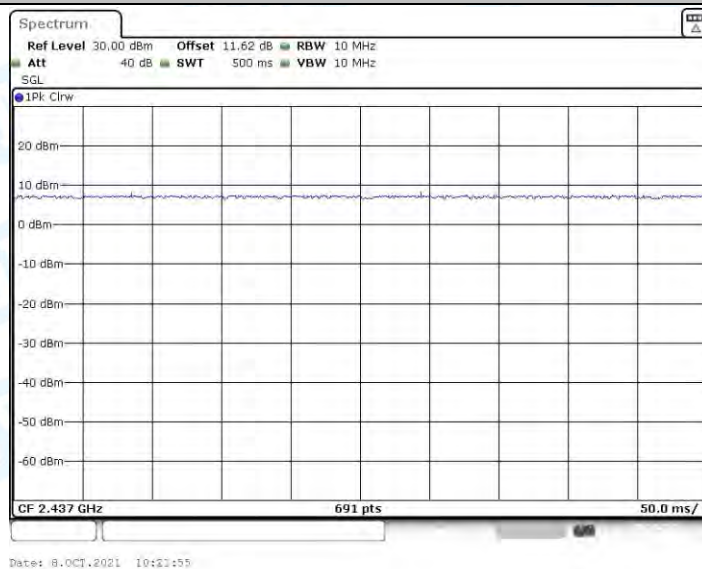
7.2.Test Graphs



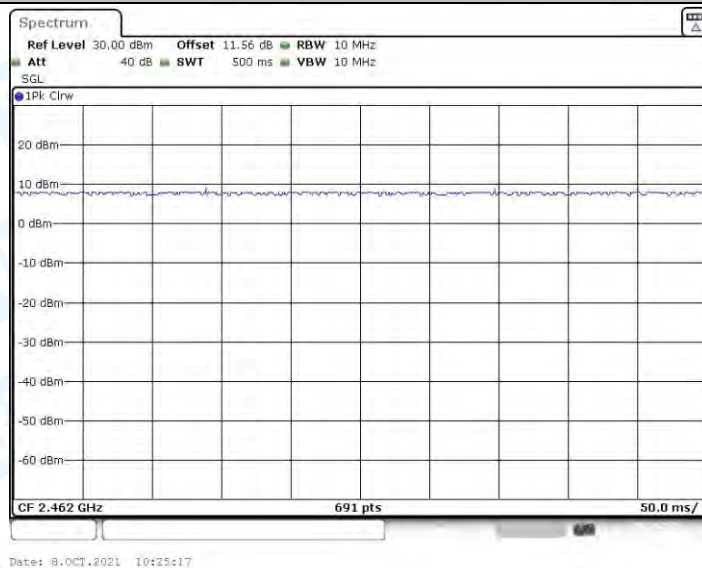
11G_Ant1_2412



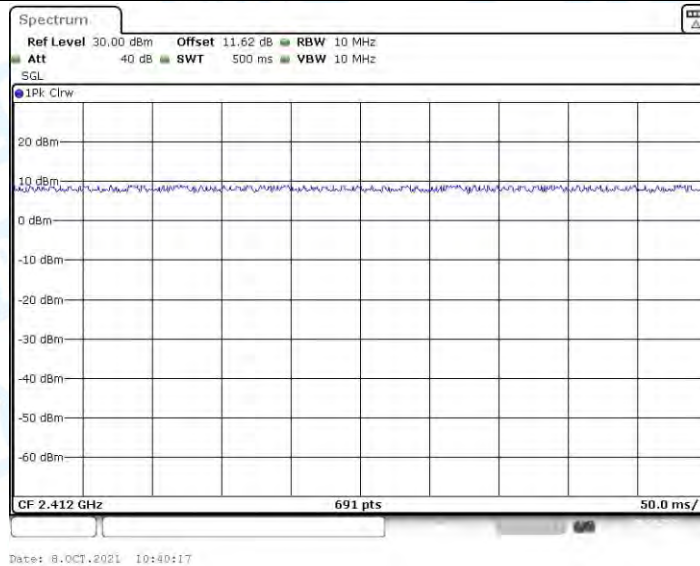
11G_Ant1_2437



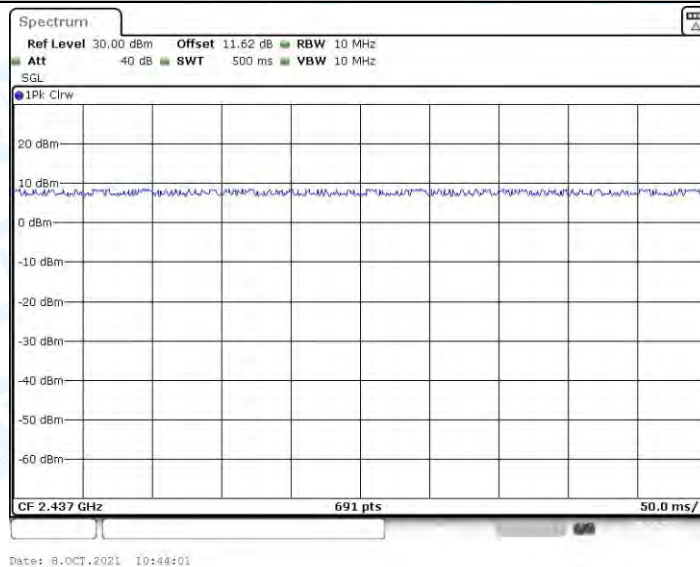
11G_Ant1_2462



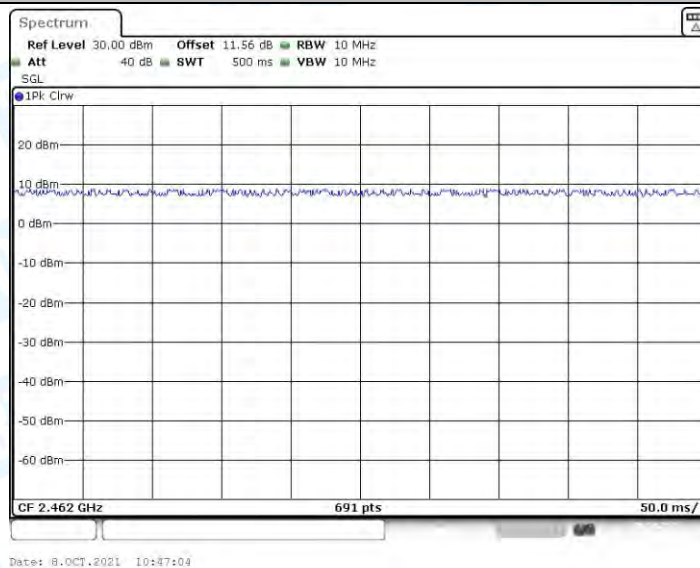
11N20SISO_Ant1_2412



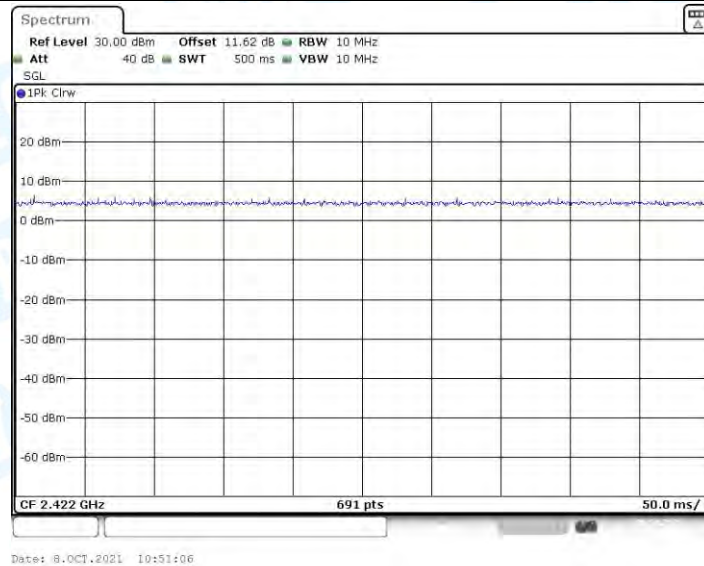
11N20SISO_Ant1_2437



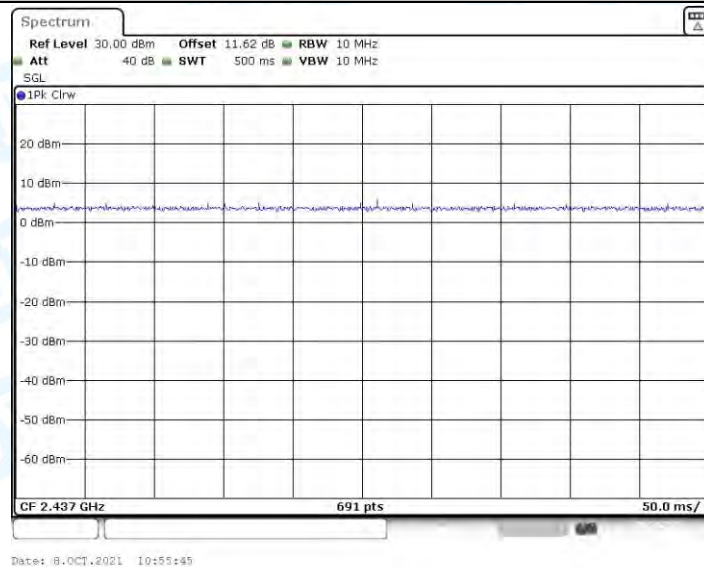
11N20SISO_Ant1_2462



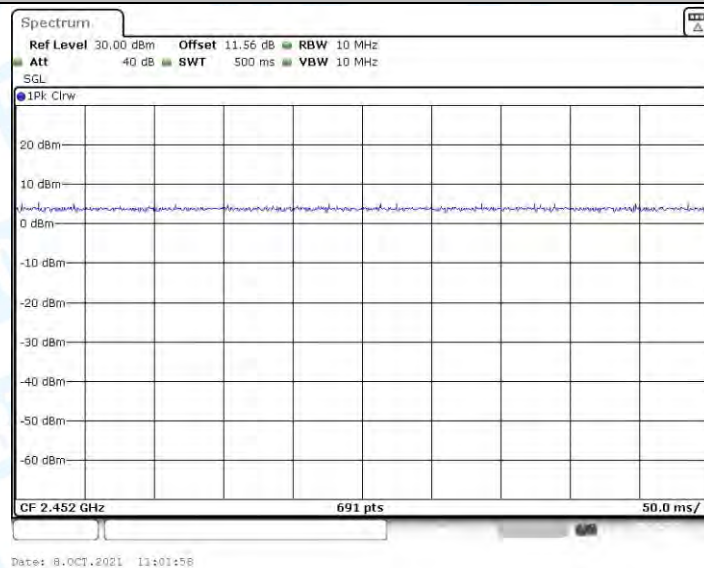
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



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	-50.75	≤-41.20	PASS
				AV	2340.319	-48.56	≤-41.20	PASS
				AV	2390.000	-50.69	≤-41.20	PASS
				Peak	2310.000	-48.38	≤-21.20	PASS
