

RF Test Data for 2.4G Wi-Fi

(Conducted Measurements)

General Description of EUT	
Product Name:	Light Hotspot Miner
Test Model:	HL100
Sample ID:	202203-0298-3-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	50%
Test Voltage:	DC 5V
Test Engineer:	Huangjianping
Note: For a more detailed features description, please refer to the report TBR-C-202203-0298-5.	

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1. DTS Bandwidth

1.1. Test Result

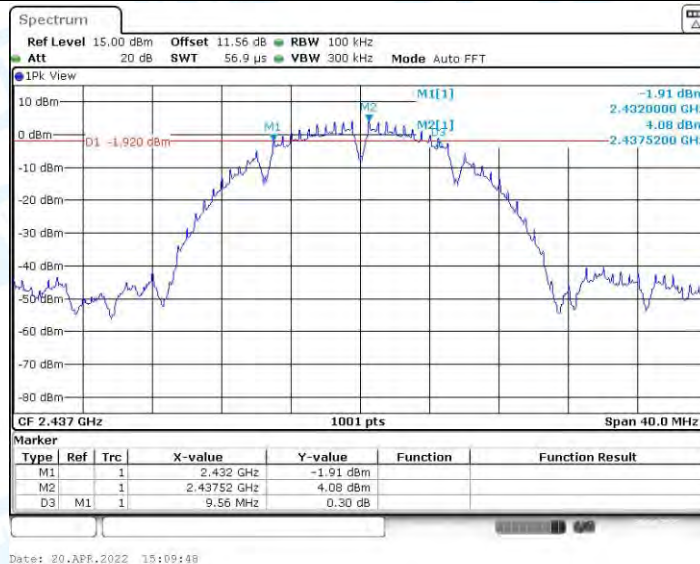
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.56	2407.00	2416.56	0.5	PASS
		2437	9.56	2432.00	2441.56	0.5	PASS
		2462	9.56	2457.00	2466.56	0.5	PASS
11G	Ant1	2412	16.32	2403.84	2420.16	0.5	PASS
		2437	16.32	2428.84	2445.16	0.5	PASS
		2462	16.32	2453.84	2470.16	0.5	PASS
11N20SISO	Ant1	2412	17.56	2403.24	2420.80	0.5	PASS
		2437	17.56	2428.24	2445.80	0.5	PASS
		2462	17.32	2453.24	2470.56	0.5	PASS
11N40SISO	Ant1	2422	35.44	2404.08	2439.52	0.5	PASS
		2437	35.68	2418.84	2454.52	0.5	PASS
		2452	33.60	2433.84	2467.44	0.5	PASS

1.2. Test Graphs

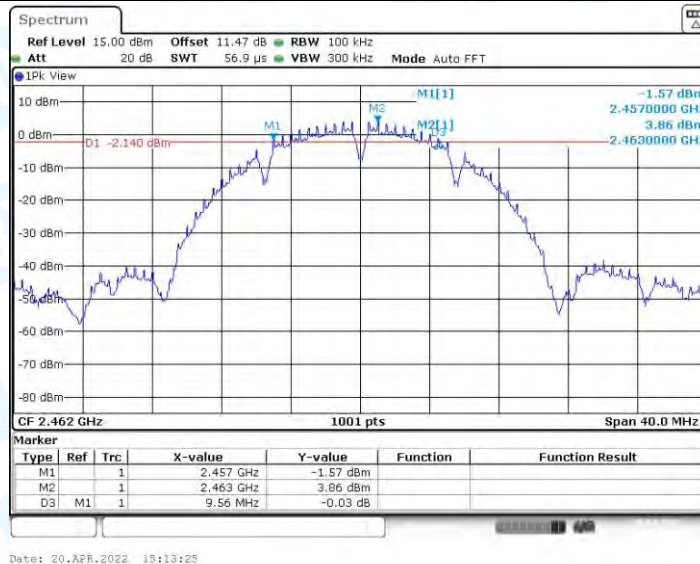
11B_Ant1_2412



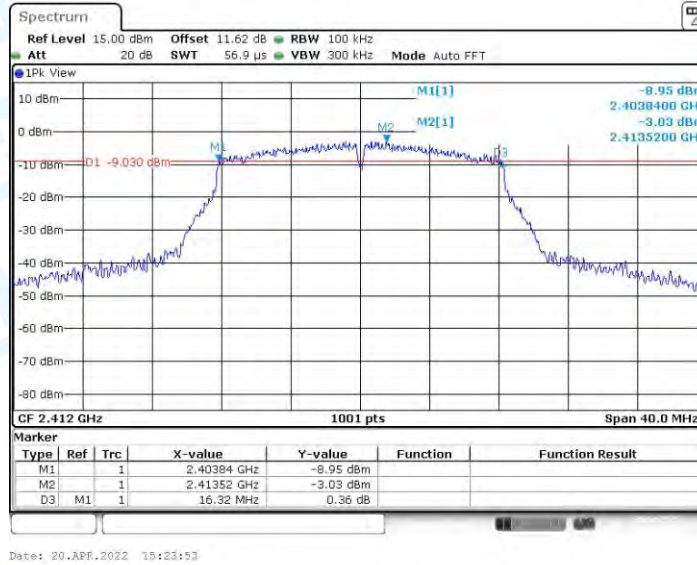
11B_Ant1_2437



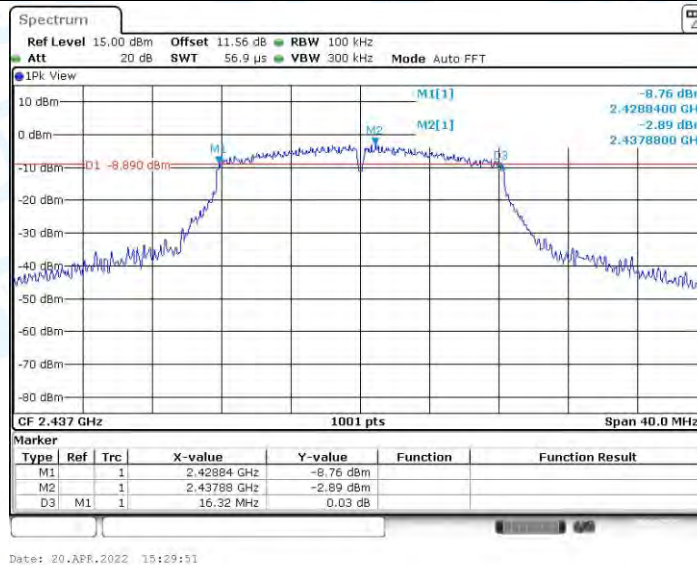
11B_Ant1_2462



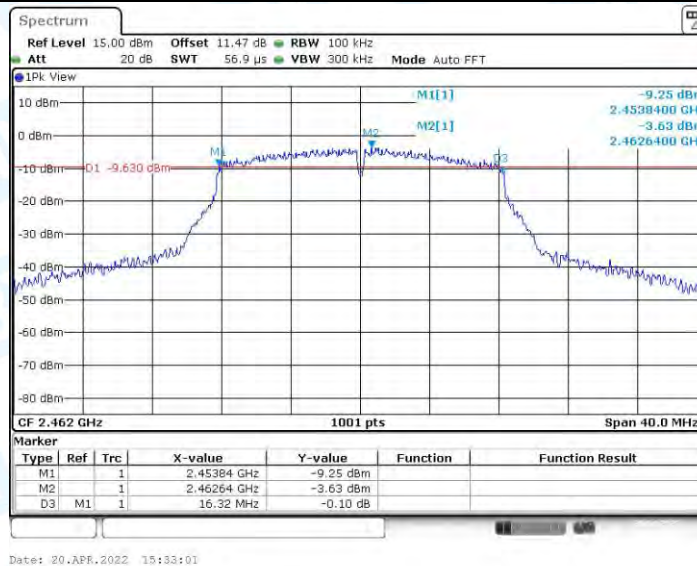
11G_Ant1_2412



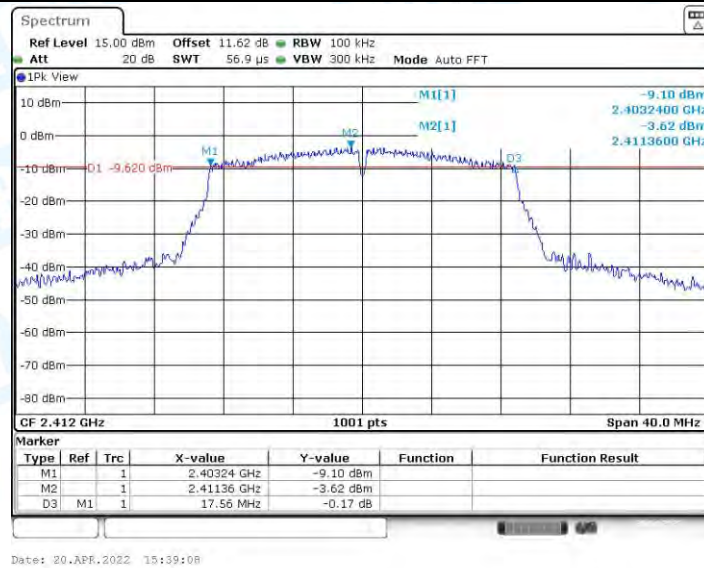
11G_Ant1_2437



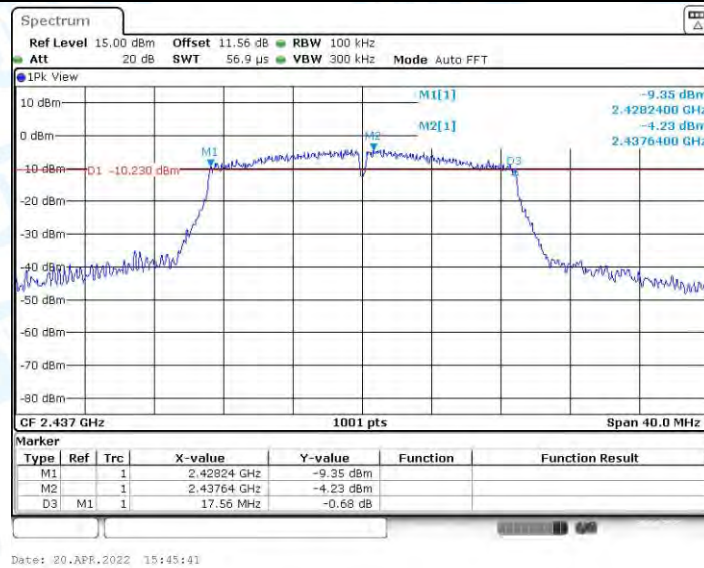
11G_Ant1_2462



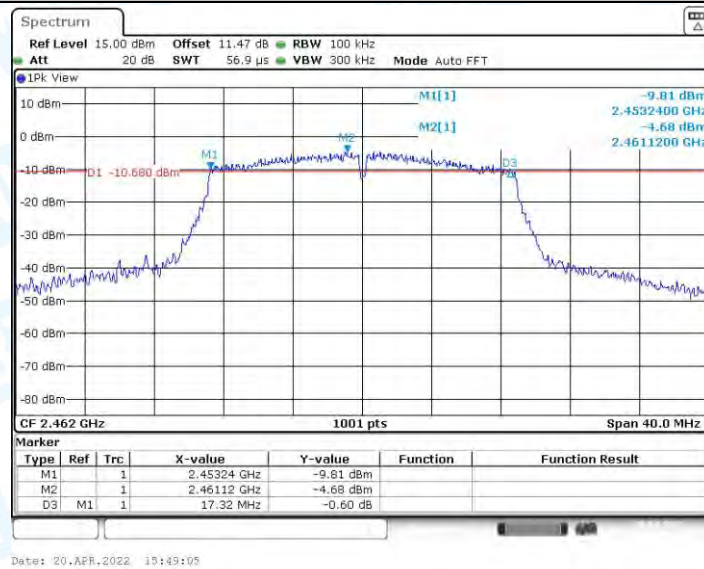
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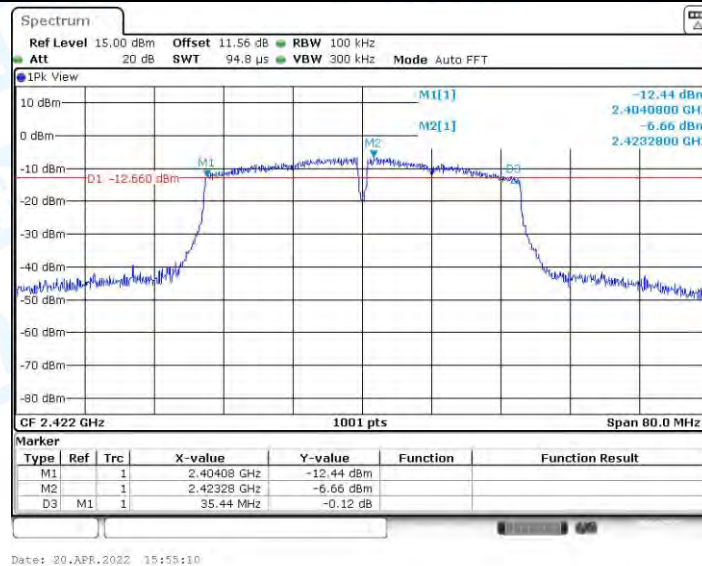
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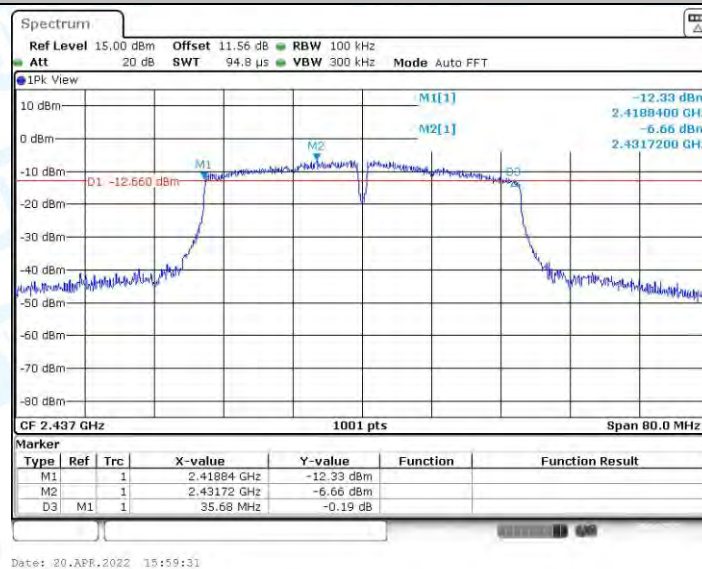
11N20SISO_Ant1_2462



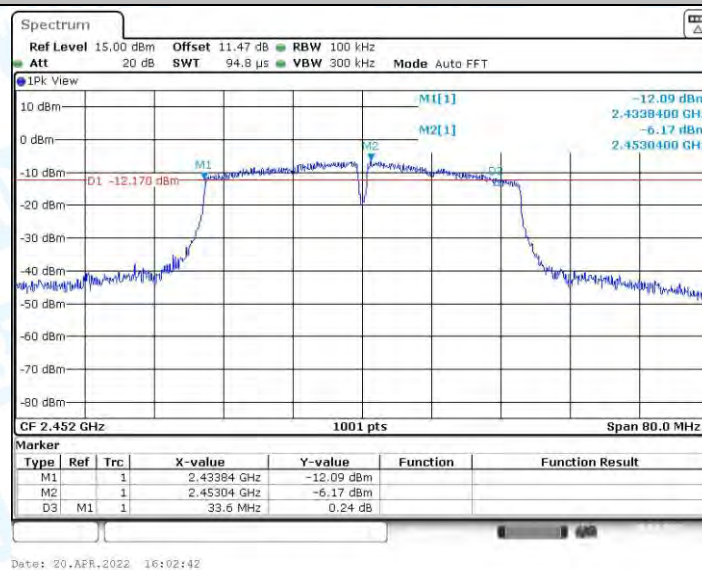
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



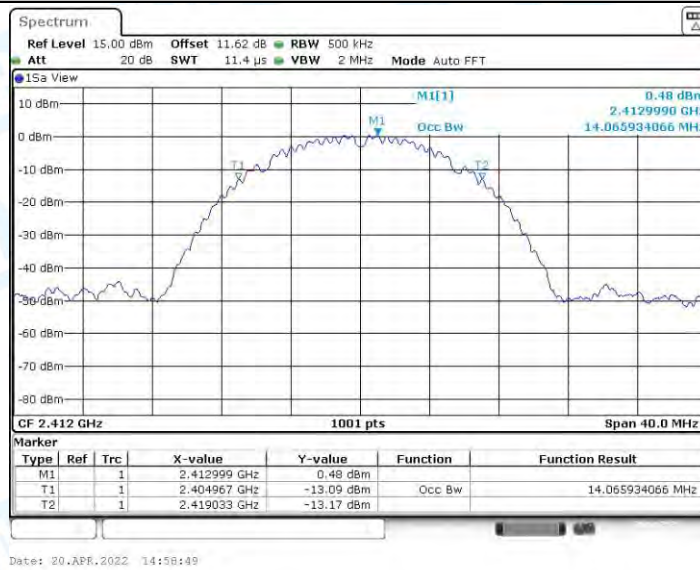
2. Occupied Channel Bandwidth

2.1. Test Result

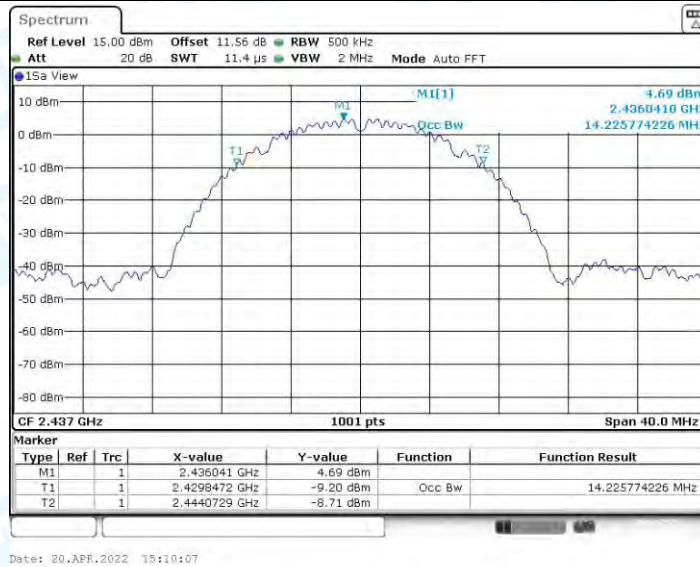
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.066	2404.967	2419.033	---	---
		2437	14.226	2429.847	2444.073	---	---
		2462	14.346	2454.767	2469.113	---	---
11G	Ant1	2412	16.983	2403.369	2420.352	---	---
		2437	16.983	2428.528	2445.511	---	---
		2462	16.863	2453.568	2470.432	---	---
11N20SISO	Ant1	2412	17.942	2403.009	2420.951	---	---
		2437	17.942	2428.009	2445.951	---	---
		2462	17.862	2453.049	2470.911	---	---
11N40SISO	Ant1	2422	36.044	2403.858	2439.902	---	---
		2437	36.044	2418.858	2454.902	---	---
		2452	36.204	2433.618	2469.822	---	---

