Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Reinkstone R1

Trade Mark: Reinkstone

Test Model: Reink100

Environmental Conditions

Temperature:	25.4° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

Contents

Page

COVER PAGE

1 Duty Cycle 3
1.1 Test Result 3
1.2 Test Graphs 4
2 Maximum Conducted Output Power 10
2.1 Test Result 10
3 -6dB Bandwidth 11
3.1 Test Result 11
3.2 Test Graphs 12
4 Occupied Channel Bandwidth 18
4.1 Test Result 18
4.2 Test Graphs 19
5 Maximum Power Spectral Density Level 25
5.1 Test Result 25
5.2 Test Graphs 26
6 Band Edge 32
6.1 Test Result 32
6.2 Test Graphs 33
7 Conducted RF Spurious Emission 41
7.1 Test Result 41
7.2 Test Graphs 42
8 Restrict Band 54
8.1 Test Result 54
8.2 Test Graphs 56

1 Duty Cycle

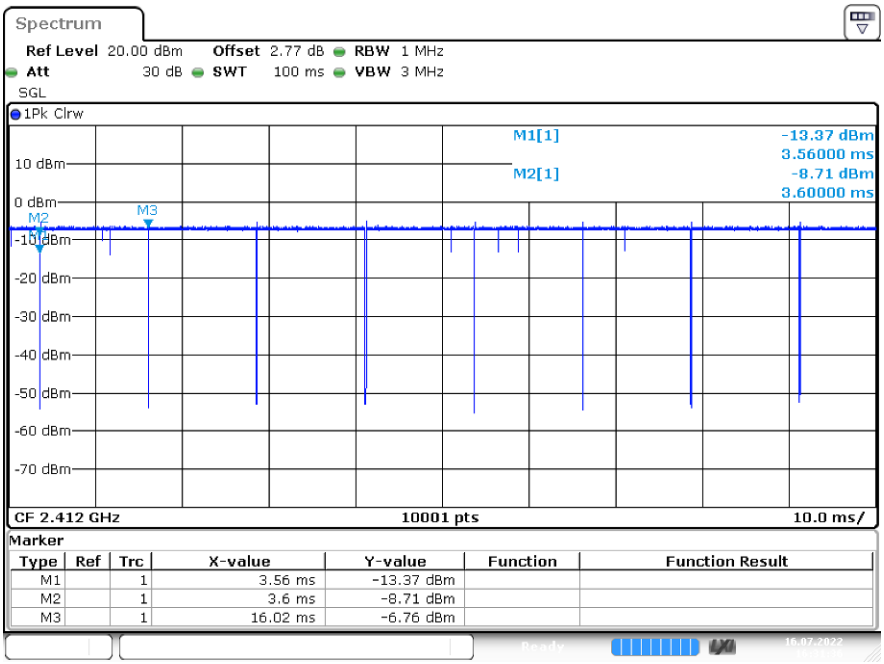
1.1 Test Result

Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	1/T (kHz)
b	2412	Ant1	99.36	0.08
b	2437	Ant1	98.91	0.08
b	2462	Ant1	99.24	0.08
g	2412	Ant1	95.72	0.49
g	2437	Ant1	94.36	0.49
g	2462	Ant1	95.58	0.49
n20	2412	Ant1	95.09	0.52
n20	2437	Ant1	93.95	0.52
n20	2462	Ant1	95.98	0.52
n40	2422	Ant1	90.73	1.06
n40	2437	Ant1	91.52	1.06
n40	2452	Ant1	91.31	1.06

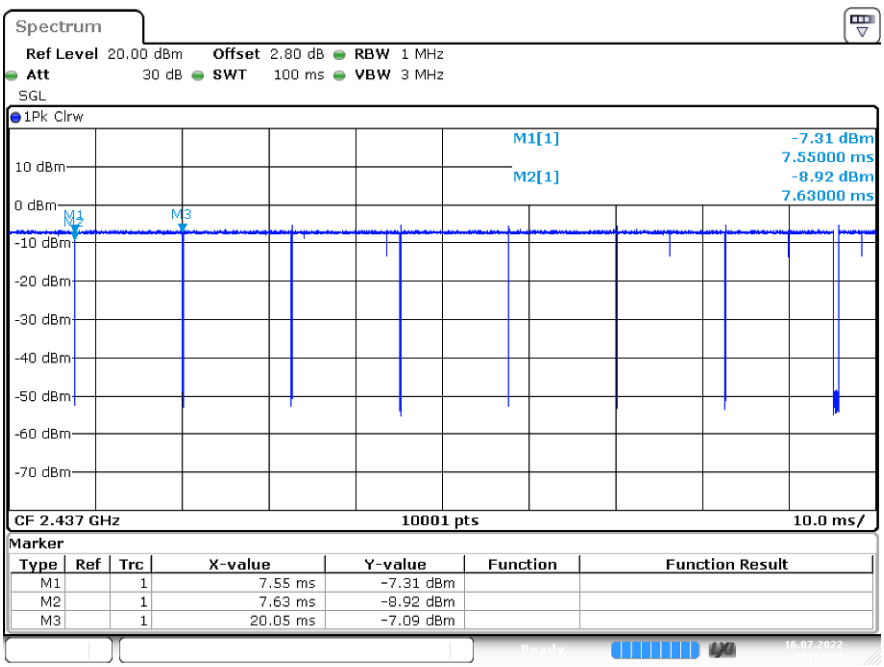
1.2 Test Graphs

Test Graphs

b 2412MHz Ant1

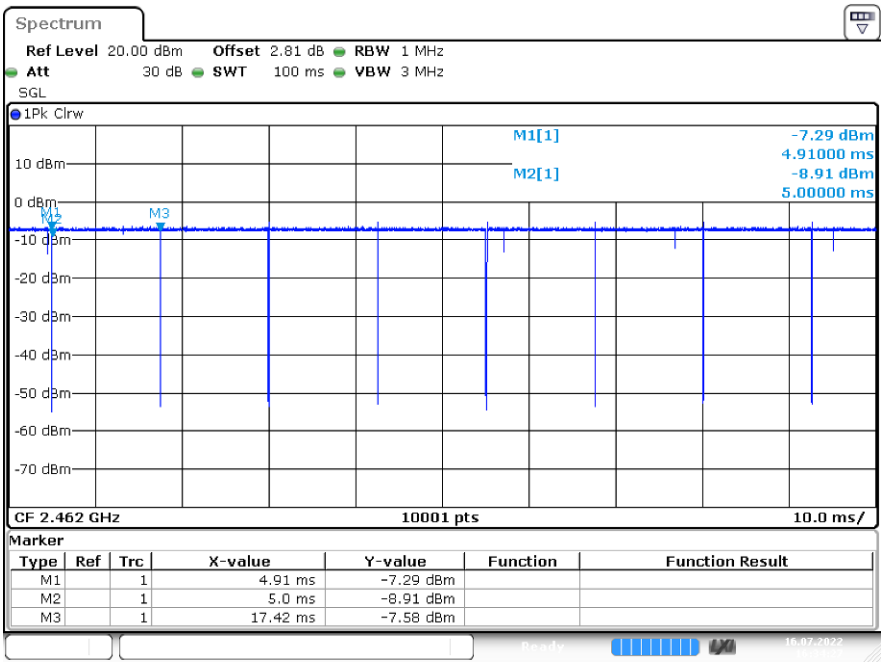


b 2437MHz Ant1

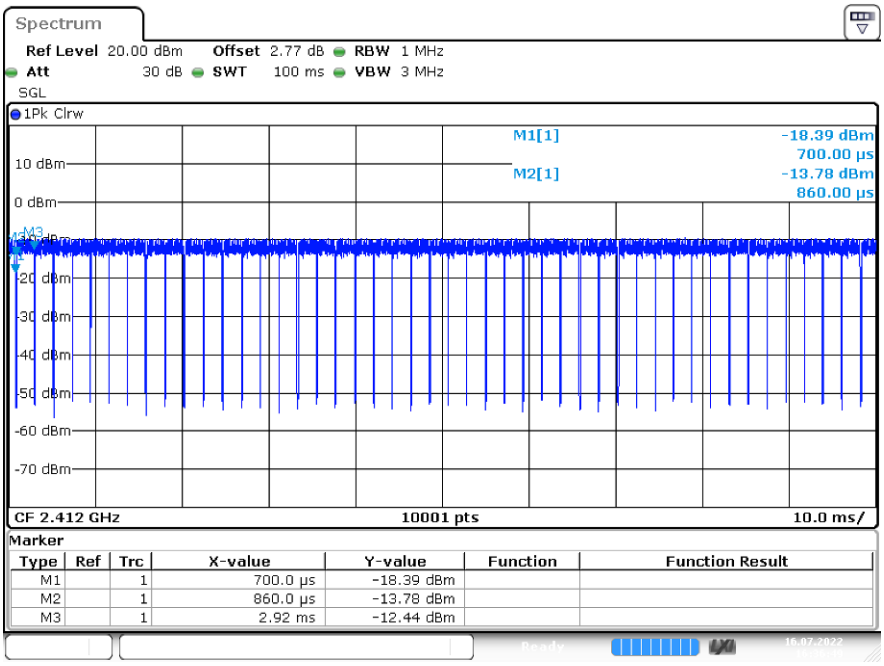


Test Graphs

b 2462MHz Ant1

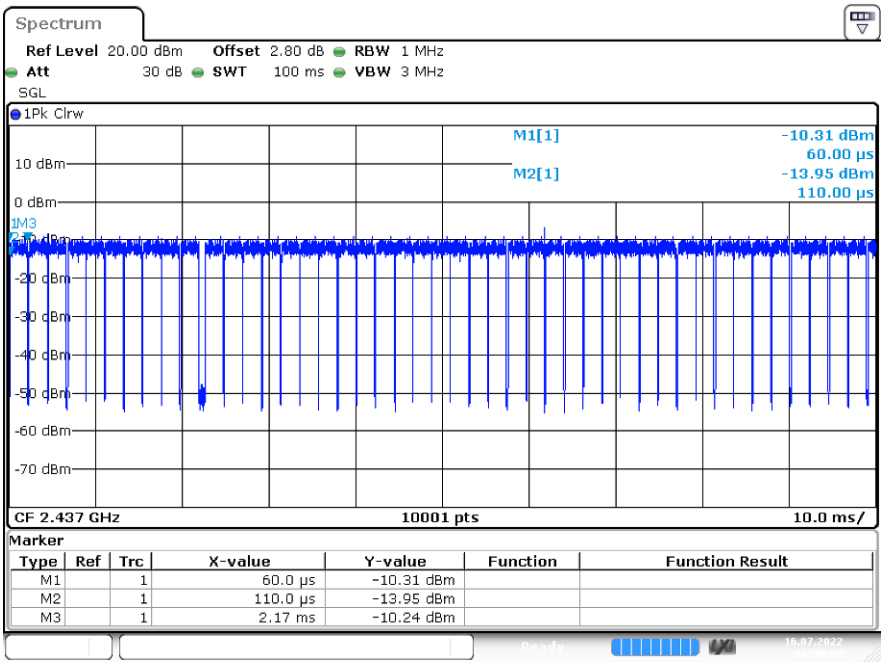


g 2412MHz Ant1

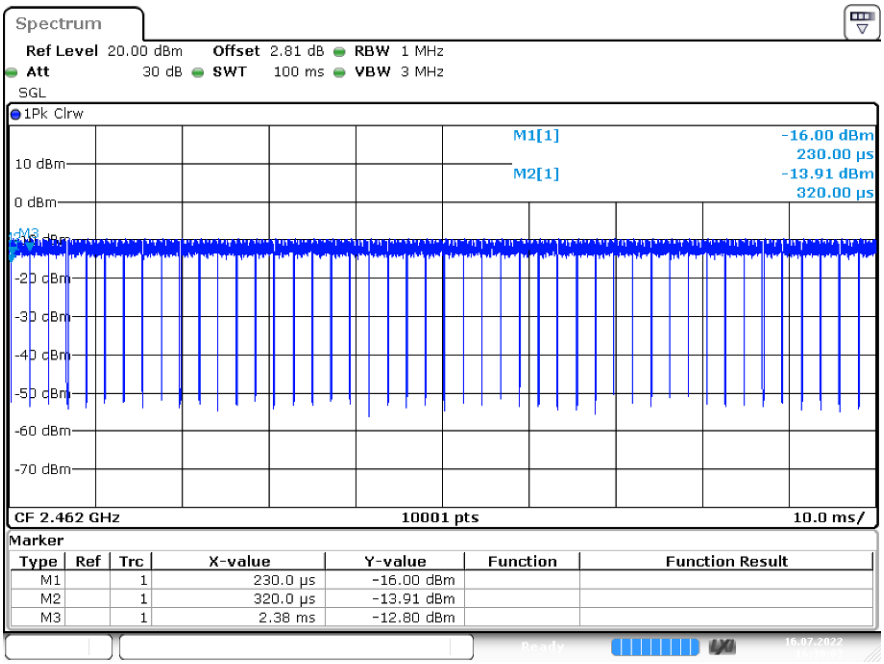


Test Graphs

g 2437MHz Ant1

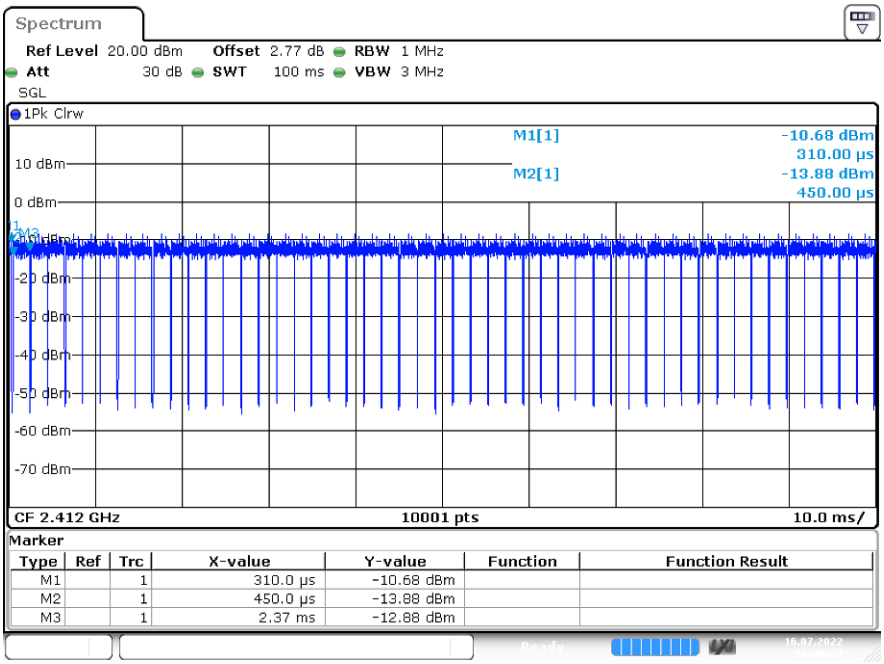


g 2462MHz Ant1

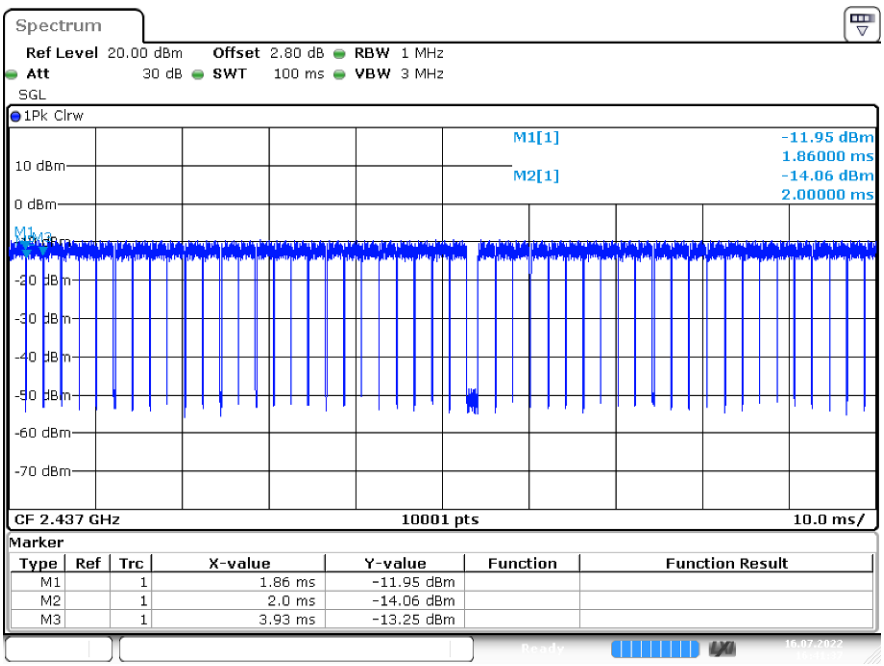


Test Graphs

n20 2412MHz Ant1

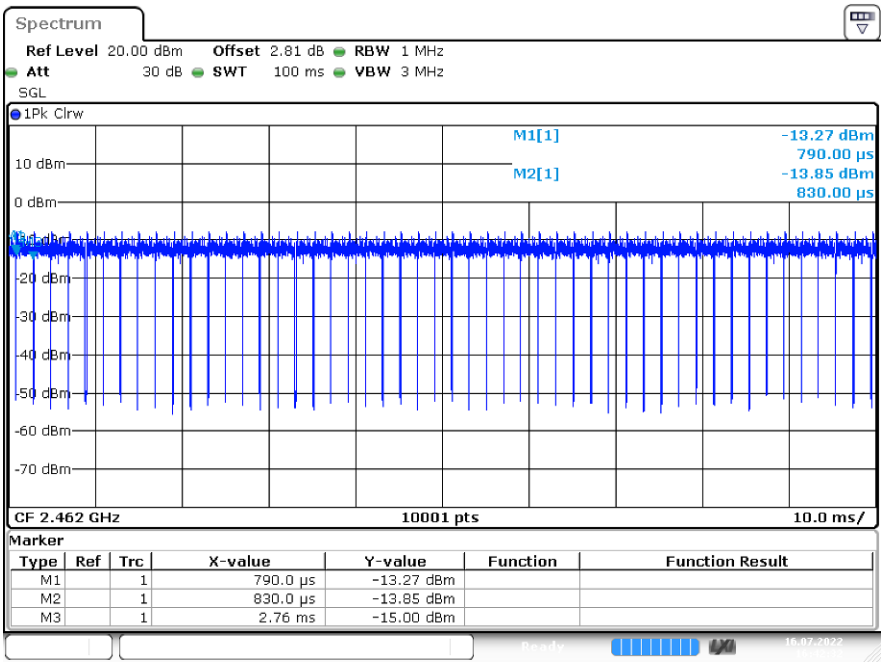


n20 2437MHz Ant1

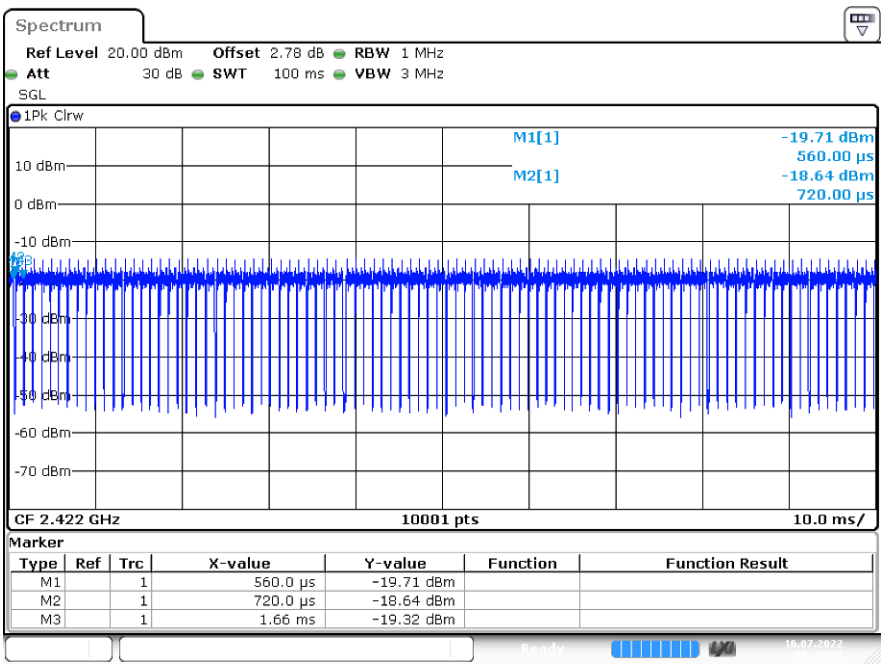


Test Graphs

n20 2462MHz Ant1

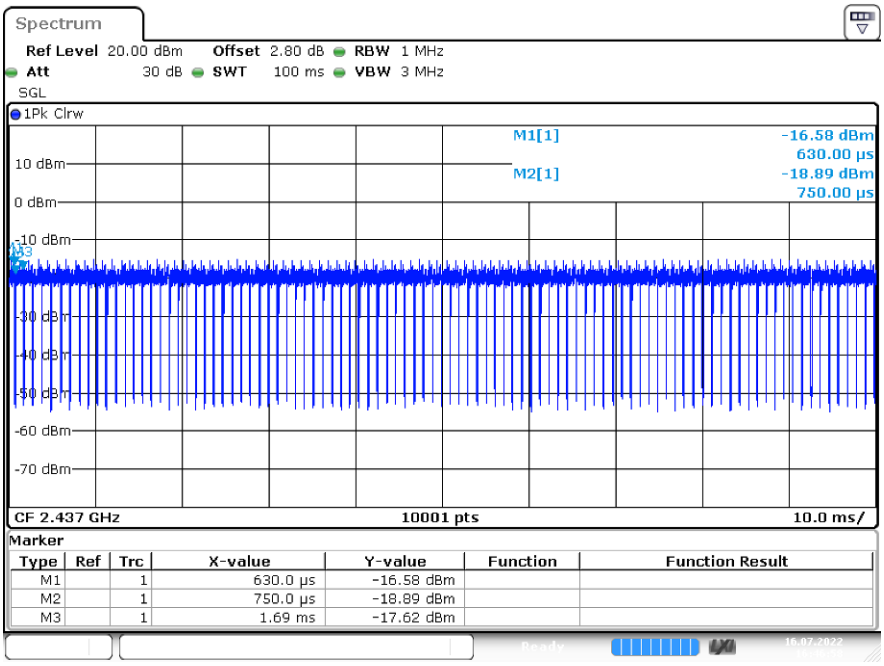


n40 2422MHz Ant1

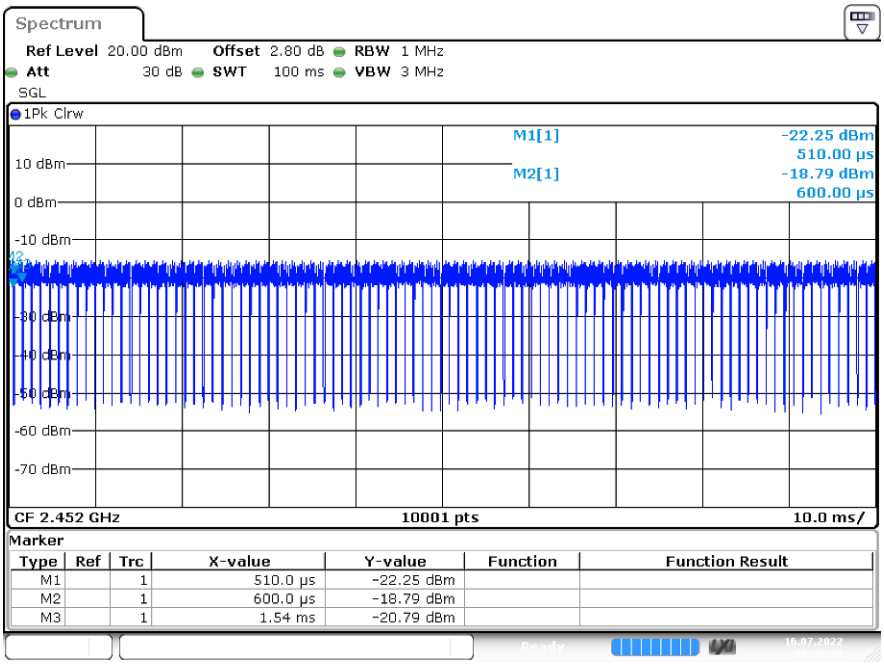


Test Graphs

n40 2437MHz Ant1



n40 2452MHz Ant1



2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	2.93	30	Pass
b	2437	Ant1	2.77	30	Pass
b	2462	Ant1	2.7	30	Pass
g	2412	Ant1	2.59	30	Pass
g	2437	Ant1	2.35	30	Pass
g	2462	Ant1	2.33	30	Pass
n20	2412	Ant1	2.54	30	Pass
n20	2437	Ant1	2.3	30	Pass
n20	2462	Ant1	2.38	30	Pass
n40	2422	Ant1	2.28	30	Pass
n40	2437	Ant1	2.27	30	Pass
n40	2452	Ant1	2.14	30	Pass

