Appendix C

RF Test Data for 2.4GWIFI(Conducted Measurement)

Product Name: Notebook PC

Trade Mark: Emdoor

Test Model: NP14IC-X(IC918)

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

Contents

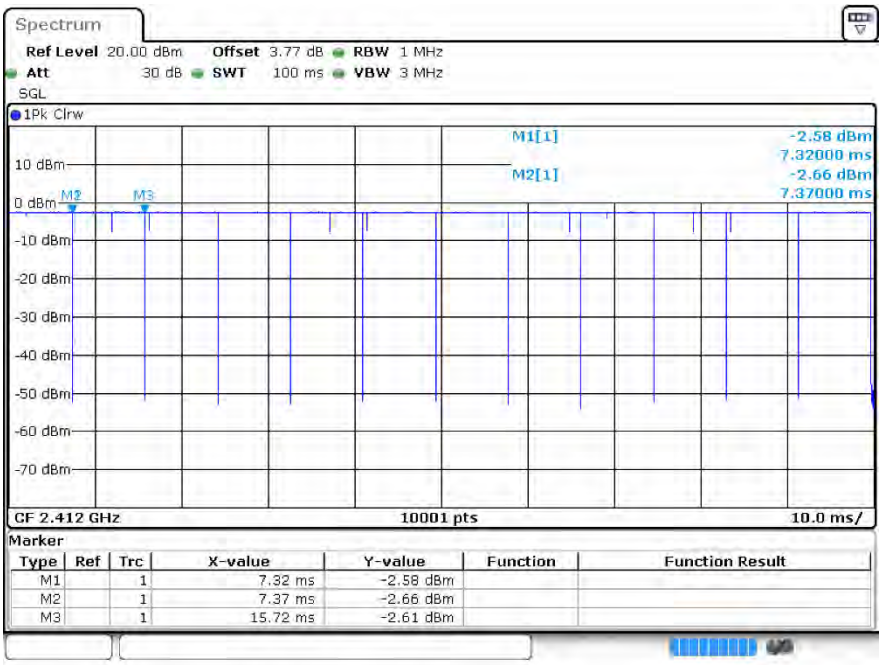
1 Duty Cycle

1.1 Test Result

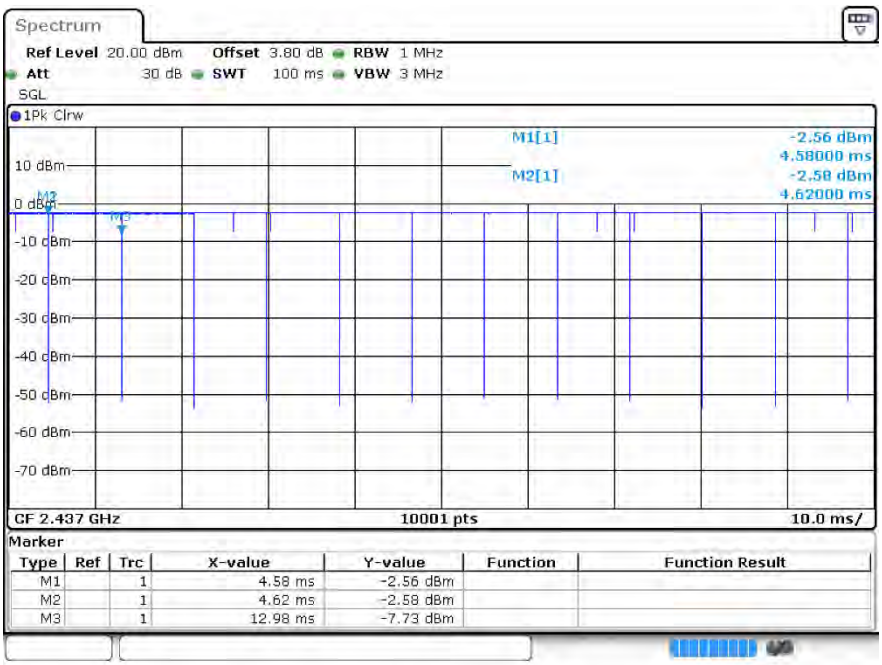
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	1/T (kHz)
b	2412	Ant1	99.31	0.12
b	2437	Ant1	99.6	0.12
b	2462	Ant1	99.59	0.12
b	2412	Ant2	99.59	0.12
b	2437	Ant2	99.6	0.12
b	2462	Ant2	99.6	0.12
g	2412	Ant1	99.31	0.12
g	2437	Ant1	99.6	0.12
g	2462	Ant1	99.59	0.12
g	2412	Ant2	99.59	0.12
g	2437	Ant2	99.6	0.12
g	2462	Ant2	99.6	0.12
n20	2412	Ant1	92.97	2.22
n20	2437	Ant1	92.87	2.22
n20	2462	Ant1	92.87	2.22
n20	2412	Ant2	92.74	2.22
n20	2437	Ant2	92.91	2.22
n20	2462	Ant2	93.02	2.22
n40	2422	Ant1	89.21	2.38
n40	2437	Ant1	90.96	100
n40	2452	Ant1	91.76	2.27
n40	2422	Ant2	92.86	2.27
n40	2437	Ant2	92.88	2.27
n40	2452	Ant2	92.94	2.27

