Appendix Test Data

Report No.:	18220WC30237201	Test Sample No.:	1-2-2
Start Test Date:	2023.11.13	Finish Test Date:	2023.11.15
Test Engineer:	Hayman Chen	Auditor:	Rick Luo
Temperature:	24.8℃	Relative Humidity:	42%
Pressure:	101kPa		

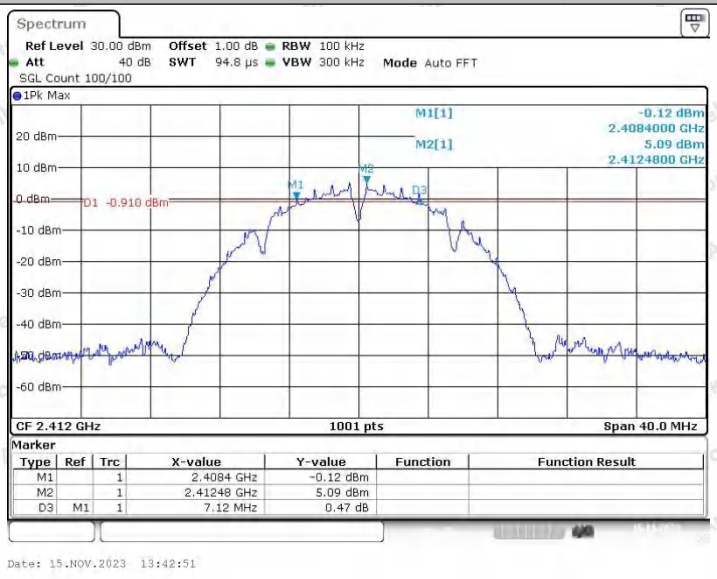
Appendix A: DTS Bandwidth

Test Result

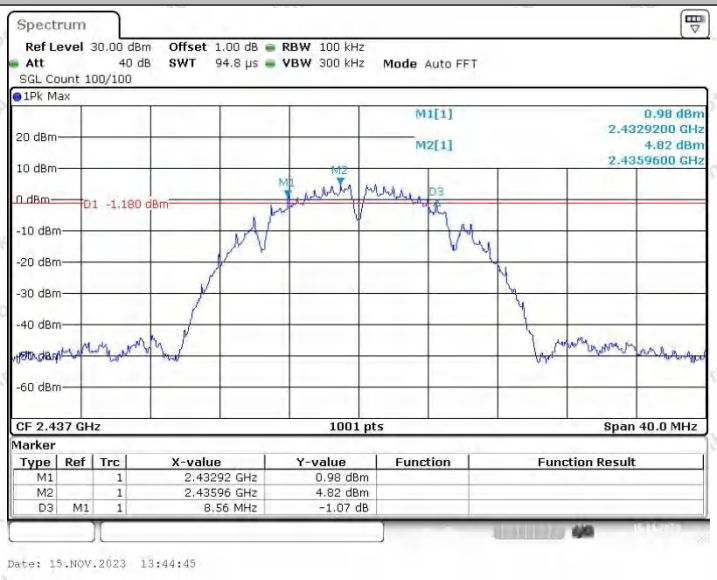
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.12	2408.40	2415.52	≥0.5	PASS
		2437	8.56	2432.92	2441.48	≥0.5	PASS
		2462	7.56	2458.40	2465.96	≥0.5	PASS
11G	Ant1	2412	16.32	2403.80	2420.12	≥0.5	PASS
		2437	16.36	2428.76	2445.12	≥0.5	PASS
		2462	14.72	2454.80	2469.52	≥0.5	PASS
11N20SISO	Ant1	2412	11.44	2407.16	2418.60	≥0.5	PASS
		2437	14.80	2429.44	2444.24	≥0.5	PASS
		2462	15.12	2454.40	2469.52	≥0.5	PASS

Test Graphs

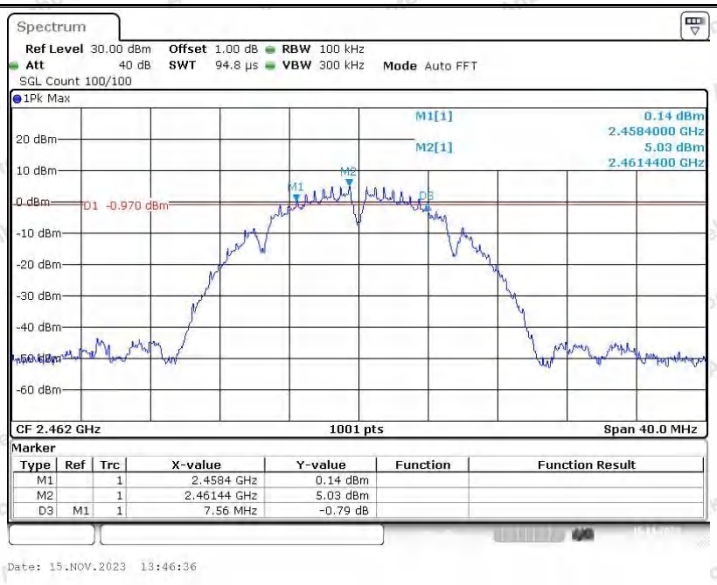
11B_Ant1_2412



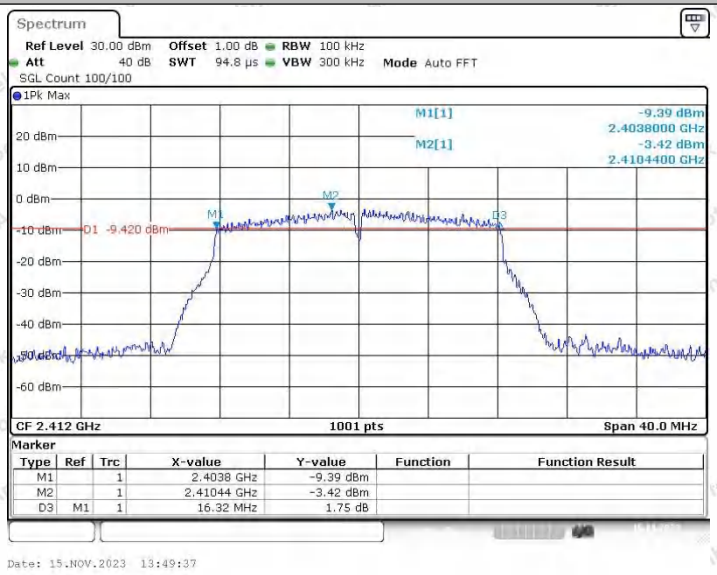
11B_Ant1_2437



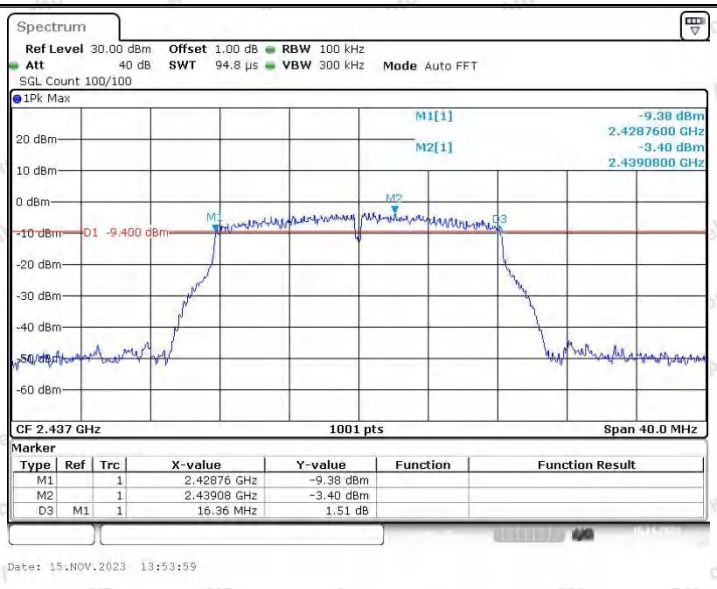
11B_Ant1_2462



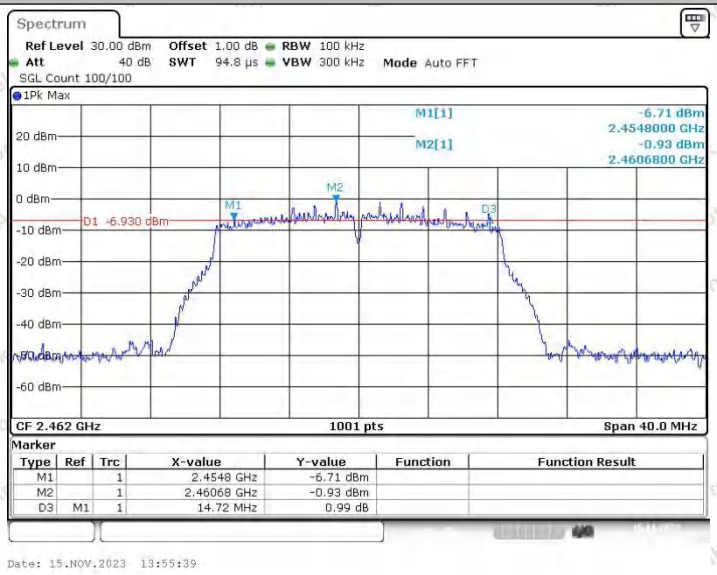
11G_Ant1_2412



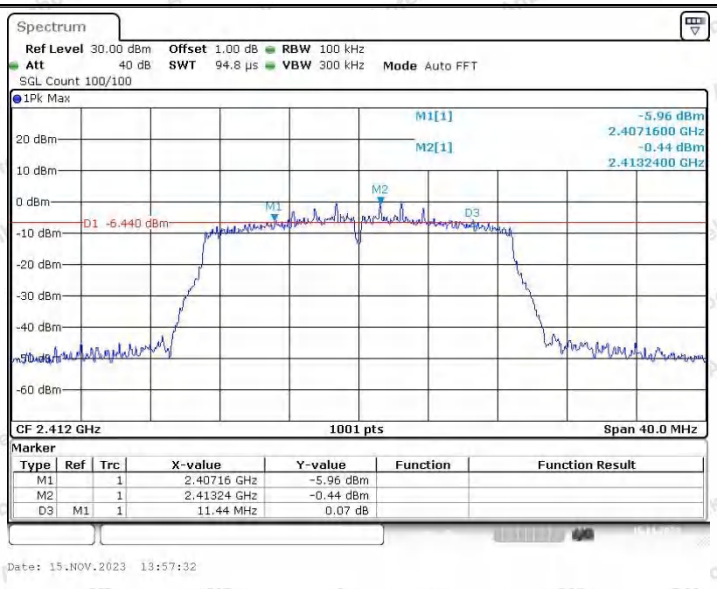
11G_Ant1_2437



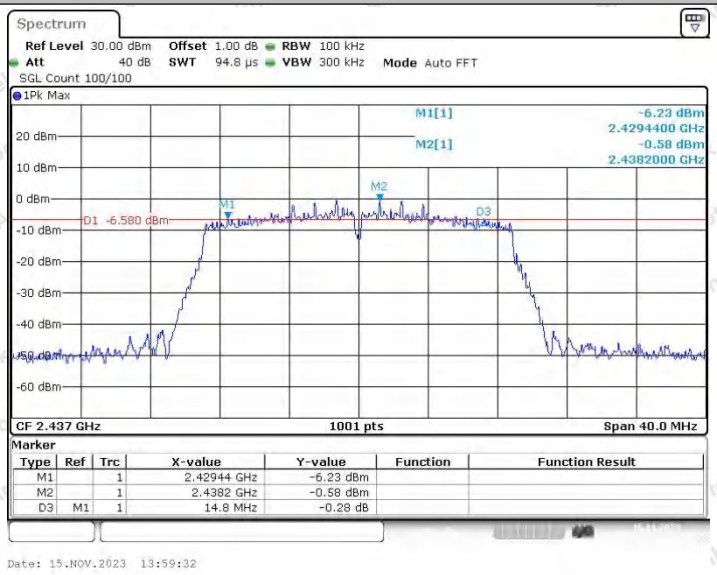
11G_Ant1_2462



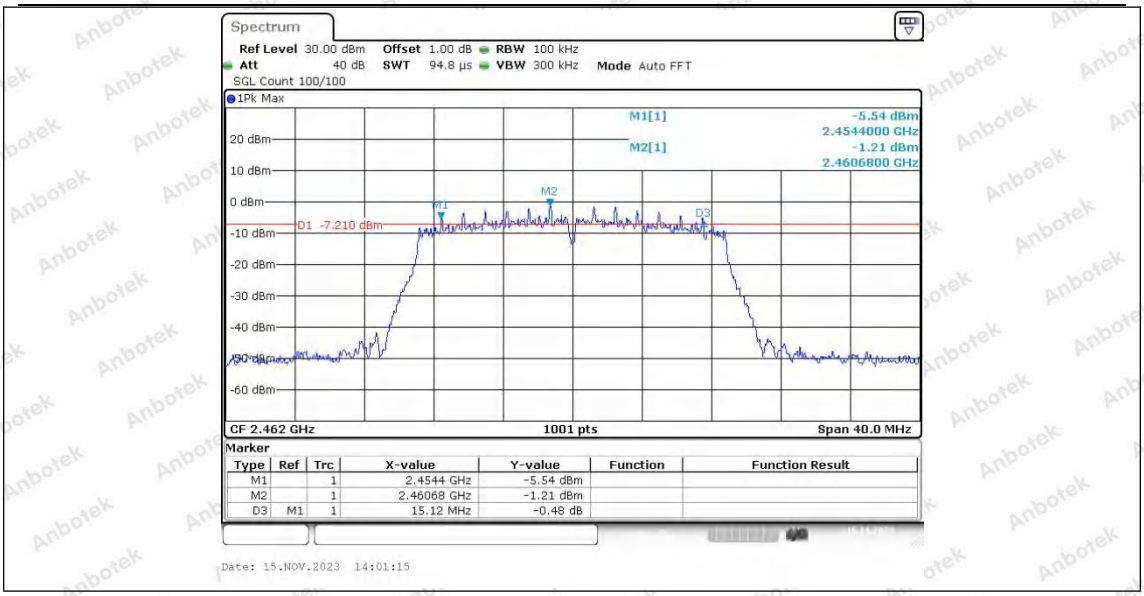
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Spectrum
Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz
Att 40 dB SWT 94.8 µs VBW 300 kHz Mode Auto FFT
SGL Count 100/100
1Pk Max
M1[1] -5.54 dBm 2.4544000 GHz
M2[1] -1.21 dBm 2.4606800 GHz
D1 -7.210 dBm
CF 2.462 GHz 1001 pts Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.4544 GHz -5.54 dBm
M2 1 2.46068 GHz -1.21 dBm
D3 M1 1 15.12 MHz -0.48 dB
Date: 15.NOV.2023 14:01:15