3 -6dB Bandwidth

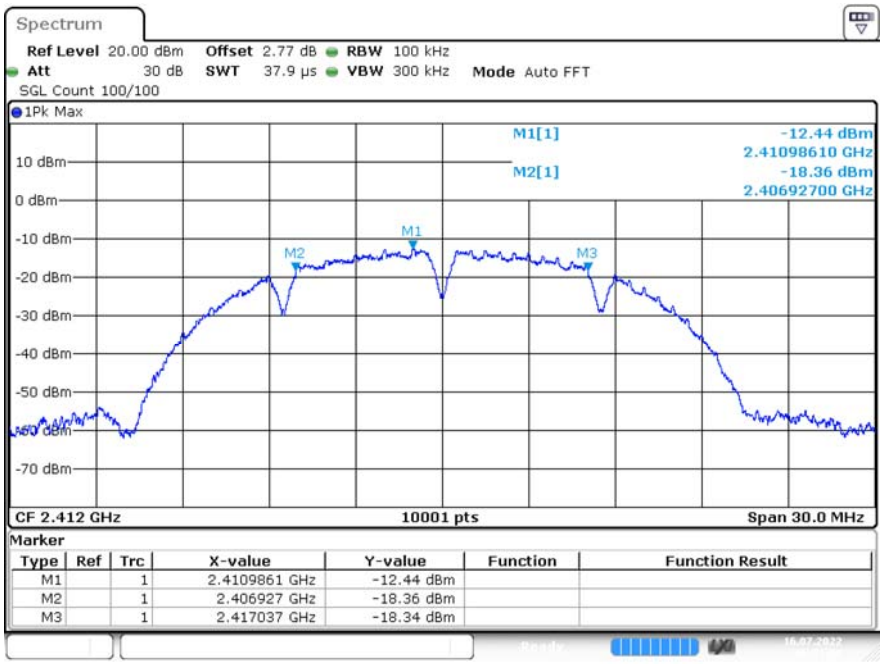
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.11	0.5	Pass
b	2437	Ant1	10.08	0.5	Pass
b	2462	Ant1	10.083	0.5	Pass
g	2412	Ant1	16.356	0.5	Pass
g	2437	Ant1	16.323	0.5	Pass
g	2462	Ant1	16.377	0.5	Pass
n20	2412	Ant1	17.583	0.5	Pass
n20	2437	Ant1	17.766	0.5	Pass
n20	2462	Ant1	17.043	0.5	Pass
n40	2422	Ant1	35.664	0.5	Pass
n40	2437	Ant1	36.282	0.5	Pass
n40	2452	Ant1	35.91	0.5	Pass

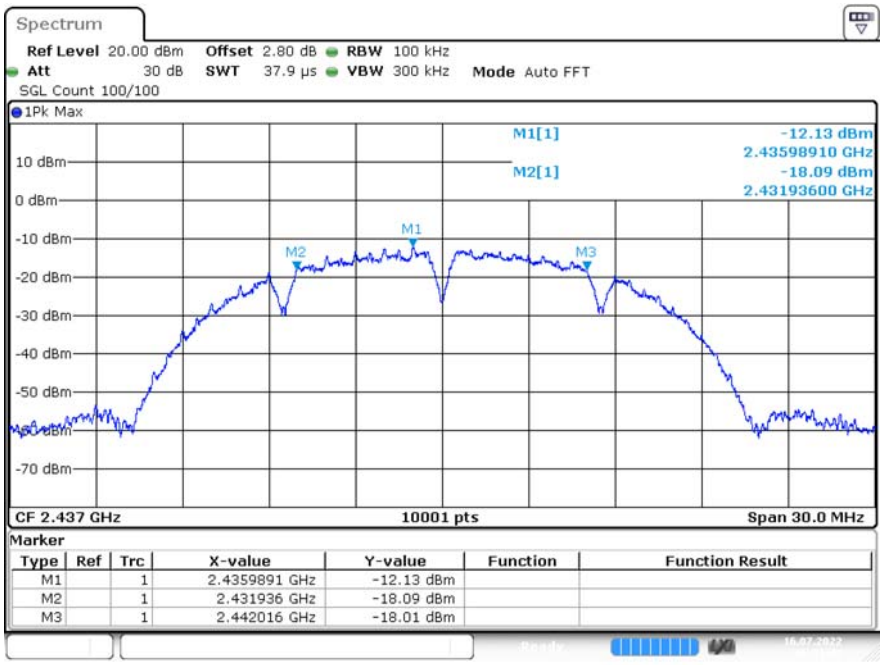
3.2 Test Graphs

Test Graphs

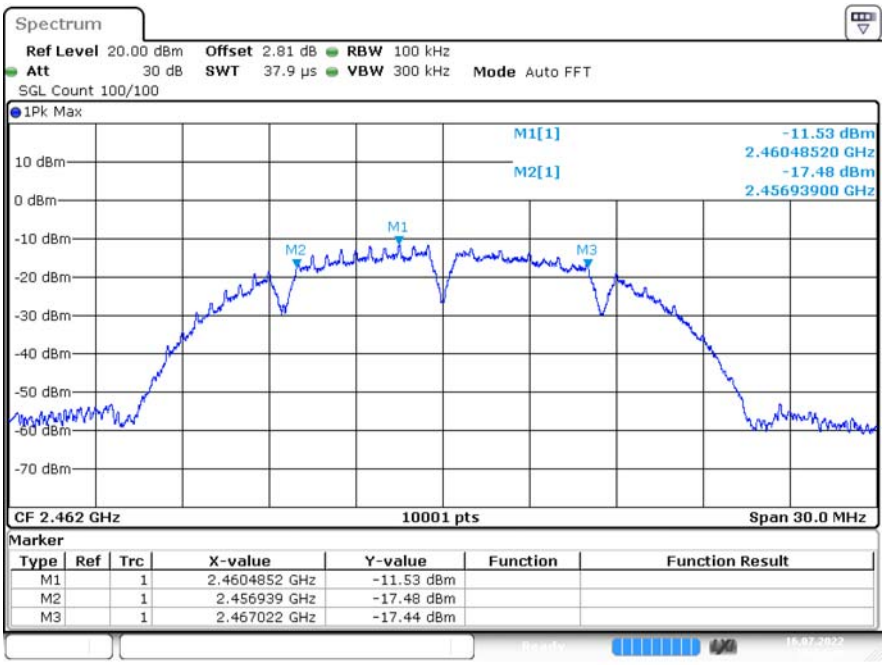
b 2412MHz Ant1



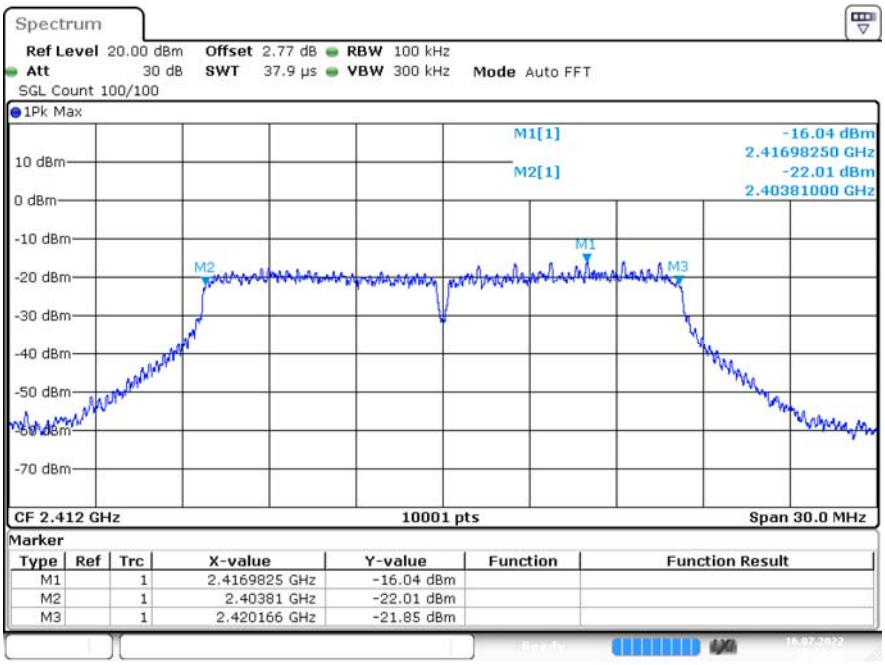
b 2437MHz Ant1



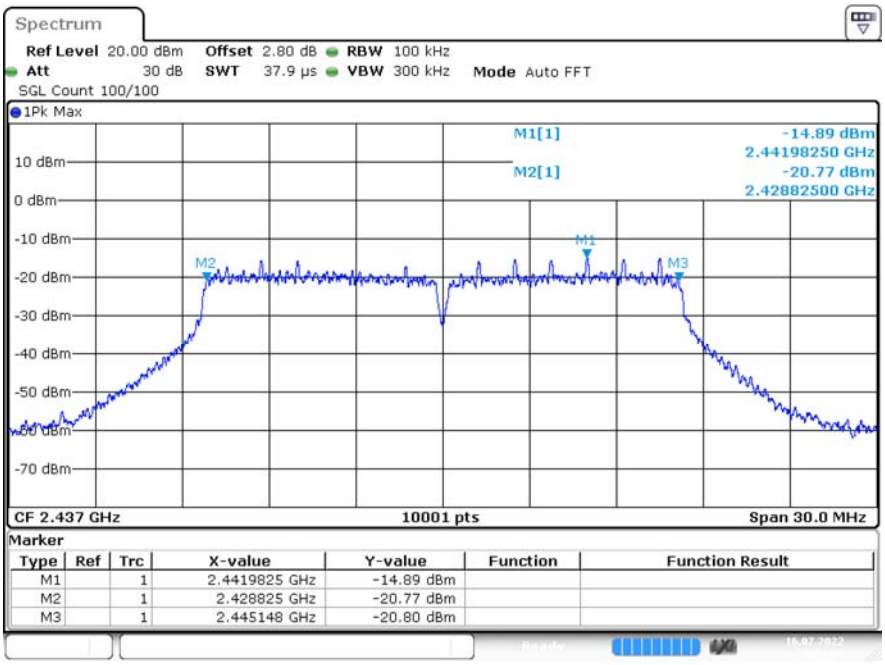
b 2462MHz Ant1



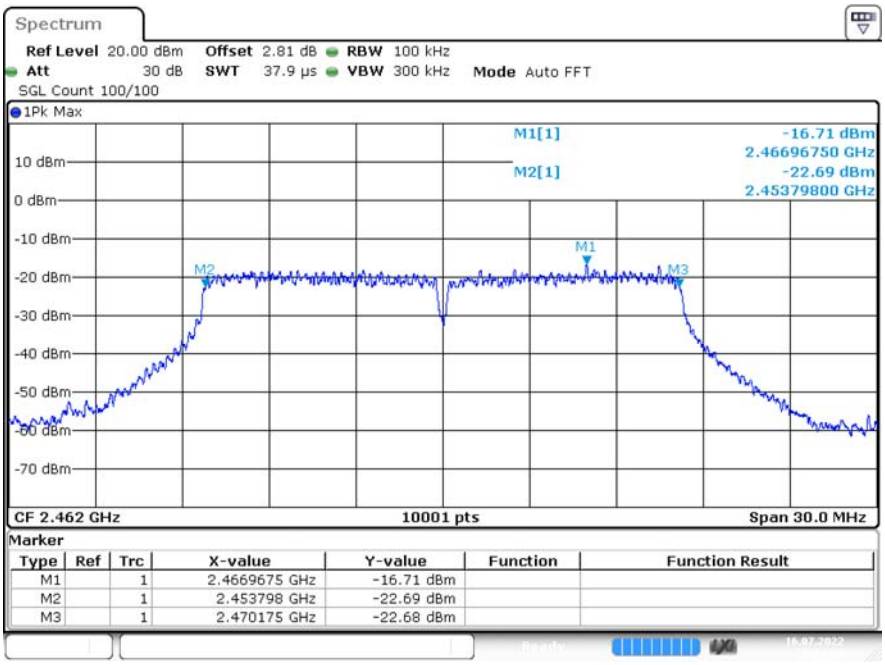
g 2412MHz Ant1



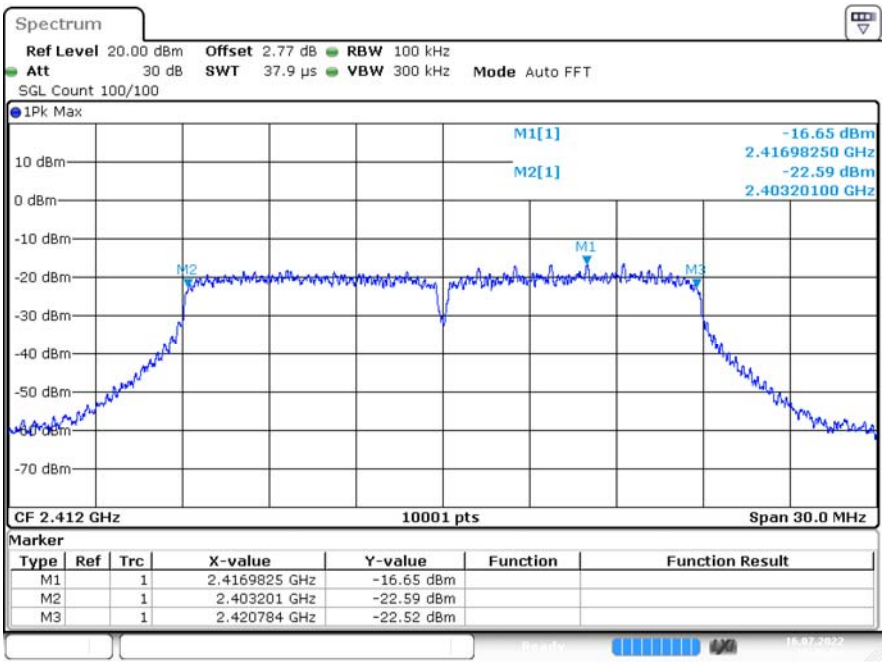
g 2437MHz Ant1



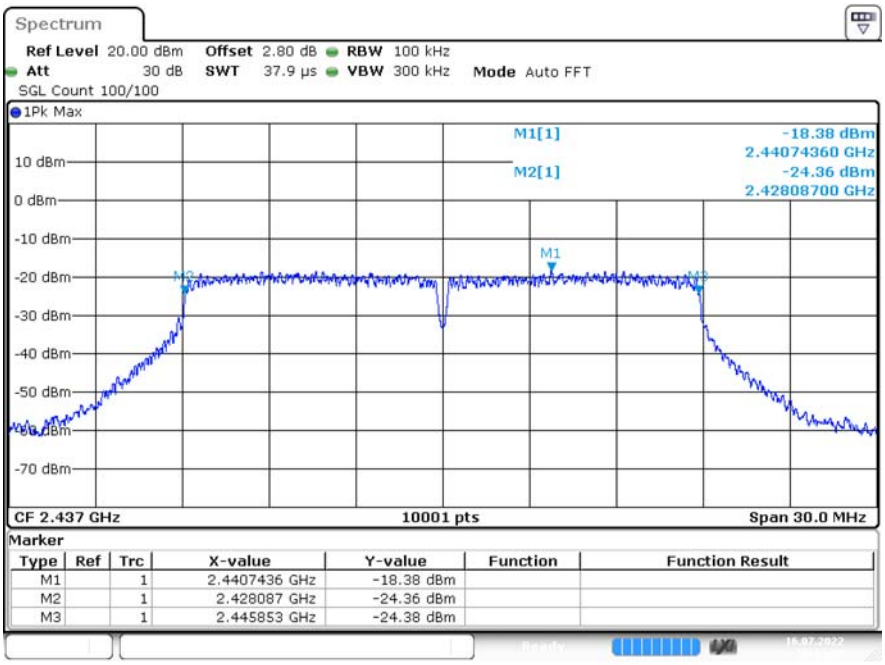
g 2462MHz Ant1



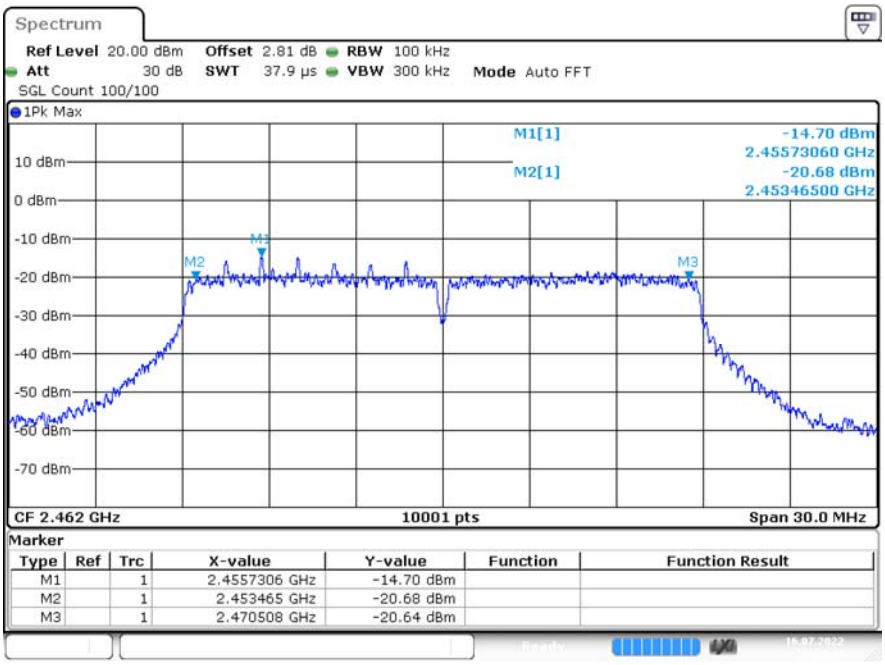
n20 2412MHz Ant1



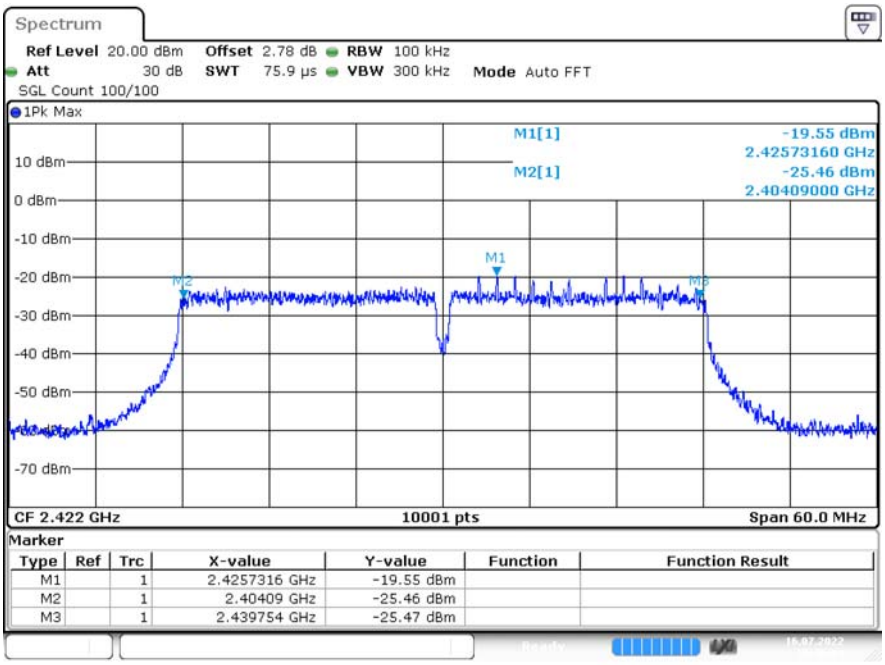
n20 2437MHz Ant1



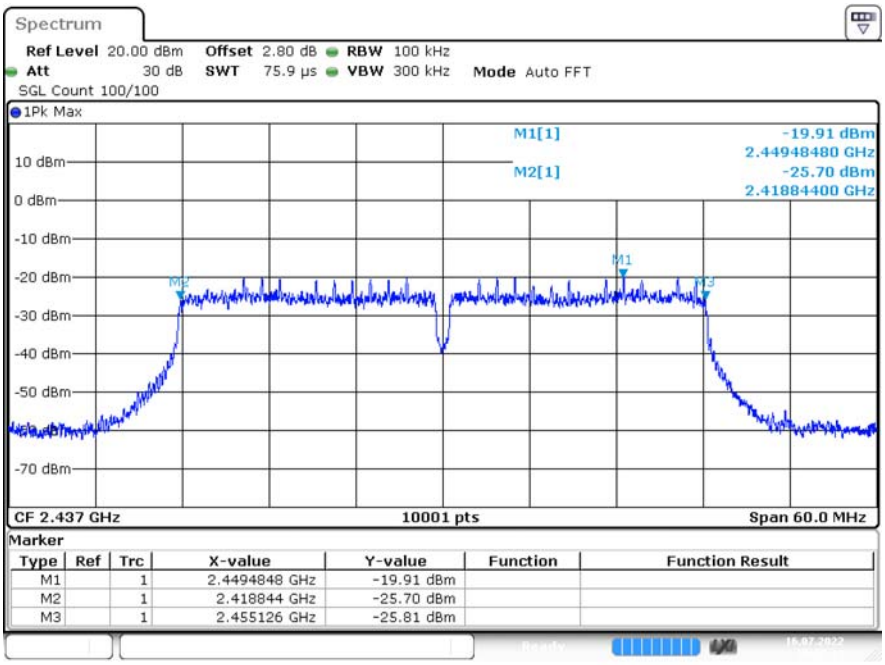
n20 2462MHz Ant1



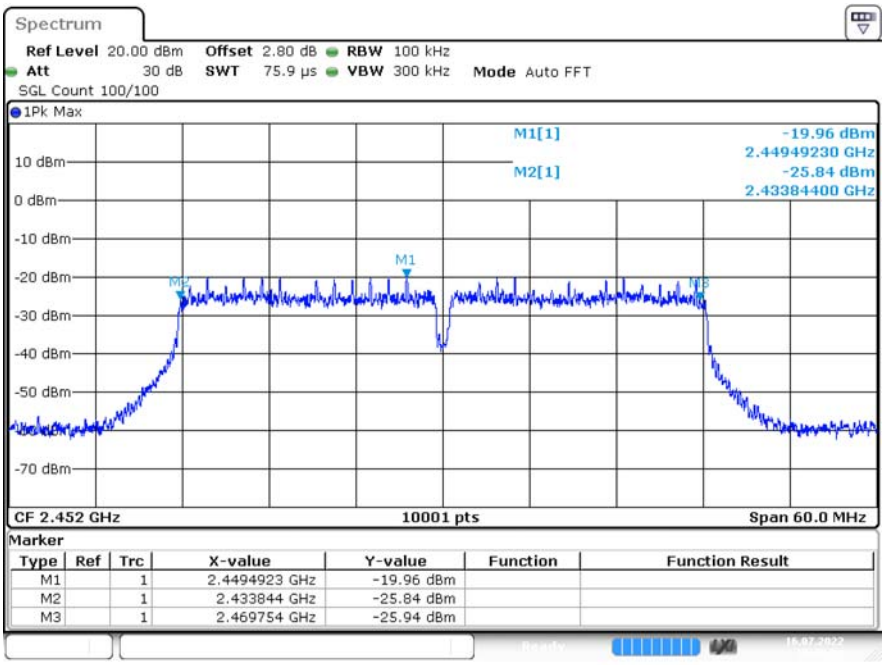
n40 2422MHz Ant1



n40 2437MHz Ant1



n40 2452MHz Ant1



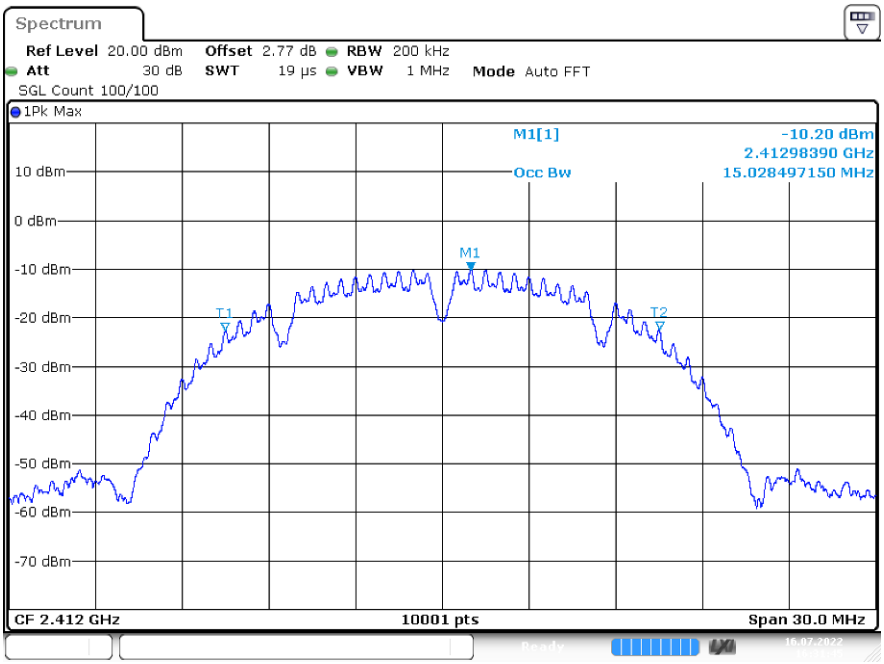
4 Occupied Channel Bandwidth

4.1 Test Result

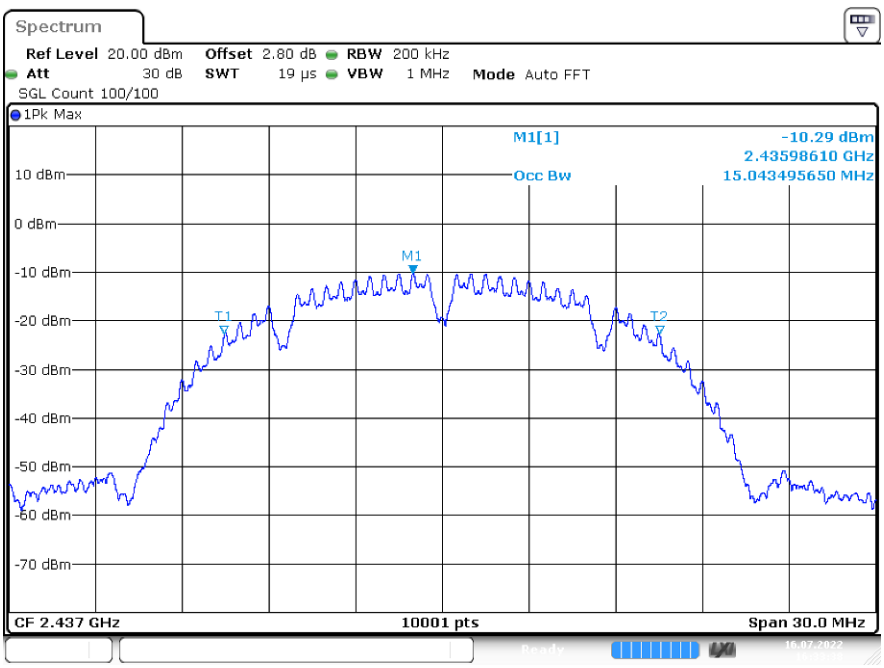
Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
b	2412	Ant1	15.028
b	2437	Ant1	15.043
b	2462	Ant1	15.043
g	2412	Ant1	16.447
g	2437	Ant1	16.462
g	2462	Ant1	16.612
n20	2412	Ant1	17.629
n20	2437	Ant1	17.635
n20	2462	Ant1	17.719
n40	2422	Ant1	36.206
n40	2437	Ant1	36.248
n40	2452	Ant1	36.596