1.2 Test Graphs

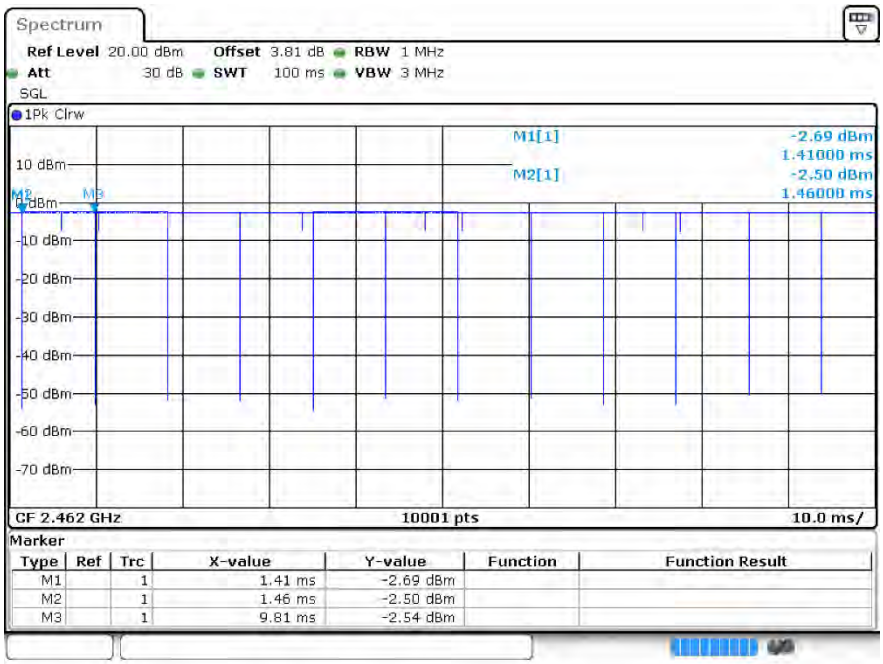
Test Graphs
Duty Cycleb 2412MHz Ant1



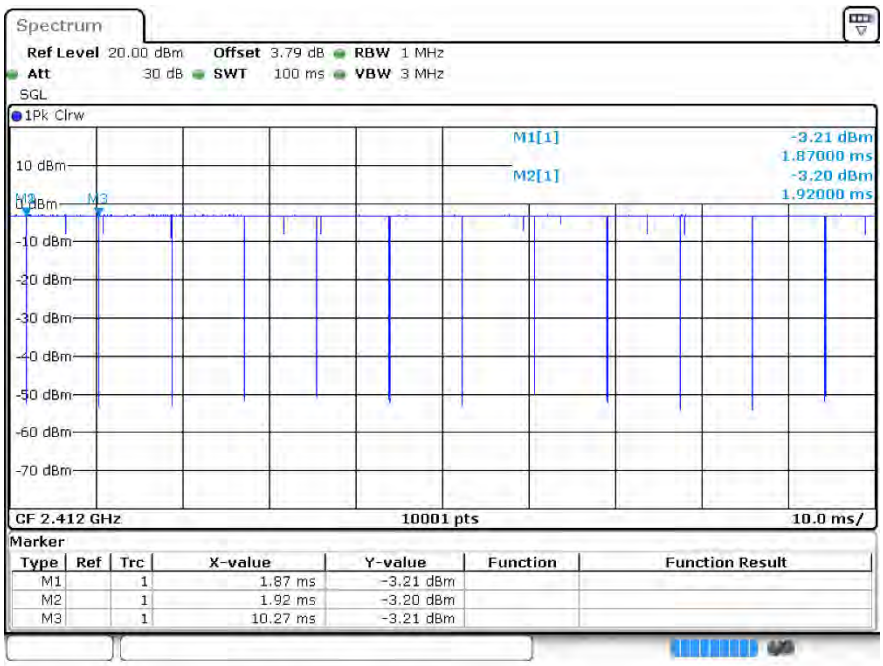
Duty Cycleb 2437MHz Ant1



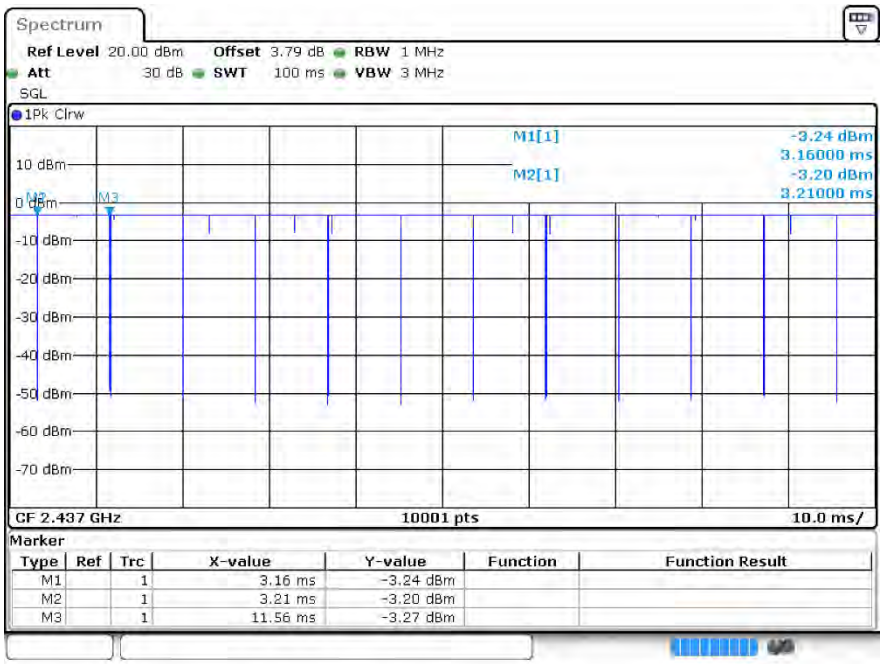
Duty Cycleb 2462MHz Ant1



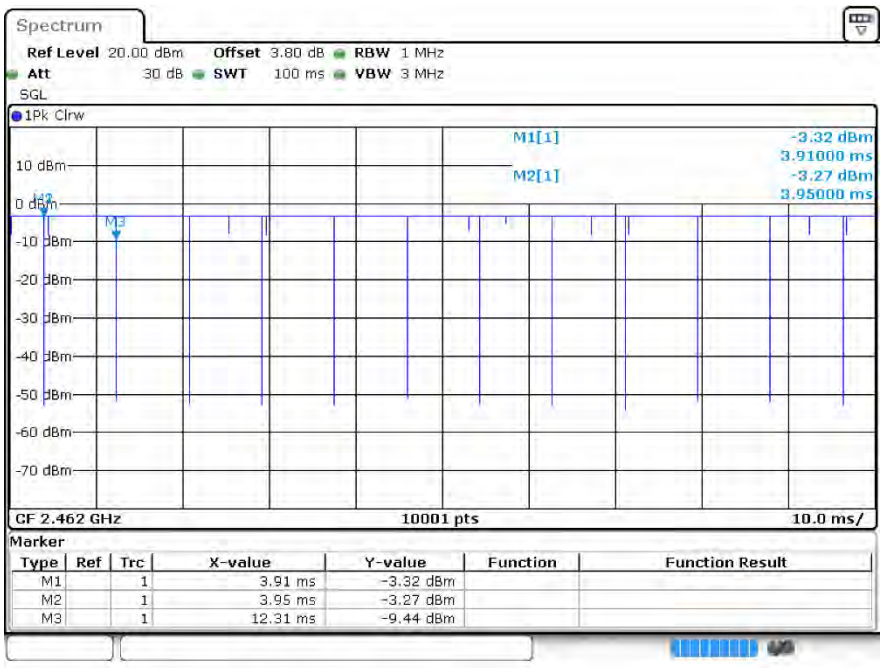
Duty Cycleb 2412MHz Ant2



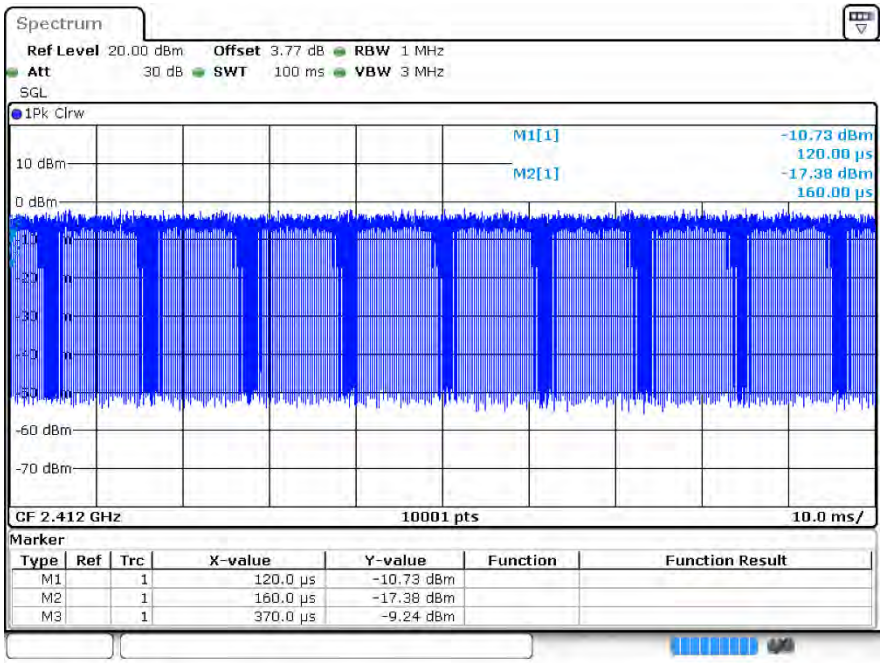
Duty Cycleb 2437MHz Ant2



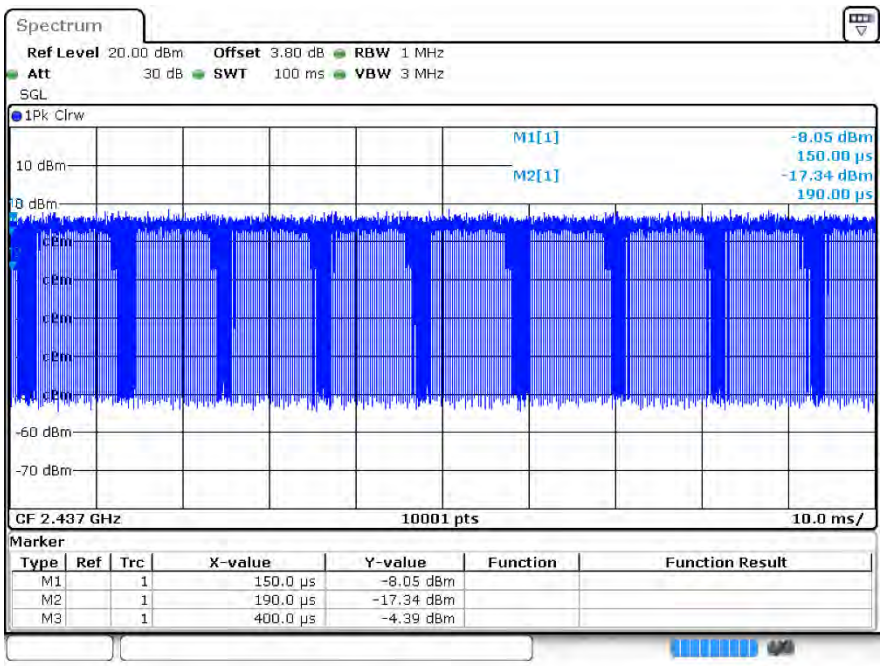
Duty Cycleb 2462MHz Ant2



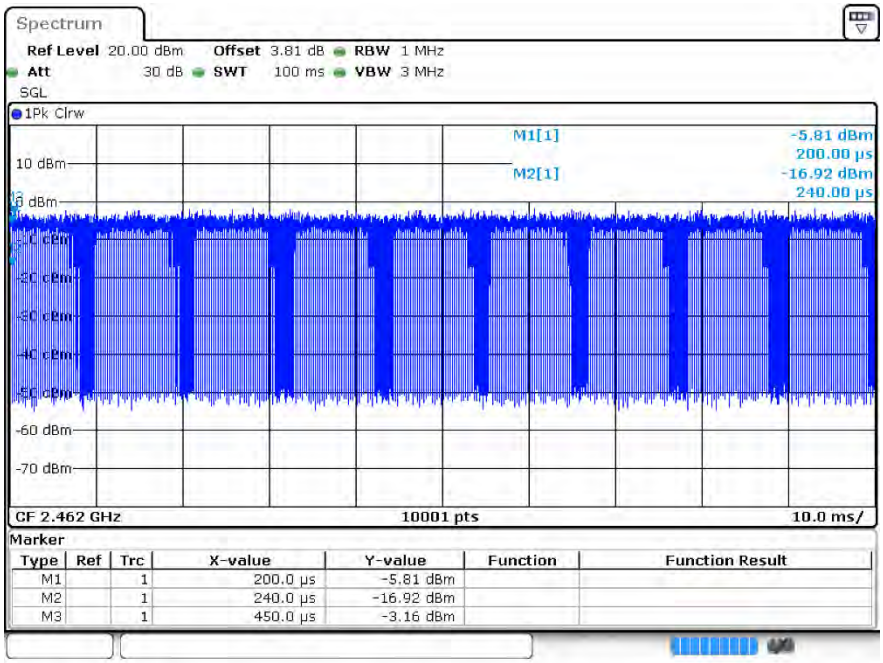
Duty Cycleg 2412MHz Ant1



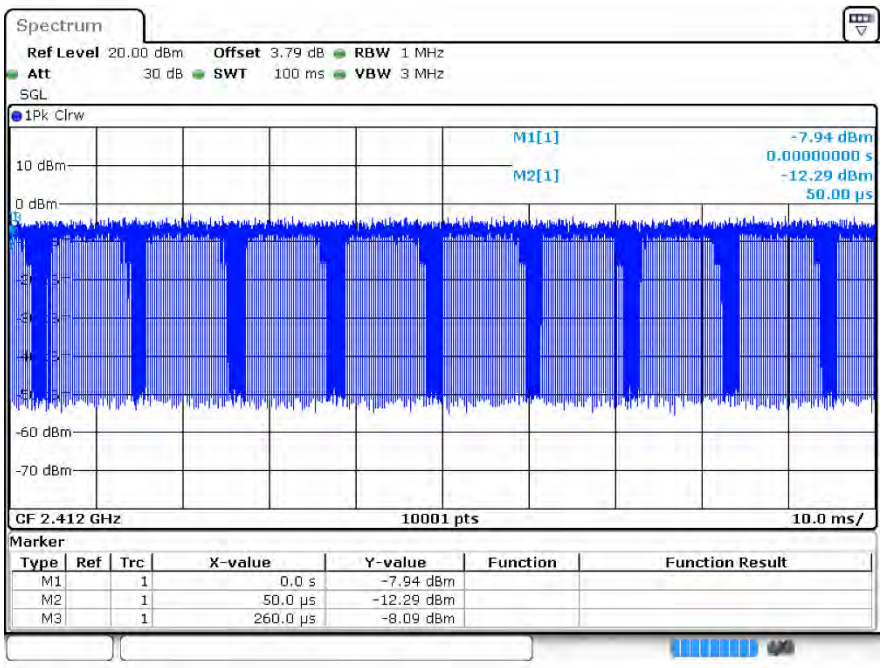
Duty Cycleg 2437MHz Ant1



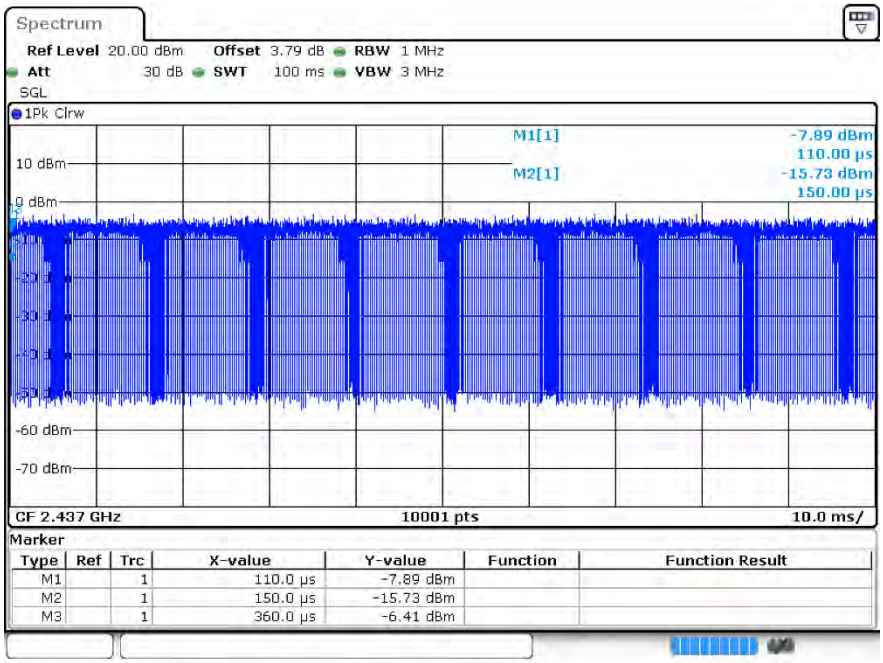
Duty Cycleg 2462MHz Ant1



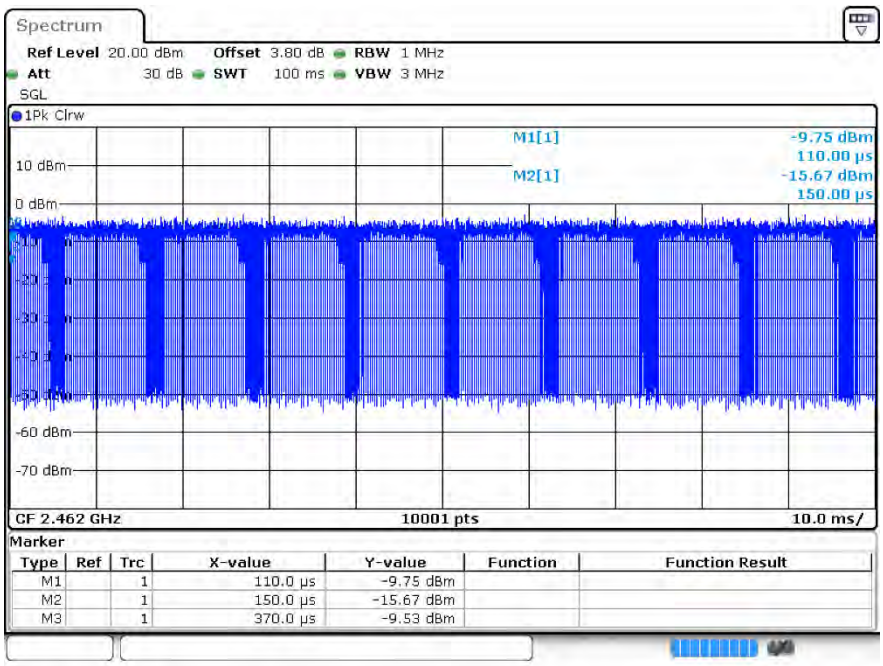
Duty Cycleg 2412MHz Ant2



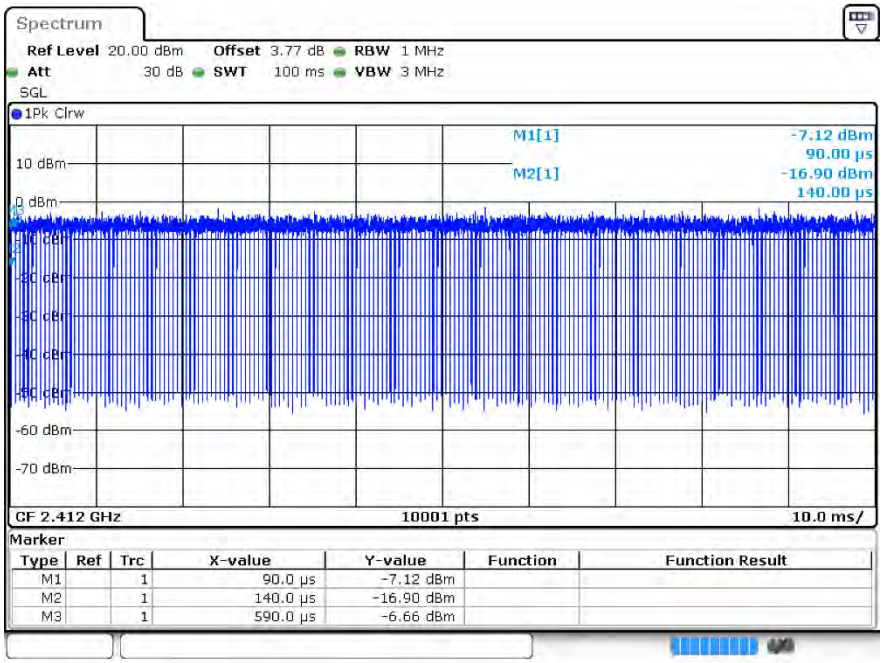
Duty Cycleg 2437MHz Ant2



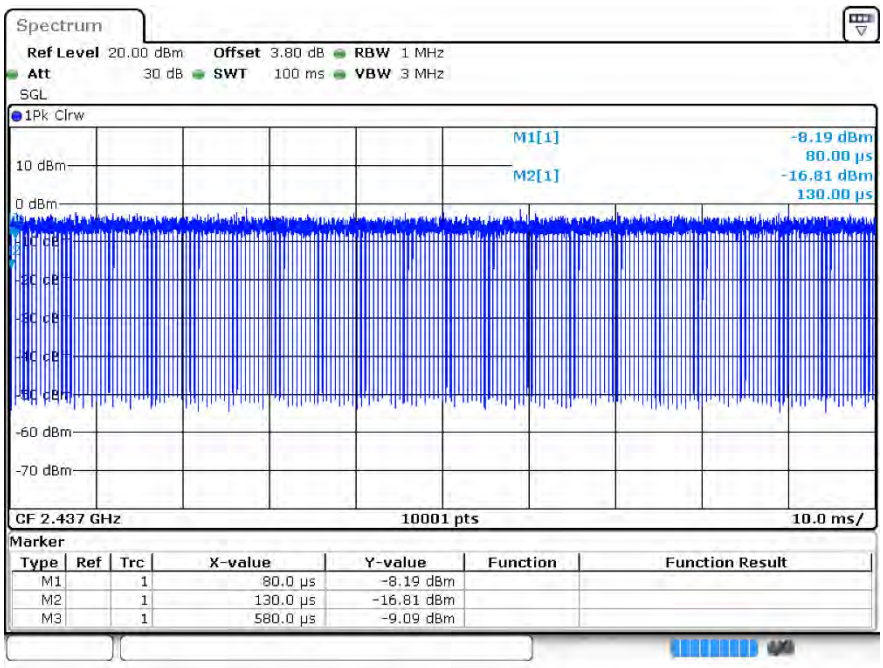
Duty Cycleg 2462MHz Ant2



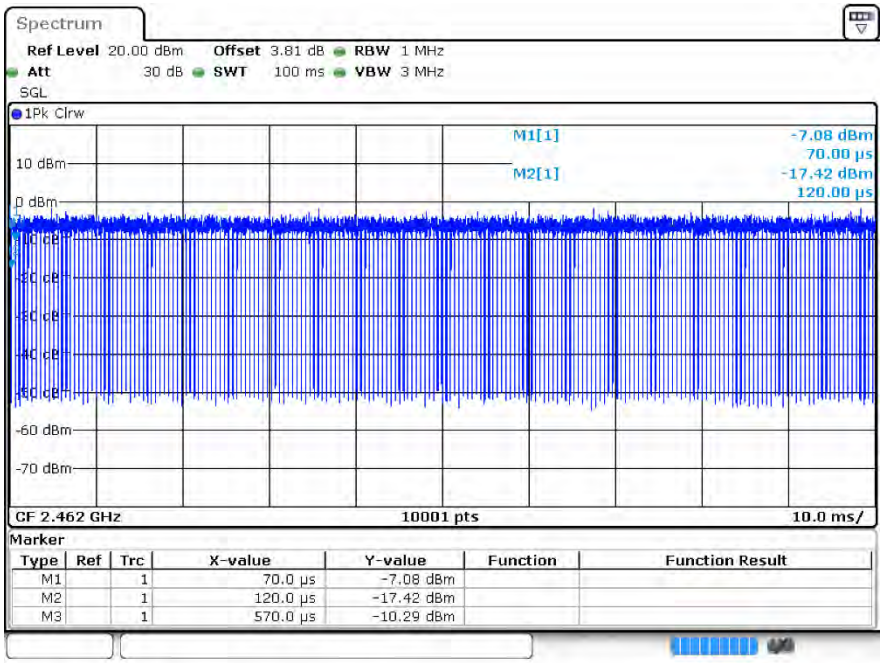
Duty Cyclen20 2412MHz Ant1



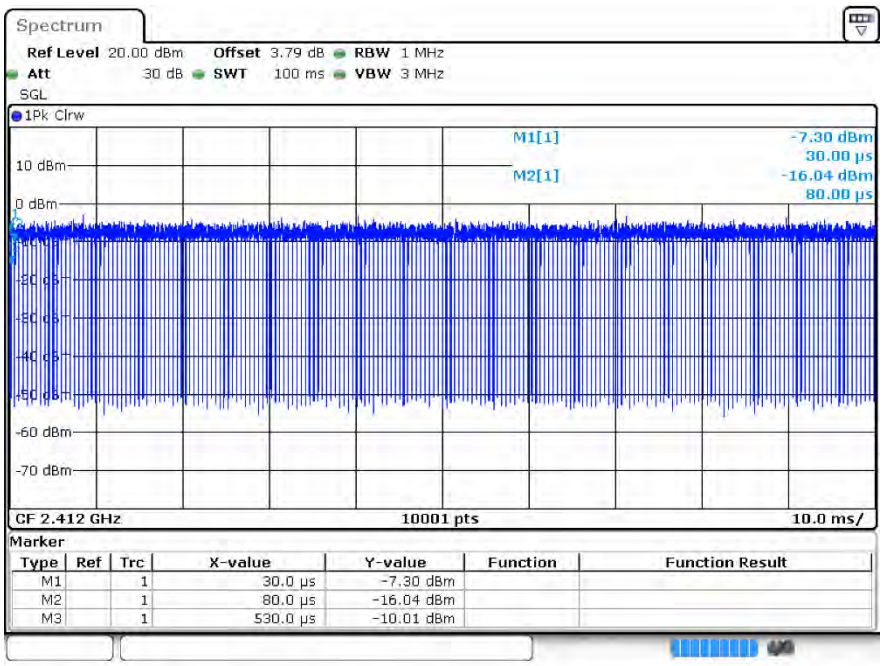
Duty Cyclen20 2437MHz Ant1



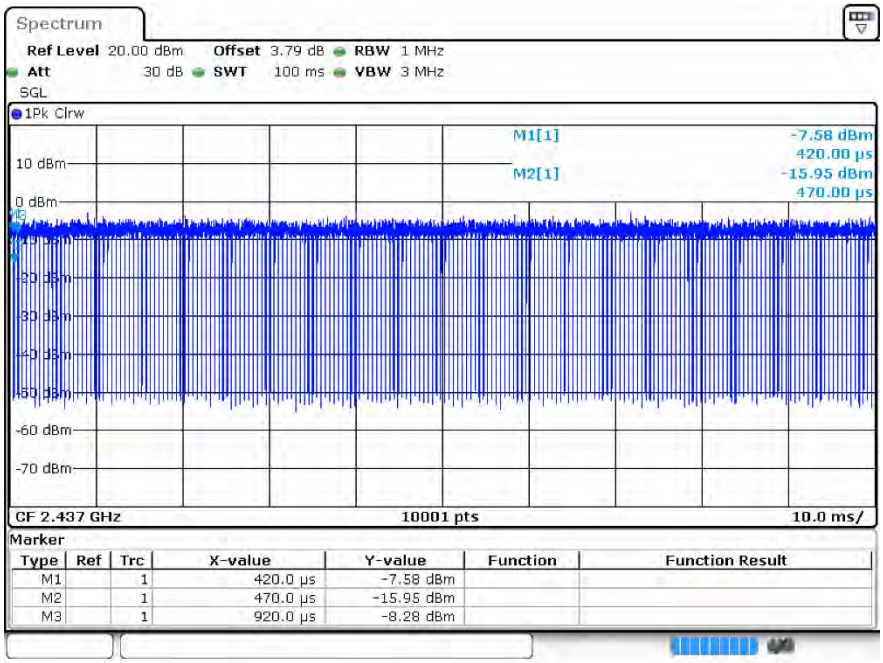
Duty Cyclen20 2462MHz Ant1



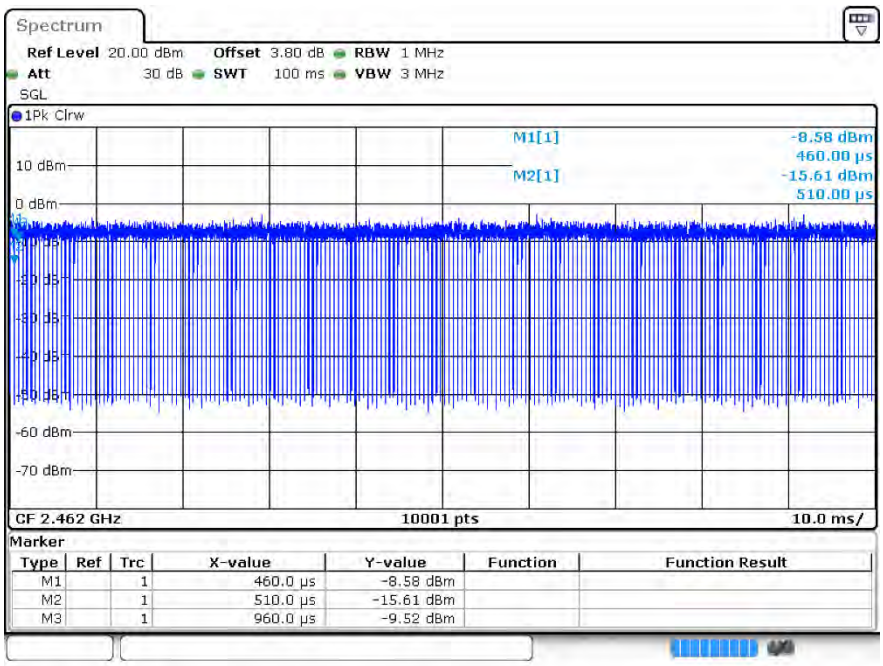
Duty Cyclen20 2412MHz Ant2



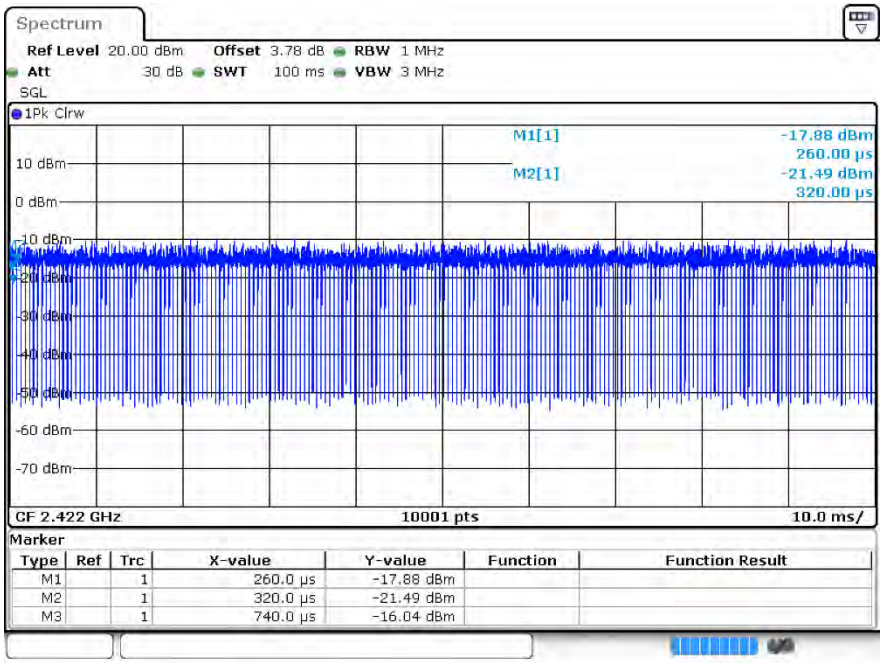
Duty Cyclen20 2437MHz Ant2



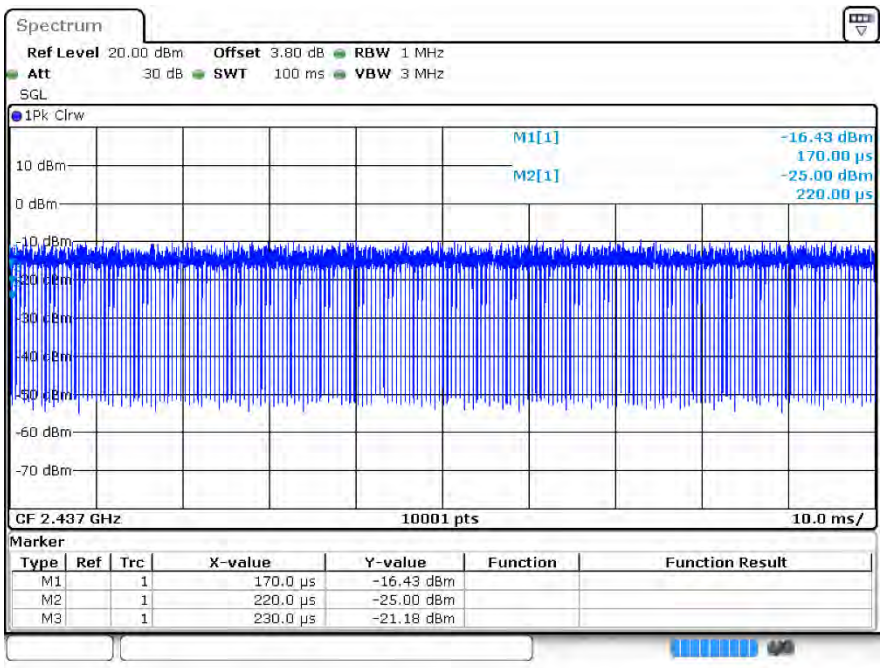
Duty Cyclen20 2462MHz Ant2



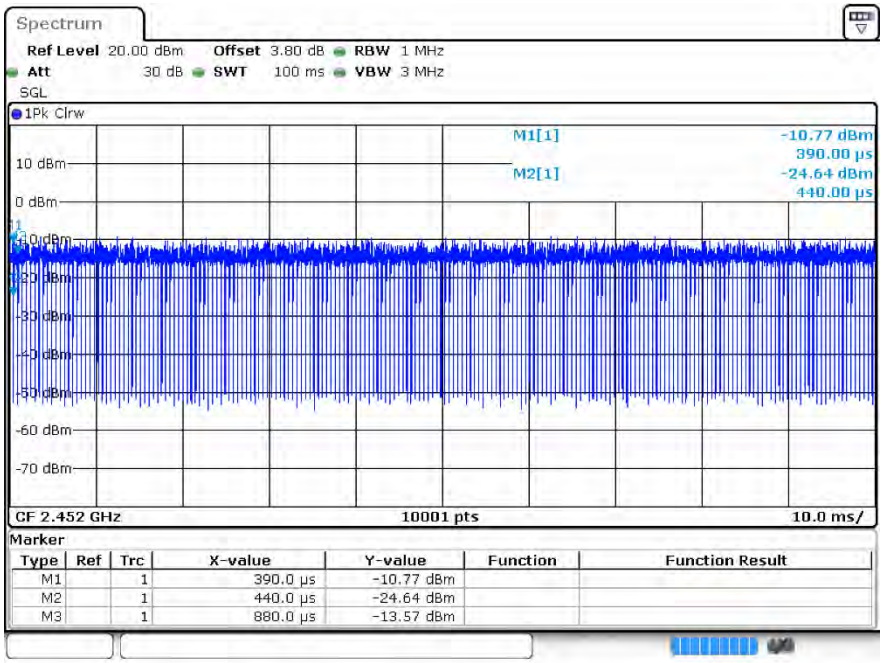
Duty Cyclen40 2422MHz Ant1



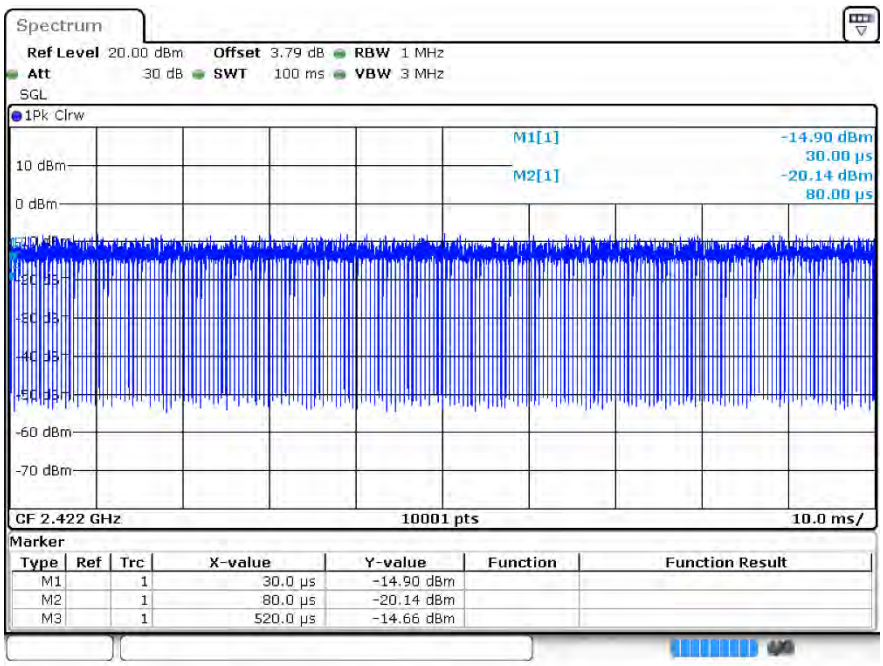
Duty Cyclen40 2437MHz Ant1



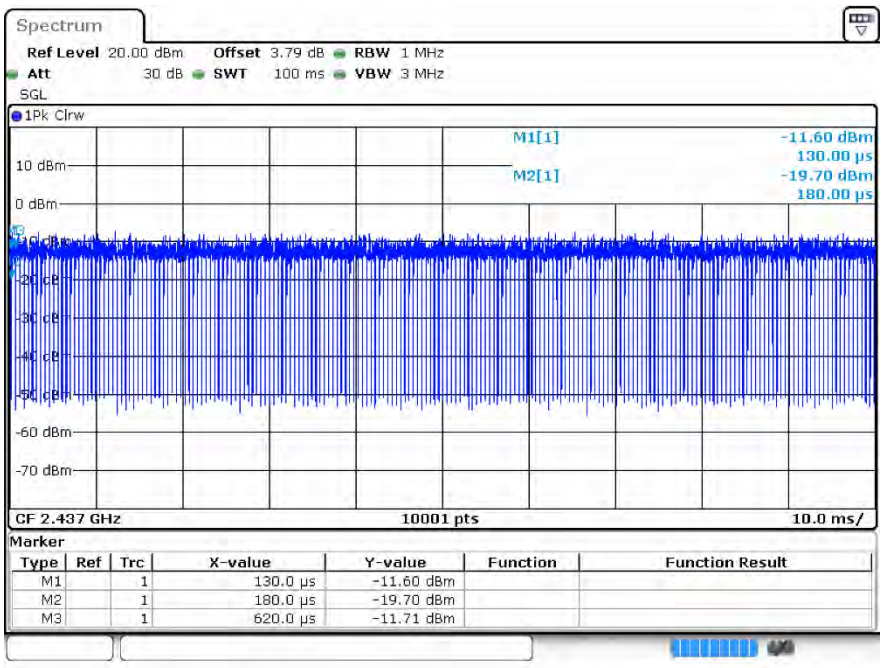
Duty Cyclen40 2452MHz Ant1



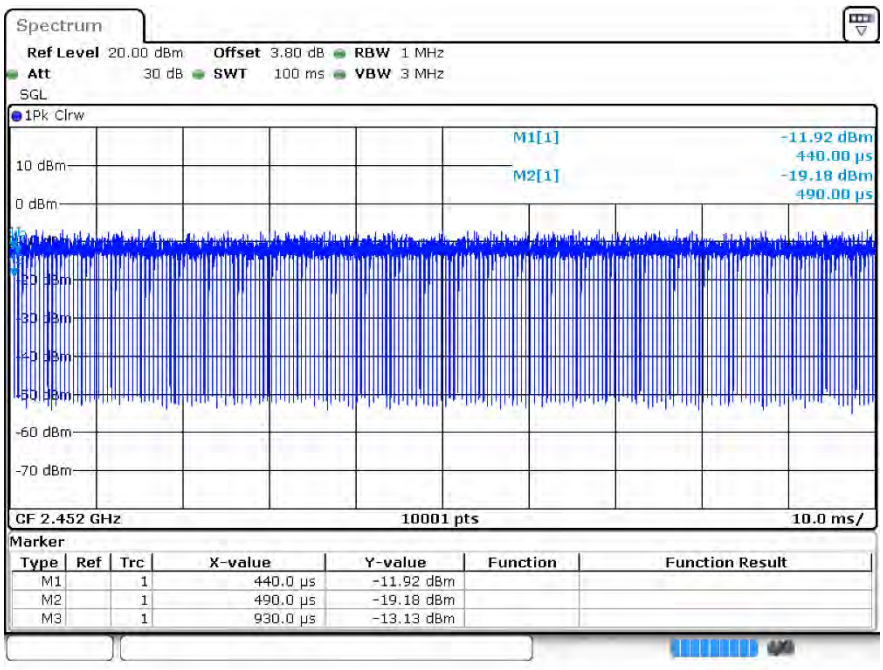
Duty Cyclen40 2422MHz Ant2



Duty Cyclen40 2437MHz Ant2



Duty Cyclen40 2452MHz Ant2



2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	7.95	30	Pass
b	2437	Ant1	7.93	30	Pass
b	2462	Ant1	7.92	30	Pass
b	2412	Ant2	7.3	30	Pass
b	2437	Ant2	7.29	30	Pass
b	2462	Ant2	6.41	30	Pass
g	2412	Ant1	7.54	30	Pass
g	2437	Ant1	7.56	30	Pass
g	2462	Ant1	7.23	30	Pass
g	2412	Ant2	5.89	30	Pass
g	2437	Ant2	5.99	30	Pass
g	2462	Ant2	6.1	30	Pass
n20	2412	Ant1	7.6	30	Pass
n20	2437	Ant1	7.34	30	Pass
n20	2462	Ant1	7.27	30	Pass
n20	2412	Ant2	5.35	30	Pass
n20	2437	Ant2	6.3	30	Pass
n20	2462	Ant2	6.08	30	Pass
n40	2422	Ant1	6.28	30	Pass
n40	2437	Ant1	6.75	30	Pass
n40	2452	Ant1	7.29	30	Pass
n40	2422	Ant2	6.26	30	Pass
n40	2437	Ant2	6.57	30	Pass
n40	2452	Ant2	7.43	30	Pass

3 -6dB Bandwidth

3.1 Test Result

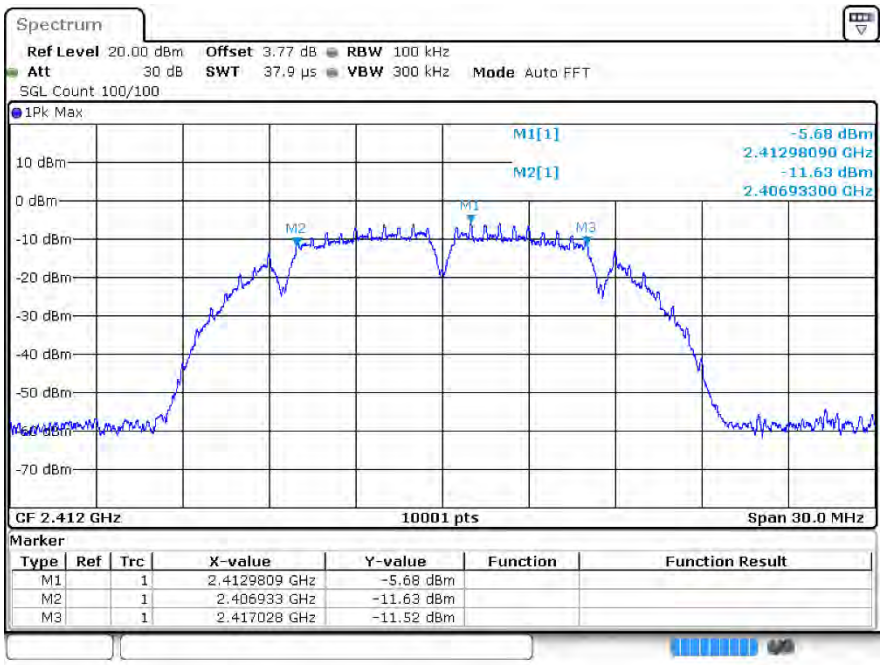
Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.095	0.5	Pass
b	2437	Ant1	10.095	0.5	Pass
b	2462	Ant1	10.098	0.5	Pass
g	2412	Ant1	15.063	0.5	Pass
g	2437	Ant1	15.114	0.5	Pass
g	2462	Ant1	15.123	0.5	Pass
n20	2412	Ant1	15.12	0.5	Pass
n20	2437	Ant1	15.057	0.5	Pass
n20	2462	Ant1	15.12	0.5	Pass
n40	2422	Ant1	35.07	0.5	Pass
n40	2437	Ant1	35.076	0.5	Pass
n40	2452	Ant1	33.822	0.5	Pass

Remark:

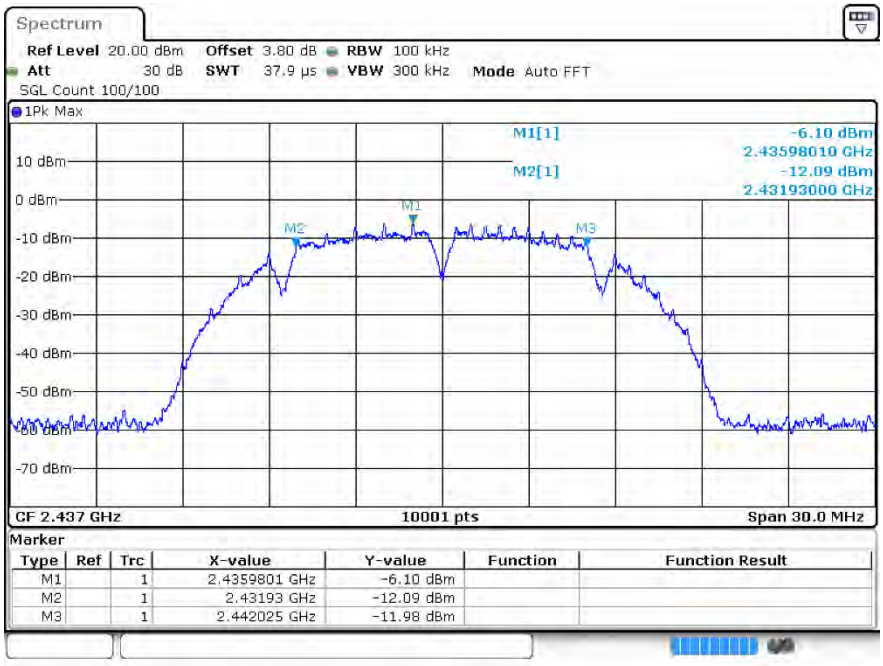
Ant1 and Ant2 have been tested, found worst case is Ant1, only record the worst case results in this report.