				Peak	2358.029	-39.01	≤-21.20	PASS
				Peak	2390.000	-49.75	≤-21.20	PASS
		High	2462	AV	2483.500	-49.77	≤-41.20	PASS
				AV	2495.638	-49.72	≤-41.20	PASS
				AV	2500.000	-50.18	≤-41.20	PASS
				Peak	2483.500	-39.78	≤-21.20	PASS
				Peak	2483.681	-39.7	≤-21.20	PASS
				Peak	2500.000	-43.19	≤-21.20	PASS
11G	Ant1	Low	2412	AV	2310.000	-50.88	≤-41.20	PASS
				AV	2340.130	-48.62	≤-41.20	PASS
				AV	2390.000	-50.03	≤-41.20	PASS
				Peak	2310.000	-44.55	≤-21.20	PASS
				Peak	2328.072	-37.81	≤-21.20	PASS
				Peak	2390.000	-43.41	≤-21.20	PASS
		High	2462	AV	2483.500	-49.68	≤-41.20	PASS
				AV	2483.522	-49.68	≤-41.20	PASS
				AV	2500.000	-50.19	≤-41.20	PASS
				Peak	2483.500	-42.16	≤-21.20	PASS
				Peak	2491.014	-39.13	≤-21.20	PASS
				Peak	2500.000	-44.81	≤-21.20	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-50.93	≤-41.20	PASS
				AV	2339.754	-48.61	≤-41.20	PASS
				AV	2390.000	-49.82	≤-41.20	PASS
				Peak	2310.000	-42.66	≤-21.20	PASS
				Peak	2342.580	-40.19	≤-21.20	PASS
				Peak	2390.000	-40.9	≤-21.20	PASS
		High	2462	AV	2483.500	-49.71	≤-41.20	PASS
				AV	2495.638	-49.7	≤-41.20	PASS
				AV	2500.000	-50.19	≤-41.20	PASS
				Peak	2483.500	-39.93	≤-21.20	PASS
				Peak	2484.319	-38.86	≤-21.20	PASS
				Peak	2500.000	-41.13	≤-21.20	PASS
11N40SISO	Ant1	Low	2422	AV	2310.000	-50.88	≤-41.20	PASS
				AV	2389.681	-48.27	≤-41.20	PASS
				AV	2390.000	-48.3	≤-41.20	PASS
				Peak	2310.000	-44.96	≤-21.20	PASS
				Peak	2382.333	-37.52	≤-21.20	PASS

