



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Ear Cleaner

Trade Mark: N/A

Test Model: N3Pro

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen



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1 Duty Cycle

1.1 Test Result

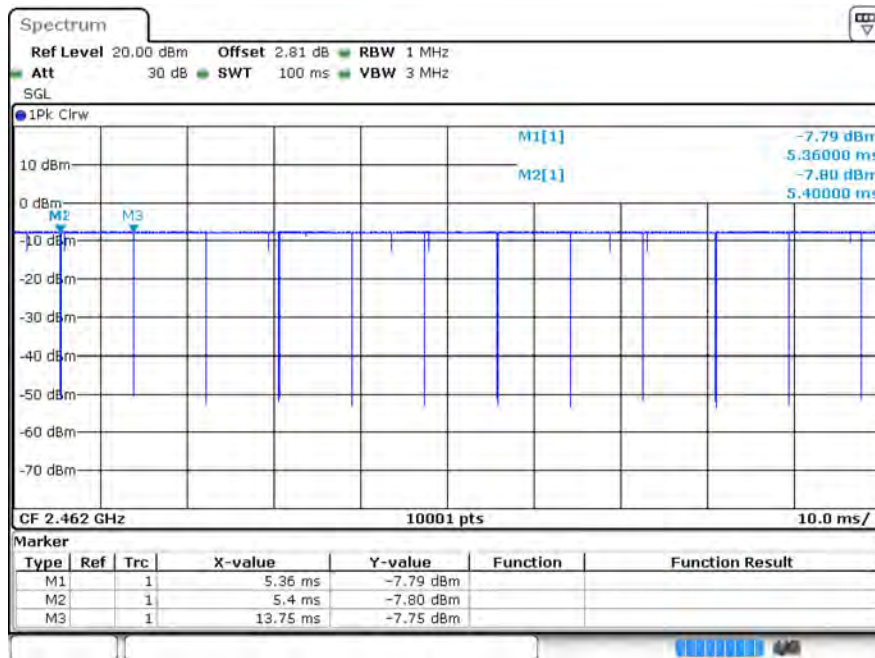
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.6	0.02	0.12
b	2437	Ant1	99.59	0.02	0.12
b	2462	Ant1	99.6	0.02	0.12
g	2412	Ant1	86.76	0.62	4.76
g	2437	Ant1	86.91	0.61	4.76
g	2462	Ant1	86.47	0.63	4.76
n20	2412	Ant1	87.42	0.58	4.35
n20	2437	Ant1	87.39	0.59	4.35
n20	2462	Ant1	87.43	0.58	4.35
n40	2422	Ant1	76.79	1.15	4.76
n40	2437	Ant1	76.85	1.14	4.55
n40	2452	Ant1	76.8	1.15	4.76