3.2 Test Graphs

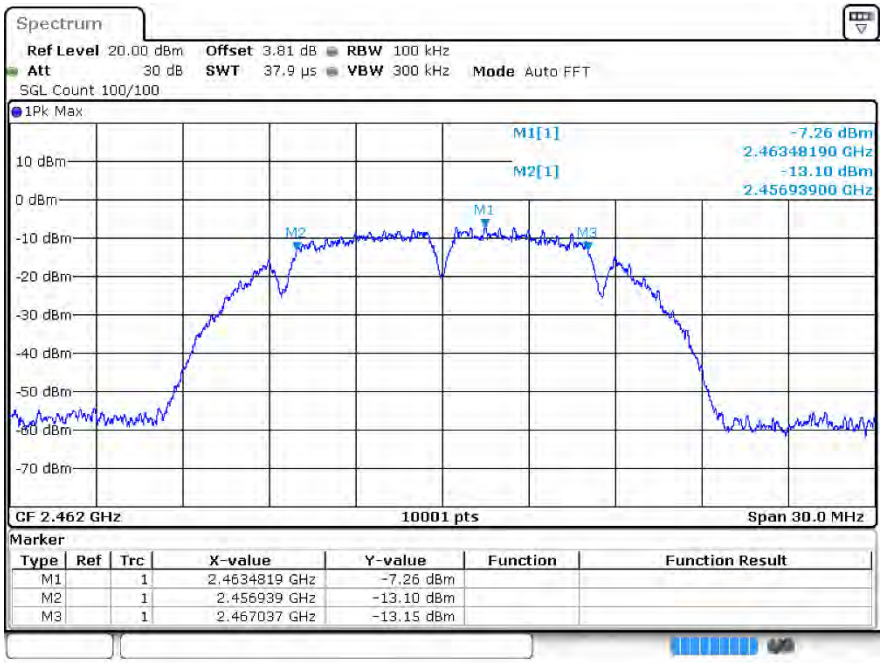
Test Graphs
b 2412MHz Ant1



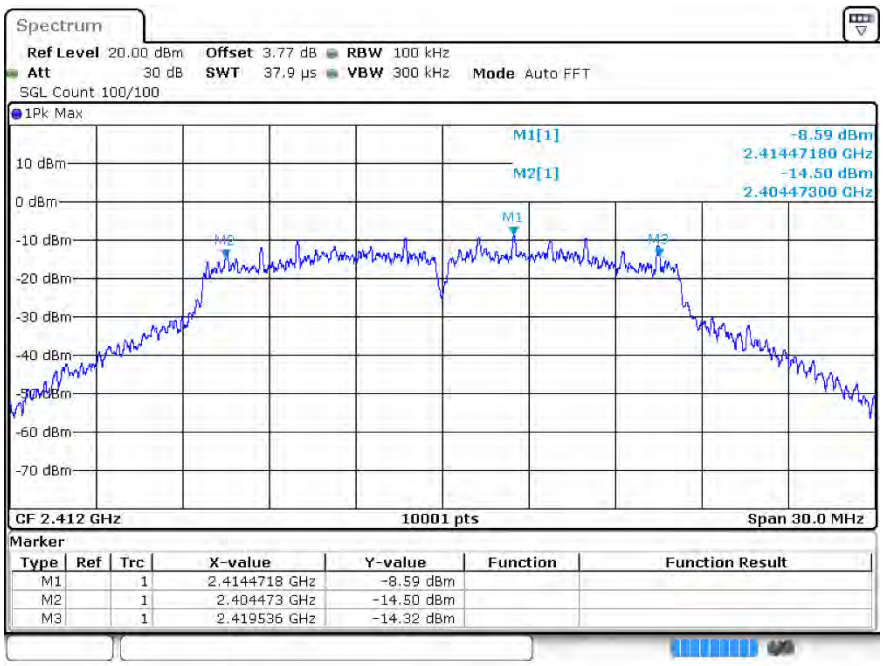
b 2437MHz Ant1



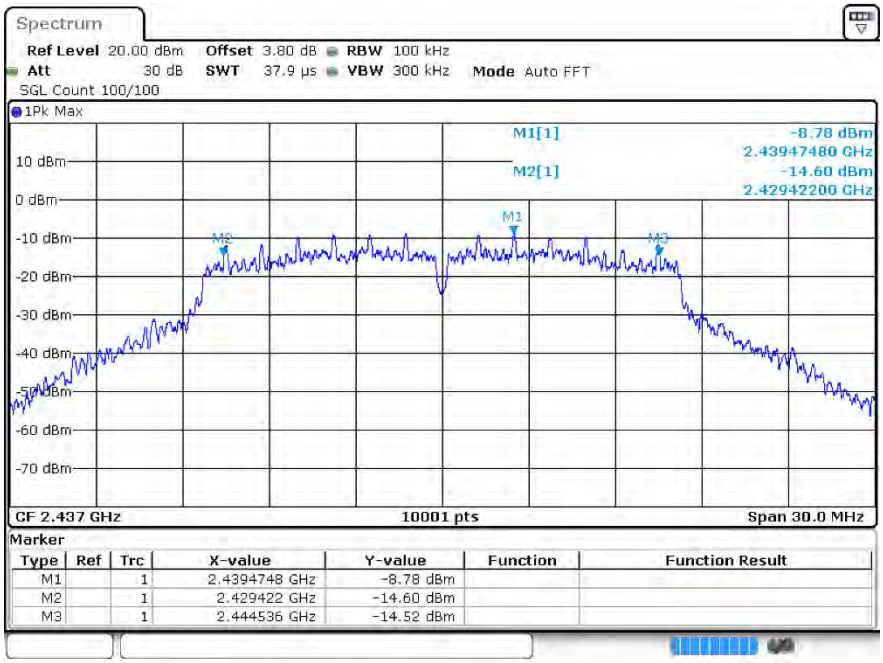
b 2462MHz Ant1



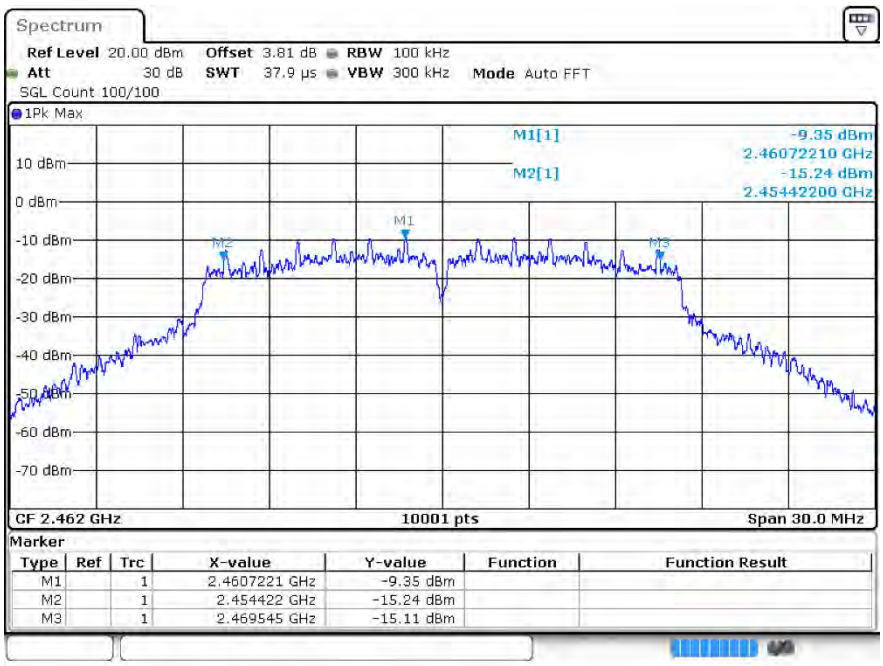
g 2412MHz Ant1



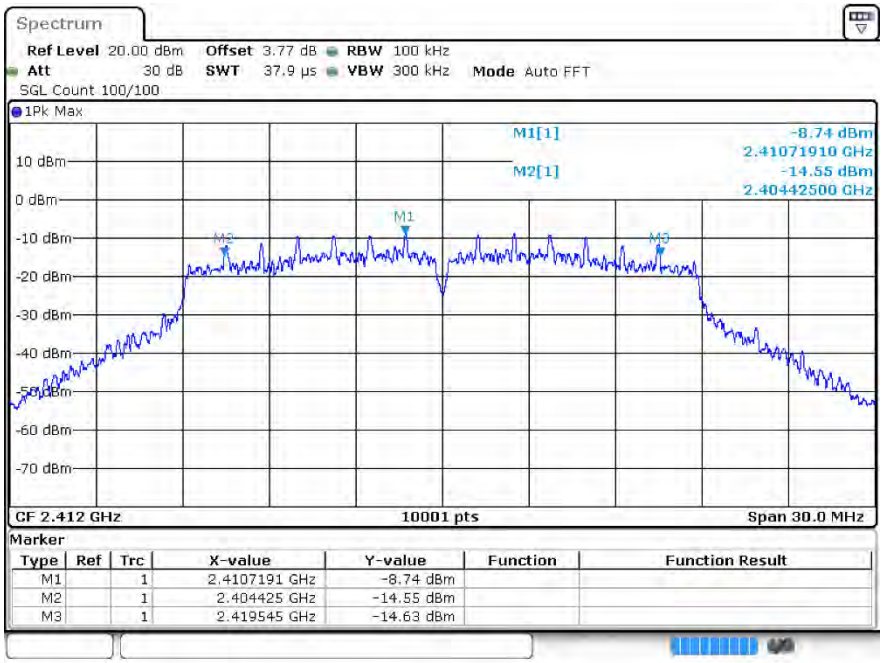
g 2437MHz Ant1



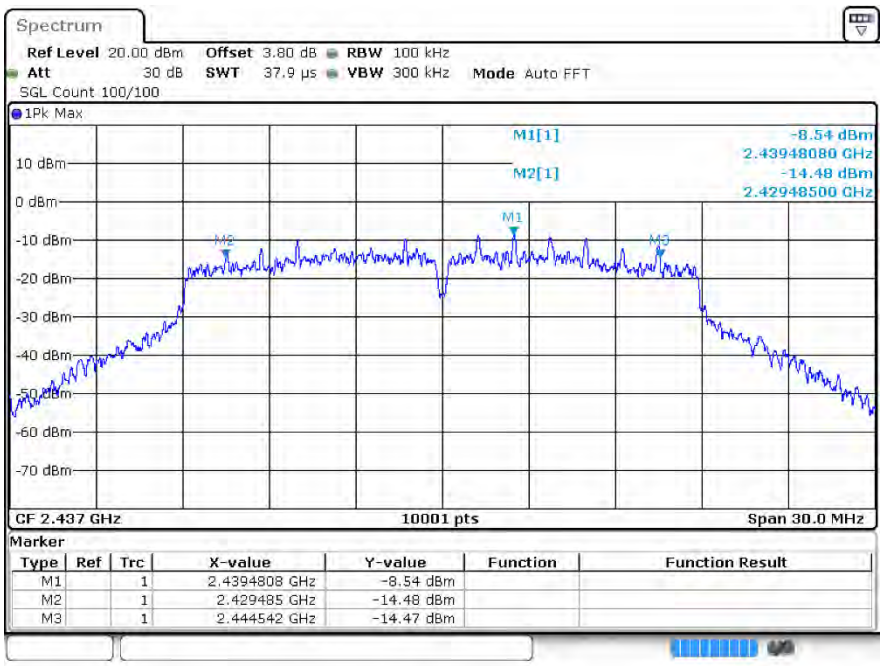
g 2462MHz Ant1



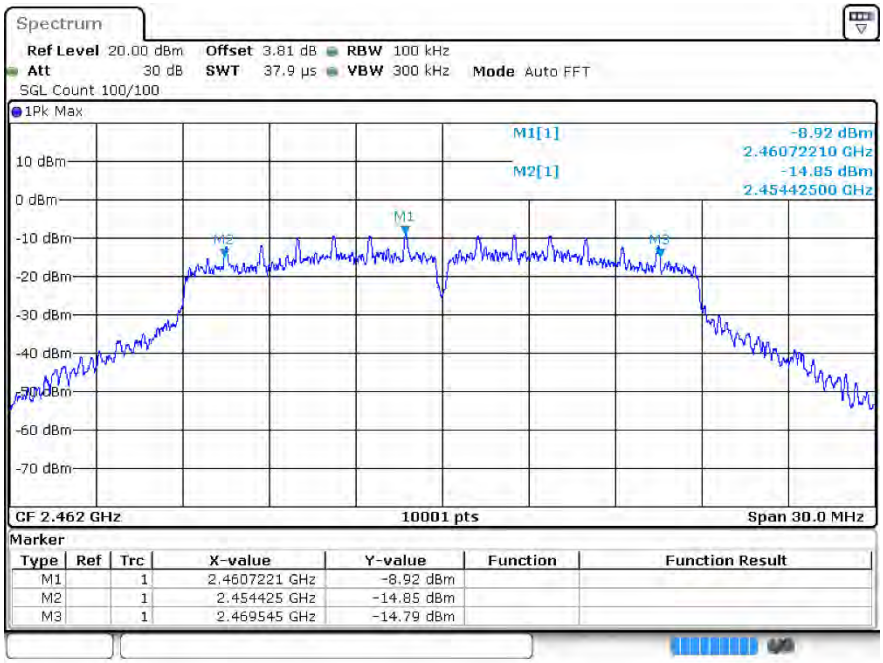
n20 2412MHz Ant1



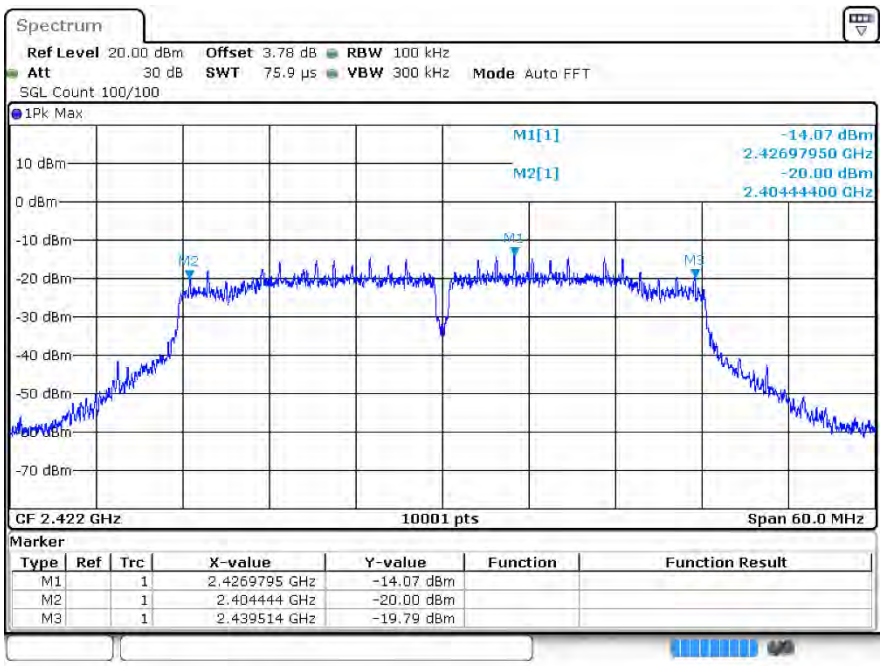
n20 2437MHz Ant1



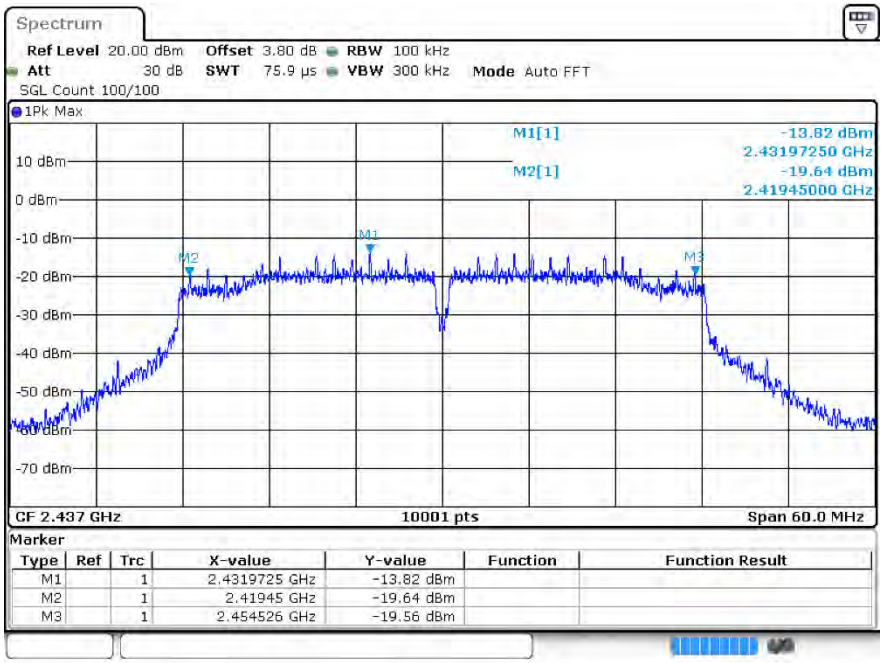
n20 2462MHz Ant1



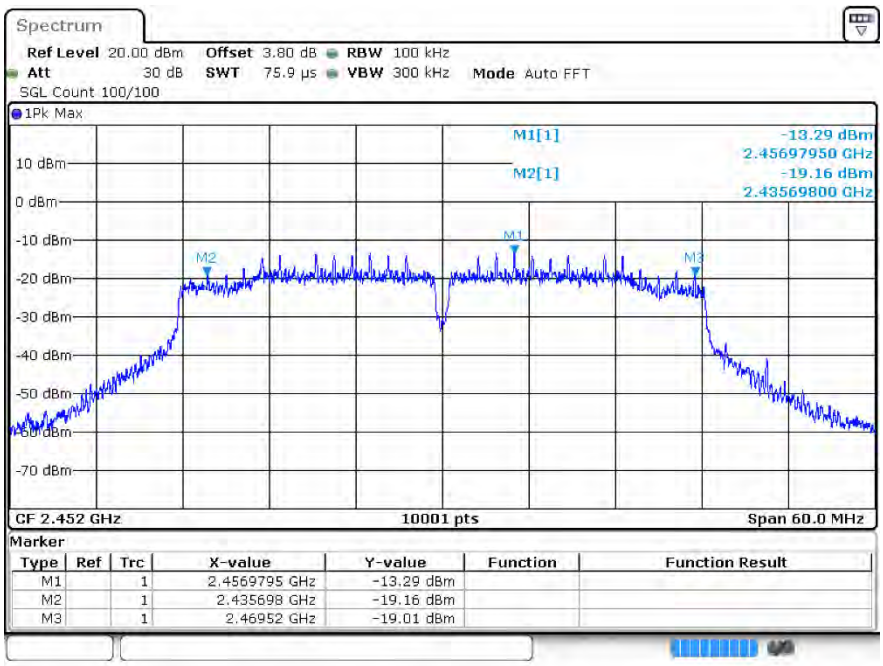
n40 2422MHz Ant1



n40 2437MHz Ant1



n40 2452MHz Ant1

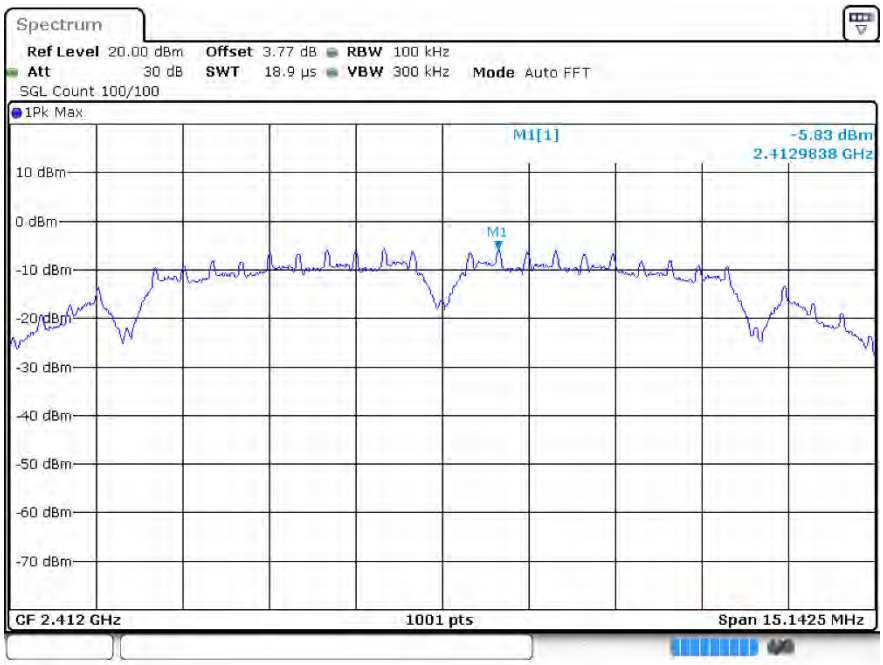
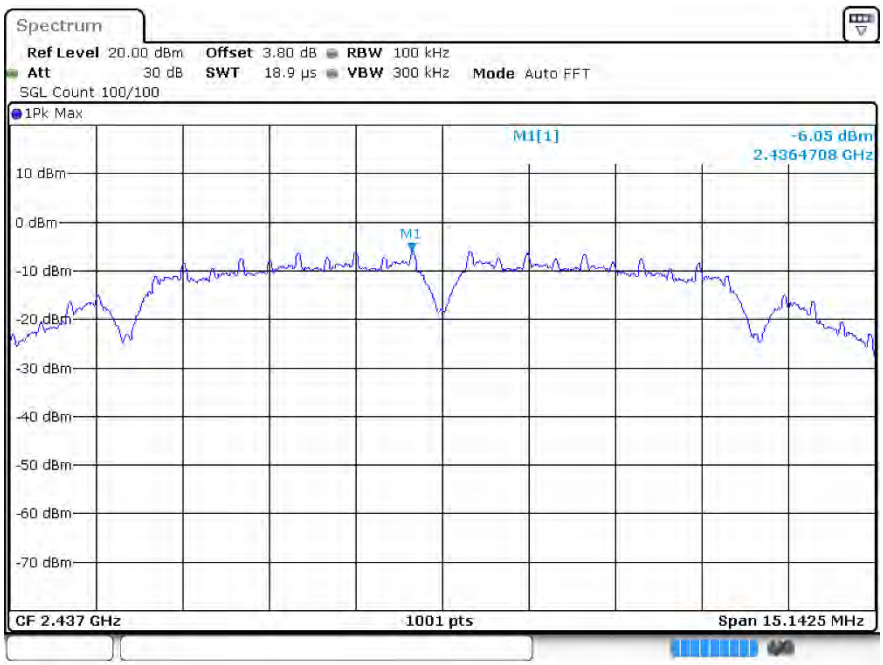


4 Maximum Power Spectral Density Level

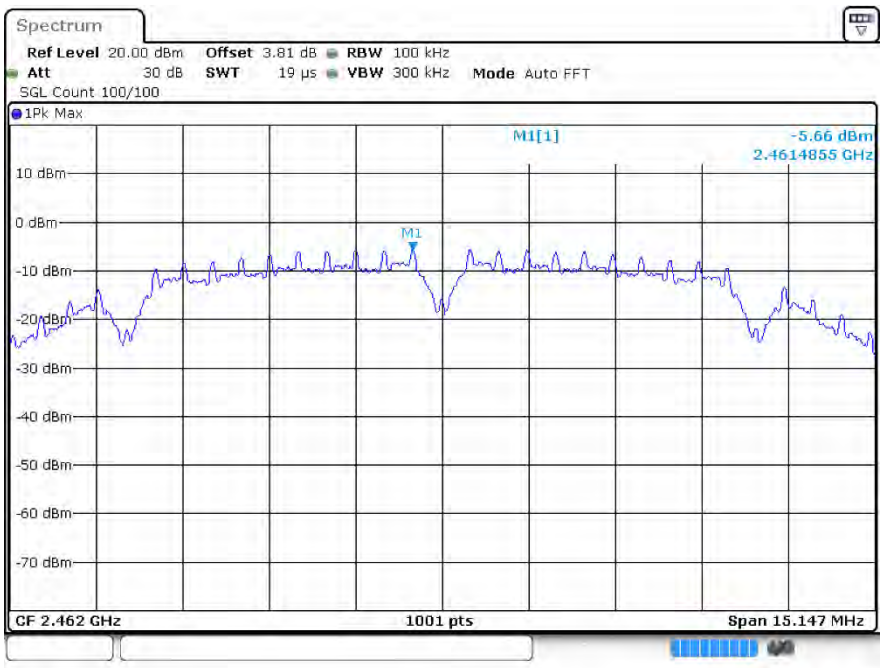
4.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-5.83	≤8	Pass
b	2437	Ant1	-6.05	≤8	Pass
b	2462	Ant1	-5.66	≤8	Pass
b	2412	Ant2	-6.75	≤8	Pass
b	2437	Ant2	-6.8	≤8	Pass
b	2462	Ant2	-6.78	≤8	Pass
g	2412	Ant1	-8.34	≤8	Pass
g	2437	Ant1	-9.38	≤8	Pass
g	2462	Ant1	-8.89	≤8	Pass
g	2412	Ant2	-9.76	≤8	Pass
g	2437	Ant2	-9.83	≤8	Pass
g	2462	Ant2	-9.34	≤8	Pass
n20	2412	Ant1	-8.75	≤8	Pass
n20	2437	Ant1	-8.84	≤8	Pass
n20	2462	Ant1	-8.56	≤8	Pass
n20	2412	Ant2	-9.7	≤8	Pass
n20	2437	Ant2	-9.63	≤8	Pass
n20	2462	Ant2	-12.82	≤8	Pass
n40	2422	Ant1	-15.09	≤8	Pass
n40	2437	Ant1	-13.53	≤8	Pass
n40	2452	Ant1	-13.19	≤8	Pass
n40	2422	Ant2	-12.2	≤8	Pass
n40	2437	Ant2	-12	≤8	Pass
n40	2452	Ant2	-11.66	≤8	Pass

