Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: M5 LLM630 Compute Kit

Trade Mark:

Test Model: LLM630 Compute Kit

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung

Contents

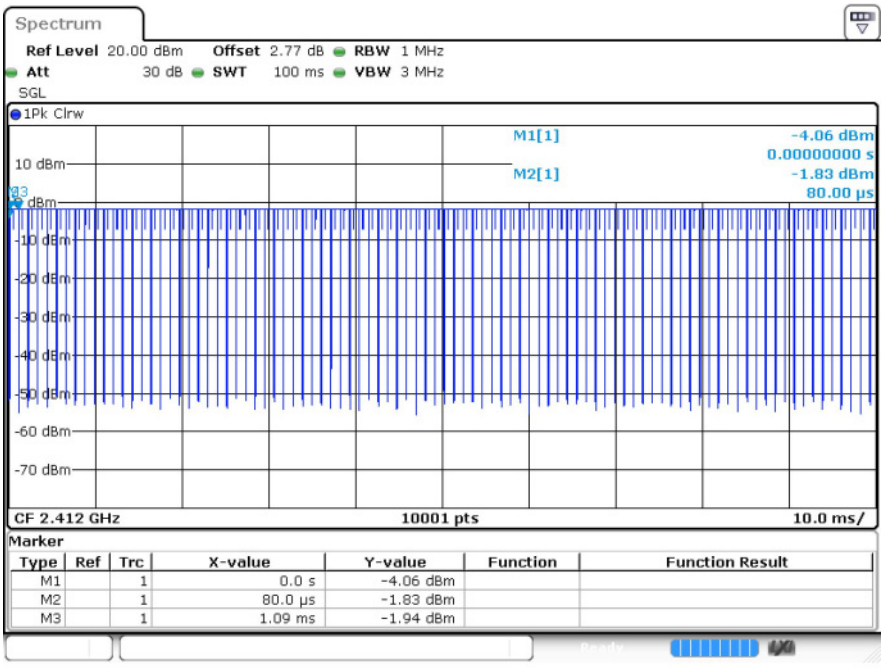
1 Duty Cycle

1.1 Test Result

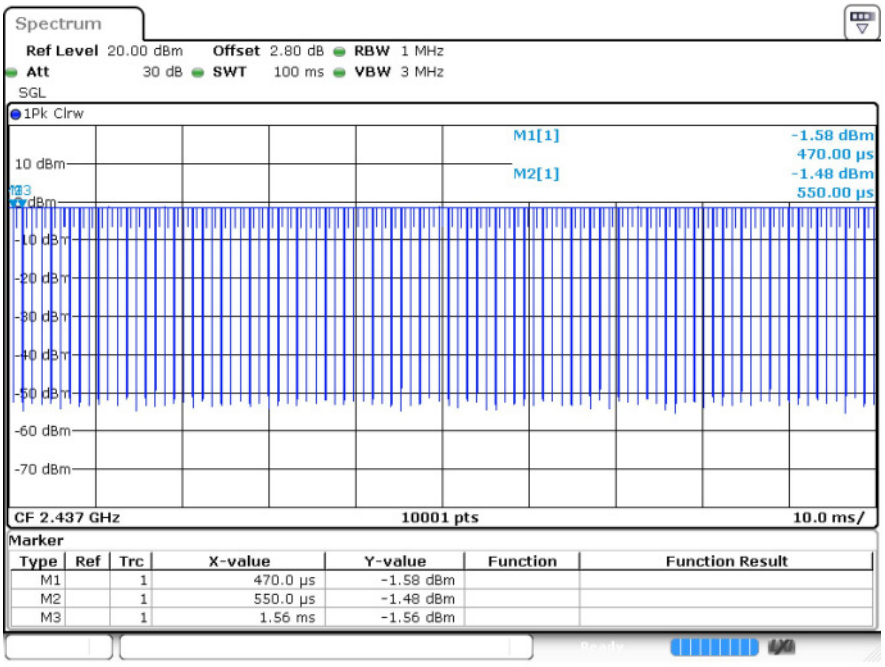
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	93.4	0.3	0.99
b	2437	Ant1	93.38	0.3	0.99
b	2462	Ant1	93.38	0.3	0.99
g	2412	Ant1	96.02	0.18	1.64
g	2437	Ant1	96.01	0.18	1.64
g	2462	Ant1	95.87	0.18	1.61
n20	2412	Ant1	95.79	0.19	1.64
n20	2437	Ant1	95.75	0.19	1.64
n20	2462	Ant1	95.75	0.19	1.64
n40	2422	Ant1	94.55	0.24	1.67
n40	2437	Ant1	94.62	0.24	1.64
n40	2452	Ant1	94.58	0.24	1.64
ax20	2412	Ant1	96.62	0.15	1.35
ax20	2437	Ant1	96.63	0.15	1.33
ax20	2462	Ant1	96.61	0.15	1.35