1.2 Test Graphs

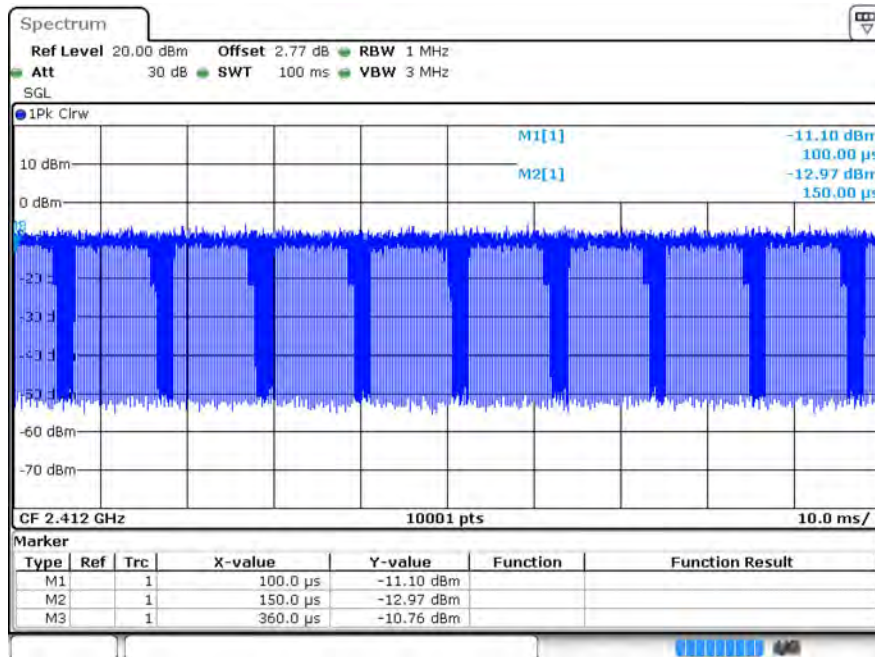


Test Graphs

b 2462MHz Ant1

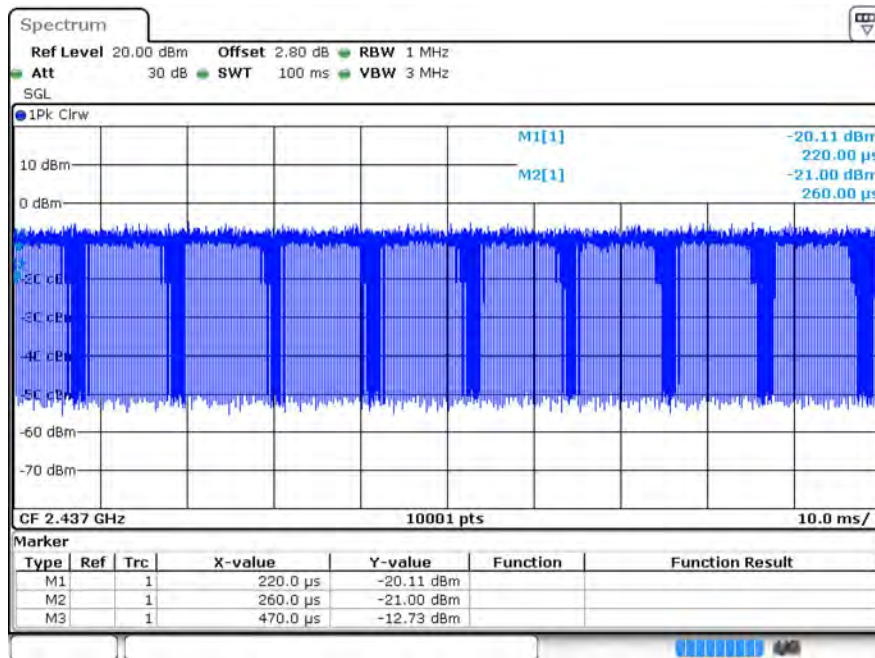


g 2412MHz Ant1

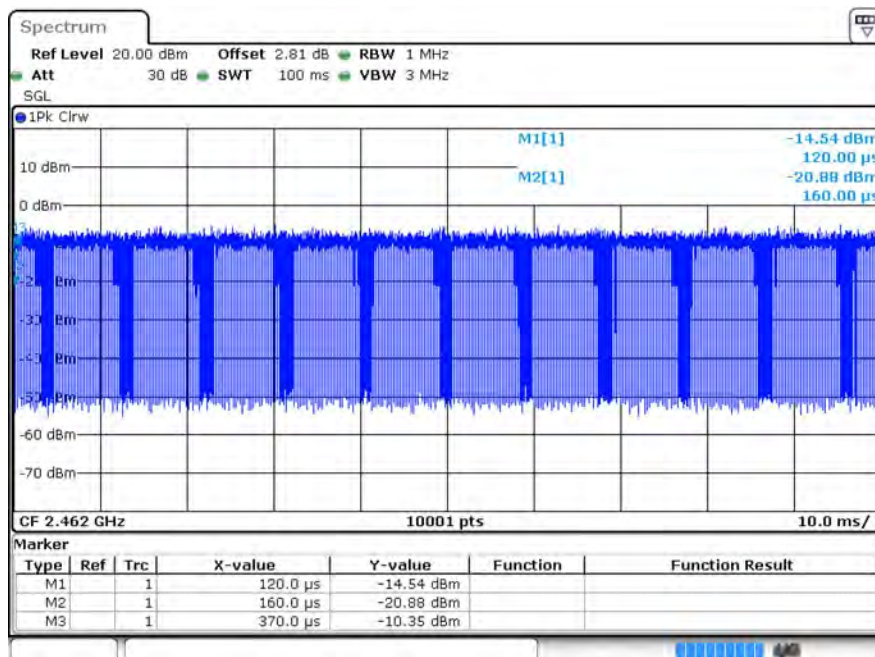


Test Graphs

g 2437MHz Ant1

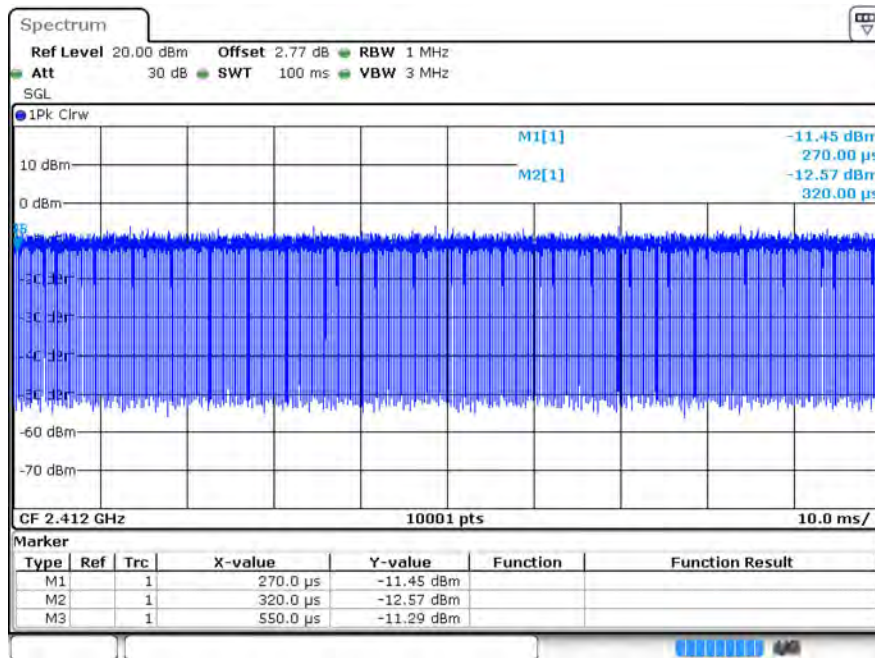


g 2462MHz Ant1

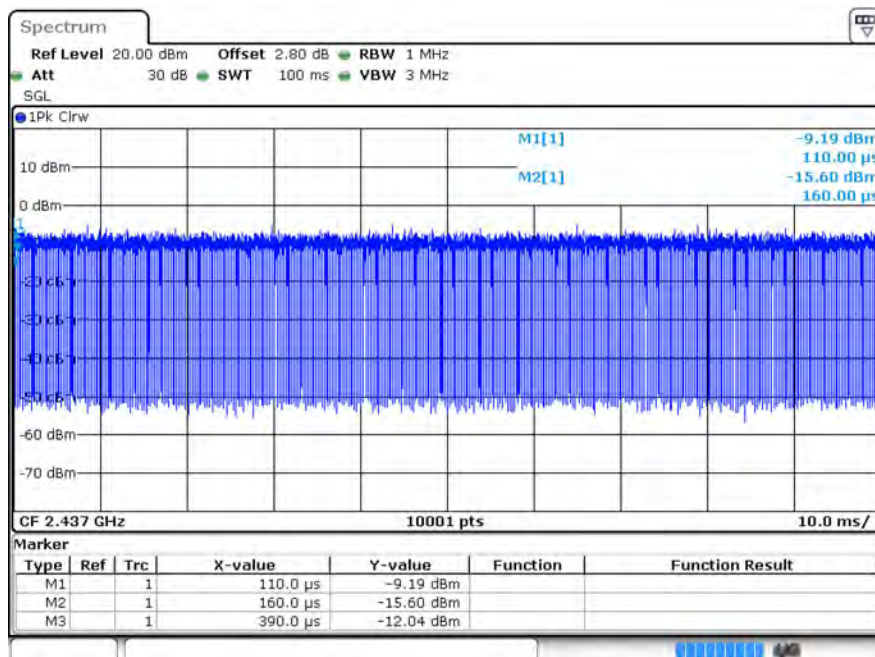


Test Graphs

n20 2412MHz Ant1

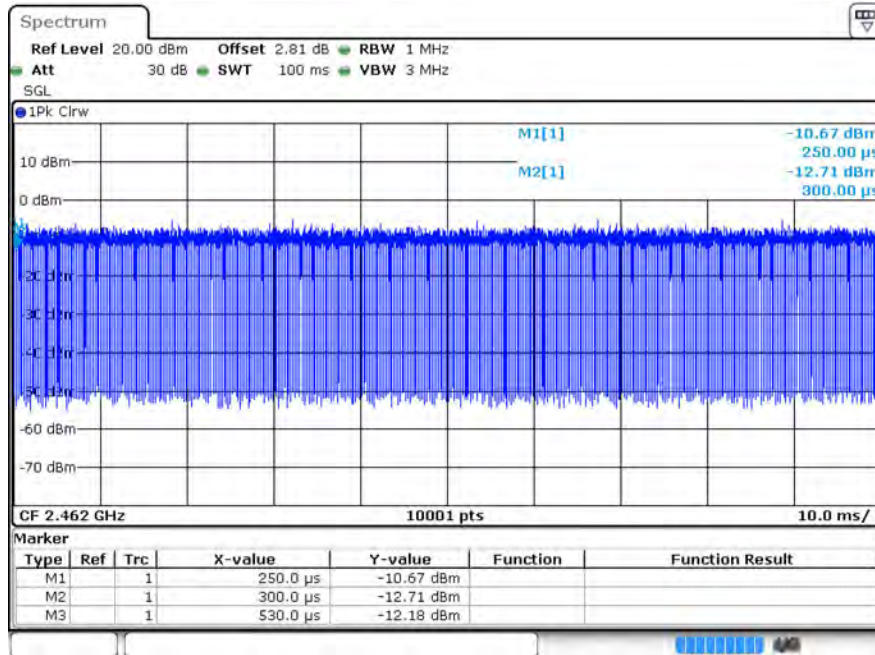


n20 2437MHz Ant1

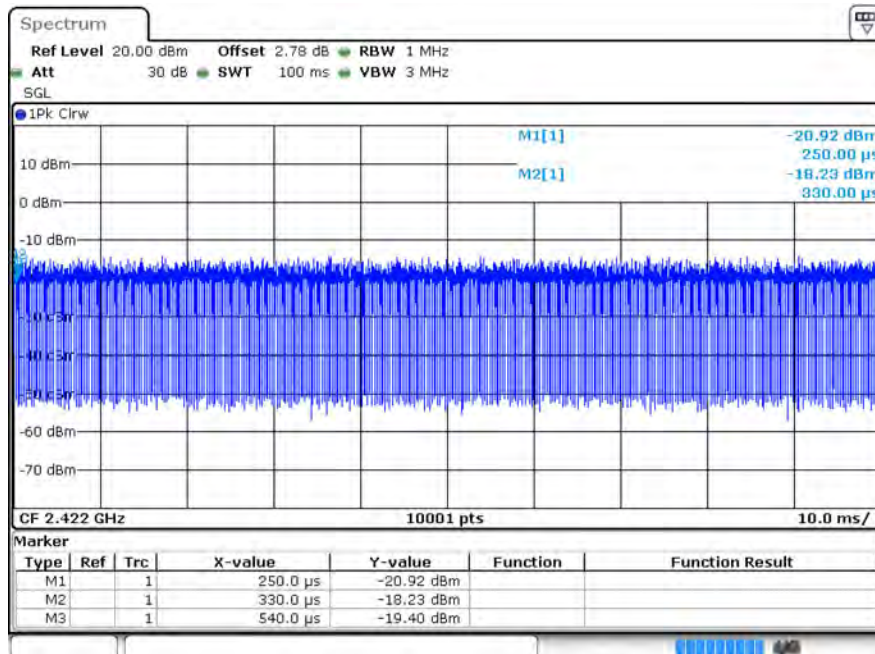


Test Graphs

n20 2462MHz Ant1