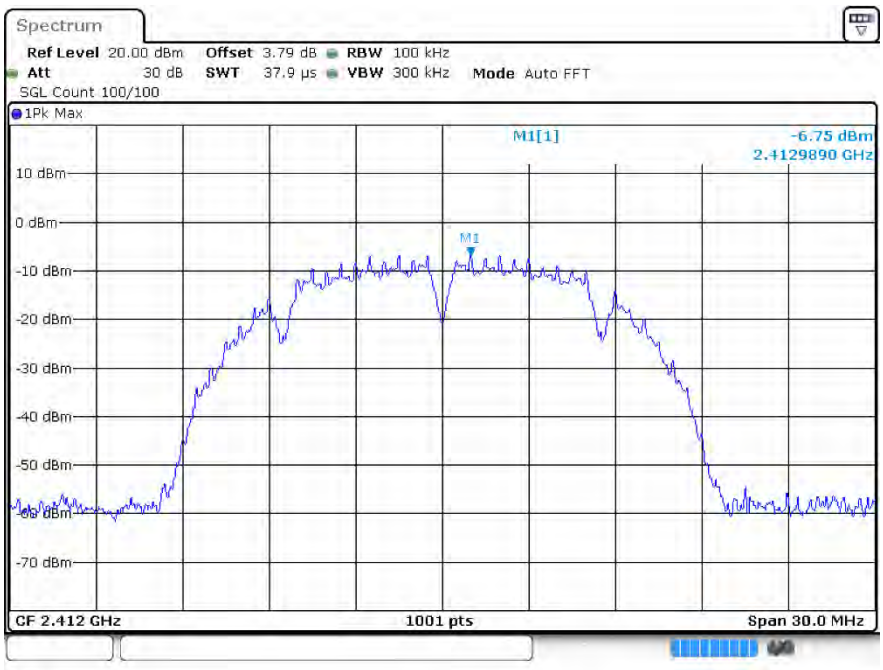
4.2 Test Graphs

Test Graphs
PSDb 2412MHz Ant1

PSD b 2437MHz Ant1


PSD b 2462MHz Ant1

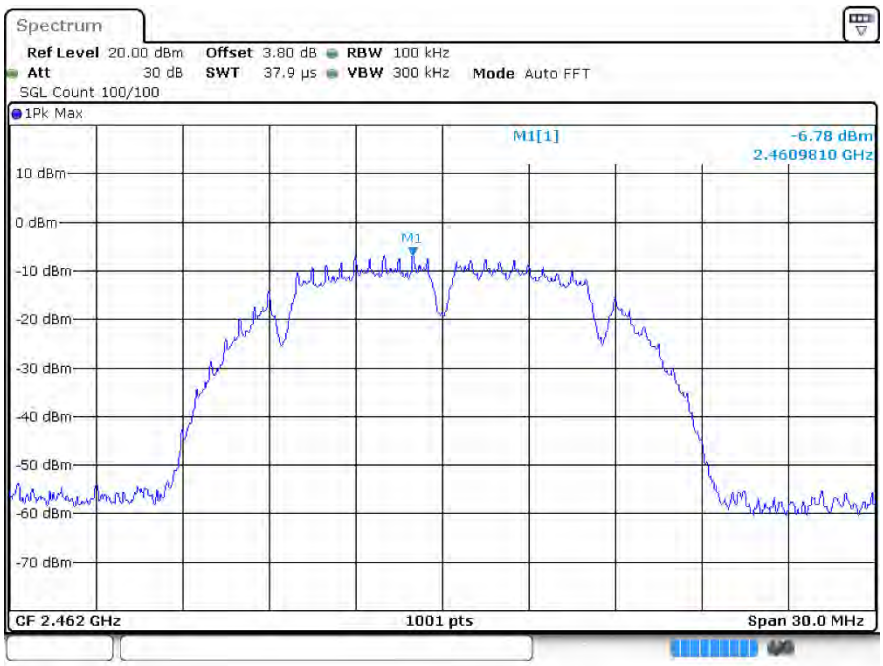


PSD b 2412MHz Ant2

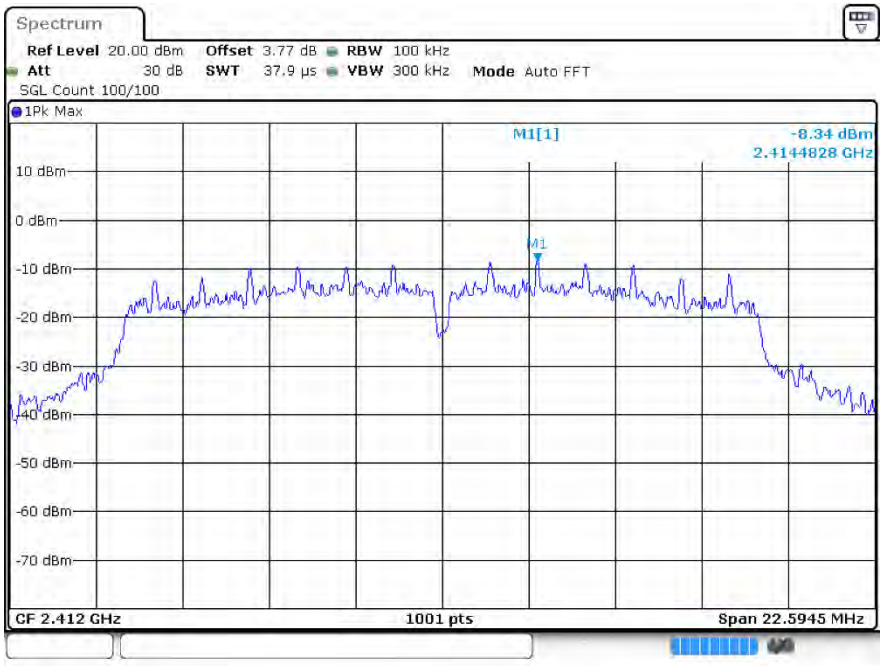


PSD b 2437MHz Ant2

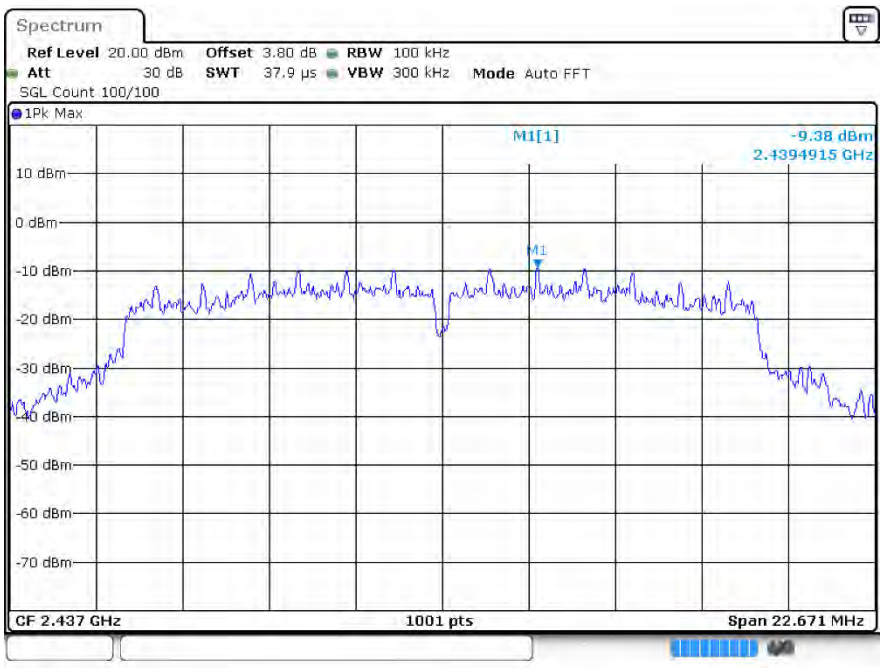
PSD b 2462MHz Ant2



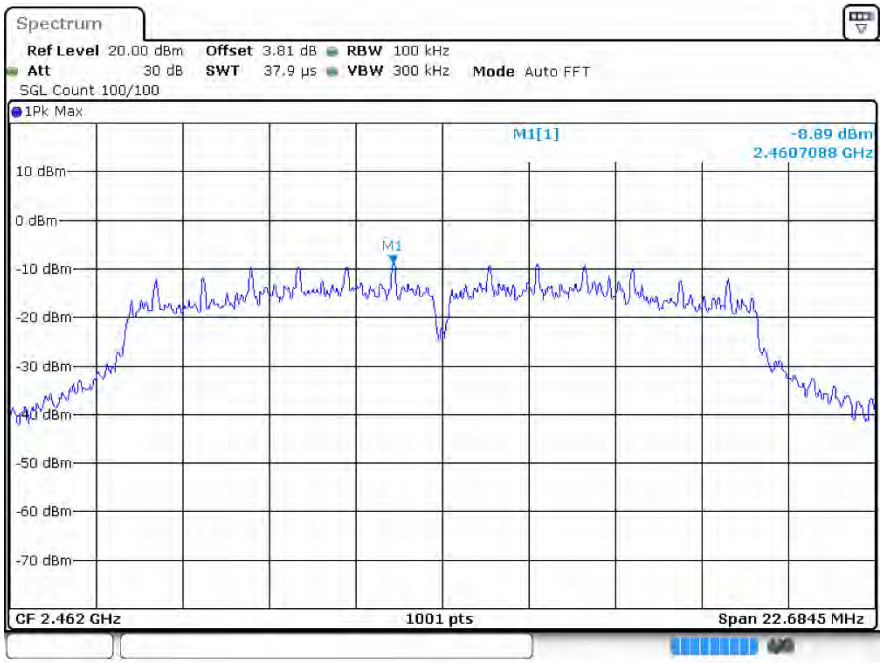
PSD g 2412MHz Ant1



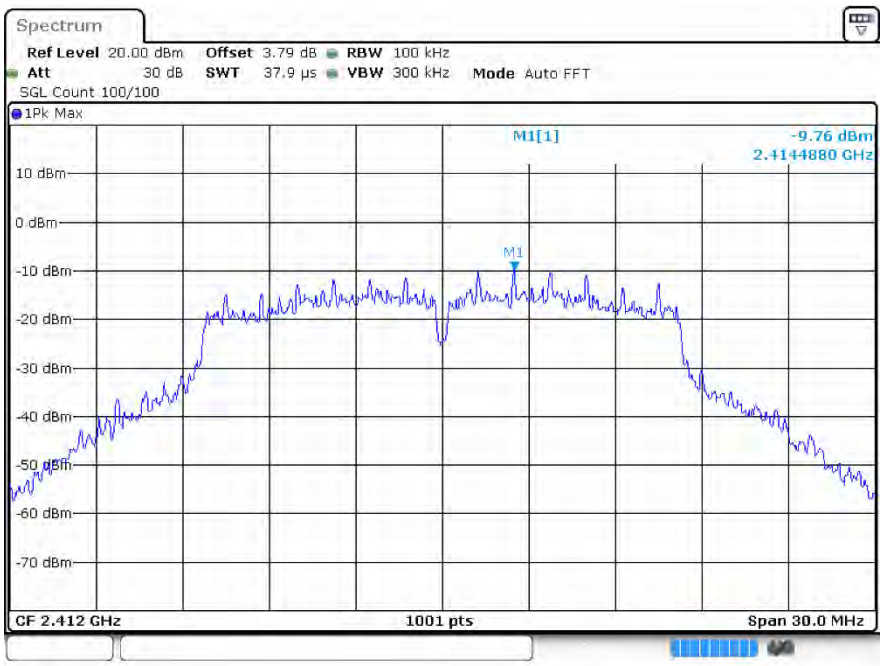
PSD g 2437MHz Ant1



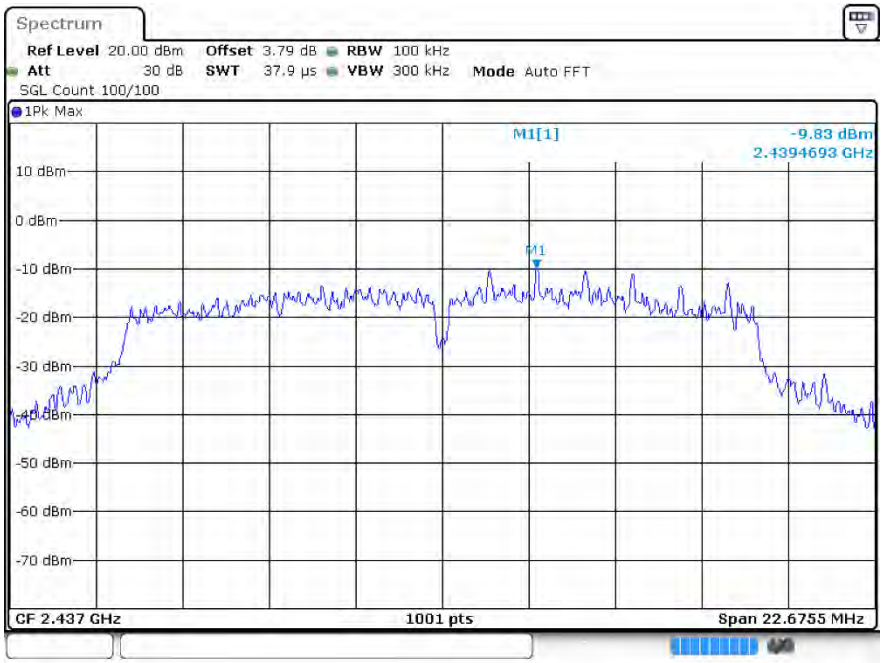
PSD g 2462MHz Ant1



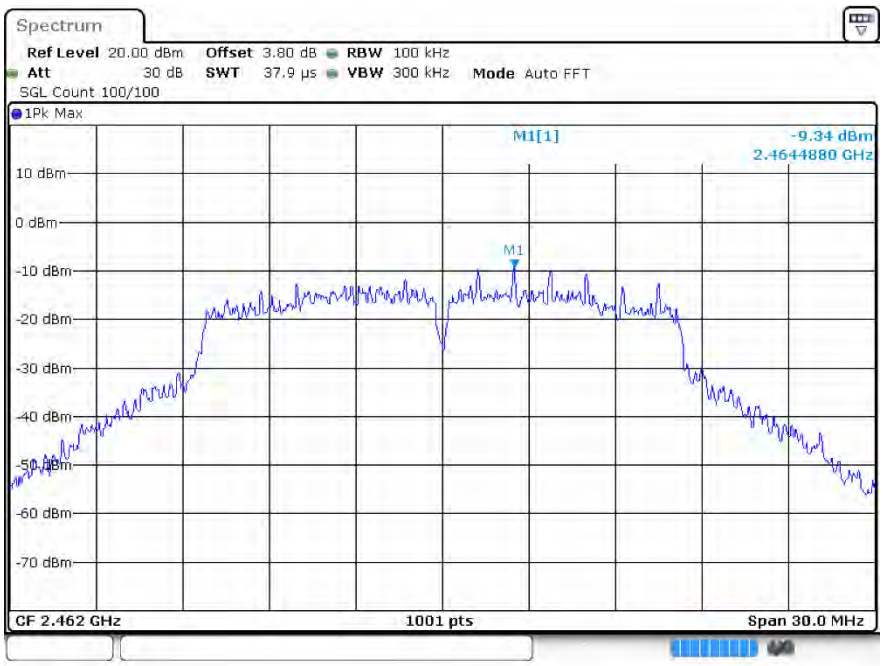
PSD g 2412MHz Ant2



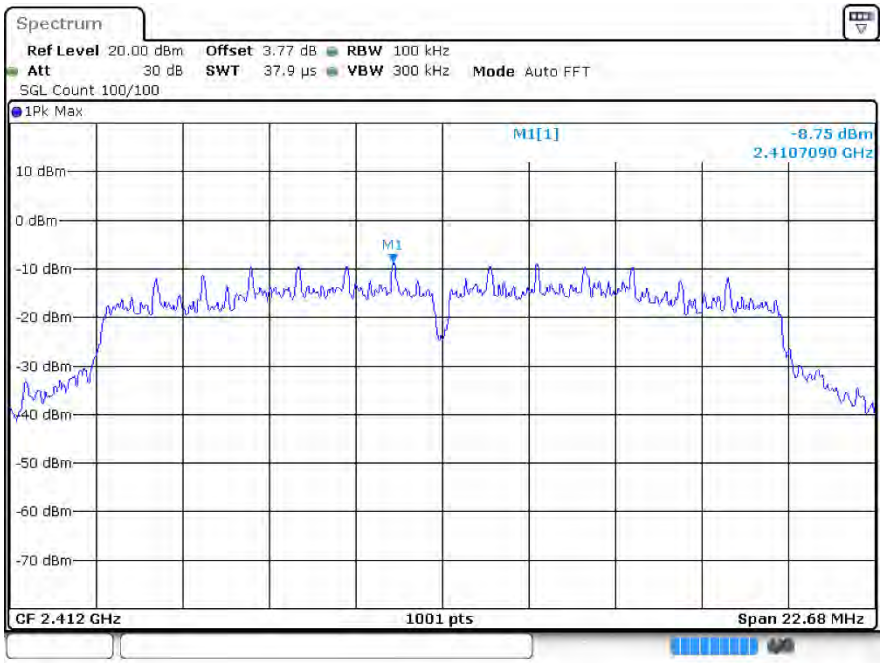
PSD g 2437MHz Ant2



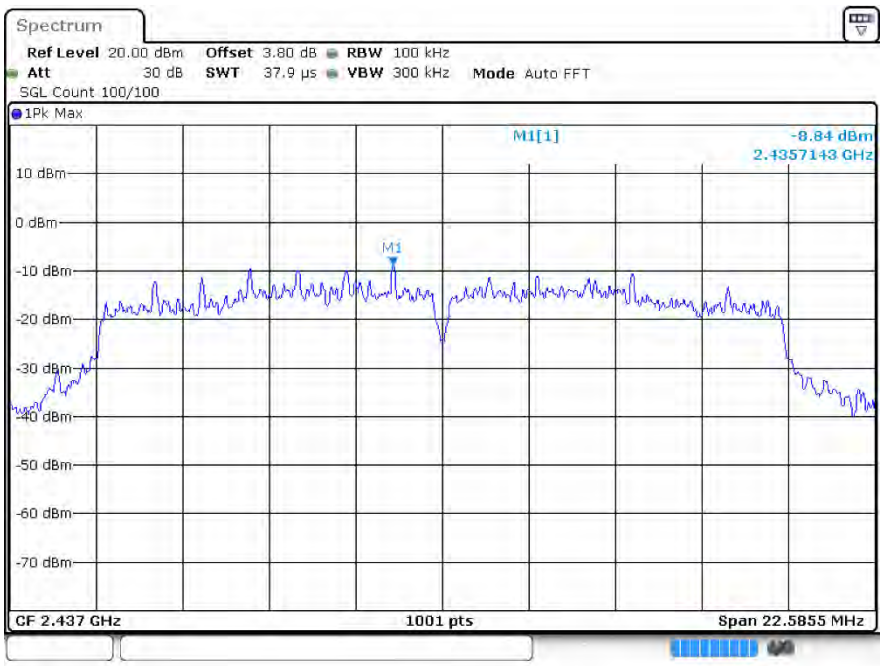
PSD g 2462MHz Ant2

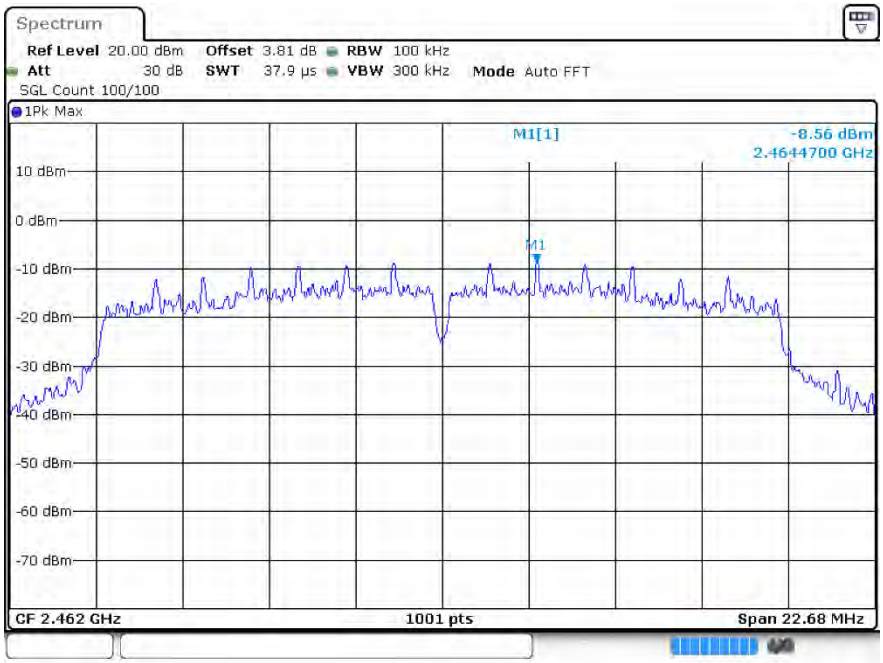
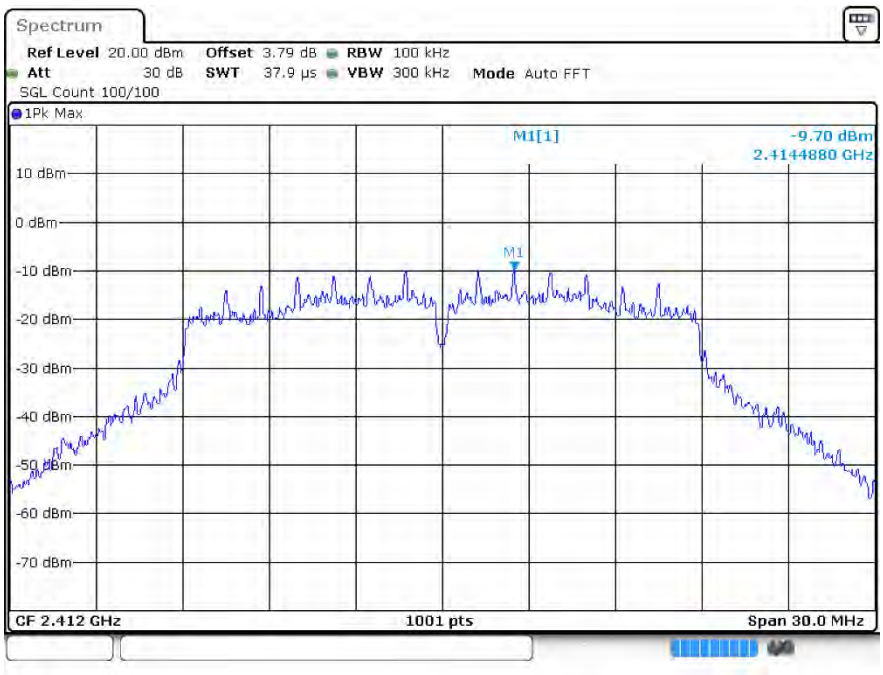