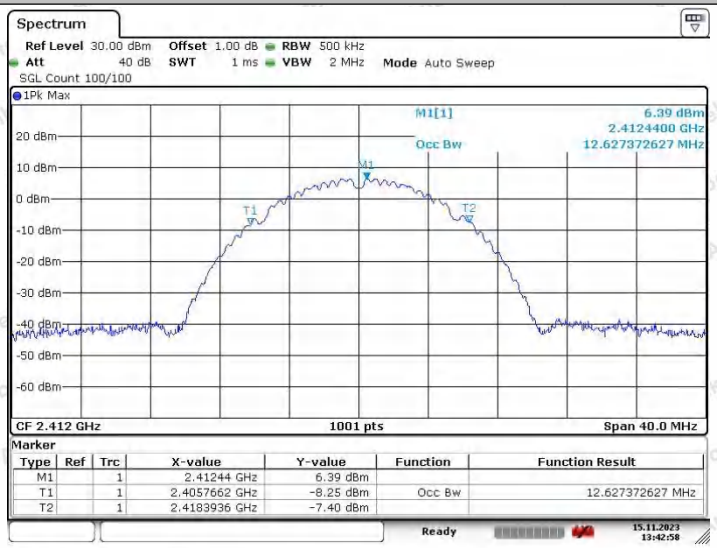
Appendix B: Occupied Channel Bandwidth

Test Result

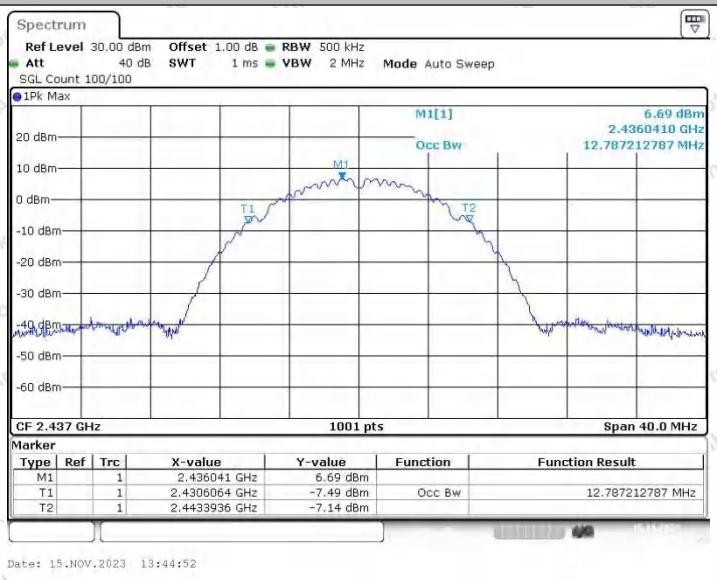
TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.627	2405.7662	2418.3936	---	---
		2437	12.787	2430.6064	2443.3936	---	---
		2462	12.827	2455.4865	2468.3137	---	---
11G	Ant1	2412	16.823	2403.6484	2420.4715	---	---
		2437	16.943	2428.5684	2445.5115	---	---
		2462	16.983	2453.4086	2470.3916	---	---
11N20SISO	Ant1	2412	17.822	2403.1289	2420.9510	---	---
		2437	17.782	2428.0889	2445.8711	---	---
		2462	17.862	2452.9690	2470.8312	---	---

Test Graphs

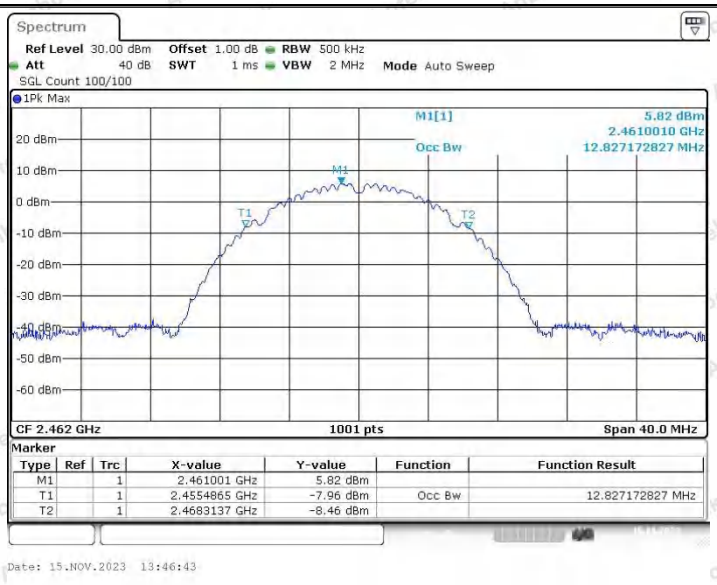
11B_Ant1_2412



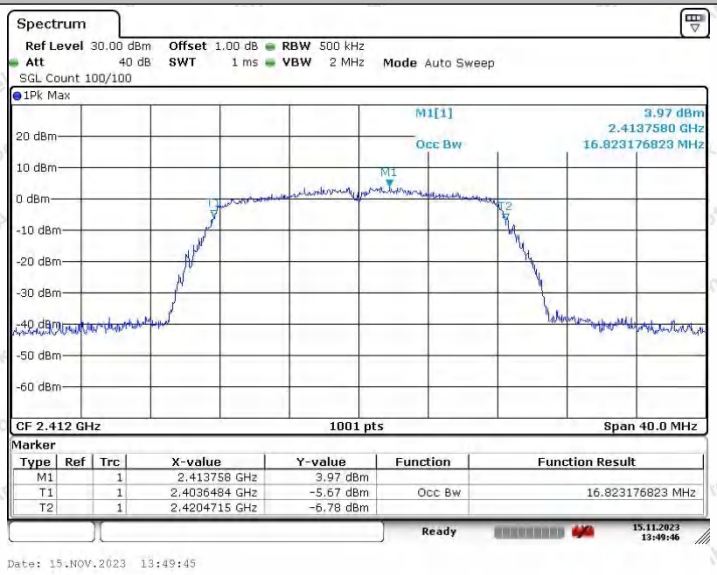
11B_Ant1_2437



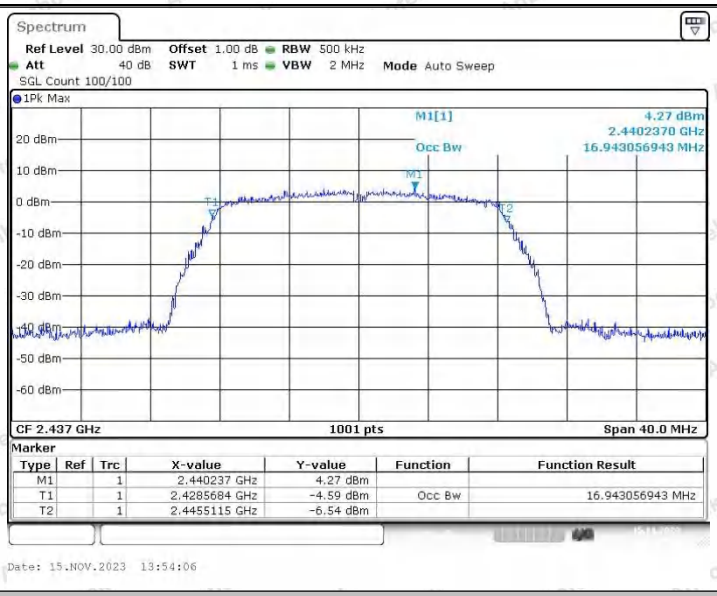
11B_Ant1_2462



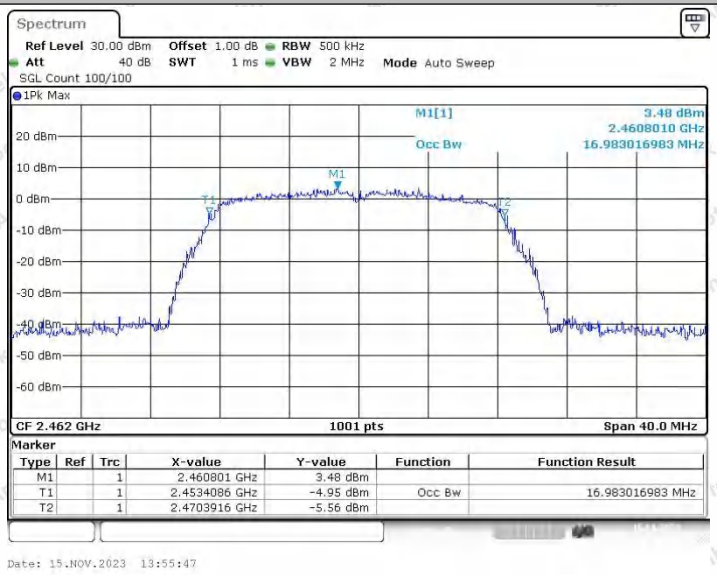
11G_Ant1_2412



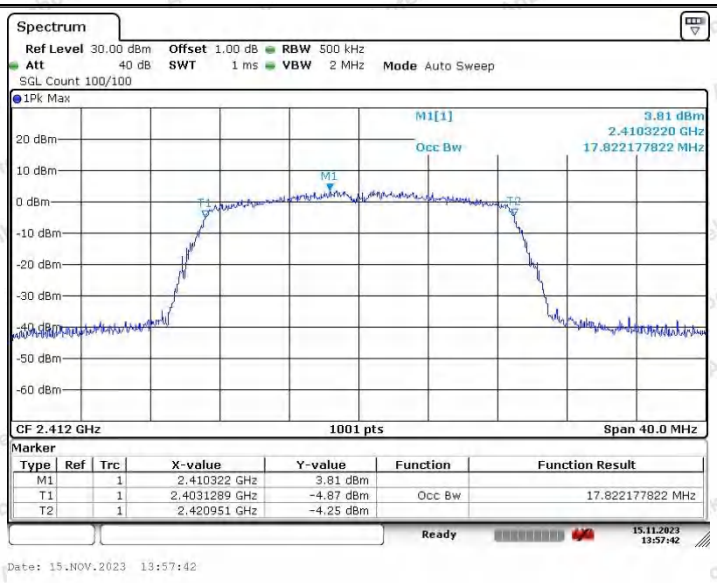
11G_Ant1_2437



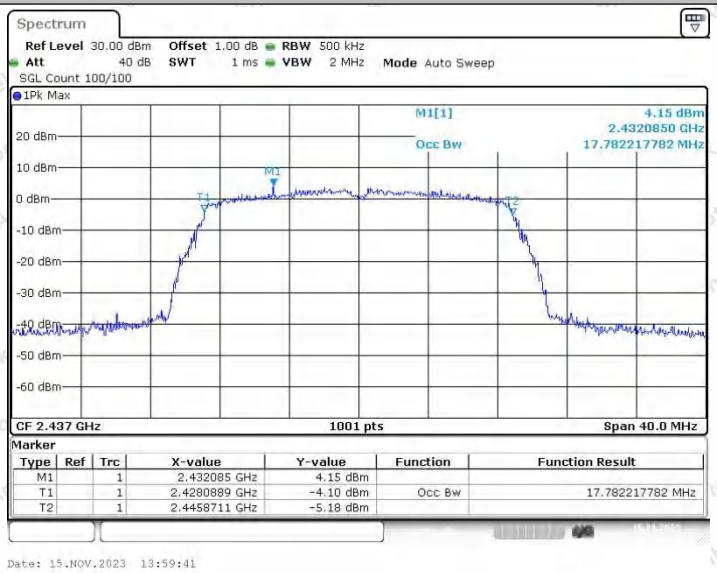
11G_Ant1_2462



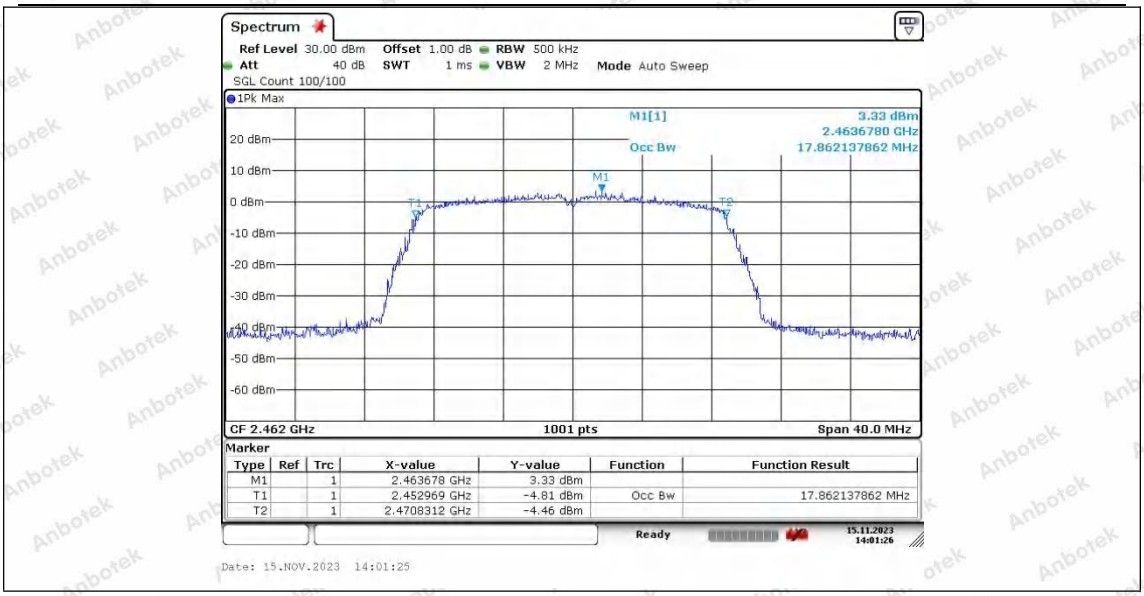
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Spectrum
Ref Level 30.00 dBm Offset 1.00 dB RBW 500 kHz
Att 40 dB SWT 1 ms VBW 2 MHz Mode Auto Sweep
SGL Count 100/100
1Pk Max
M1[1] 3.33 dBm
2.4636780 GHz
Occ Bw 17.862137862 MHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.462 GHz 1001 pts Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.463678 GHz 3.33 dBm
T1 1 2.452969 GHz -4.81 dBm Occ Bw 17.862137862 MHz
T2 1 2.4708312 GHz -4.46 dBm
Ready
15.11.2023 14:01:26
Date: 15.NOV.2023 14:01:25

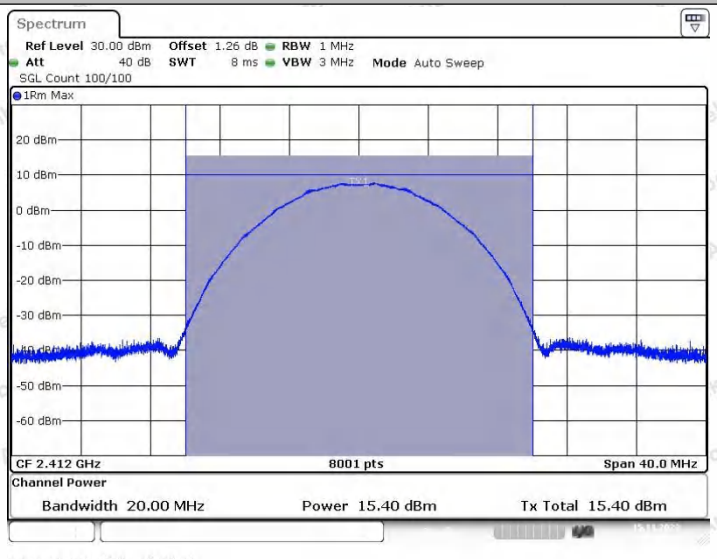
Appendix C: Maximum conducted output power