2.2. Test Graphs

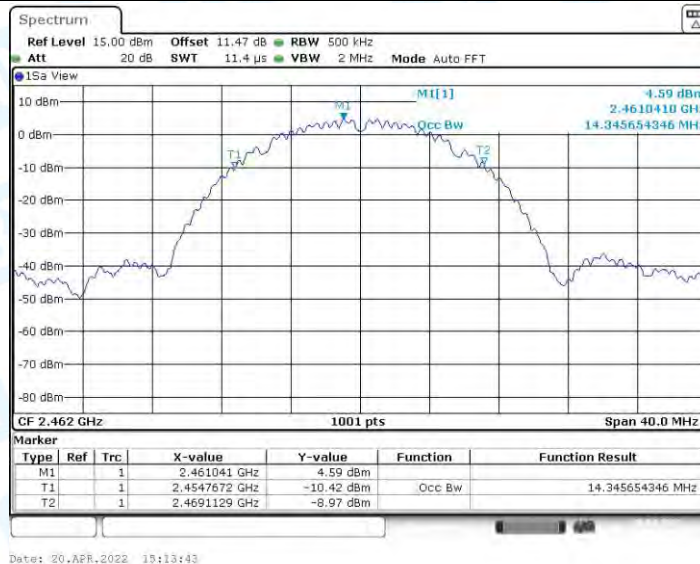
11B_Ant1_2412



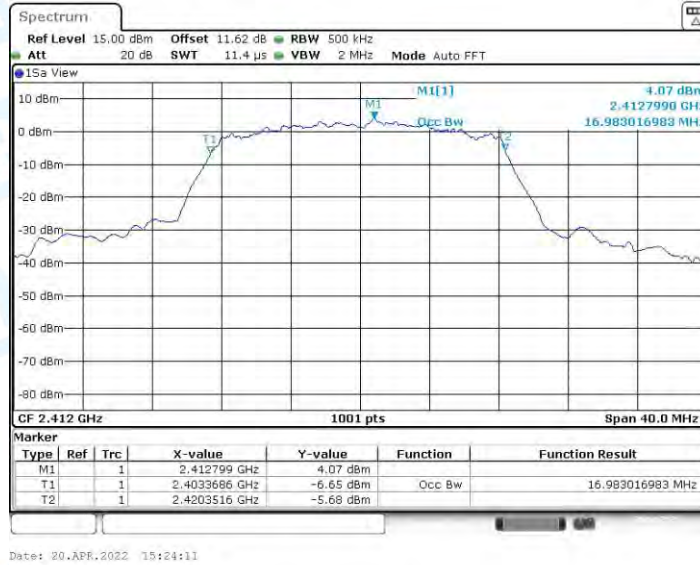
11B_Ant1_2437



11B_Ant1_2462



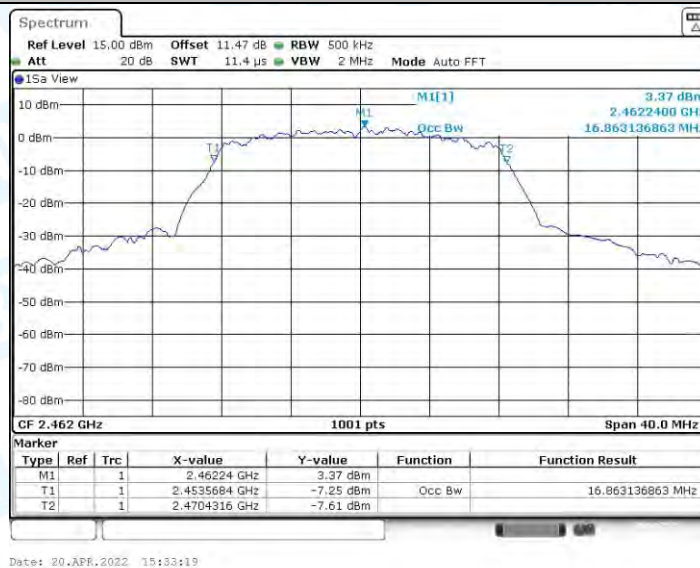
11G_Ant1_2412



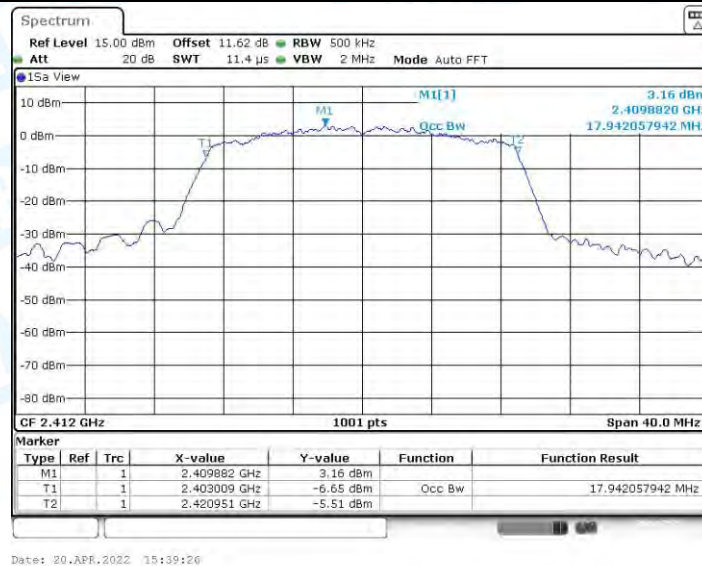
11G_Ant1_2437



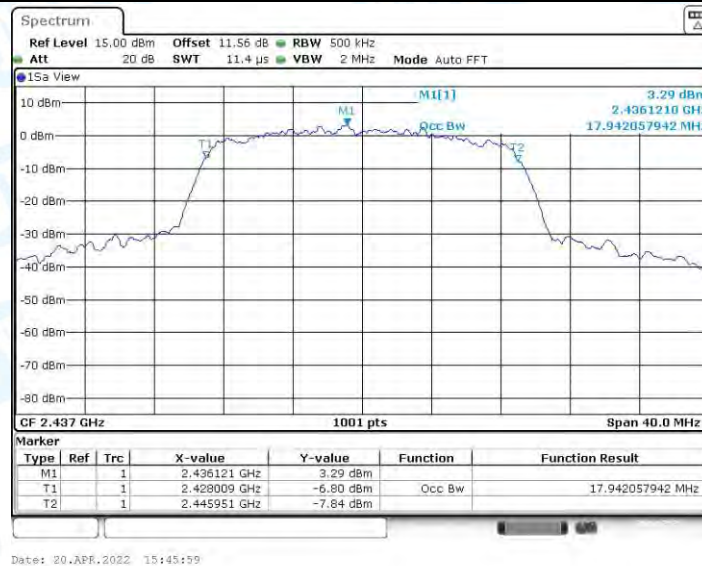
11G_Ant1_2462



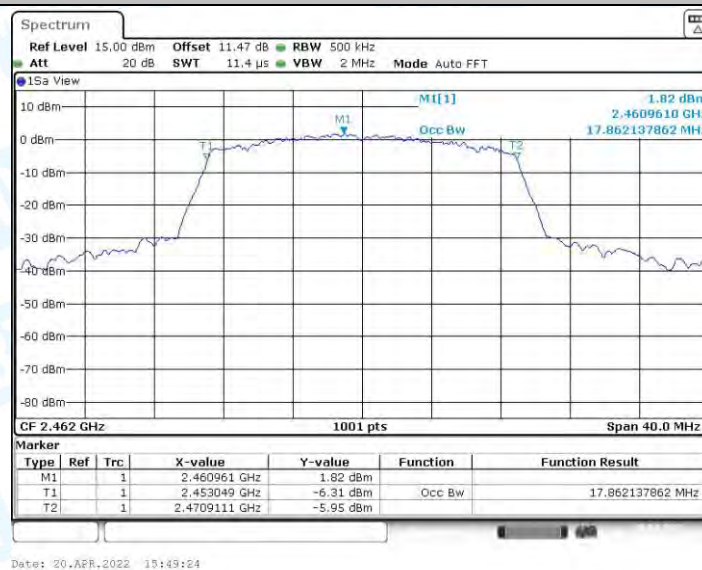
11N20SISO_Ant1_2412



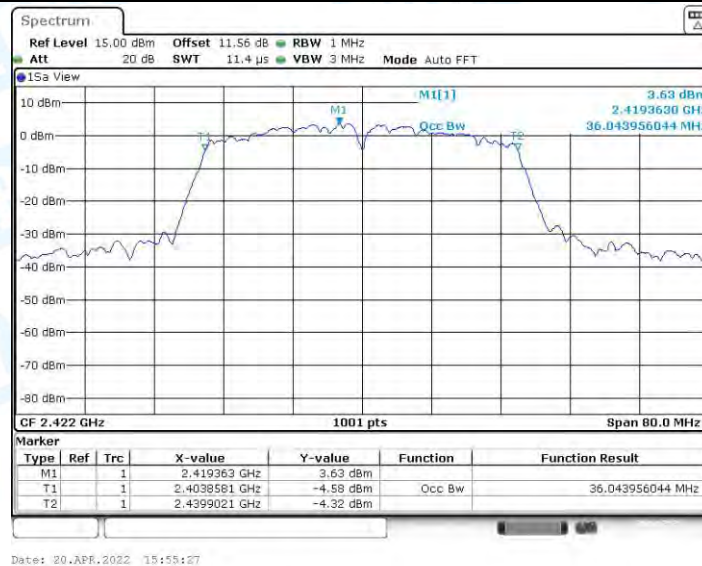
11N20SISO_Ant1_2437



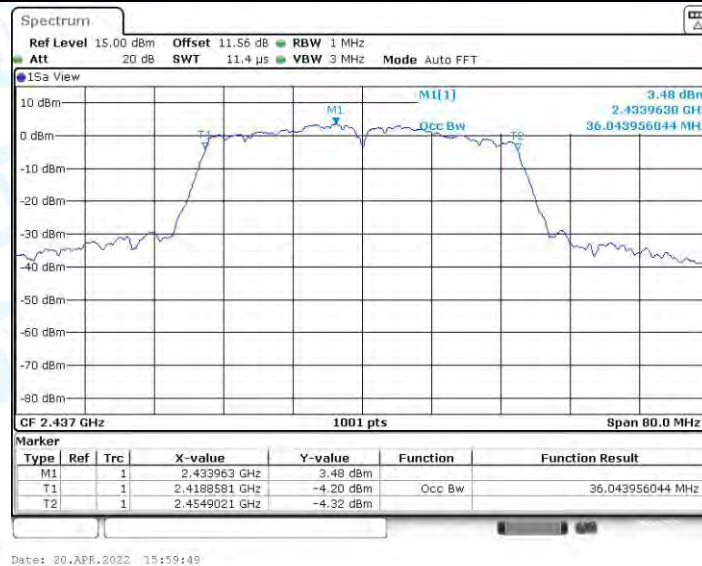
11N20SISO_Ant1_2462



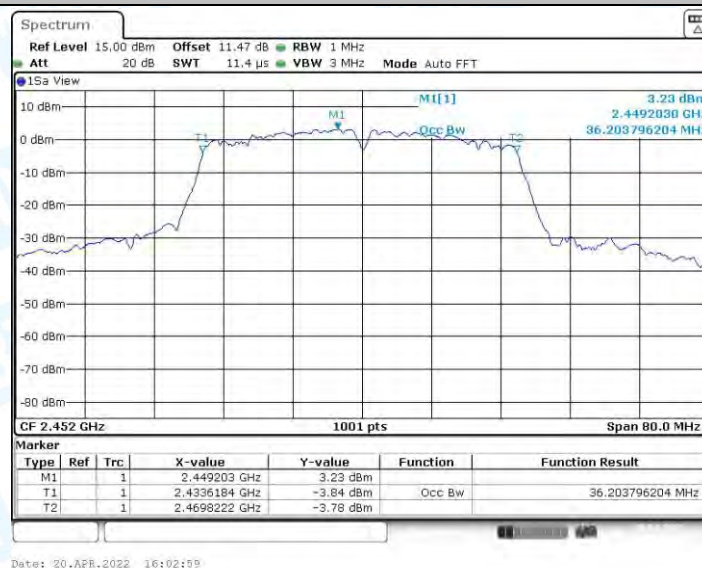
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



3. Maximum conducted output power

3.1. Test Result

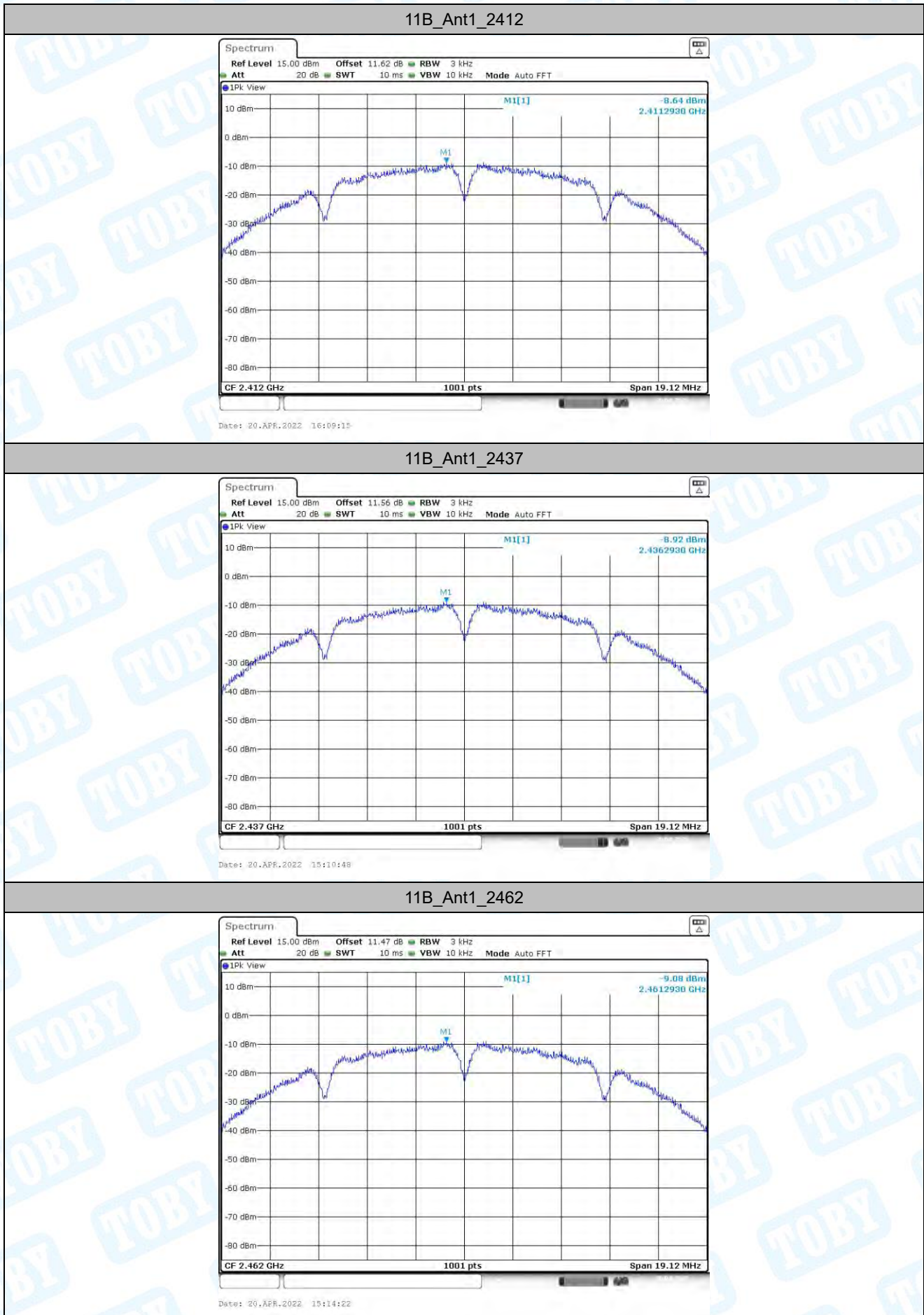
TestMode	Antenna	Channel	Power [dBm]	Limit [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	16.37	≤30.00	18.37	≤36.00	PASS
		2437	16.01	≤30.00	18.01	≤36.00	PASS
		2462	15.94	≤30.00	17.94	≤36.00	PASS
11G	Ant1	2412	17.74	≤30.00	19.74	≤36.00	PASS
		2437	17.66	≤30.00	19.66	≤36.00	PASS
		2462	17.16	≤30.00	19.16	≤36.00	PASS
11N20SISO	Ant1	2412	17.52	≤30.00	19.52	≤36.00	PASS
		2437	16.92	≤30.00	18.92	≤36.00	PASS
		2462	16.39	≤30.00	18.39	≤36.00	PASS
11N40SISO	Ant1	2422	17.41	≤30.00	19.41	≤36.00	PASS
		2437	17.38	≤30.00	19.38	≤36.00	PASS
		2452	17.47	≤30.00	19.47	≤36.00	PASS