PSD n20 2412MHz Ant1

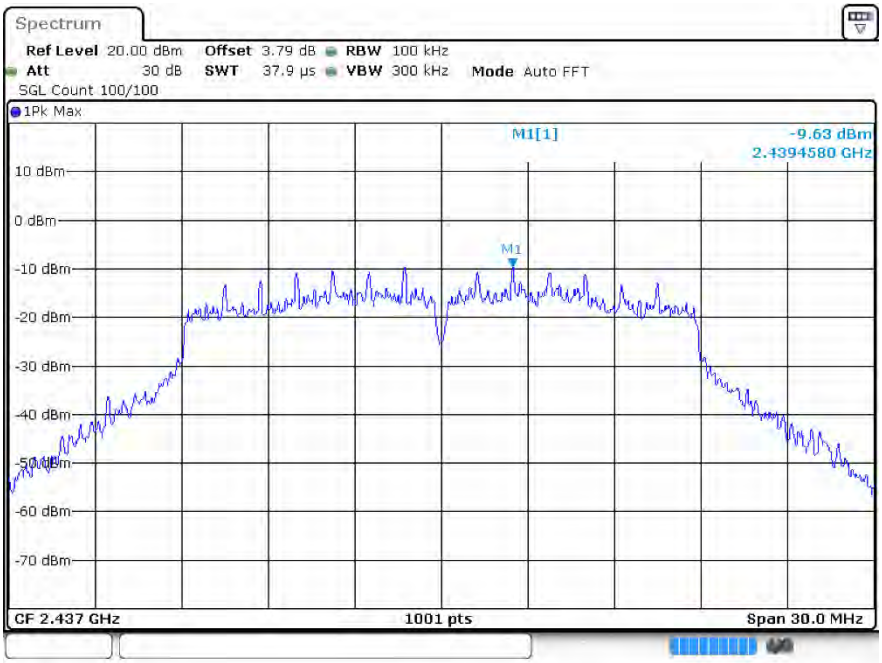


PSD n20 2437MHz Ant1

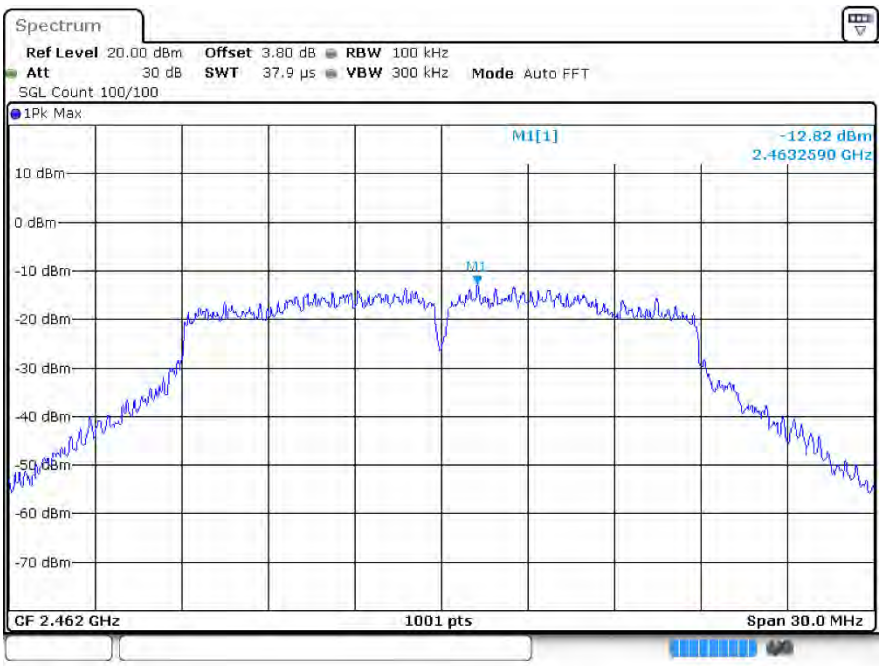


PSD n20 2462MHz Ant1

PSD n20 2412MHz Ant2


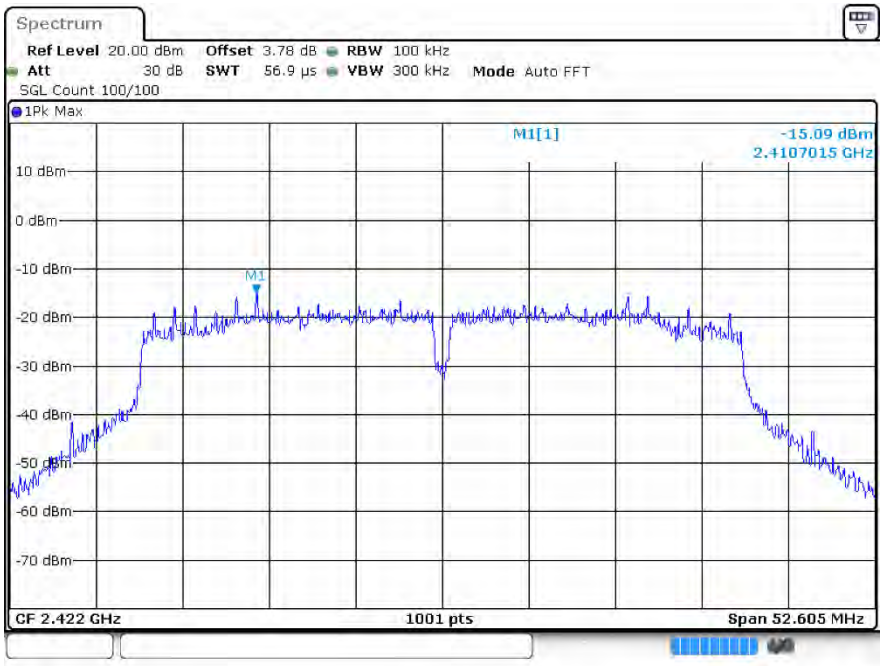
PSD n20 2437MHz Ant2



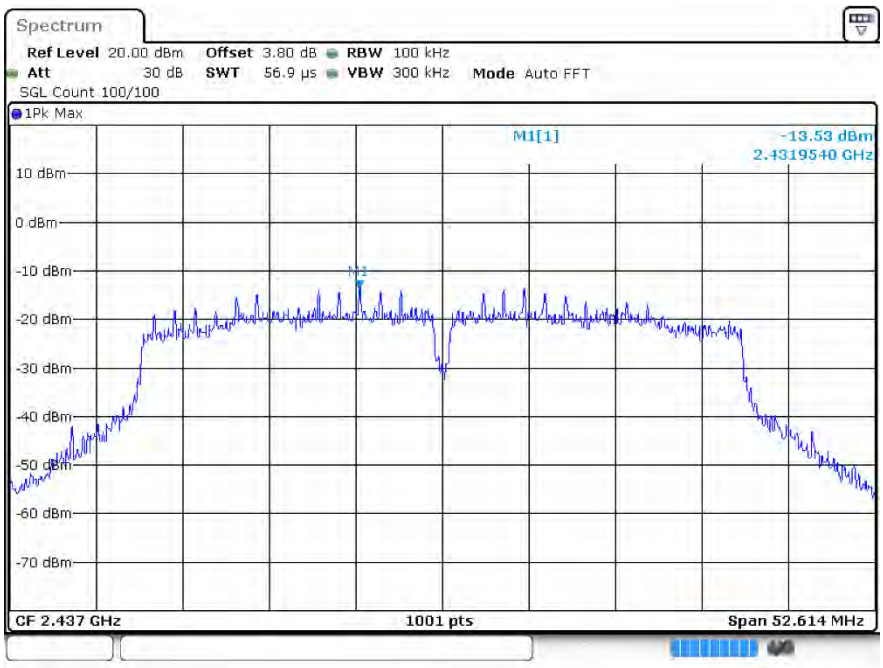
PSD n20 2462MHz Ant2



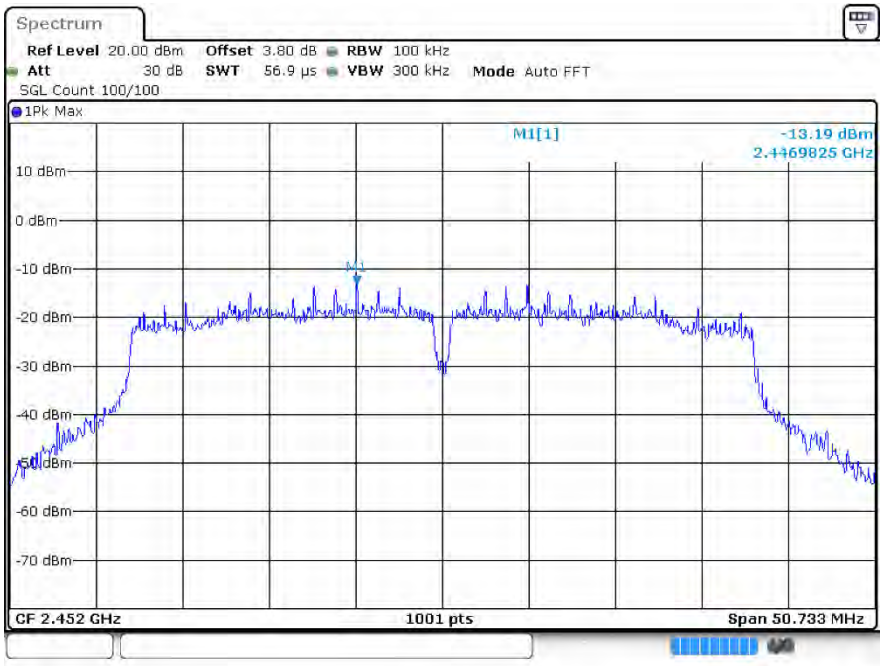
PSD n40 2422MHz Ant1



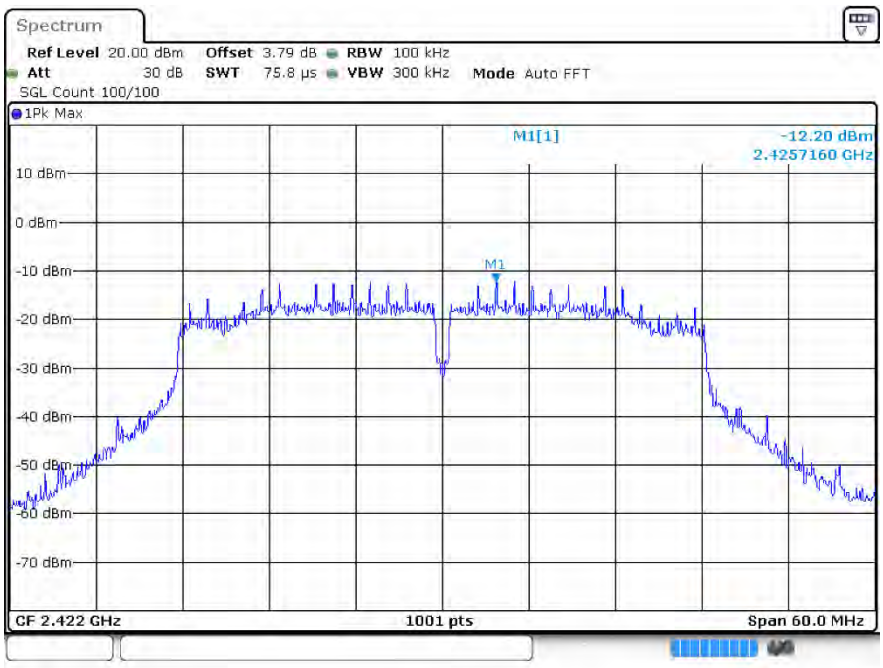
PSD n40 2437MHz Ant1



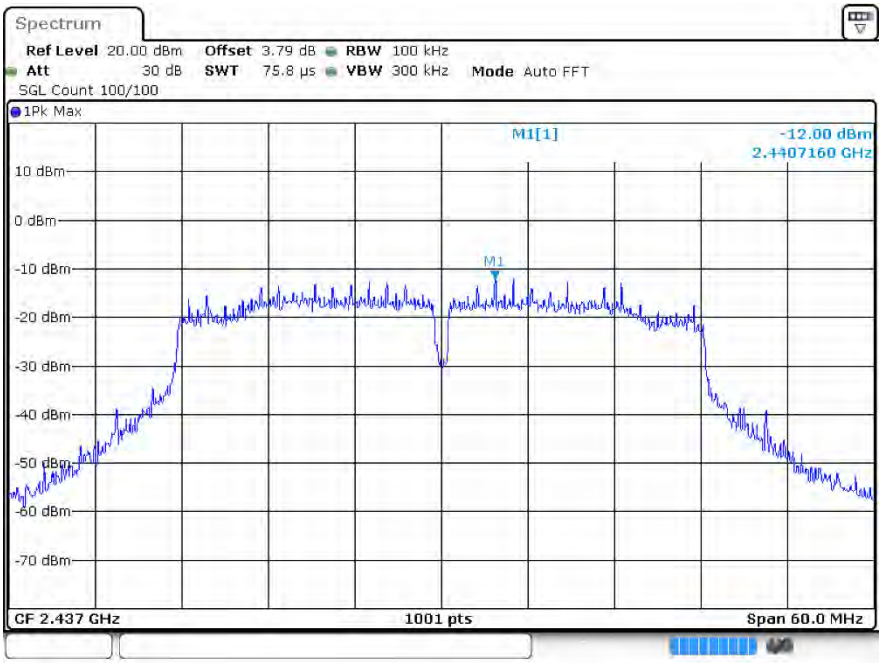
PSD n40 2452MHz Ant1



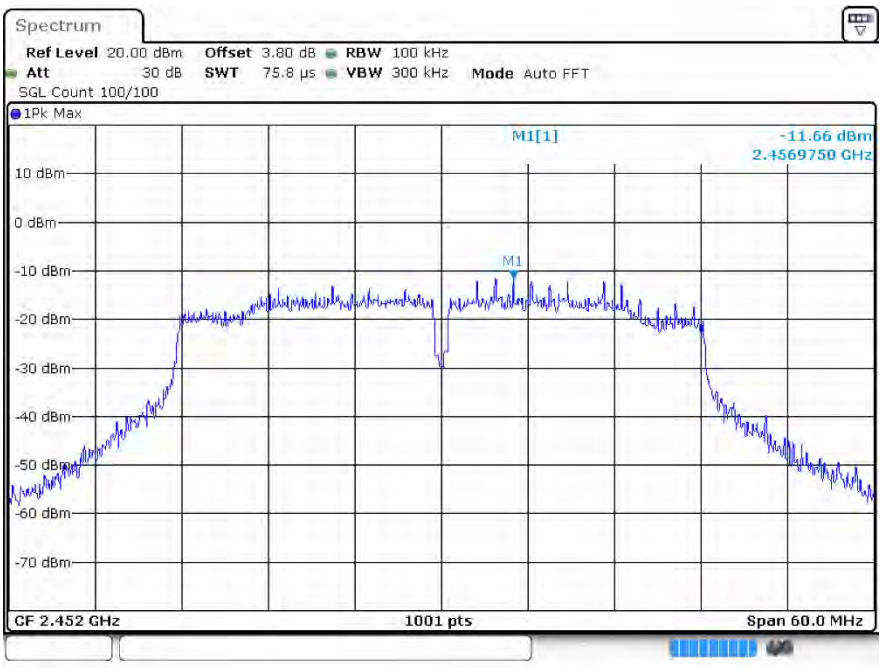
PSD n40 2422MHz Ant2



PSD n40 2437MHz Ant2



PSD n40 2452MHz Ant2



5 Band Edge

5.1 Test Result

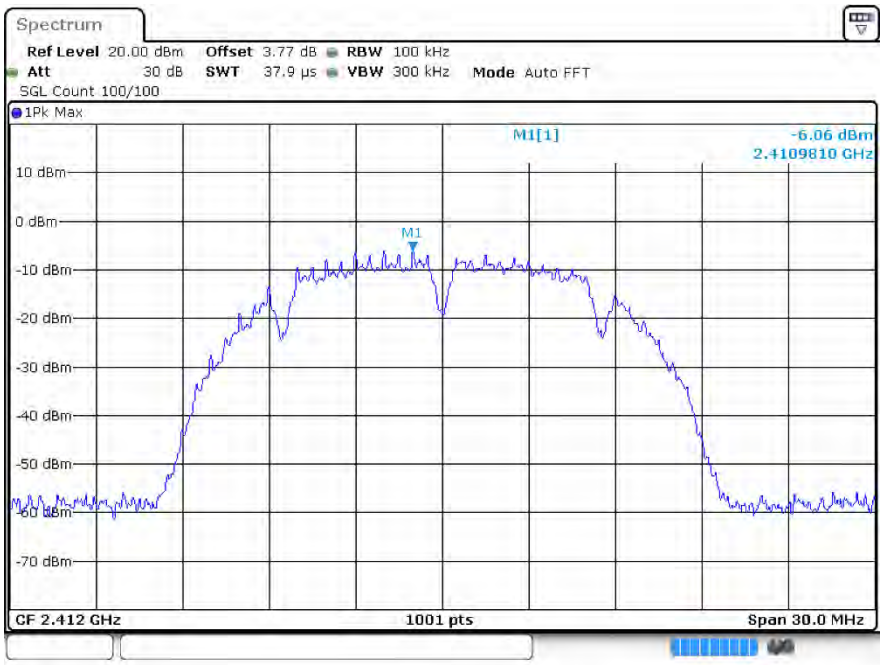
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-47.86	-20	-47.86
b	2462	Ant1	-49.31	-20	Pass
g	2412	Ant1	-46.28	-20	Pass
g	2462	Ant1	-47.43	-20	Pass
n20	2412	Ant1	-46.02	-20	Pass
n20	2462	Ant1	-46.93	-20	Pass
n40	2422	Ant1	-41.35	-20	Pass
n40	2452	Ant1	-42.68	-20	Pass

Remark:

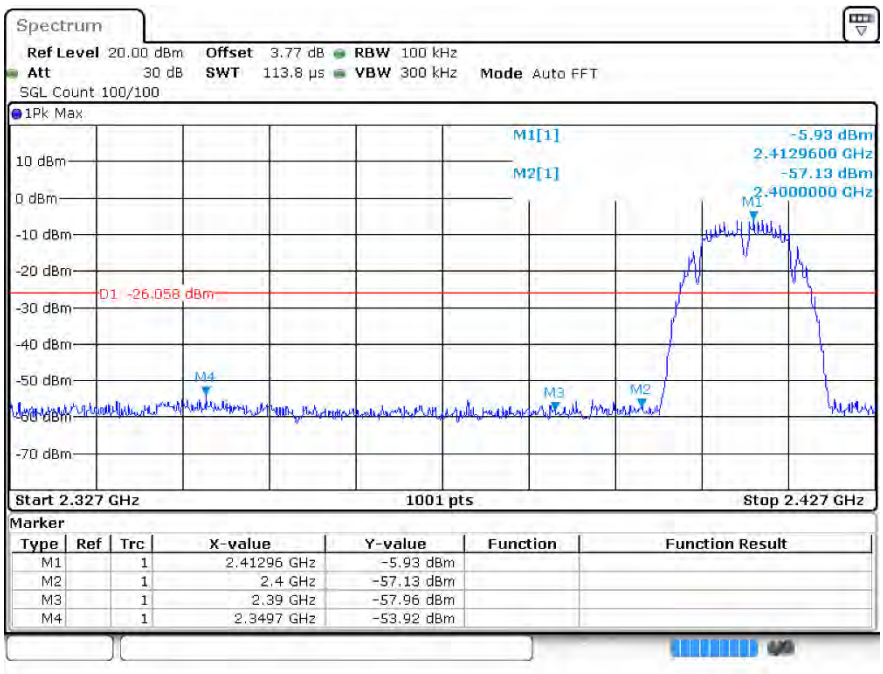
Ant1 and Ant2 have been tested, found worst case is Ant1, only record the worst case results in this report.