		High	2452	Peak	2390.000	-39.71	≤ -21.20	PASS
				AV	2483.500	-49.59	≤ -41.20	PASS
				AV	2483.522	-49.59	≤ -41.20	PASS
				AV	2500.000	-50.16	≤ -41.20	PASS
				Peak	2483.500	-43.41	≤ -21.20	PASS
				Peak	2496.754	-39.06	≤ -21.20	PASS
				Peak	2500.000	-43.77	≤ -21.20	PASS

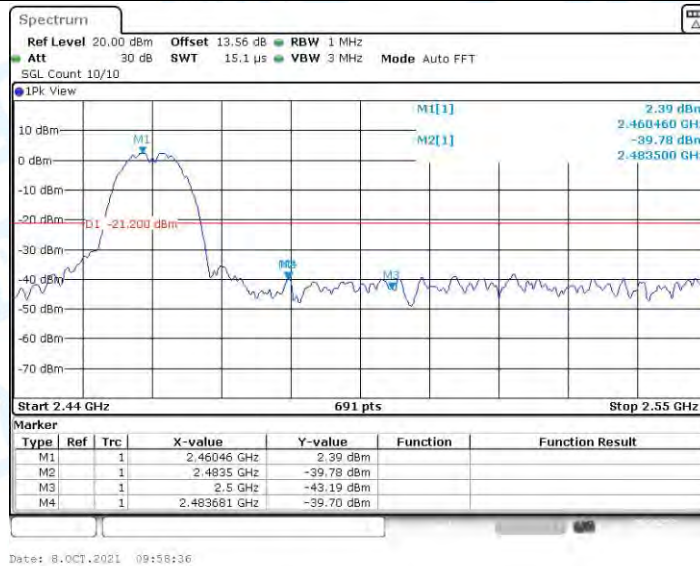
Note:

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.