Test Result

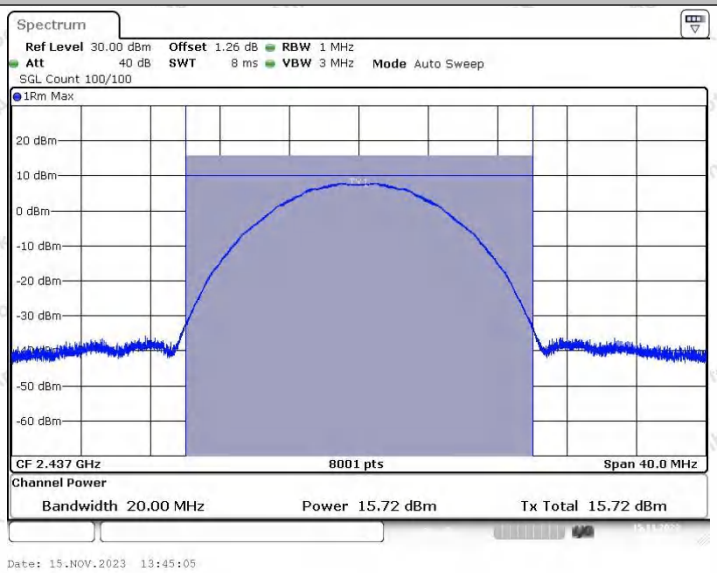
TestMode	Antenna	Frequency[MHz]	Average Output Power[dBm]	Conducted Limit[dBm]
11B	Ant1	2412	15.40	≤30.00
		2437	15.72	≤30.00
		2462	14.78	≤30.00
11G	Ant1	2412	15.92	≤30.00
		2437	16.29	≤30.00
		2462	15.55	≤30.00
11N20SISO	Ant1	2412	15.97	≤30.00
		2437	16.23	≤30.00
		2462	15.51	≤30.00

Test Graphs Peak

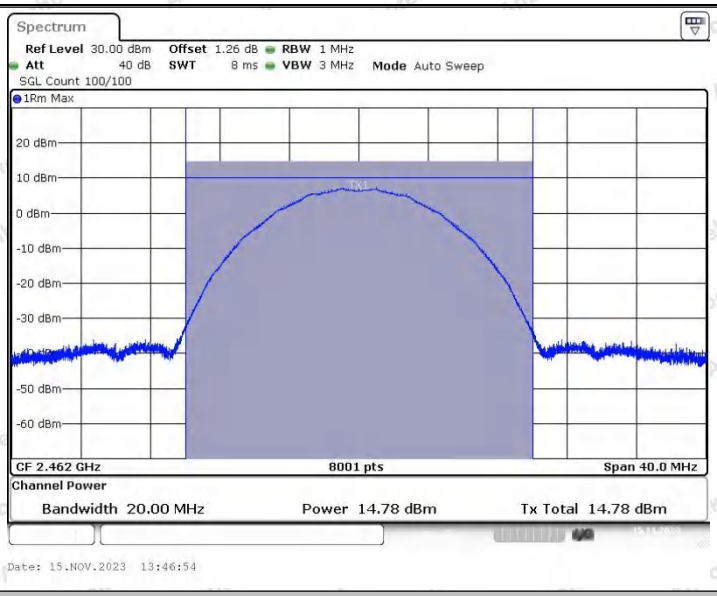
11B_Ant1_2412



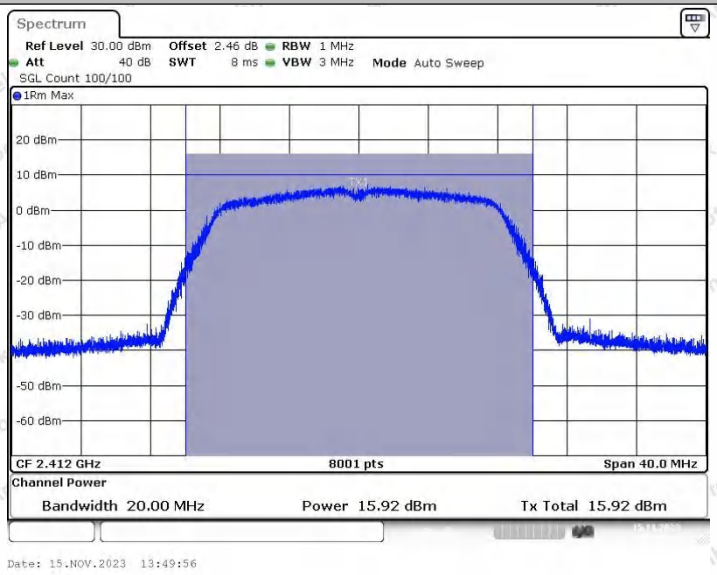
11B_Ant1_2437



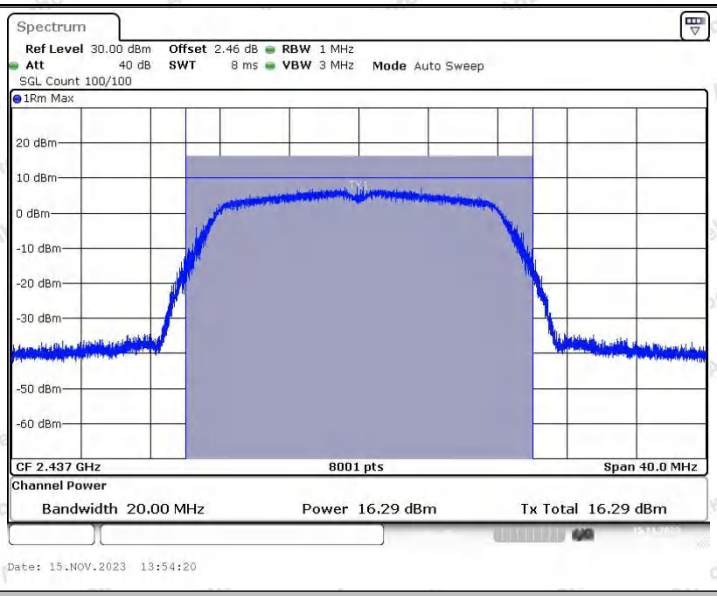
11B_Ant1_2462



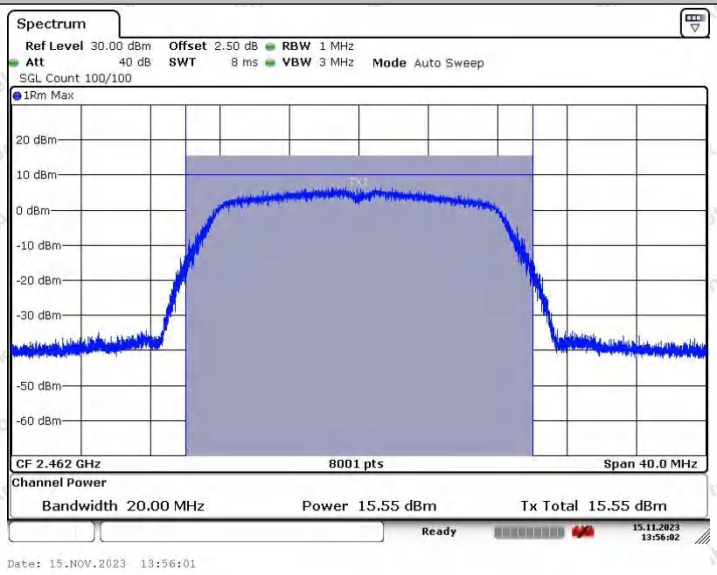
11G_Ant1_2412



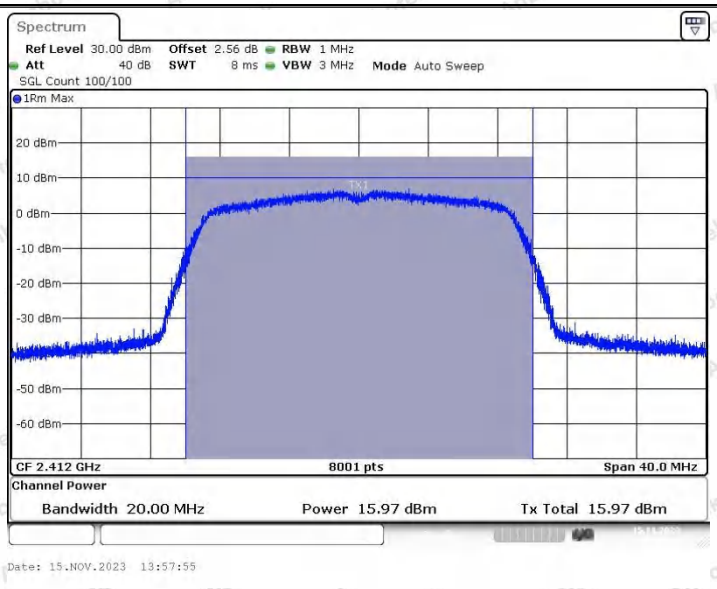
11G_Ant1_2437



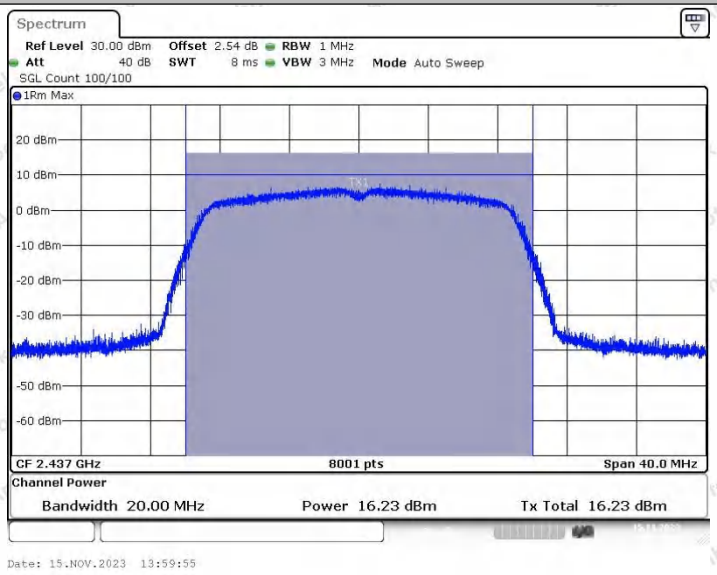
11G_Ant1_2462



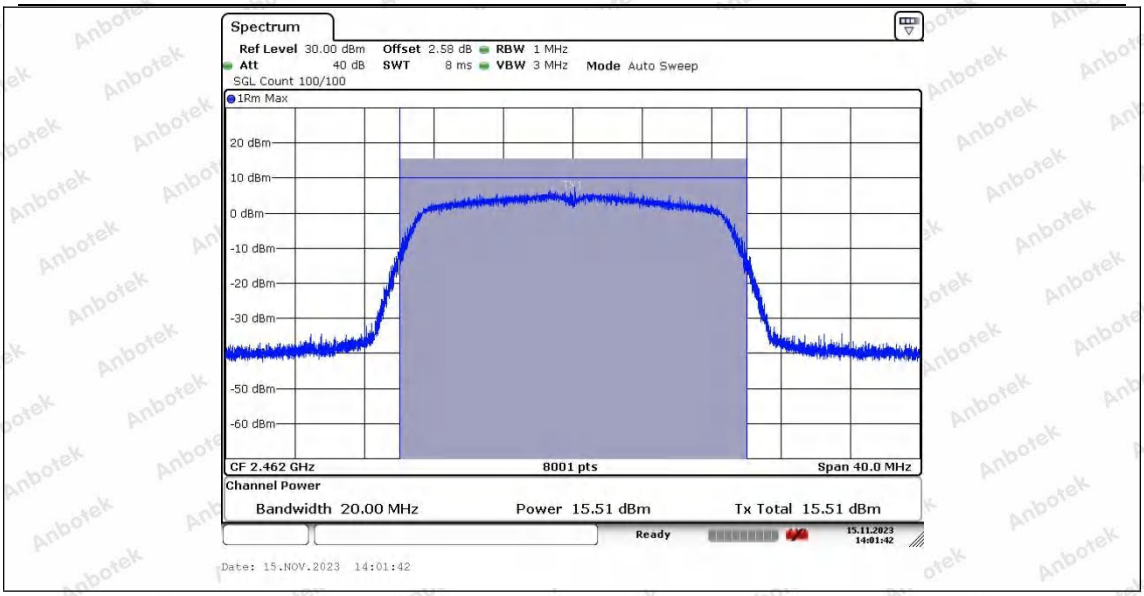
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Spectrum
Ref Level 30.00 dBm Offset 2.58 dB RBW 1 MHz
Att 40 dB SWT 8 ms VBW 3 MHz Mode Auto Sweep
SGL Count 100/100
1Rm Max
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-50 dBm
-60 dBm
CF 2.462 GHz
8001 pts
Span 40.0 MHz
Channel Power
Bandwidth 20.00 MHz
Power 15.51 dBm
Tx Total 15.51 dBm
Ready
15.11.2023
14:01:42
Date: 15.NOV.2023 14:01:42

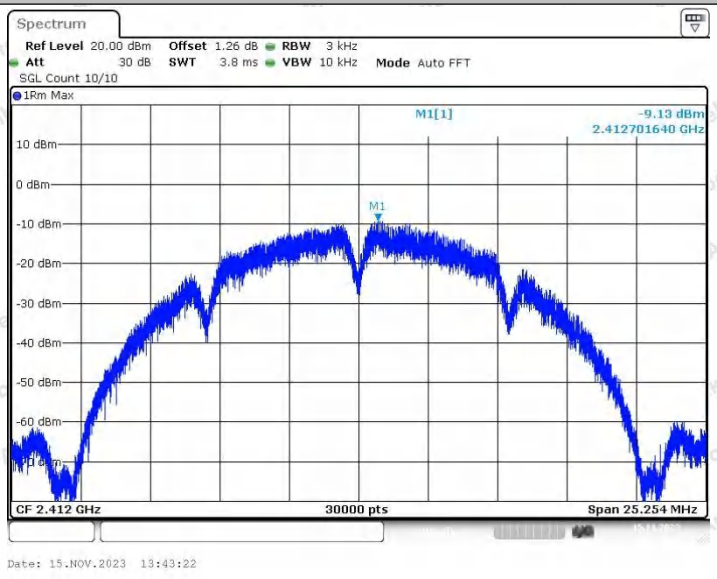
Appendix D: Maximum power spectral density