1.2 Test Graphs

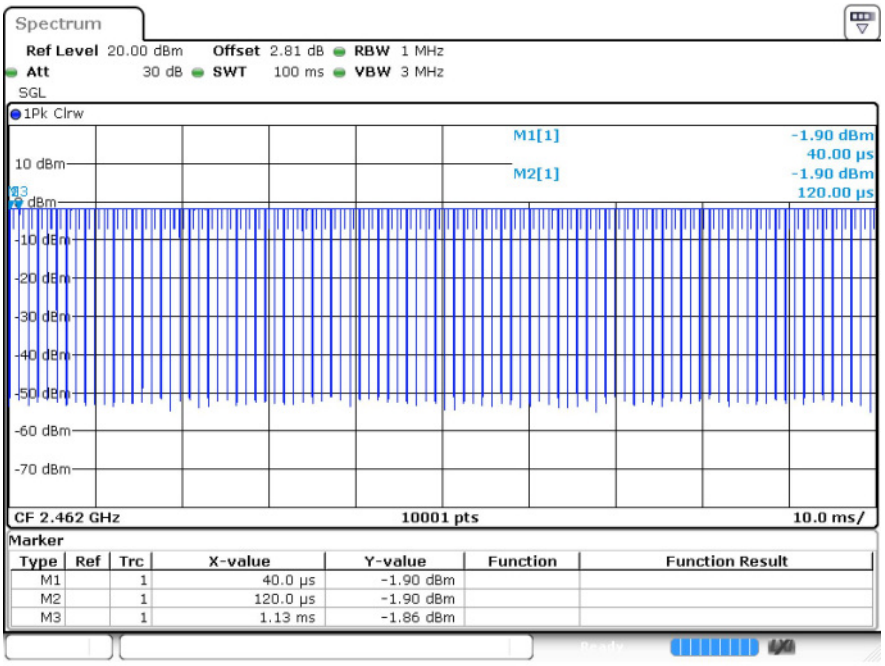
Test Graphs
b 2412MHz Ant1



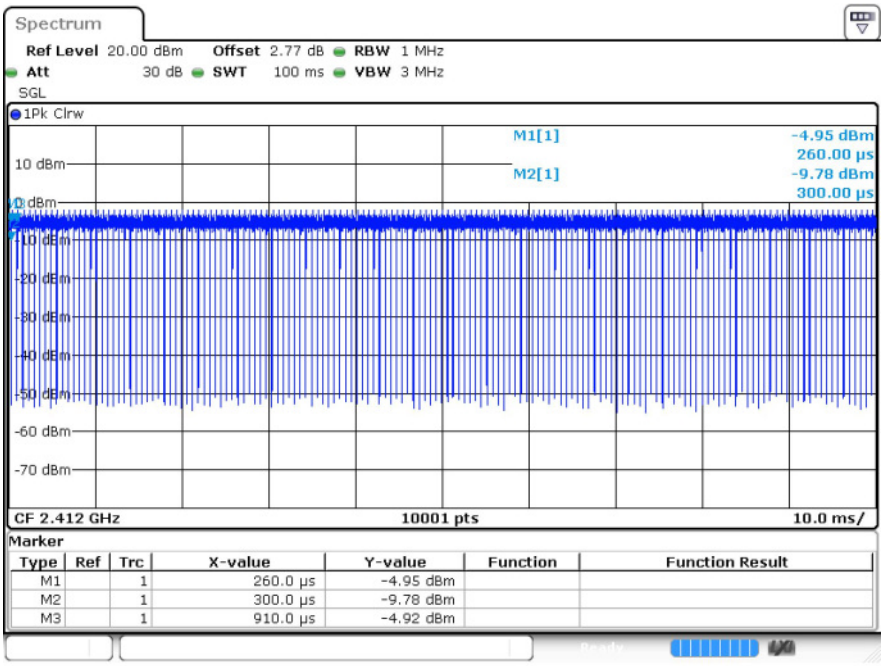
b 2437MHz Ant1



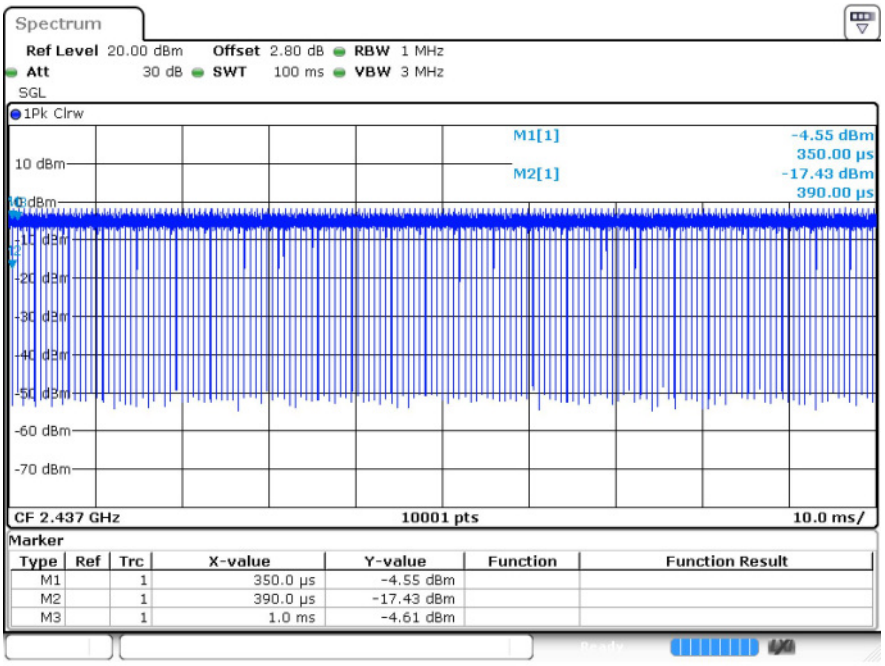
Test Graphs
b 2462MHz Ant1



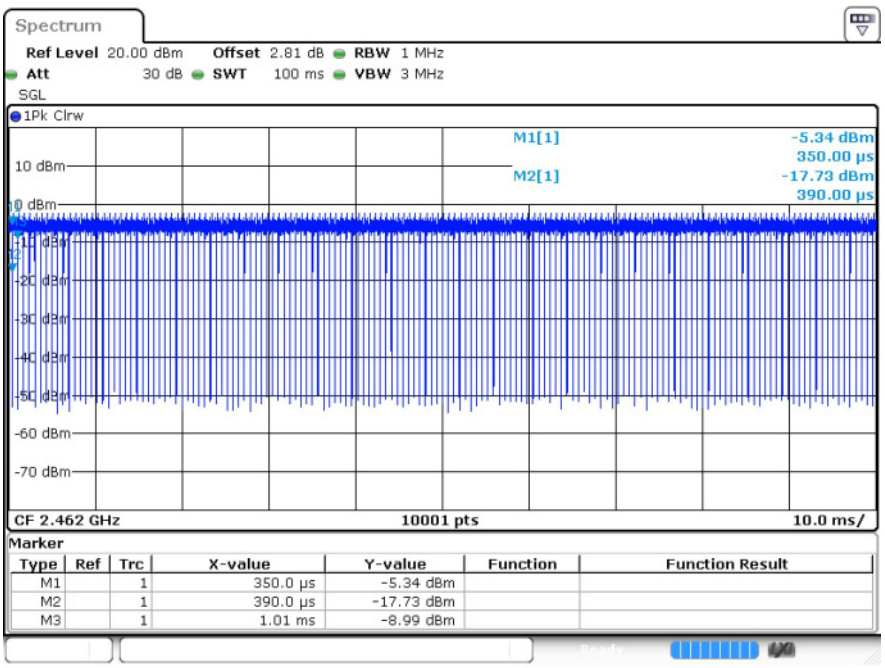
g 2412MHz Ant1



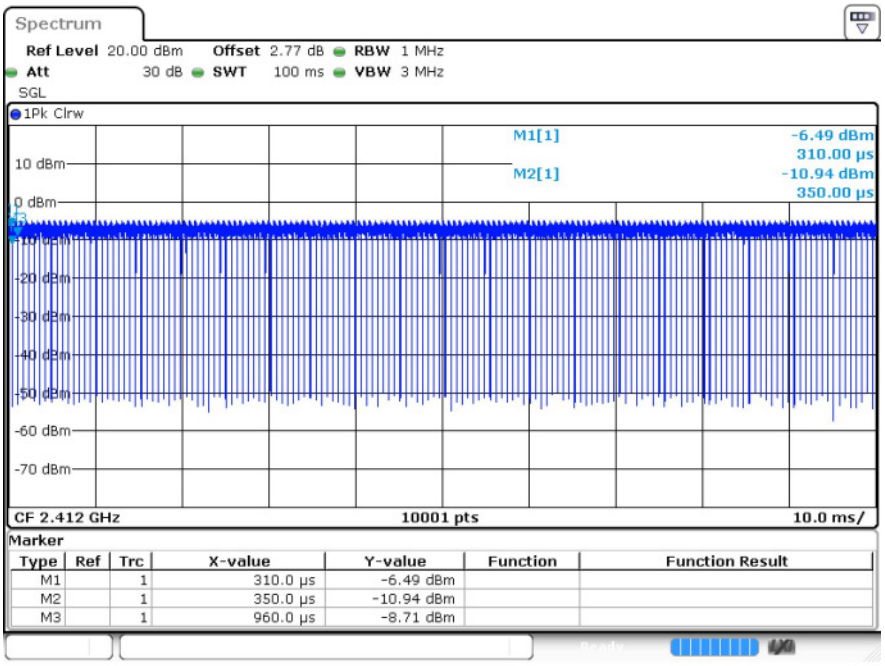
Test Graphs
g 2437MHz Ant1



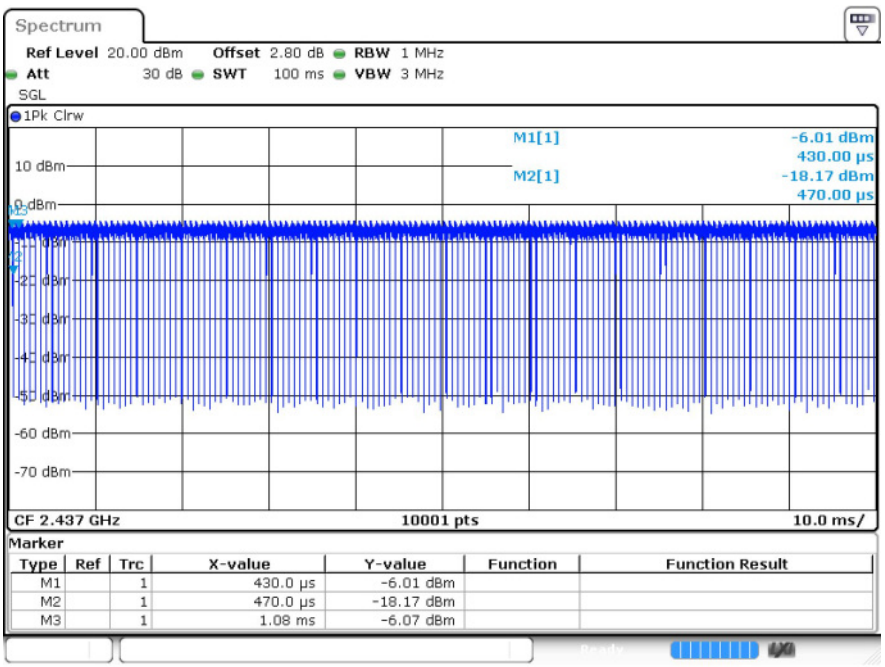
g 2462MHz Ant1



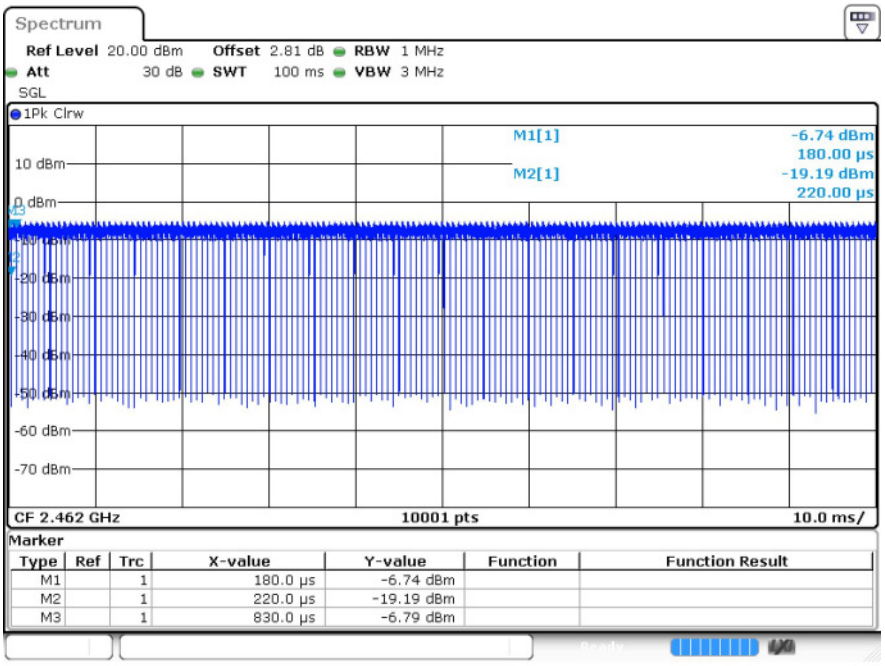
Test Graphs
n20 2412MHz Ant1



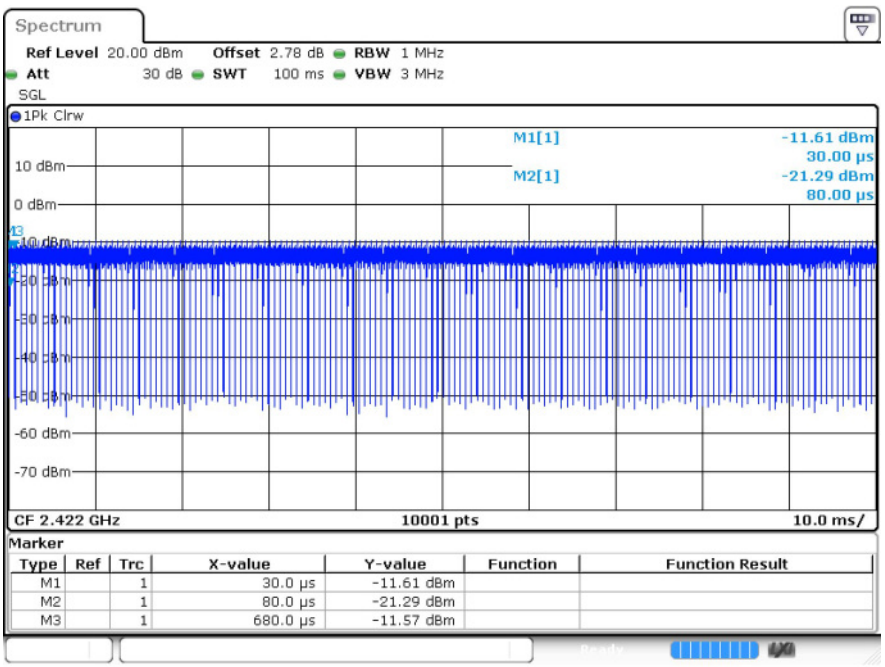
n20 2437MHz Ant1



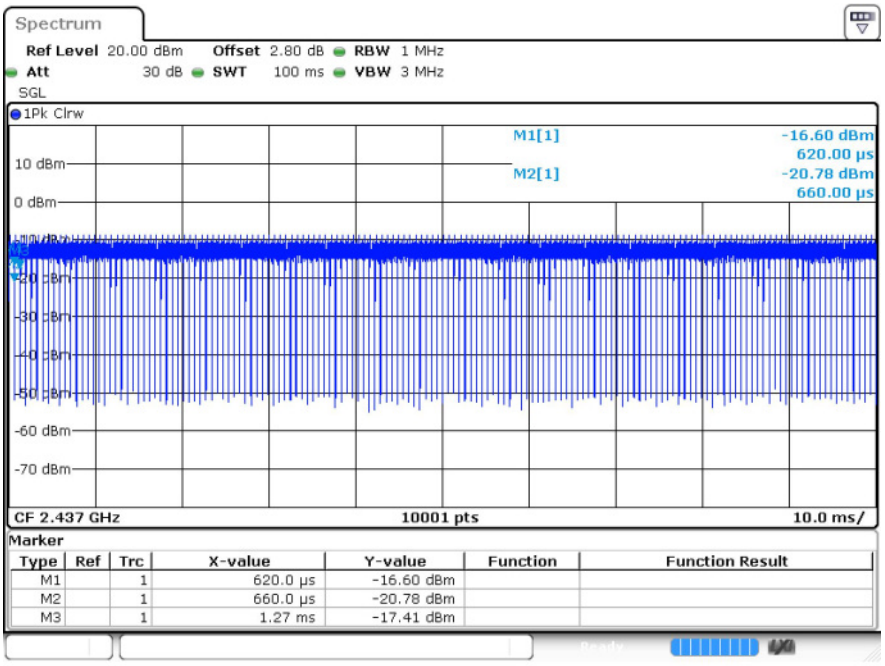
Test Graphs
n20 2462MHz Ant1



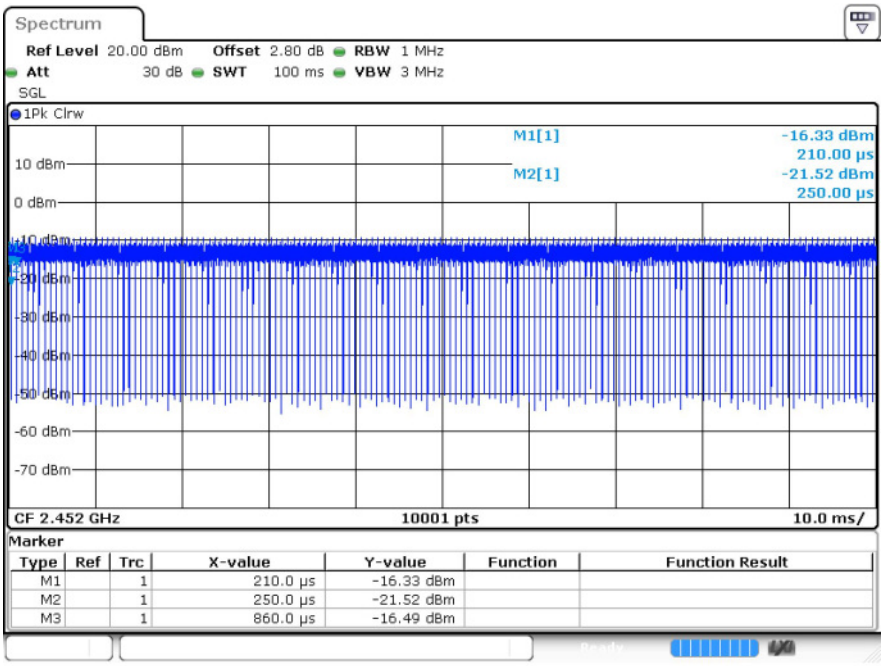
n40 2422MHz Ant1



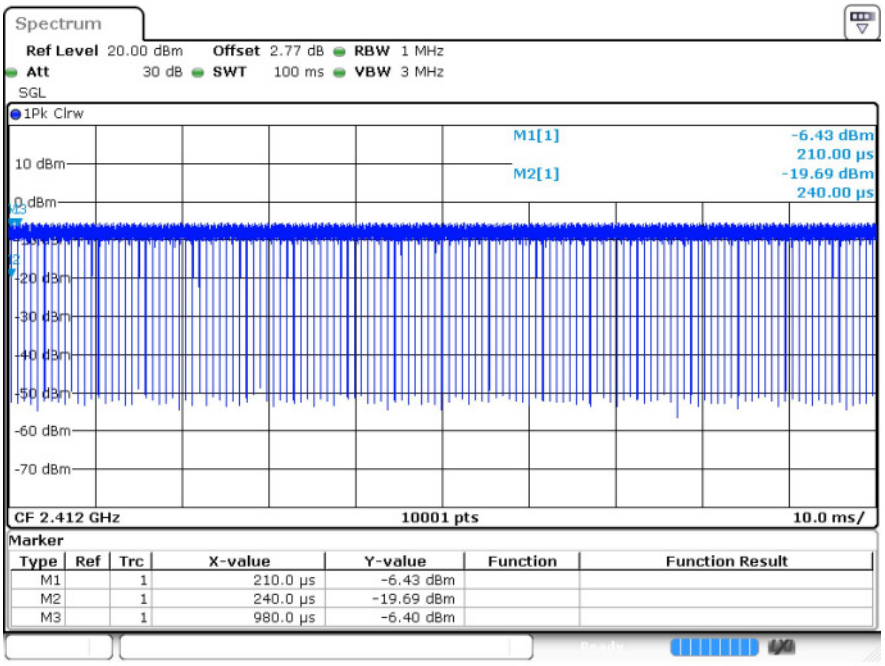
Test Graphs
n40 2437MHz Ant1



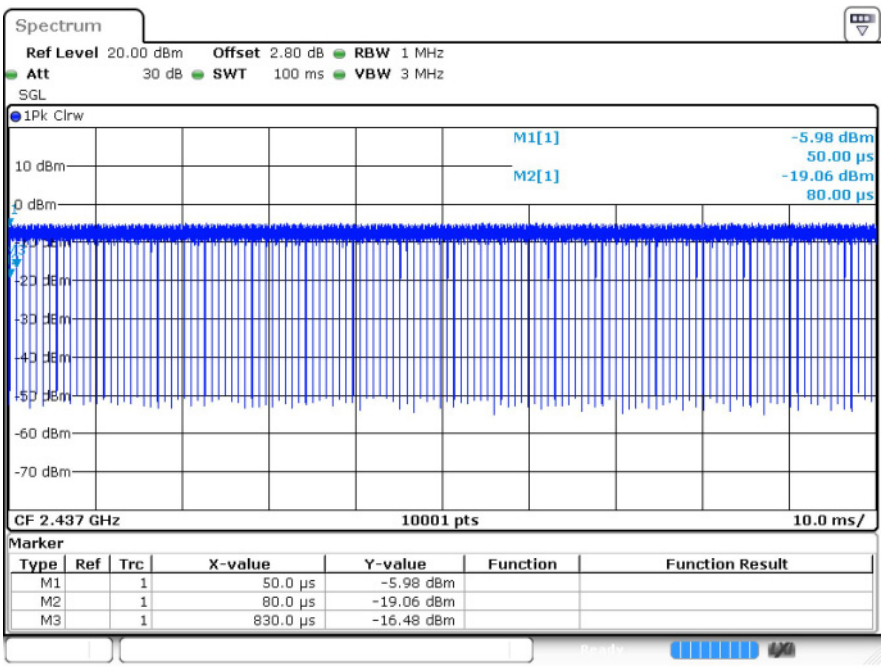
n40 2452MHz Ant1



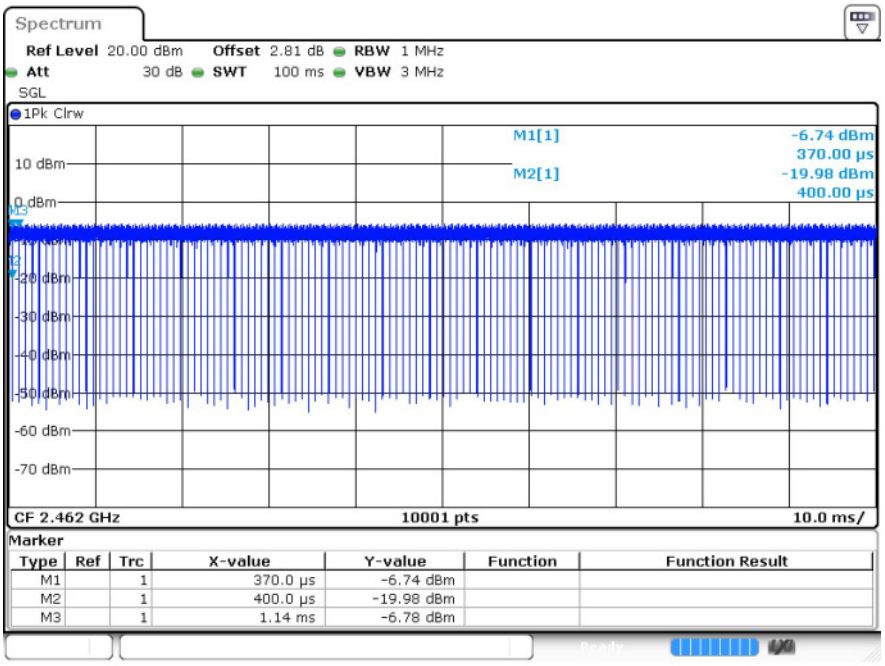
Test Graphs
ax20 2412MHz Ant1



ax20 2437MHz Ant1



Test Graphs
ax20 2462MHz Ant1



2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	7.84	30	Pass