5.2 Test Graphs

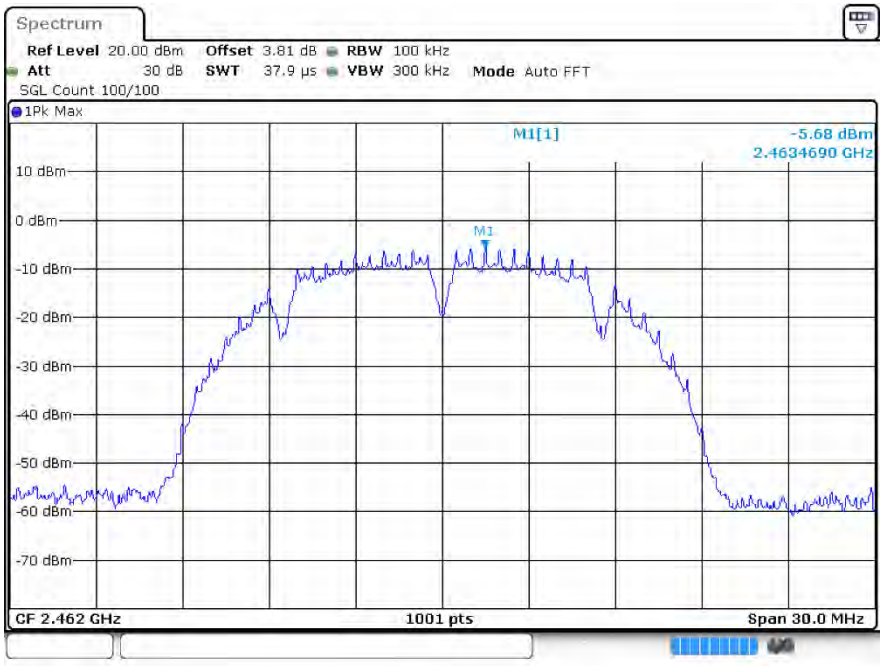
Test Graphs
b 2412MHz Ant1 Ref



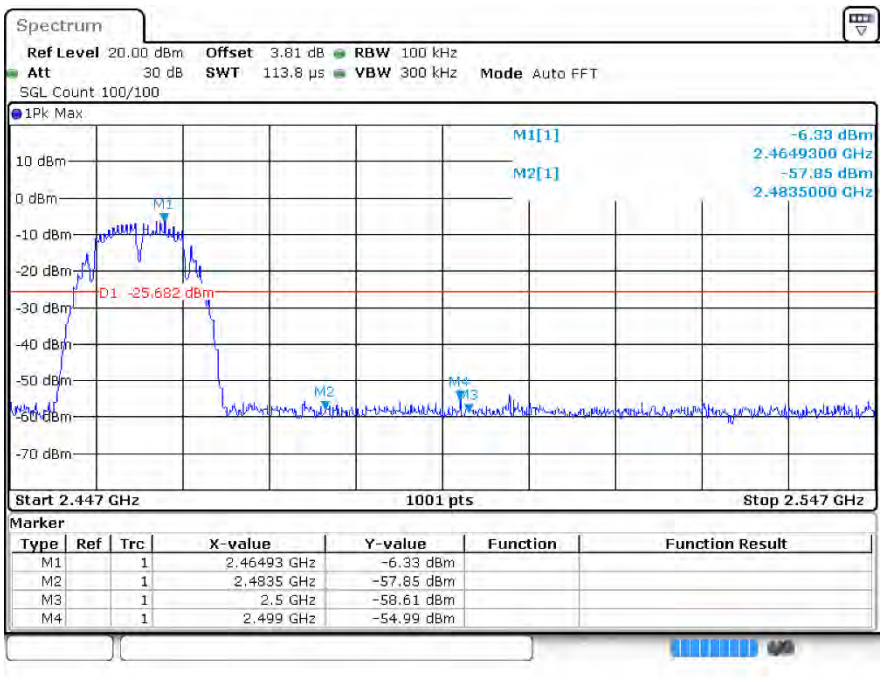
b 2412MHz Ant1 Emission



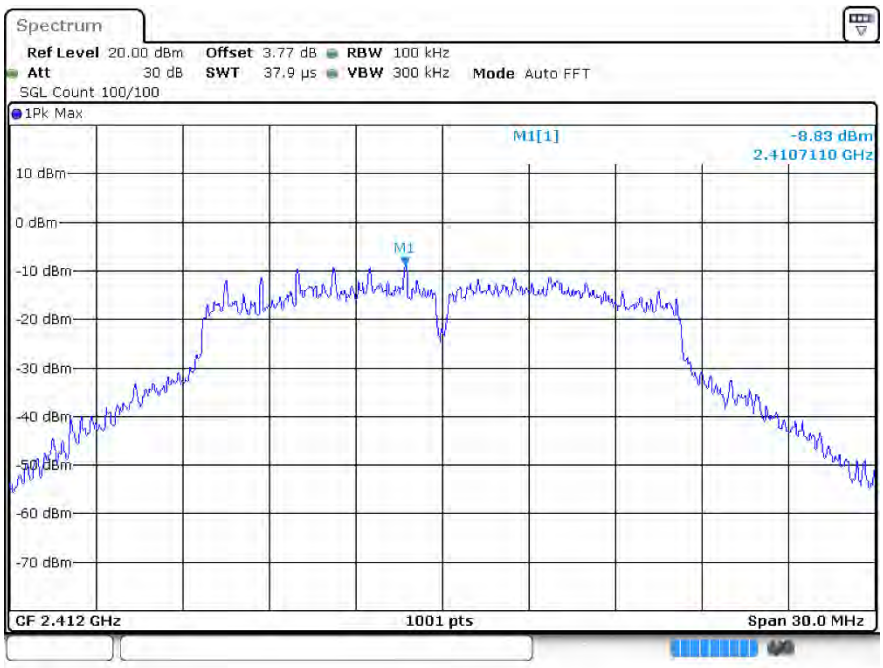
b 2462MHz Ant1 Ref



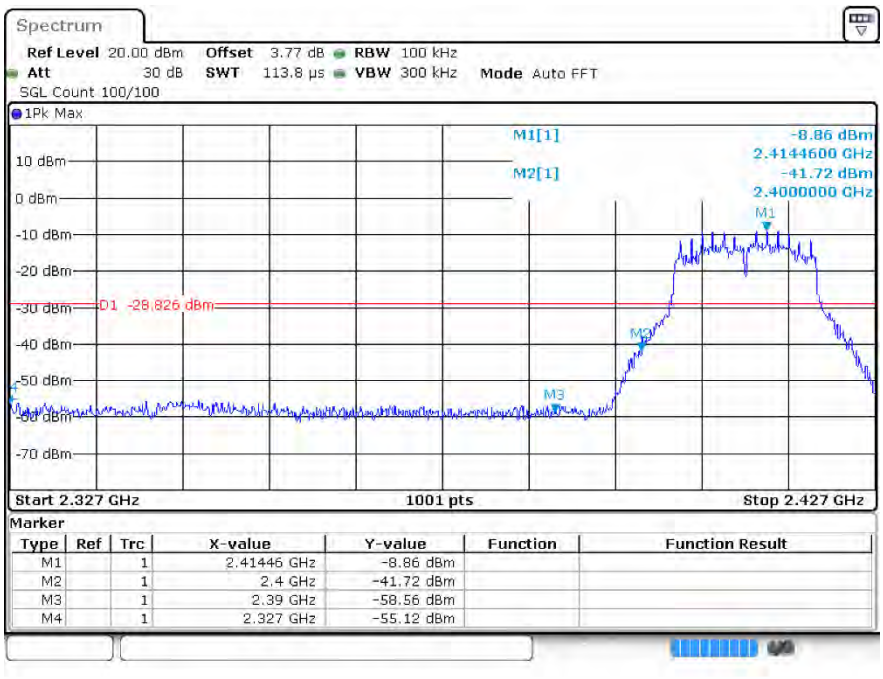
b 2462MHz Ant1 Emission



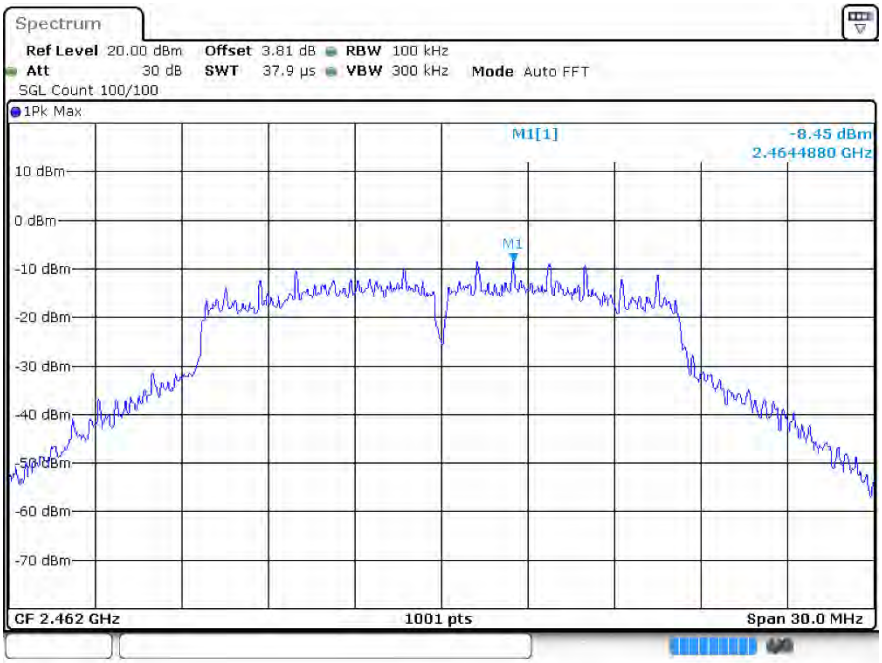
g 2412MHz Ant1 Ref



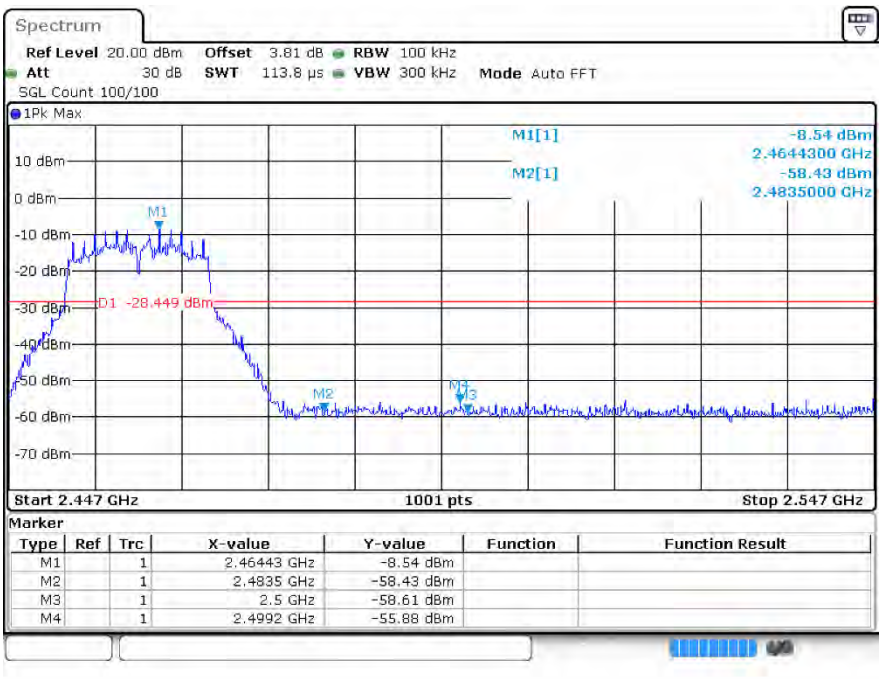
g 2412MHz Ant1 Emission



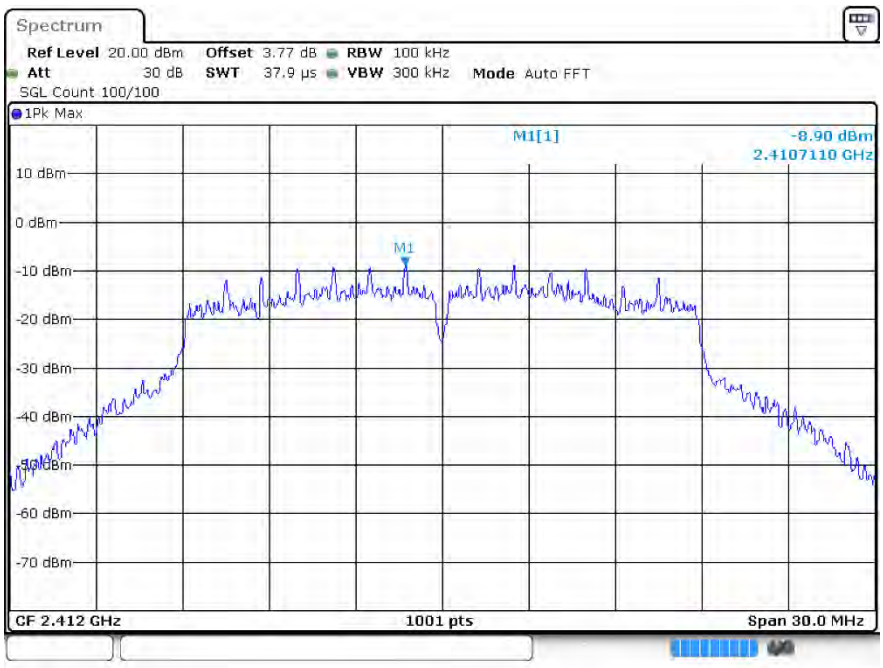
g 2462MHz Ant1 Ref



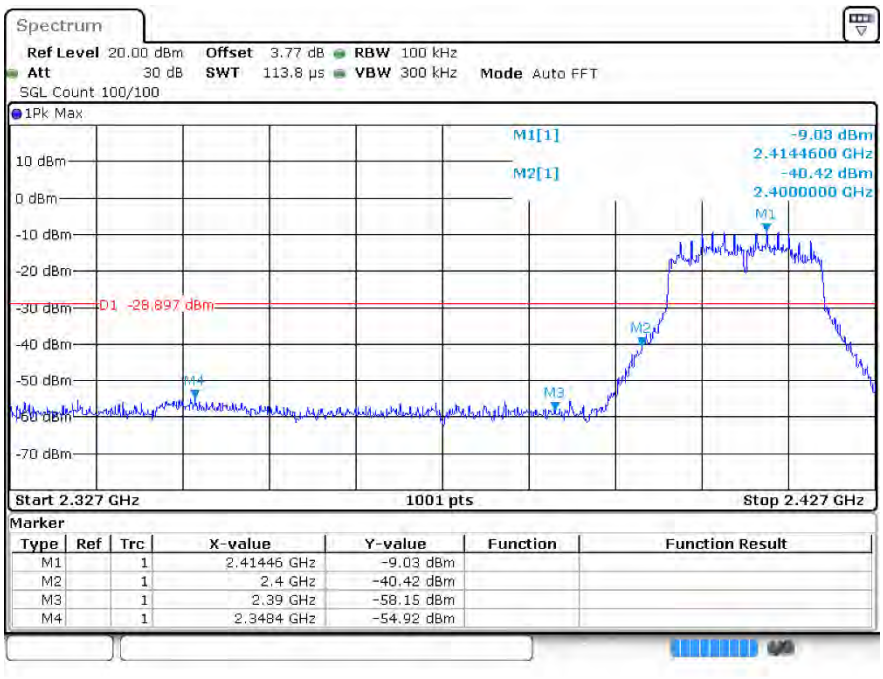
g 2462MHz Ant1 Emission



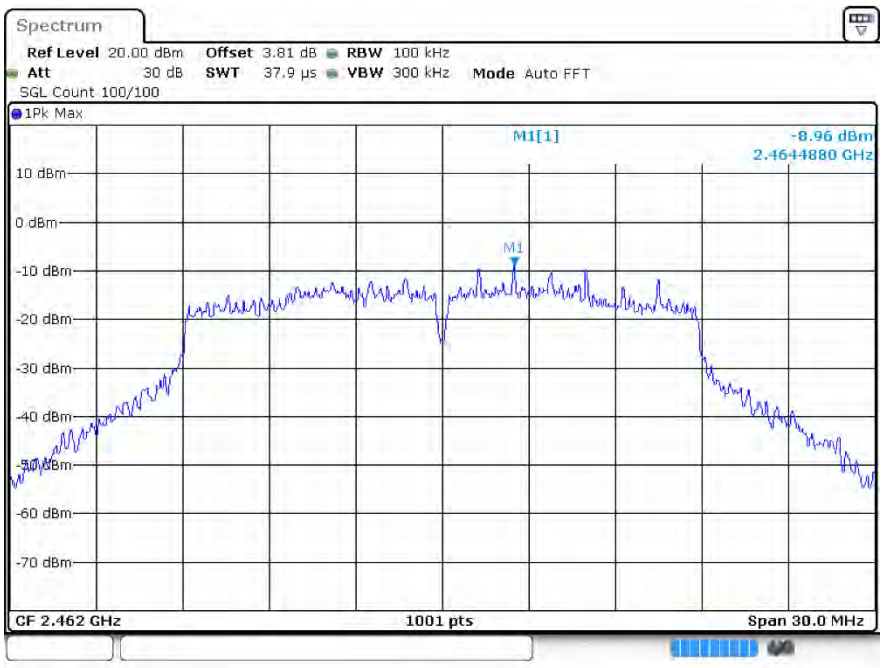
n20 2412MHz Ant1 Ref



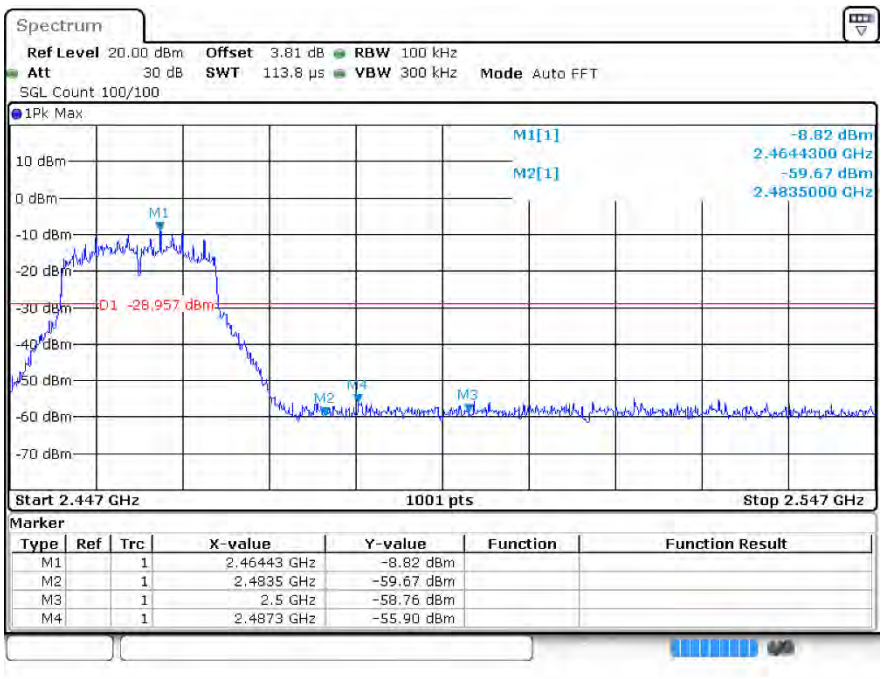
n20 2412MHz Ant1 Emission



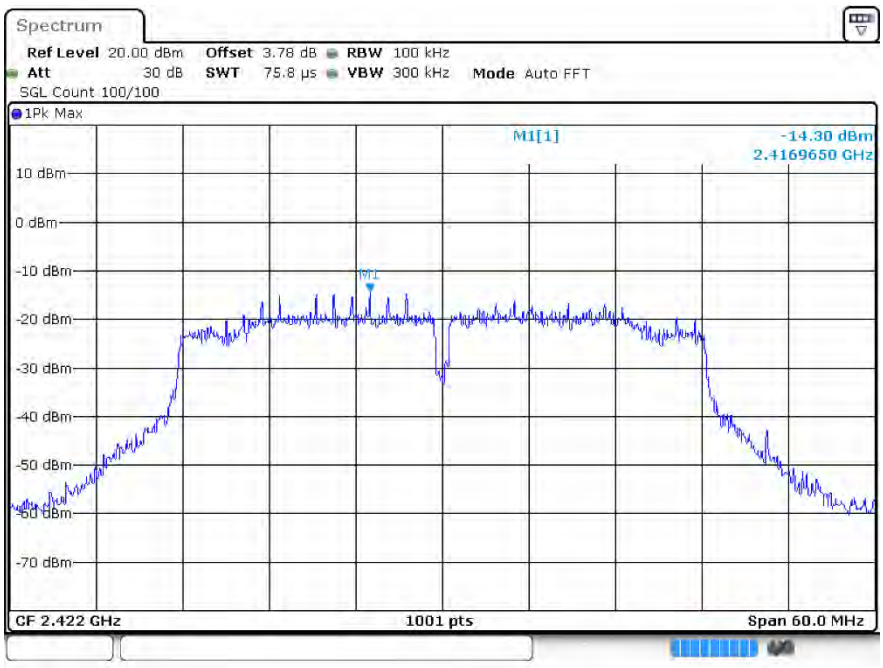
n20 2462MHz Ant1 Ref



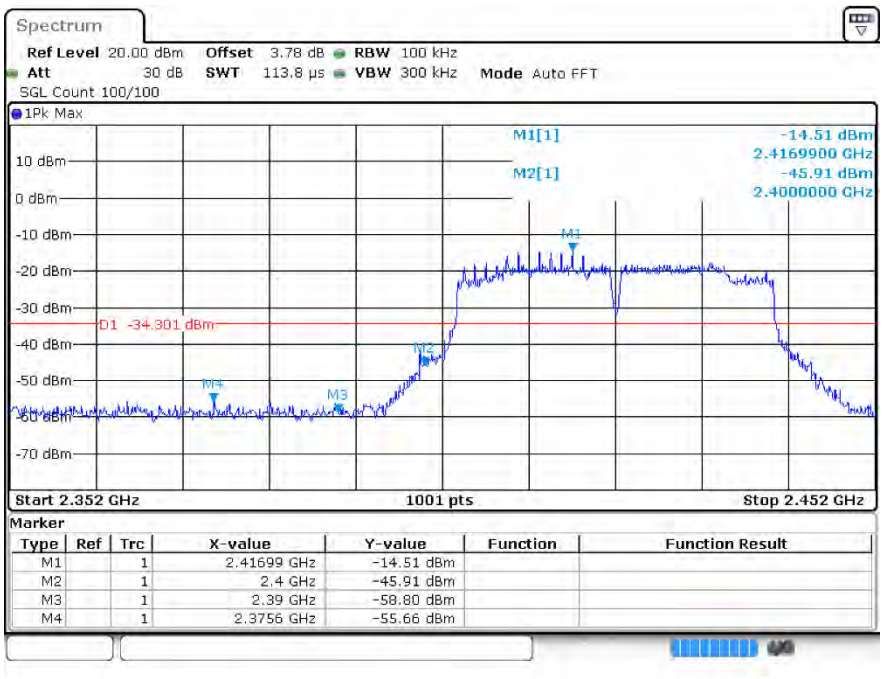
n20 2462MHz Ant1 Emission



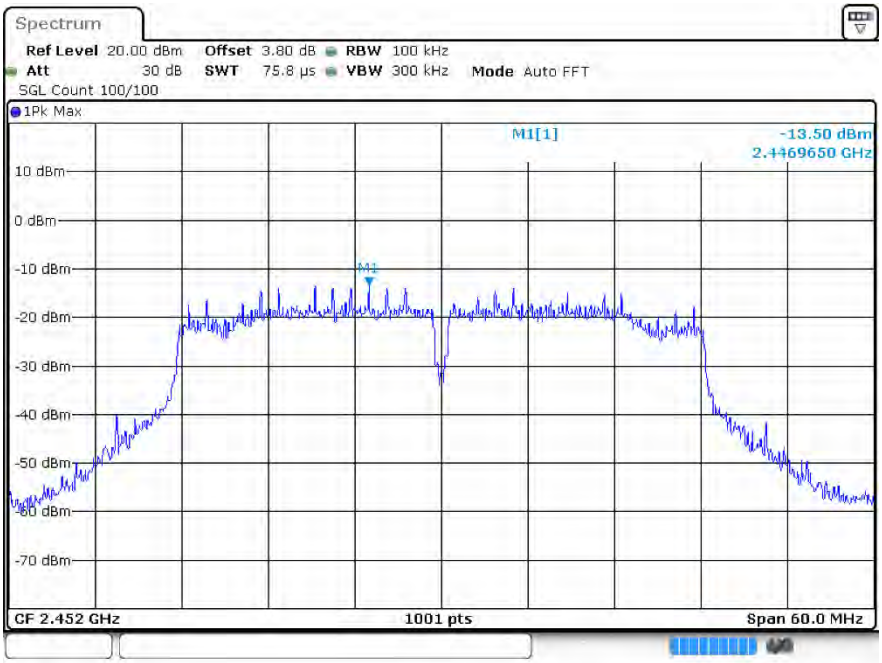
n40 2422MHz Ant1 Ref



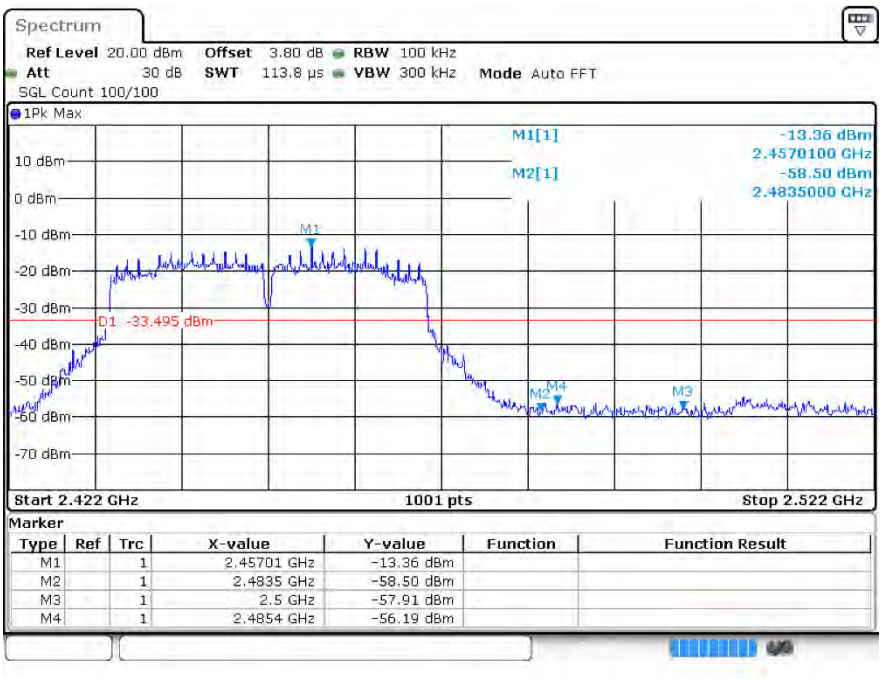
n40 2422MHz Ant1 Emission



n40 2452MHz Ant1 Ref



n40 2452MHz Ant1 Emission



6 Conducted RF Spurious Emission

6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-39.14	-20	Pass
b	2437	Ant1	-39.75	-20	Pass
b	2462	Ant1	-39.41	-20	Pass
g	2412	Ant1	-37.5	-20	Pass
g	2437	Ant1	-36.45	-20	Pass
g	2462	Ant1	-36.74	-20	Pass
n20	2412	Ant1	-37.05	-20	Pass
n20	2437	Ant1	-34.28	-20	Pass
n20	2462	Ant1	-36.62	-20	Pass
n40	2422	Ant1	-30.27	-20	Pass
n40	2437	Ant1	-31.83	-20	Pass
n40	2452	Ant1	-31.02	-20	Pass

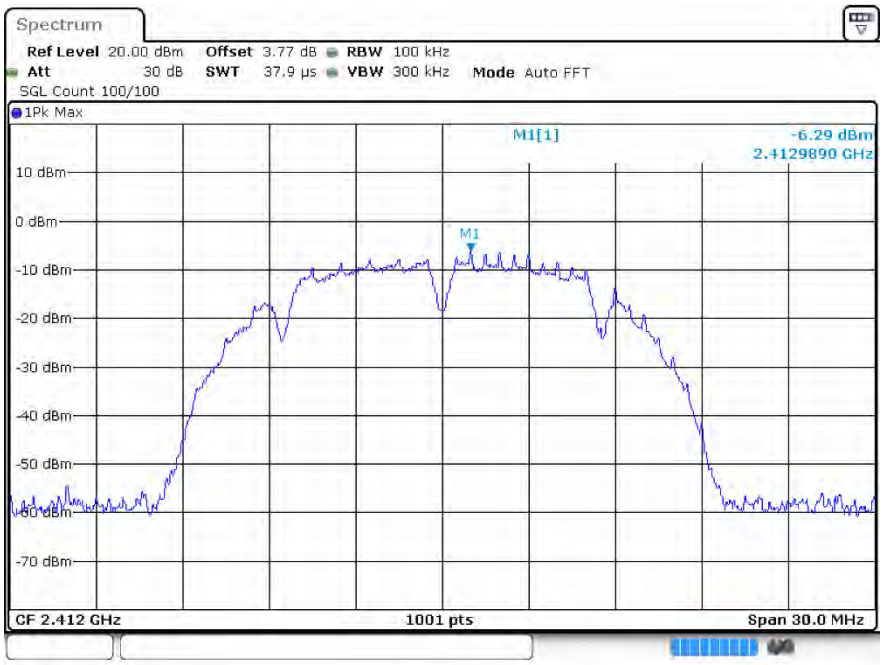
Remark:

Ant1 and Ant2 have been tested, found worst case is Ant1, only record the worst case results in this report.