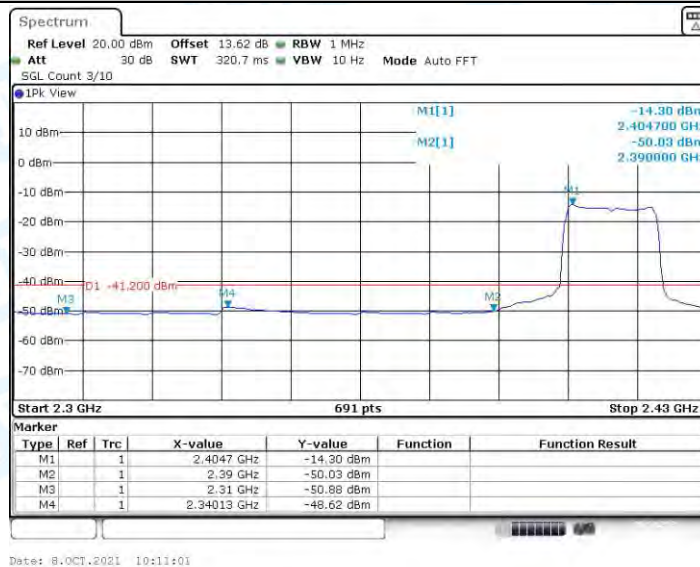
8.2.Test Graphs



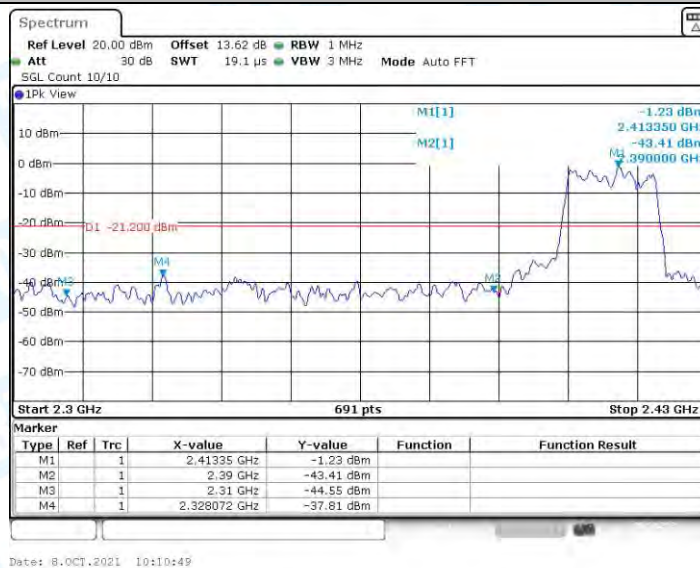
11B_Ant1_High_2462_Peak



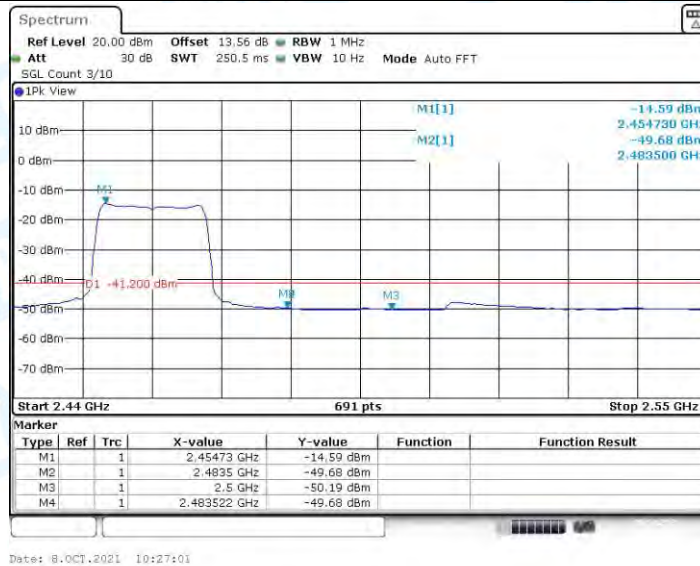
11G_Ant1_Low_2412_AV



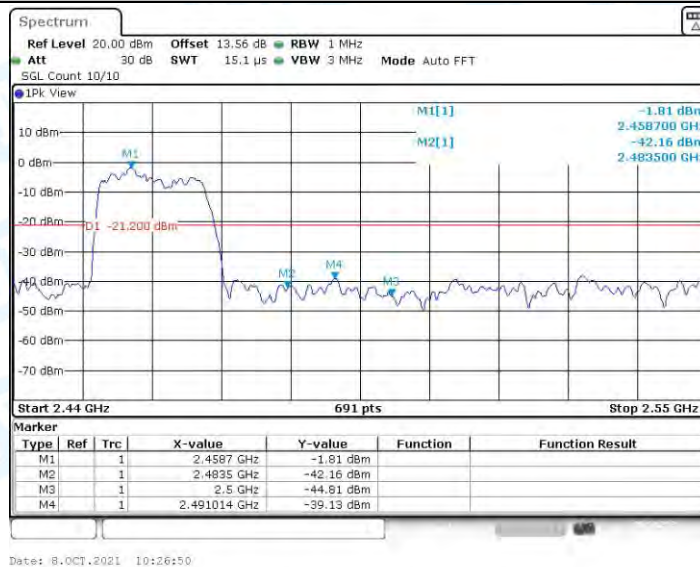