Test Result

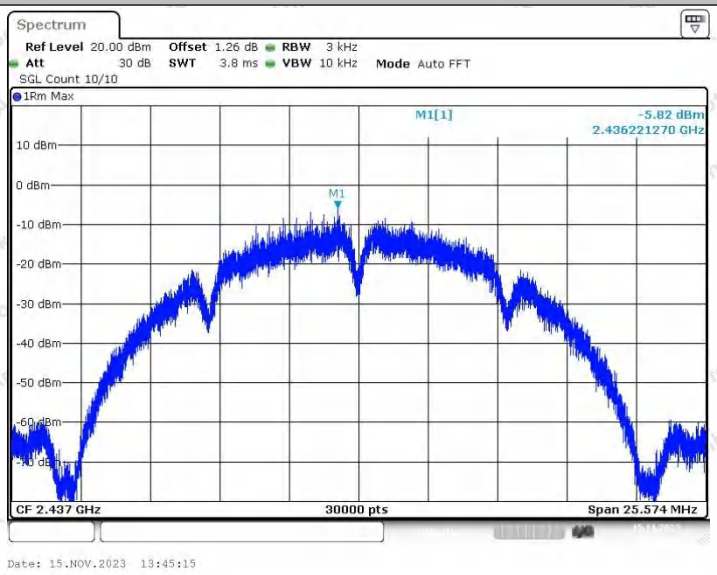
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-9.13	≤8.00	PASS
		2437	-5.82	≤8.00	PASS
		2462	-8.75	≤8.00	PASS
11G	Ant1	2412	-11.79	≤8.00	PASS
		2437	-13.76	≤8.00	PASS
		2462	-13.77	≤8.00	PASS
11N20SISO	Ant1	2412	-13.63	≤8.00	PASS
		2437	-13.2	≤8.00	PASS
		2462	-12.8	≤8.00	PASS

Test Graphs

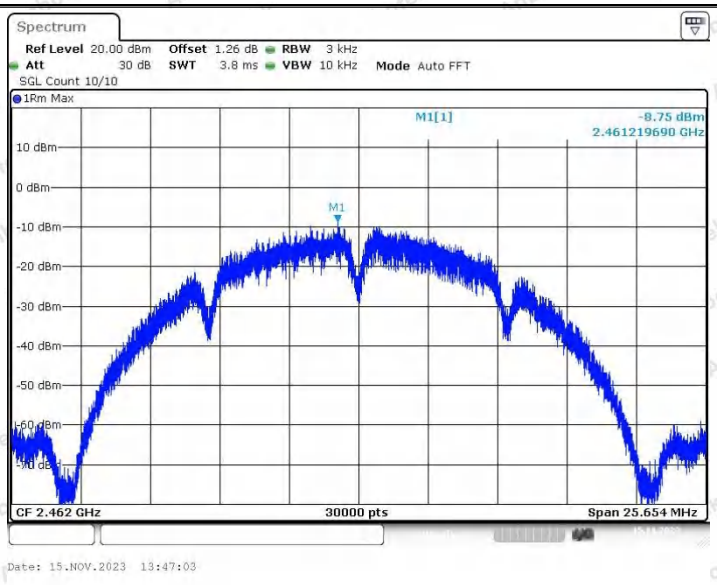
11B_Ant1_2412



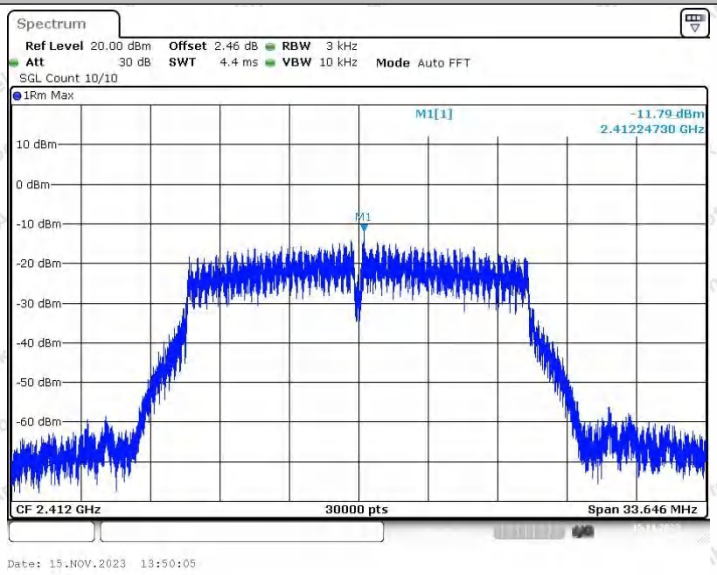
11B_Ant1_2437



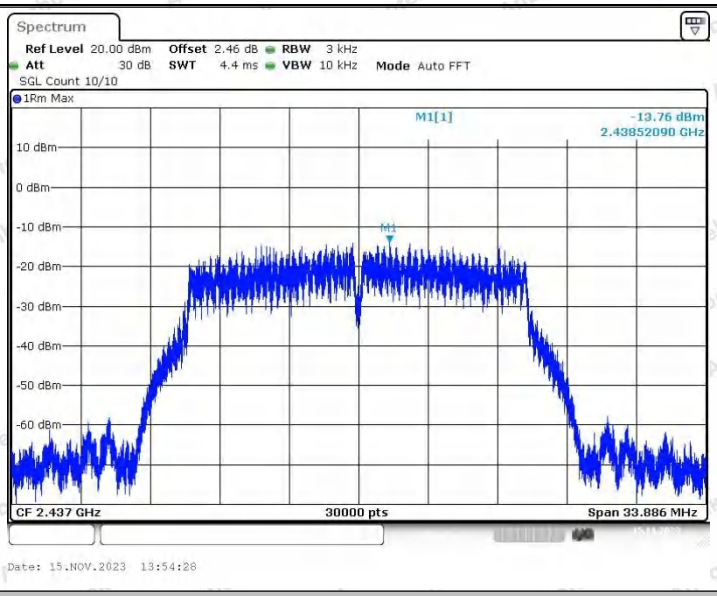
11B_Ant1_2462



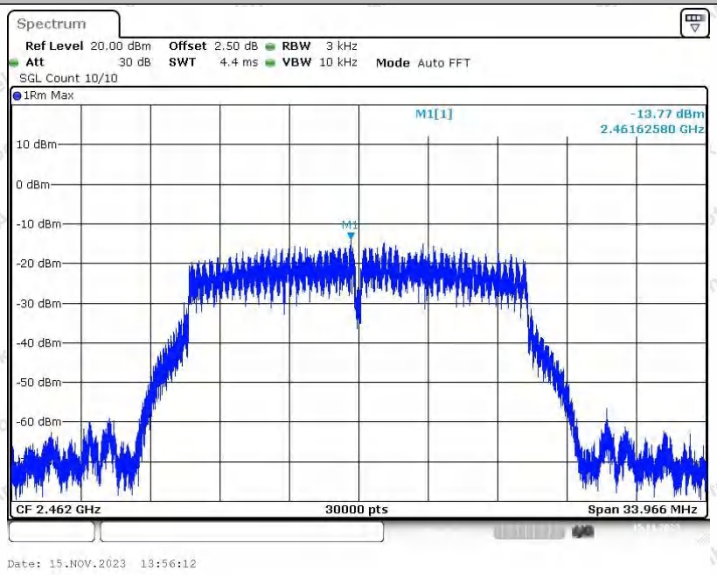
11G_Ant1_2412



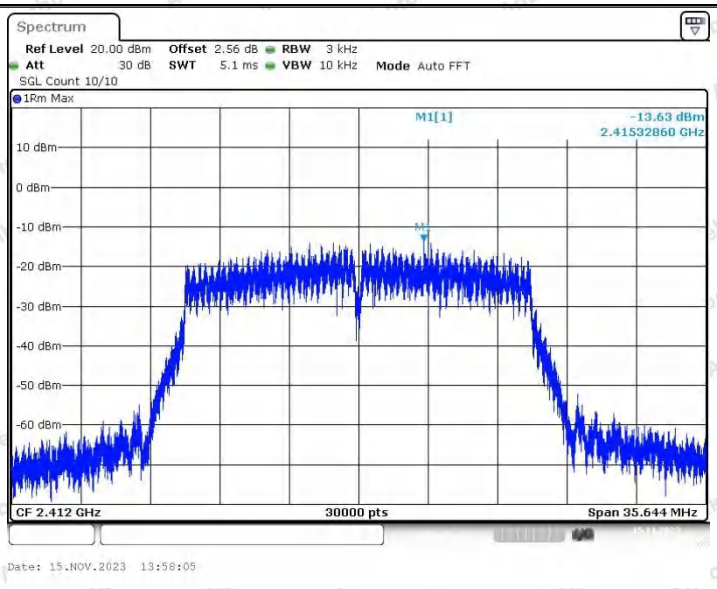
11G_Ant1_2437



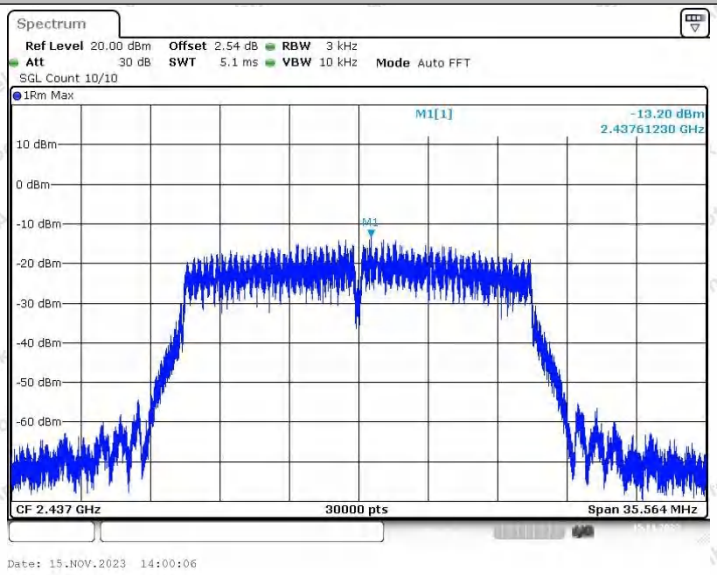
11G_Ant1_2462



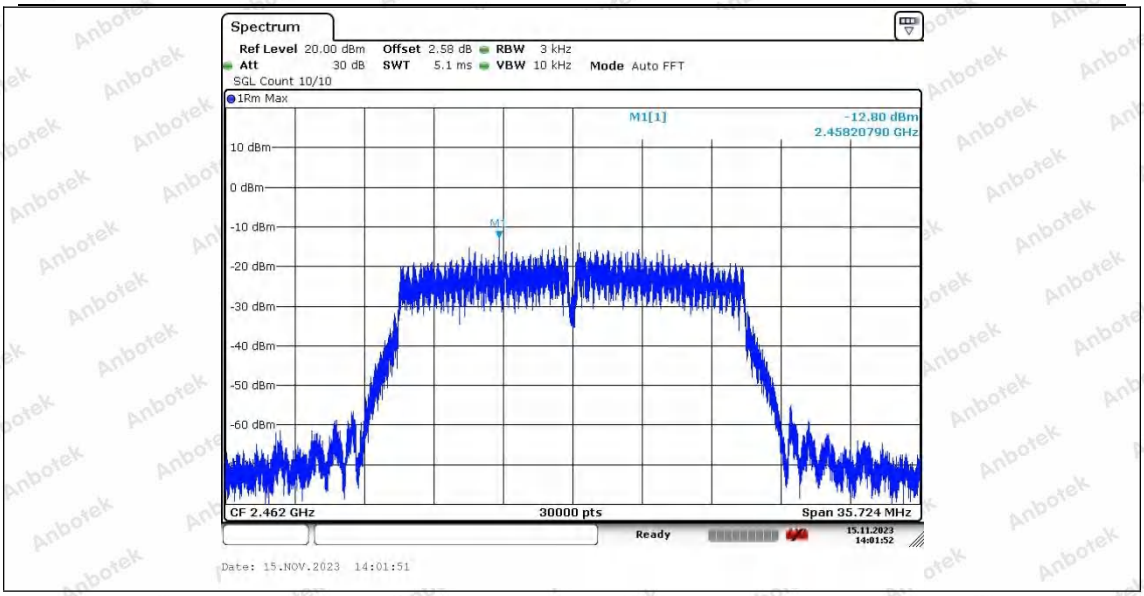
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Spectrum
Ref Level 20.00 dBm Offset 2.58 dB RBW 3 kHz
Att 30 dB SWT 5.1 ms VBW 10 kHz Mode Auto FFT
SGL Count 10/10
1Rm Max
M1[1] -12.80 dBm
2.45820790 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.462 GHz
30000 pts
Span 35.724 MHz
Ready
15.11.2023
14:01:52
Date: 15.NOV.2023 14:01:51

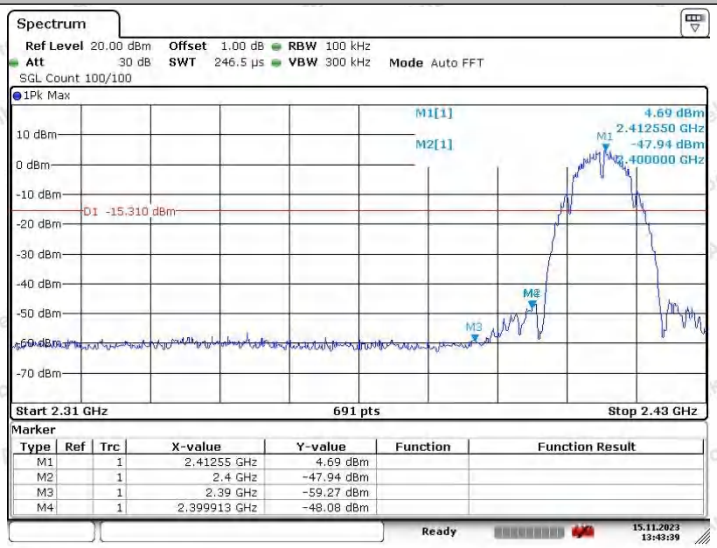
Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.69	-48.08	≤-15.31	PASS
		High	2462	4.28	-56.9	≤-15.72	PASS
11G	Ant1	Low	2412	-0.53	-46.77	≤-20.53	PASS
		High	2462	-2.29	-55.47	≤-22.29	PASS
11N20SISO	Ant1	Low	2412	-0.65	-46.55	≤-20.65	PASS
		High	2462	-2.84	-55.34	≤-22.84	PASS