4. Maximum power spectral density

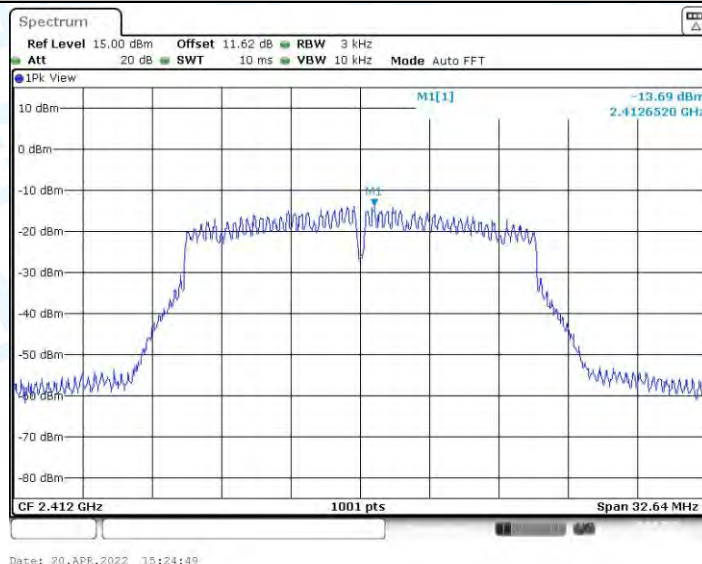
4.1. Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-8.64	≤8.00	PASS
		2437	-8.92	≤8.00	PASS
		2462	-9.08	≤8.00	PASS
11G	Ant1	2412	-13.69	≤8.00	PASS
		2437	-13.79	≤8.00	PASS
		2462	-14.34	≤8.00	PASS
11N20SISO	Ant1	2412	-14.08	≤8.00	PASS
		2437	-14.89	≤8.00	PASS
		2462	-15.29	≤8.00	PASS
11N40SISO	Ant1	2422	-17.67	≤8.00	PASS
		2437	-17	≤8.00	PASS
		2452	-16.44	≤8.00	PASS

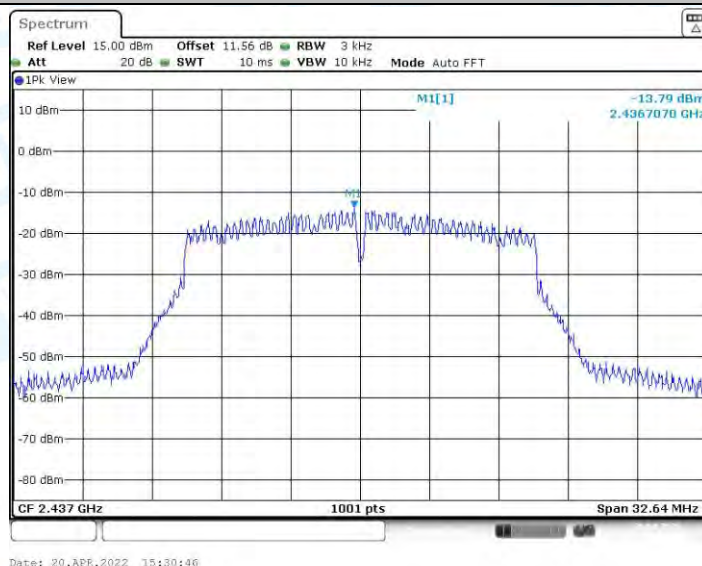
4.2. Test Graphs



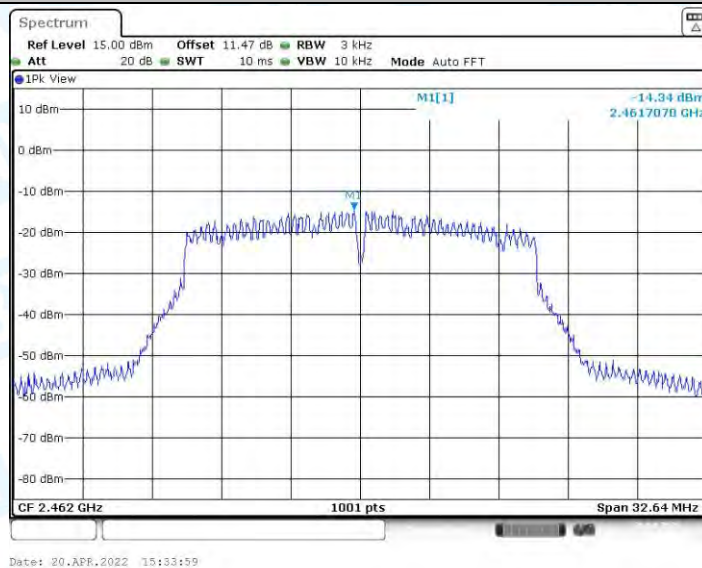
11G_Ant1_2412



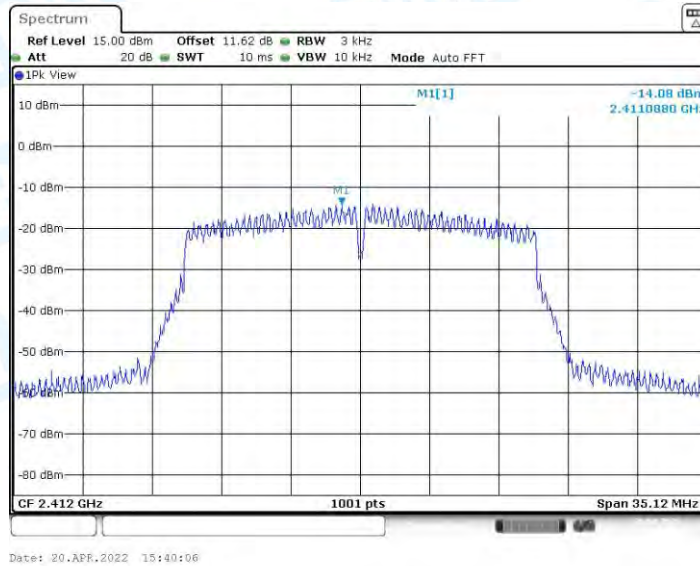
11G_Ant1_2437



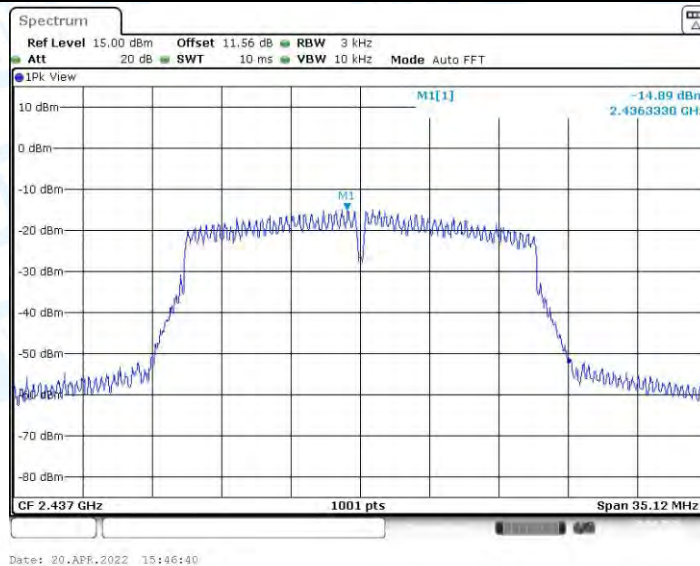
11G_Ant1_2462



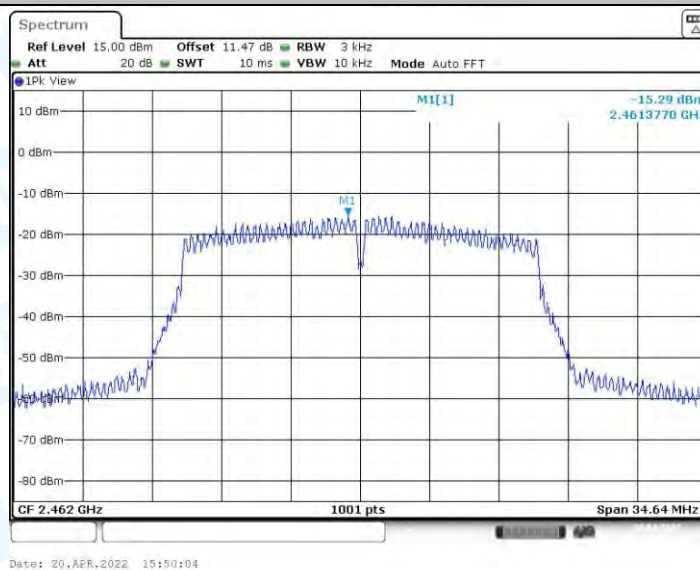
11N20SISO_Ant1_2412



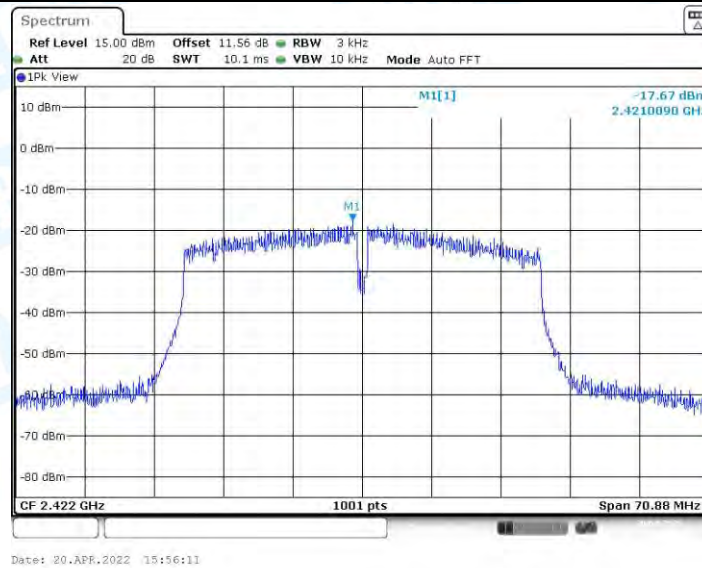
11N20SISO_Ant1_2437



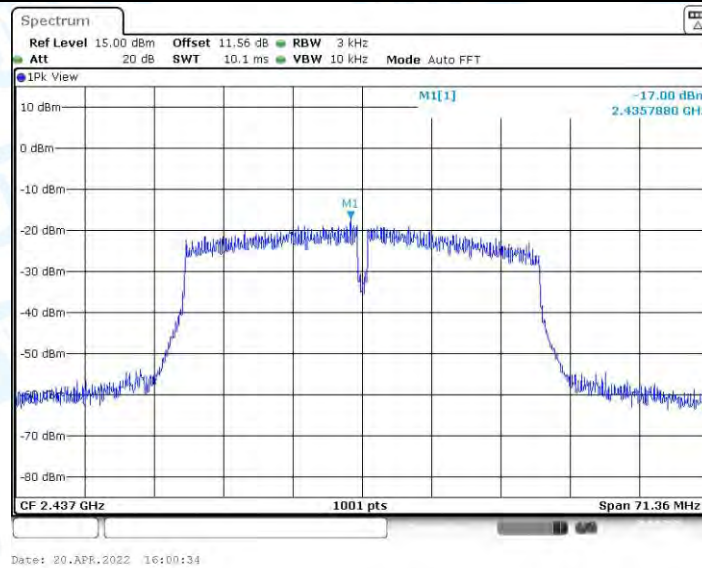
11N20SISO_Ant1_2462



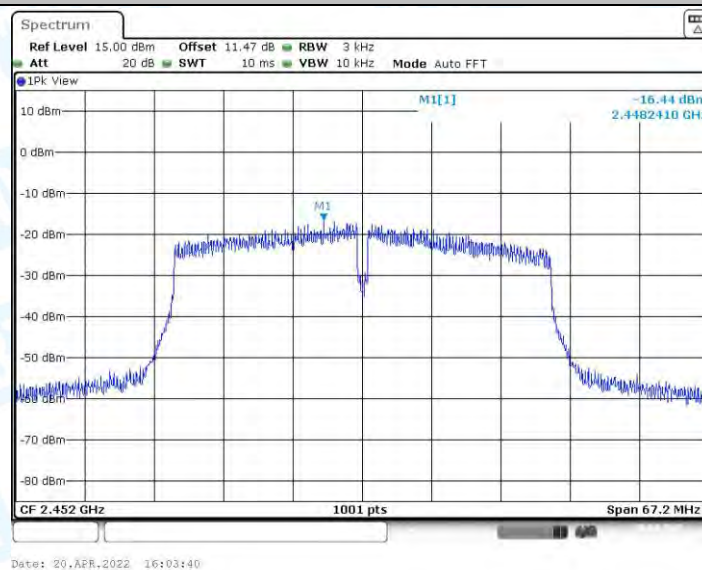
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



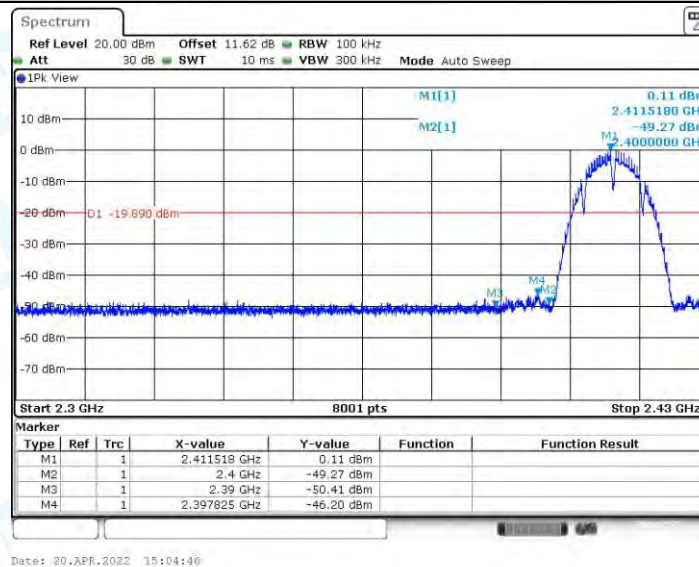
5. Band edge measurements

5.1. Test Result

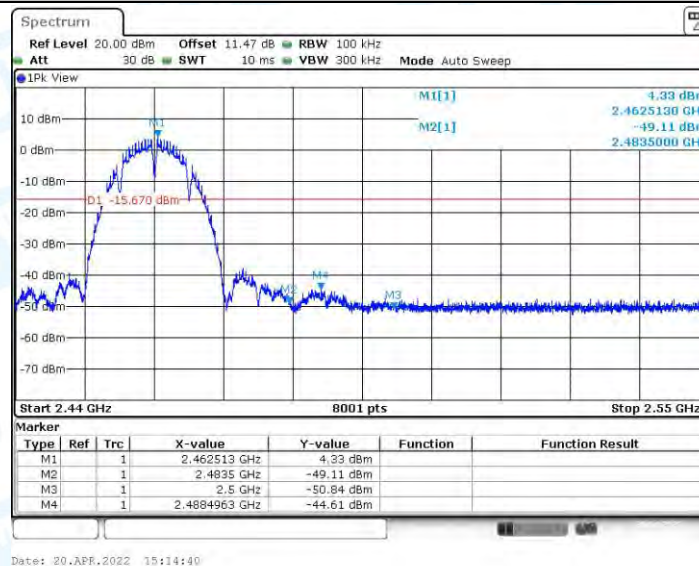
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	0.11	-46.2	≤ -19.89	PASS
		High	2462	4.33	-44.61	≤ -15.67	PASS
11G	Ant1	Low	2412	-3.17	-35.57	≤ -23.17	PASS
		High	2462	-3.95	-43.48	≤ -23.95	PASS
11N20SISO	Ant1	Low	2412	-3.68	-37.42	≤ -23.68	PASS
		High	2462	-4.77	-45.55	≤ -24.77	PASS
11N40SISO	Ant1	Low	2422	-6.60	-40	≤ -26.6	PASS
		High	2452	-6.56	-42.63	≤ -26.56	PASS