4.2 Test Graphs

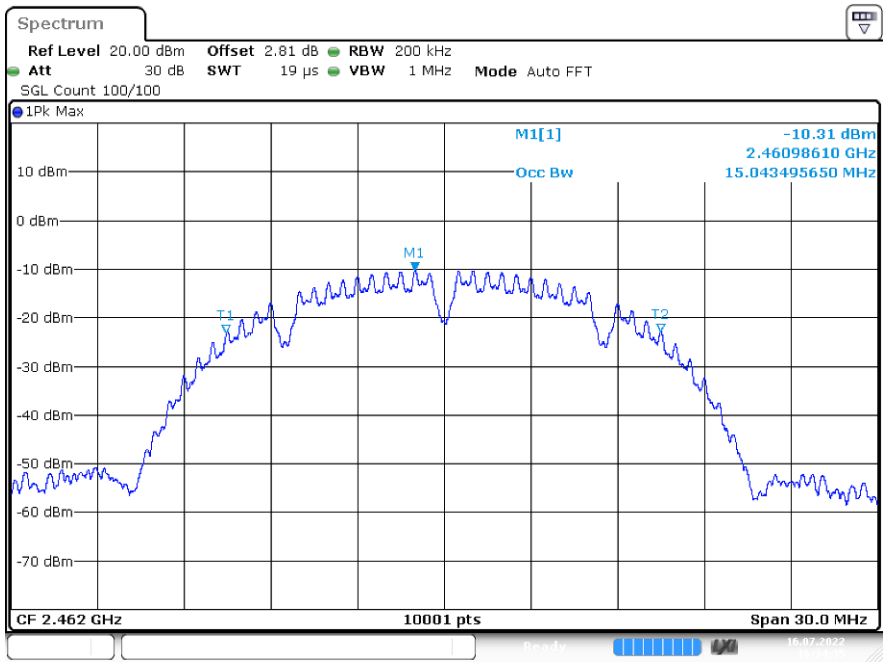
Test Graphs
b 2412MHz Ant1



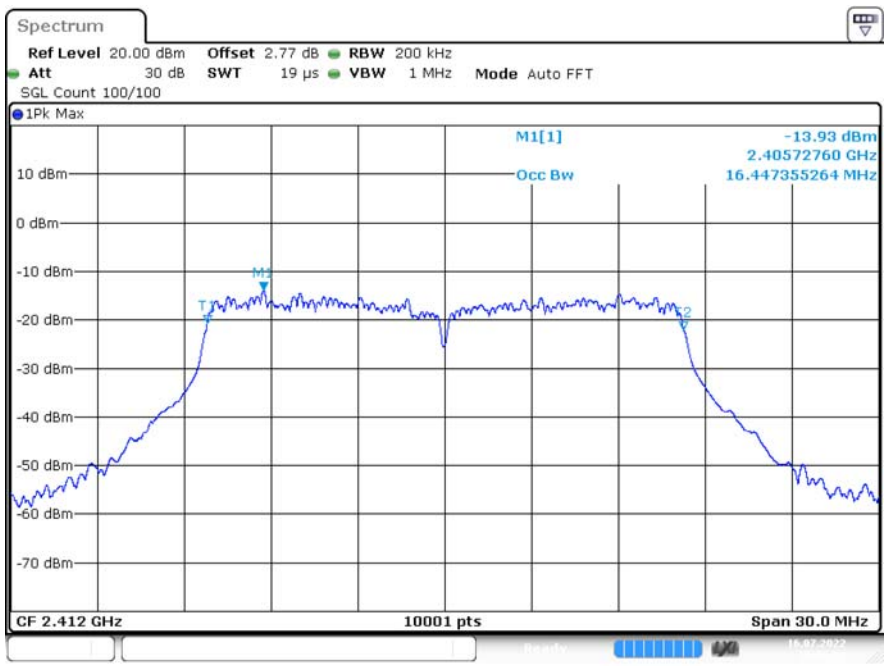
b 2437MHz Ant1



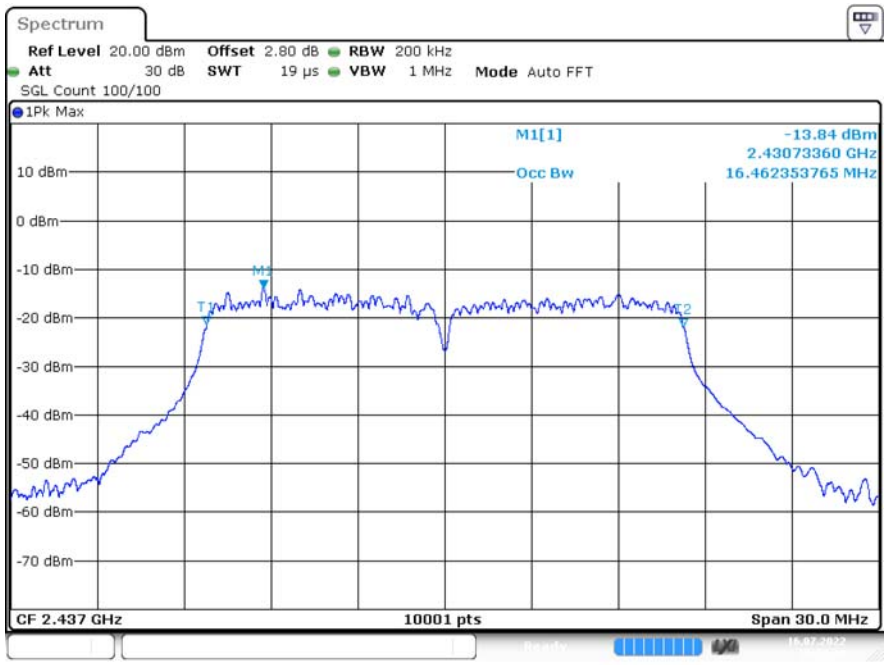
b 2462MHz Ant1



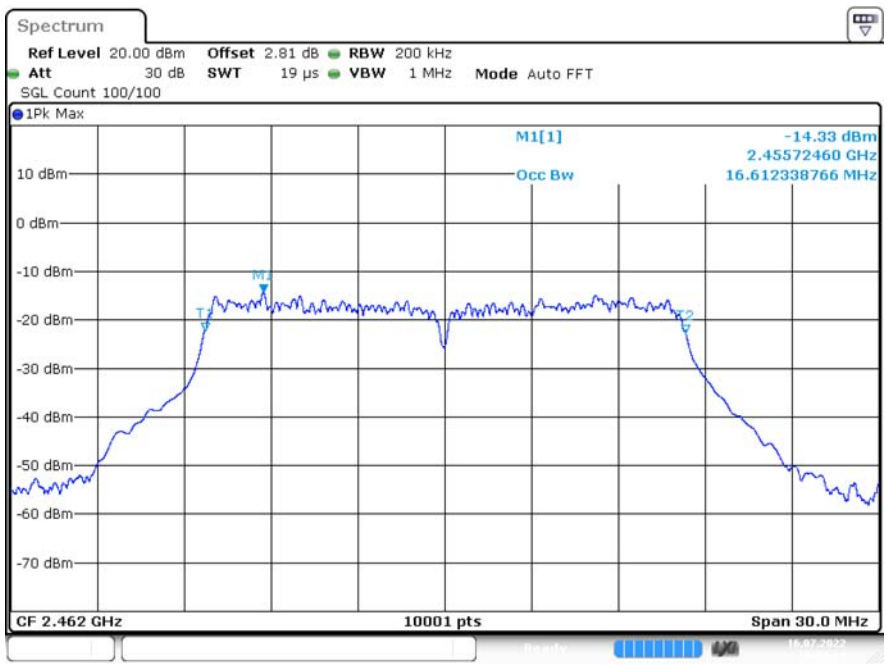
g 2412MHz Ant1



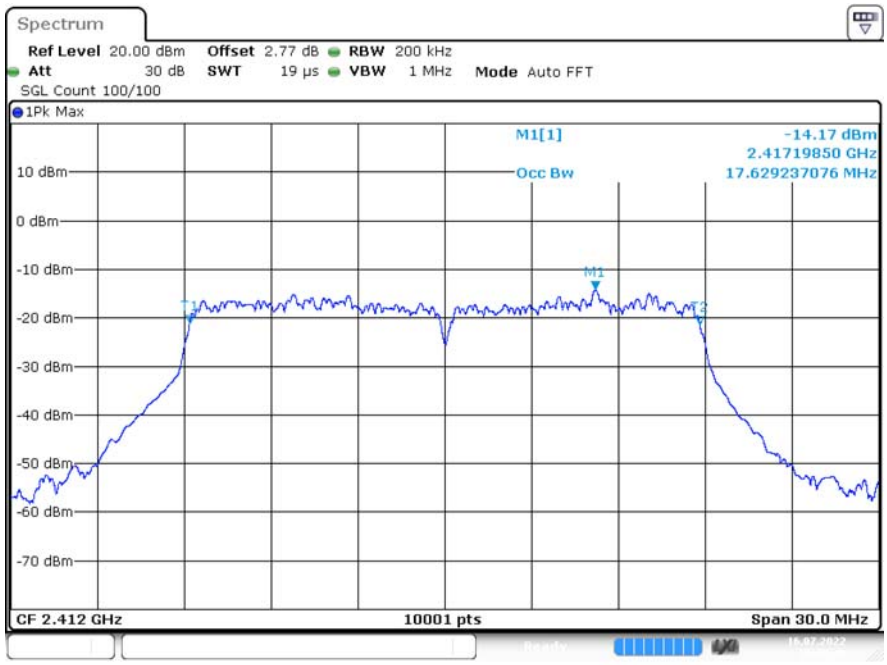
g 2437MHz Ant1



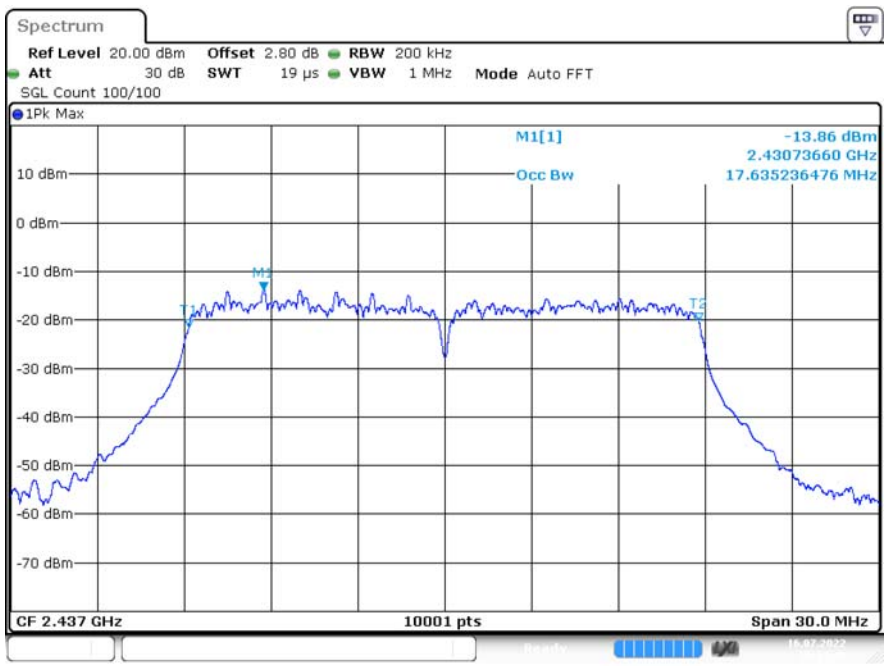
g 2462MHz Ant1



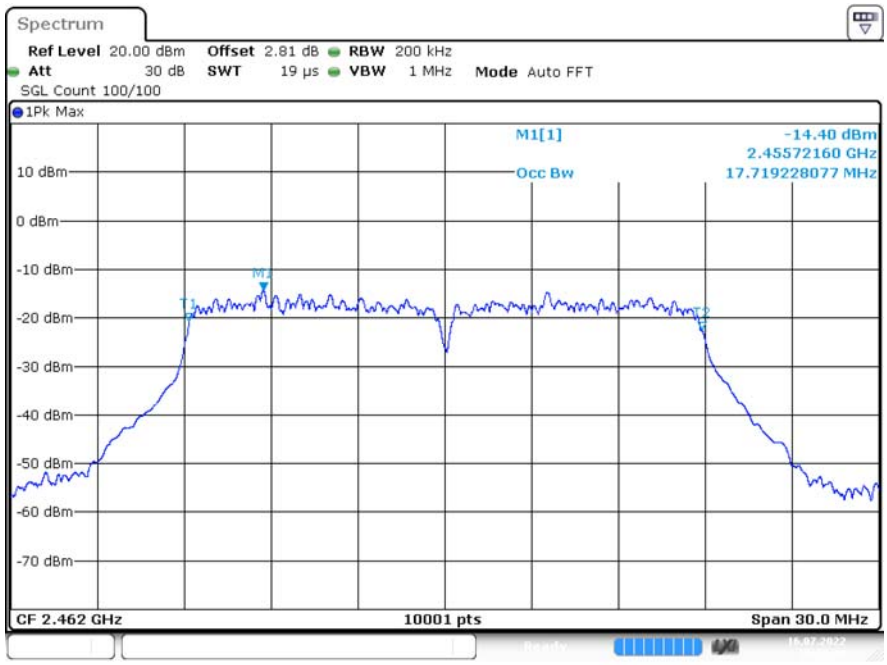
n20 2412MHz Ant1



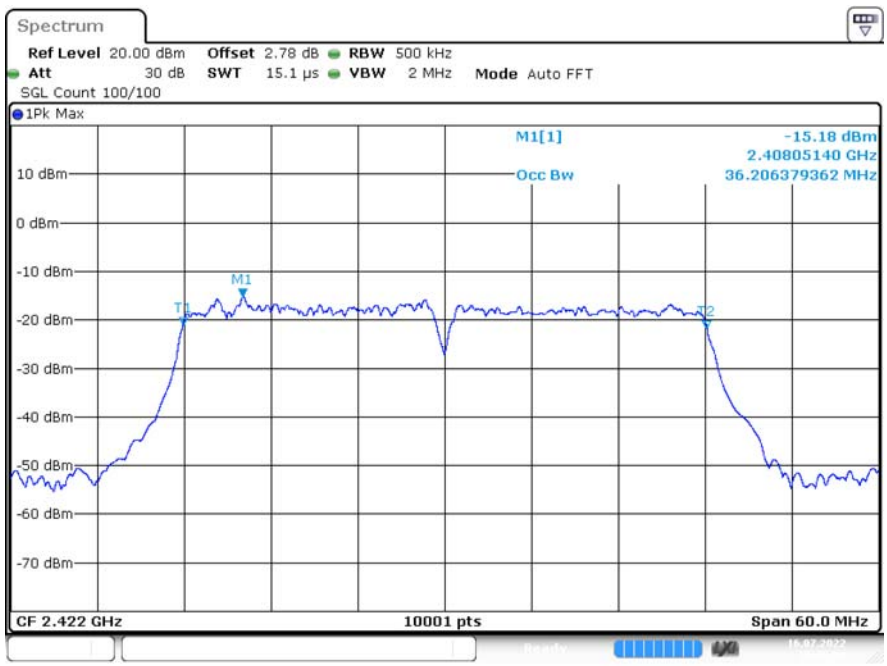
n20 2437MHz Ant1



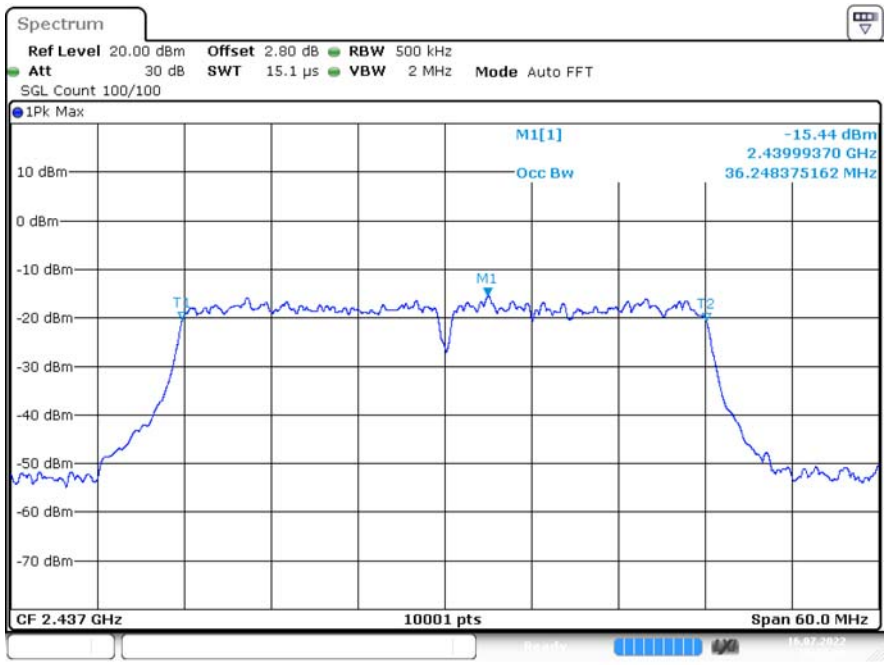
n20 2462MHz Ant1



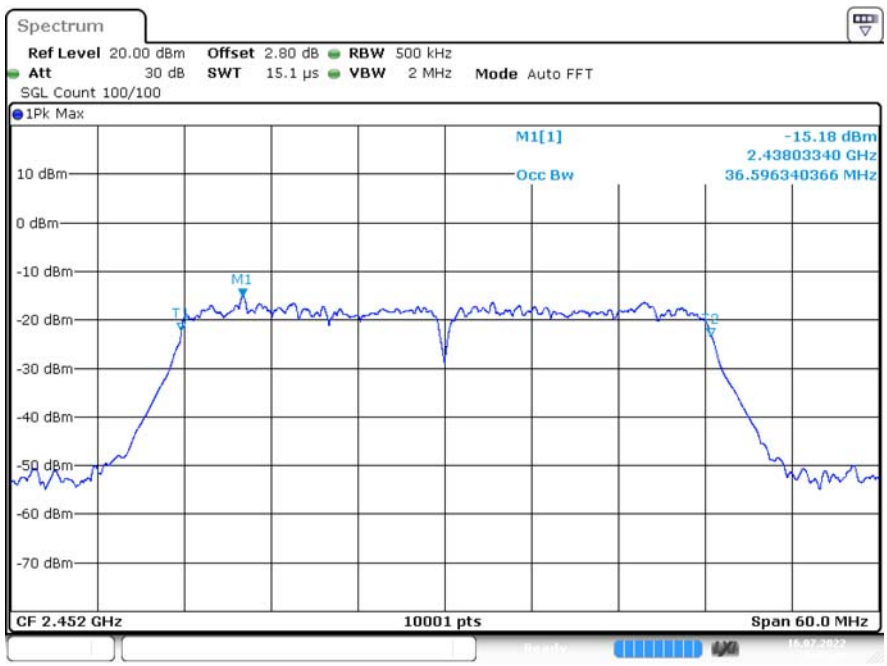
n40 2422MHz Ant1



n40 2437MHz Ant1



n40 2452MHz Ant1



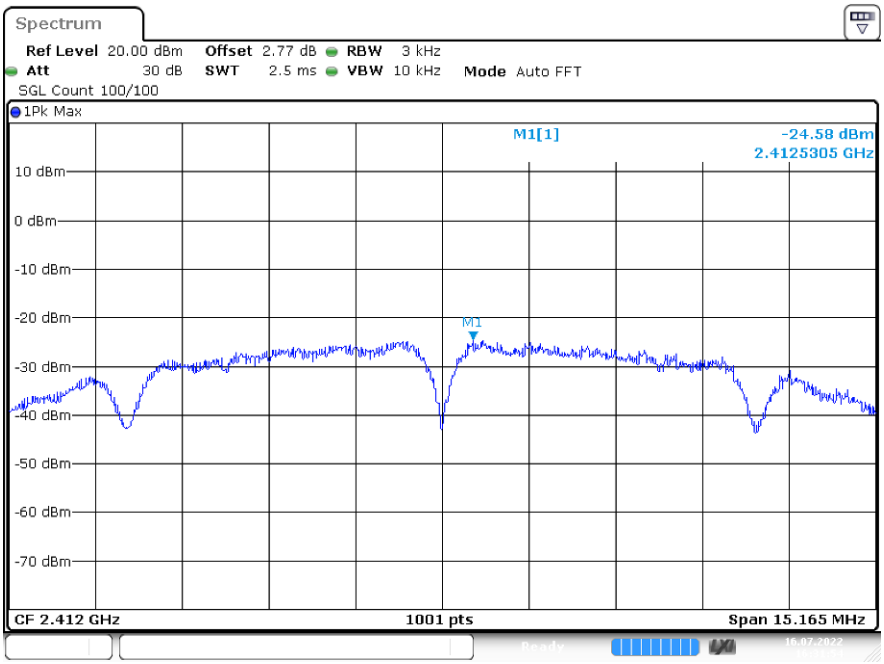
5 Maximum Power Spectral Density Level

5.1 Test Result

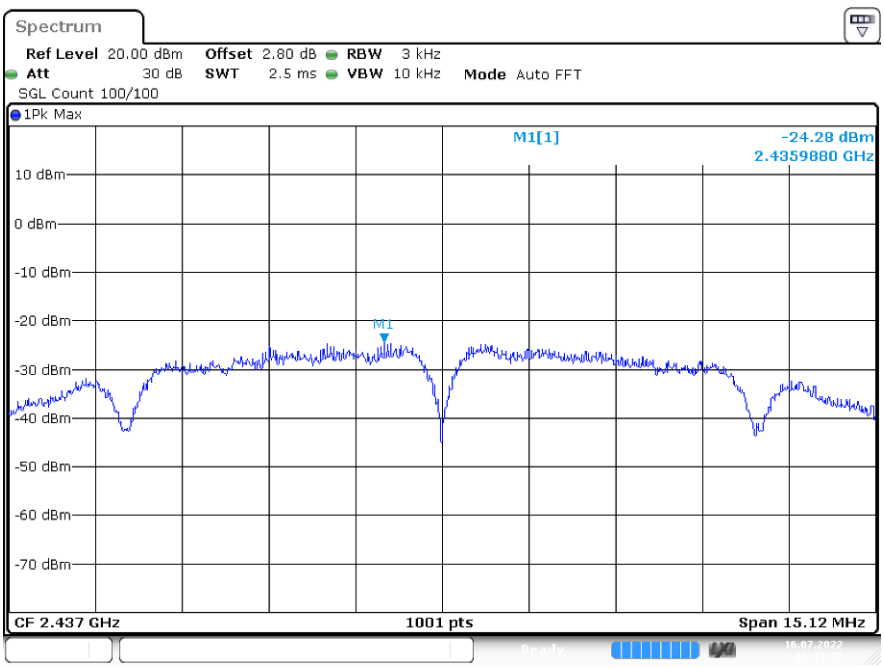
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-24.58	≤8	Pass
b	2437	Ant1	-24.28	≤8	Pass
b	2462	Ant1	-21.63	≤8	Pass
g	2412	Ant1	-28.96	≤8	Pass
g	2437	Ant1	-28.58	≤8	Pass
g	2462	Ant1	-29.37	≤8	Pass
n20	2412	Ant1	-28.29	≤8	Pass
n20	2437	Ant1	-28.65	≤8	Pass
n20	2462	Ant1	-28.49	≤8	Pass
n40	2422	Ant1	-33.48	≤8	Pass
n40	2437	Ant1	-32.78	≤8	Pass
n40	2452	Ant1	-33.52	≤8	Pass