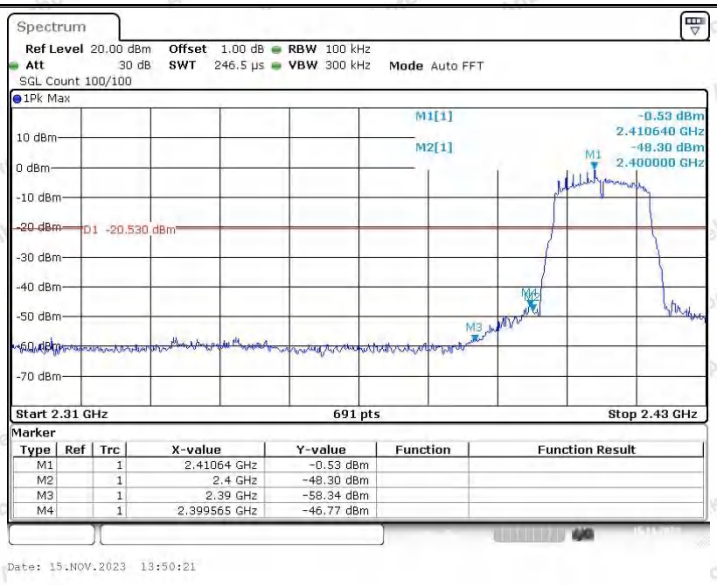
Test Graphs

11B_Ant1_Low_2412

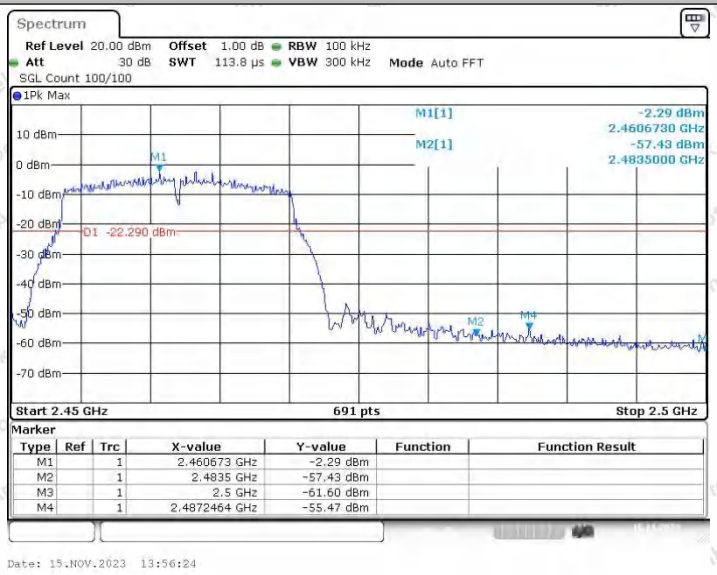


11B_Ant1_High_2462

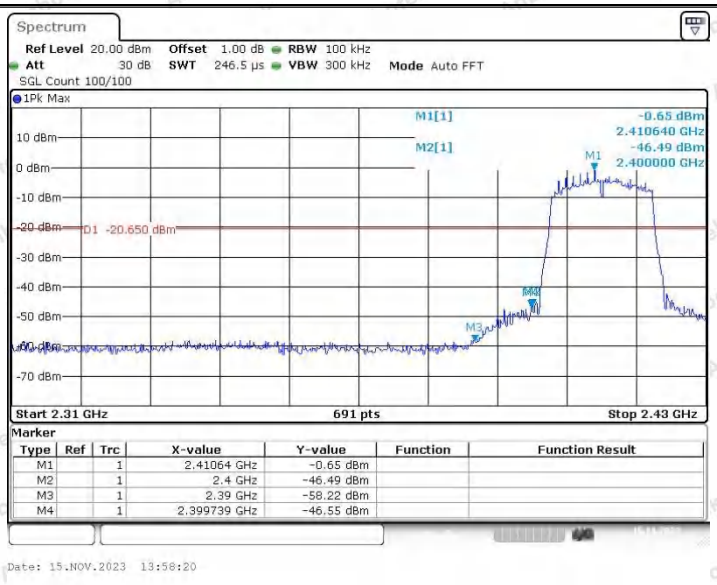
11G_Ant1_Low_2412



11G_Ant1_High_2462

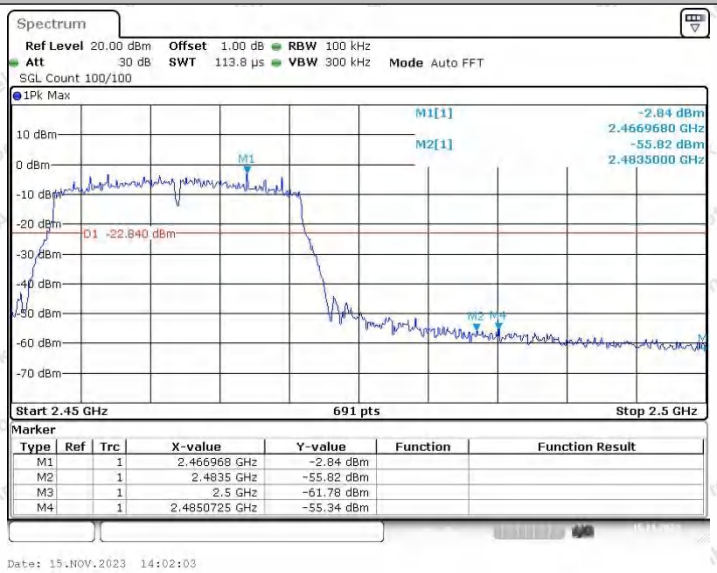


11N20SISO_Ant1_Low_2412



Marker						
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41064 GHz	-0.65 dBm		
M2		1	2.4 GHz	-46.49 dBm		
M3		1	2.39 GHz	-58.22 dBm		
M4		1	2.399739 GHz	-46.55 dBm		

11N20SISO_Ant1_High_2462



Marker						
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.466968 GHz	-2.84 dBm		
M2		1	2.4835 GHz	-55.82 dBm		
M3		1	2.5 GHz	-61.78 dBm		
M4		1	2.4850725 GHz	-55.34 dBm		

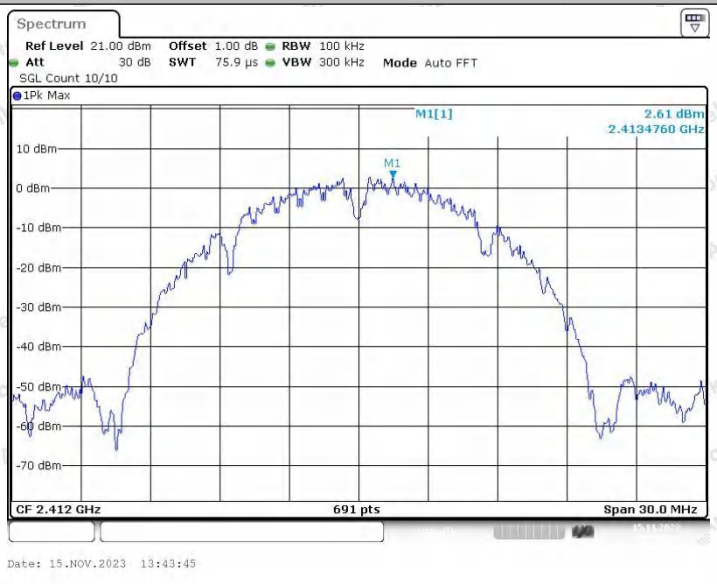
Appendix F: Conducted Spurious Emission

Test Result

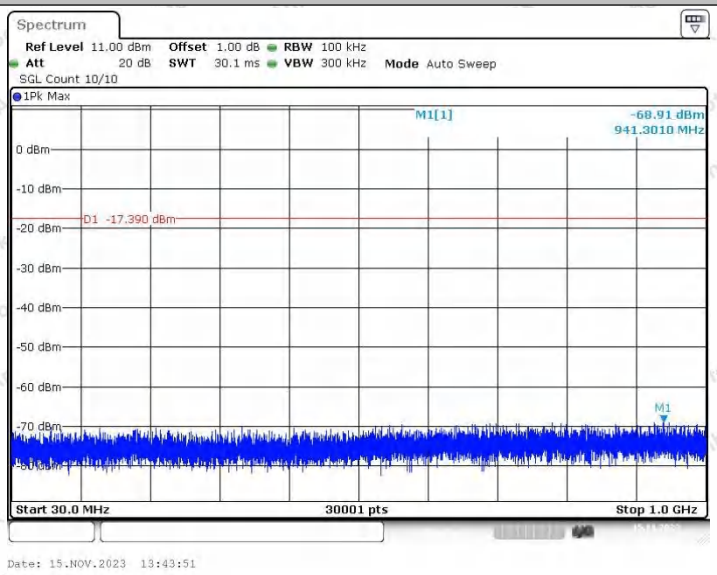
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.61	2.61	---	PASS
			30~1000	2.61	-68.91	≤-17.39	PASS
			1000~26500	2.61	-50.2	≤-17.39	PASS
		2437	Reference	5.58	5.58	---	PASS
			30~1000	5.58	-68.54	≤-14.42	PASS
			1000~26500	5.58	-41.85	≤-14.42	PASS
		2462	Reference	3.52	3.52	---	PASS
			30~1000	3.52	-68.67	≤-16.48	PASS
			1000~26500	3.52	-47.48	≤-16.48	PASS
11G	Ant1	2412	Reference	-3.94	-3.94	---	PASS
			30~1000	-3.94	-68.15	≤-23.94	PASS
			1000~26500	-3.94	-56.68	≤-23.94	PASS
		2437	Reference	-3.20	-3.20	---	PASS
			30~1000	-3.20	-68.46	≤-23.2	PASS
			1000~26500	-3.20	-56.74	≤-23.2	PASS
		2462	Reference	-4.05	-4.05	---	PASS
			30~1000	-4.05	-68.07	≤-24.05	PASS
			1000~26500	-4.05	-57.15	≤-24.05	PASS
11N20SISO	Ant1	2412	Reference	-0.85	-0.85	---	PASS
			30~1000	-0.85	-68.31	≤-20.85	PASS
			1000~26500	-0.85	-57.26	≤-20.85	PASS
		2437	Reference	-4.05	-4.05	---	PASS
			30~1000	-4.05	-68.5	≤-24.05	PASS
			1000~26500	-4.05	-57.37	≤-24.05	PASS
		2462	Reference	-4.78	-4.78	---	PASS
			30~1000	-4.78	-65.81	≤-24.78	PASS
			1000~26500	-4.78	-56.97	≤-24.78	PASS