b	2437	Ant1	8.15	30	Pass
b	2462	Ant1	7.8	30	Pass
g	2412	Ant1	7.57	30	Pass
g	2437	Ant1	7.79	30	Pass
g	2462	Ant1	7.14	30	Pass
n20	2412	Ant1	6.57	30	Pass
n20	2437	Ant1	7.02	30	Pass
n20	2462	Ant1	6.3	30	Pass
n40	2422	Ant1	7.29	30	Pass
n40	2437	Ant1	7.75	30	Pass
n40	2452	Ant1	7.53	30	Pass
ax20	2412	Ant1	7.23	30	Pass
ax20	2437	Ant1	7.44	30	Pass
ax20	2462	Ant1	6.7	30	Pass

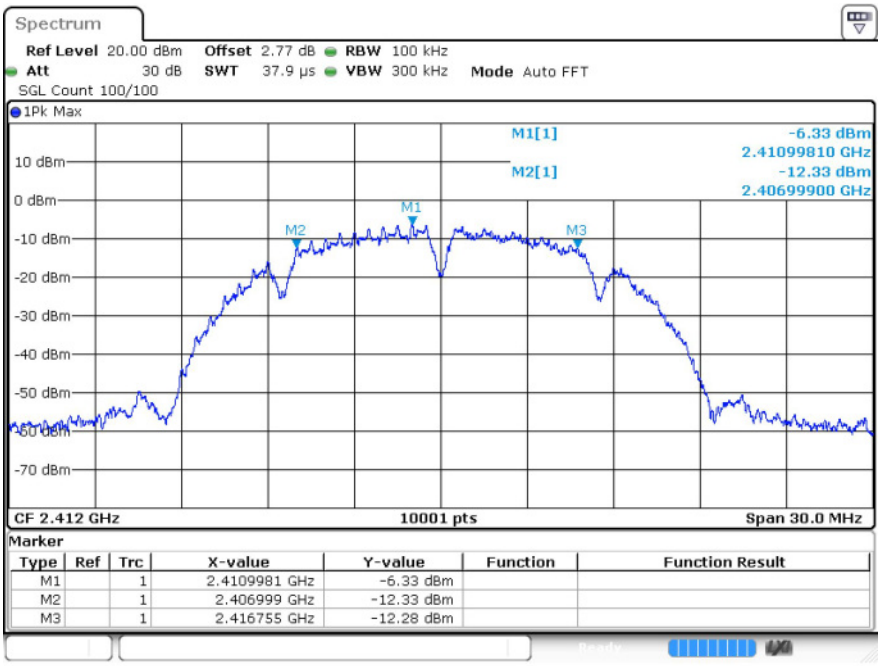
3 -6dB Bandwidth

3.1 Test Result

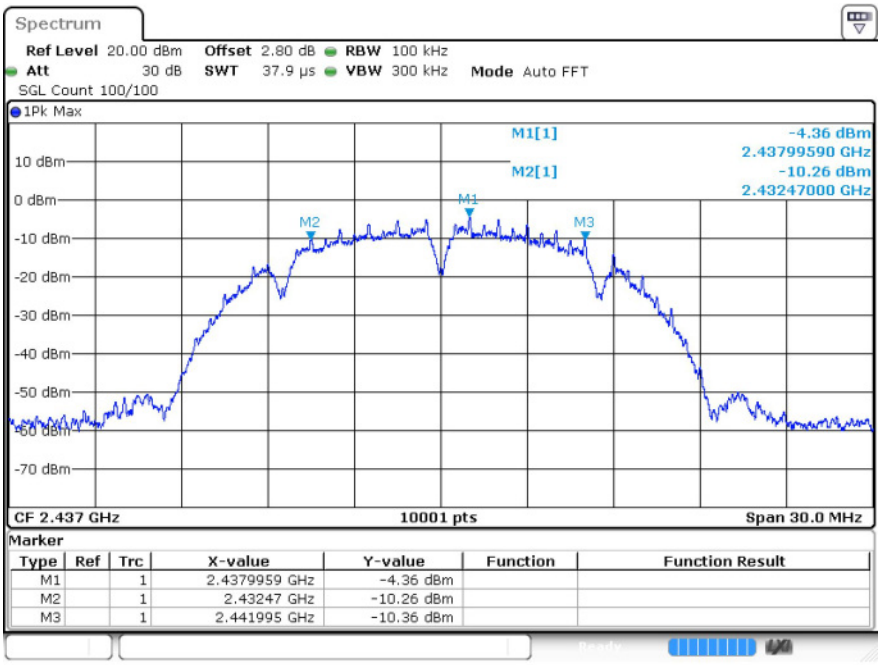
Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	9.756	0.5	Pass
b	2437	Ant1	9.525	0.5	Pass
b	2462	Ant1	10.023	0.5	Pass
g	2412	Ant1	16.32	0.5	Pass
g	2437	Ant1	16.323	0.5	Pass
g	2462	Ant1	16.341	0.5	Pass
n20	2412	Ant1	16.884	0.5	Pass
n20	2437	Ant1	16.914	0.5	Pass
n20	2462	Ant1	17.04	0.5	Pass
n40	2422	Ant1	35.01	0.5	Pass
n40	2437	Ant1	34.98	0.5	Pass
n40	2452	Ant1	35.13	0.5	Pass
ax20	2412	Ant1	18.897	0.5	Pass
ax20	2437	Ant1	18.708	0.5	Pass
ax20	2462	Ant1	18.84	0.5	Pass