5.2 Test Graphs

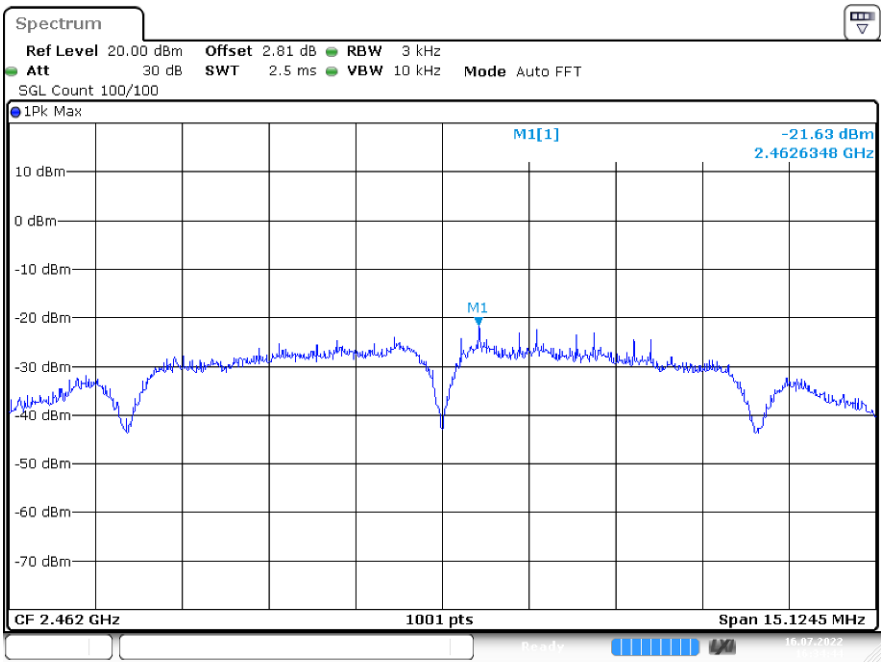
Test Graphs
b 2412MHz Ant1



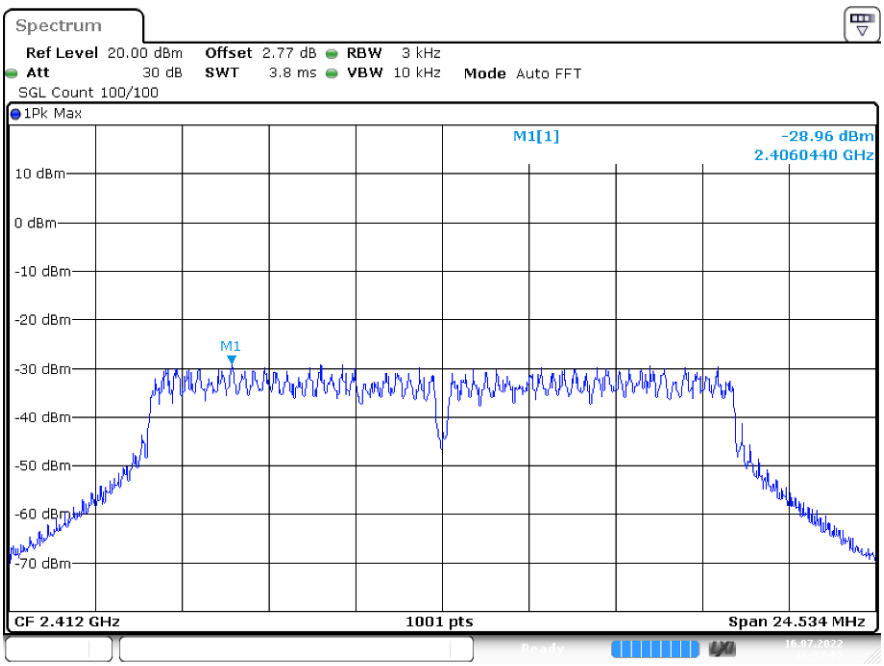
b 2437MHz Ant1



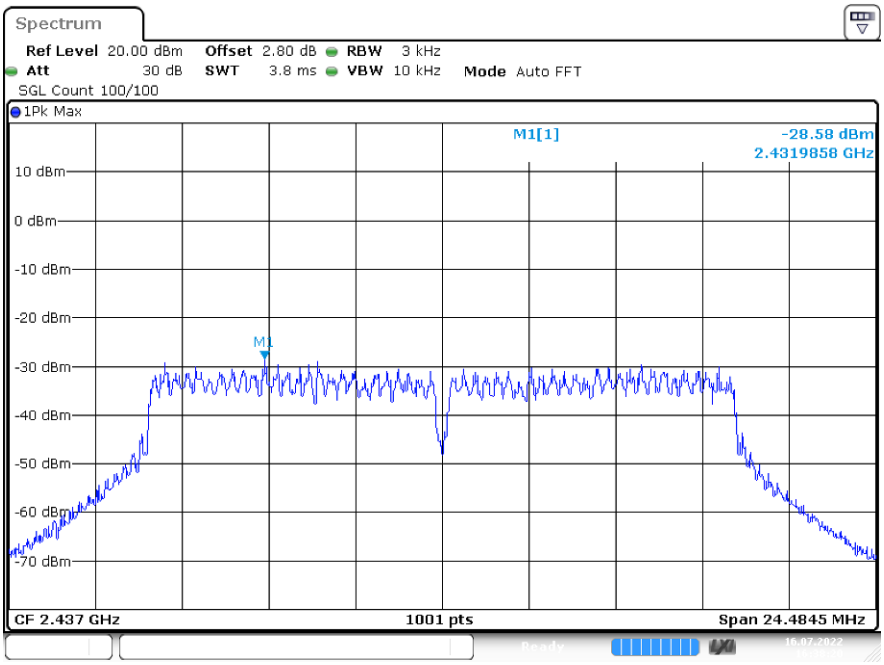
b 2462MHz Ant1



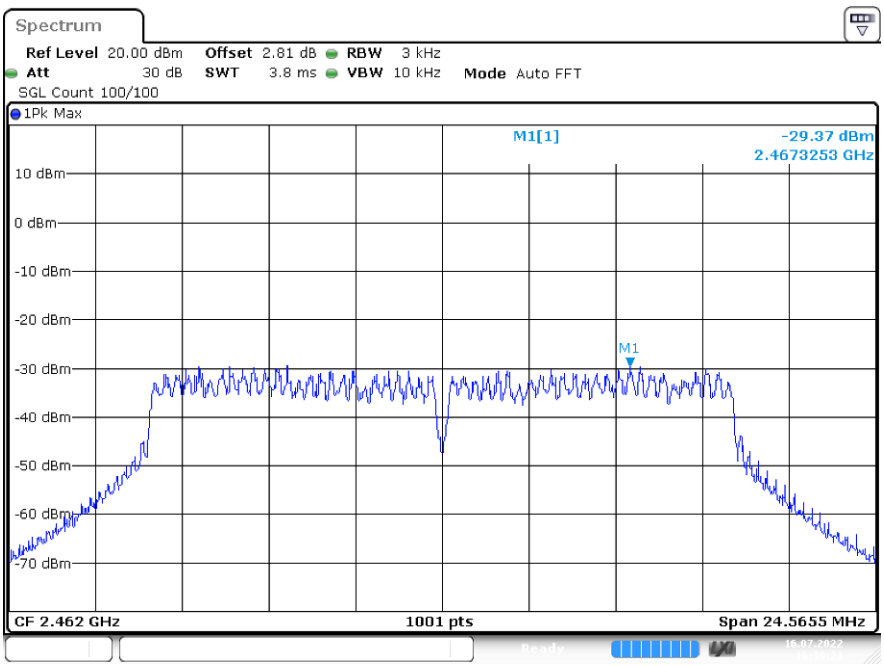
g 2412MHz Ant1



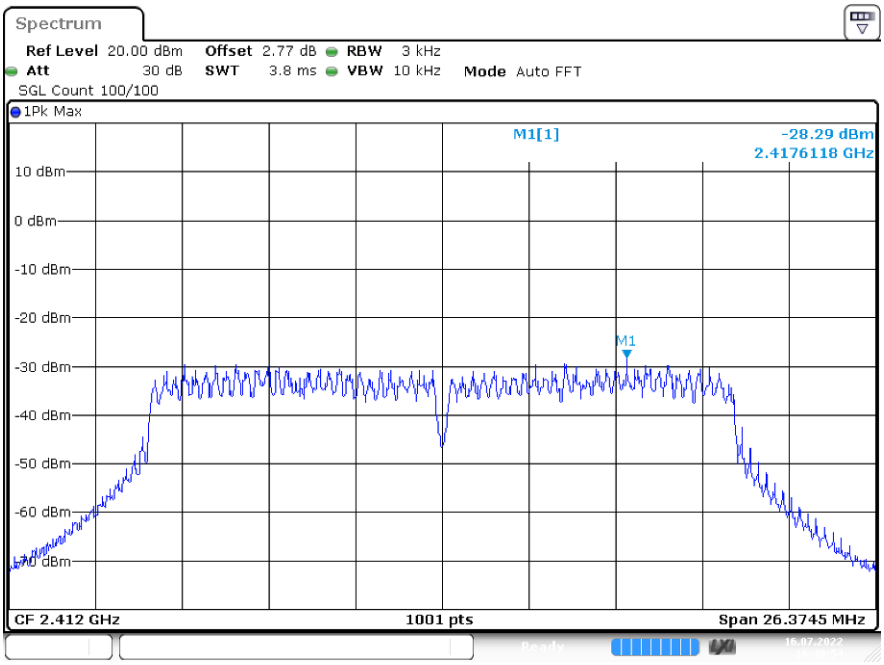
g 2437MHz Ant1



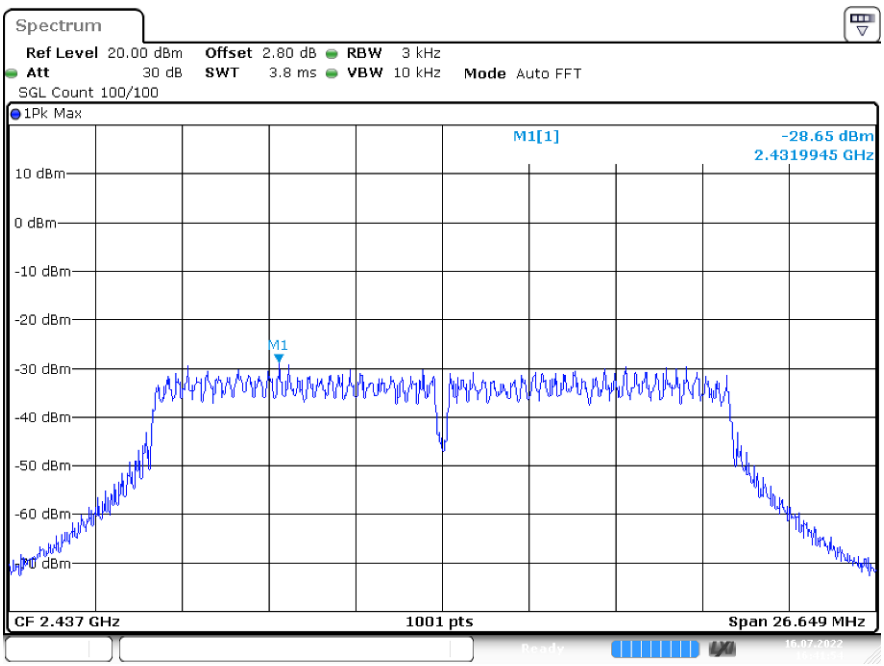
g 2462MHz Ant1



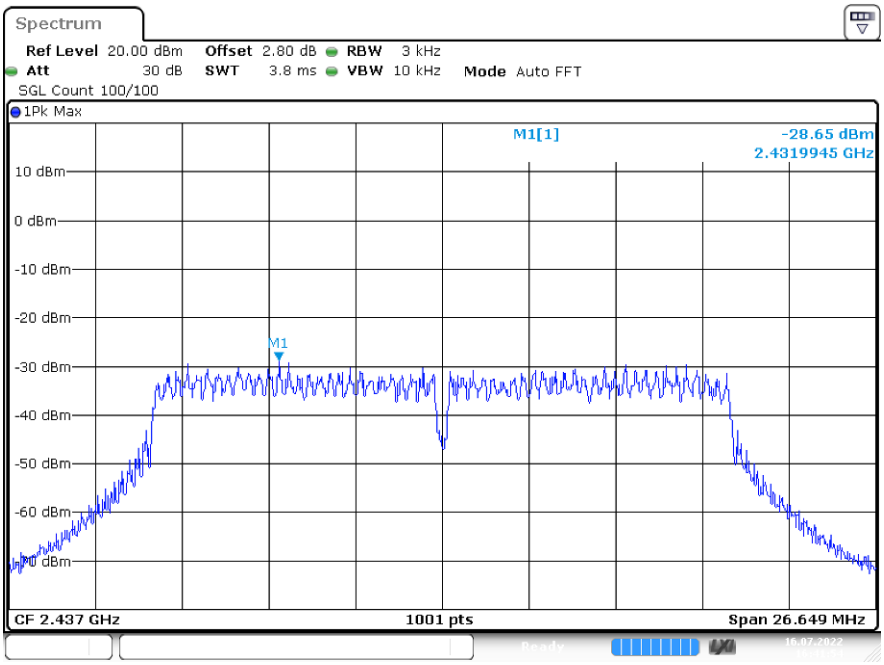
n20 2412MHz Ant1



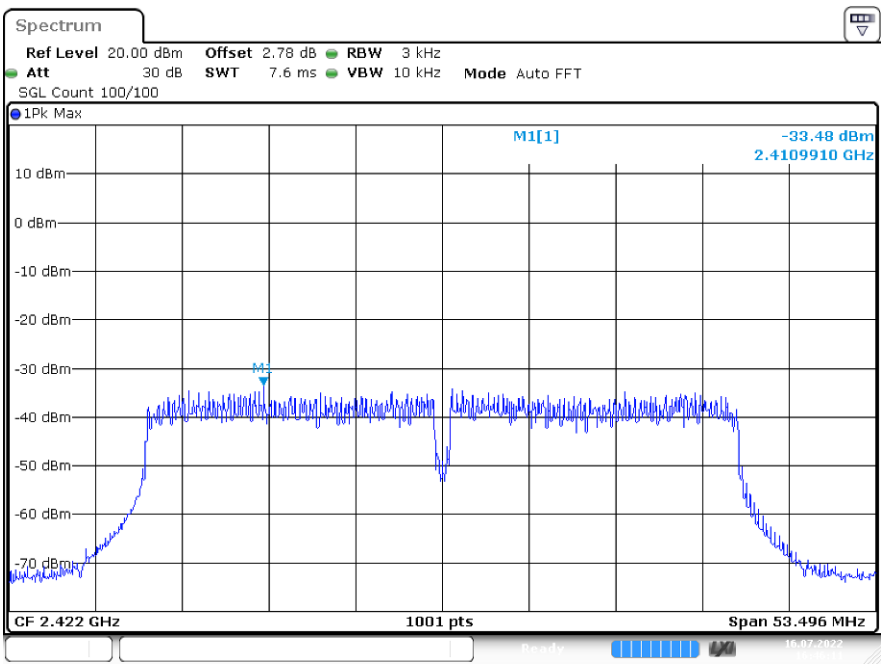
n20 2437MHz Ant1



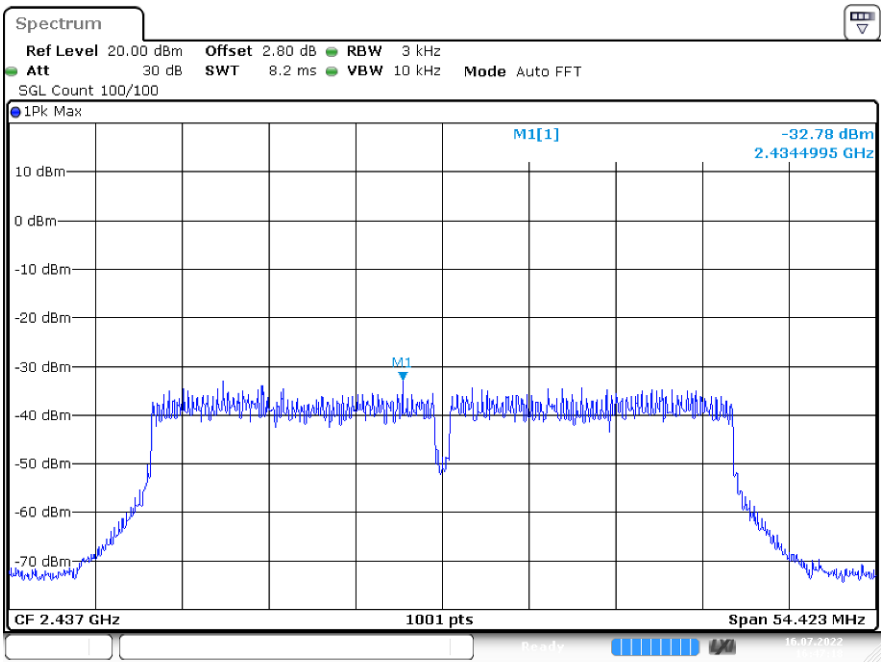
n20 2462MHz Ant1



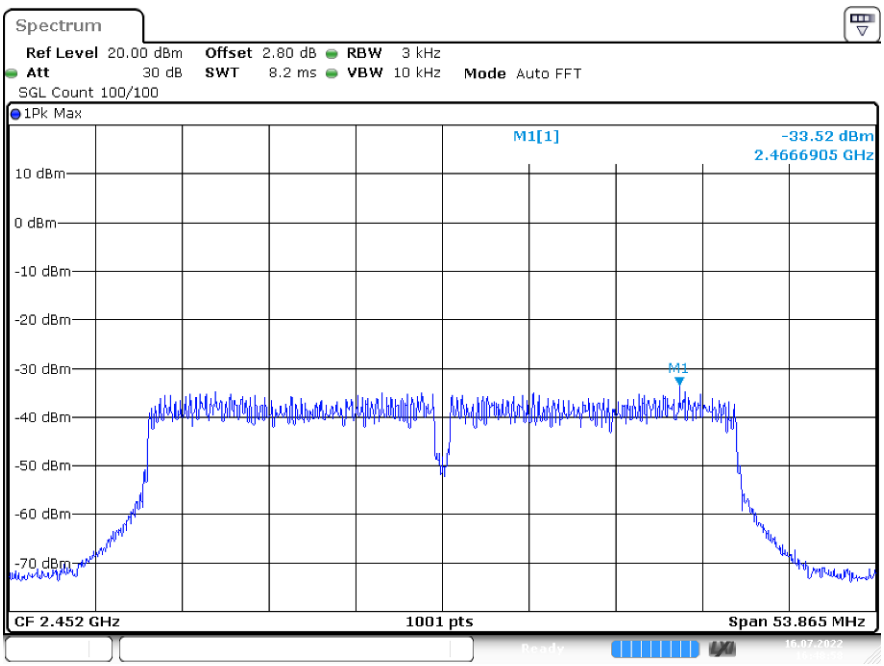
n40 2422MHz Ant1



n40 2437MHz Ant1



n40 2452MHz Ant1



6 Band Edge

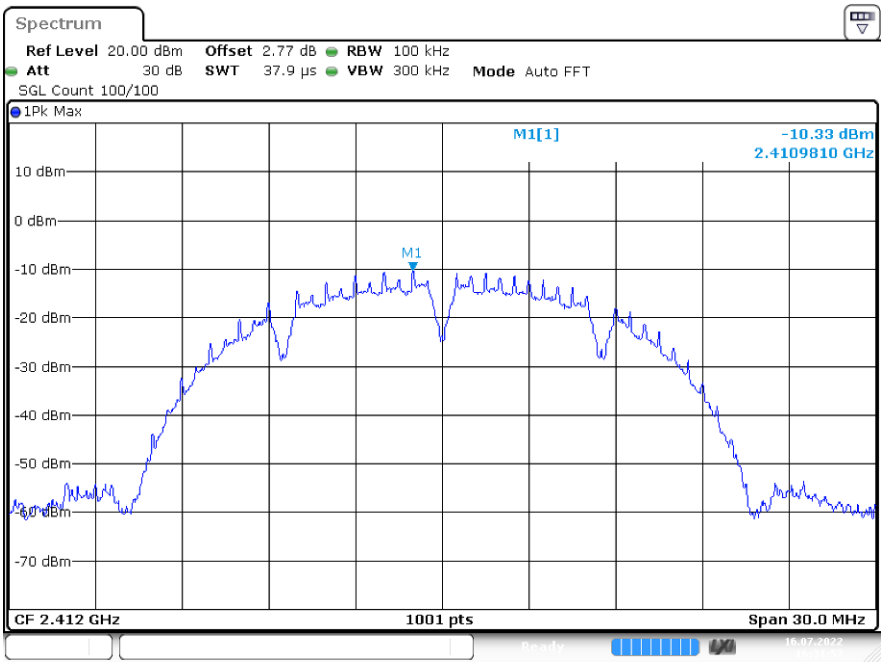
6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-45.22	-20	-45.22
b	2462	Ant1	-45.78	-20	Pass
g	2412	Ant1	-37.28	-20	Pass
g	2462	Ant1	-38.23	-20	Pass
n20	2412	Ant1	-40.93	-20	Pass
n20	2462	Ant1	-40.64	-20	Pass
n40	2422	Ant1	-36.83	-20	Pass
n40	2452	Ant1	-35.42	-20	Pass

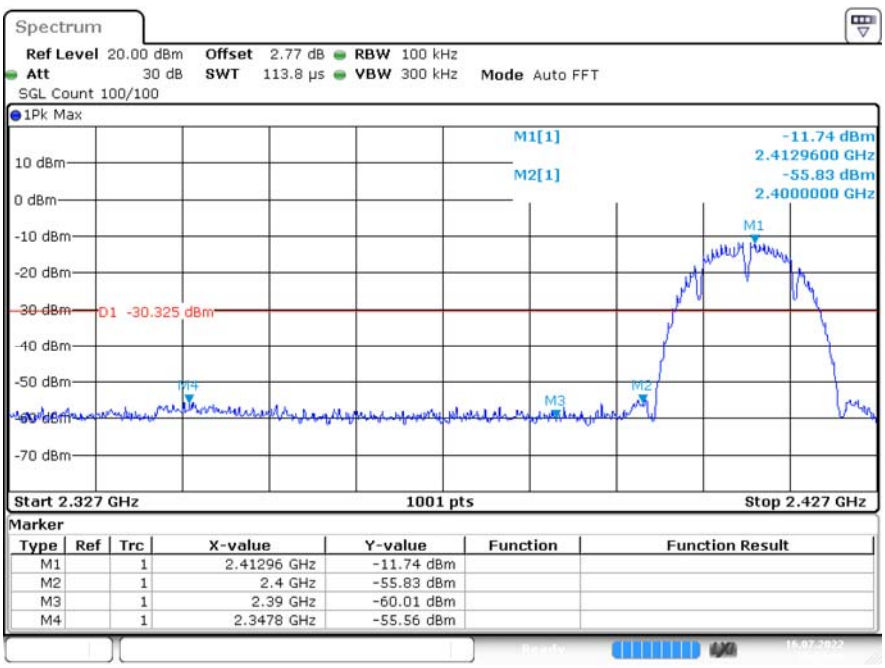
6.2 Test Graphs

Test Graphs

b 2412MHz Ant1 Ref

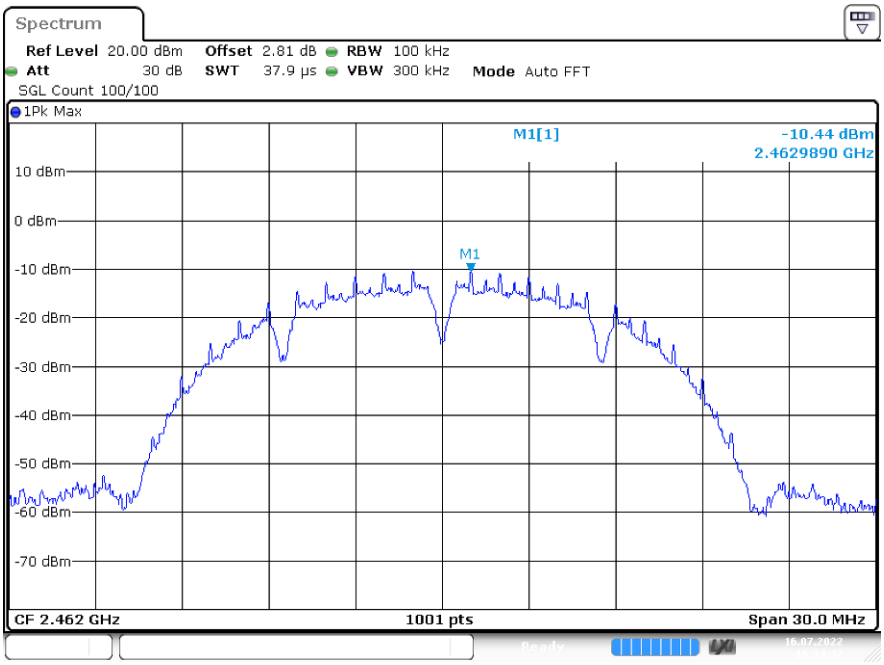


b 2412MHz Ant1 Emission

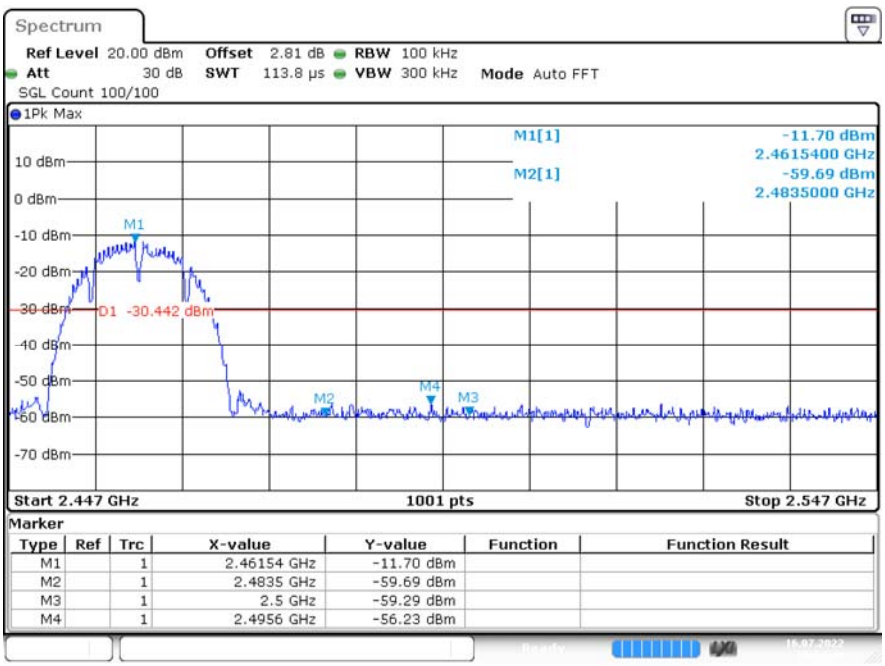


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41296 GHz	-11.74 dBm		
M2		1	2.4 GHz	-55.83 dBm		
M3		1	2.39 GHz	-60.01 dBm		
M4		1	2.3478 GHz	-55.56 dBm		