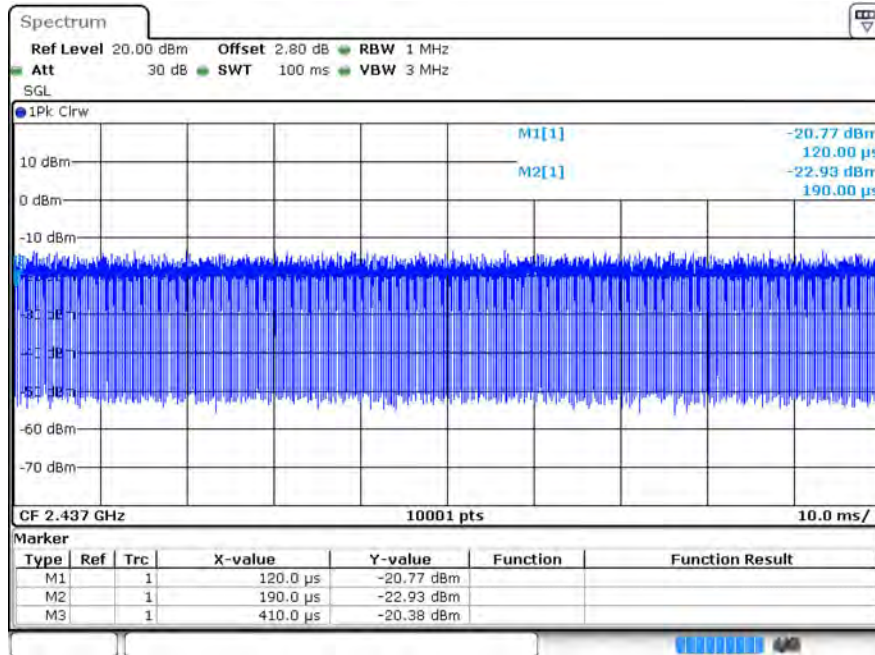


n40 2422MHz Ant1

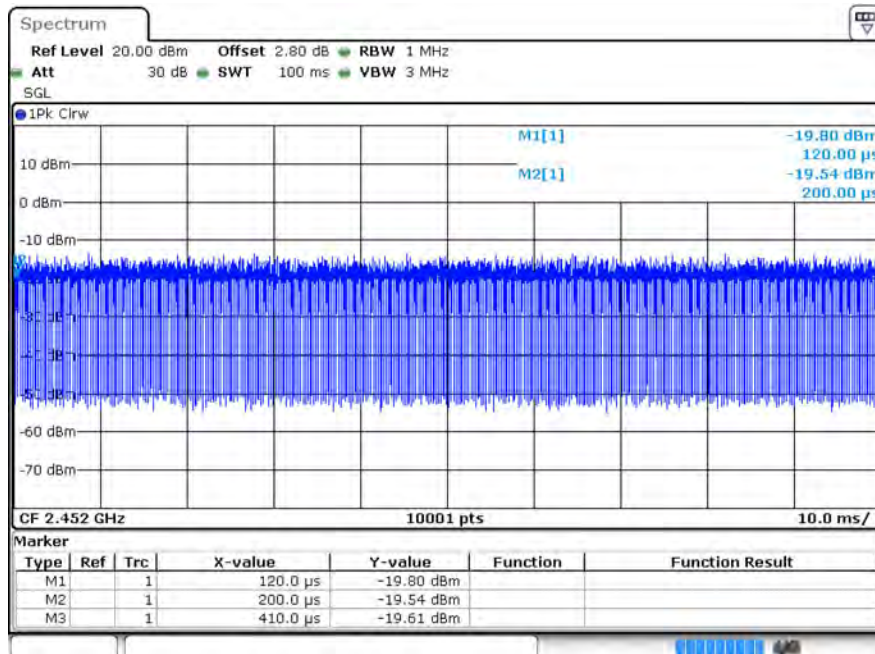


Test Graphs

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	3.28	30	Pass
b	2437	Ant1	2.86	30	Pass
b	2462	Ant1	2.74	30	Pass
g	2412	Ant1	3.12	30	Pass
g	2437	Ant1	3.76	30	Pass
g	2462	Ant1	3.89	30	Pass
n20	2412	Ant1	2.96	30	Pass
n20	2437	Ant1	3.59	30	Pass
n20	2462	Ant1	3.59	30	Pass
n40	2422	Ant1	2.46	30	Pass
n40	2437	Ant1	2.77	30	Pass
n40	2452	Ant1	2.82	30	Pass