5.2. Test Graphs

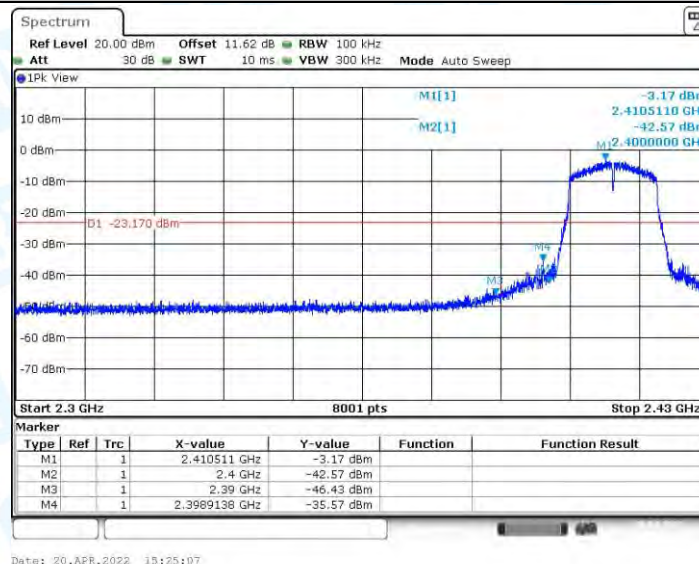
11B_Ant1_Low_2412



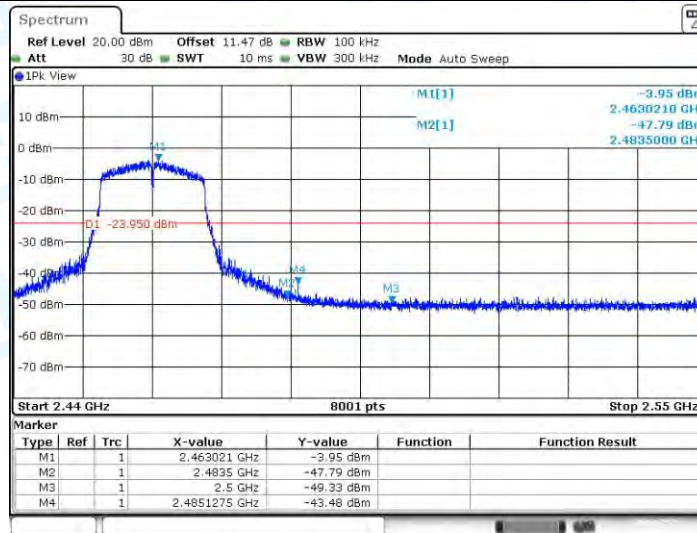
11B_Ant1_High_2462



11G_Ant1_Low_2412

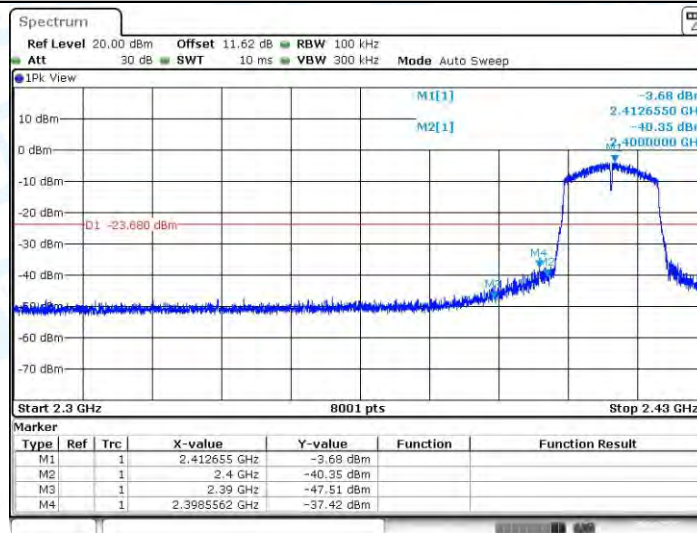


11G_Ant1_High_2462



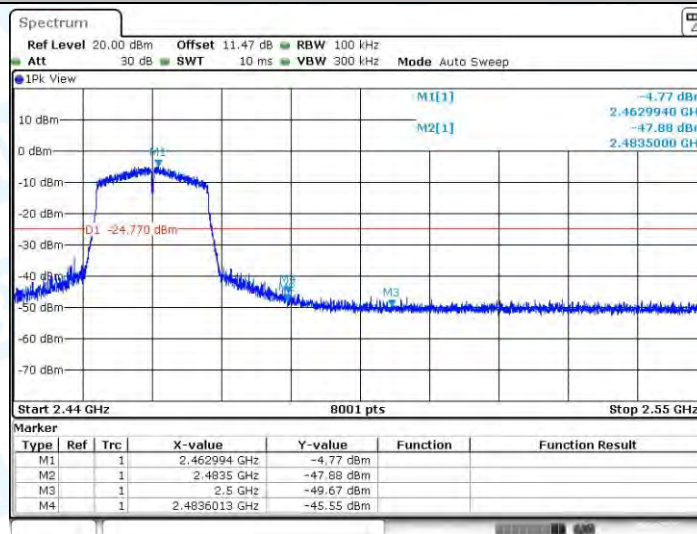
Date: 20.APR.2022 15:34:17

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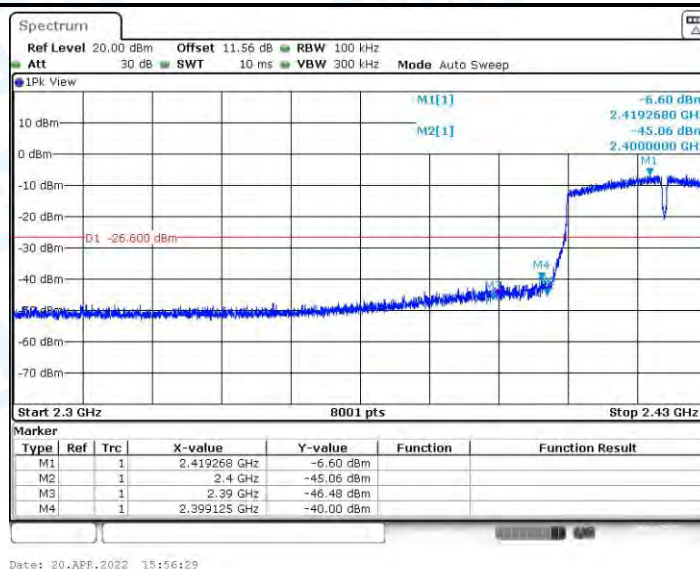
Date: 20.APR.2022 15:40:25

11N20SISO_Ant1_High_2462

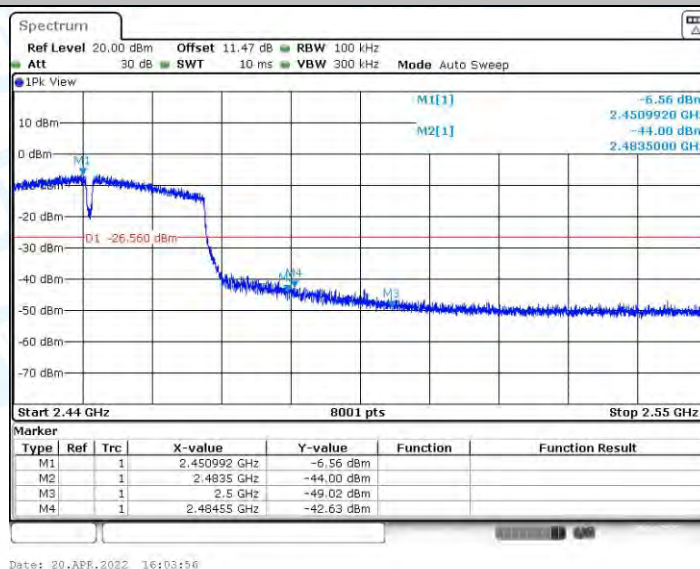


Date: 20.APR.2022 15:50:23

11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452

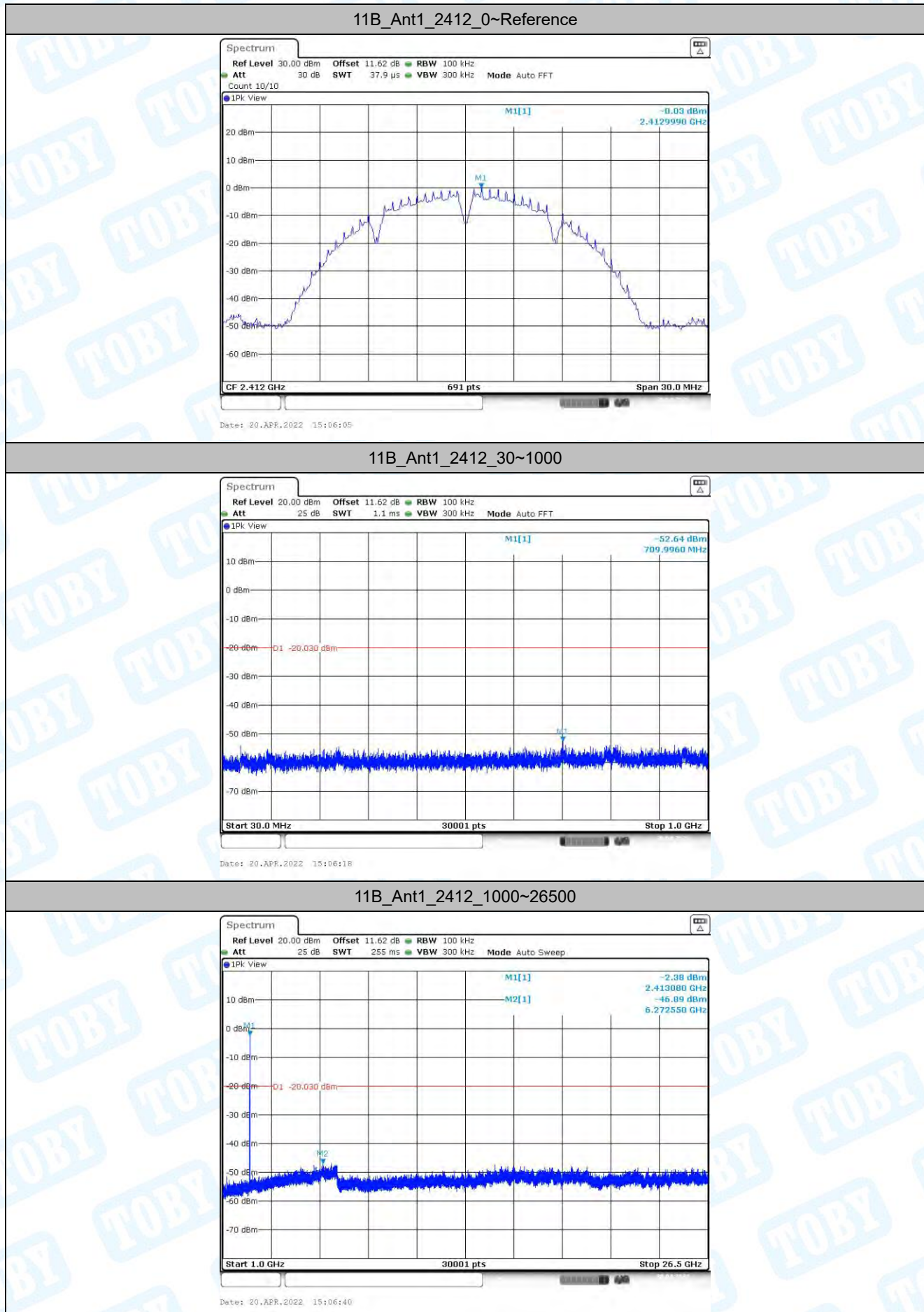


6. Conducted Spurious Emission

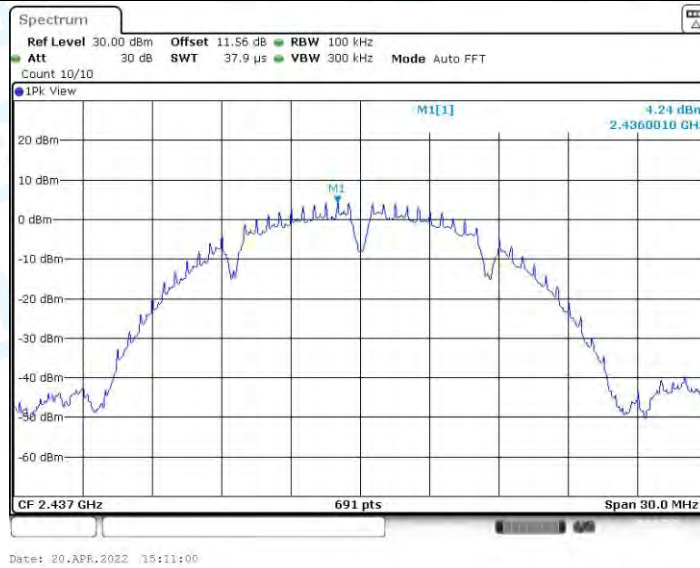
6.1. Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	-0.03	-0.03	---	PASS
			30~1000	-0.03	-52.64	≤-20.03	PASS
			1000~26500	-0.03	-46.89	≤-20.03	PASS
		2437	Reference	4.24	4.24	---	PASS
			30~1000	4.24	-53.07	≤-15.76	PASS
			1000~26500	4.24	-46.7	≤-15.76	PASS
		2462	Reference	3.95	3.95	---	PASS
			30~1000	3.95	-52.22	≤-16.05	PASS
			1000~26500	3.95	-47.21	≤-16.05	PASS
11G	Ant1	2412	Reference	-3.25	-3.25	---	PASS
			30~1000	-3.25	-52.82	≤-23.25	PASS
			1000~26500	-3.25	-47.4	≤-23.25	PASS
		2437	Reference	-3.55	-3.55	---	PASS
			30~1000	-3.55	-53.44	≤-23.55	PASS
			1000~26500	-3.55	-47.16	≤-23.55	PASS
		2462	Reference	-3.62	-3.62	---	PASS
			30~1000	-3.62	-53.17	≤-23.62	PASS
			1000~26500	-3.62	-47.56	≤-23.62	PASS
11N20SISO	Ant1	2412	Reference	-3.57	-3.57	---	PASS
			30~1000	-3.57	-52.95	≤-23.57	PASS
			1000~26500	-3.57	-46.86	≤-23.57	PASS
		2437	Reference	-4.07	-4.07	---	PASS
			30~1000	-4.07	-52.88	≤-24.07	PASS
			1000~26500	-4.07	-47.18	≤-24.07	PASS
		2462	Reference	-4.95	-4.95	---	PASS
			30~1000	-4.95	-52.91	≤-24.95	PASS
			1000~26500	-4.95	-47.01	≤-24.95	PASS
11N40SISO	Ant1	2422	Reference	-6.85	-6.85	---	PASS
			30~1000	-6.85	-50.71	≤-26.85	PASS
			1000~26500	-6.85	-47.28	≤-26.85	PASS
		2437	Reference	-6.81	-6.81	---	PASS
			30~1000	-6.81	-51.01	≤-26.81	PASS
			1000~26500	-6.81	-47.01	≤-26.81	PASS
		2452	Reference	-6.51	-6.51	---	PASS
			30~1000	-6.51	-50.54	≤-26.51	PASS
			1000~26500	-6.51	-46.73	≤-26.51	PASS