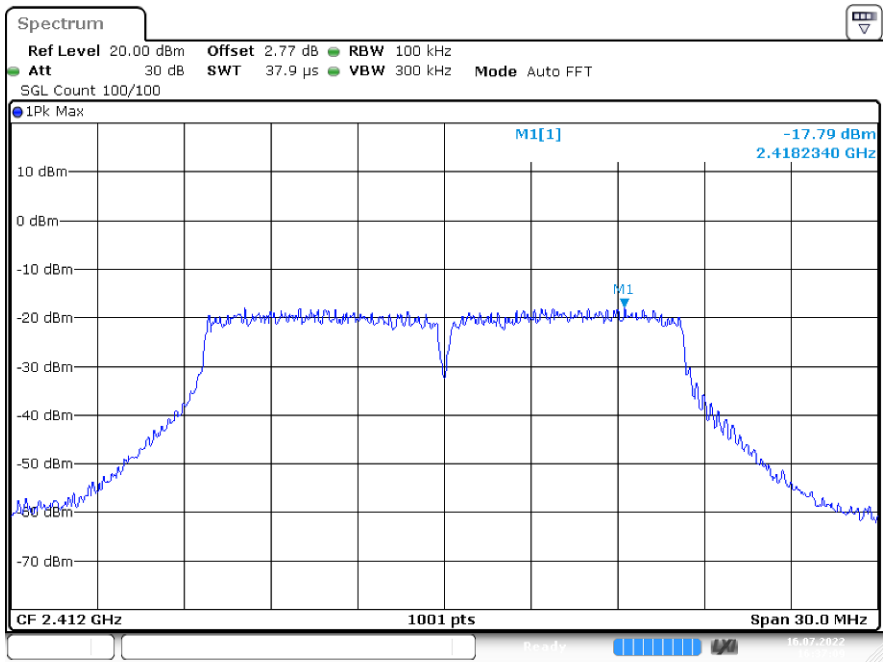
b 2462MHz Ant1 Ref



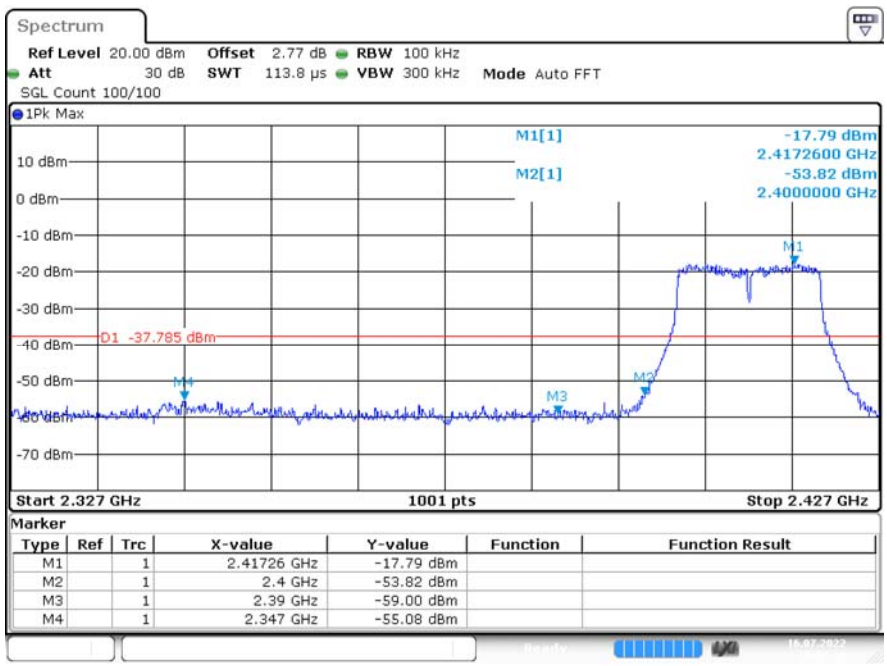
b 2462MHz Ant1 Emission



g 2412MHz Ant1 Ref

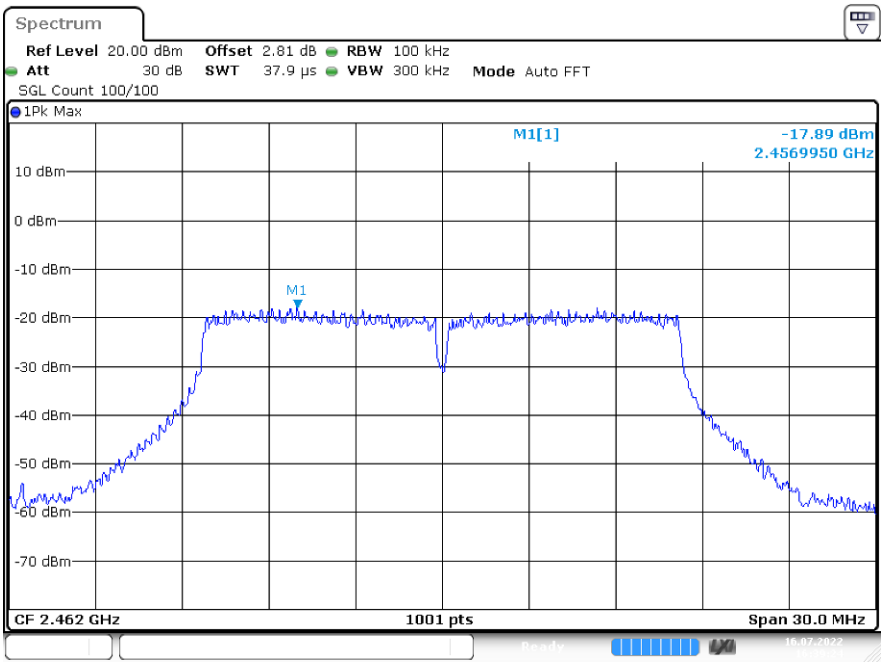


g 2412MHz Ant1 Emission

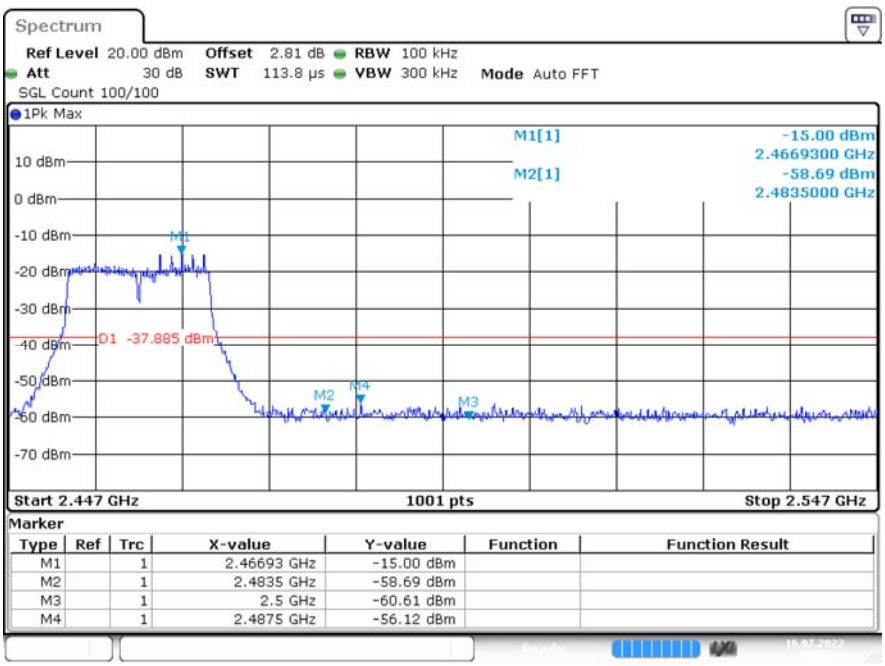


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41726 GHz	-17.79 dBm		
M2		1	2.4 GHz	-53.82 dBm		
M3		1	2.39 GHz	-59.00 dBm		
M4		1	2.347 GHz	-55.08 dBm		

g 2462MHz Ant1 Ref



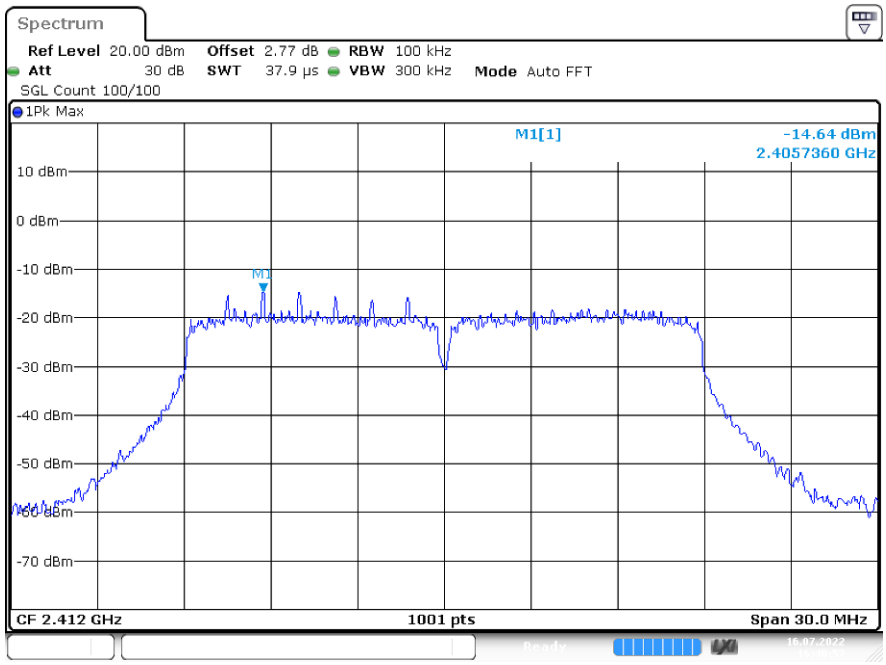
g 2462MHz Ant1 Emission



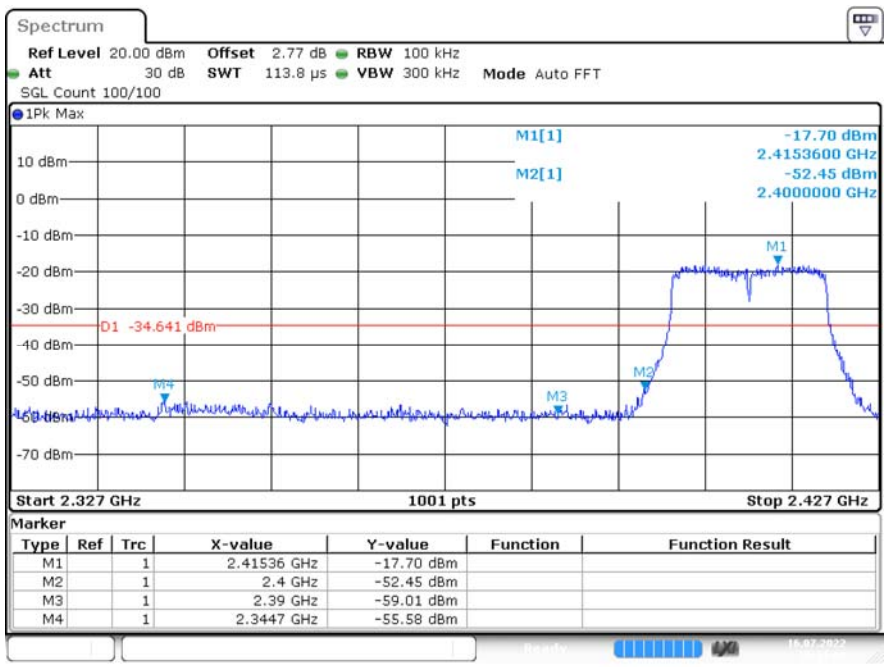
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46693 GHz	-15.00 dBm		
M2		1	2.4835 GHz	-58.69 dBm		
M3		1	2.5 GHz	-60.61 dBm		
M4		1	2.4875 GHz	-56.12 dBm		

n20 2412MHz Ant1 Ref



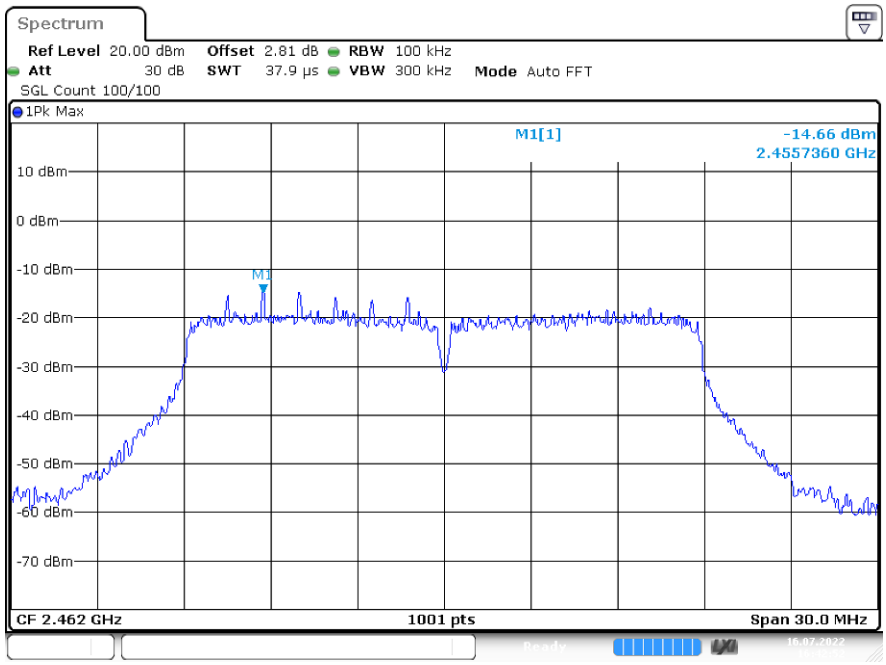
n20 2412MHz Ant1 Emission



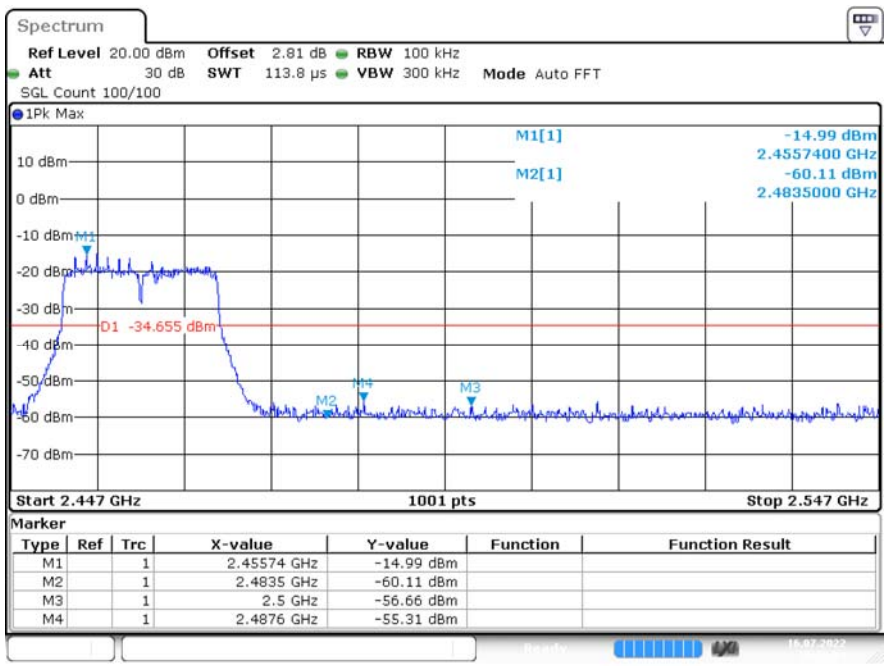
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41536 GHz	-17.70 dBm		
M2		1	2.4 GHz	-52.45 dBm		
M3		1	2.39 GHz	-59.01 dBm		
M4		1	2.3447 GHz	-55.58 dBm		

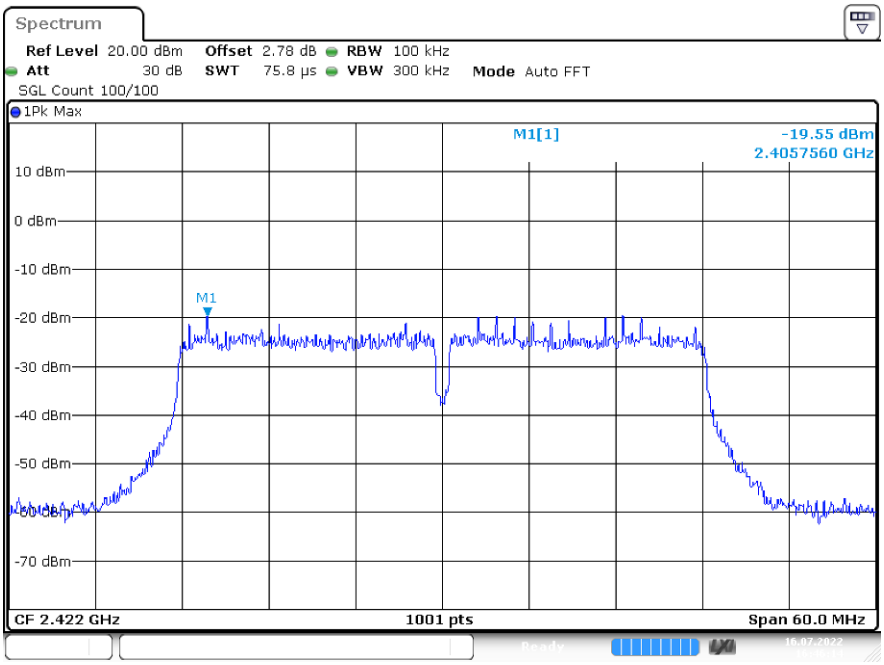
n20 2462MHz Ant1 Ref



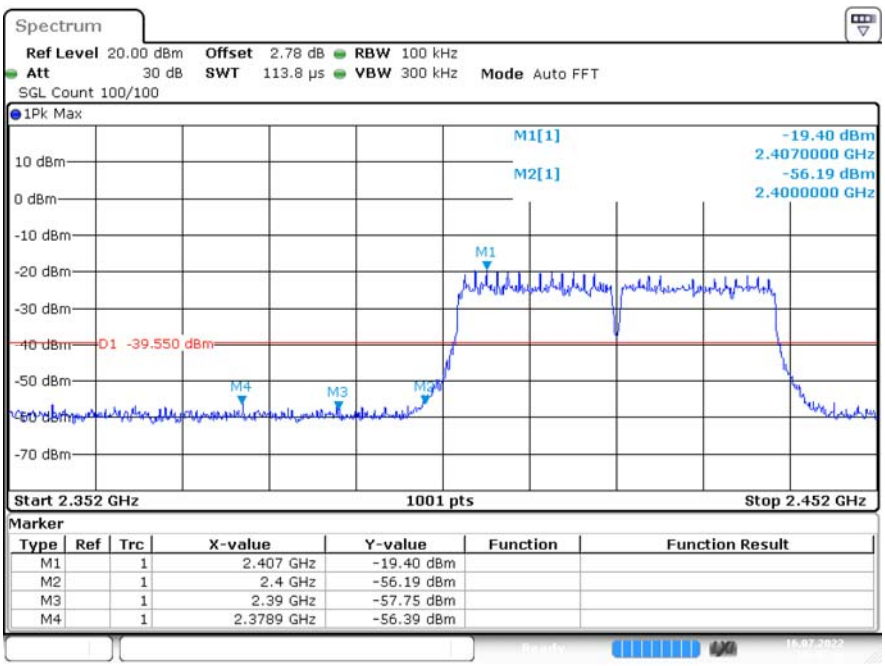
n20 2462MHz Ant1 Emission



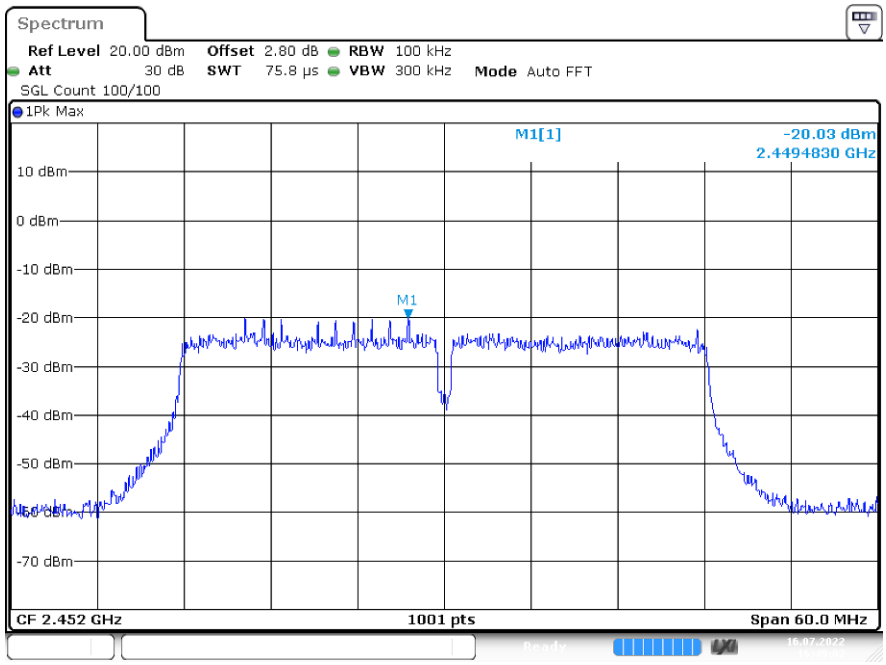
n40 2422MHz Ant1 Ref



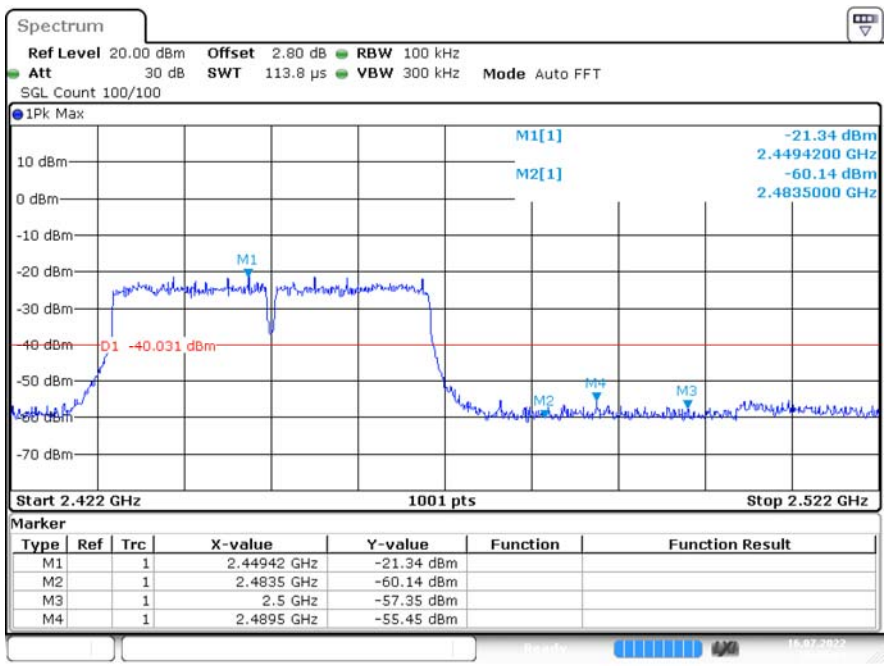
n40 2422MHz Ant1 Emission



n40 2452MHz Ant1 Ref



n40 2452MHz Ant1 Emission



7 Conducted RF Spurious Emission

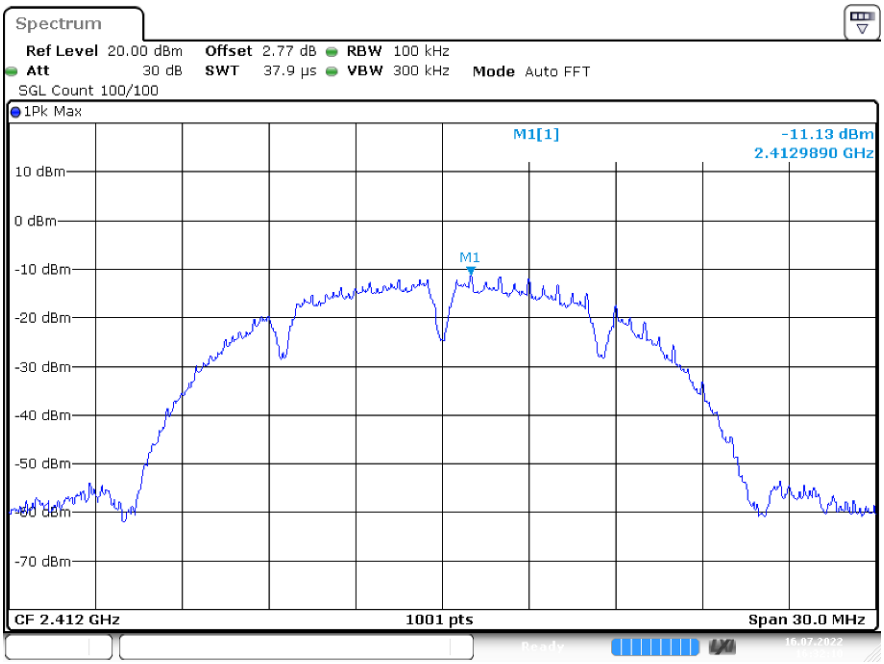
7.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-35.41	-20	Pass
b	2437	Ant1	-35.73	-20	Pass
b	2462	Ant1	-35.24	-20	Pass
g	2412	Ant1	-30.53	-20	Pass
g	2437	Ant1	-28.3	-20	Pass
g	2462	Ant1	-30.73	-20	Pass
n20	2412	Ant1	-30.5	-20	Pass
n20	2437	Ant1	-31.67	-20	Pass
n20	2462	Ant1	-29.15	-20	Pass
n40	2422	Ant1	-25.27	-20	Pass
n40	2437	Ant1	-26.73	-20	Pass
n40	2452	Ant1	-25.02	-20	Pass