Test Graphs

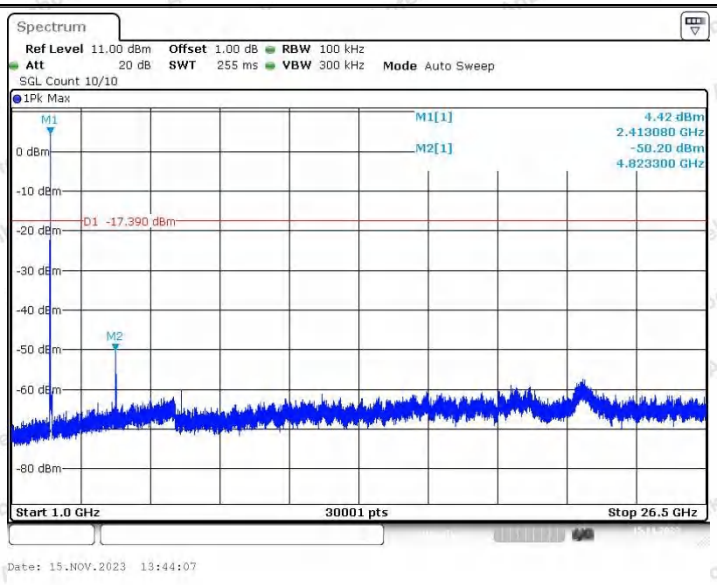
11B_Ant1_2412_0~Reference



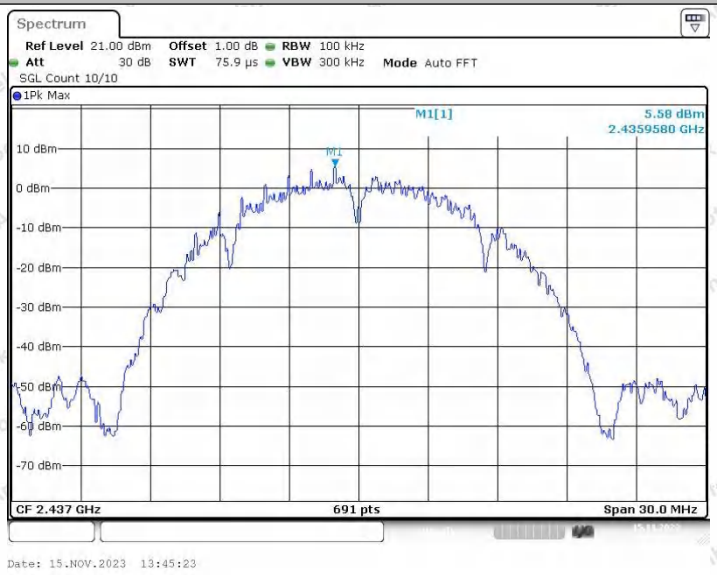
11B_Ant1_2412_30~1000



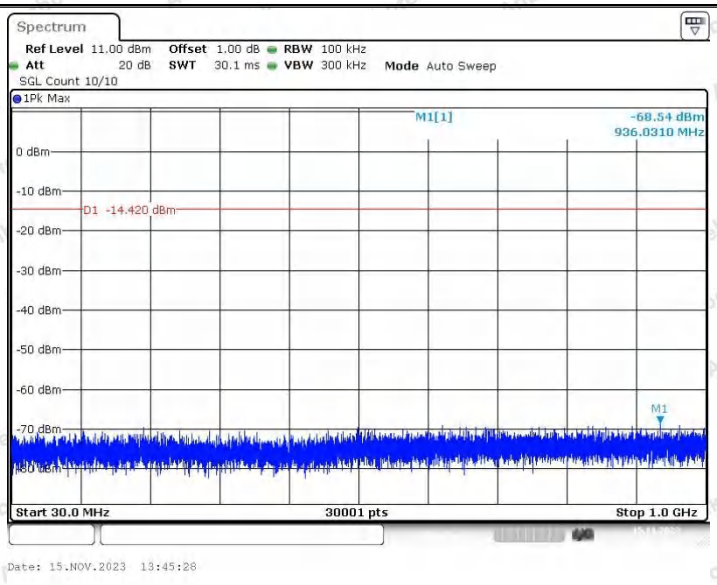
11B_Ant1_2412_1000~26500



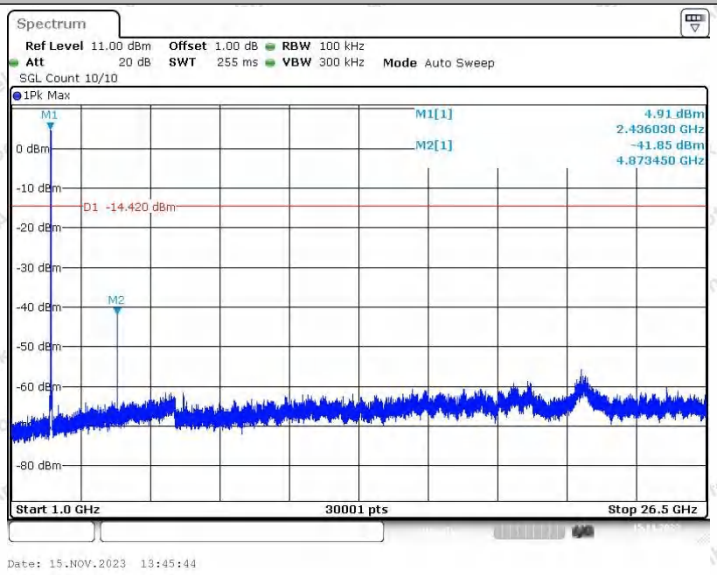
11B_Ant1_2437_0~Reference



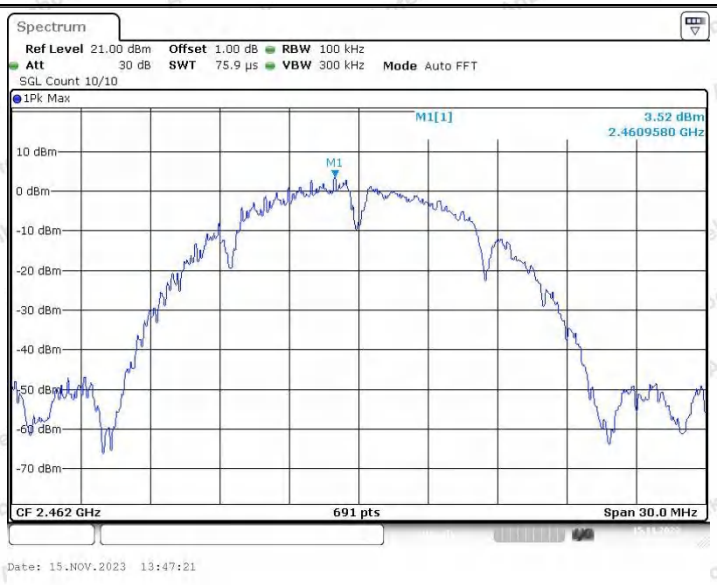
11B_Ant1_2437_30~1000



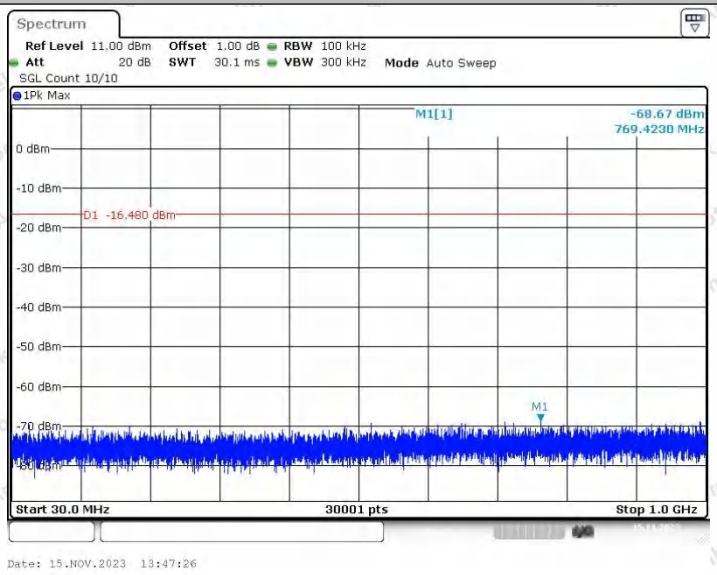
11B_Ant1_2437_1000~26500



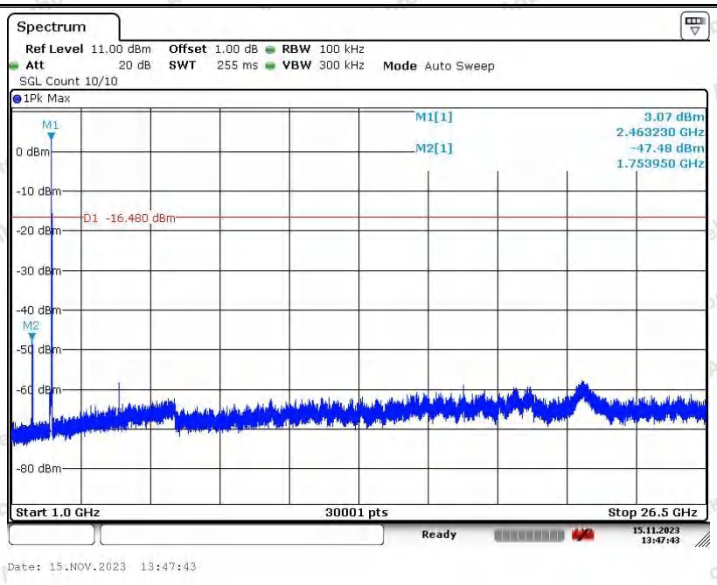
11B_Ant1_2462_0~Reference



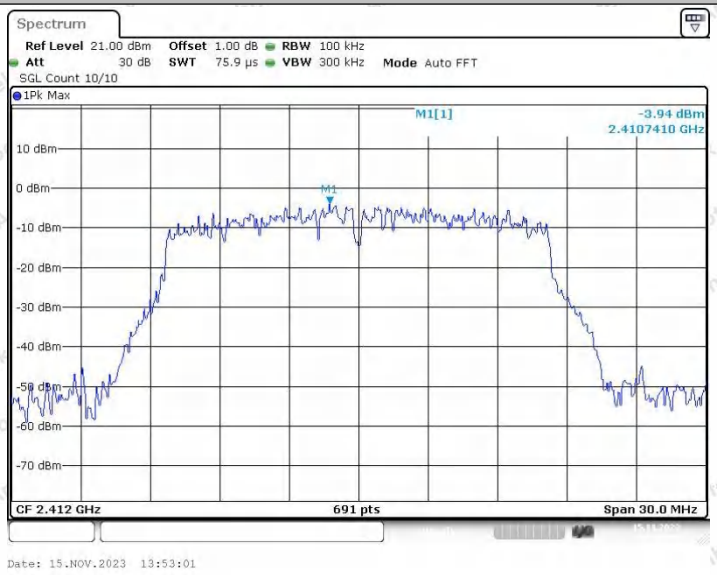
11B_Ant1_2462_30~1000



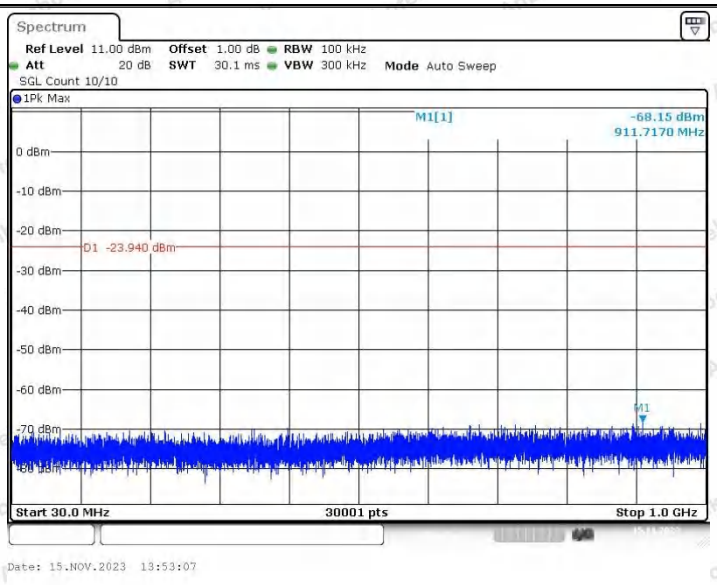
11B_Ant1_2462_1000~26500



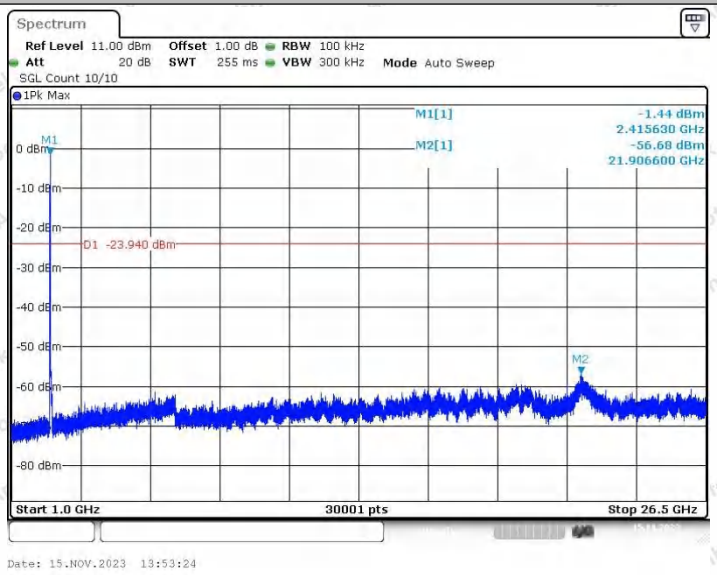
11G_Ant1_2412_0~Reference



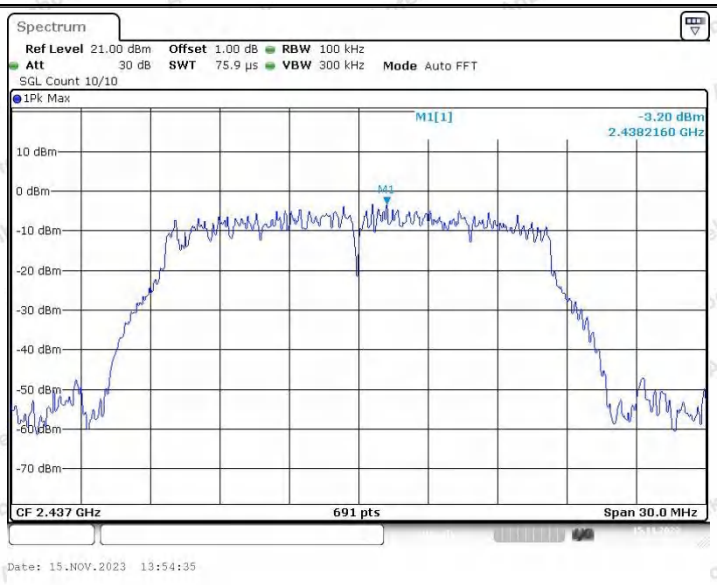
11G_Ant1_2412_30~1000



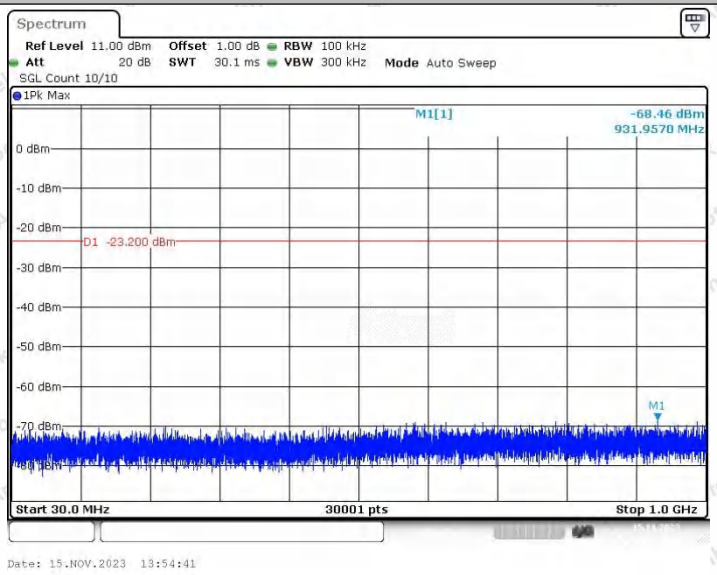
11G_Ant1_2412_1000~26500



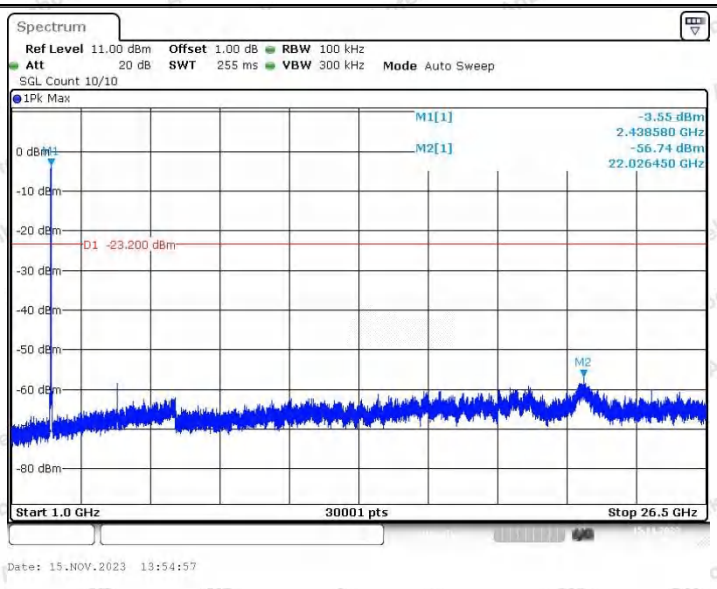
11G_Ant1_2437_0~Reference