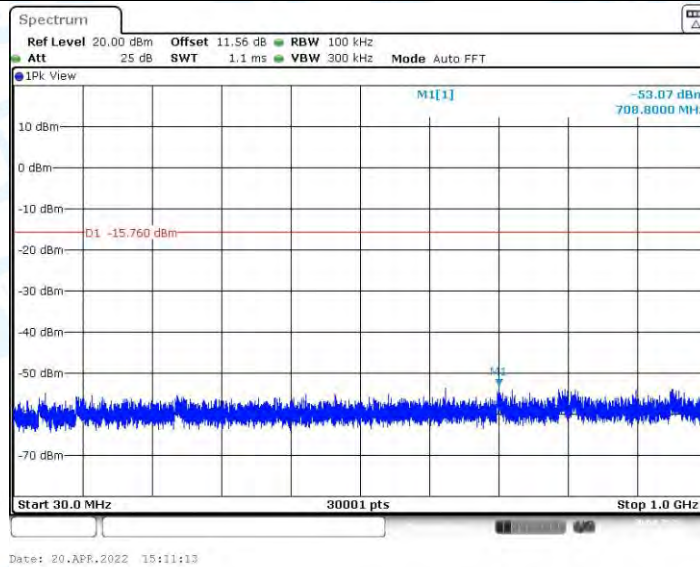
6.2. Test Graphs



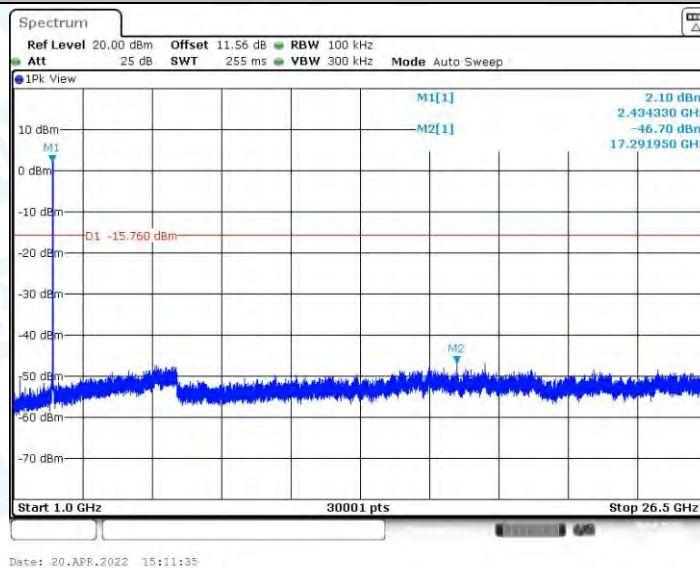
11B_Ant1_2437_0~Reference



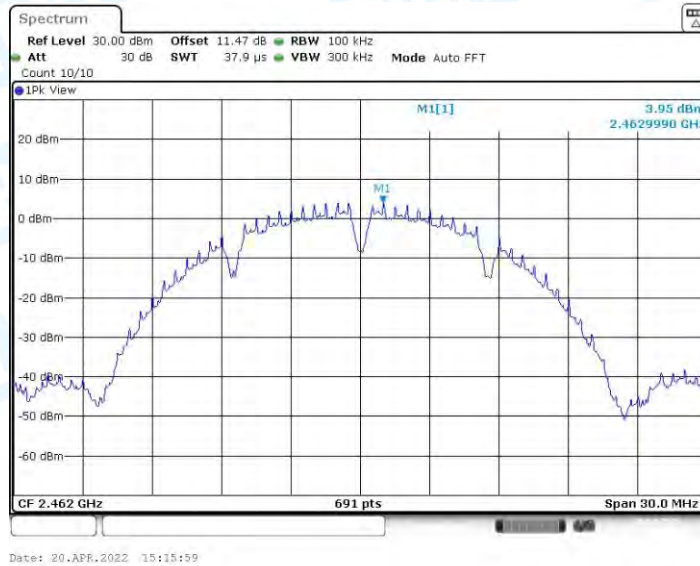
11B_Ant1_2437_30~1000



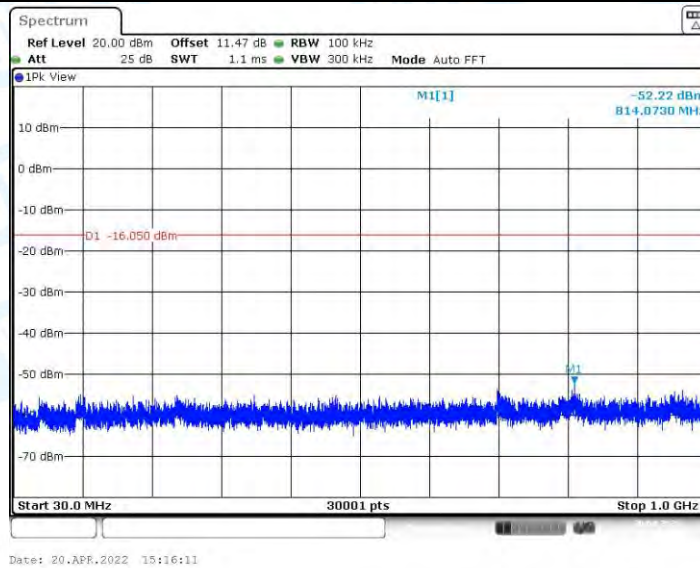
11B_Ant1_2437_1000~26500



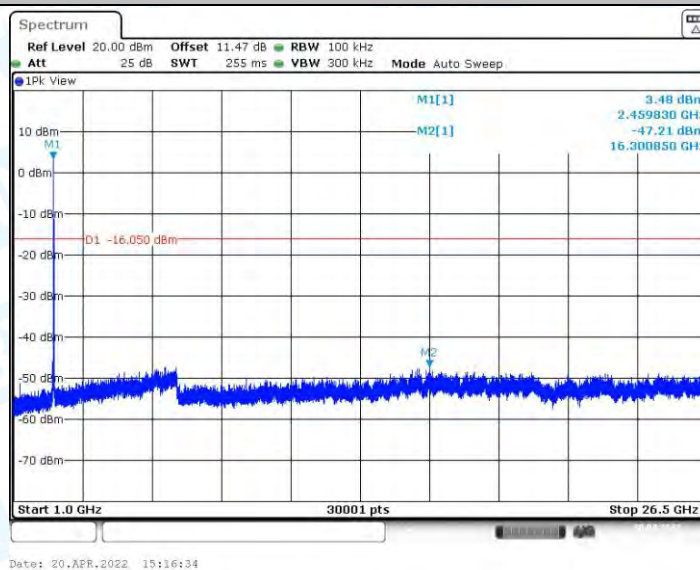
11B_Ant1_2462_0~Reference



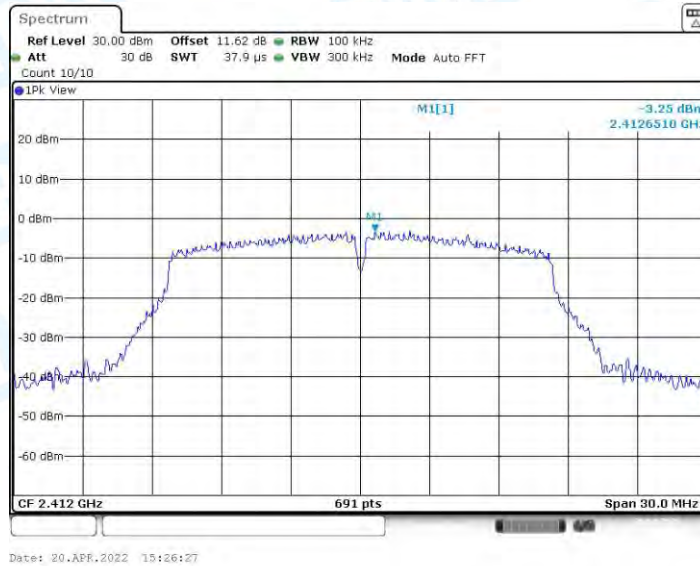
11B_Ant1_2462_30~1000



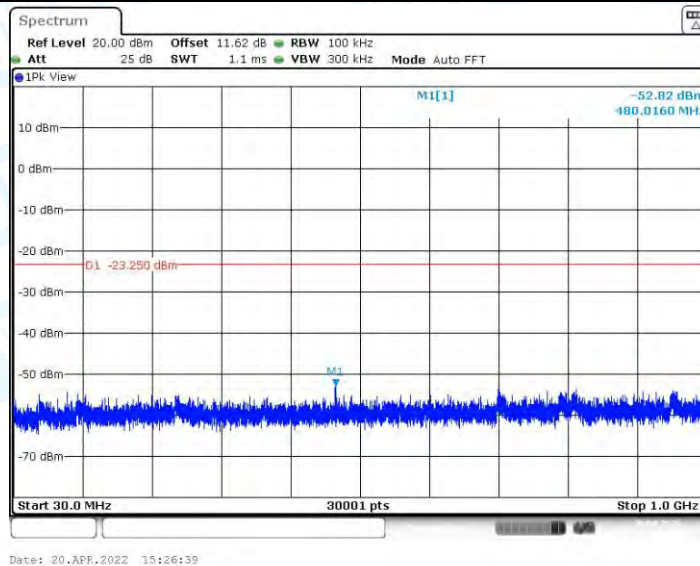
11B_Ant1_2462_1000~26500



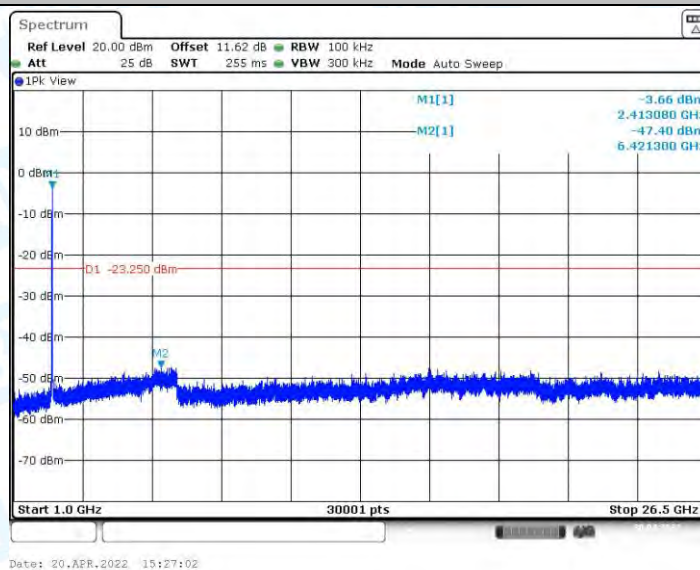
11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



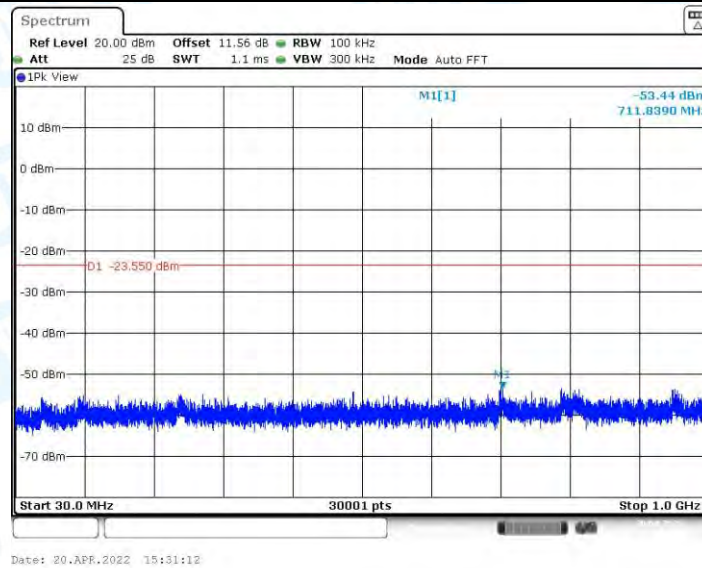
11G_Ant1_2412_1000~26500



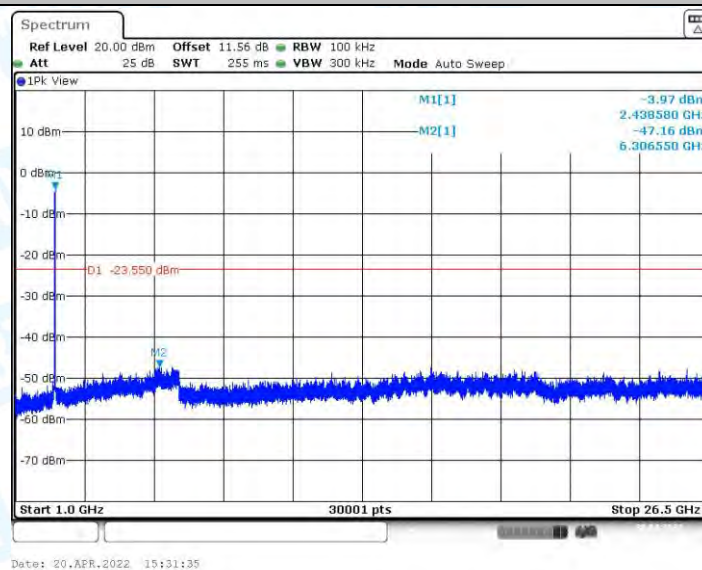
11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference



Spectrum

Ref Level 20.00 dBm Offset 11.47 dB RBW 100 kHz
 Att 25 dB SWT 1.1 ms VBW 300 kHz Mode Auto FFT

1Pk View

M1[1] -53.17 dBm 949.0610 MHz

D1 -23.620 dBm

Start 30.0 MHz 30001 pts Stop 1.0 GHz

Date: 20.Apr.2022 15:35:49

Spectrum

Ref Level 20.00 dBm Offset 11.47 dB RBW 100 kHz
 Att 25 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep

1Pk View

10 dBm
 0 dBm
 -10 dBm
 -20 dBm
 -30 dBm
 -40 dBm
 -50 dBm
 -60 dBm
 -70 dBm

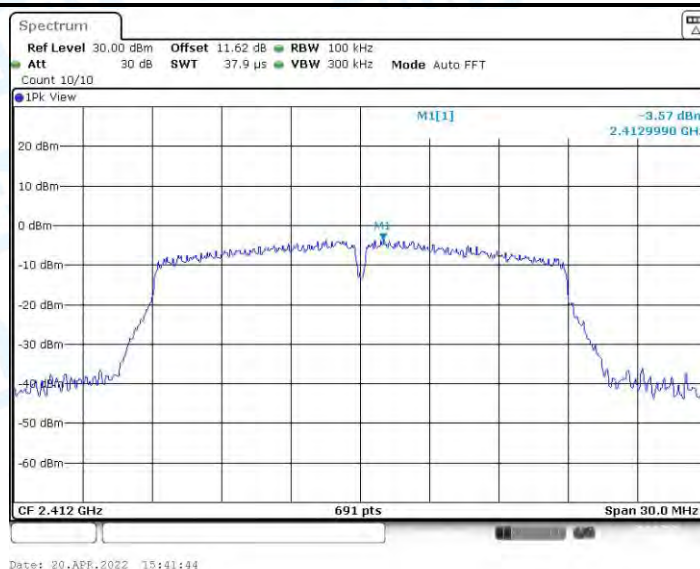
M1[1] -4.69 dBm
 M2[1] -47.56 dBm
 2.460680 GHz
 6.256400 GHz