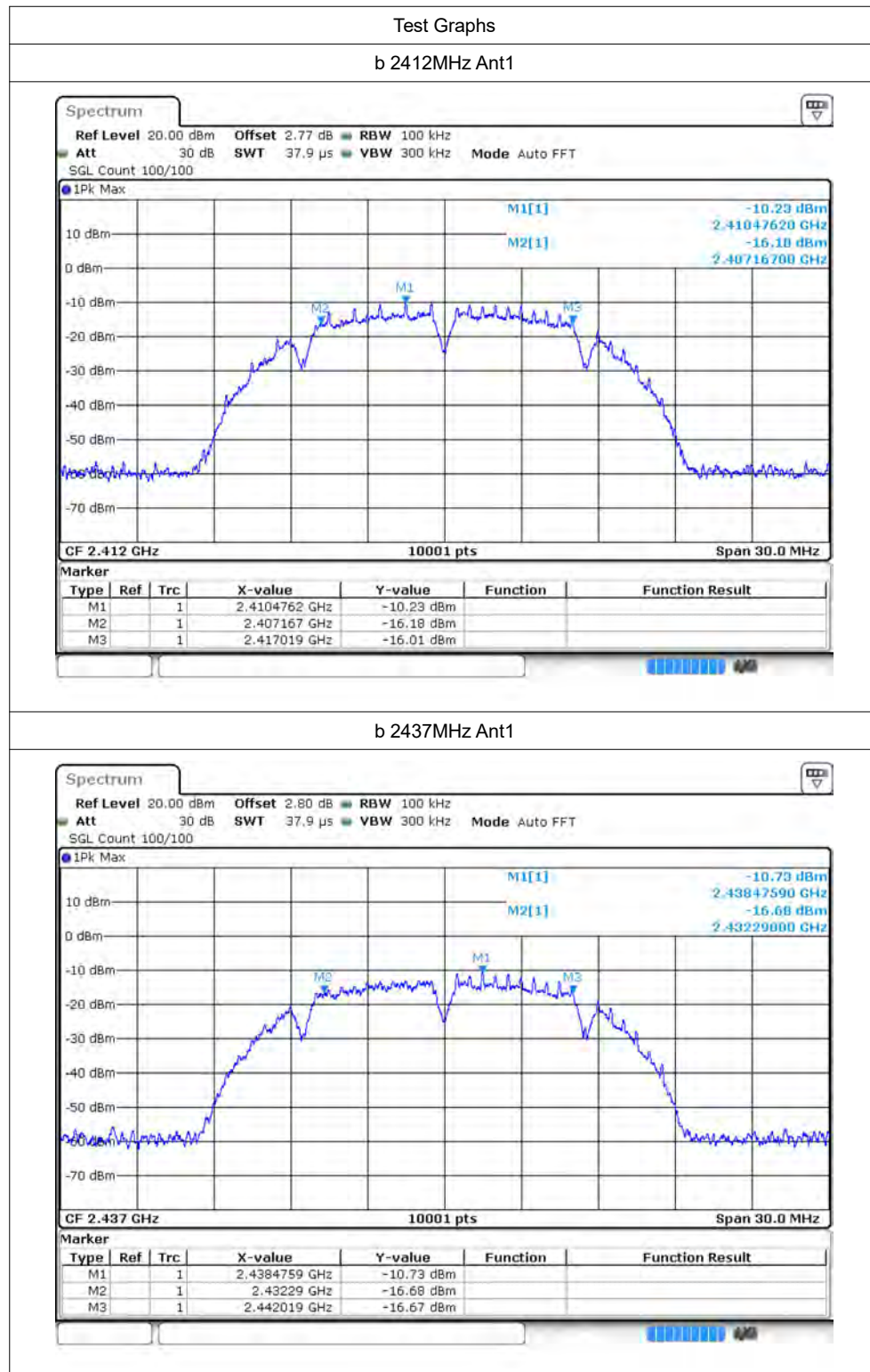


3 -6dB Bandwidth

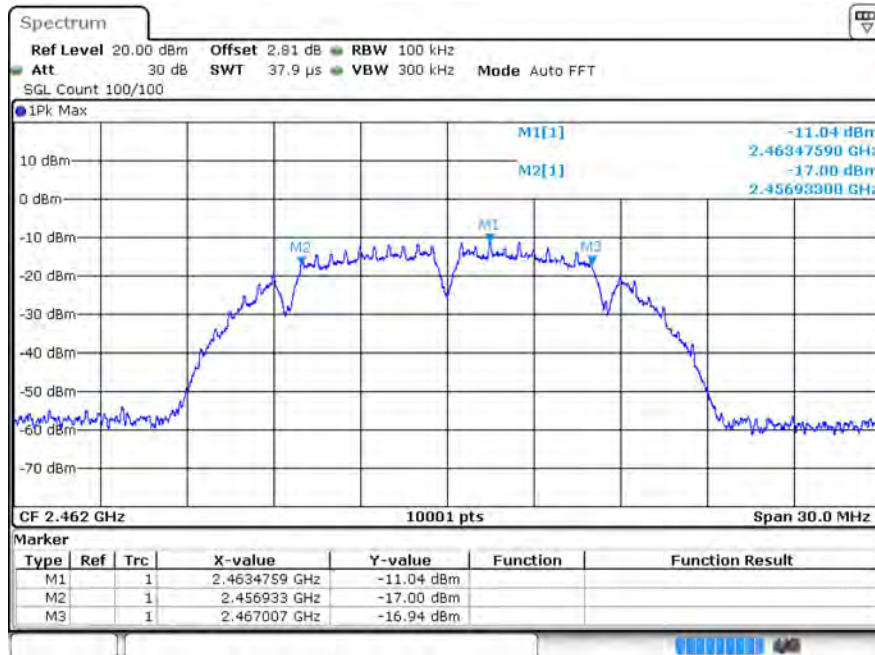
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	9.852	0.5	Pass
b	2437	Ant1	9.729	0.5	Pass
b	2462	Ant1	10.074	0.5	Pass
g	2412	Ant1	15.099	0.5	Pass
g	2437	Ant1	14.199	0.5	Pass
g	2462	Ant1	15.12	0.5	Pass
n20	2412	Ant1	15.111	0.5	Pass
n20	2437	Ant1	15.117	0.5	Pass
n20	2462	Ant1	15.108	0.5	Pass
n40	2422	Ant1	35.07	0.5	Pass
n40	2437	Ant1	35.07	0.5	Pass
n40	2452	Ant1	31.338	0.5	Pass