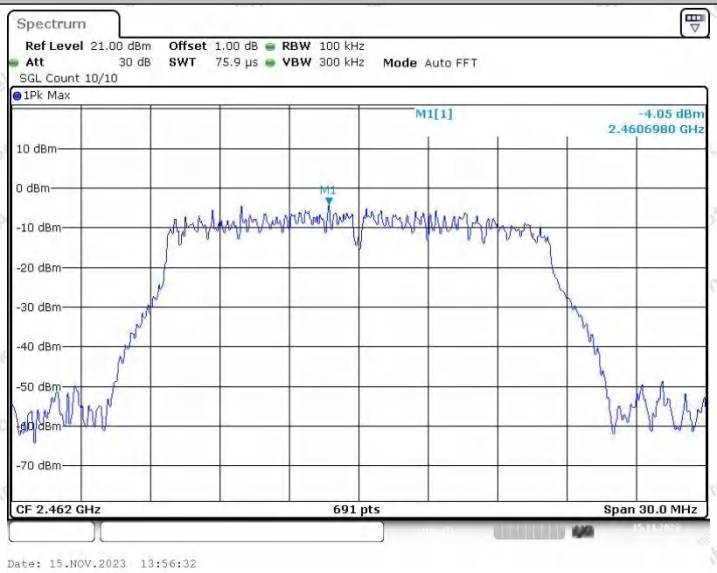
11G_Ant1_2437_30~1000



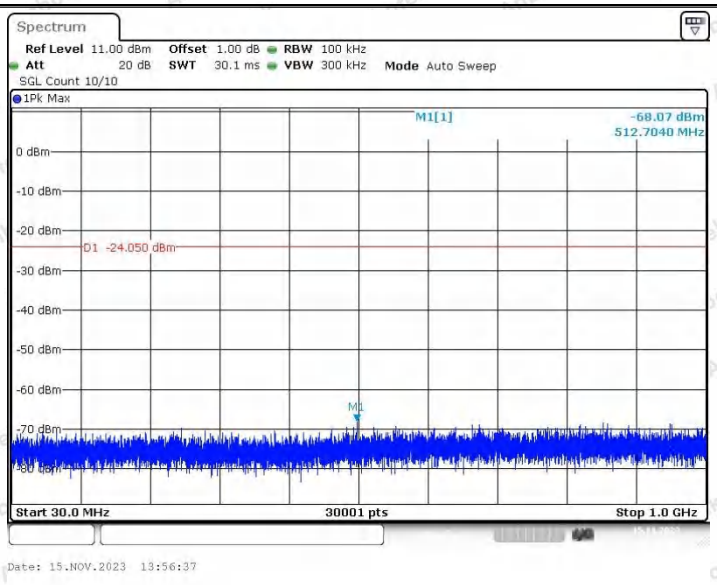
11G_Ant1_2437_1000~26500



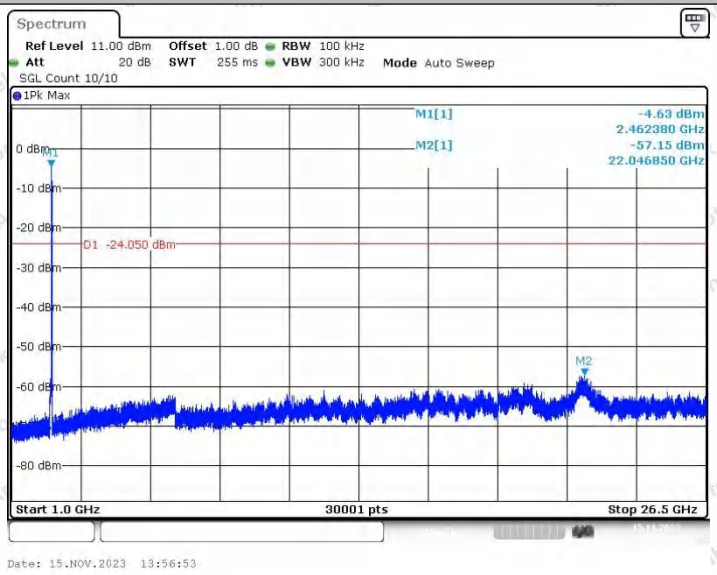
11G_Ant1_2462_0~Reference



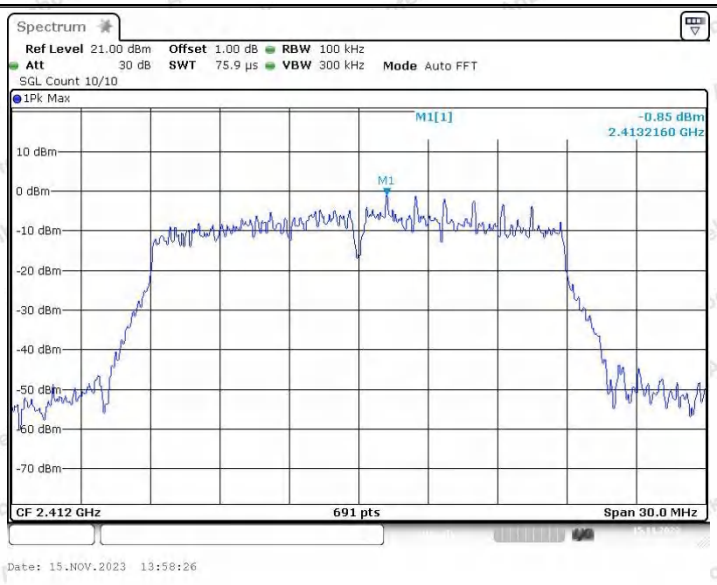
11G_Ant1_2462_30~1000



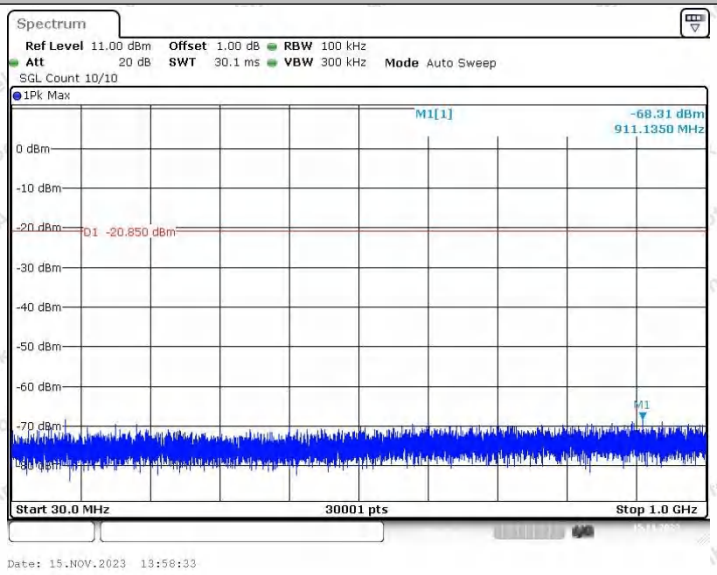
11G_Ant1_2462_1000~26500



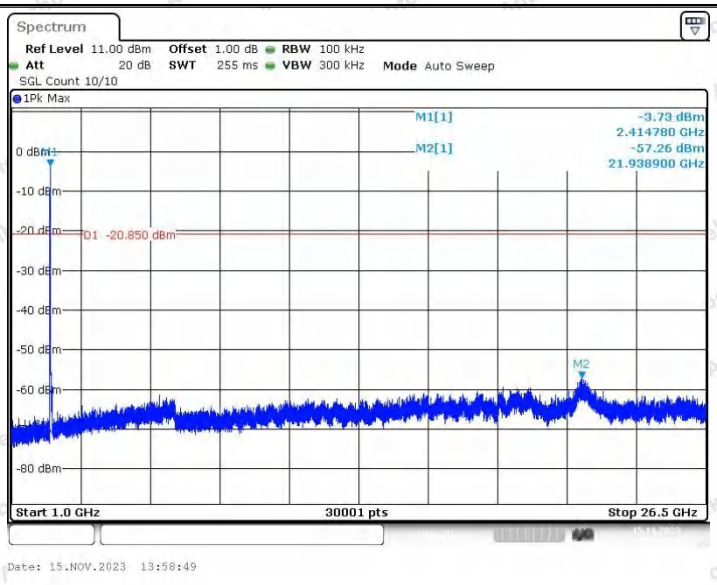
11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



11N20SISO_Ant1_2412_1000~26500



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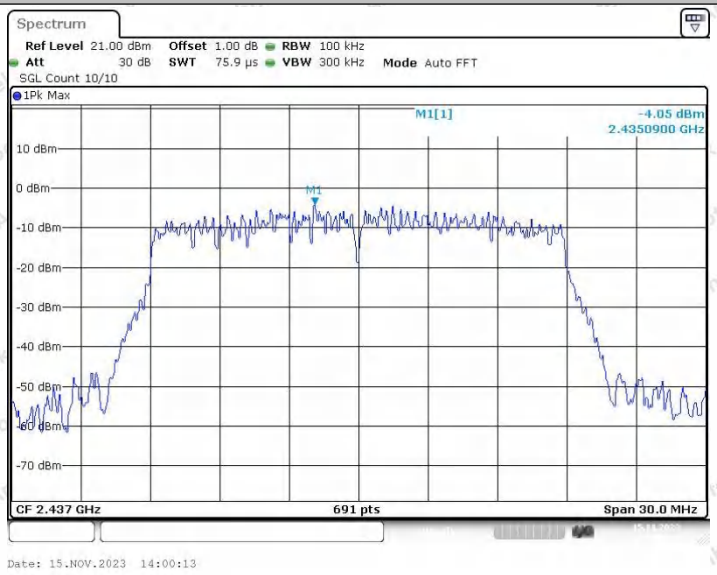
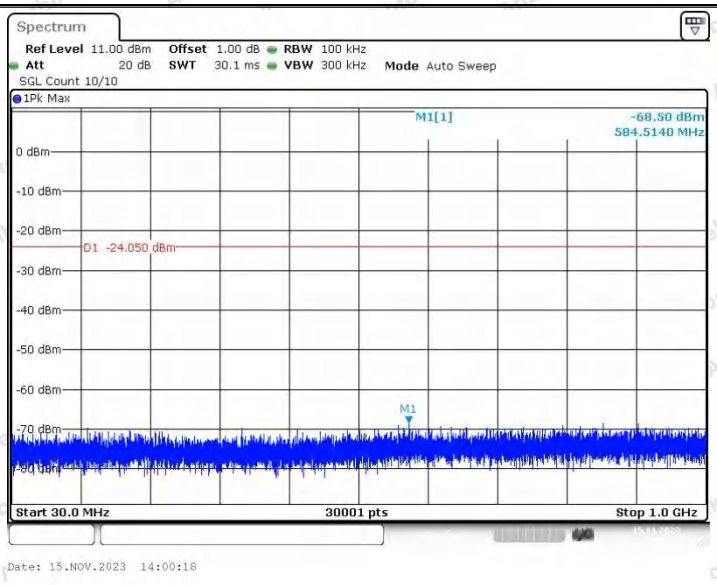
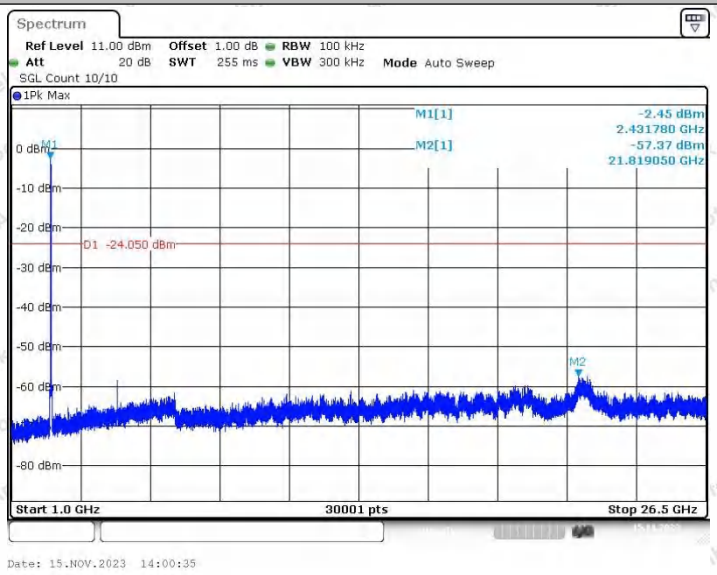


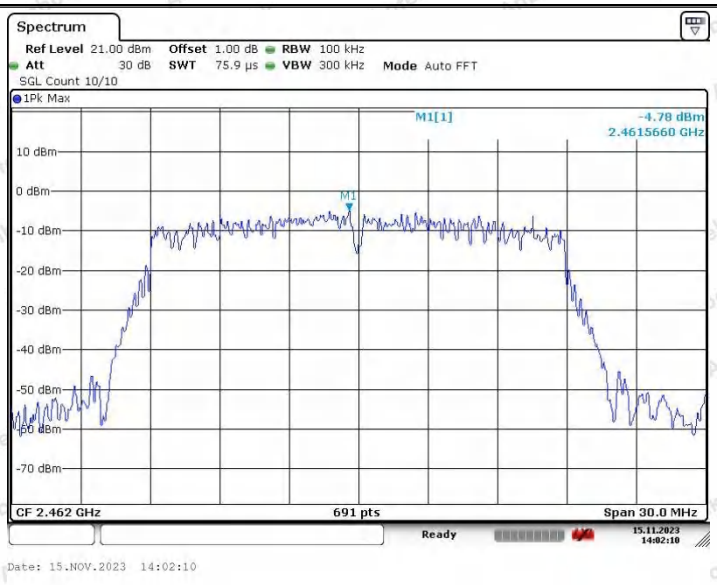
11N20SISO_Ant1_2437_30~1000



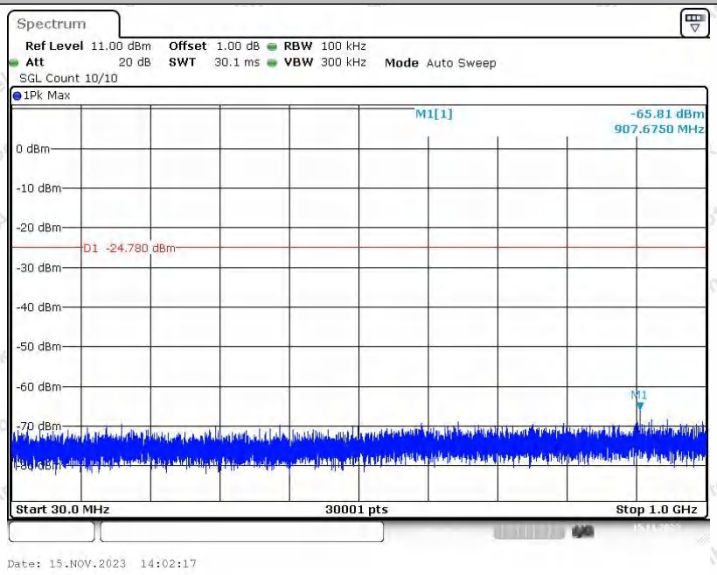
11N20SISO_Ant1_2437_1000~26500



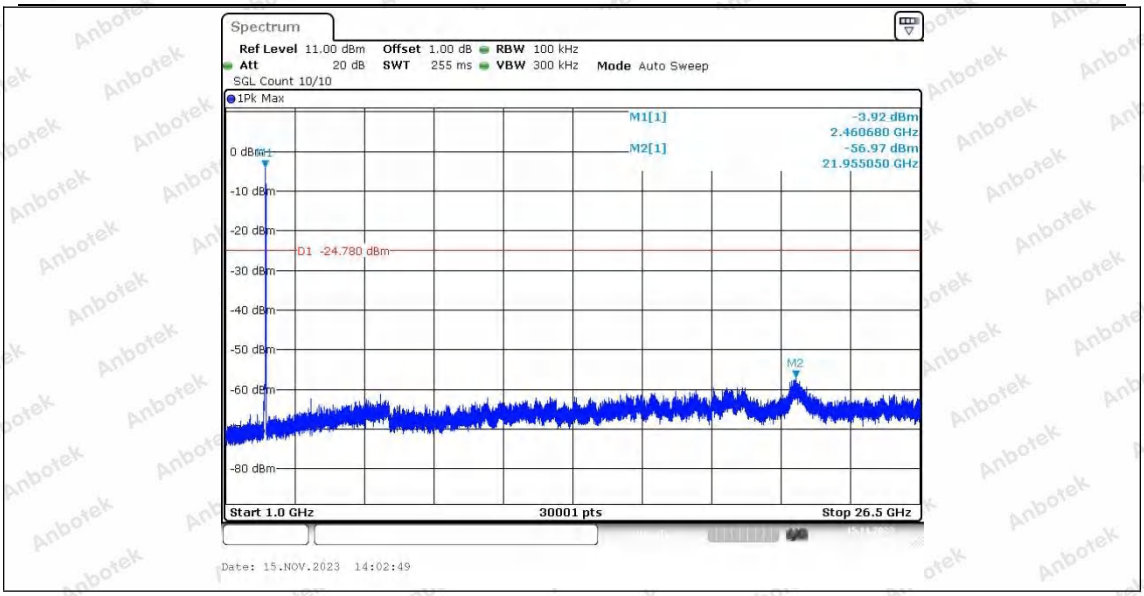
11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500