11G_Ant1_Low_2412_Peak



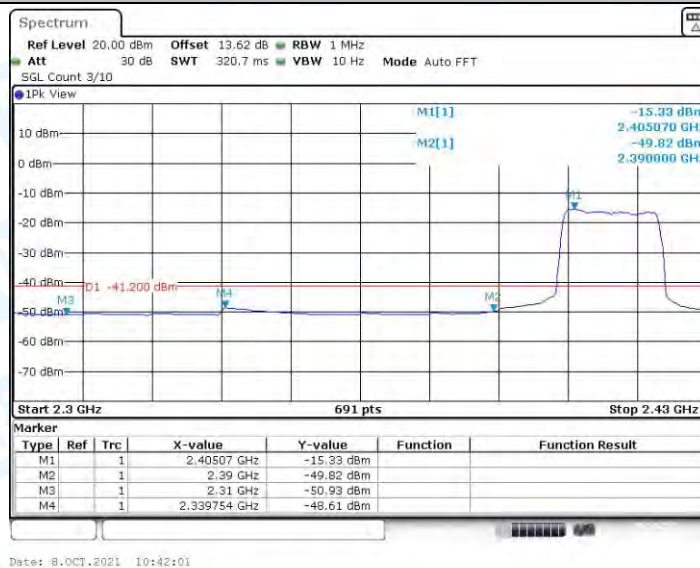
11G_Ant1_High_2462_AV



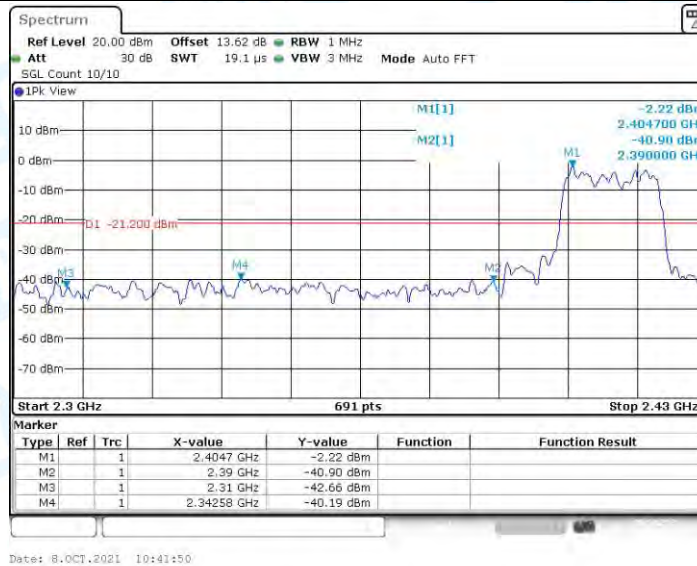
11G_Ant1_High_2462_Peak



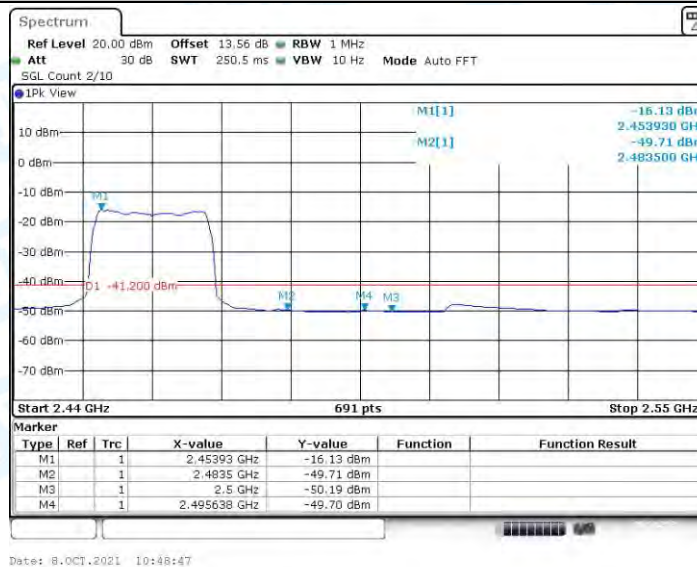
11N20SISO_Ant1_Low_2412_AV