D1 -23.620 dBm

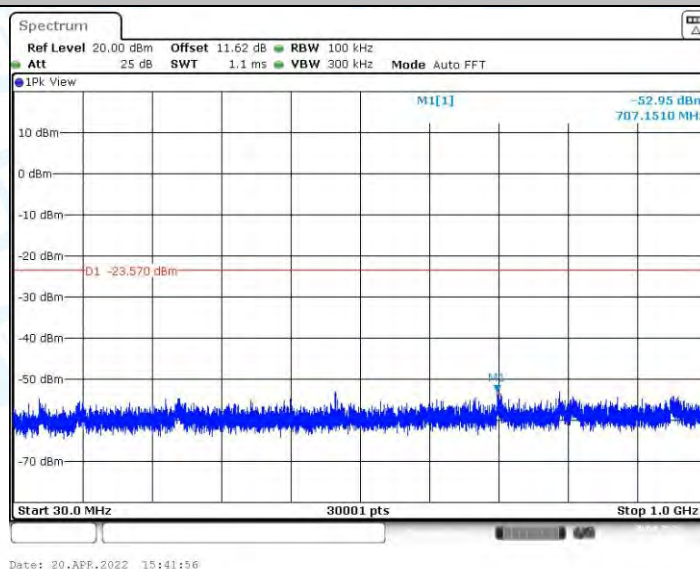
Start 1.0 GHz 30001 pts Stop 26.5 GHz

Date: 20.APR.2022 15:36:12

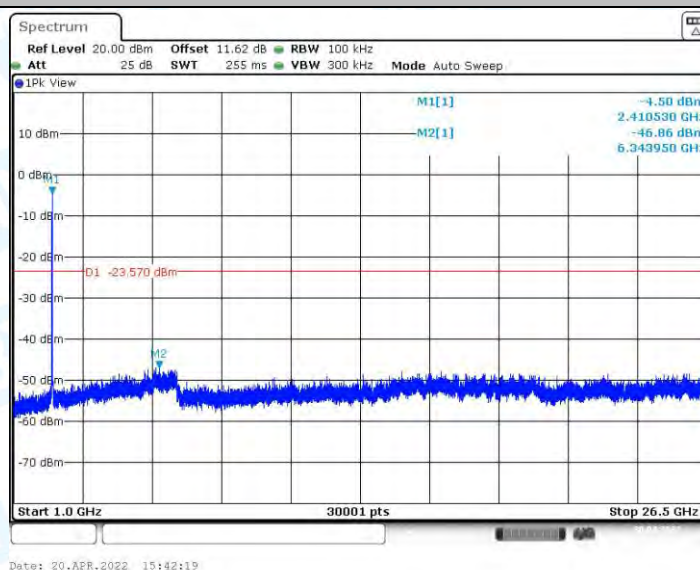
TB-RF-074-1.0



11N20SISO_Ant1_2412_30~1000



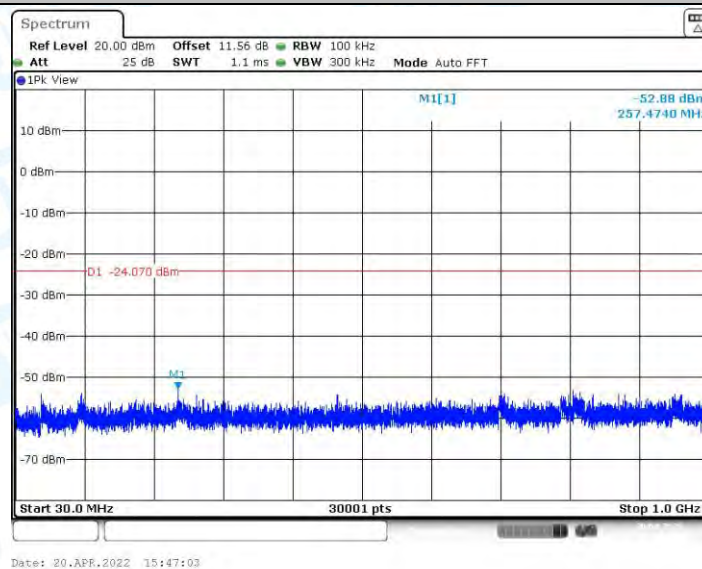
11N20SISO_Ant1_2412_1000~26500



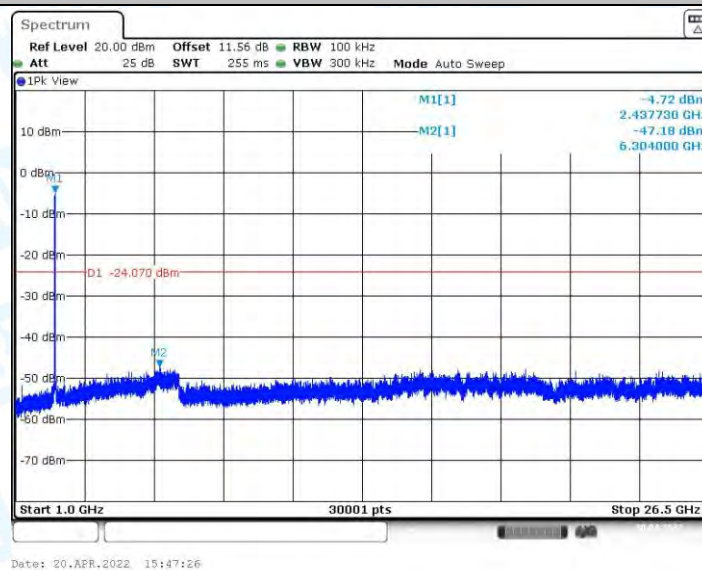
11N20SISO_Ant1_2437_0~Reference



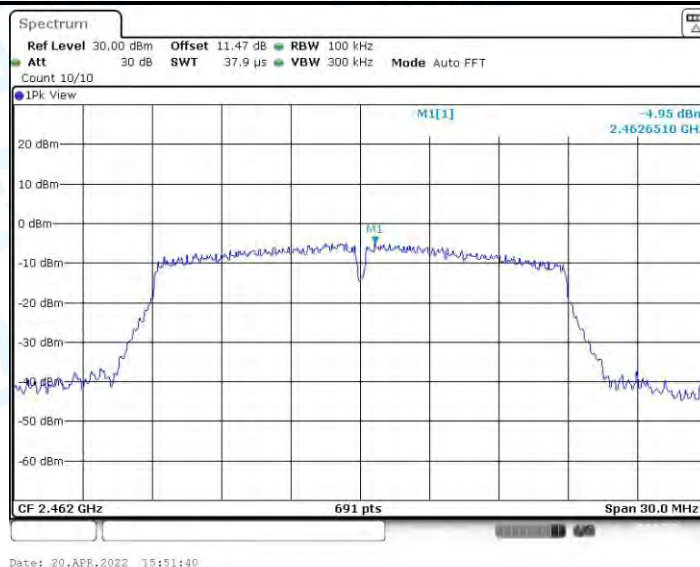
11N20SISO_Ant1_2437_30~1000



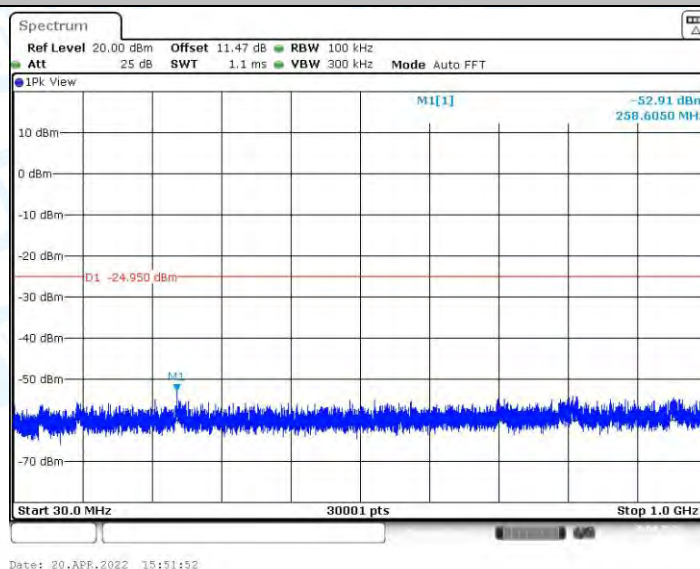
11N20SISO_Ant1_2437_1000~26500



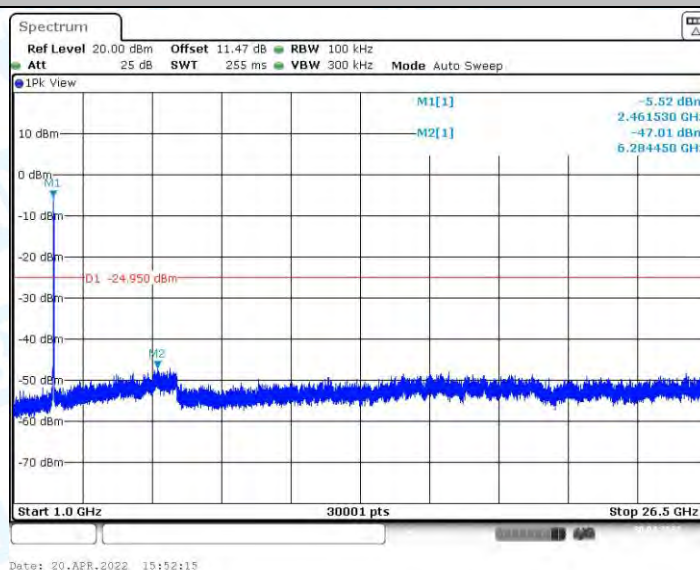
11N20SISO_Ant1_2462_0~Reference



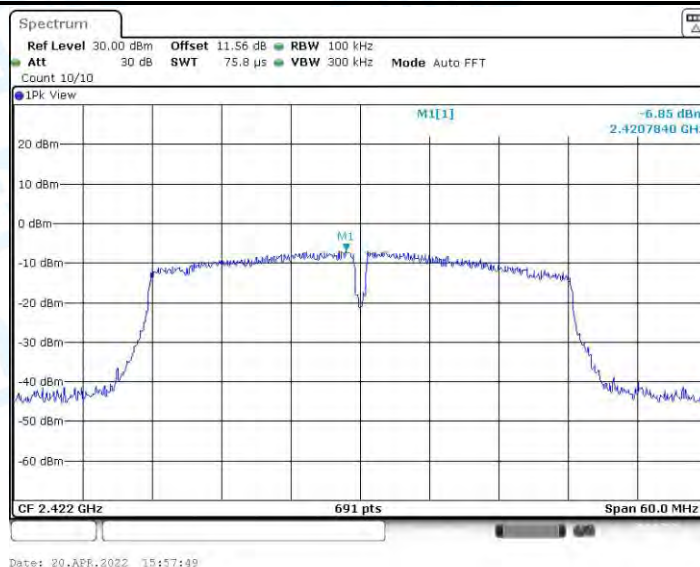
11N20SISO_Ant1_2462_30~1000



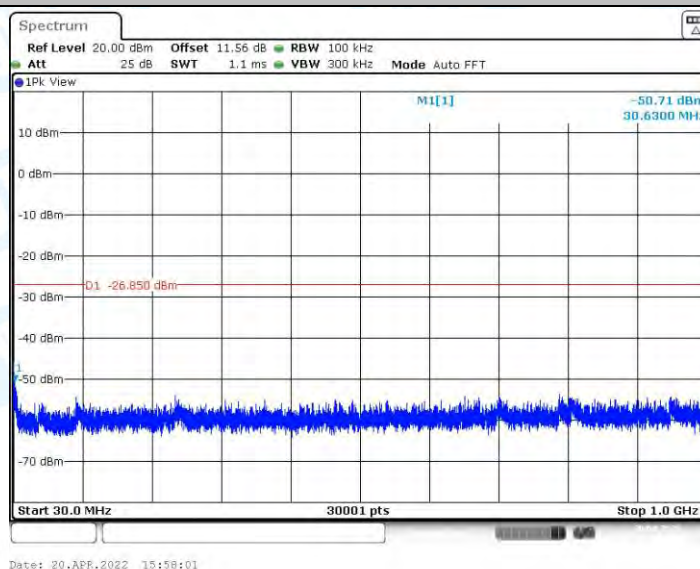
11N20SISO_Ant1_2462_1000~26500



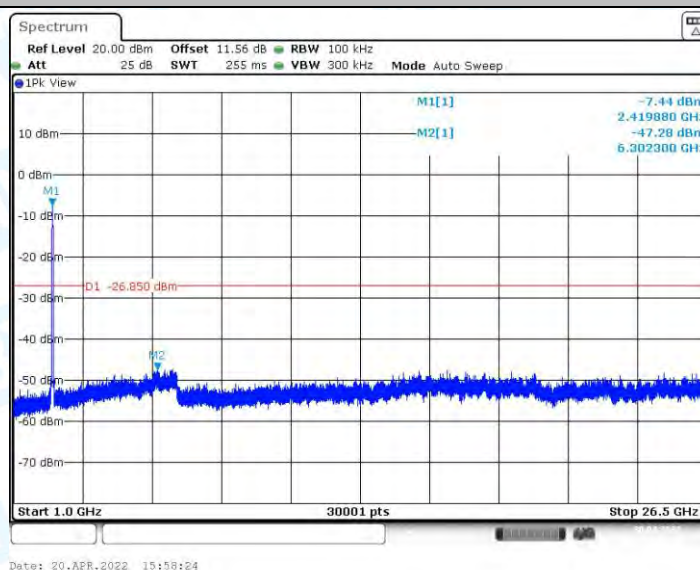
11N40SISO_Ant1_2422_0~Reference



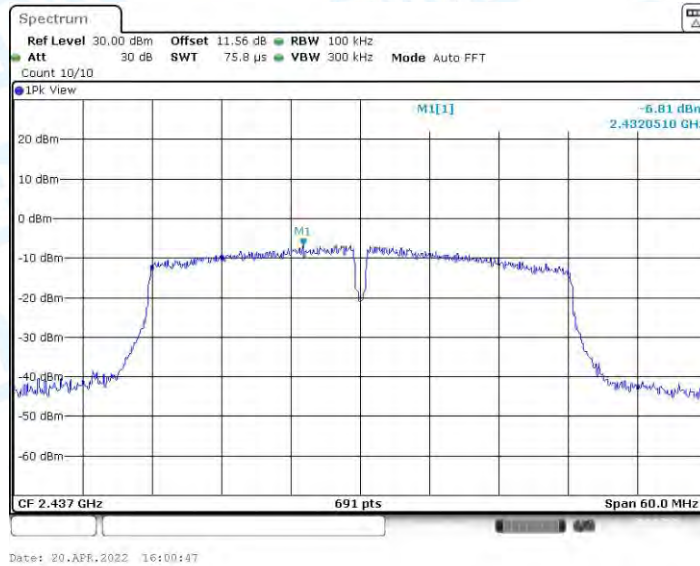
11N40SISO_Ant1_2422_30~1000



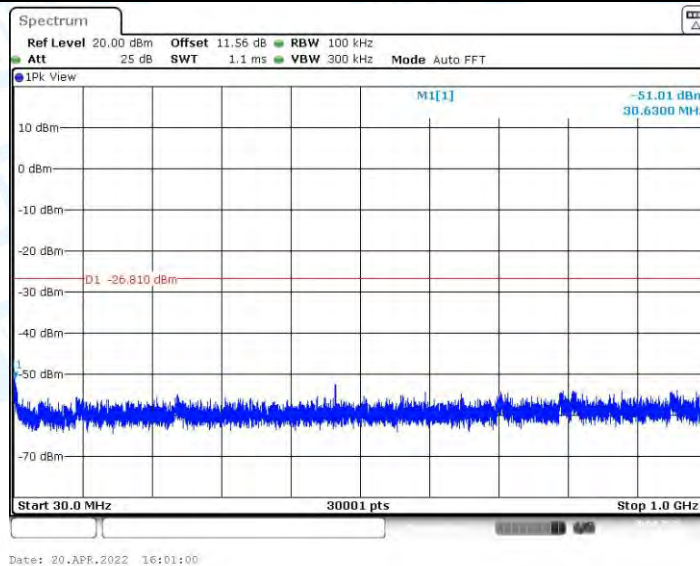
11N40SISO_Ant1_2422_1000~26500



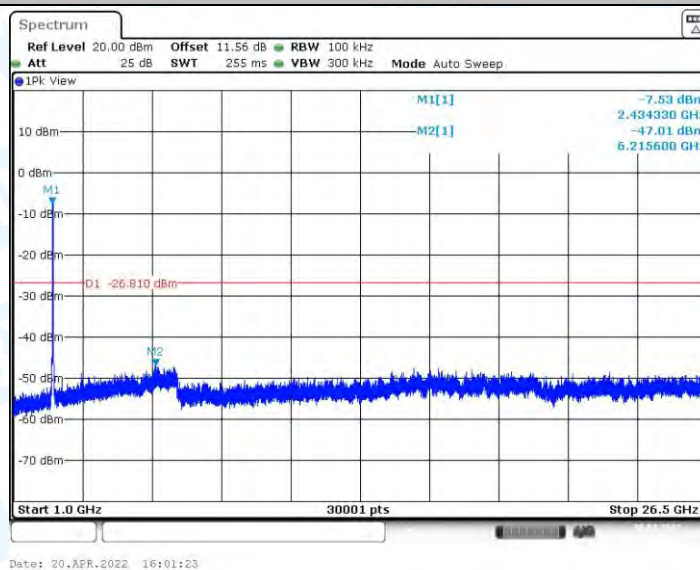
11N40SISO_Ant1_2437_0~Reference



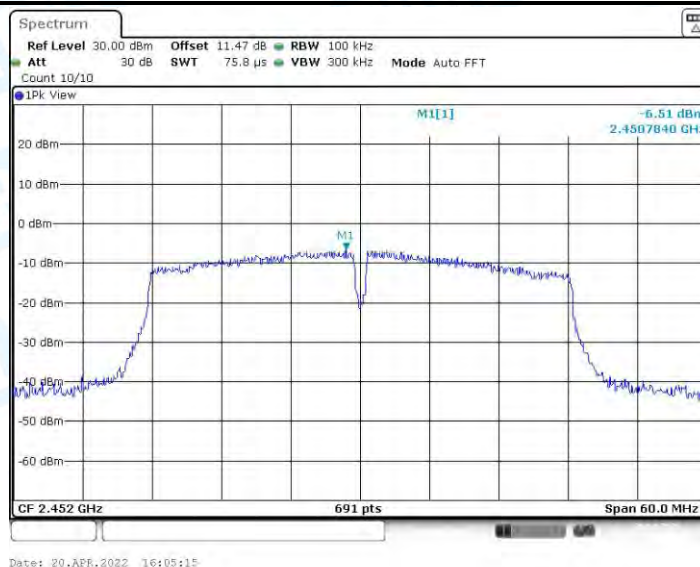
11N40SISO_Ant1_2437_30~1000



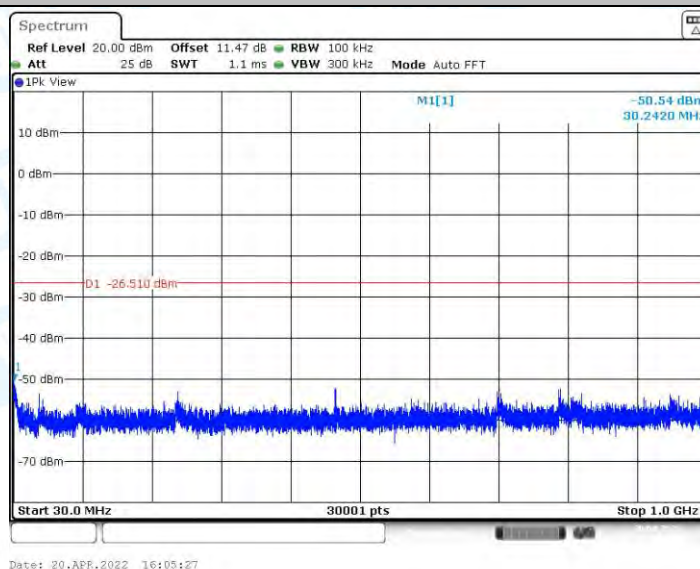
11N40SISO_Ant1_2437_1000~26500



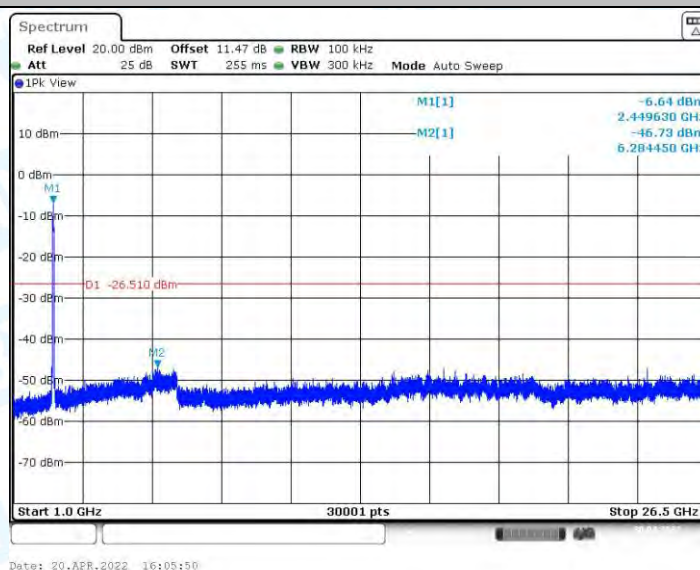
11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500

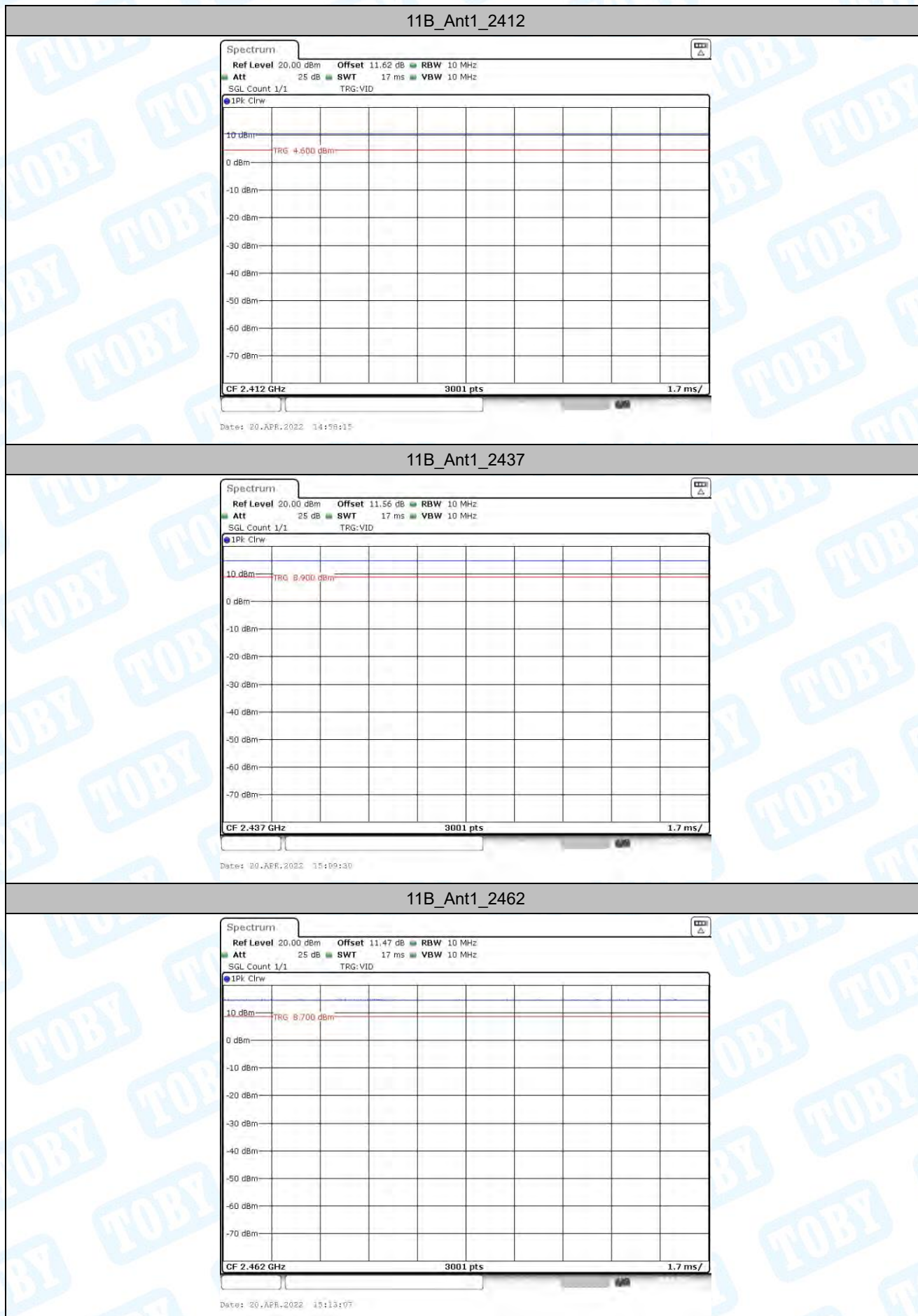


7. Duty Cycle

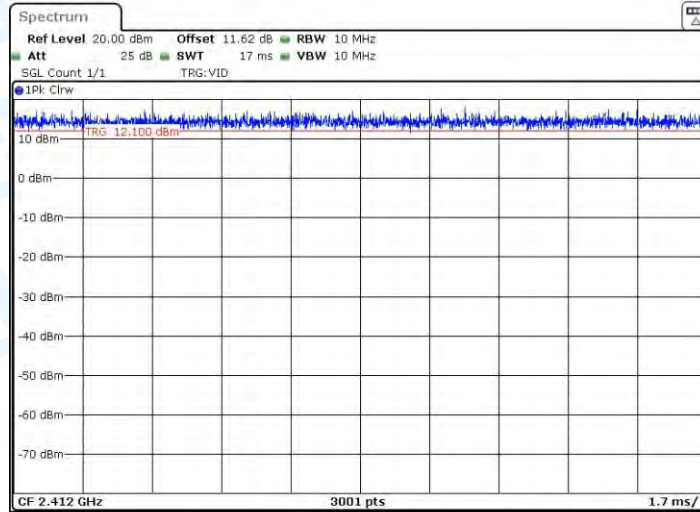
7.1. Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	17.00	17.00	100.00	---	---
		2437	17.00	17.00	100.00	---	---
		2462	17.00	17.00	100.00	---	---
11G	Ant1	2412	17.00	17.00	100.00	---	---
		2437	17.00	17.00	100.00	---	---
		2462	17.00	17.00	100.00	---	---
11N20SISO	Ant1	2412	17.00	17.00	100.00	---	---
		2437	17.00	17.00	100.00	---	---
		2462	17.00	17.00	100.00	---	---
11N40SISO	Ant1	2422	17.00	17.00	100.00	---	---
		2437	17.00	17.00	100.00	---	---
		2452	17.00	17.00	100.00	---	---