Spectrum
Ref Level 11.00 dBm Offset 1.00 dB RBW 100 kHz
Att 20 dB SWT 255 ms VBW 300 kHz Mode Auto Sweep
SGL Count 10/10
1Pk Max
M1[1] -3.92 dBm
2.460680 GHz
M2[1] -56.97 dBm
21.955050 GHz
0 dBm
-10 dBm
-20 dBm
D1 -24.780 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-80 dBm
M2
Start 1.0 GHz
30001 pts
Stop 26.5 GHz
Date: 15.NOV.2023 14:02:49

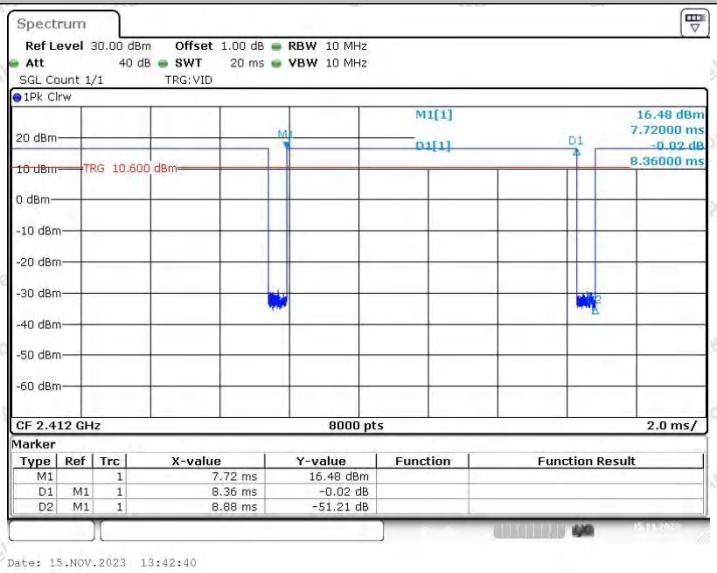
Appendix G: Duty Cycle

Test Result

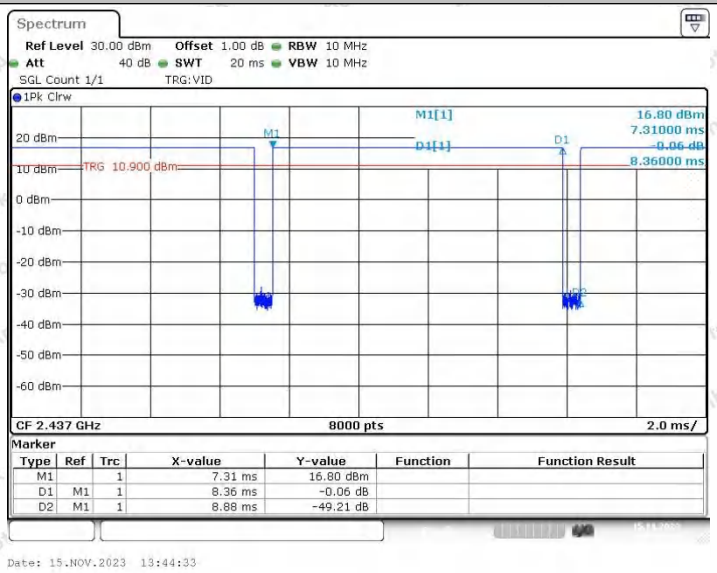
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	8.36	8.88	94.14	0.26
		2437	8.36	8.88	94.14	0.26
		2462	8.36	8.88	94.14	0.26
11G	Ant1	2412	1.38	1.93	71.50	1.46
		2437	1.38	1.93	71.50	1.46
		2462	1.38	1.95	70.77	1.50
11N20SISO	Ant1	2412	1.30	1.86	69.89	1.56
		2437	1.29	1.84	70.11	1.54
		2462	1.30	1.87	69.52	1.58

Test Graphs

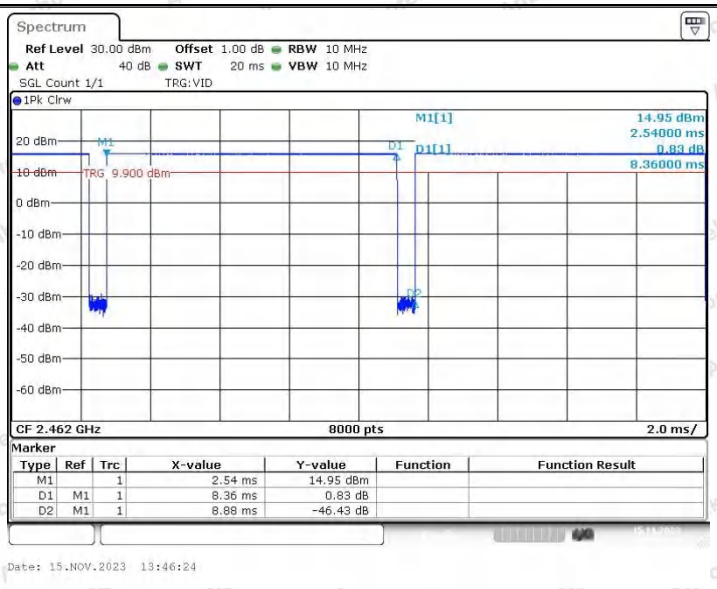
11B_Ant1_2412



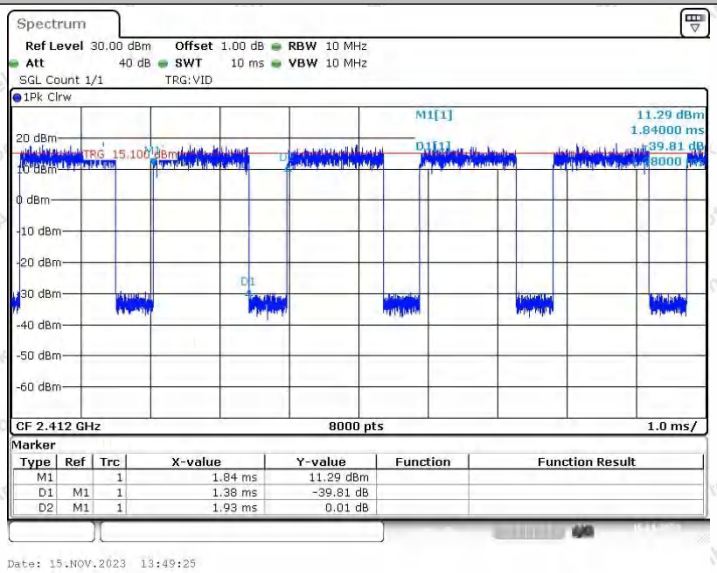
11B_Ant1_2437



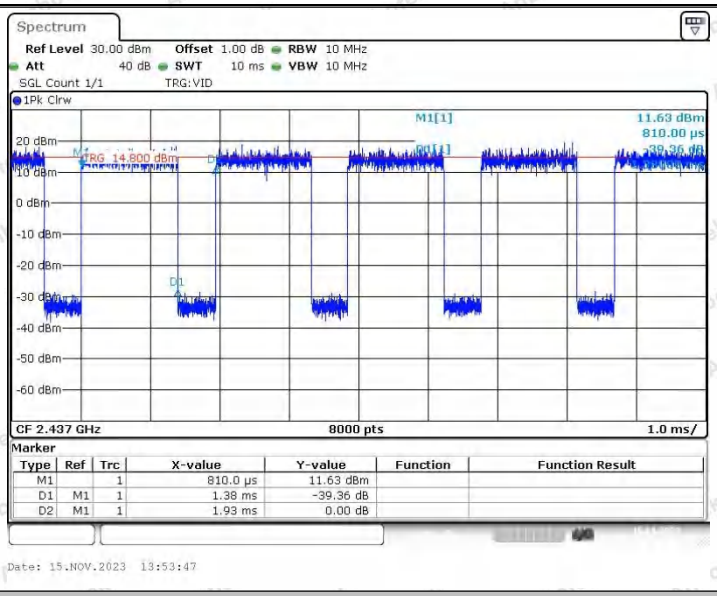
11B_Ant1_2462



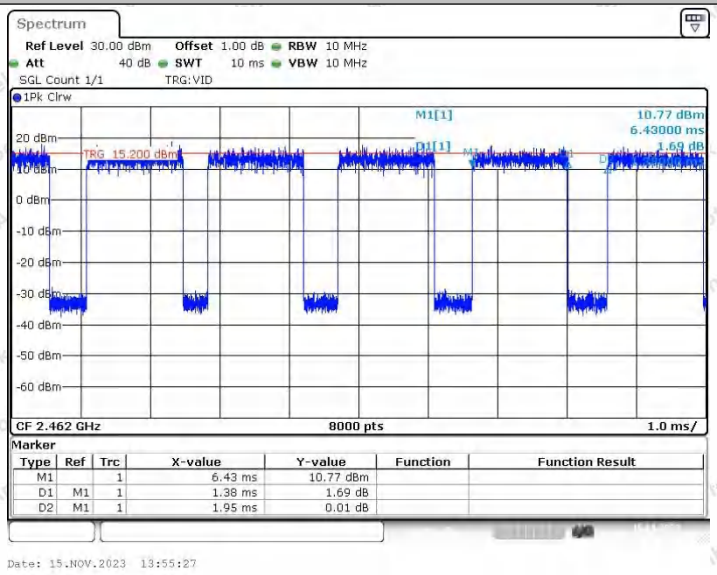
11G_Ant1_2412



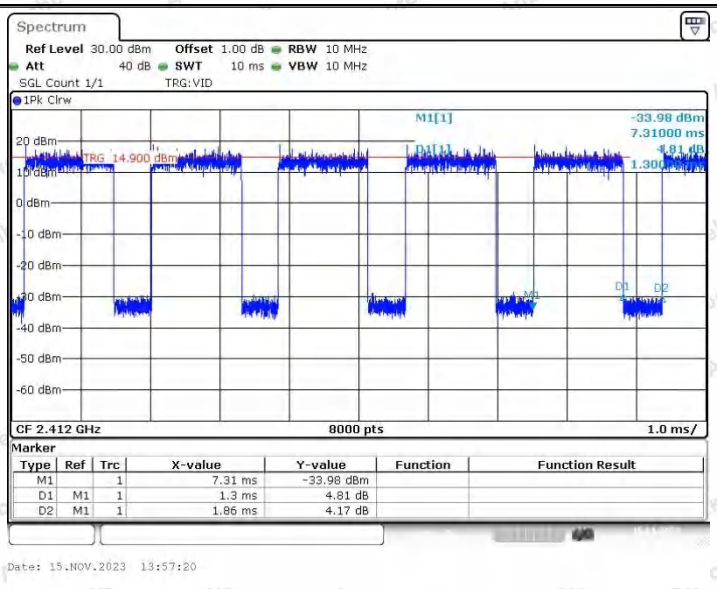
11G_Ant1_2437



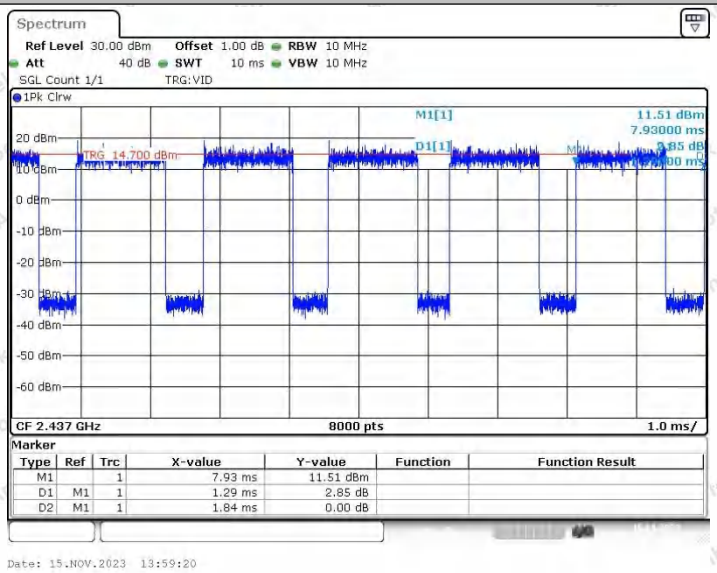
11G_Ant1_2462



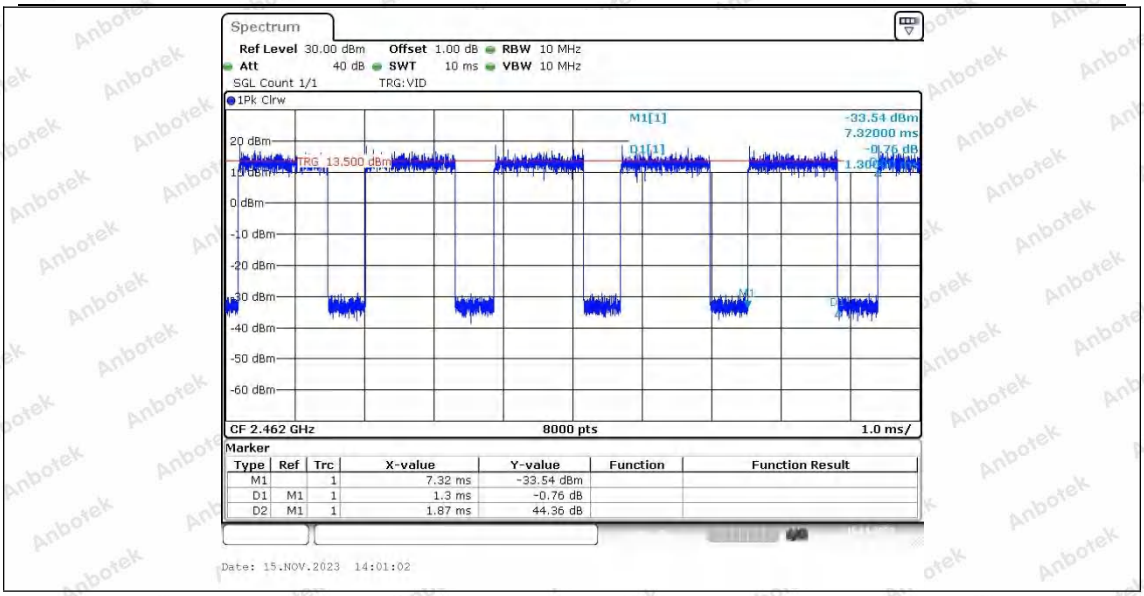
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462


Spectrum
Ref Level 30.00 dBm Offset 1.00 dB RBW 10 MHz
Att 40 dB SWT 10 ms VBW 10 MHz
SGL Count 1/1 TRG:VID
1Pk Clrw
M1[1] -33.54 dBm
7.32000 ms
D1[1] -0.76 dB
TRG 13.500 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.462 GHz 8000 pts 1.0 ms/
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 7.32 ms -33.54 dBm
D1 M1 1 1.3 ms -0.76 dB
D2 M1 1 1.87 ms 44.36 dB
Date: 15.NOV.2023 14:01:02

---End---