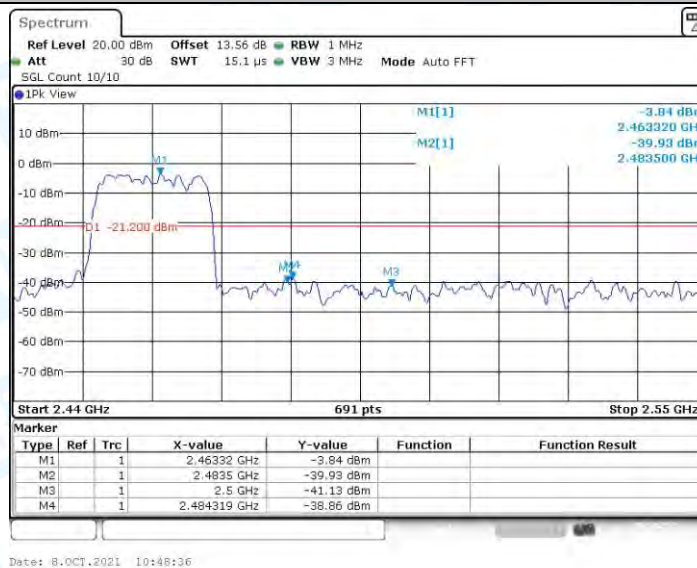
11N20SISO_Ant1_Low_2412_Peak



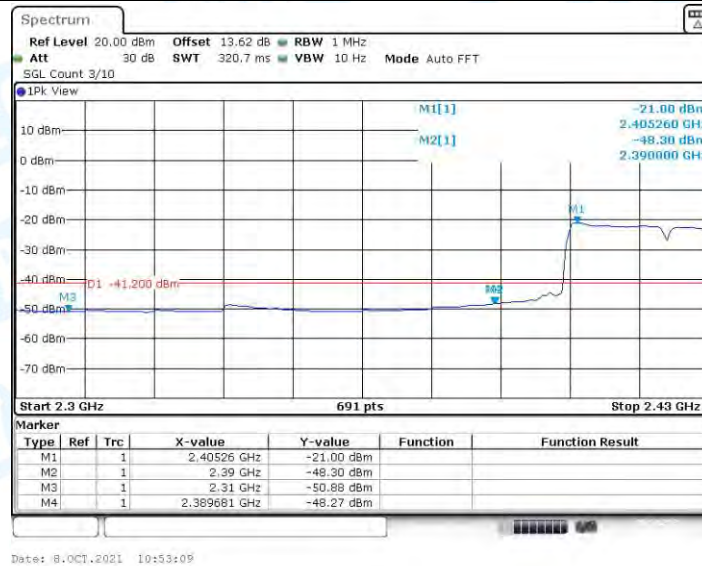
11N20SISO_Ant1_High_2462_AV



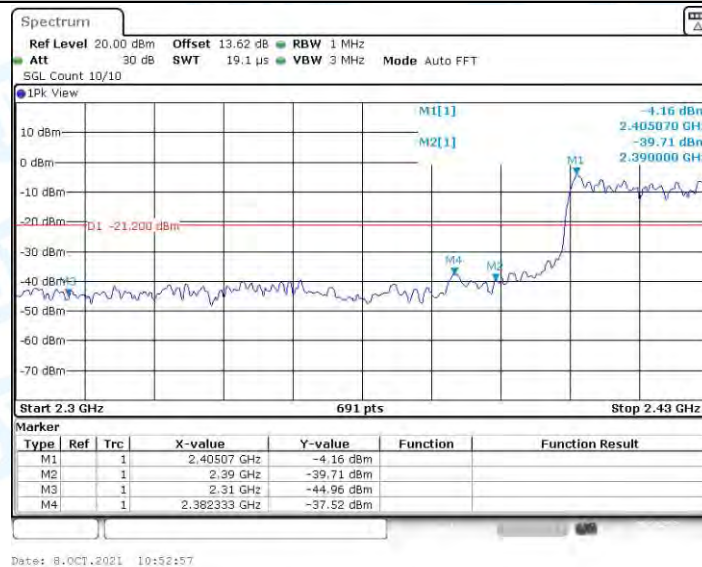
11N20SISO_Ant1_High_2462_Peak