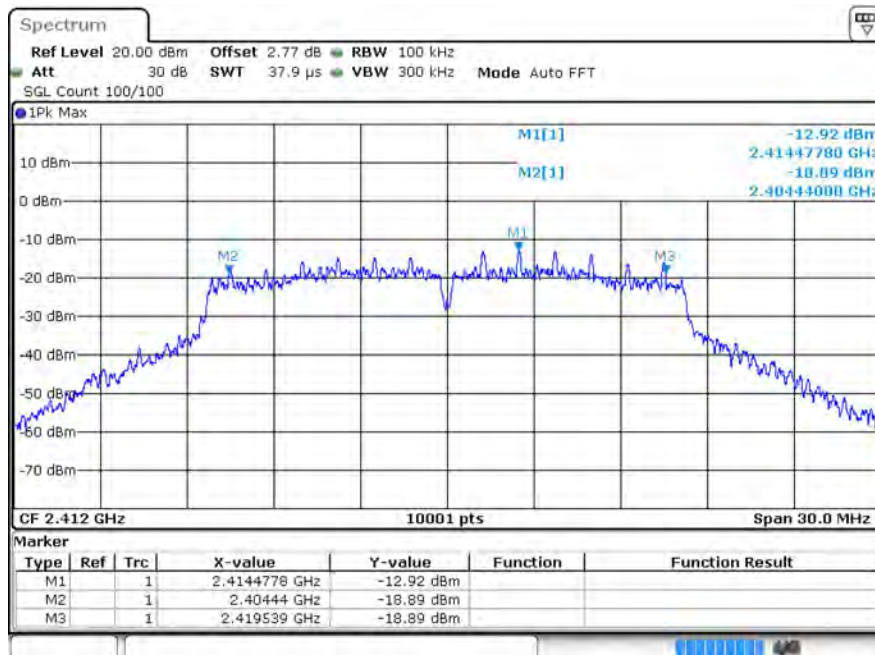
3.2 Test Graphs



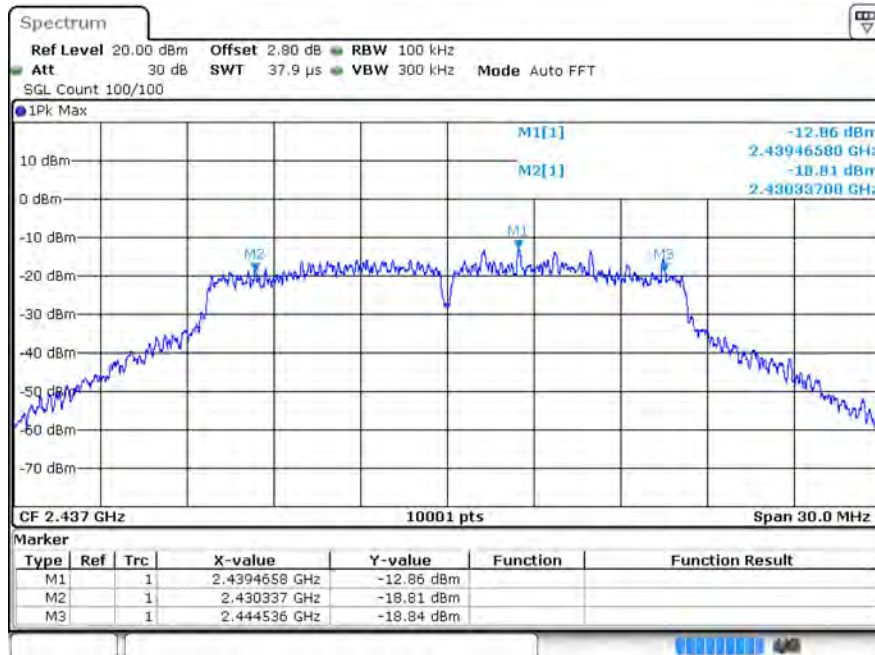
b 2462MHz Ant1



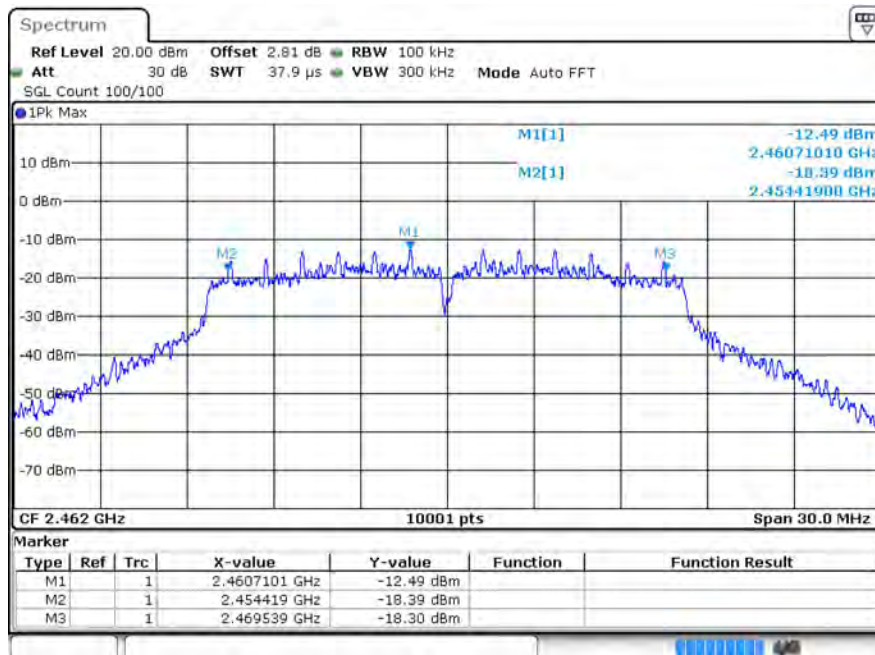
g 2412MHz Ant1



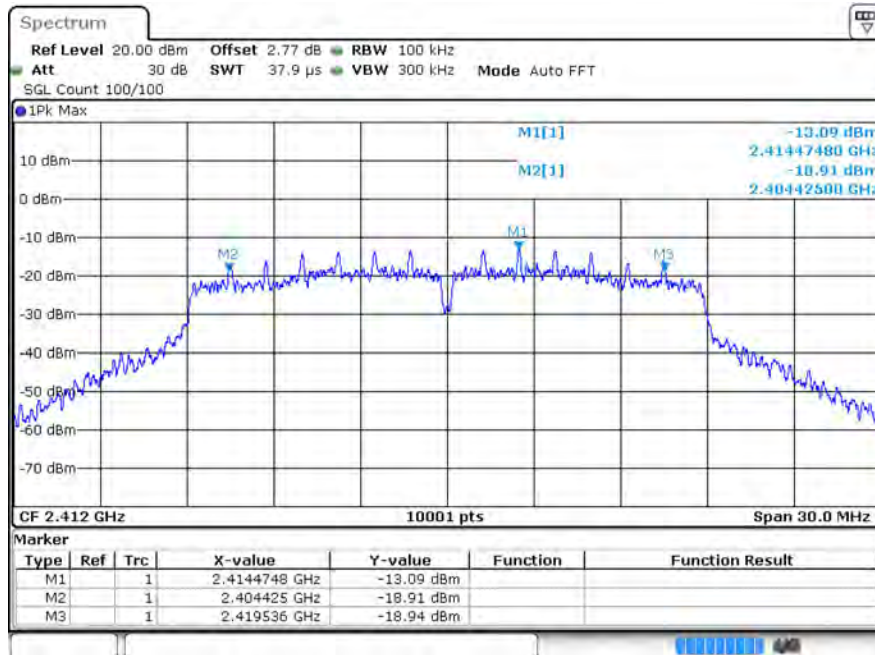
g 2437MHz Ant1



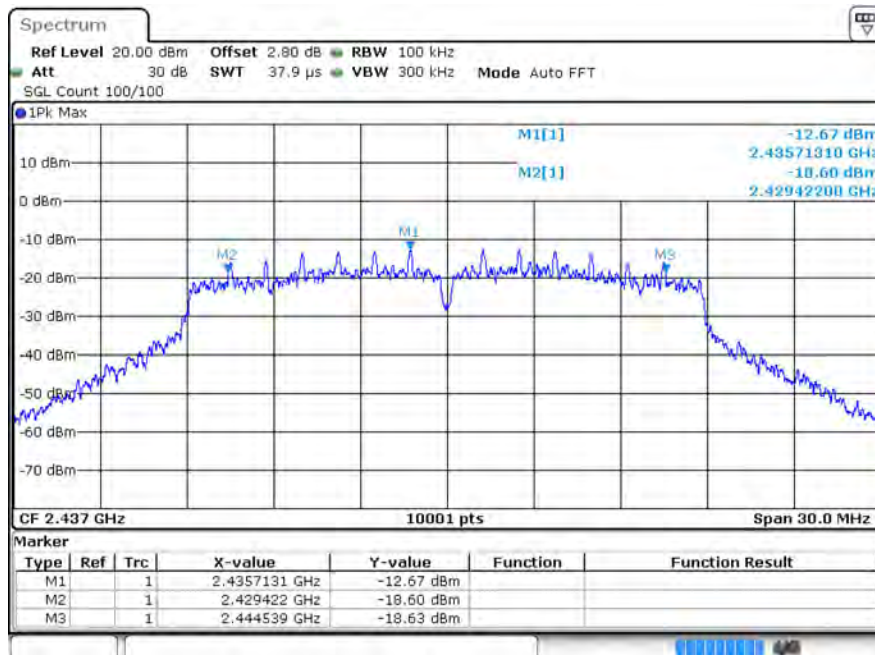
g 2462MHz Ant1