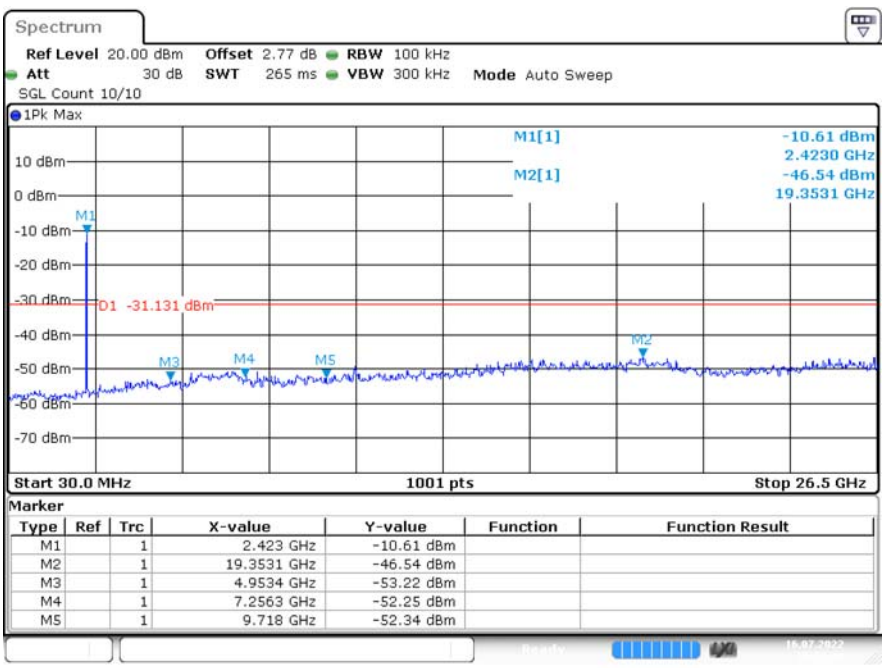
7.2 Test Graphs

Test Graphs

b 2412MHz Ant1 Ref



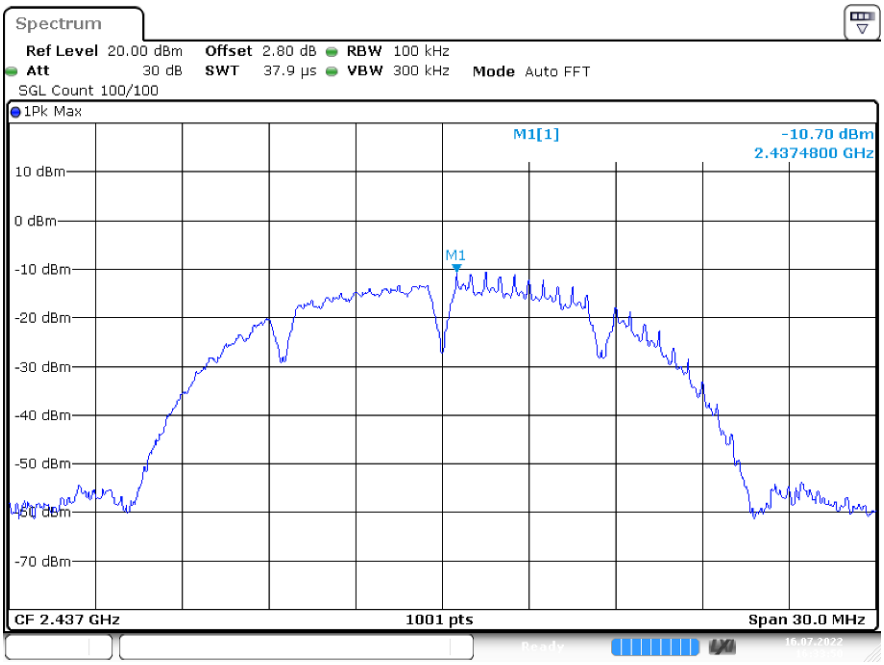
b 2412MHz Ant1 Emission



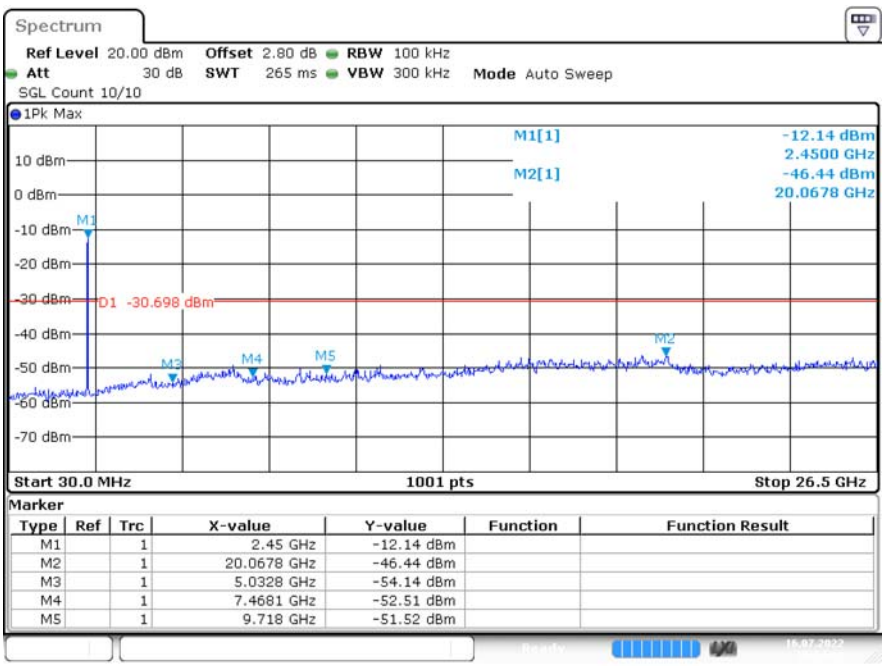
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	-10.61 dBm		
M2		1	19.3531 GHz	-46.54 dBm		
M3		1	4.9534 GHz	-53.22 dBm		
M4		1	7.2563 GHz	-52.25 dBm		
M5		1	9.718 GHz	-52.34 dBm		

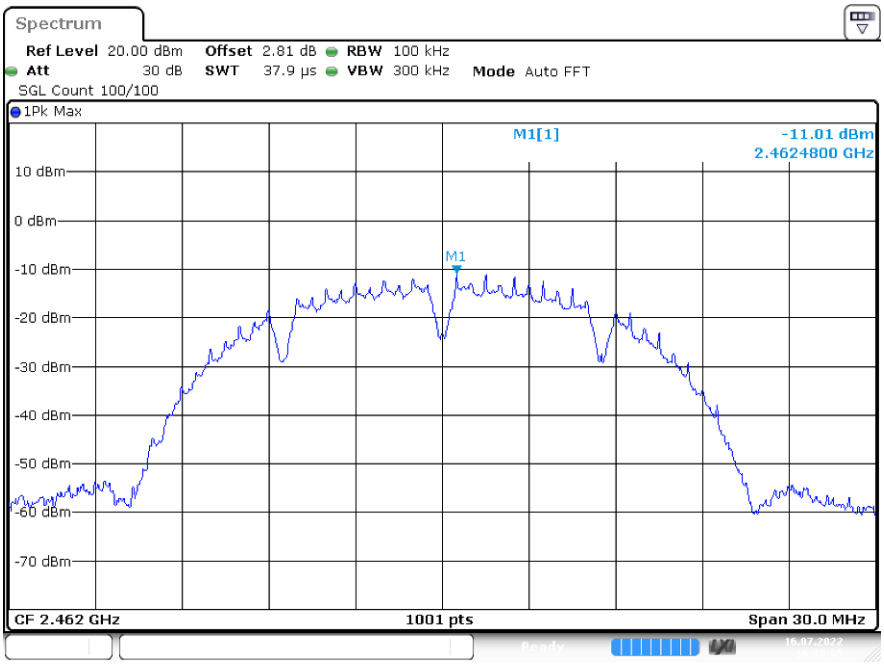
b 2437MHz Ant1 Ref



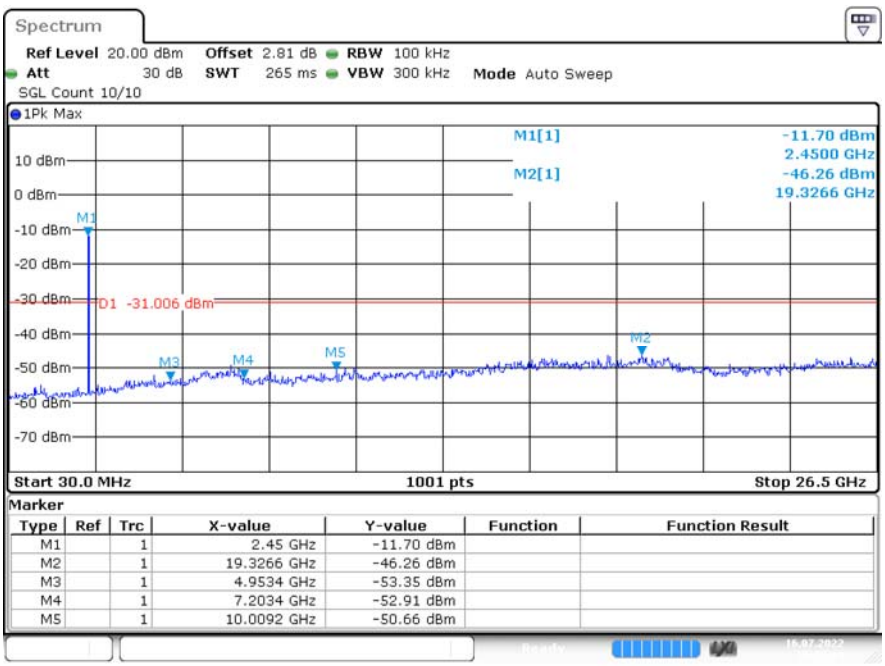
b 2437MHz Ant1 Emission



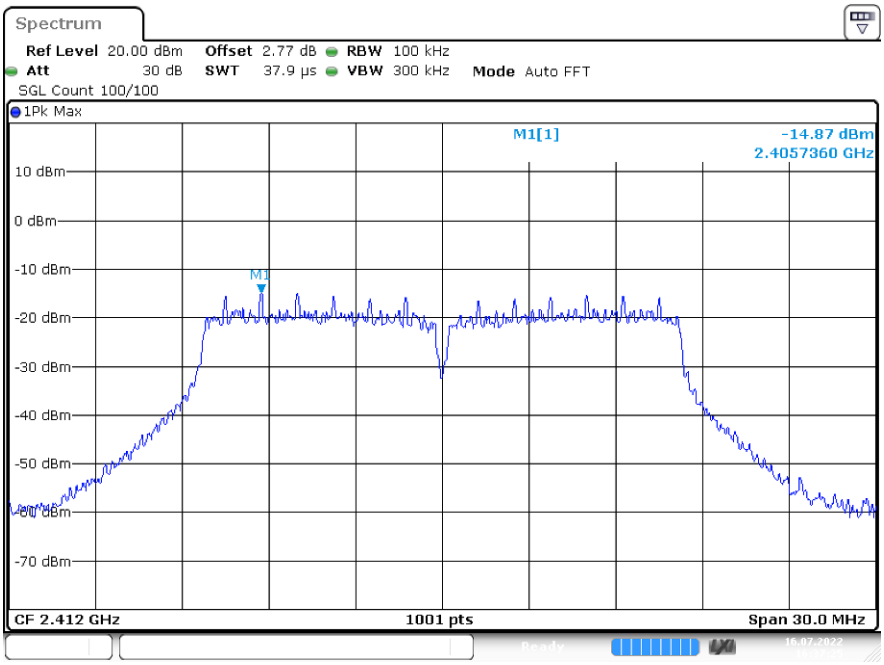
b 2462MHz Ant1 Ref



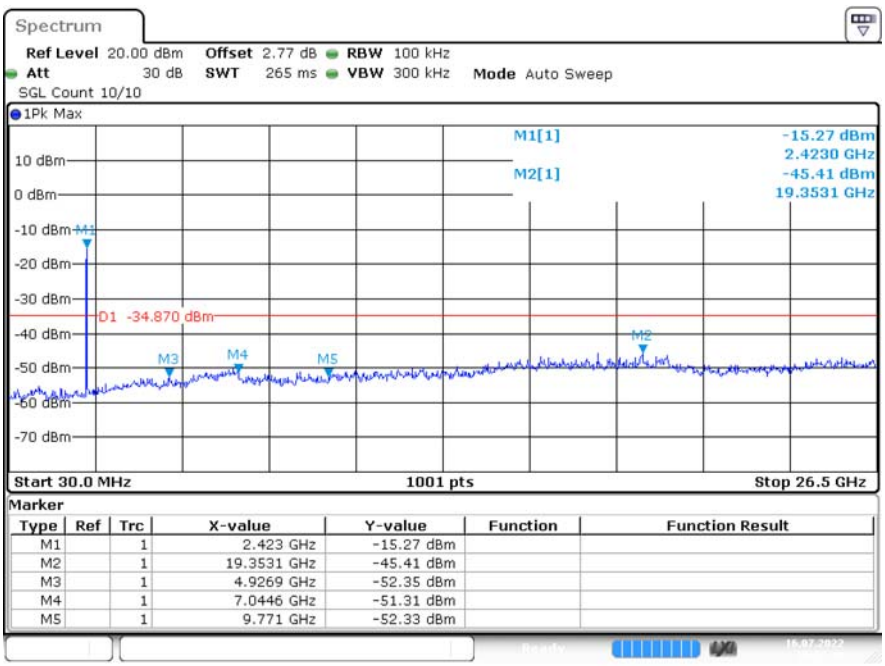
b 2462MHz Ant1 Emission



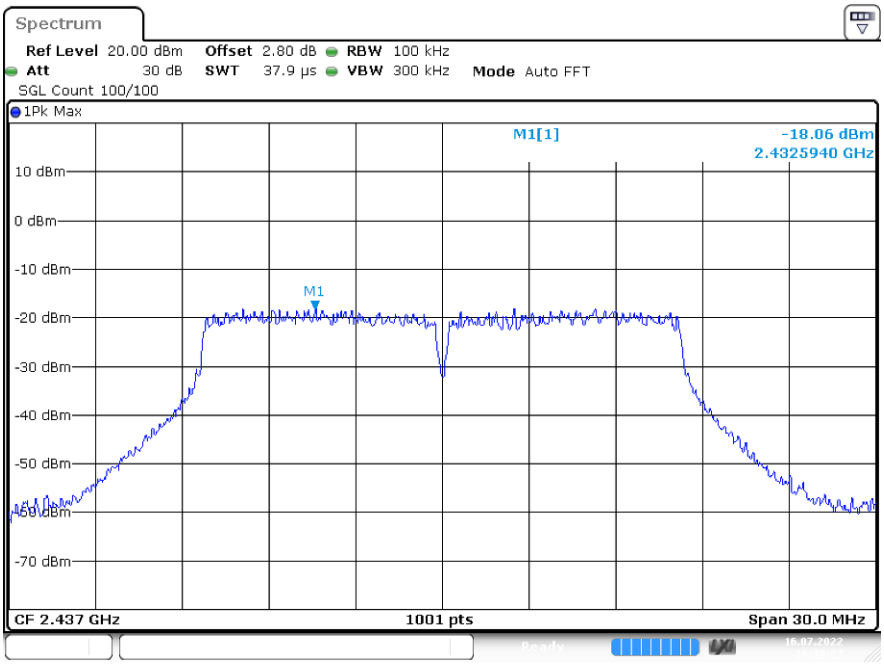
g 2412MHz Ant1 Ref



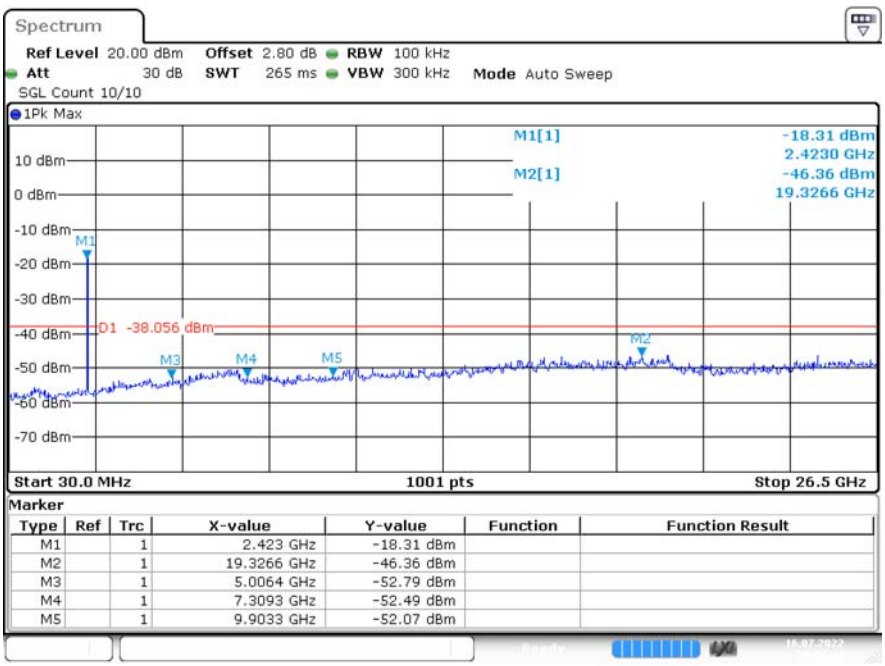
g 2412MHz Ant1 Emission



g 2437MHz Ant1 Ref



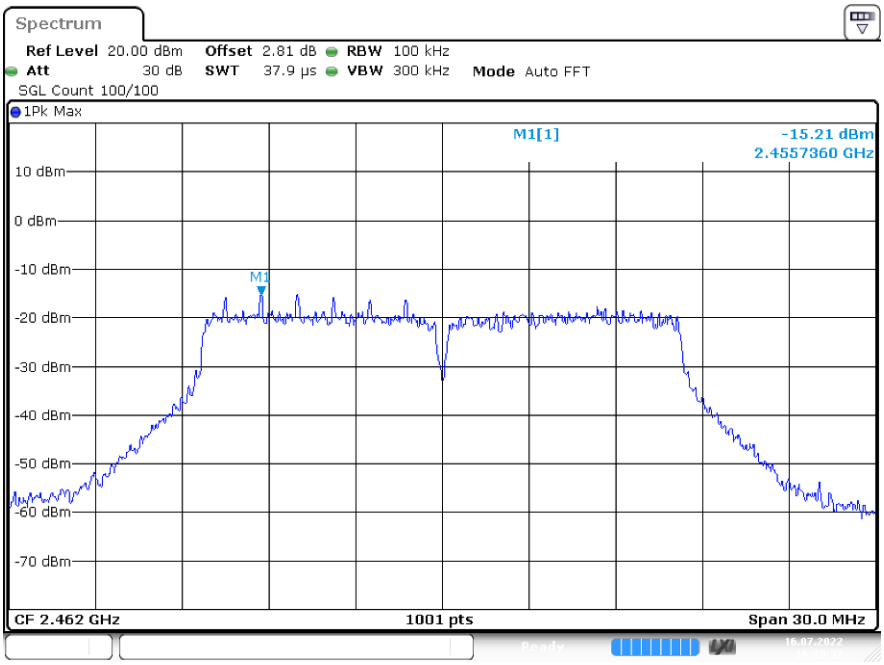
g 2437MHz Ant1 Emission



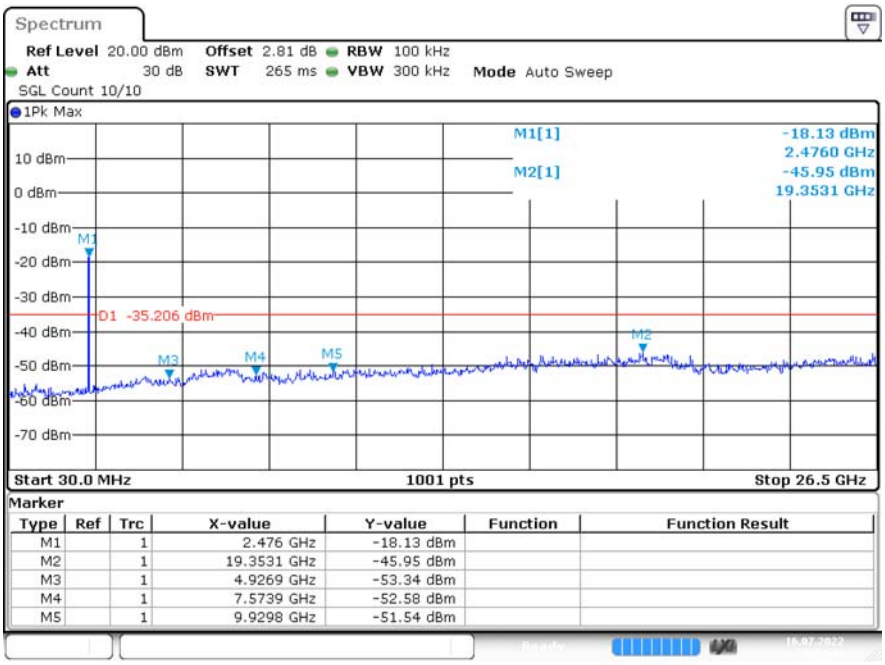
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	-18.31 dBm		
M2		1	19.3266 GHz	-46.36 dBm		
M3		1	5.0064 GHz	-52.79 dBm		
M4		1	7.3093 GHz	-52.49 dBm		
M5		1	9.9033 GHz	-52.07 dBm		

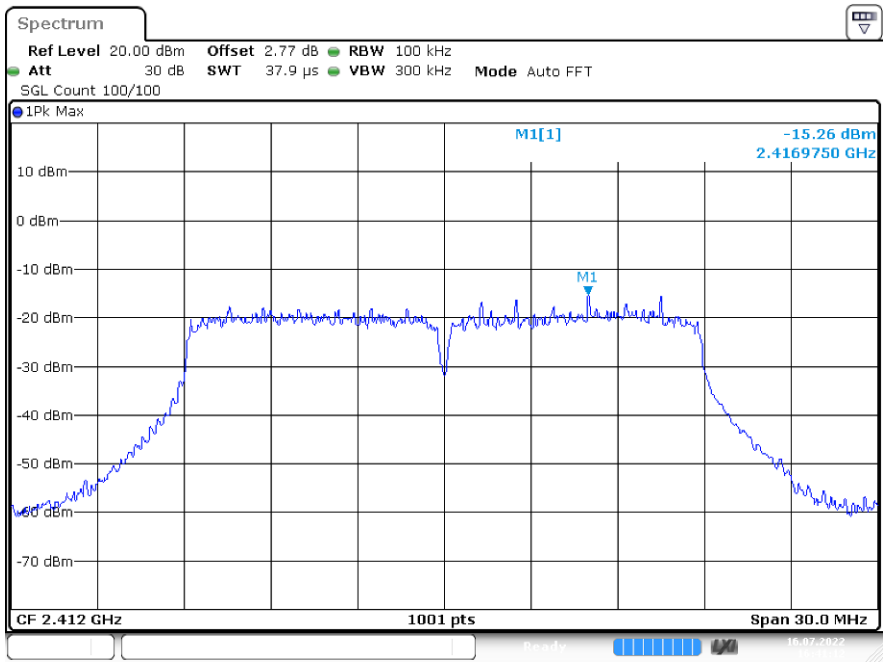
g 2462MHz Ant1 Ref



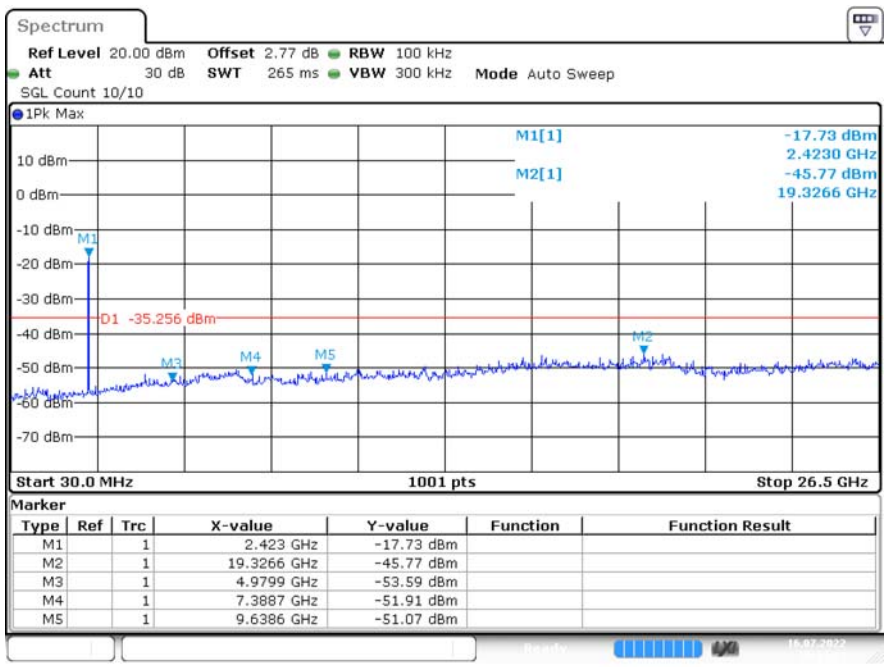
g 2462MHz Ant1 Emission



n20 2412MHz Ant1 Ref

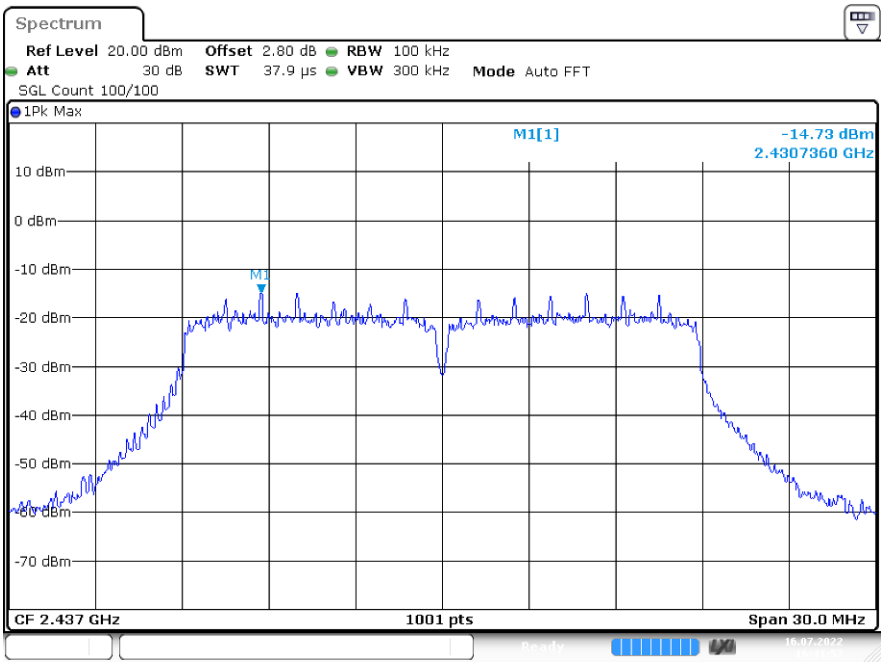


n20 2412MHz Ant1 Emission

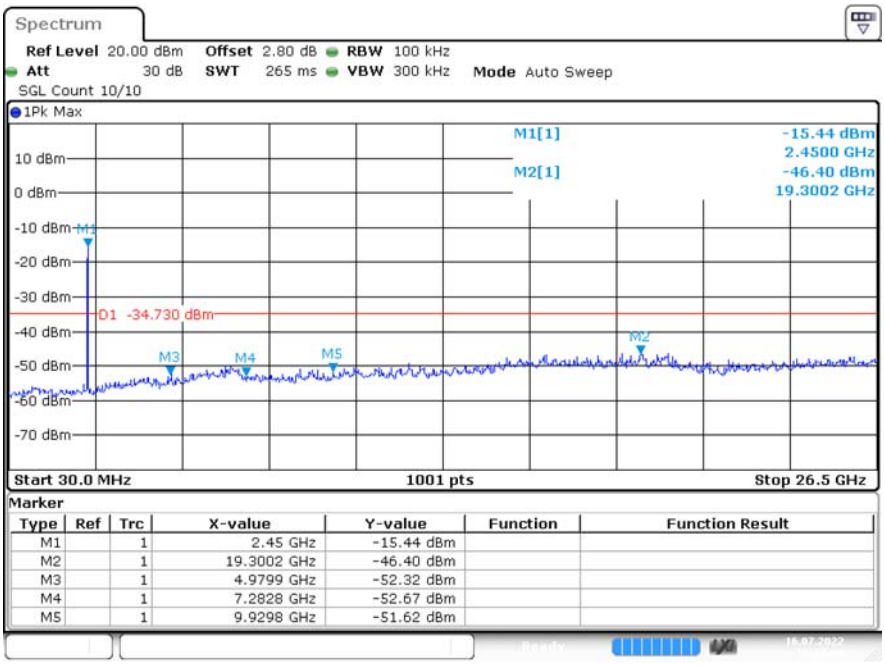


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	-17.73 dBm		
M2		1	19.3266 GHz	-45.77 dBm		
M3		1	4.9799 GHz	-53.59 dBm		
M4		1	7.3887 GHz	-51.91 dBm		
M5		1	9.6386 GHz	-51.07 dBm		