3.2 Test Graphs

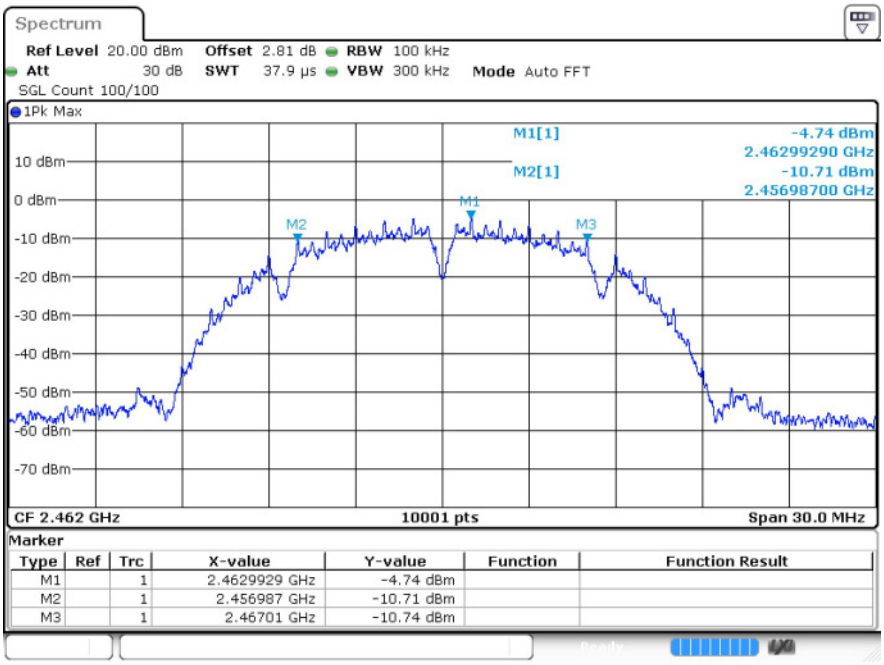
Test Graphs
b 2412MHz Ant1



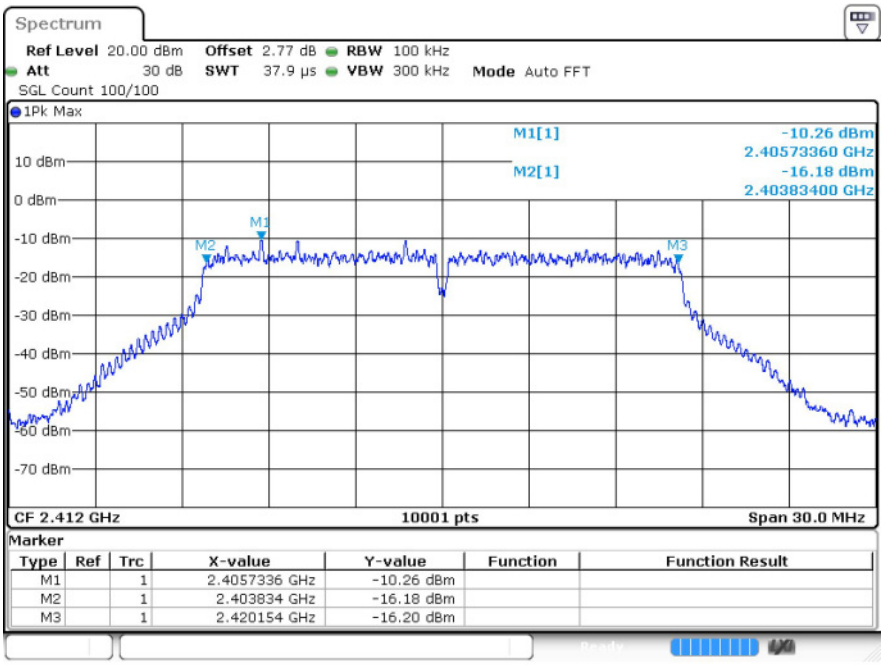
b 2437MHz Ant1



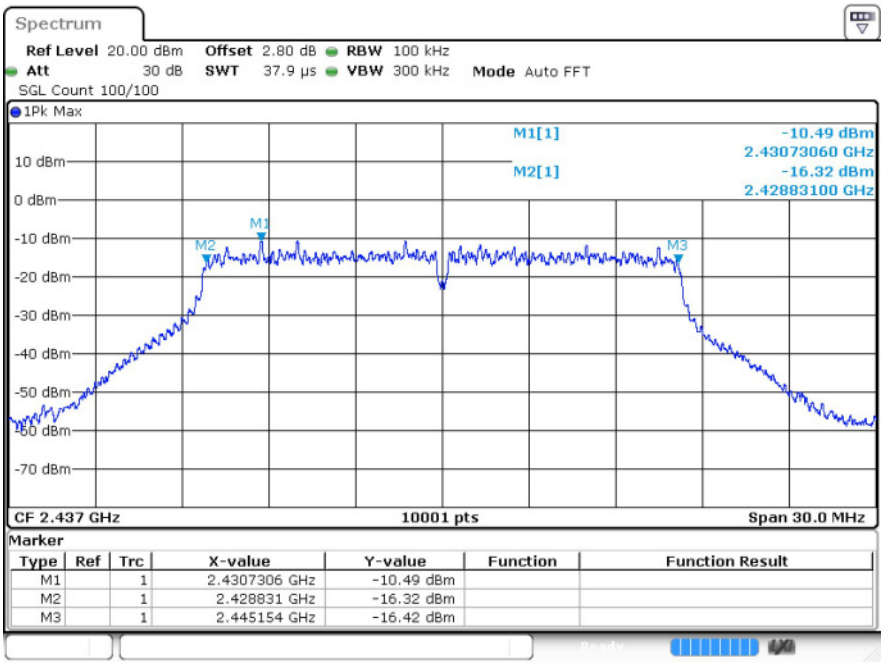
b 2462MHz Ant1



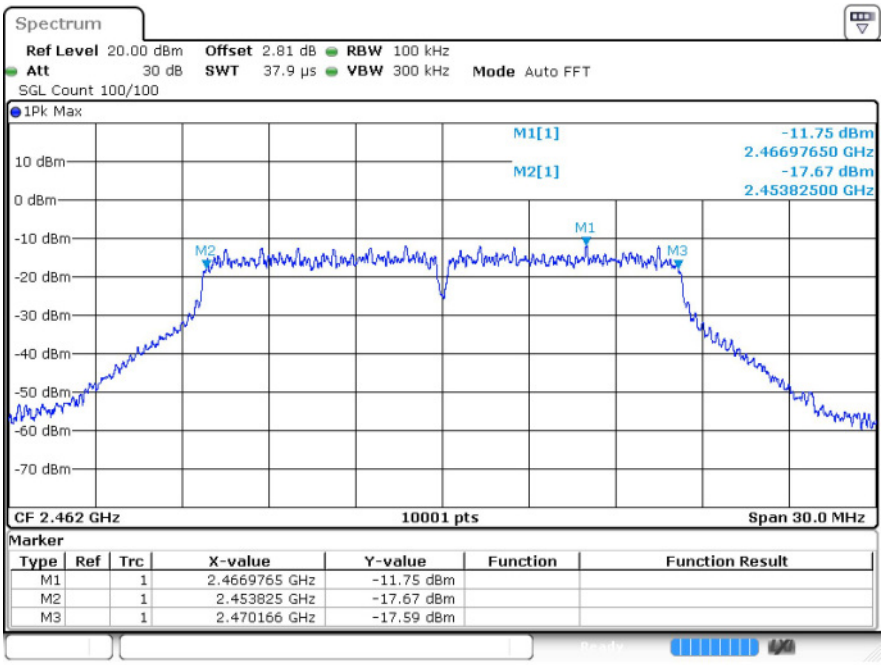
g 2412MHz Ant1



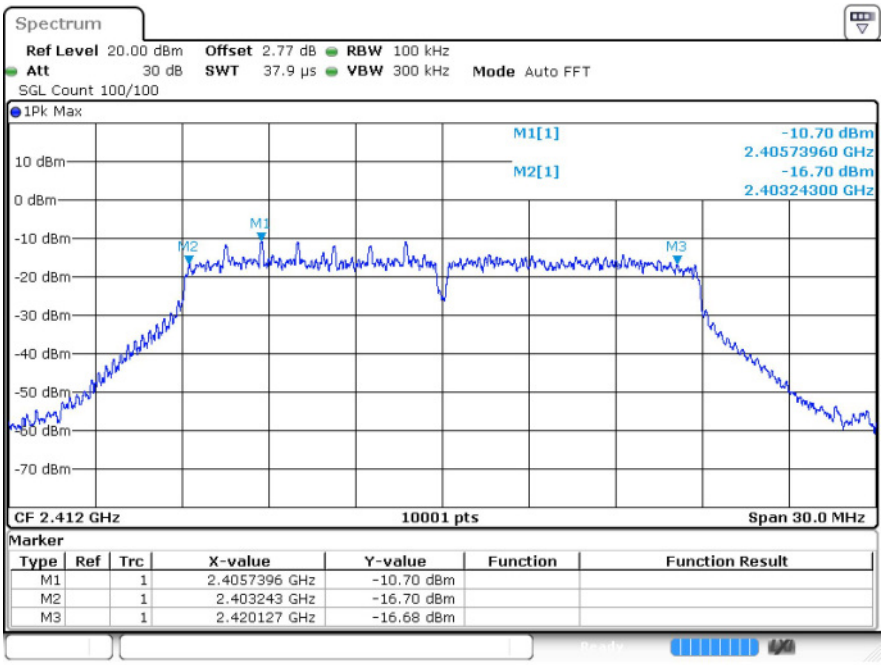
g 2437MHz Ant1



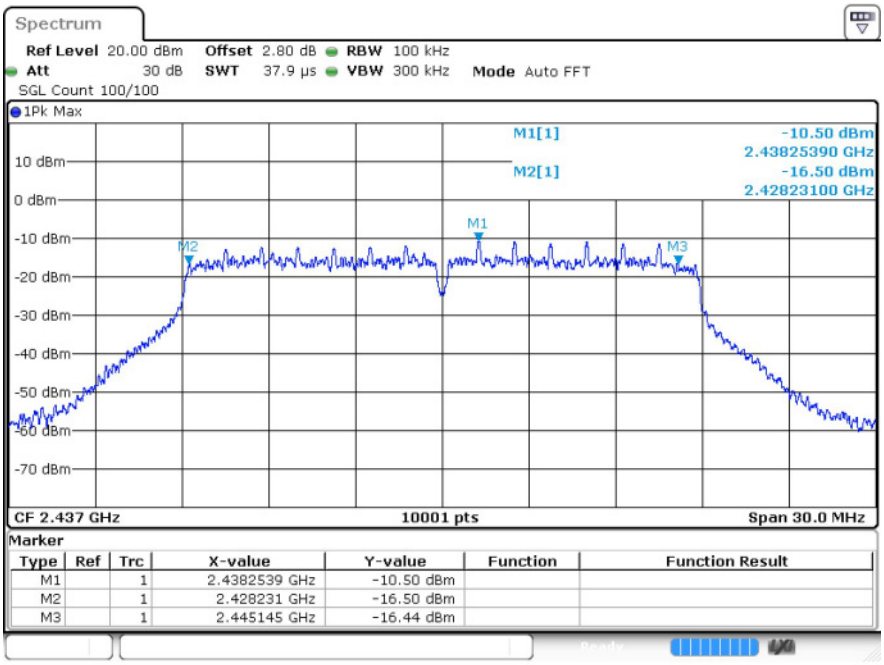
g 2462MHz Ant1



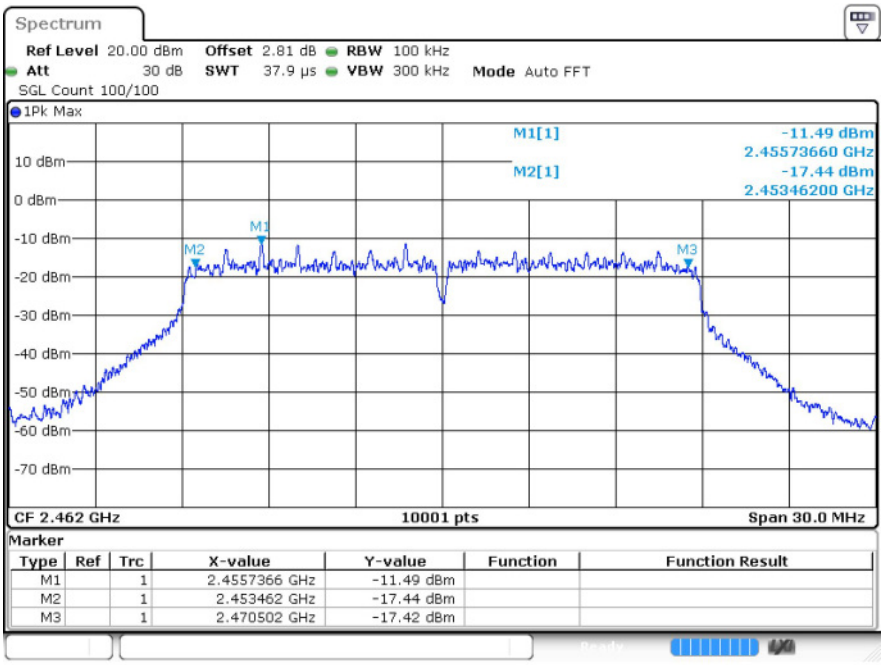
n20 2412MHz Ant1



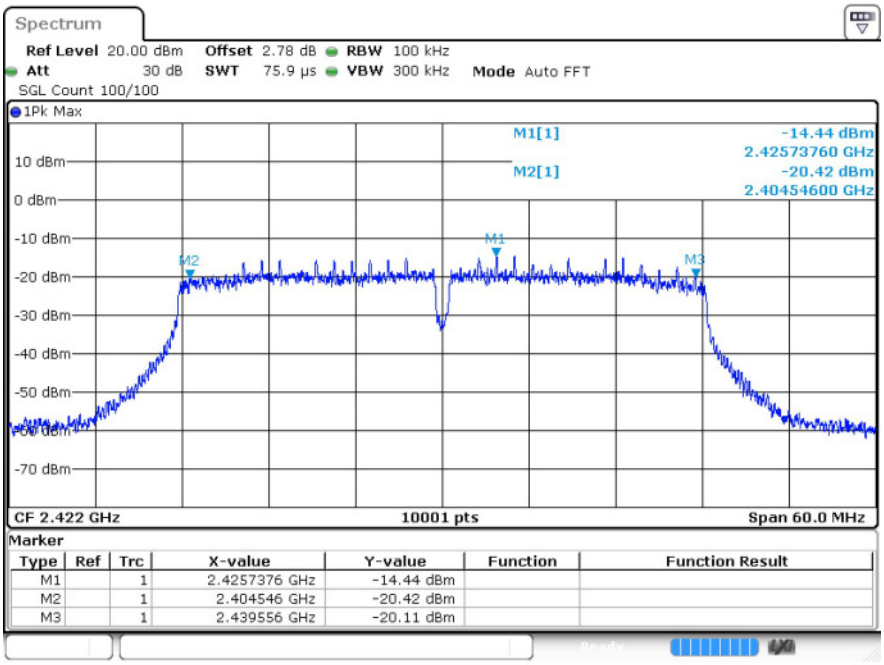