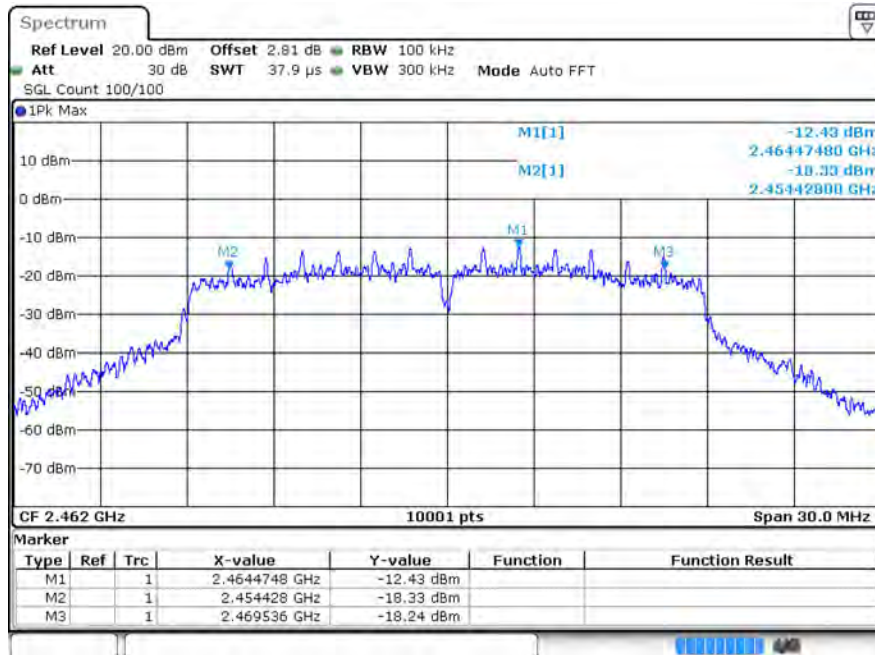
n20 2412MHz Ant1



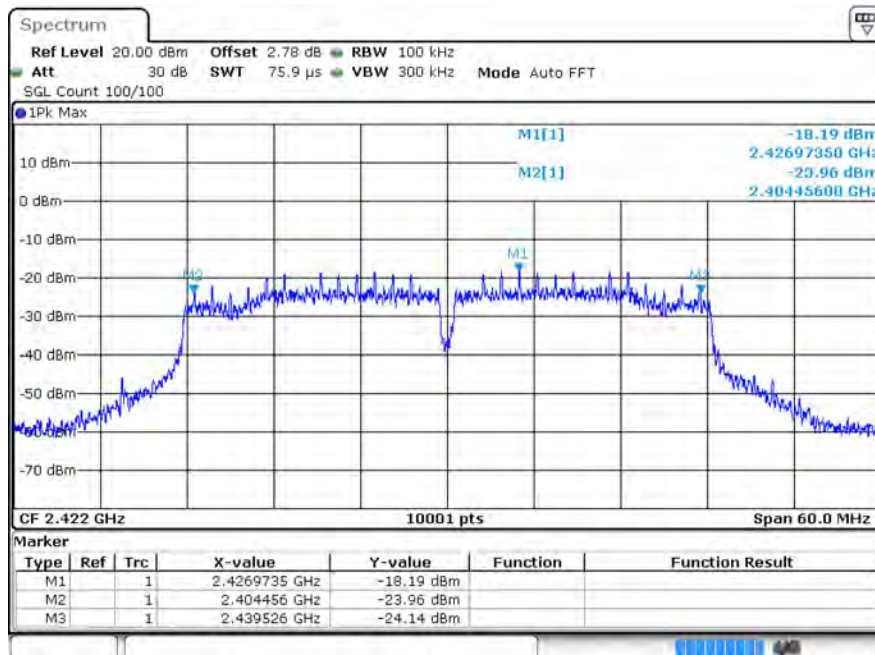
n20 2437MHz Ant1



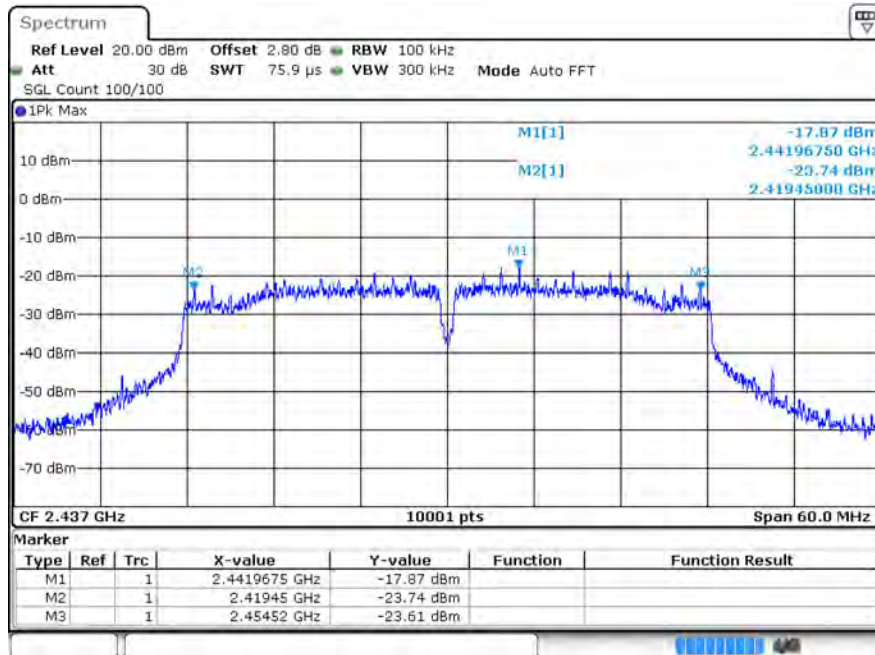
n20 2462MHz Ant1



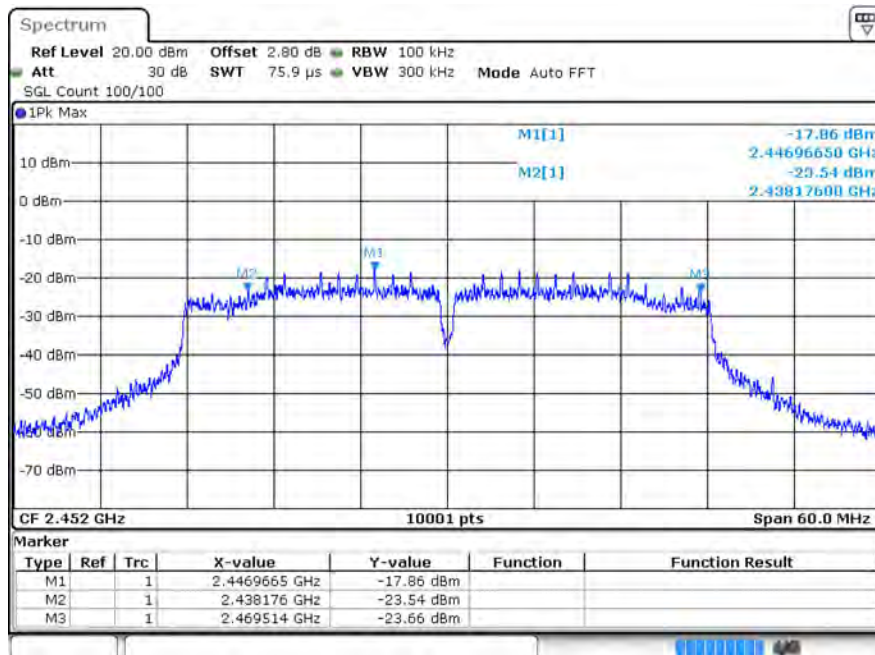
n40 2422MHz Ant1



n40 2437MHz Ant1



n40 2452MHz Ant1