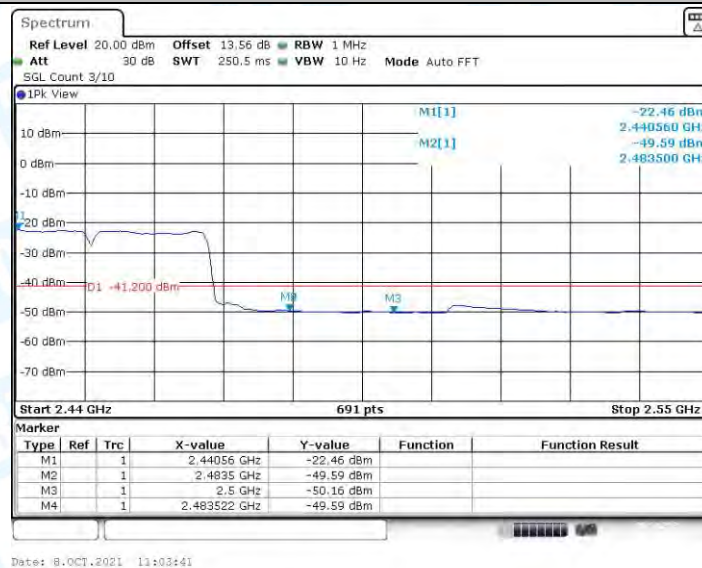
11N40SISO_Ant1_Low_2422_AV

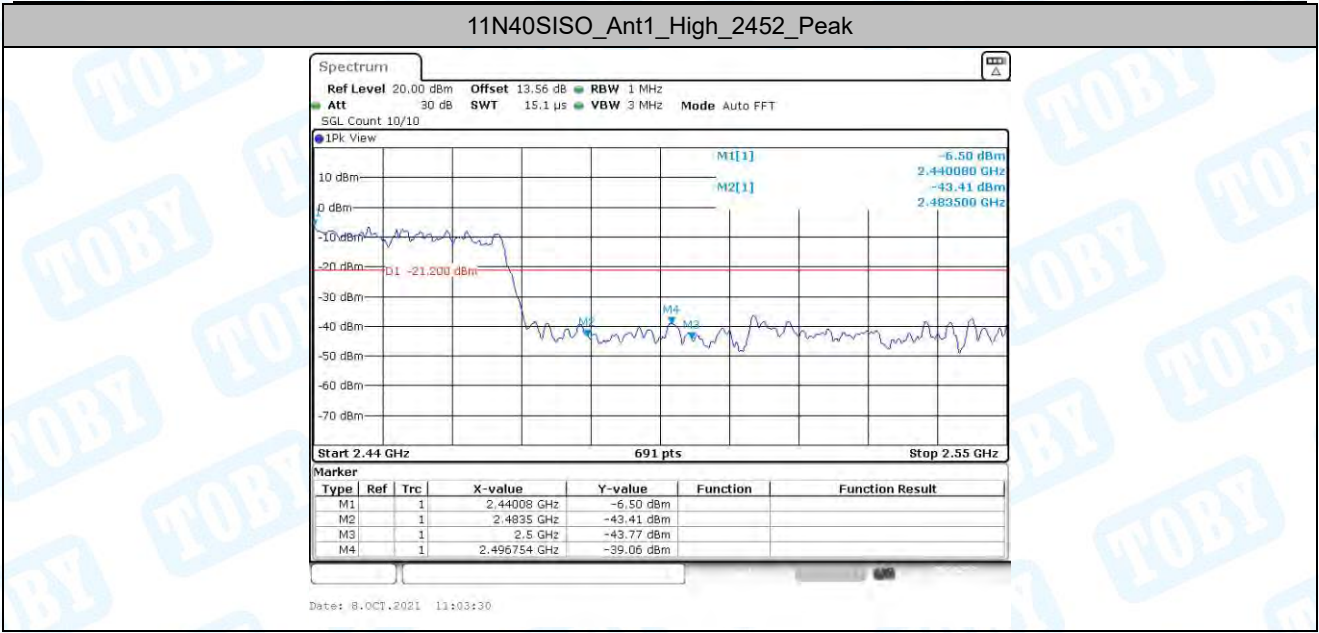


11N40SISO_Ant1_Low_2422_Peak



11N40SISO_Ant1_High_2452_AV





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