n20 2437MHz Ant1



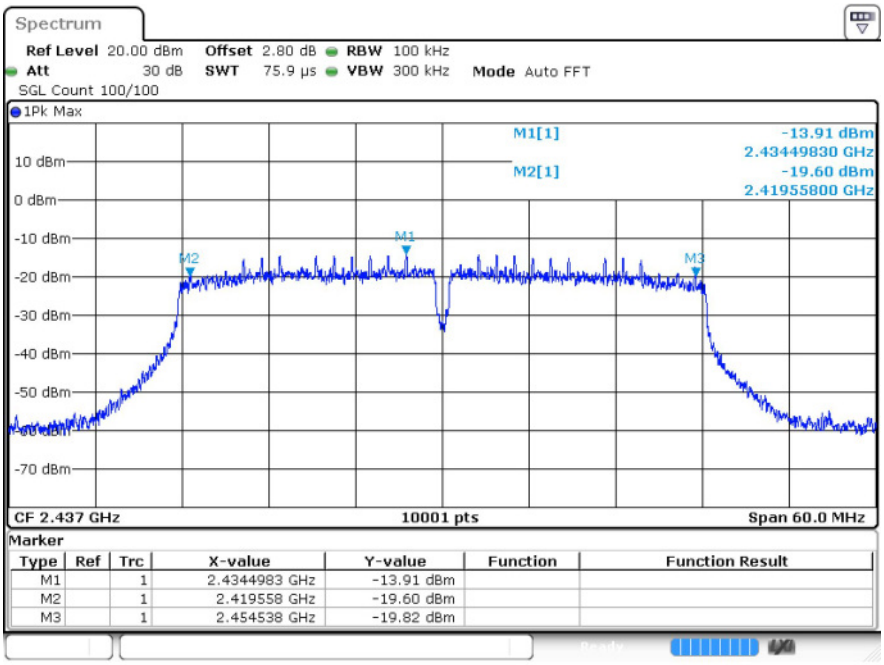
n20 2462MHz Ant1



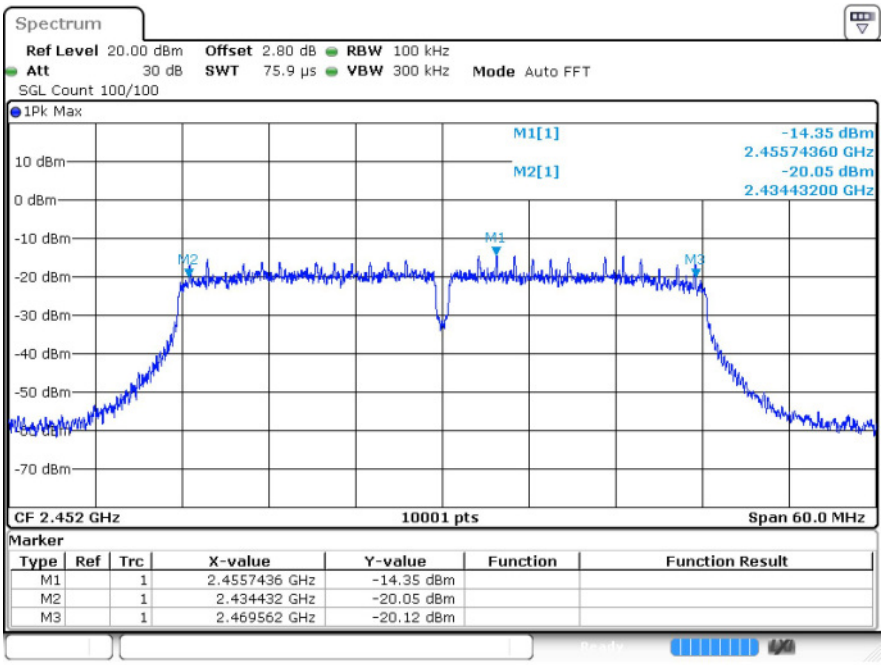
n40 2422MHz Ant1



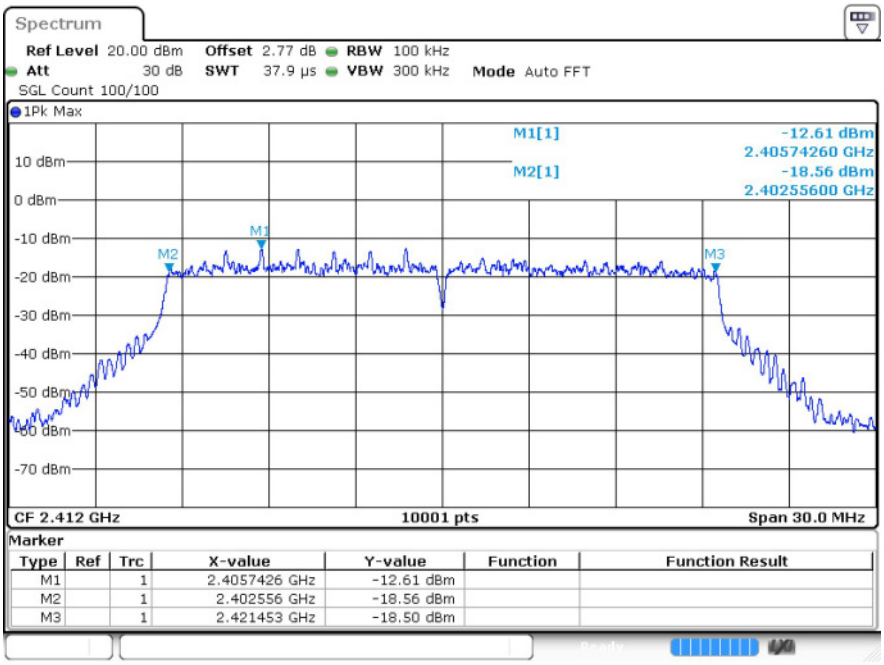
n40 2437MHz Ant1



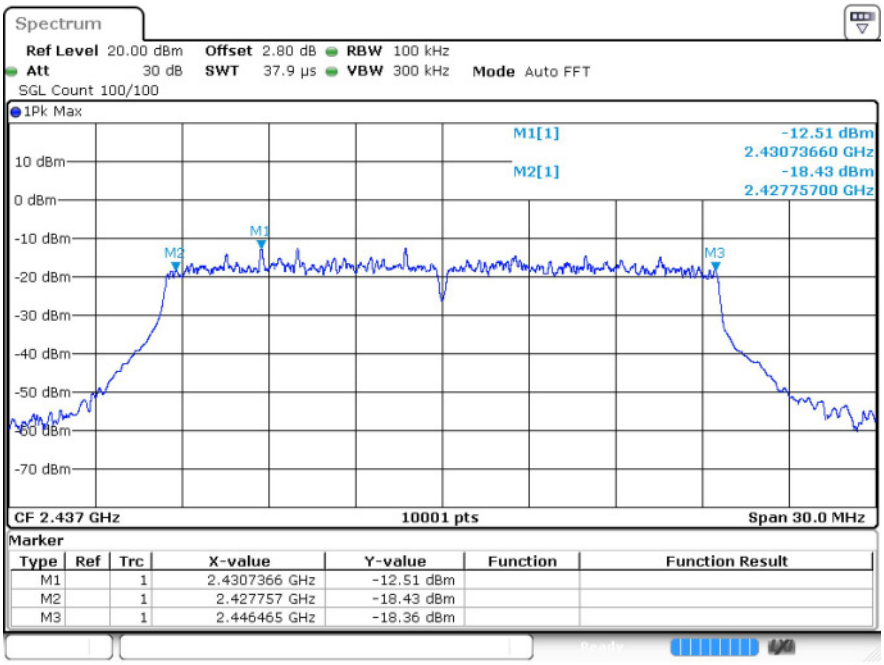
n40 2452MHz Ant1



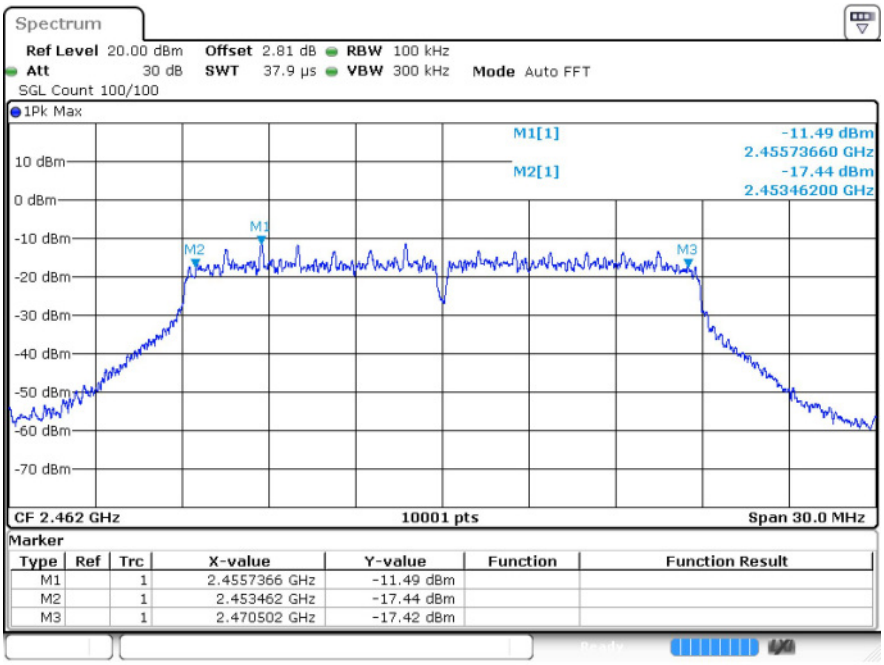
ax20 2412MHz Ant1



ax20 2437MHz Ant1



ax20 2462MHz Ant1

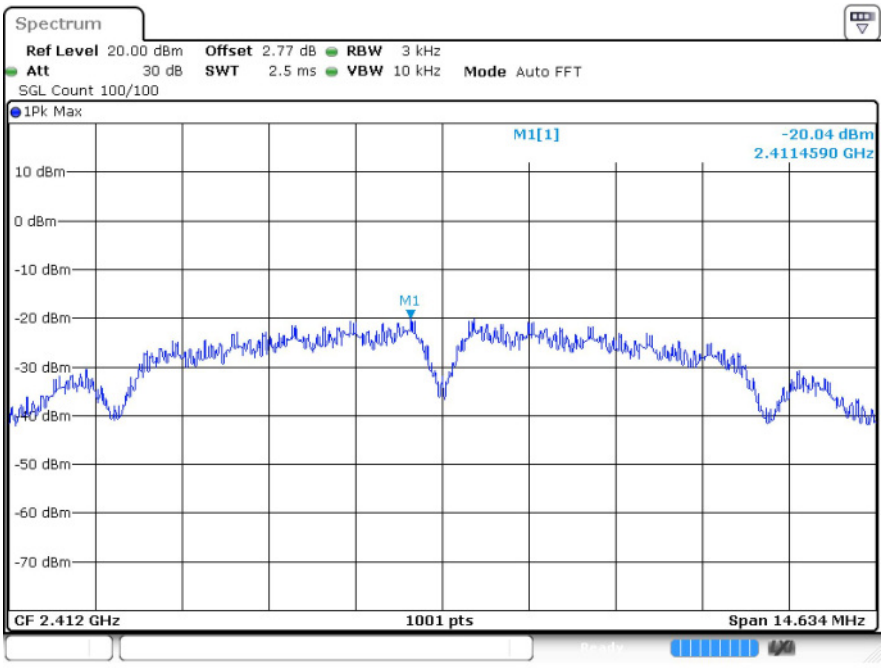
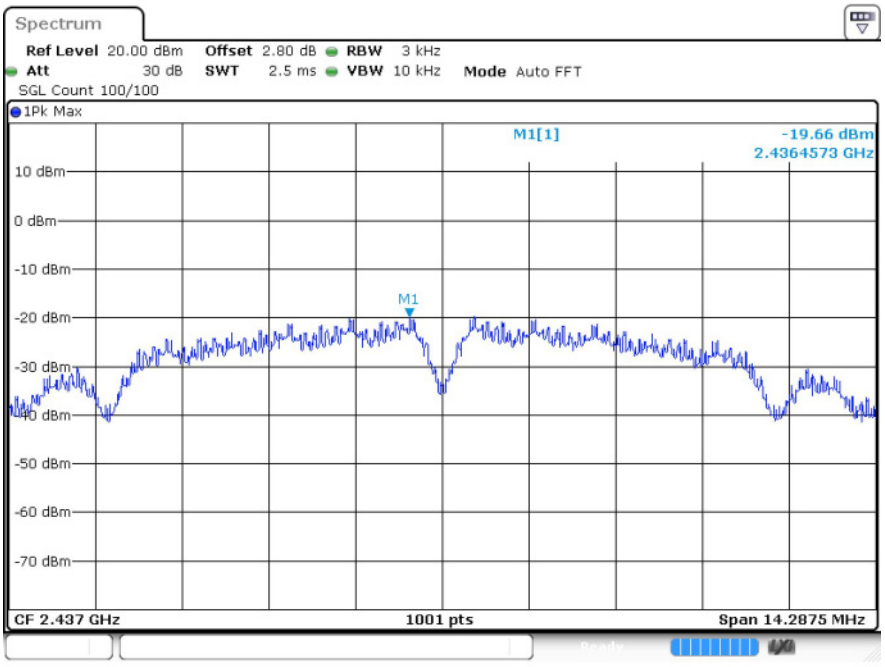