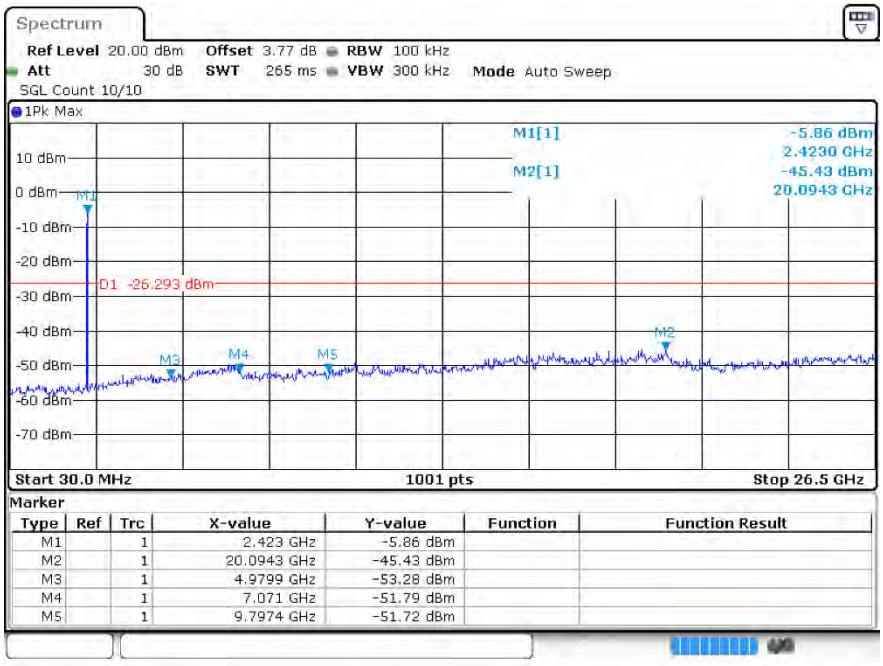
6.2 Test Graphs

Test Graphs

b 2412MHz Ant1 Ref

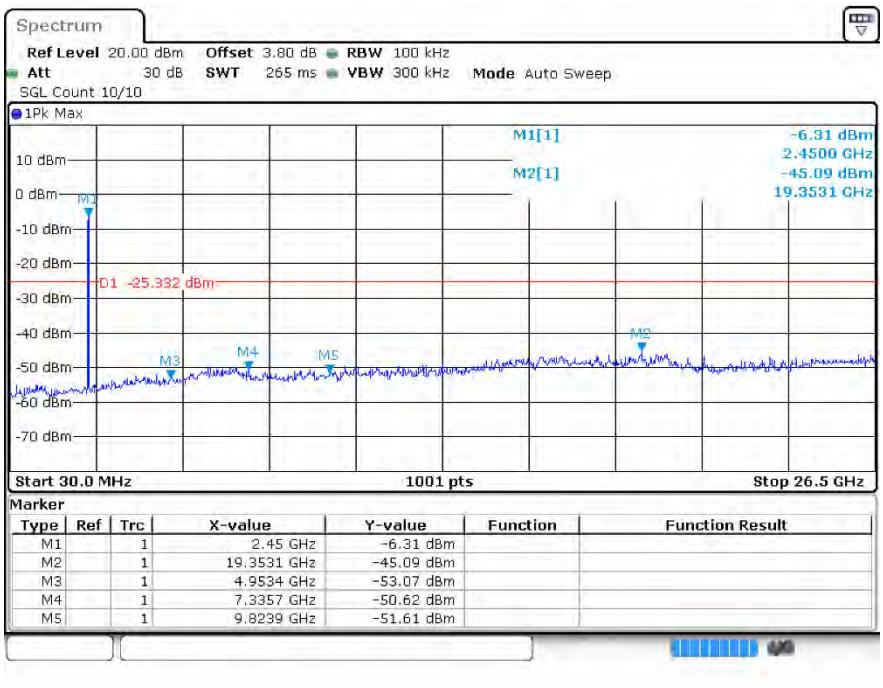


b 2412MHz Ant1 Emission



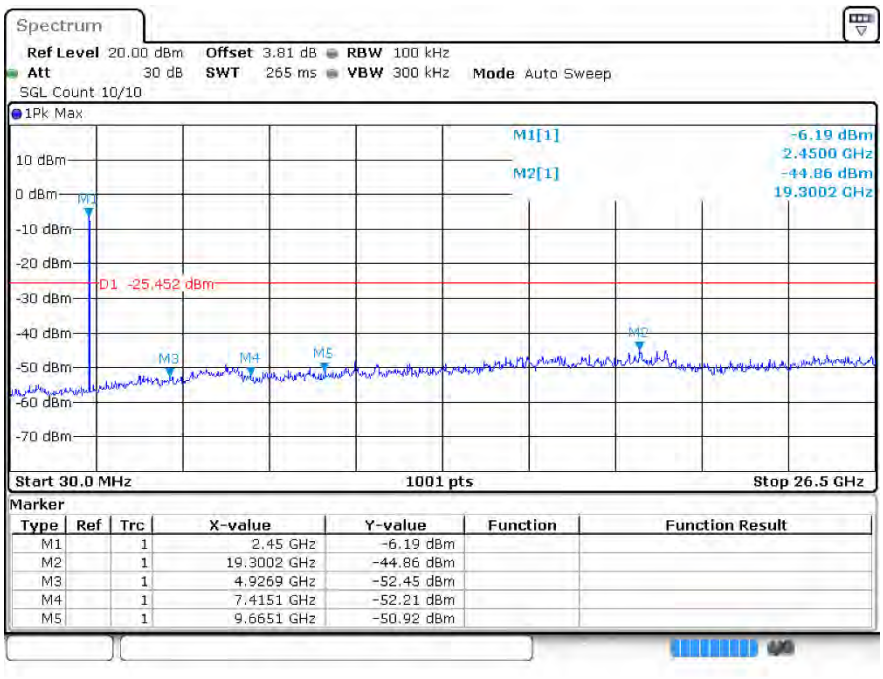
b 2437MHz Ant1 Ref

b 2437MHz Ant1 Emission

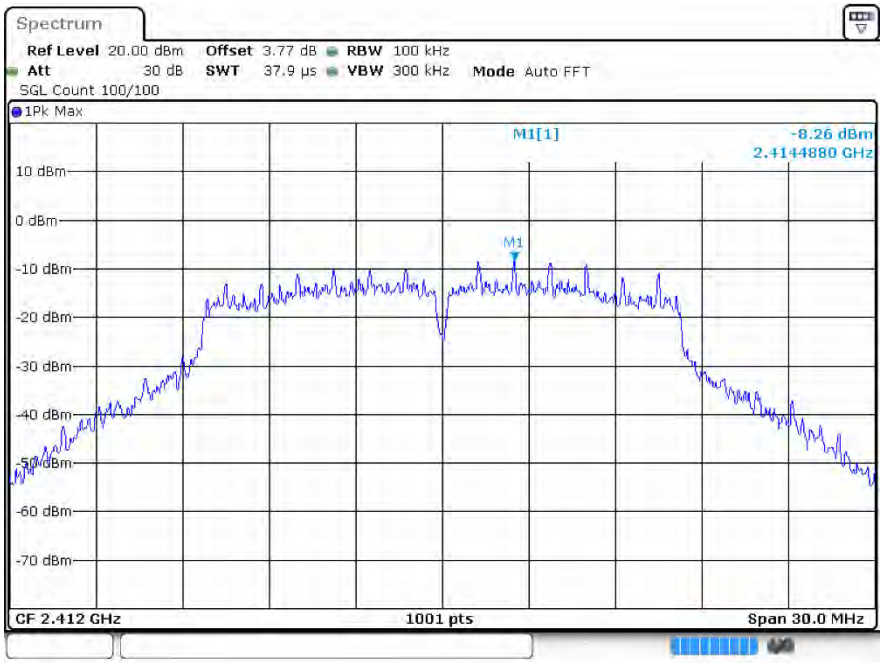


b 2462MHz Ant1 Ref

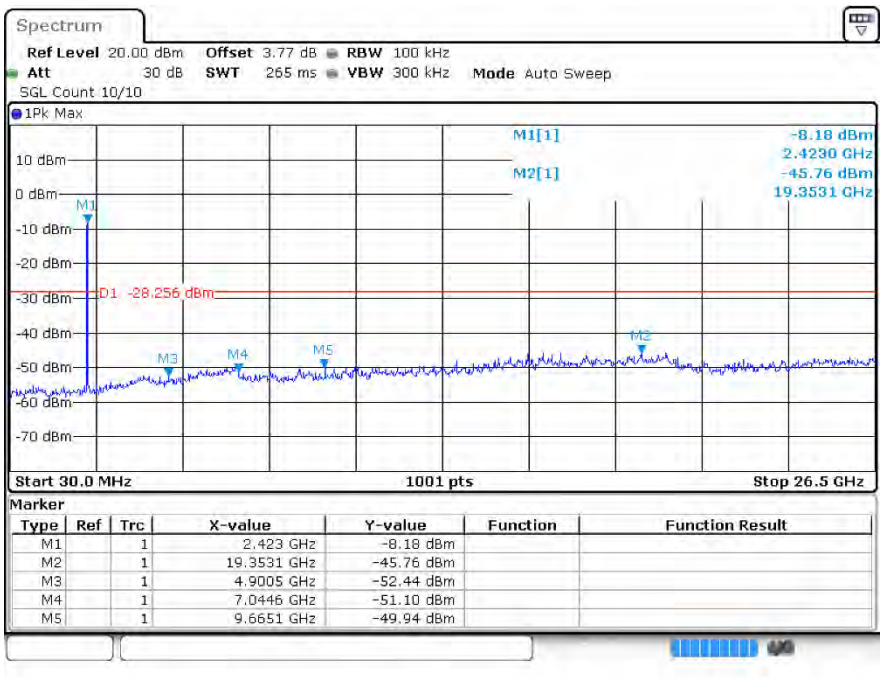
b 2462MHz Ant1 Emission



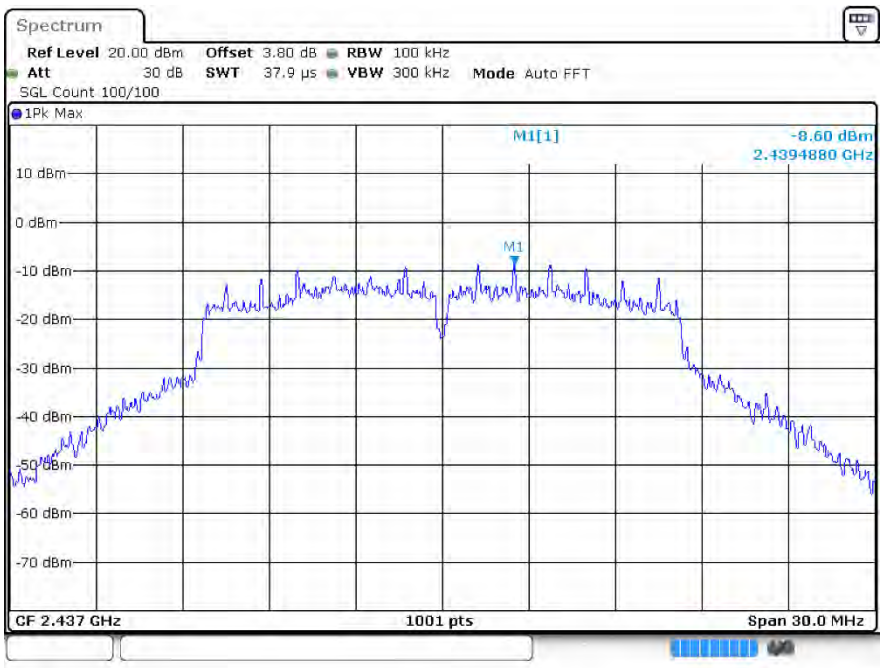
g 2412MHz Ant1 Ref



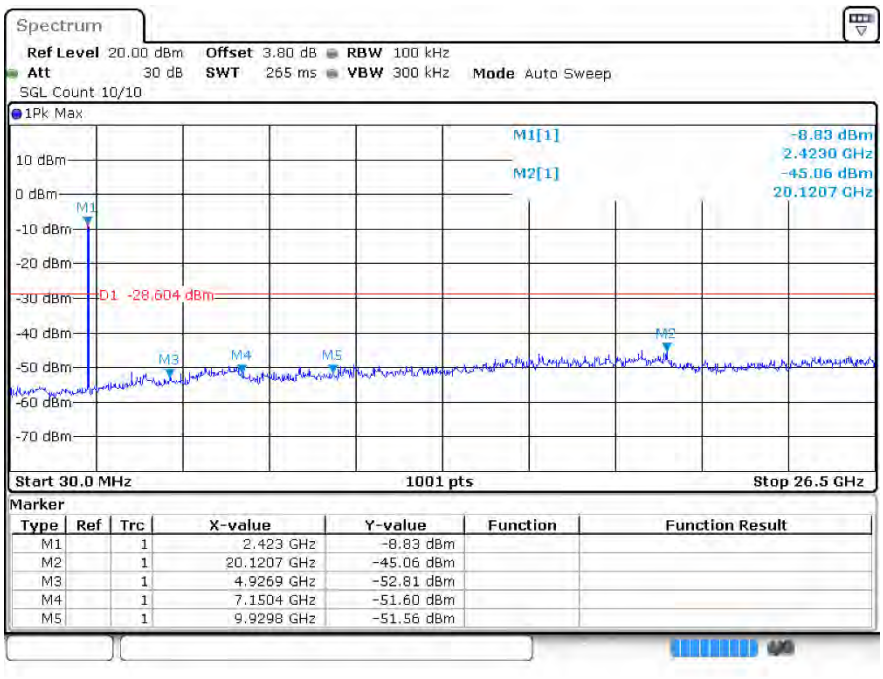
g 2412MHz Ant1 Emission



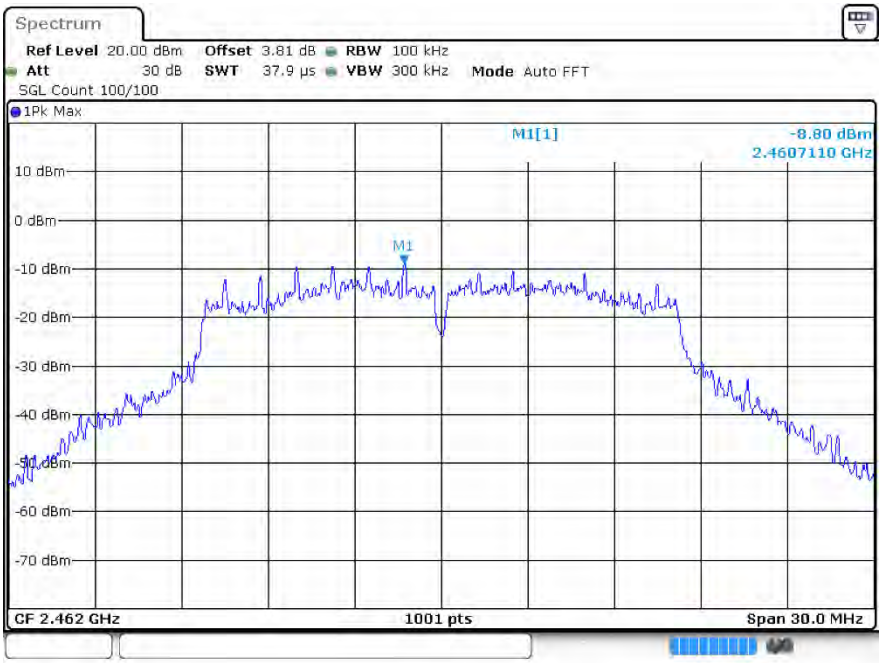
g 2437MHz Ant1 Ref



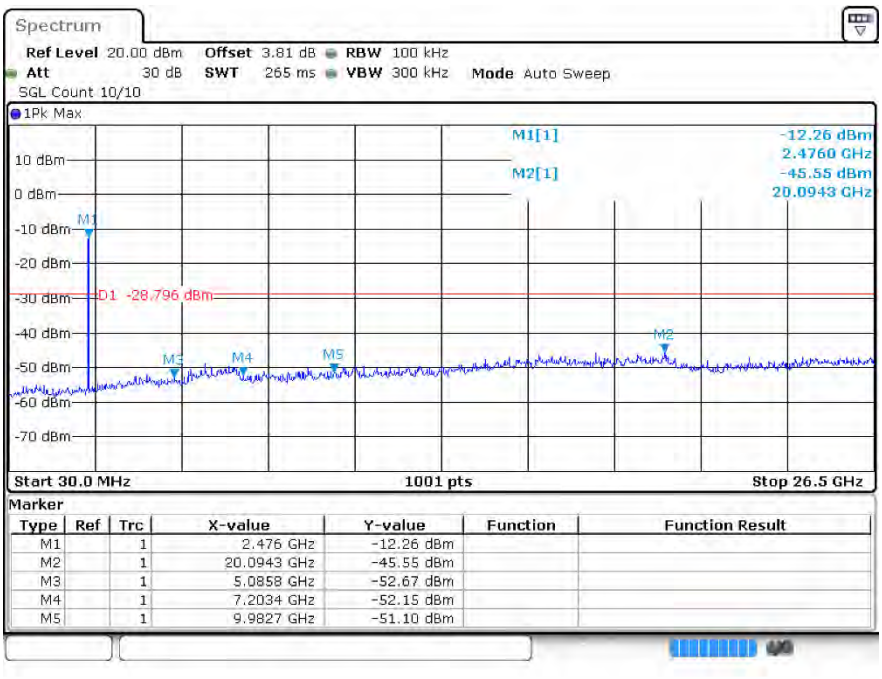
g 2437MHz Ant1 Emission



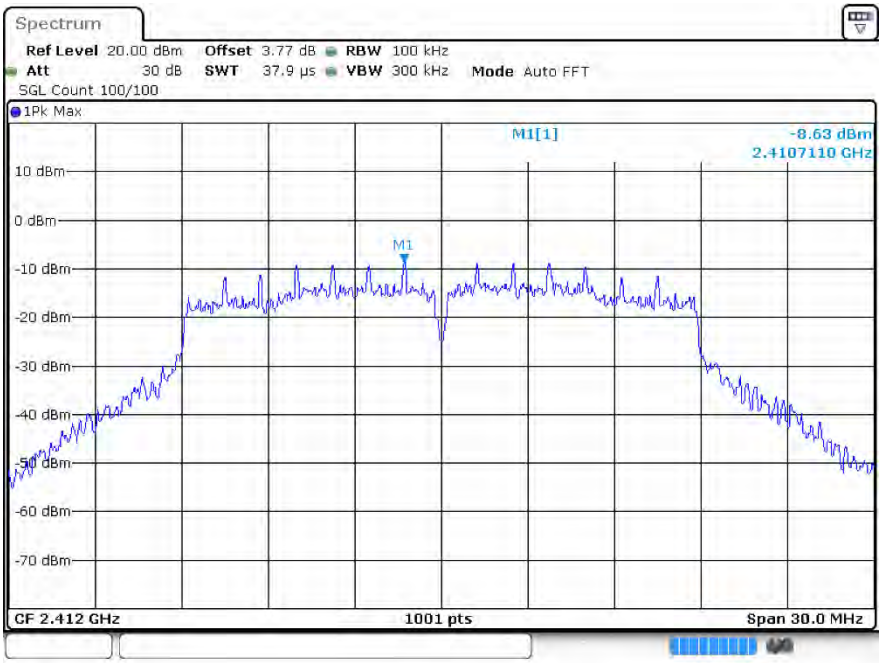
g 2462MHz Ant1 Ref



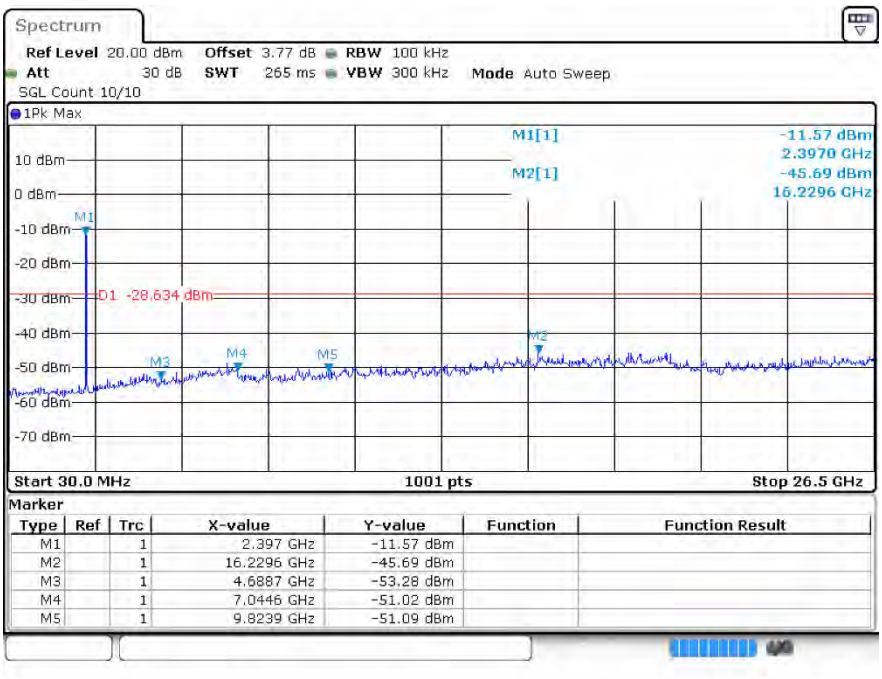
g 2462MHz Ant1 Emission



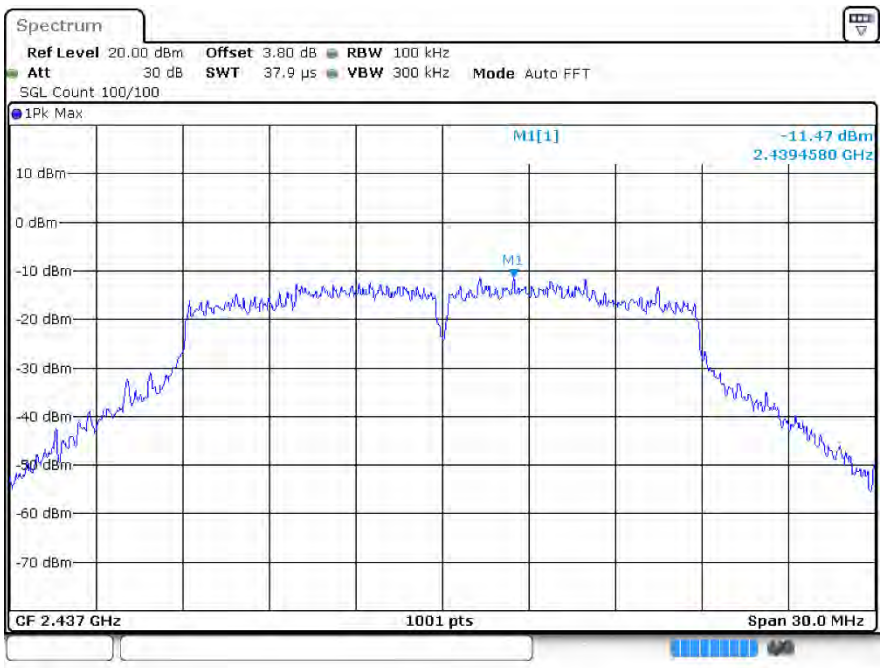
n20 2412MHz Ant1 Ref



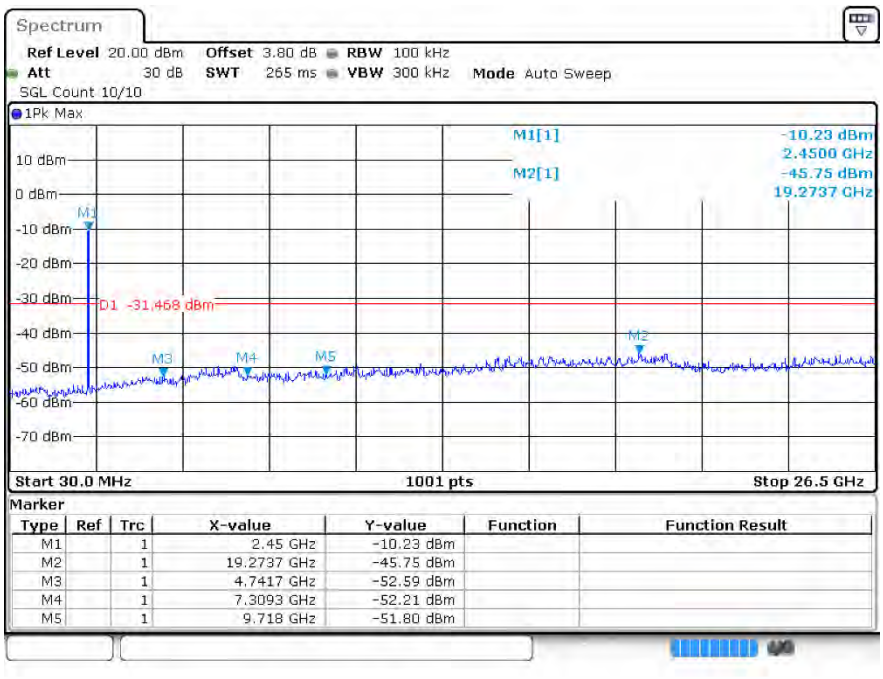
n20 2412MHz Ant1 Emission



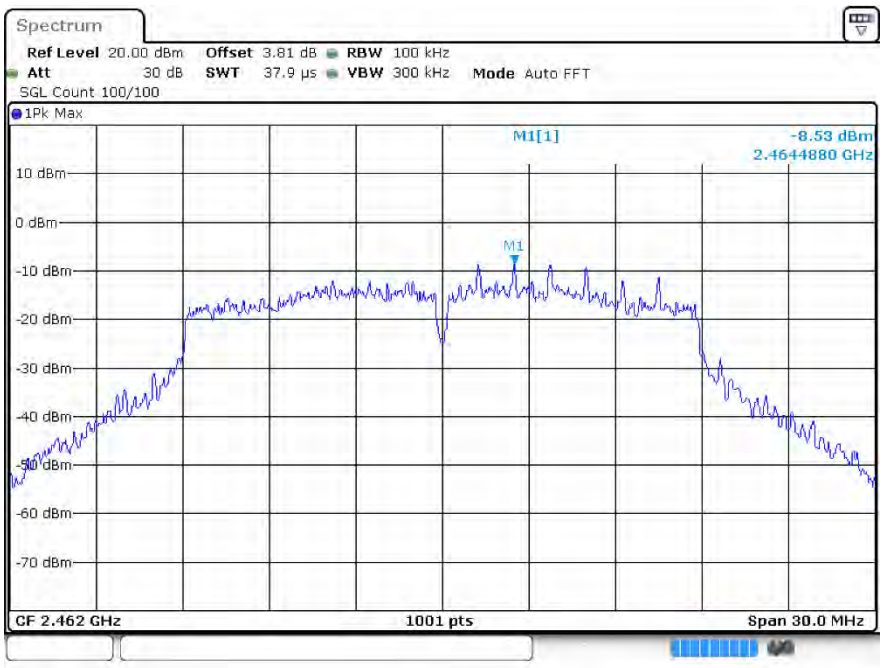
n20 2437MHz Ant1 Ref



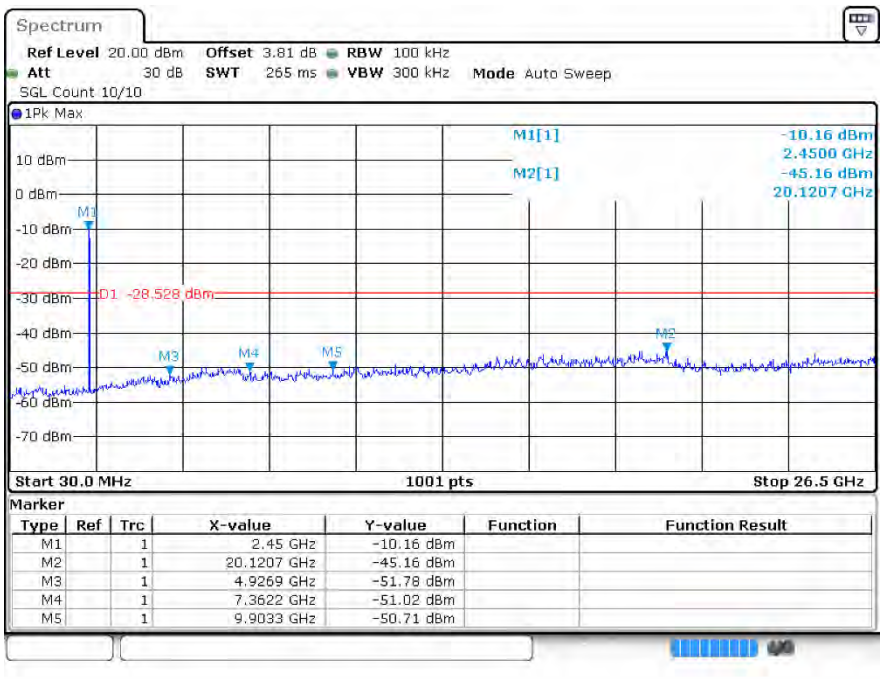
n20 2437MHz Ant1 Emission



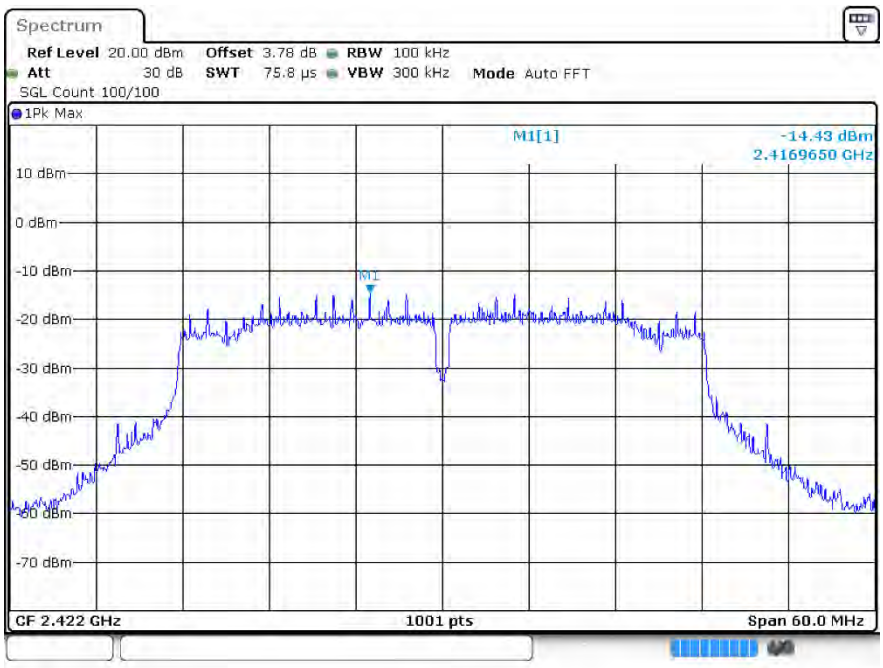
n20 2462MHz Ant1 Ref



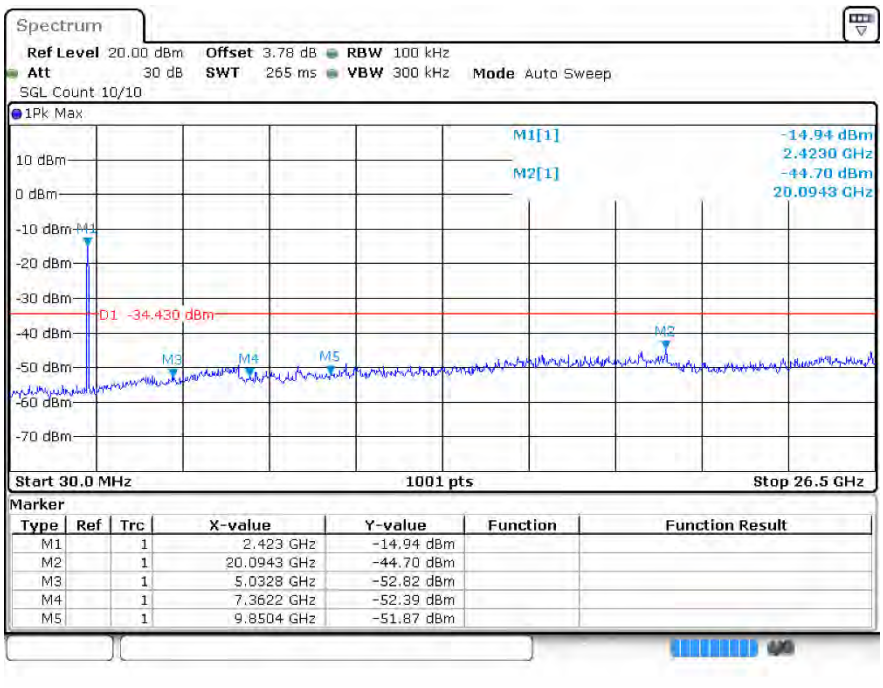
n20 2462MHz Ant1 Emission



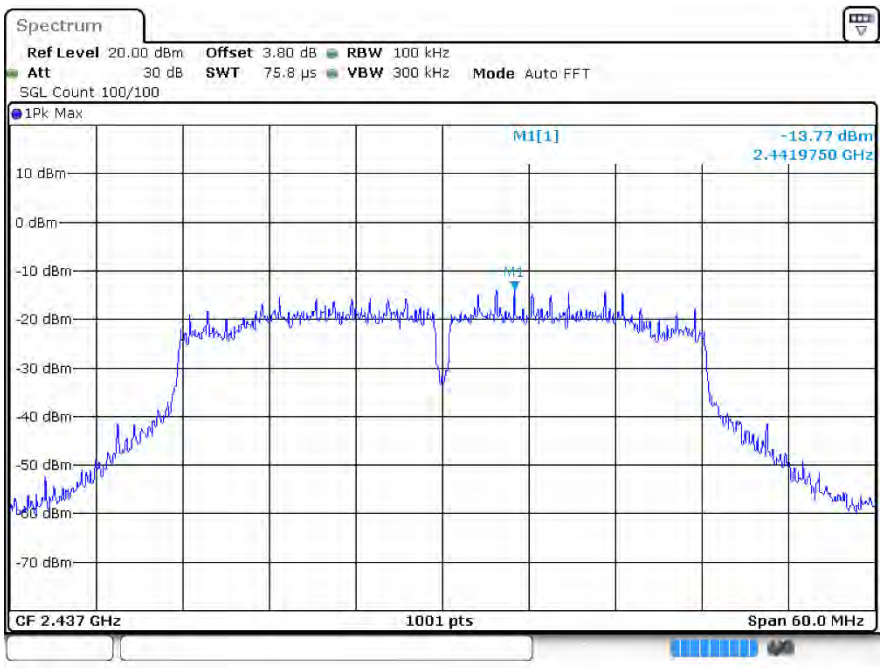
n40 2422MHz Ant1 Ref



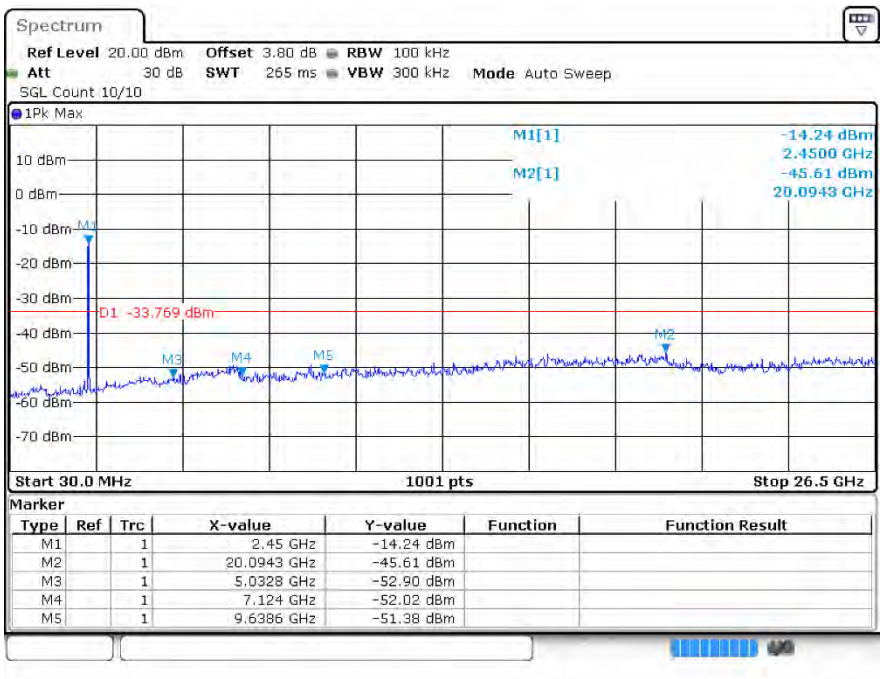
n40 2422MHz Ant1 Emission



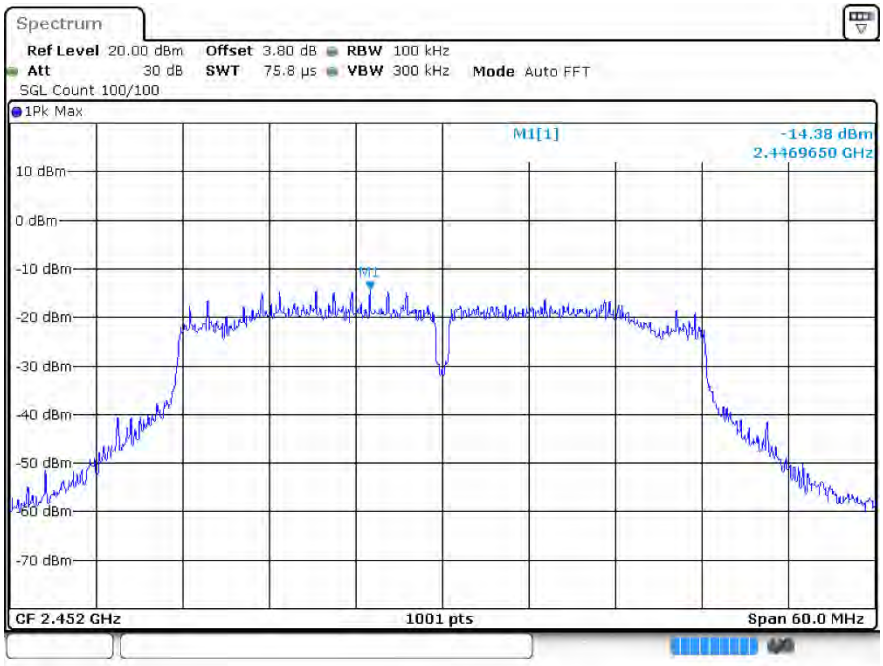
n40 2437MHz Ant1 Ref



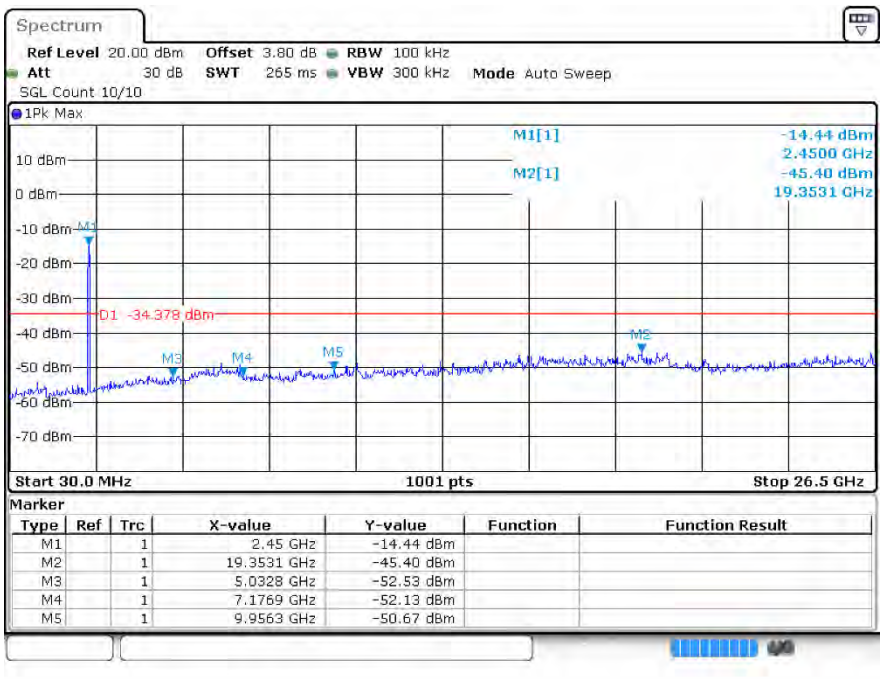
n40 2437MHz Ant1 Emission



n40 2452MHz Ant1 Ref



n40 2452MHz Ant1 Emission



7 Restrict Band

7.1 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	-47.92	2.92	50.26	Peak	74	Pass
b	2412	Ant1	2310	-55.78	2.92	42.4	Average	54	Pass
b	2412	Ant1	2336.559	-41.77	2.92	56.41	Peak	74	Pass
b	2412	Ant1	2336.793	-53.96	2.92	44.22	Average	54	Pass
b	2412	Ant1	2390	-47.28	2.92	50.9	Peak	74	Pass
b	2412	Ant1	2390	-55.82	2.92	42.36	Average	54	Pass
b	2462	Ant1	2483.5	-44.22	2.92	53.96	Peak	74	53.96
b	2462	Ant1	2483.5	-55.31	2.92	42.87	Average	54	Pass
b	2462	Ant1	2483.57	-44.2	2.92	53.98	Peak	74	Pass
b	2462	Ant1	2485.69	-55.16	2.92	43.02	Average	54	Pass
b	2462	Ant1	2500	-45.93	2.92	52.25	Peak	74	Pass
b	2462	Ant1	2500	-55.34	2.92	42.84	Average	54	Pass
g	2412	Ant1	2310	-47.02	2.92	51.16	Peak	74	Pass
g	2412	Ant1	2310	-54.67	2.92	43.51	Average	54	Pass
g	2412	Ant1	2339.718	-41.76	2.92	56.42	Peak	74	Pass
g	2412	Ant1	2337.144	-51.99	2.92	46.19	Average	54	Pass
g	2412	Ant1	2390	-48.81	2.92	50.9	Peak	74	Pass
g	2412	Ant1	2390	-54.54	2.92	43.64	Average	54	Pass
g	2462	Ant1	2483.5	-45.57	2.92	52.61	Peak	74	Pass
g	2462	Ant1	2483.5	-54.19	2.92	43.99	Average	54	Pass
g	2462	Ant1	2483.57	-44.15	2.92	54.03	Peak	74	Pass
g	2462	Ant1	2498.887	-53.45	2.92	44.73	Average	54	Pass
g	2462	Ant1	2500	-47.56	2.92	52.25	Peak	74	Pass
g	2462	Ant1	2500	-54	2.92	44.18	Average	54	Pass
n20	2412	Ant1	2310	-45.23	2.92	52.95	Peak	74	Pass
n20	2412	Ant1	2310	-54.76	2.92	43.42	Average	54	Pass
n20	2412	Ant1	2338.08	-44.18	2.92	54	Peak	74	Pass
n20	2412	Ant1	2339.25	-52.6	2.92	45.58	Average	54	Pass
n20	2412	Ant1	2390	-45.22	2.92	52.96	Peak	74	Pass
n20	2412	Ant1	2390	-55.06	2.92	43.12	Average	54	Pass
n20	2462	Ant1	2483.5	-45.17	2.92	53.01	Peak	74	Pass
n20	2462	Ant1	2483.5	-54.52	2.92	43.66	Average	54	Pass
n20	2462	Ant1	2485.531	-43.62	2.92	54.56	Peak	74	Pass

n20	2462	Ant1	2497.032	-53.8	2.92	44.38	Average	54	Pass
n20	2462	Ant1	2500	-45.28	2.92	52.9	Peak	74	Pass
n20	2462	Ant1	2500	-54.33	2.92	43.85	Average	54	Pass
n40	2422	Ant1	2310	-45.32	2.92	52.86	Peak	74	Pass
n40	2422	Ant1	2310	-54.56	2.92	43.62	Average	54	Pass
n40	2422	Ant1	2321.218	-42.45	2.92	55.73	Peak	74	Pass
n40	2422	Ant1	2339.252	-52.28	2.92	45.9	Average	54	Pass
n40	2422	Ant1	2390	-45.13	2.92	53.05	Peak	74	Pass
n40	2422	Ant1	2390	-54.95	2.92	43.23	Average	54	Pass
n40	2452	Ant1	2483.5	-46.12	2.92	52.06	Peak	74	Pass
n40	2452	Ant1	2483.5	-54.12	2.92	44.06	Average	54	Pass
n40	2452	Ant1	2493.994	-42.97	2.92	55.21	Peak	74	Pass
n40	2452	Ant1	2484.946	-53.82	2.92	44.36	Average	54	Pass
n40	2452	Ant1	2500	-45.33	2.92	52.85	Peak	74	Pass
n40	2452	Ant1	2500	-54.37	2.92	43.81	Average	54	Pass

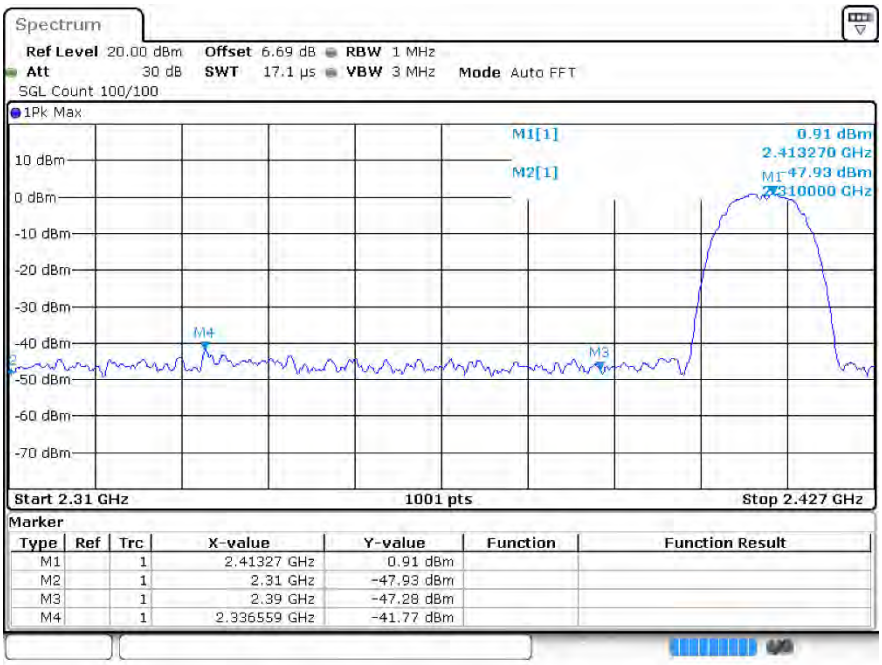
Remark:

Ant1 and Ant2 have been tested, found worst case is Ant1, only record the worst case results in this report.