7.2. Test Graphs

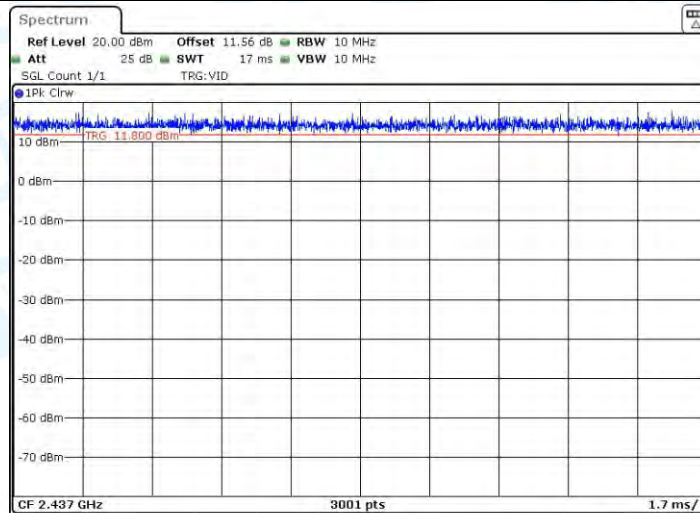


11G_Ant1_2412



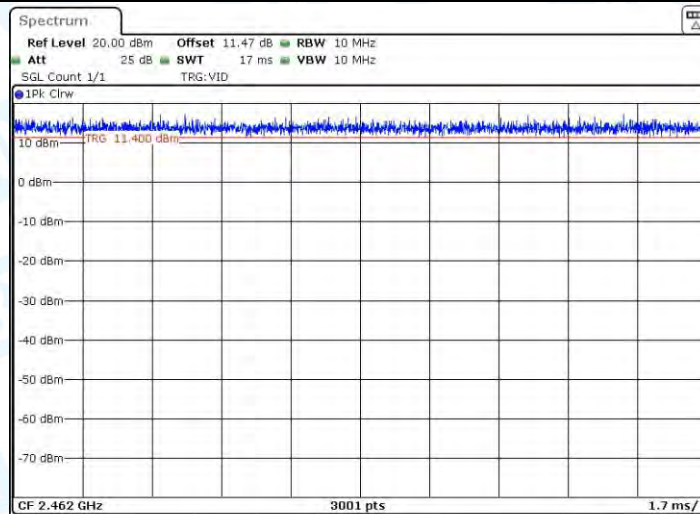
Date: 20.APR.2022 15:23:35

11G_Ant1_2437



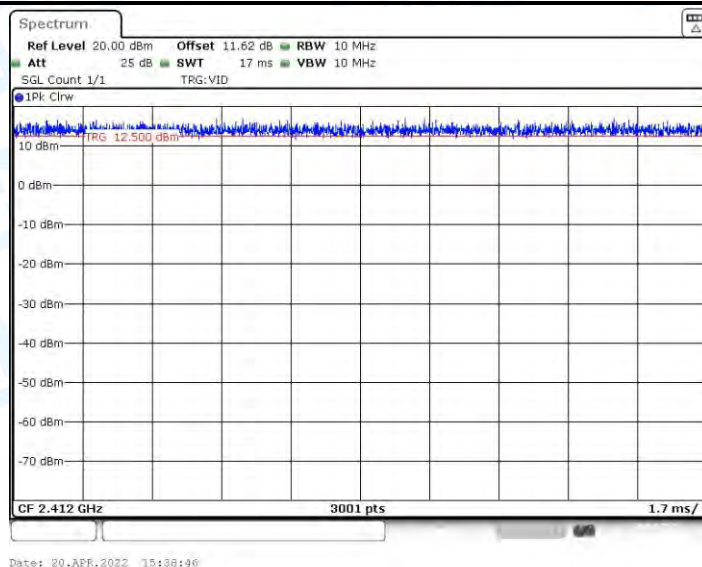
Date: 20.APR.2022 15:29:30

11G_Ant1_2462

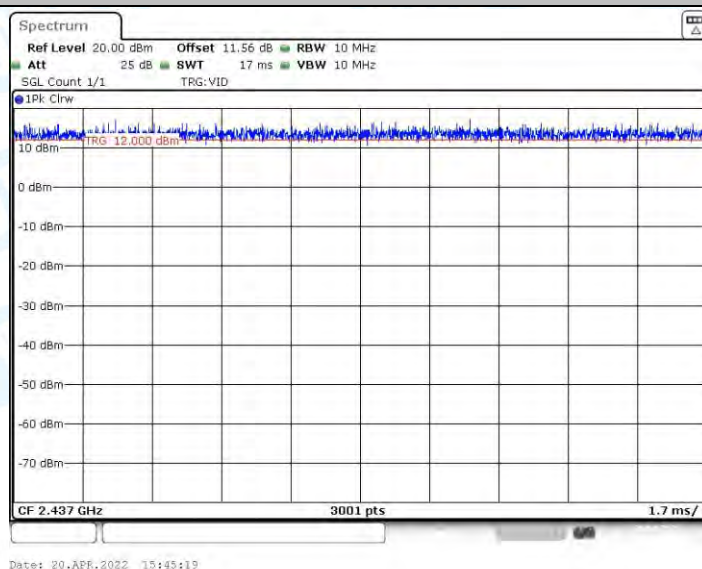


Date: 20.APR.2022 15:32:41

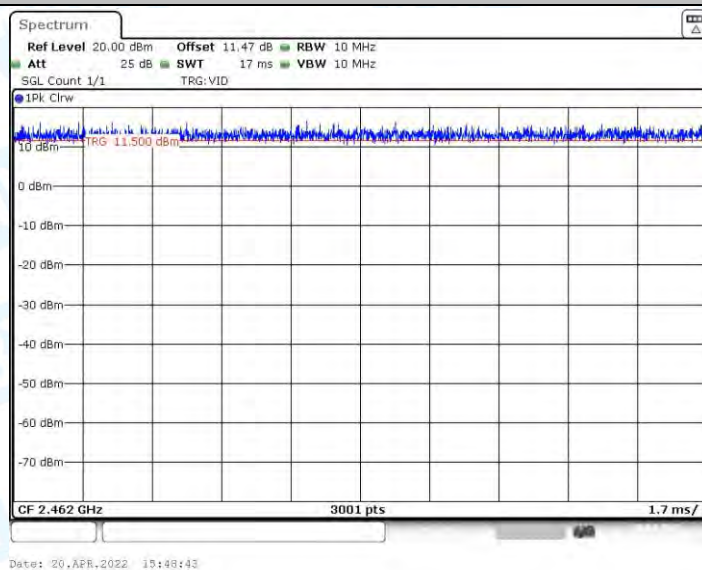
11N20SISO_Ant1_2412



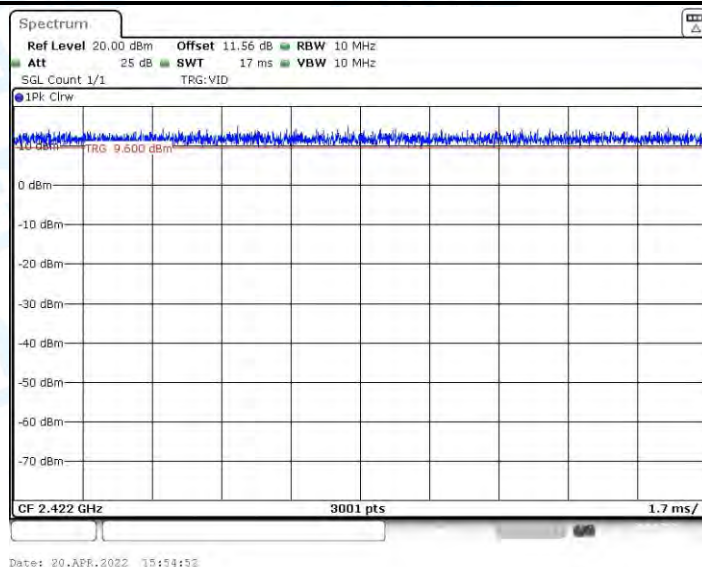
11N20SISO_Ant1_2437



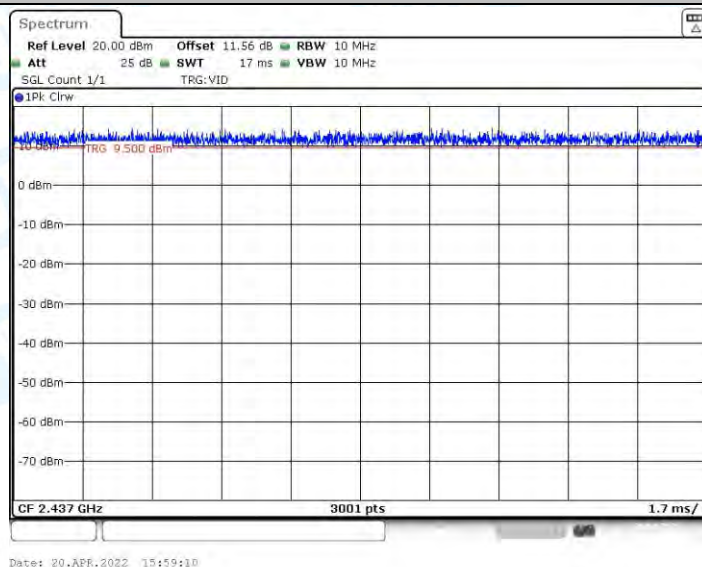
11N20SISO_Ant1_2462



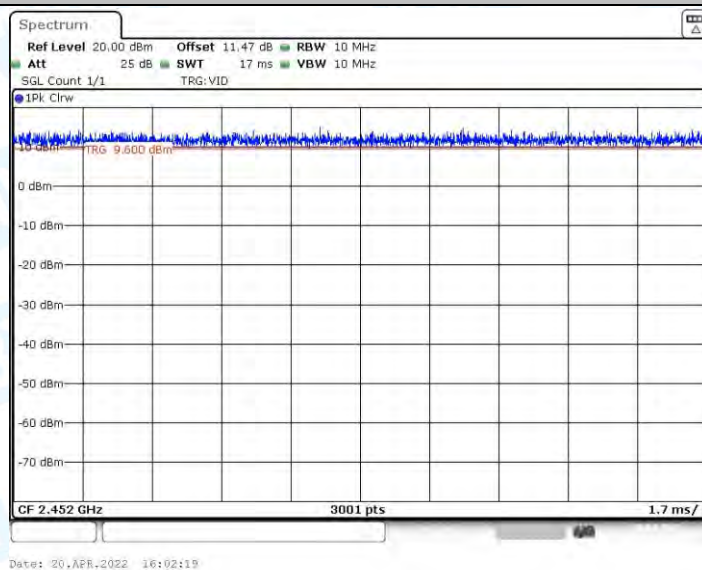
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



8. Emissions in Restricted Bands

8.1. Test Result

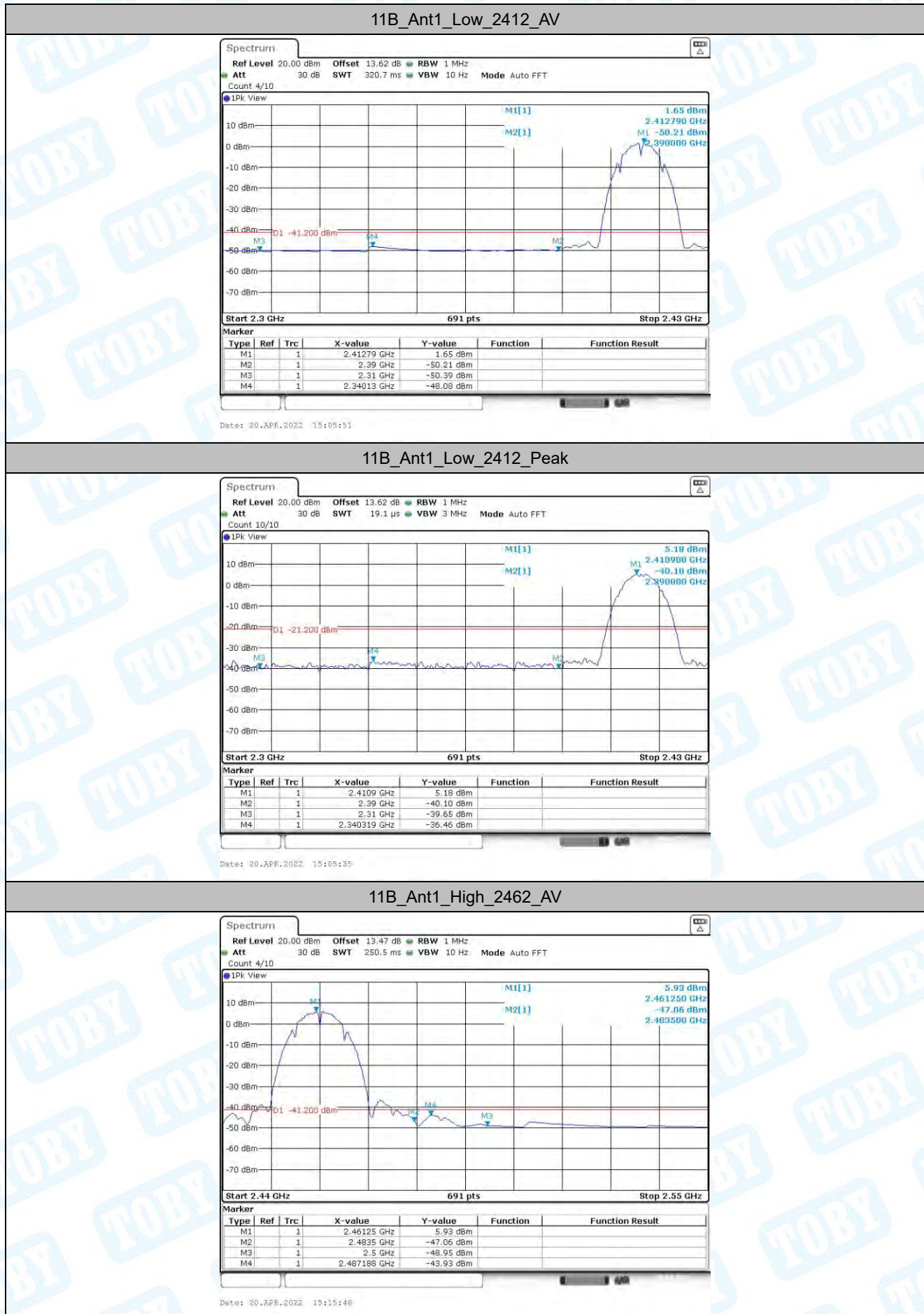
TestMode	Antenna	ChName	Channel	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-50.39	≤-41.20	PASS
				AV	2340.130	-48.08	≤-41.20	PASS
				AV	2390.000	-50.21	≤-41.20	PASS
				Peak	2310.000	-39.65	≤-21.20	PASS
				Peak	2340.319	-36.46	≤-21.20	PASS
				Peak	2390.000	-40.1	≤-21.20	PASS
		High	2462	AV	2483.500	-47.06	≤-41.20	PASS
				AV	2487.188	-43.93	≤-41.20	PASS
				AV	2500.000	-48.95	≤-41.20	PASS
				Peak	2483.500	-36.14	≤-21.20	PASS
				Peak	2488.623	-33.57	≤-21.20	PASS
				Peak	2500.000	-37.64	≤-21.20	PASS
11G	Ant1	Low	2412	AV	2310.000	-50.01	≤-41.20	PASS
				AV	2389.870	-46.44	≤-41.20	PASS
				AV	2390.000	-46.39	≤-41.20	PASS
				Peak	2310.000	-36.86	≤-21.20	PASS
				Peak	2389.681	-31.79	≤-21.20	PASS
				Peak	2390.000	-31.19	≤-21.20	PASS
		High	2462	AV	2483.500	-46.35	≤-41.20	PASS
				AV	2483.522	-46.35	≤-41.20	PASS
				AV	2500.000	-49.3	≤-41.20	PASS
				Peak	2483.500	-34.59	≤-21.20	PASS
				Peak	2483.522	-34.59	≤-21.20	PASS
				Peak	2500.000	-36.56	≤-21.20	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-50.03	≤-41.20	PASS
				AV	2389.870	-46.15	≤-41.20	PASS
				AV	2390.000	-46.11	≤-41.20	PASS
				Peak	2310.000	-38.51	≤-21.20	PASS
				Peak	2389.870	-30.67	≤-21.20	PASS
				Peak	2390.000	-30.37	≤-21.20	PASS
		High	2462	AV	2483.500	-46.49	≤-41.20	PASS
				AV	2483.522	-46.49	≤-41.20	PASS
				AV	2500.000	-49.22	≤-41.20	PASS
				Peak	2483.500	-32.23	≤-21.20	PASS
				Peak	2483.522	-32.23	≤-21.20	PASS
				Peak	2500.000	-38.62	≤-21.20	PASS
11N40SISO	Ant1	Low	2422	AV	2310.000	-50.21	≤-41.20	PASS
				AV	2389.870	-43.96	≤-41.20	PASS
				AV	2390.000	-43.96	≤-41.20	PASS
				Peak	2310.000	-39.39	≤-21.20	PASS

		High	2452	Peak	2389.870	-29.66	≤ -21.20	PASS
				Peak	2390.000	-29.67	≤ -21.20	PASS
				AV	2483.500	-42.94	≤ -41.20	PASS
				AV	2483.522	-42.94	≤ -41.20	PASS
				AV	2500.000	-47.42	≤ -41.20	PASS
				Peak	2483.500	-30.22	≤ -21.20	PASS
				Peak	2484.478	-29.49	≤ -21.20	PASS
				Peak	2500.000	-34.74	≤ -21.20	PASS