4 Maximum Power Spectral Density Level

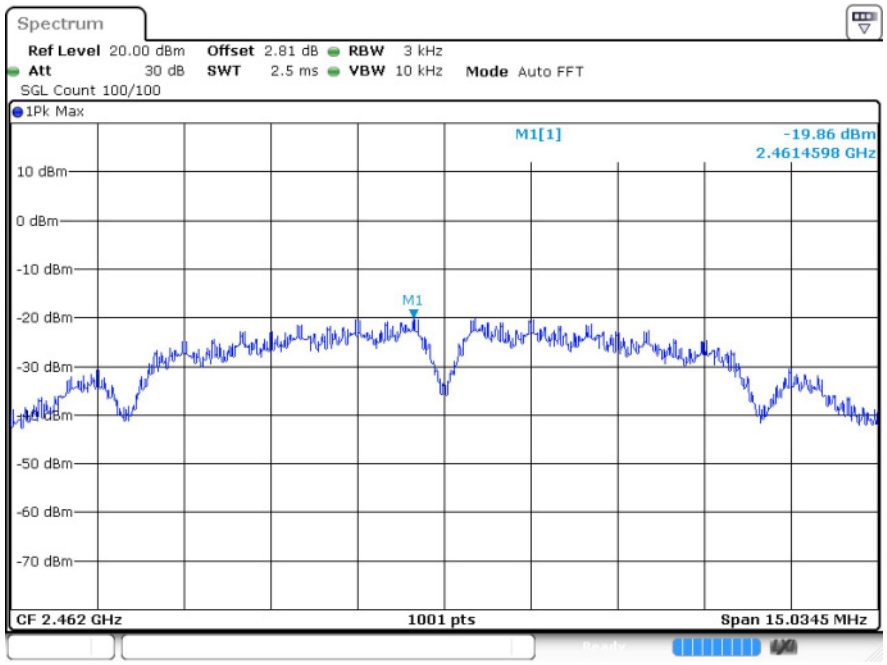
4.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-20.04	≤8	Pass
b	2437	Ant1	-19.66	≤8	Pass
b	2462	Ant1	-19.86	≤8	Pass
g	2412	Ant1	-24.02	≤8	Pass
g	2437	Ant1	-23.72	≤8	Pass
g	2462	Ant1	-24.49	≤8	Pass
n20	2412	Ant1	-25.91	≤8	Pass
n20	2437	Ant1	-25.67	≤8	Pass
n20	2462	Ant1	-26.45	≤8	Pass
n40	2422	Ant1	-28.41	≤8	Pass
n40	2437	Ant1	-28.05	≤8	Pass
n40	2452	Ant1	-28.41	≤8	Pass
ax20	2412	Ant1	-14.88	≤8	Pass
ax20	2437	Ant1	-13.29	≤8	Pass
ax20	2462	Ant1	-12.99	≤8	Pass