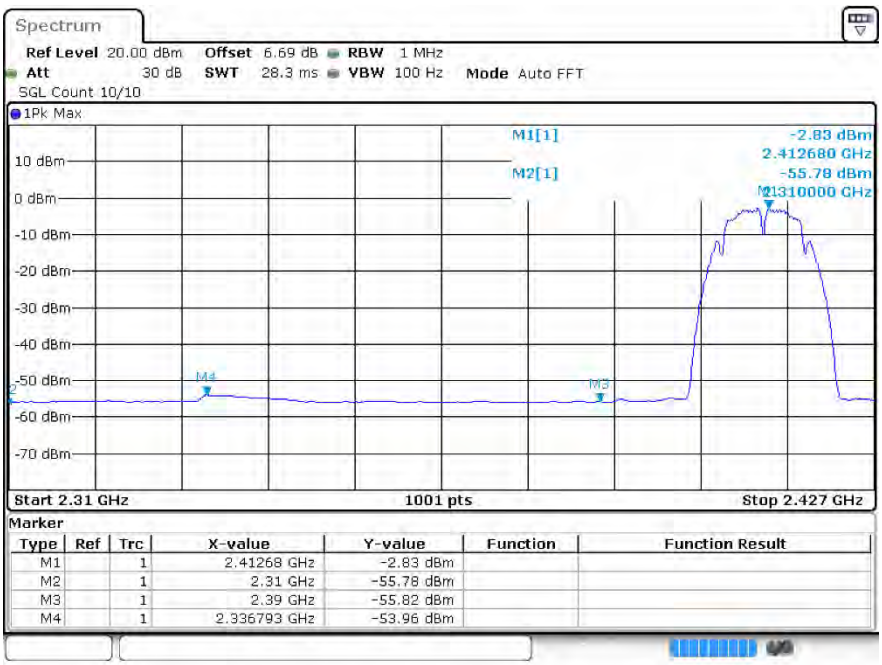
7.2 Test Graphs

Test Graphs

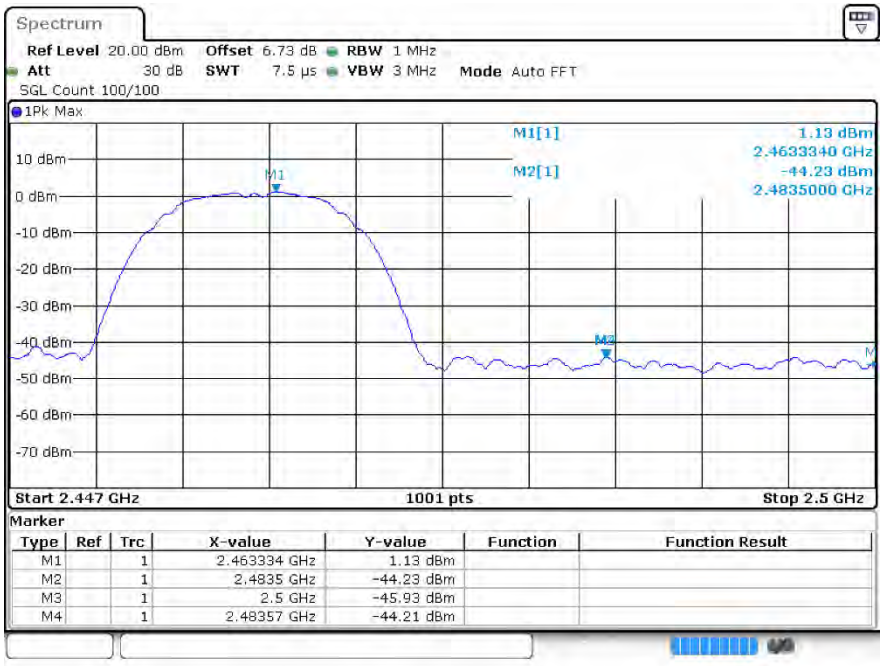
b 2412MHz Ant1 Peak



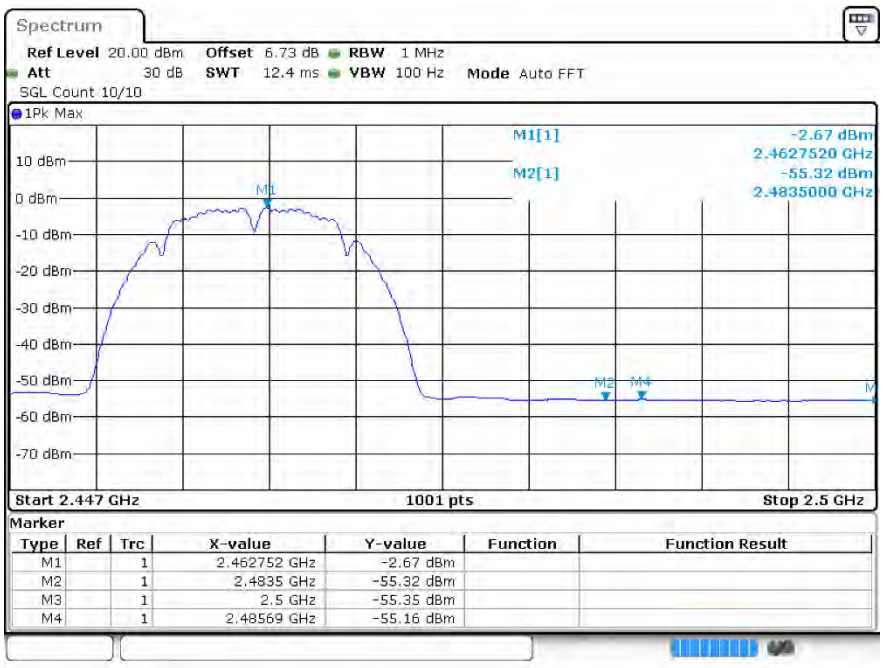
b 2412MHz Ant1 Average



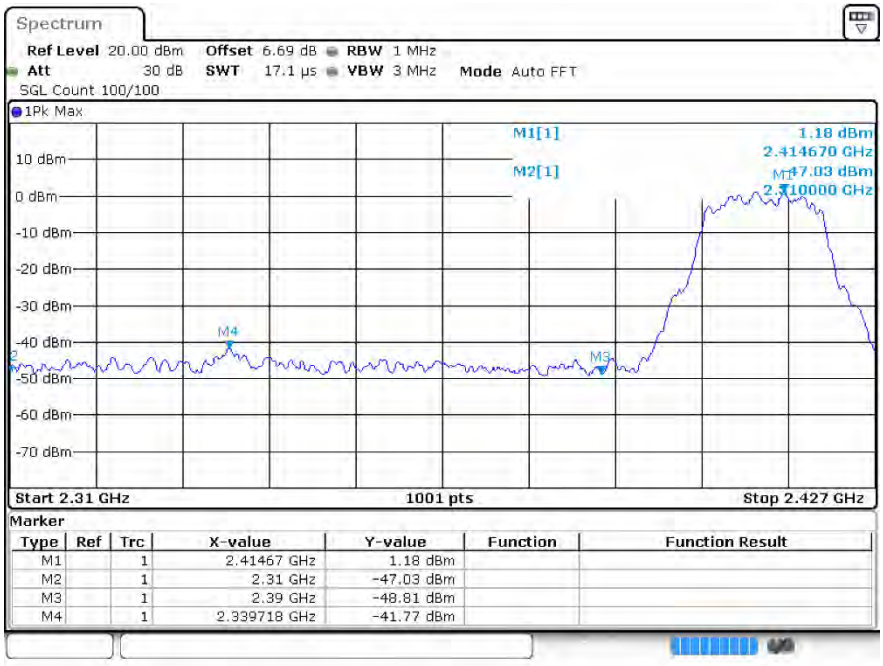
b 2462MHz Ant1 Peak



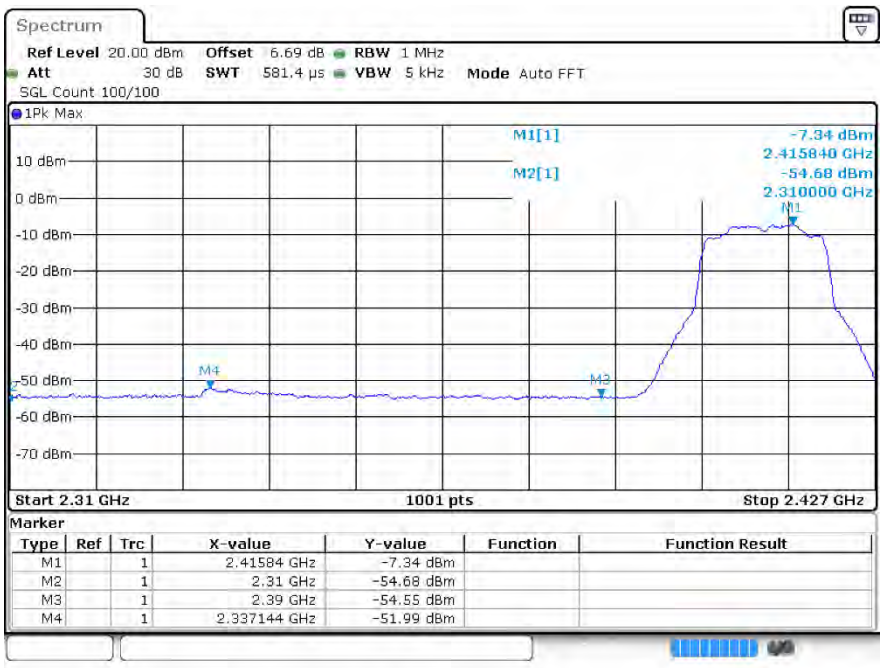
b 2462MHz Ant1 Average



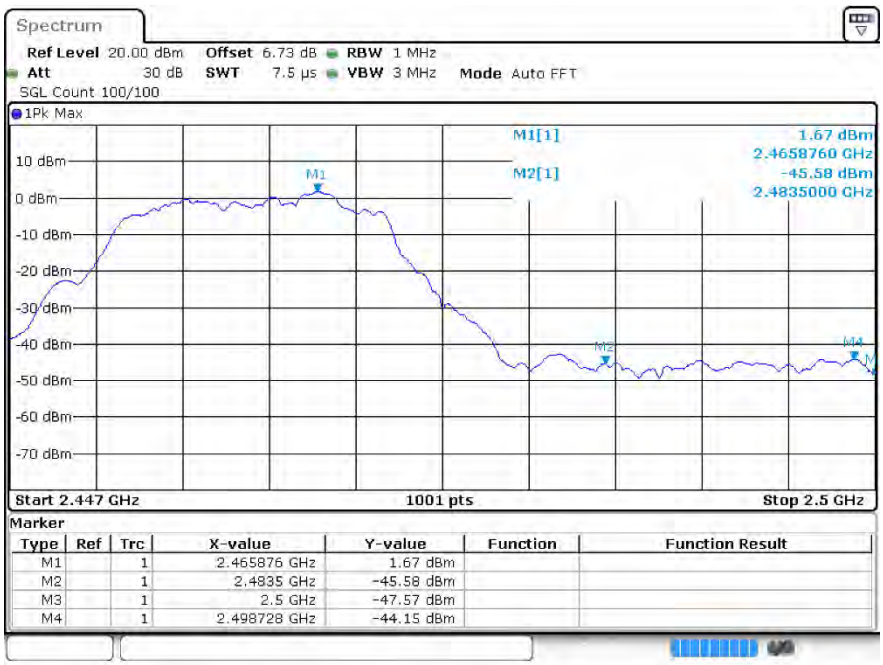
g 2412MHz Ant1 Peak



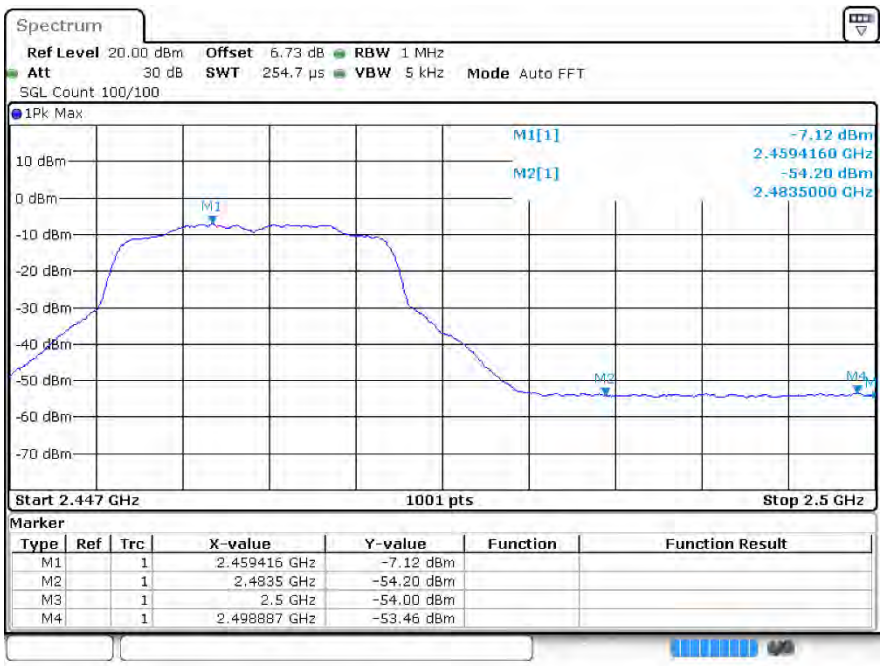
g 2412MHz Ant1 Average



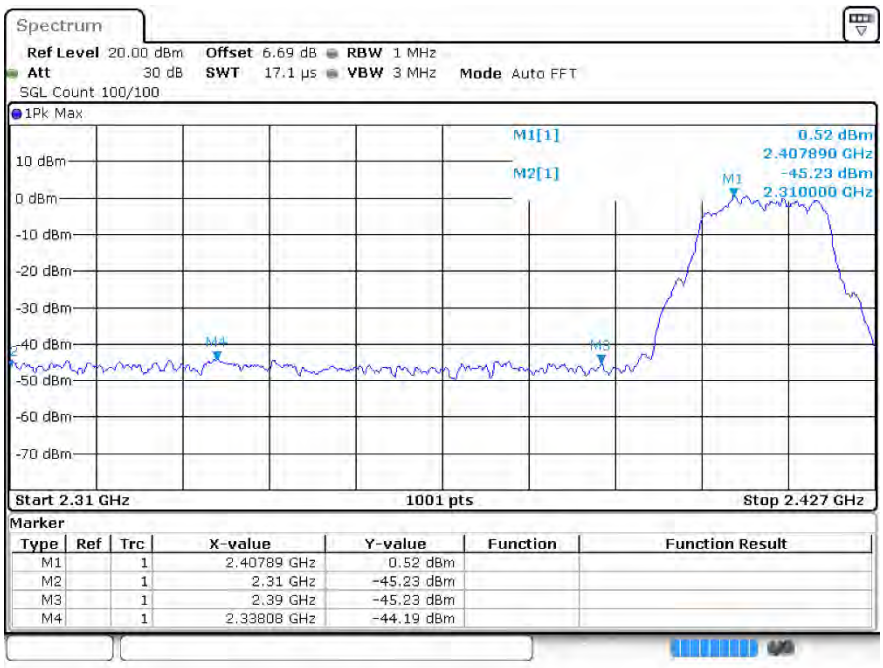
g 2462MHz Ant1 Peak



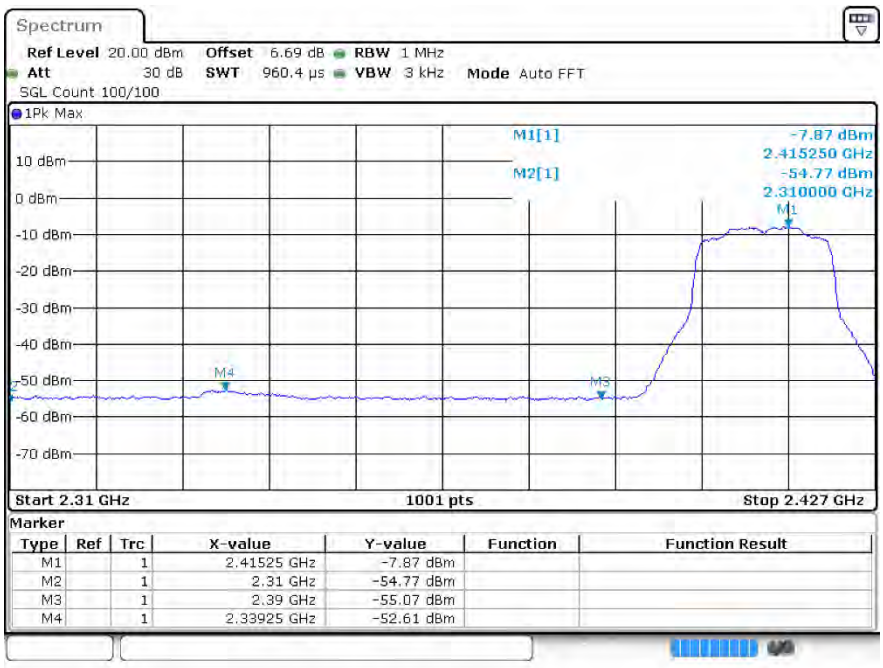
g 2462MHz Ant1 Average



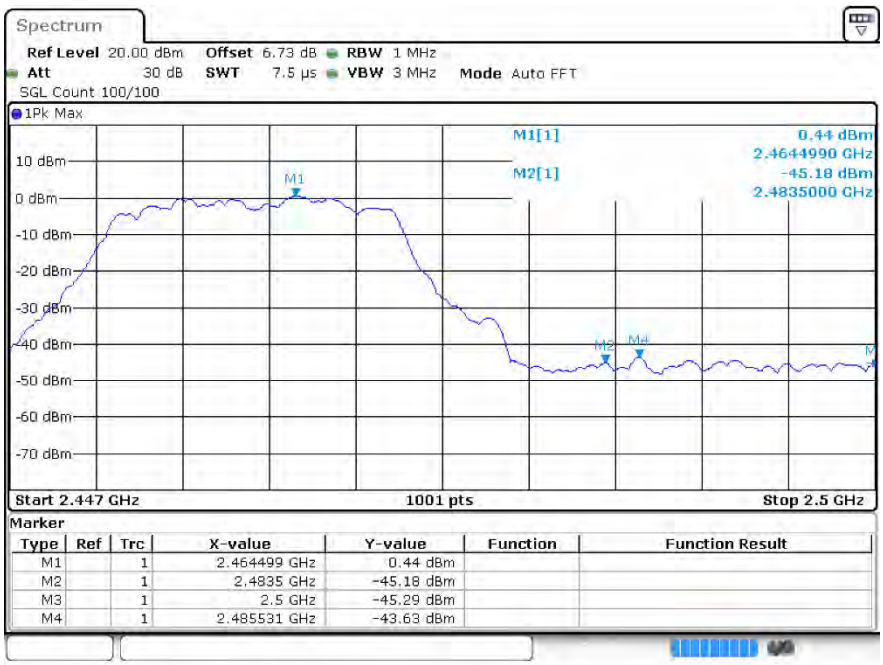
n20 2412MHz Ant1 Peak



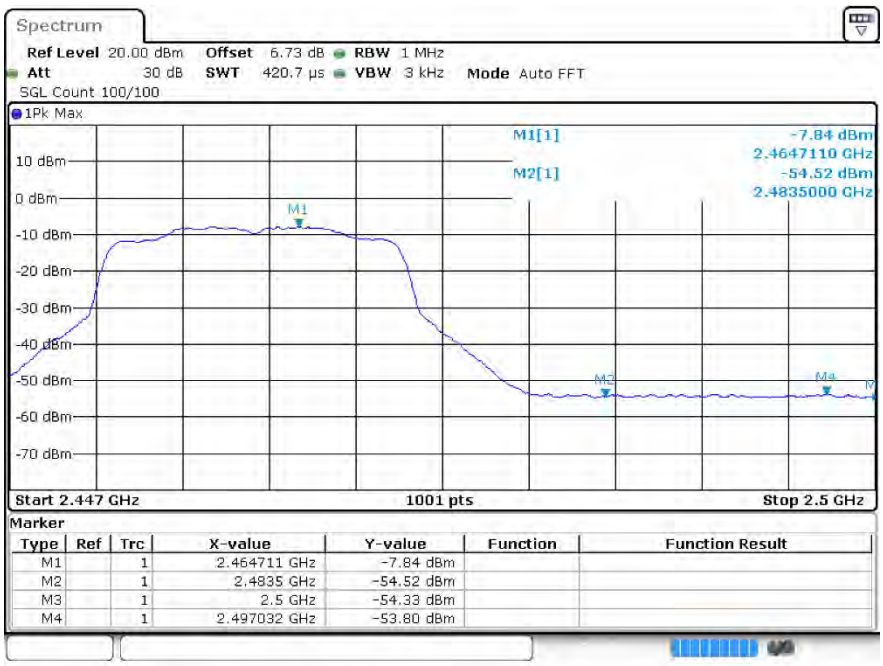
n20 2412MHz Ant1 Average



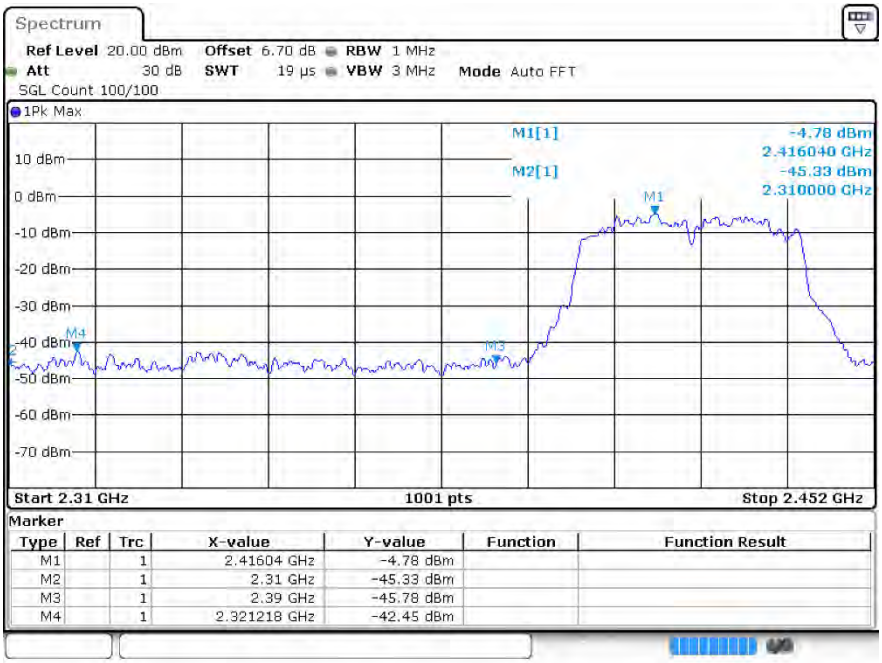
n20 2462MHz Ant1 Peak



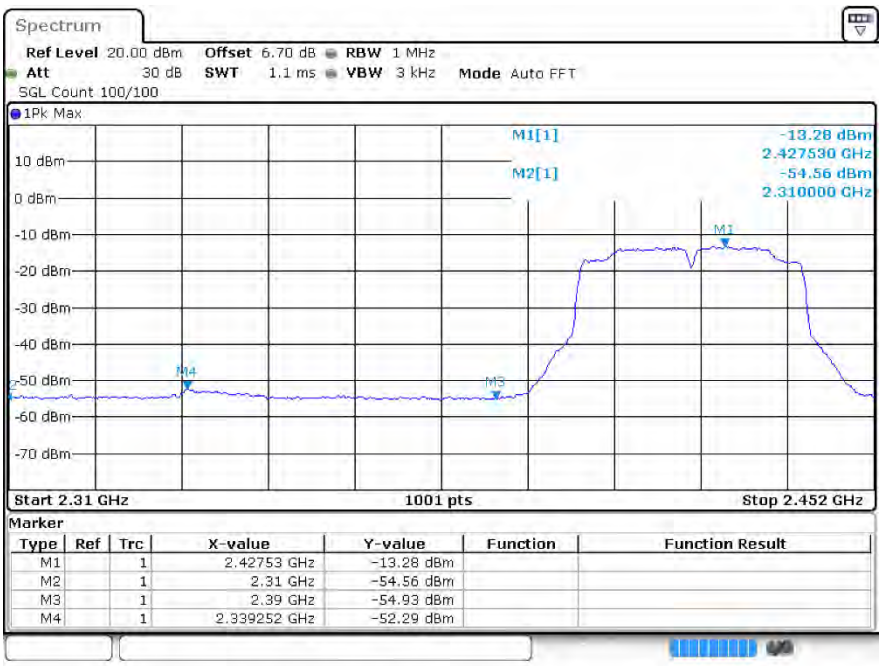
n20 2462MHz Ant1 Average



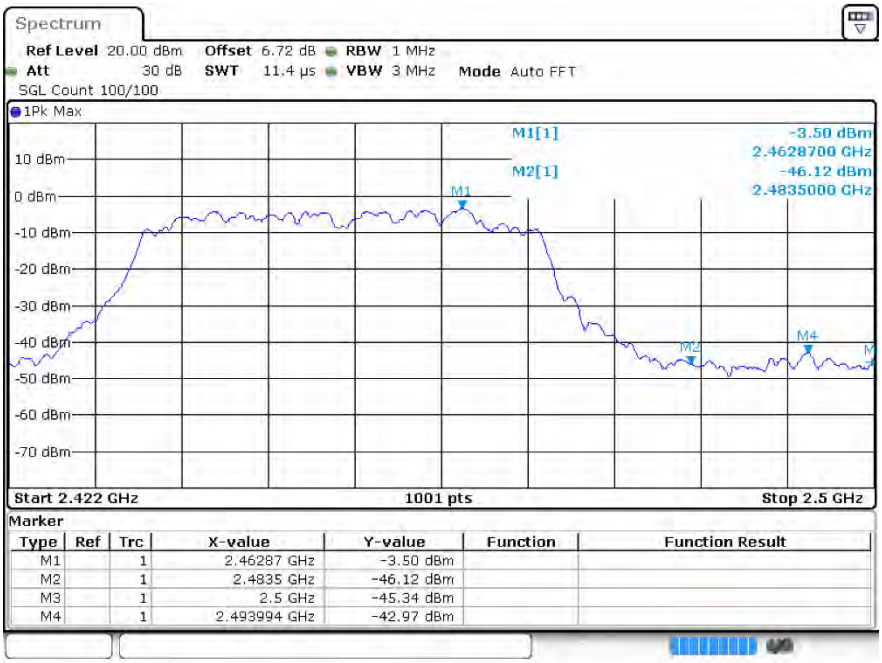
n40 2422MHz Ant1 Peak



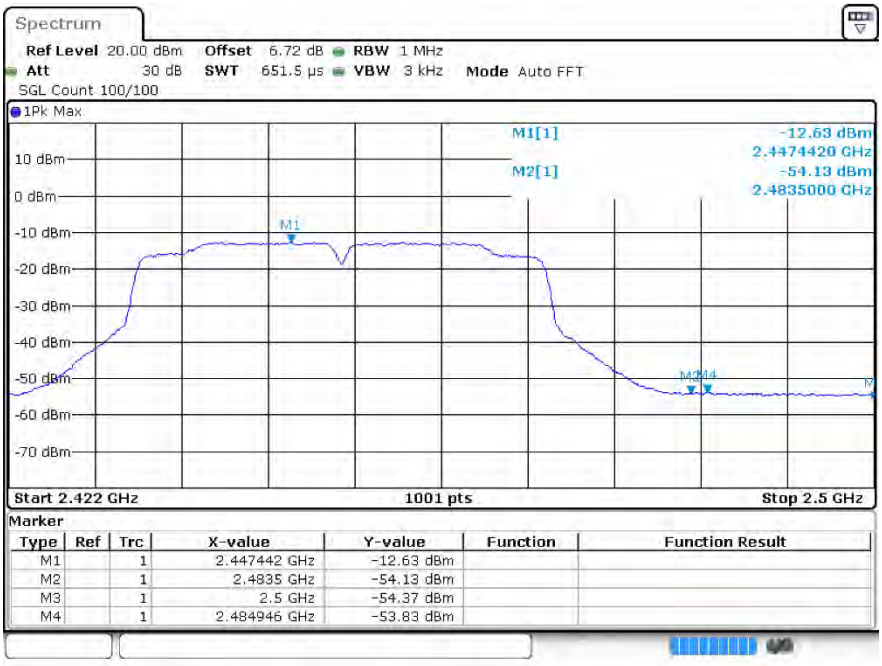
n40 2422MHz Ant1 Average



n40 2452MHz Ant1 Peak



n40 2452MHz Ant1 Average



---The End---