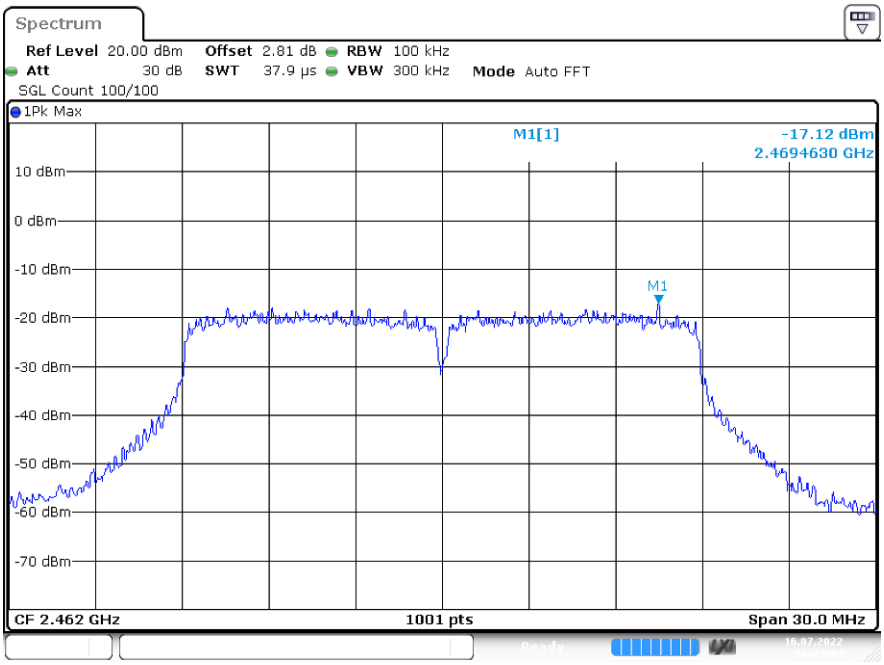
n20 2437MHz Ant1 Ref



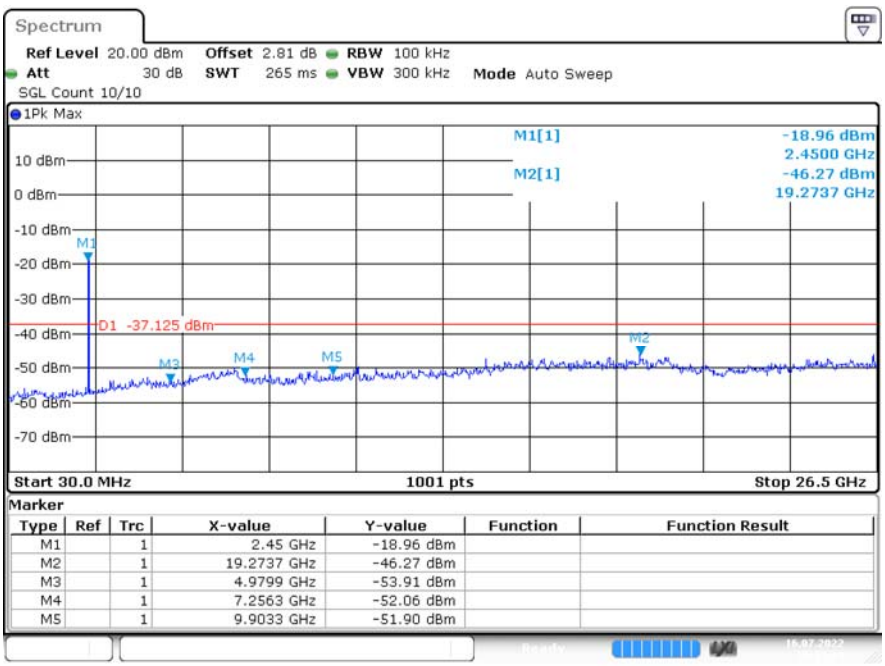
n20 2437MHz Ant1 Emission



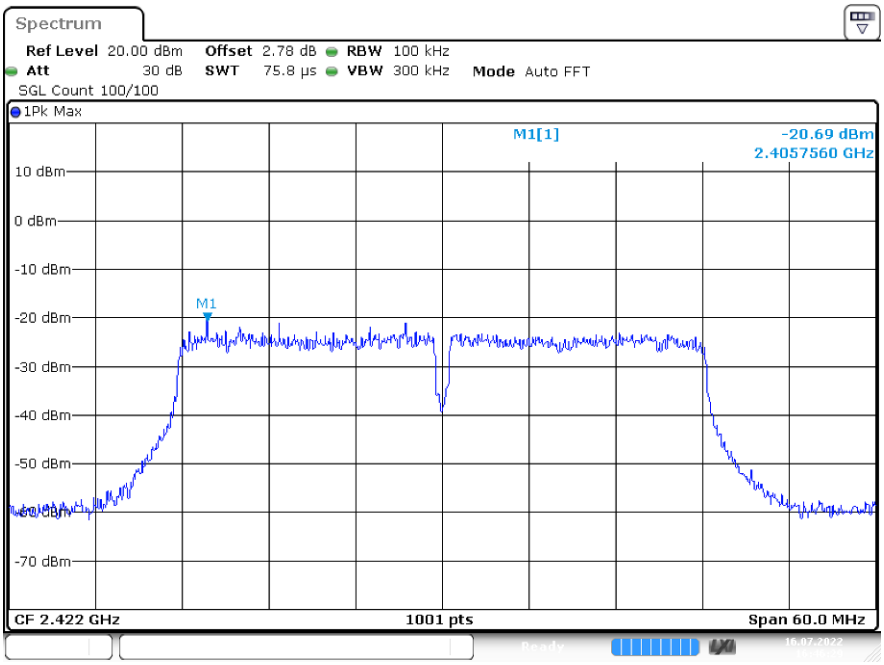
n20 2462MHz Ant1 Ref



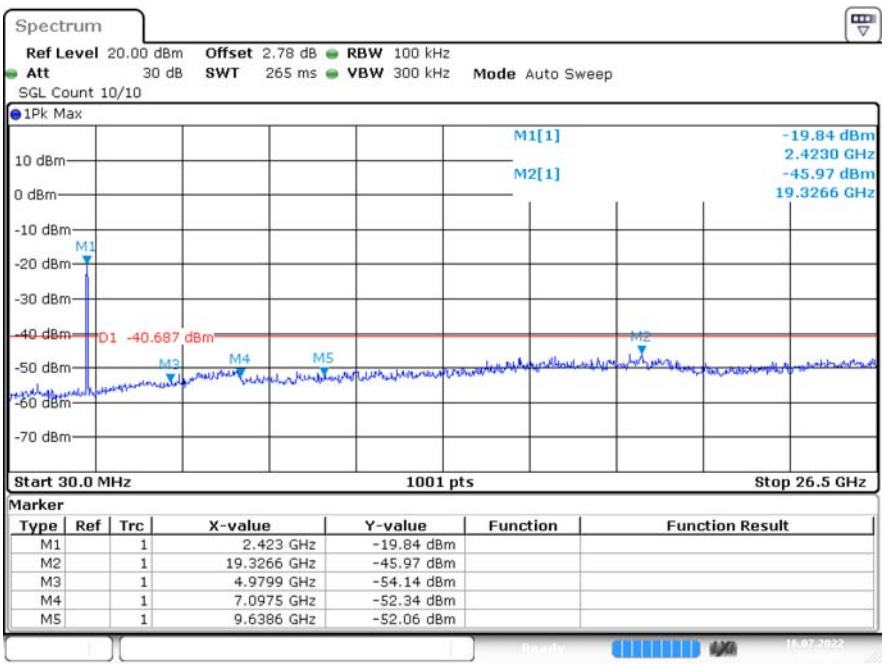
n20 2462MHz Ant1 Emission



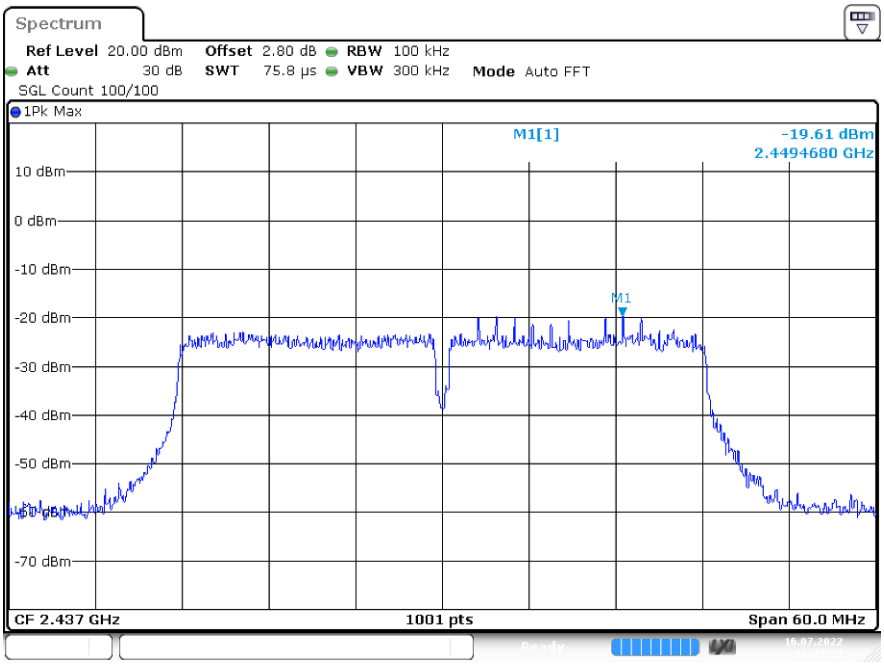
n40 2422MHz Ant1 Ref



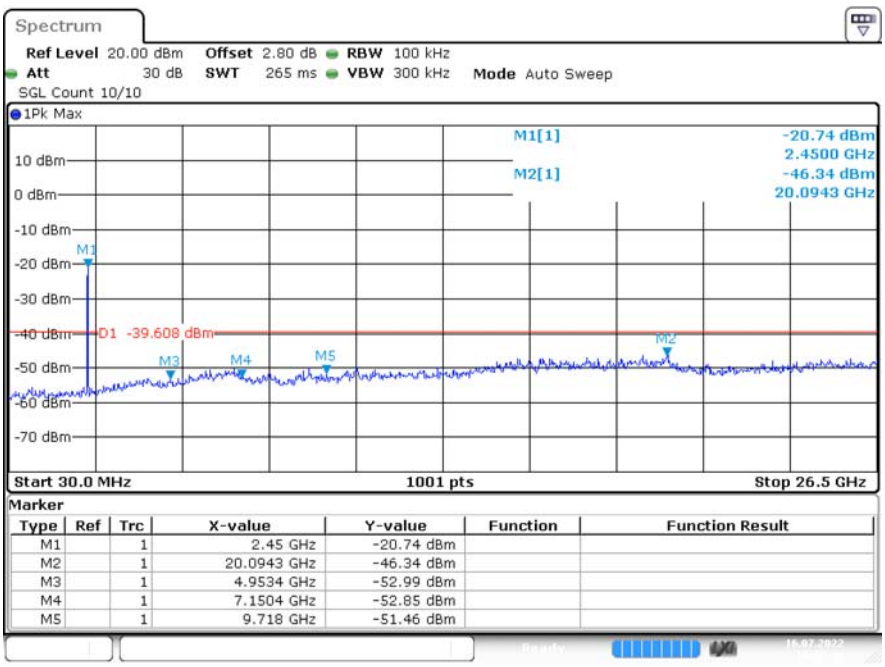
n40 2422MHz Ant1 Emission



n40 2437MHz Ant1 Ref

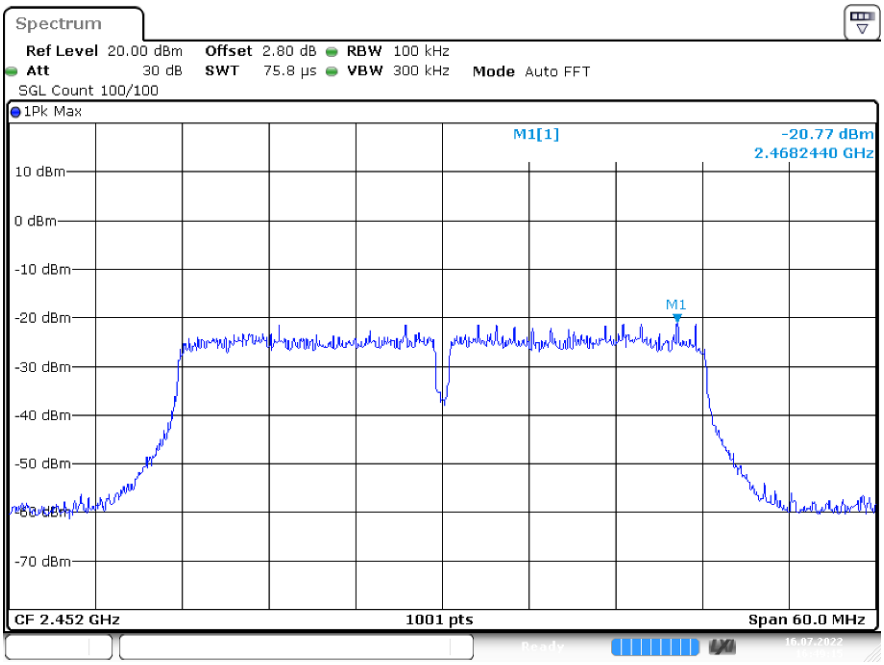


n40 2437MHz Ant1 Emission

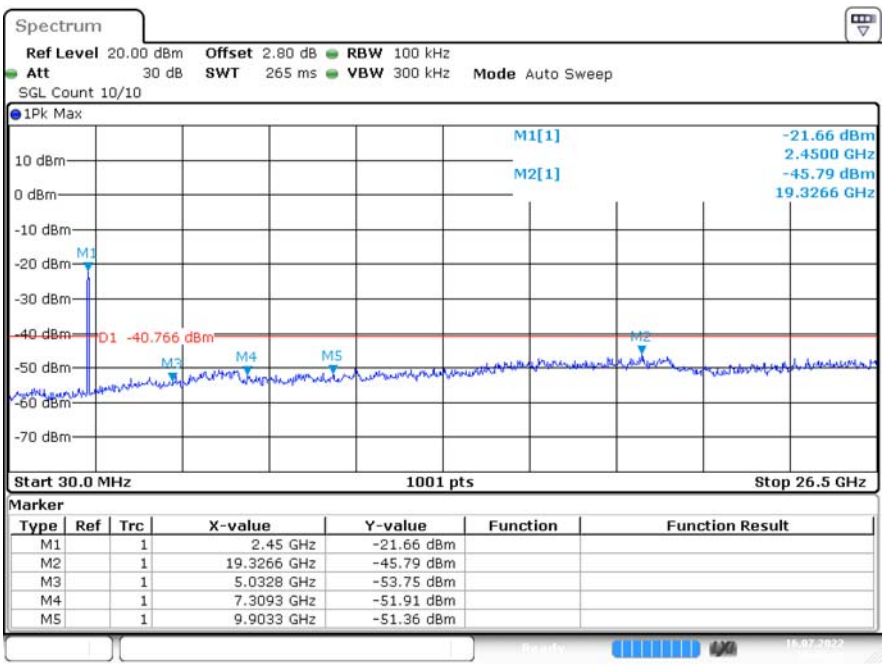


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45 GHz	-20.74 dBm		
M2		1	20.0943 GHz	-46.34 dBm		
M3		1	4.9534 GHz	-52.99 dBm		
M4		1	7.1504 GHz	-52.85 dBm		
M5		1	9.718 GHz	-51.46 dBm		

n40 2452MHz Ant1 Ref



n40 2452MHz Ant1 Emission



8 Restrict Band

8.1 Test Result

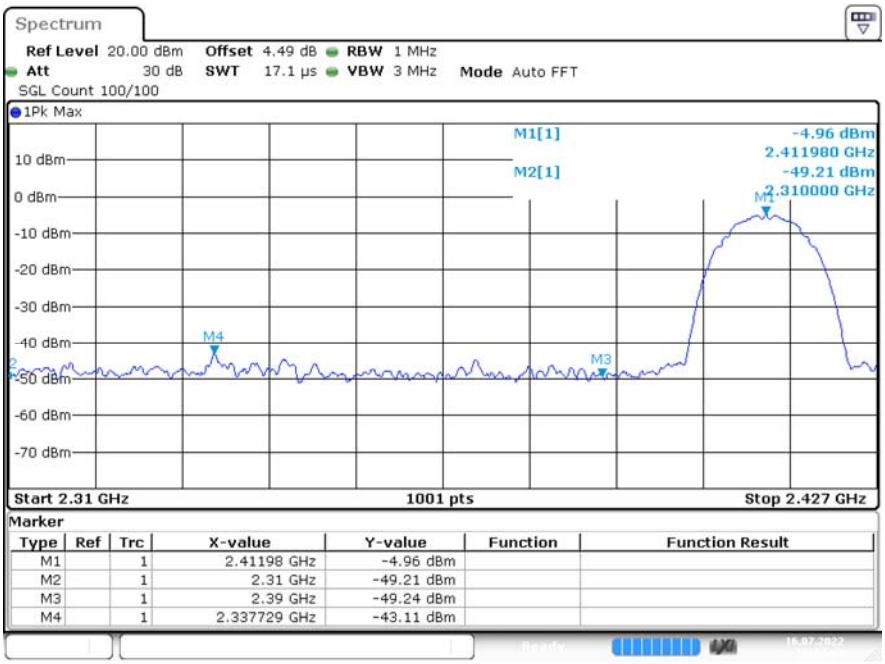
Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
b	2412	Ant1	2310	-49.2	2	48.06	Peak	74	Pass
b	2412	Ant1	2310	-57.45	2	39.81	Average	54	Pass
b	2412	Ant1	2337.729	-43.1	2	54.16	Peak	74	Pass
b	2412	Ant1	2336.793	-55.53	2	41.73	Average	54	Pass
b	2412	Ant1	2390	-49.23	2	48.03	Peak	74	Pass
b	2412	Ant1	2390	-57.68	2	39.58	Average	54	Pass
b	2462	Ant1	2483.5	-48.75	2	48.51	Peak	74	48.51
b	2462	Ant1	2483.5	-57.37	2	39.89	Average	54	Pass
b	2462	Ant1	2489.347	-45.67	2	51.59	Peak	74	Pass
b	2462	Ant1	2486.114	-57.29	2	39.97	Average	54	Pass
b	2462	Ant1	2500	-47.97	2	49.29	Peak	74	Pass
b	2462	Ant1	2500	-57.32	2	39.94	Average	54	Pass
g	2412	Ant1	2310	-47.68	2	49.58	Peak	74	Pass
g	2412	Ant1	2310	-57.35	2	39.91	Average	54	Pass
g	2412	Ant1	2342.058	-44.95	2	52.31	Peak	74	Pass
g	2412	Ant1	2337.261	-55.16	2	42.1	Average	54	Pass
g	2412	Ant1	2390	-49.42	2	48.03	Peak	74	Pass
g	2412	Ant1	2390	-57.44	2	39.82	Average	54	Pass
g	2462	Ant1	2483.5	-48.31	2	48.95	Peak	74	Pass
g	2462	Ant1	2483.5	-56.79	2	40.47	Average	54	Pass
g	2462	Ant1	2489.347	-45.62	2	51.64	Peak	74	Pass
g	2462	Ant1	2498.198	-56.62	2	40.64	Average	54	Pass
g	2462	Ant1	2500	-47.62	2	49.29	Peak	74	Pass
g	2462	Ant1	2500	-56.86	2	40.4	Average	54	Pass
n20	2412	Ant1	2310	-48.66	2	48.6	Peak	74	Pass
n20	2412	Ant1	2310	-56.92	2	40.34	Average	54	Pass
n20	2412	Ant1	2340.888	-44.84	2	52.42	Peak	74	Pass
n20	2412	Ant1	2337.027	-55.06	2	42.2	Average	54	Pass
n20	2412	Ant1	2390	-48.7	2	48.56	Peak	74	Pass
n20	2412	Ant1	2390	-57.39	2	39.87	Average	54	Pass
n20	2462	Ant1	2483.5	-47.8	2	49.46	Peak	74	Pass
n20	2462	Ant1	2483.5	-56.49	2	40.77	Average	54	Pass
n20	2462	Ant1	2496.396	-46.38	2	50.88	Peak	74	Pass
n20	2462	Ant1	2498.516	-56.34	2	40.92	Average	54	Pass

n20	2462	Ant1	2500	-46.57	2	50.69	Peak	74	Pass
n20	2462	Ant1	2500	-56.6	2	40.66	Average	54	Pass
n40	2422	Ant1	2310	-49.28	2	47.98	Peak	74	Pass
n40	2422	Ant1	2310	-56.25	2	41.01	Average	54	Pass
n40	2422	Ant1	2338.826	-44.27	2	52.99	Peak	74	Pass
n40	2422	Ant1	2339.536	-54.7	2	42.56	Average	54	Pass
n40	2422	Ant1	2390	-47.9	2	49.36	Peak	74	Pass
n40	2422	Ant1	2390	-56.86	2	40.4	Average	54	Pass
n40	2452	Ant1	2483.5	-48.72	2	48.54	Peak	74	Pass
n40	2452	Ant1	2483.5	-56.43	2	40.83	Average	54	Pass
n40	2452	Ant1	2488.768	-46.29	2	50.97	Peak	74	Pass
n40	2452	Ant1	2498.908	-55.9	2	41.36	Average	54	Pass
n40	2452	Ant1	2500	-50.19	2	47.07	Peak	74	Pass
n40	2452	Ant1	2500	-56.54	2	40.72	Average	54	Pass