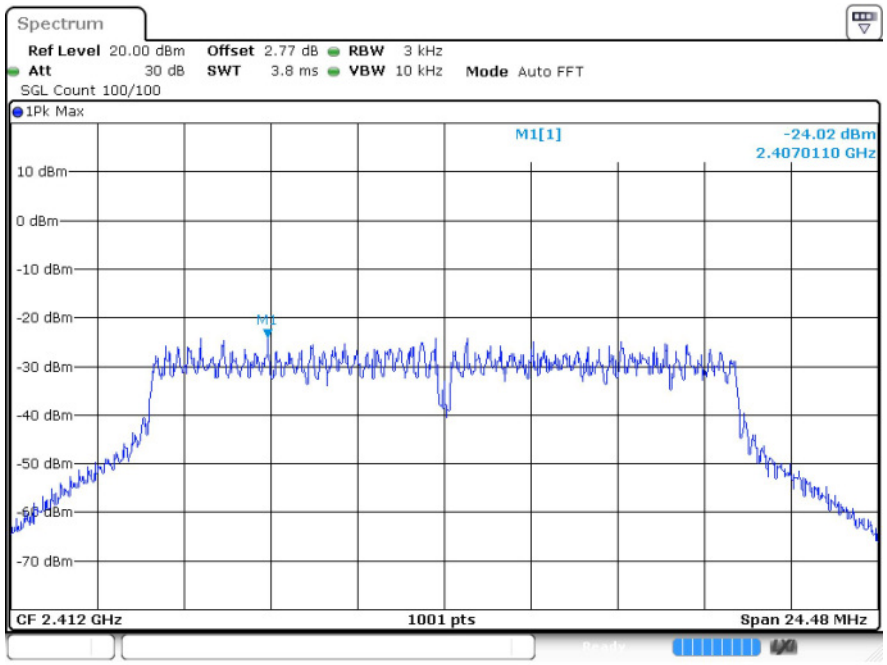
4.2 Test Graphs

Test Graphs
b 2412MHz Ant1

b 2437MHz Ant1


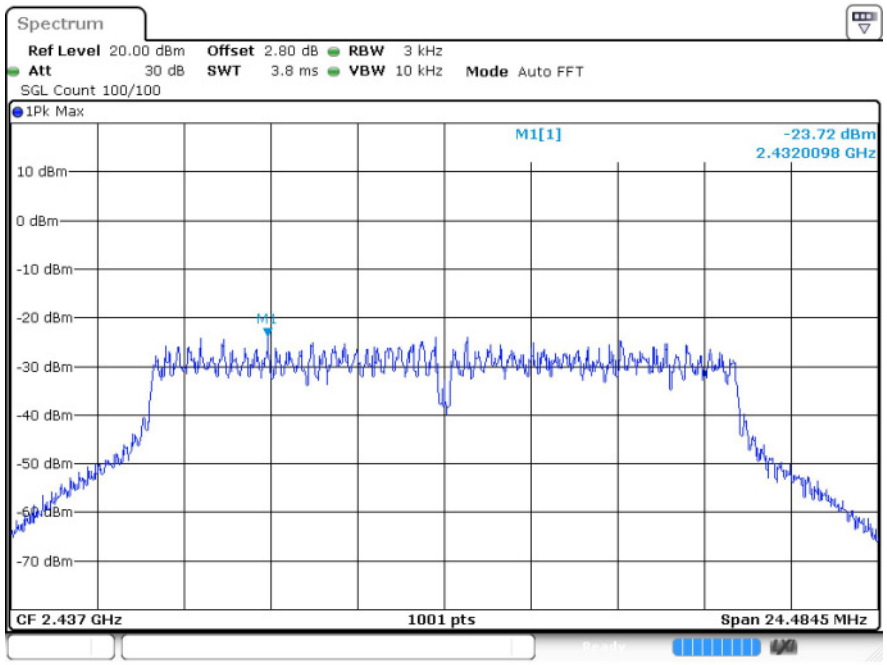
b 2462MHz Ant1



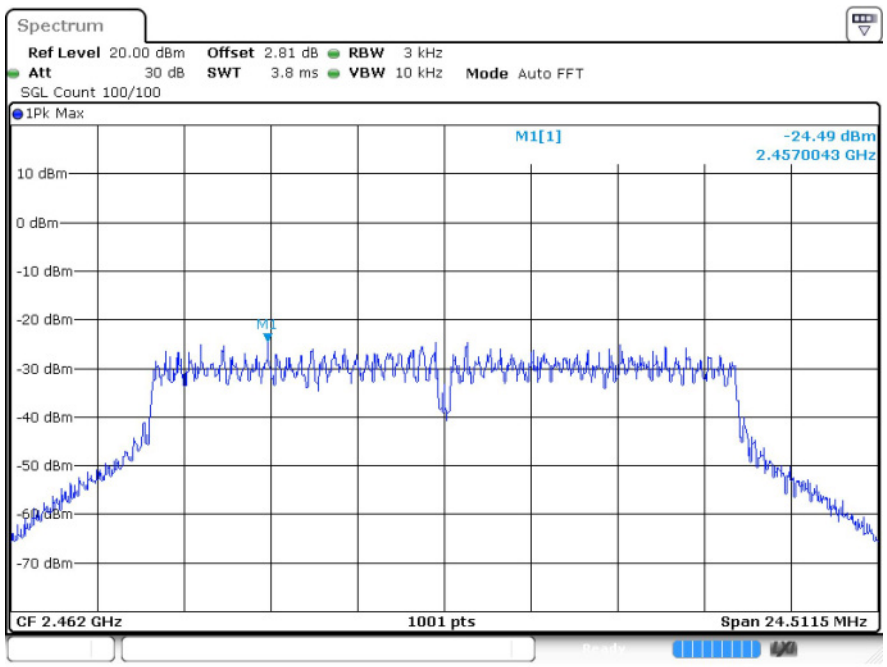
g 2412MHz Ant1



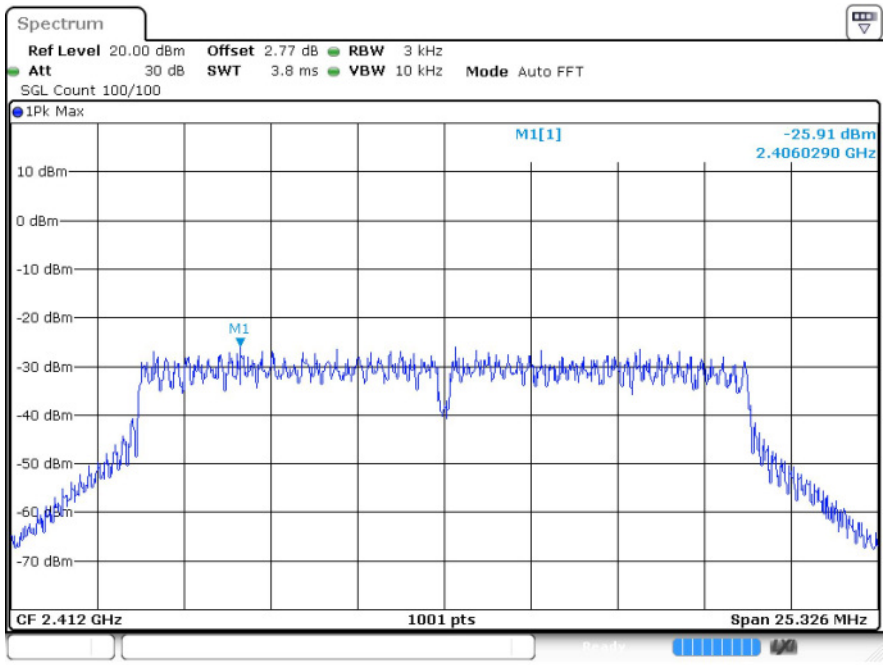
g 2437MHz Ant1



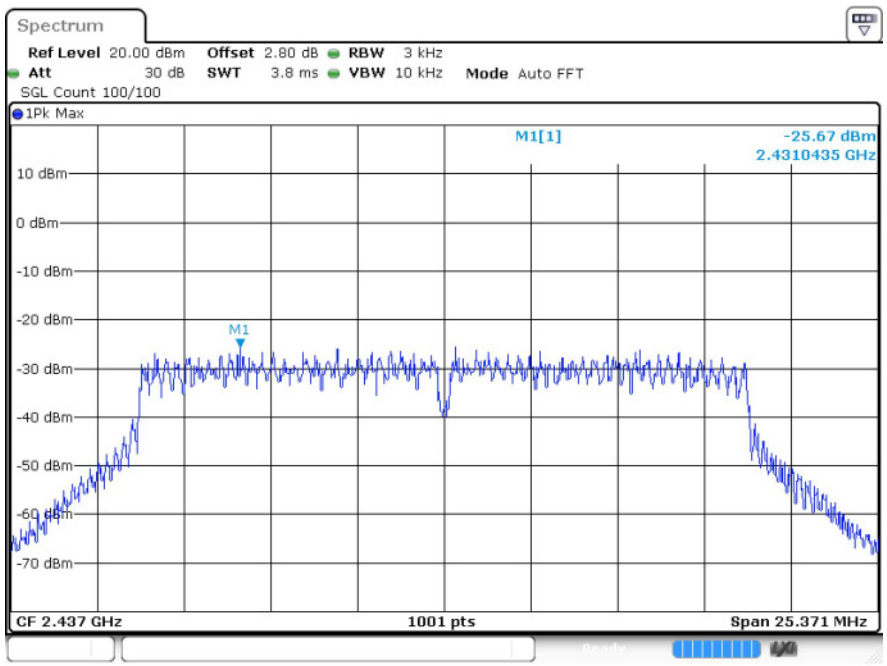
g 2462MHz Ant1



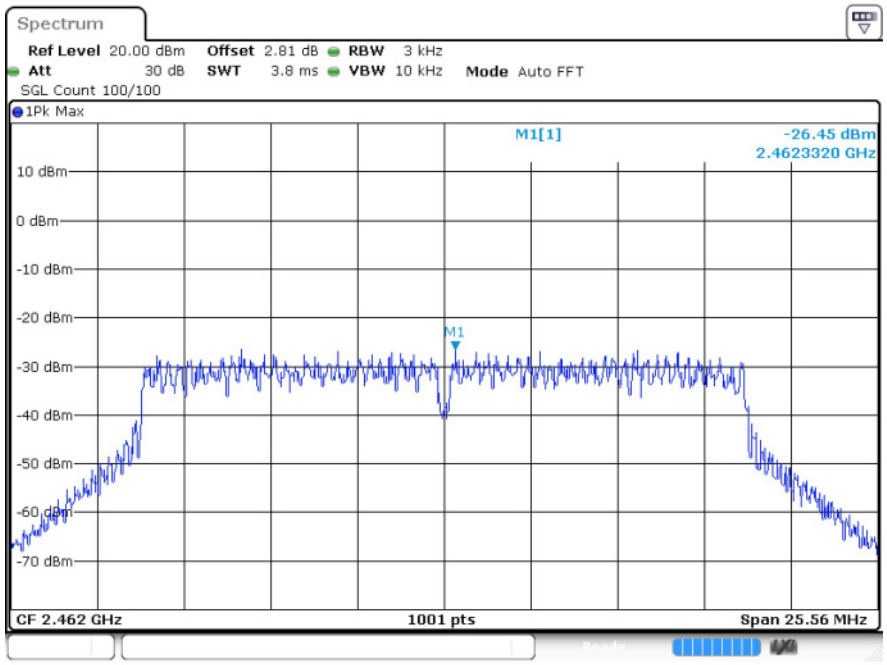
n20 2412MHz Ant1



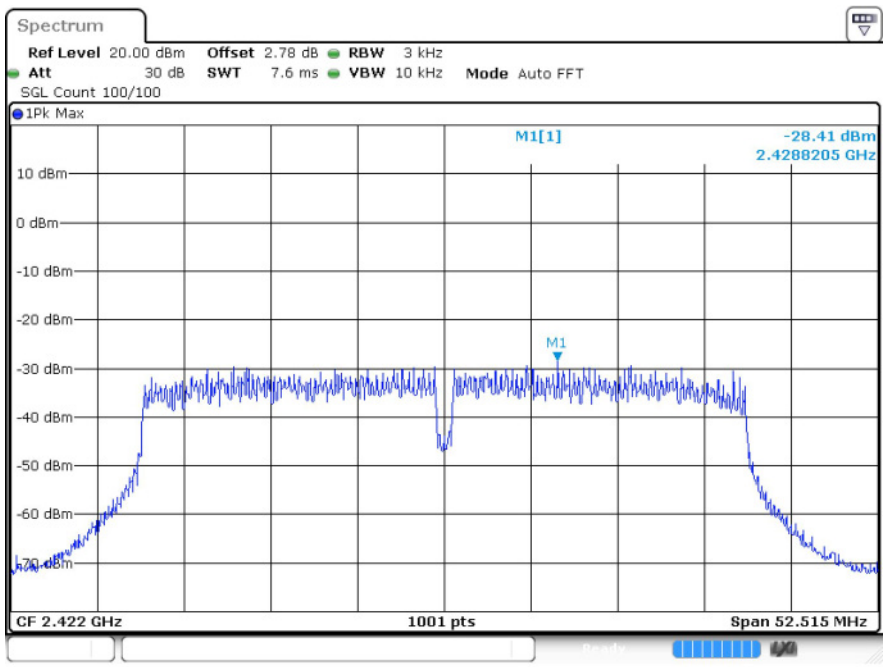
n20 2437MHz Ant1



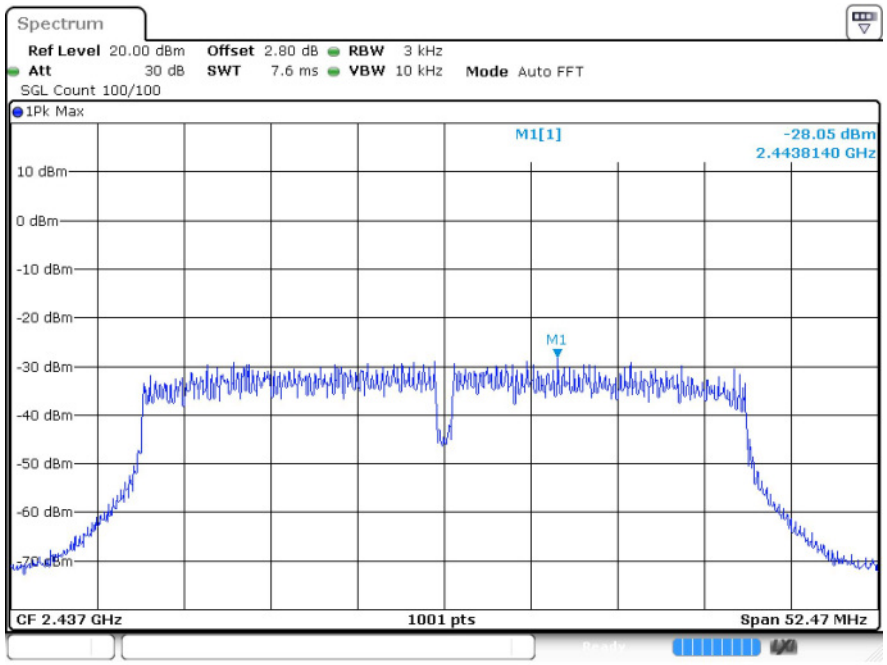
n20 2462MHz Ant1



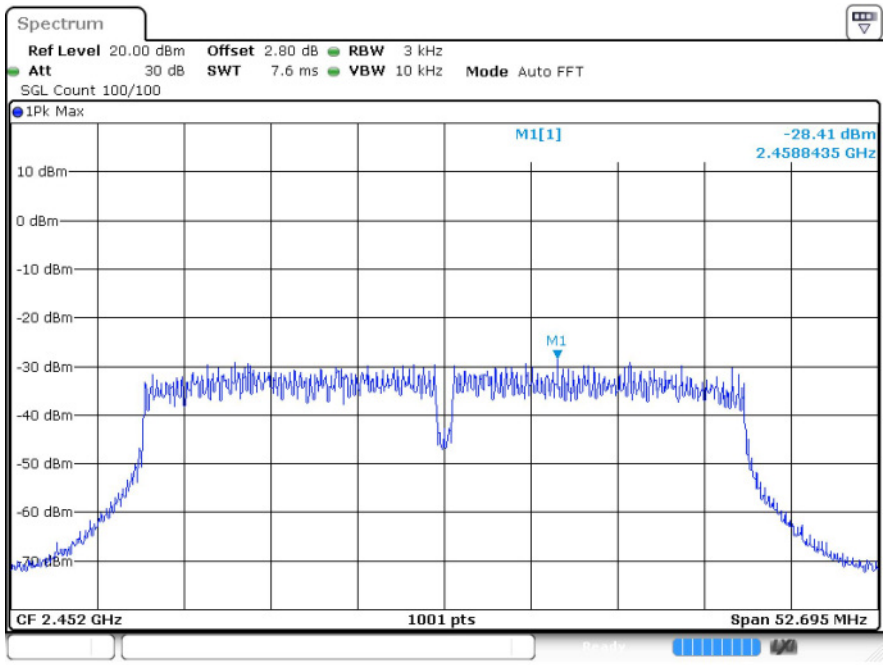
n40 2422MHz Ant1



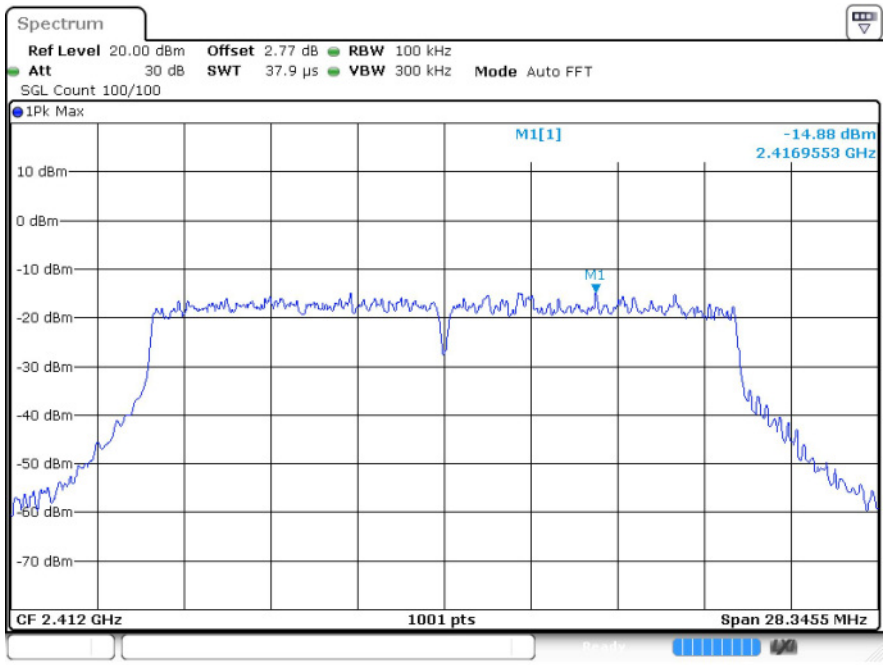
n40 2437MHz Ant1



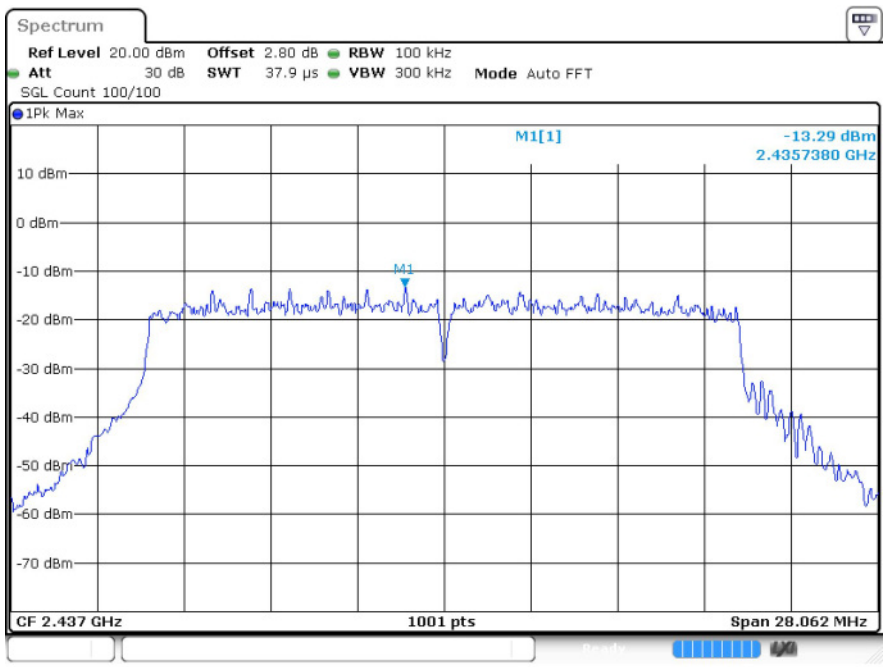
n40 2452MHz Ant1



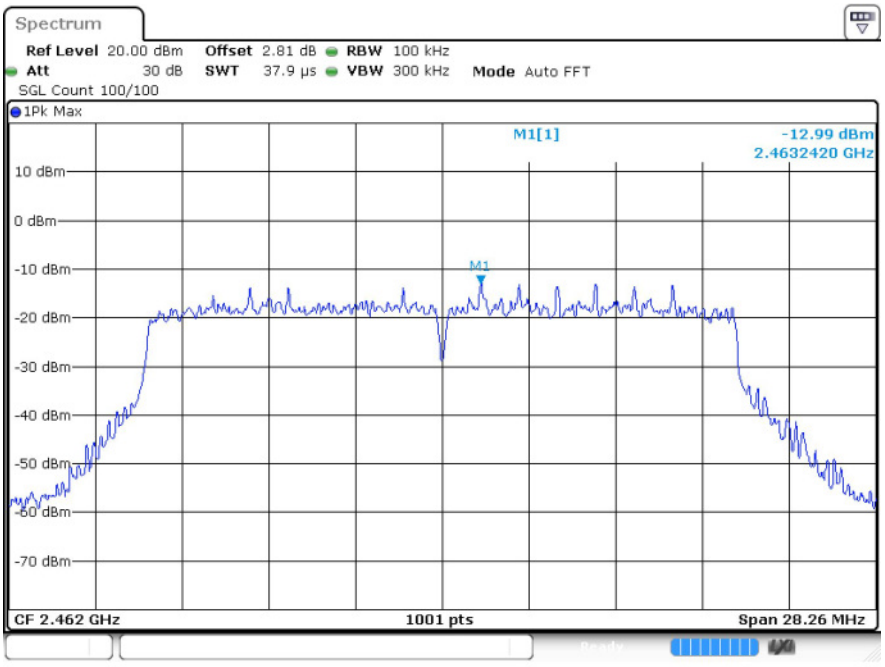
ax20 2412MHz Ant1