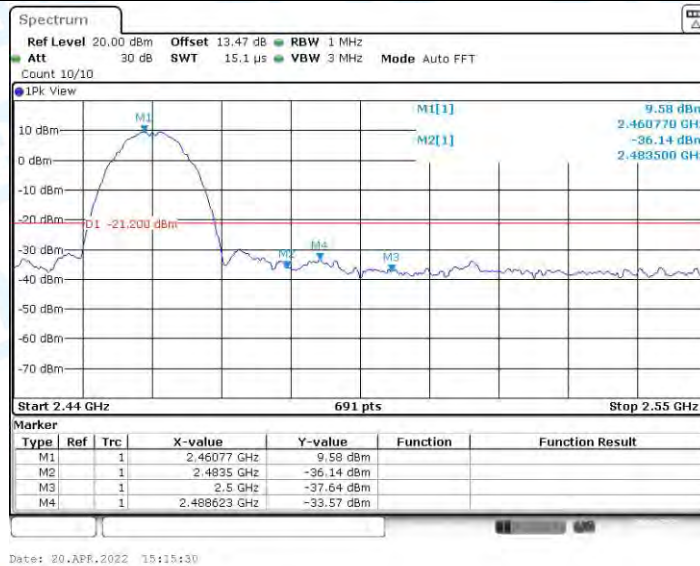
Note:

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) or RSS-Gen 8.10. The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

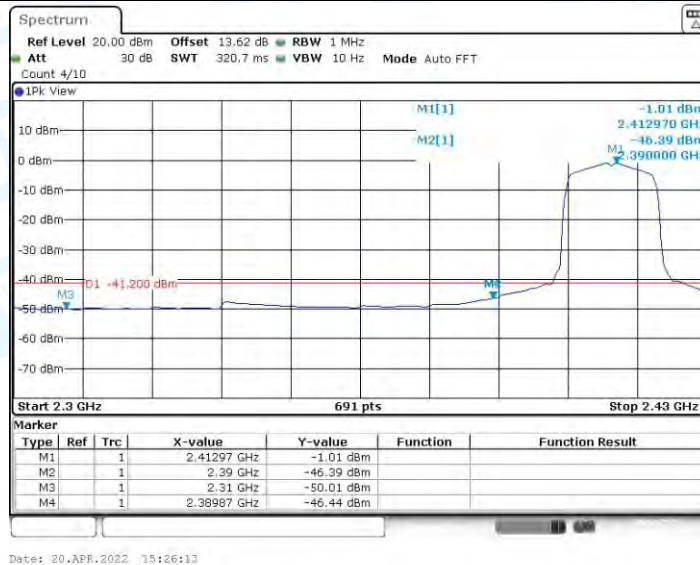
8.2. Test Graphs



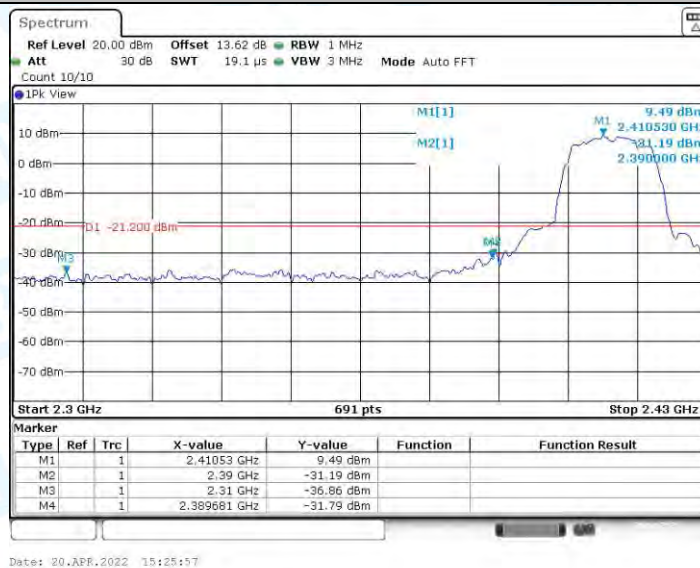
11B_Ant1_High_2462_Peak



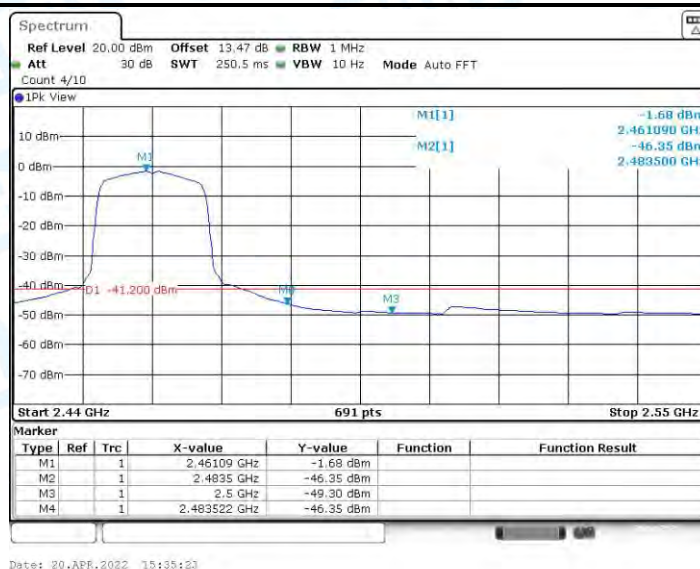
11G_Ant1_Low_2412_AV



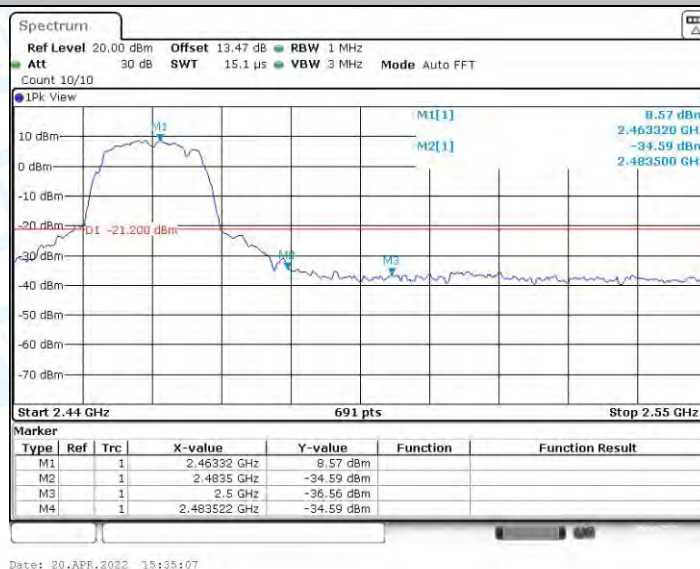
11G_Ant1_Low_2412_Peak



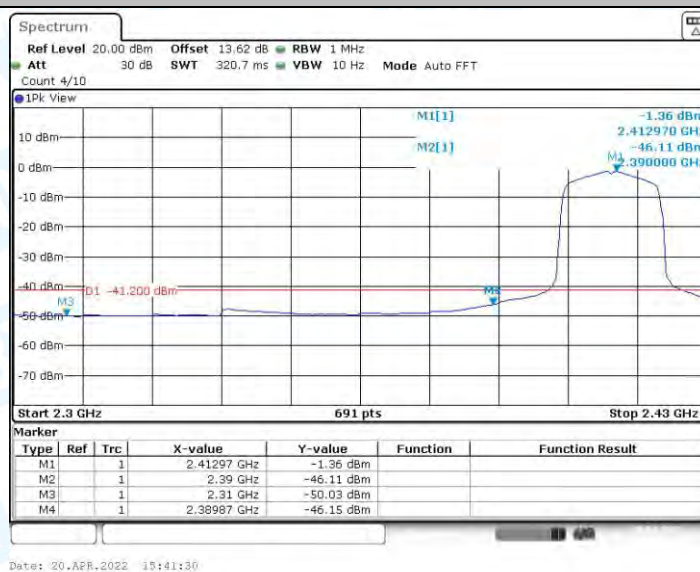
11G_Ant1_High_2462_AV



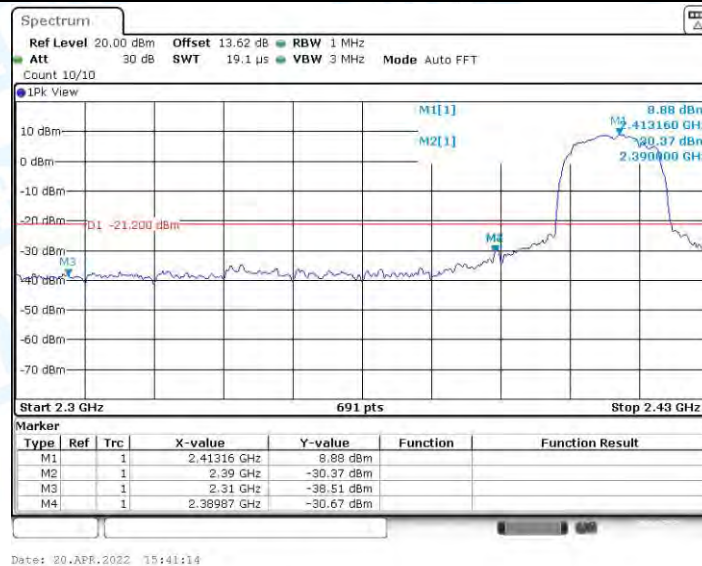
11G_Ant1_High_2462_Peak



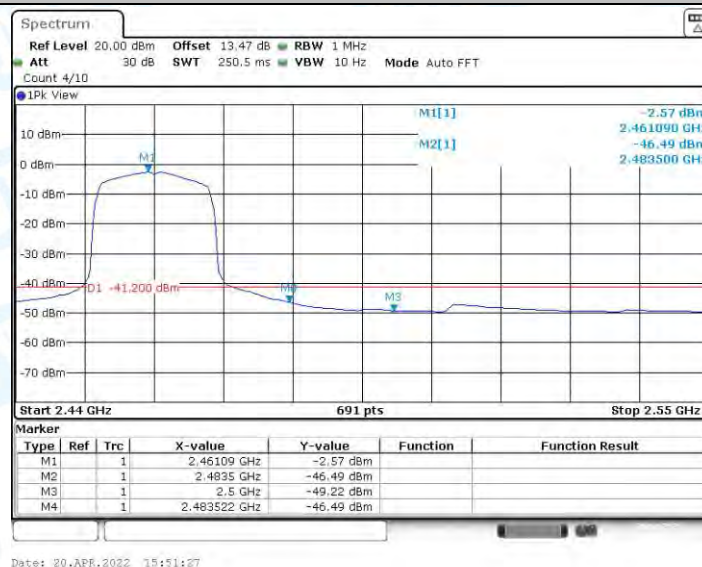
11N20SISO_Ant1_Low_2412_AV



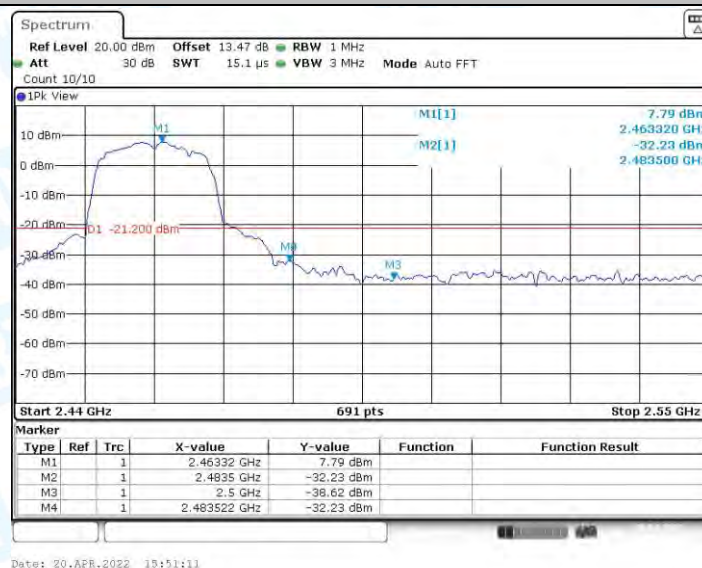
11N20SISO_Ant1_Low_2412_Peak



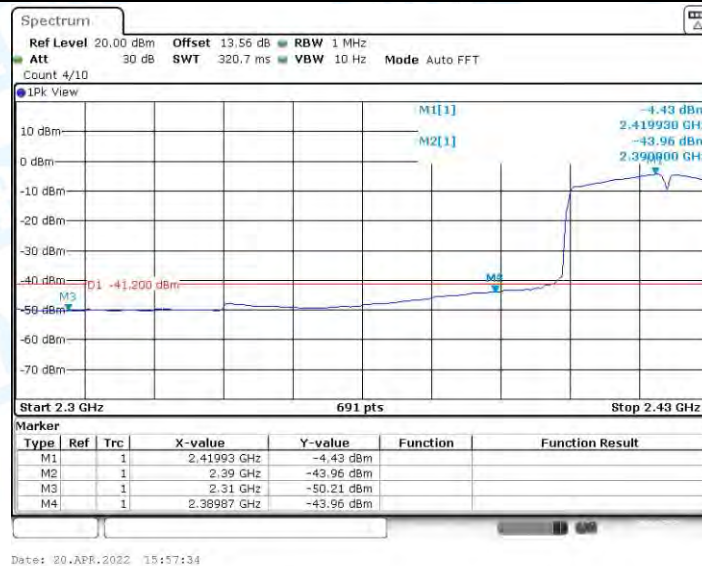
11N20SISO_Ant1_High_2462_AV



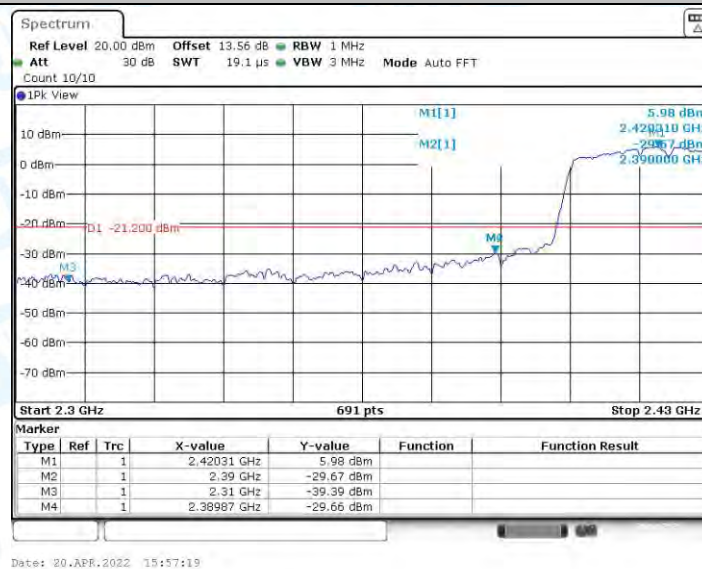
11N20SISO_Ant1_High_2462_Peak



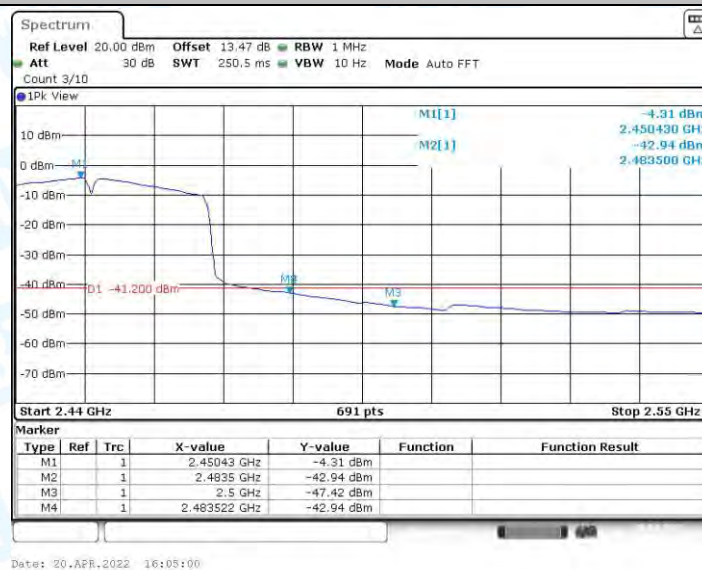
11N40SISO_Ant1_Low_2422_AV



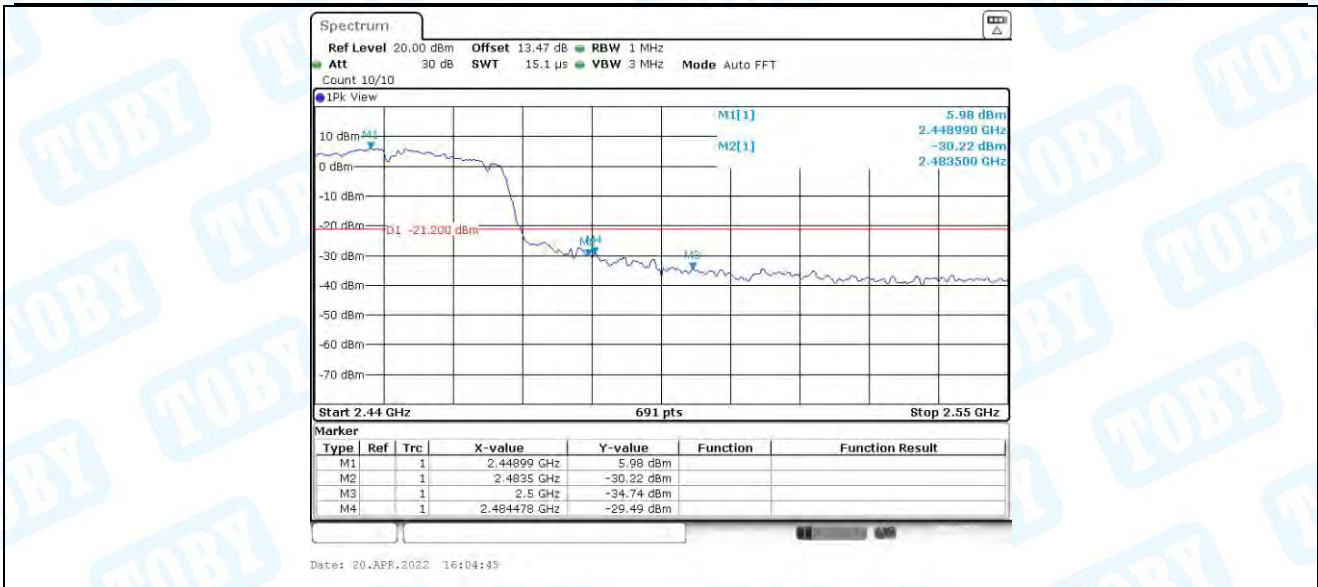
11N40SISO_Ant1_Low_2422_Peak



11N40SISO_Ant1_High_2452_AV



11N40SISO_Ant1_High_2452_Peak



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