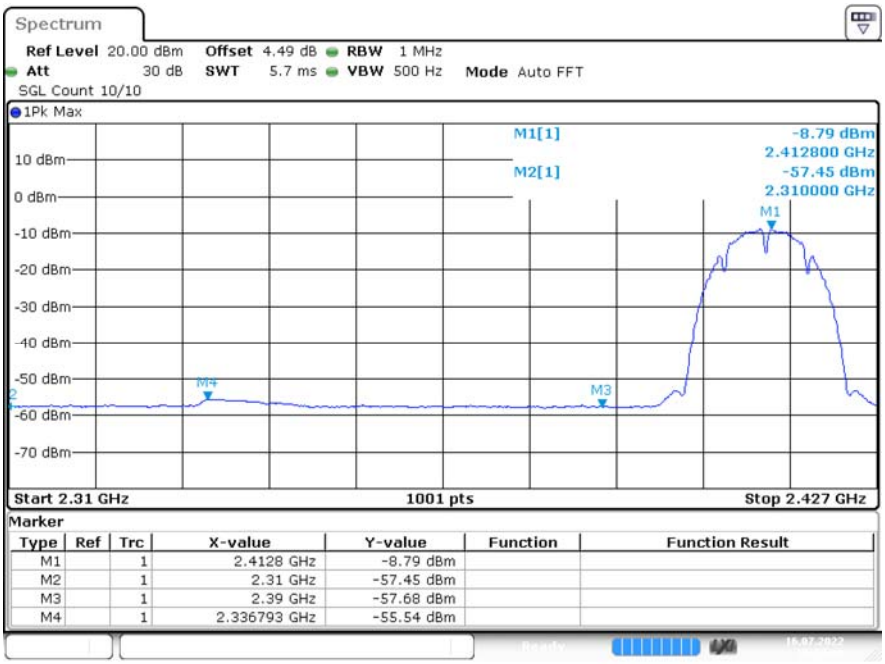
8.2 Test Graphs

Test Graphs

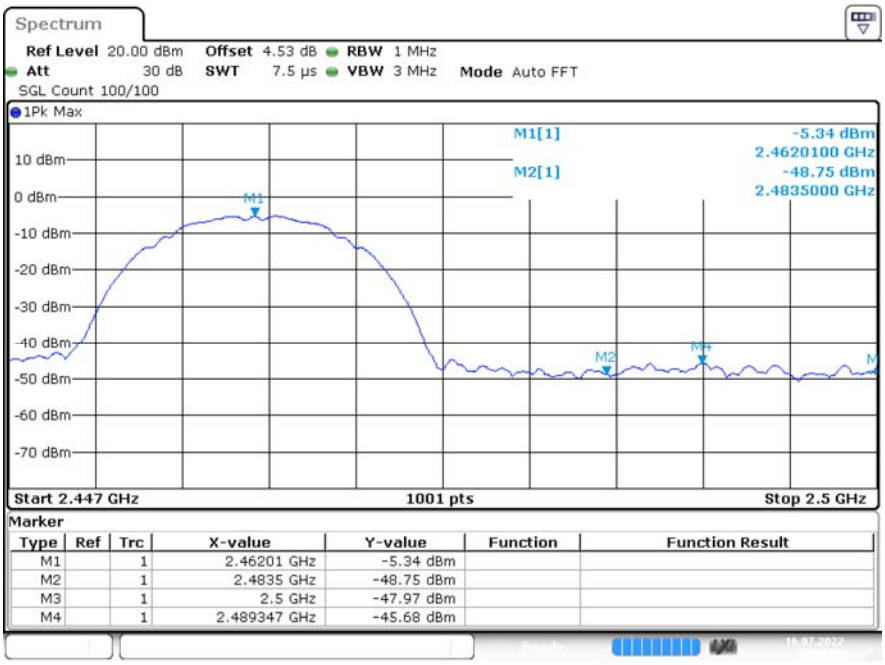
b 2412MHz Ant1 Peak



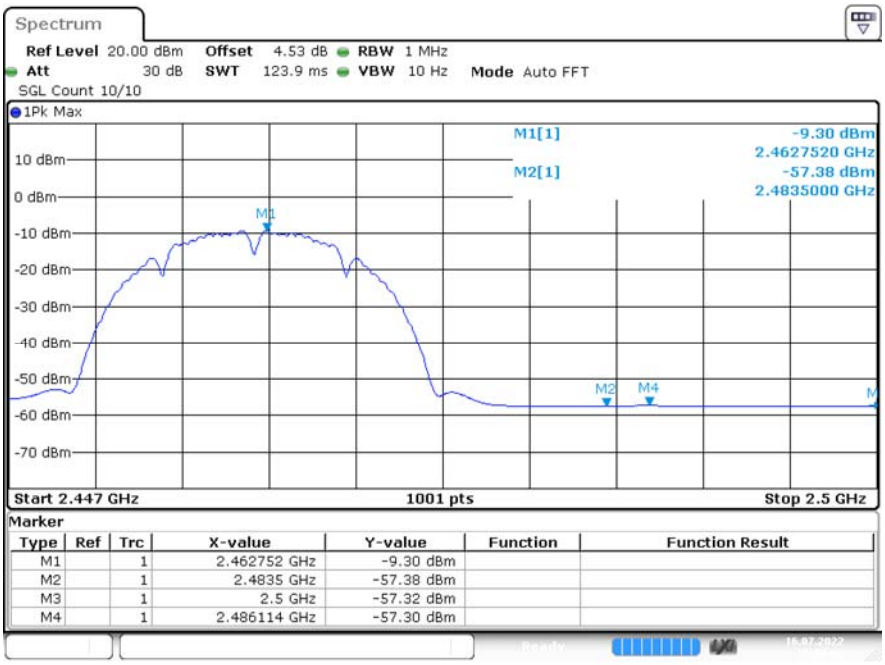
b 2412MHz Ant1 Average



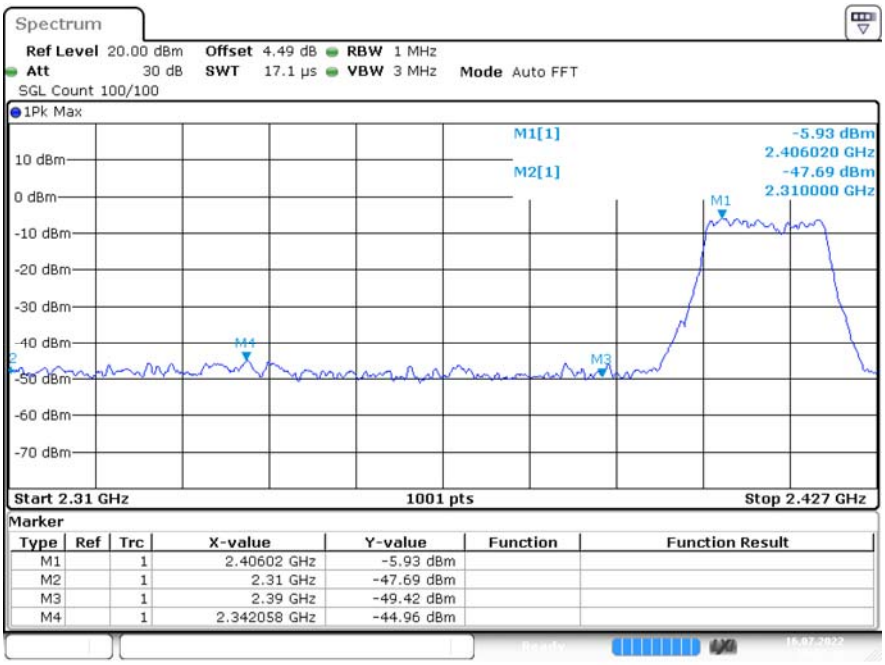
b 2462MHz Ant1 Peak



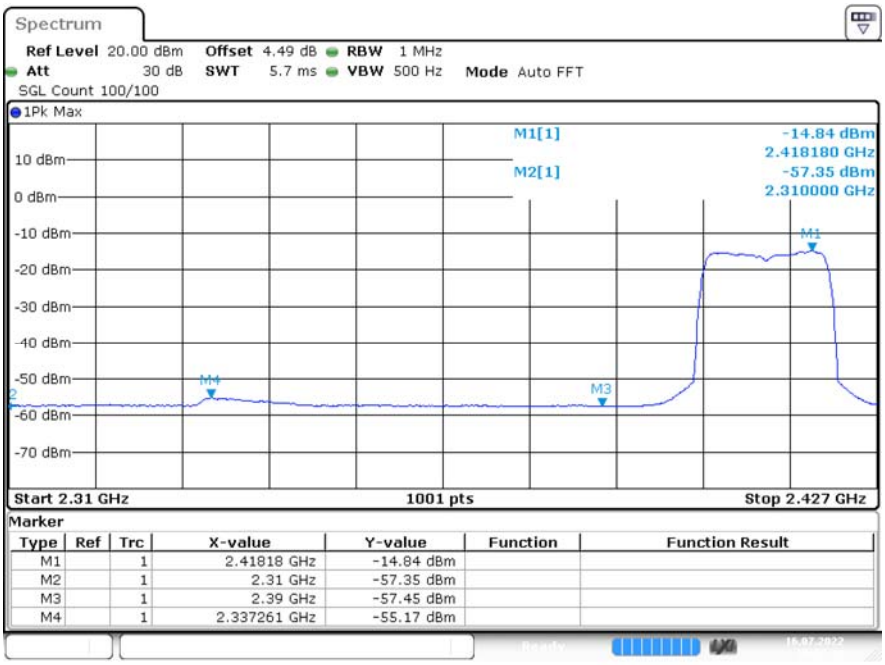
b 2462MHz Ant1 Average



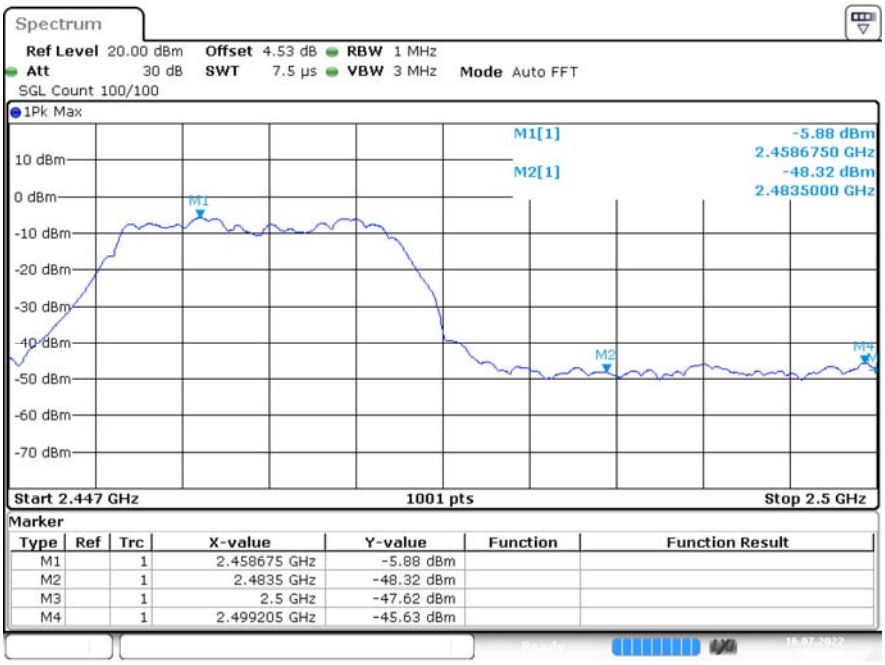
g 2412MHz Ant1 Peak



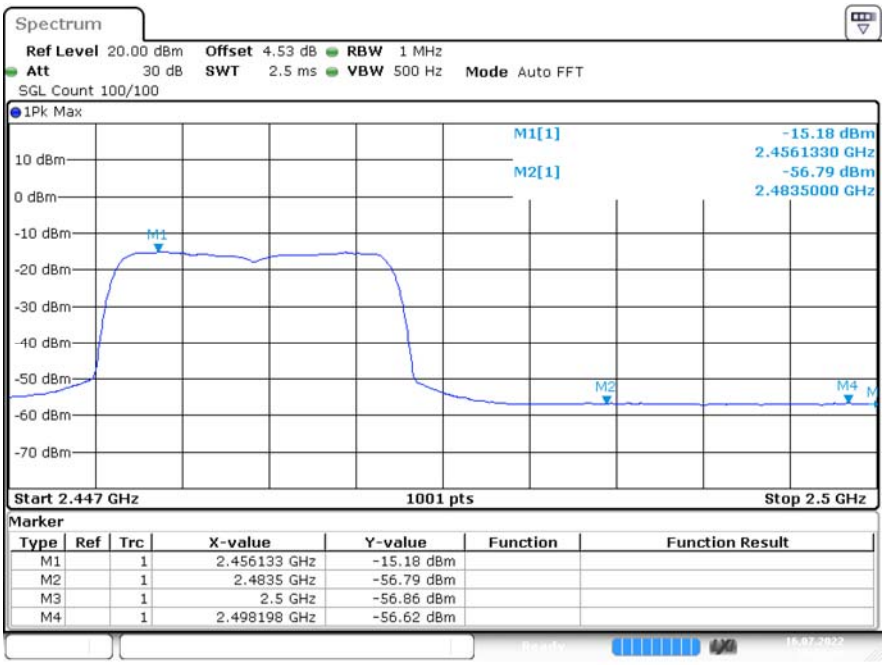
g 2412MHz Ant1 Average



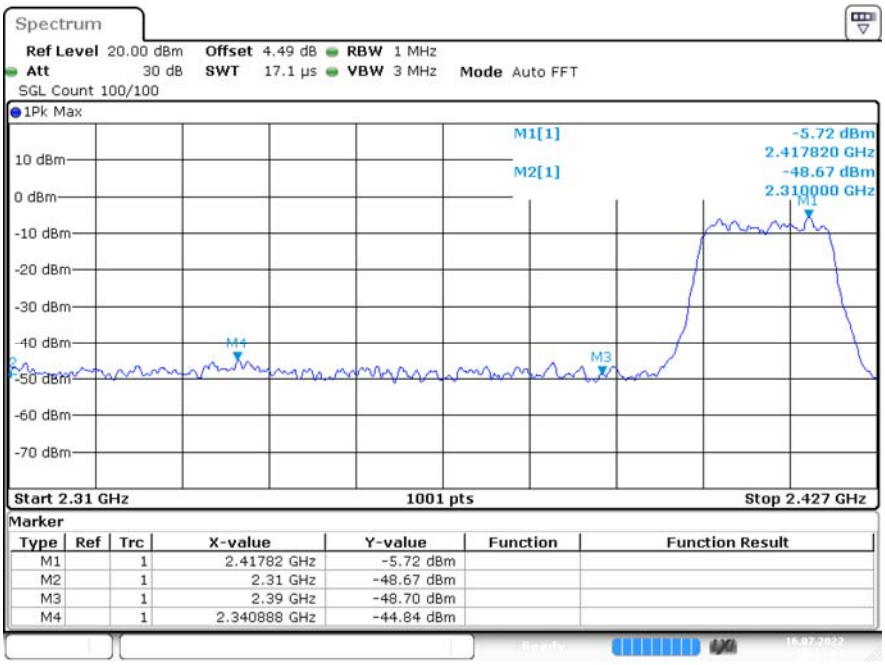
g 2462MHz Ant1 Peak



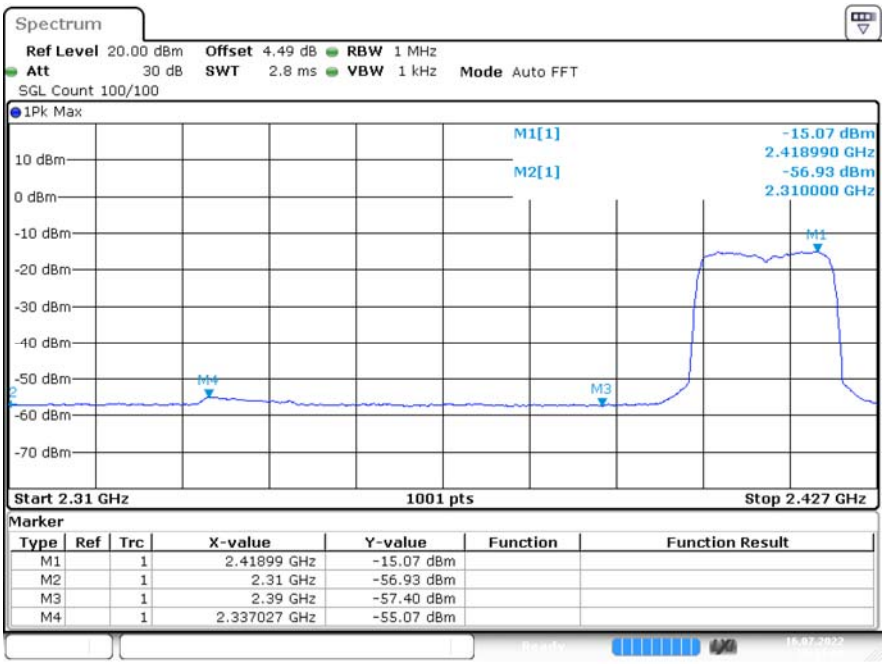
g 2462MHz Ant1 Average



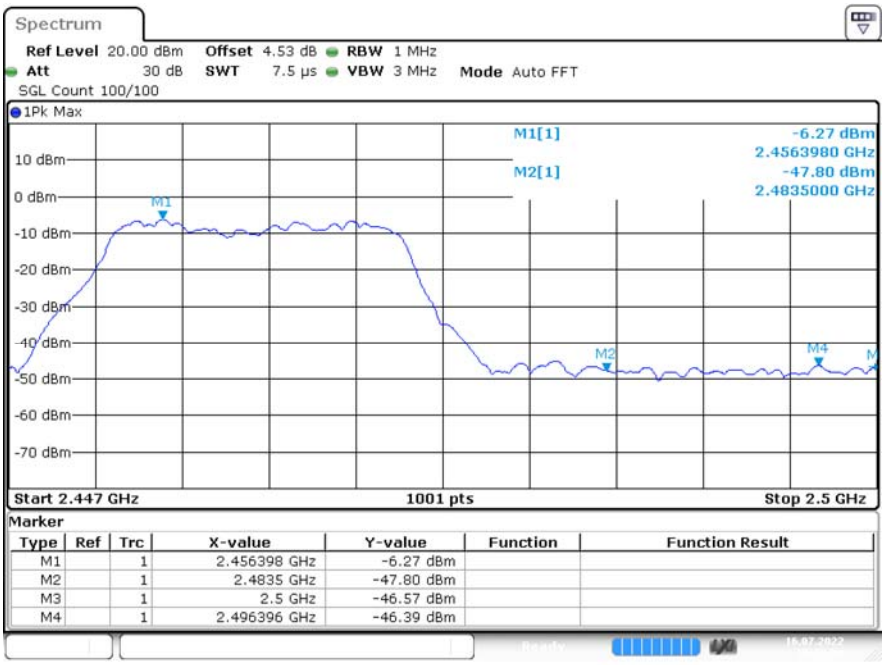
n20 2412MHz Ant1 Peak



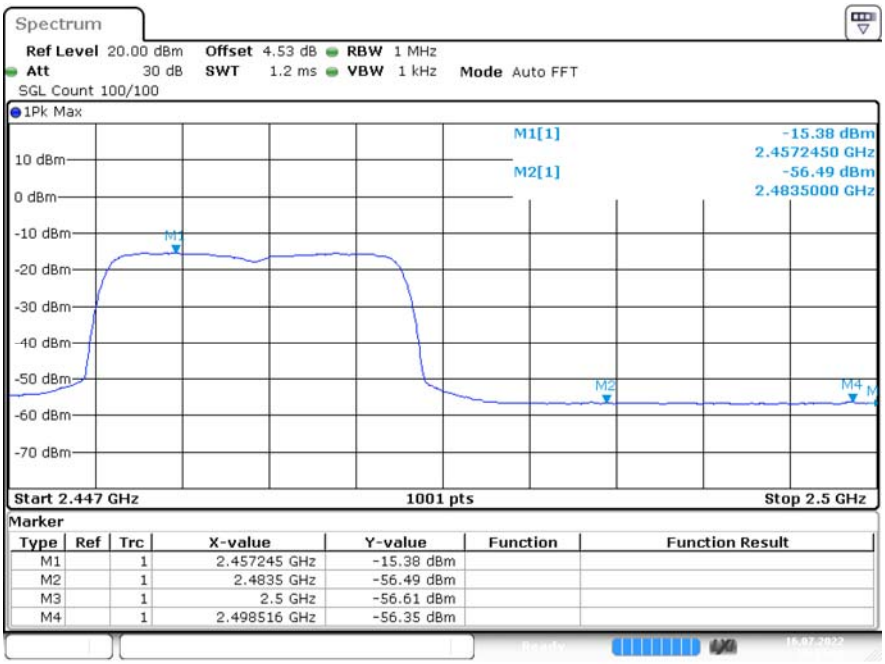
n20 2412MHz Ant1 Average



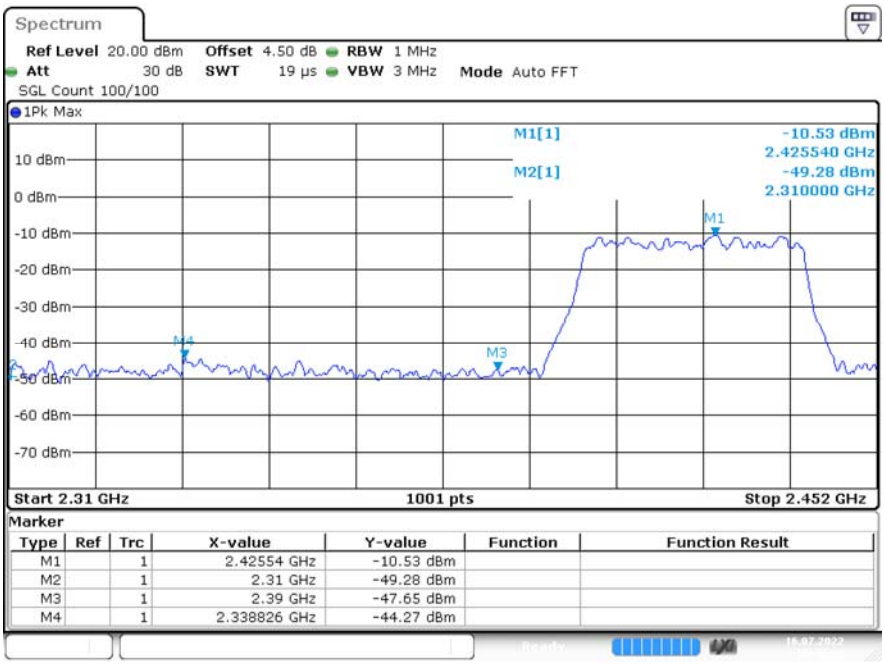
n20 2462MHz Ant1 Peak



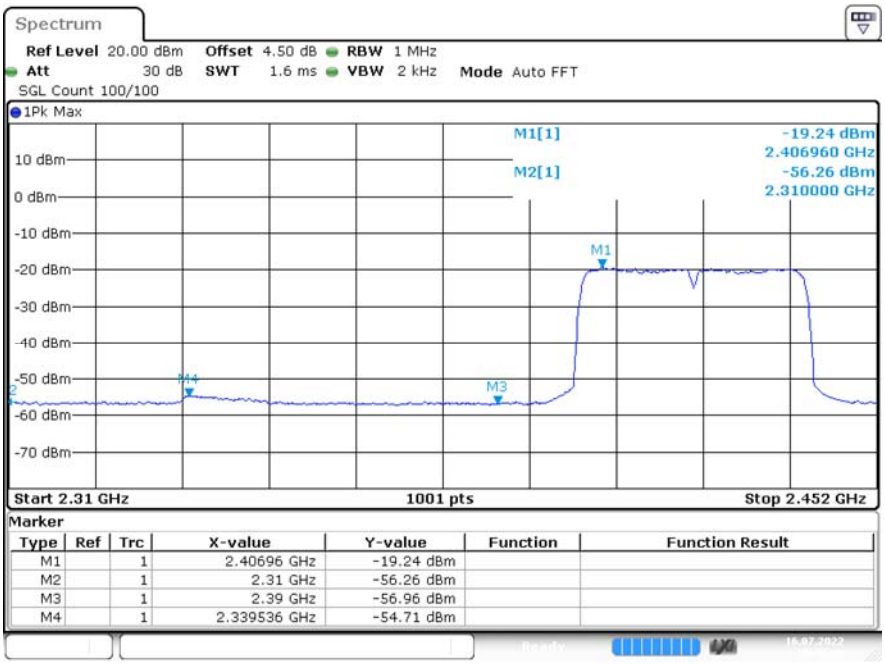
n20 2462MHz Ant1 Average



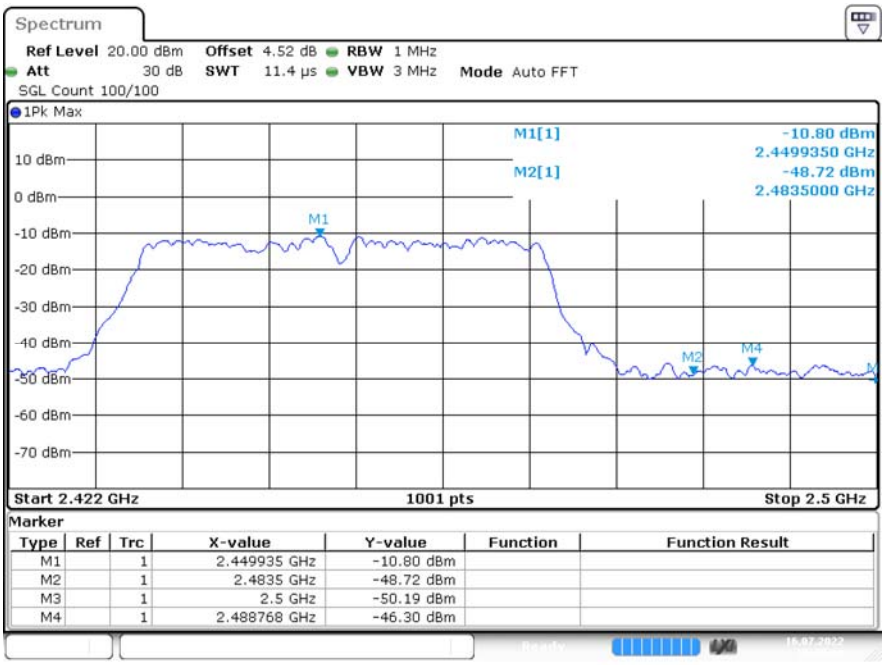
n40 2422MHz Ant1 Peak



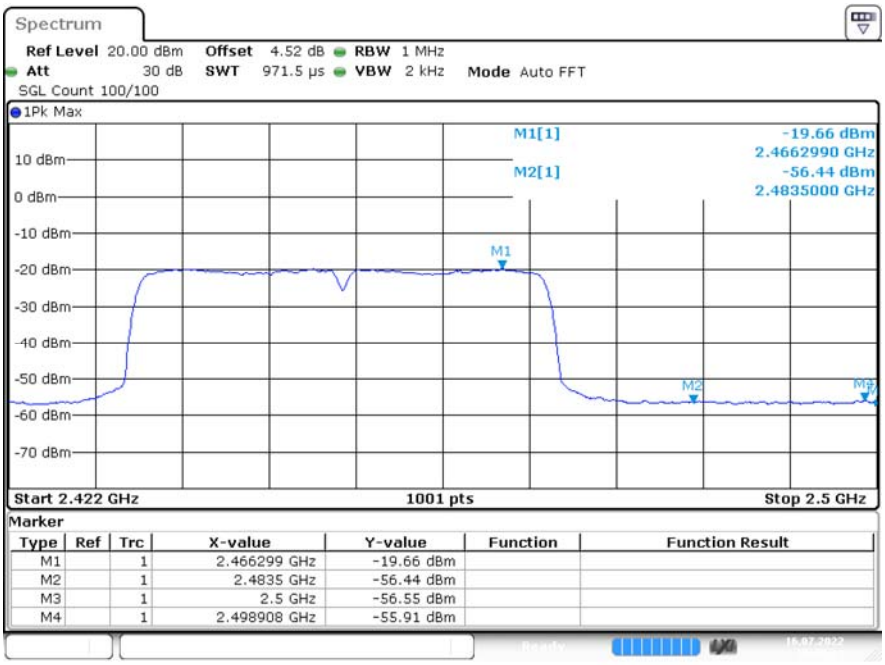
n40 2422MHz Ant1 Average



n40 2452MHz Ant1 Peak



n40 2452MHz Ant1 Average



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