ax20 2437MHz Ant1



ax20 2462MHz Ant1



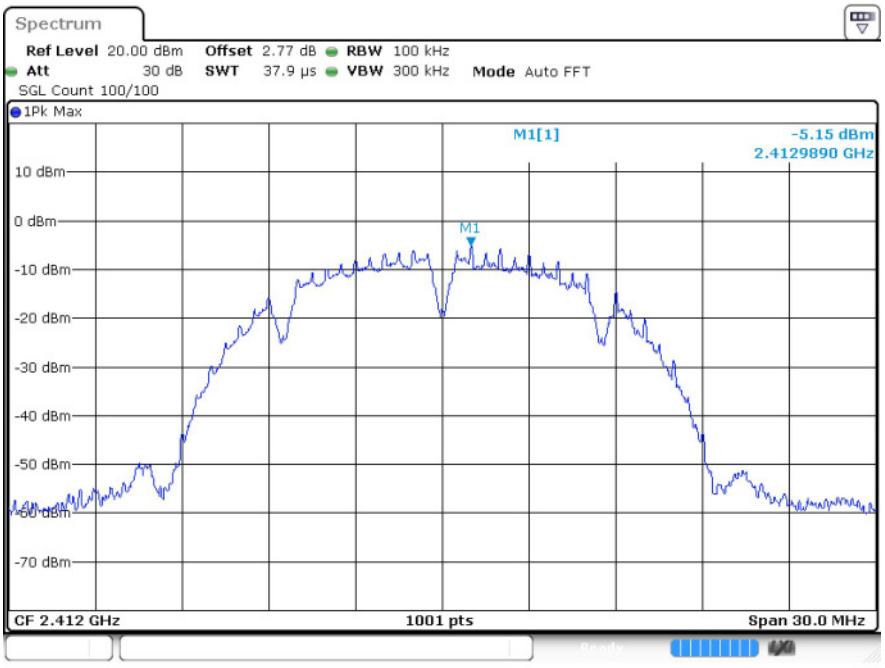
5 Band Edge

5.1 Test Result

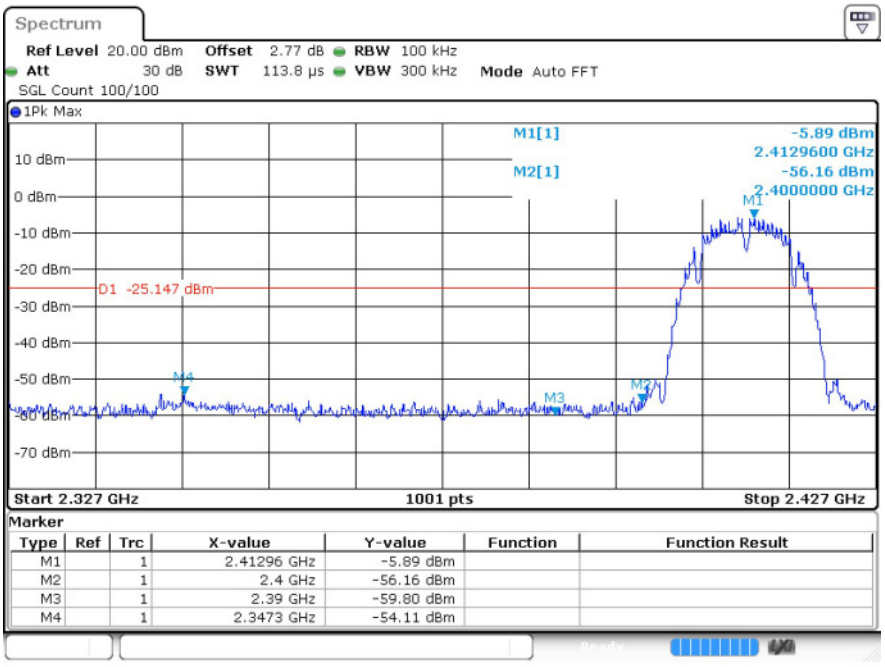
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-48.95	-20	Pass
b	2462	Ant1	-51.94	-20	Pass
g	2412	Ant1	-44.73	-20	Pass
g	2462	Ant1	-44.79	-20	Pass
n20	2412	Ant1	-42.12	-20	Pass
n20	2462	Ant1	-42.55	-20	Pass
n40	2422	Ant1	-40.9	-20	Pass
n40	2452	Ant1	-40.08	-20	Pass
ax20	2412	Ant1	-41.66	-20	Pass
ax20	2462	Ant1	-42.68	-20	Pass

5.2 Test Graphs

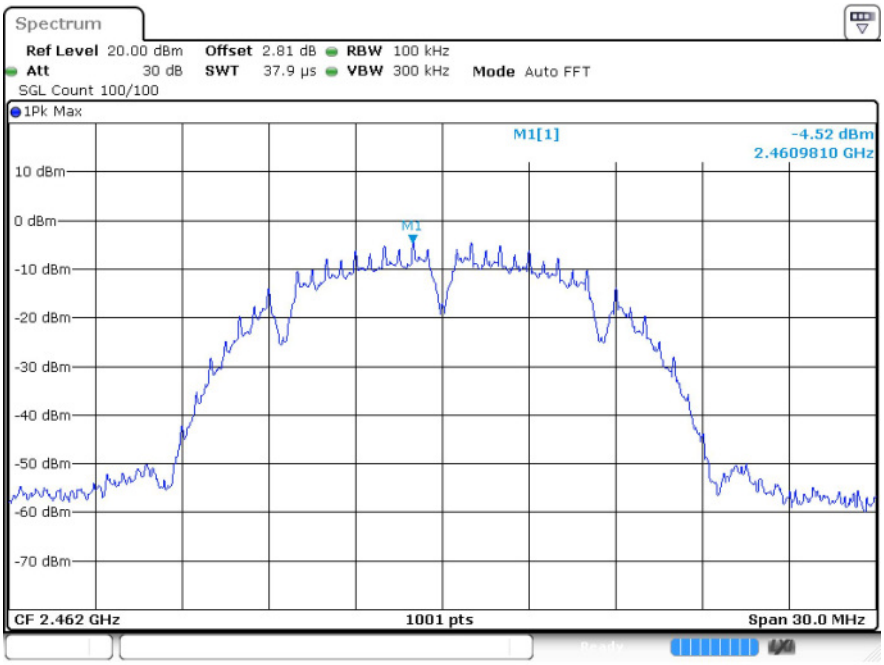
Test Graphs
b 2412MHz Ant1 Ref



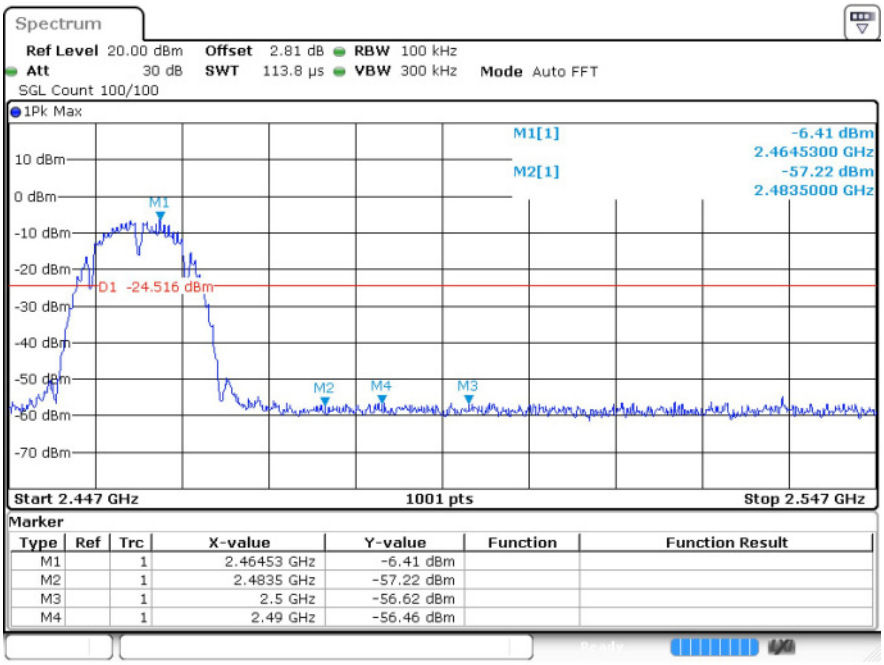
b 2412MHz Ant1 Emission



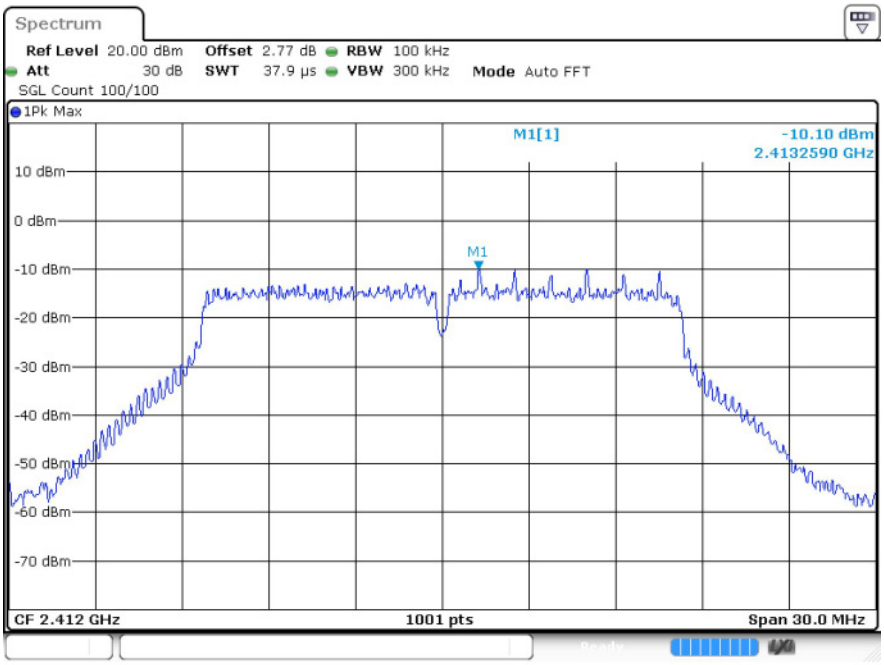
b 2462MHz Ant1 Ref



b 2462MHz Ant1 Emission



g 2412MHz Ant1 Ref



g 2412MHz Ant1 Emission