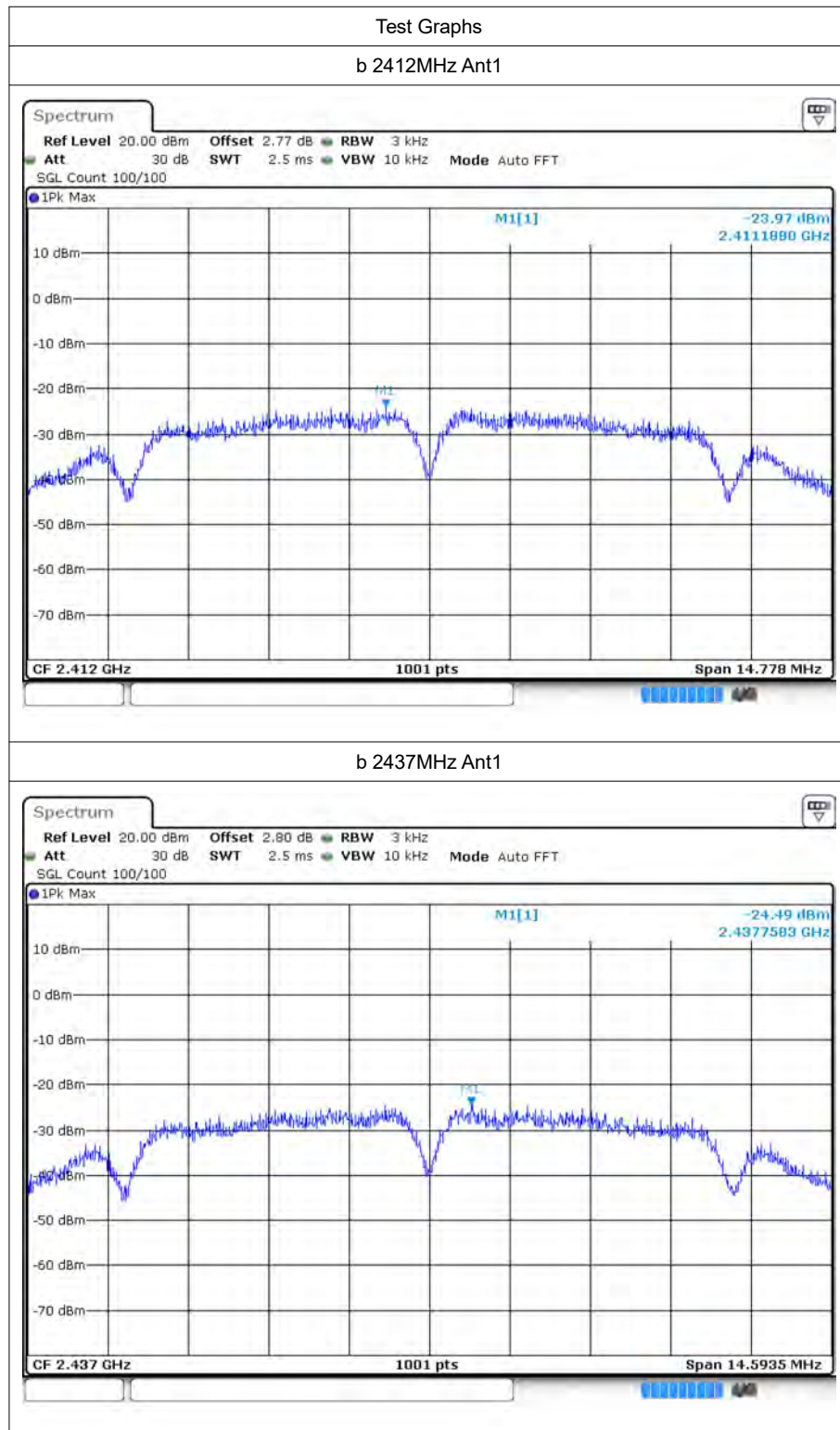


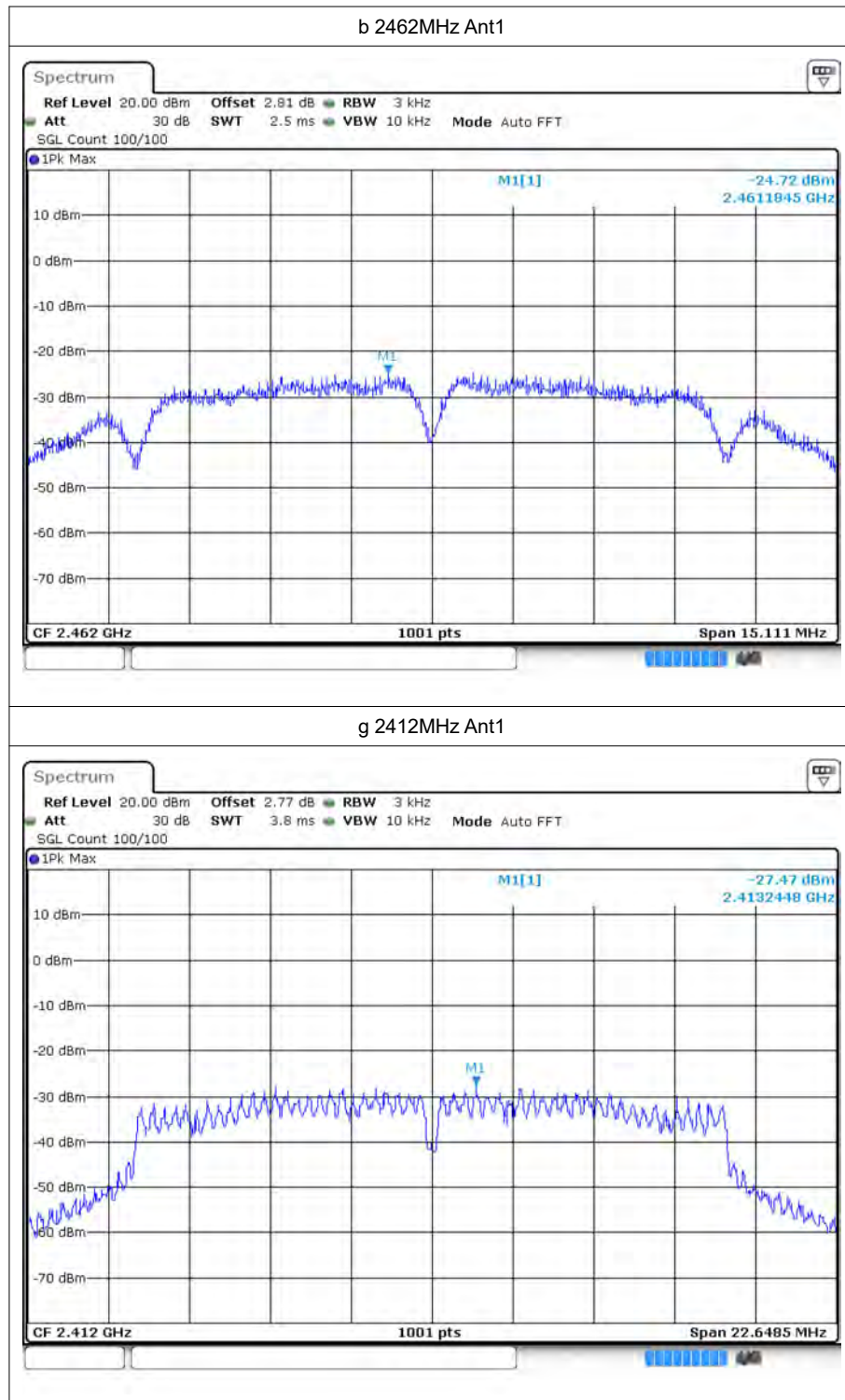
4 Maximum Power Spectral Density Level

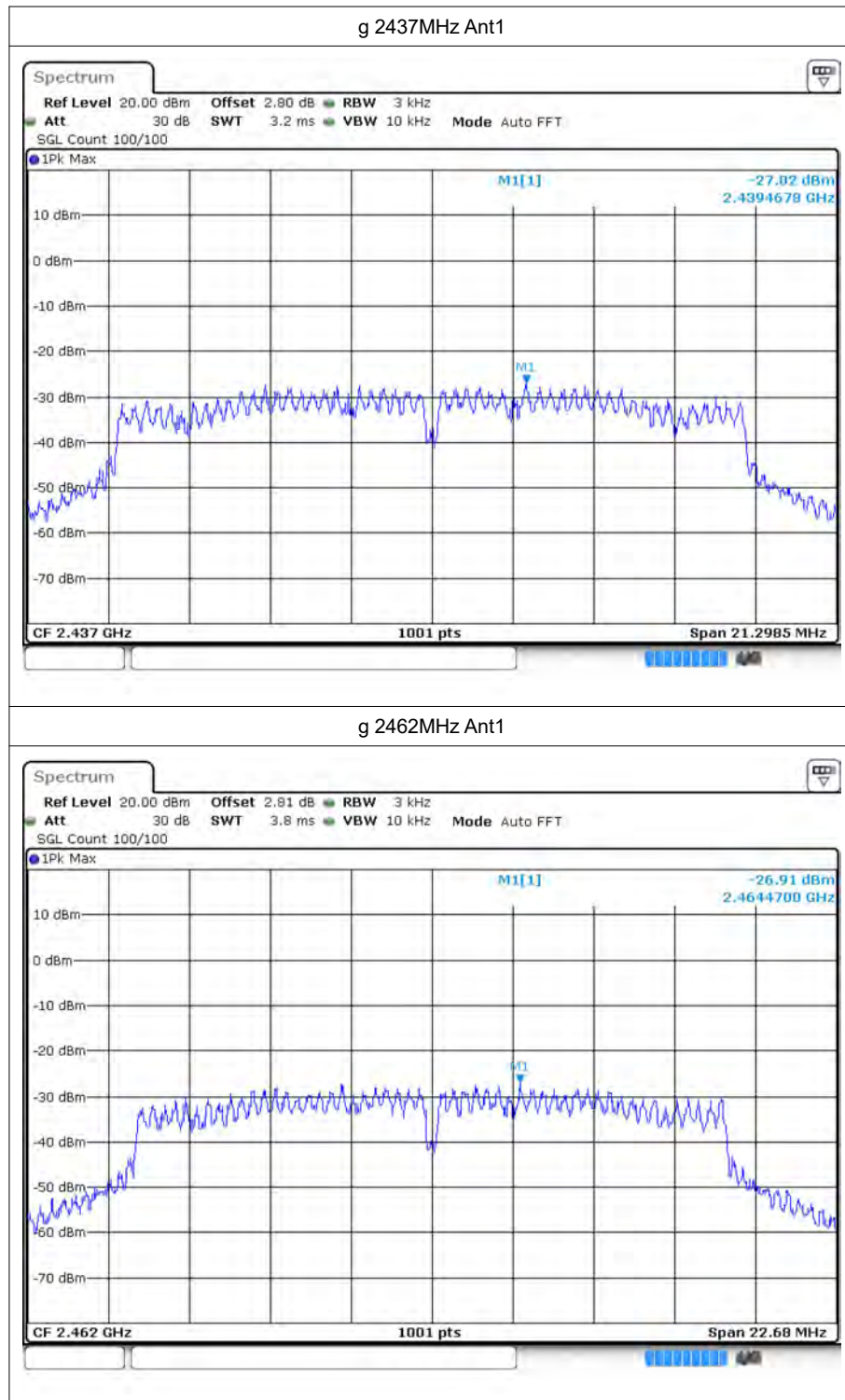
4.1 Test Result

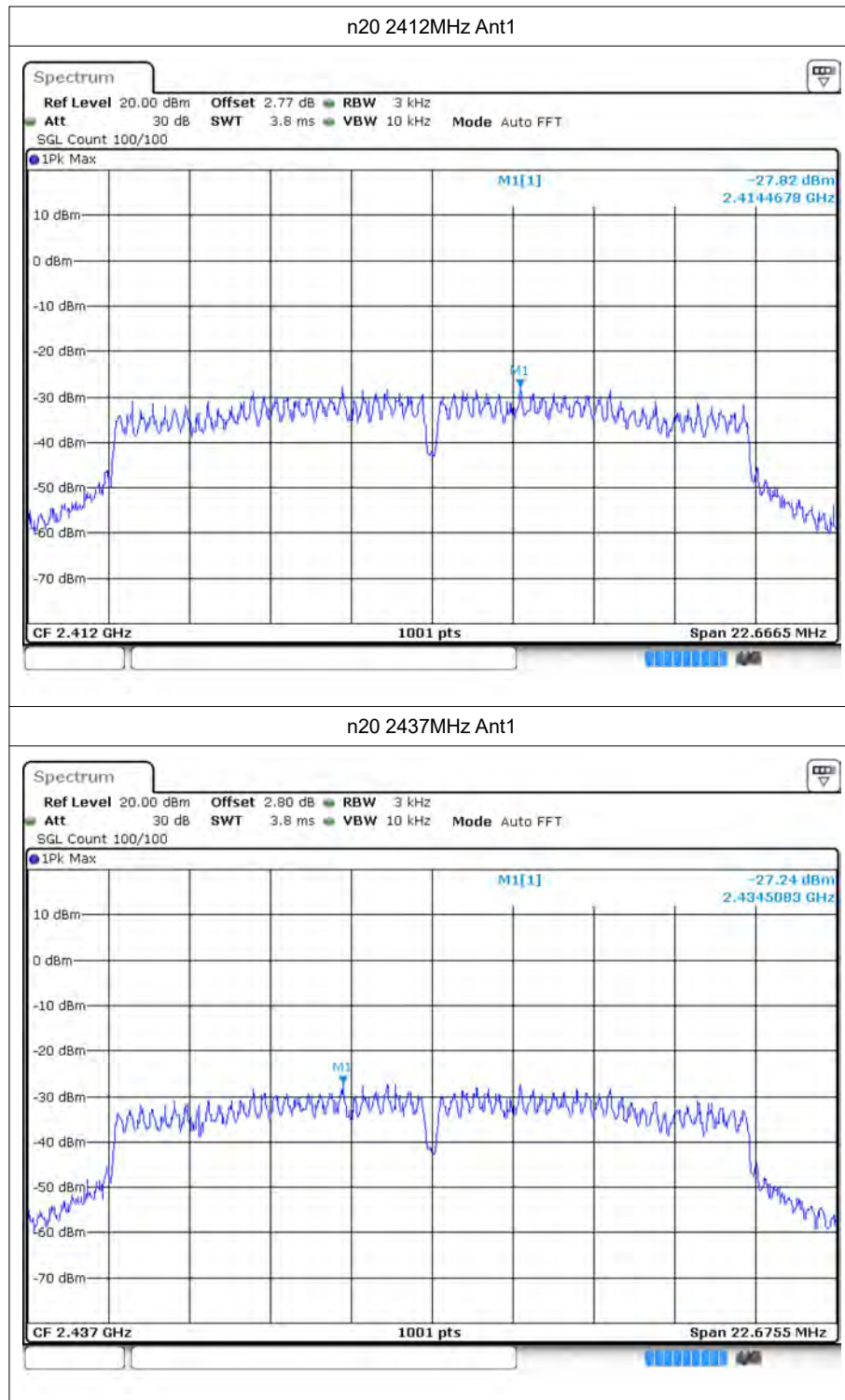
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-23.97	≤ 8	Pass
b	2437	Ant1	-24.49	≤ 8	Pass
b	2462	Ant1	-24.72	≤ 8	Pass
g	2412	Ant1	-27.47	≤ 8	Pass
g	2437	Ant1	-27.02	≤ 8	Pass
g	2462	Ant1	-26.91	≤ 8	Pass
n20	2412	Ant1	-27.82	≤ 8	Pass
n20	2437	Ant1	-27.24	≤ 8	Pass
n20	2462	Ant1	-27.3	≤ 8	Pass
n40	2422	Ant1	-32.65	≤ 8	Pass
n40	2437	Ant1	-32.34	≤ 8	Pass
n40	2452	Ant1	-31.62	≤ 8	Pass

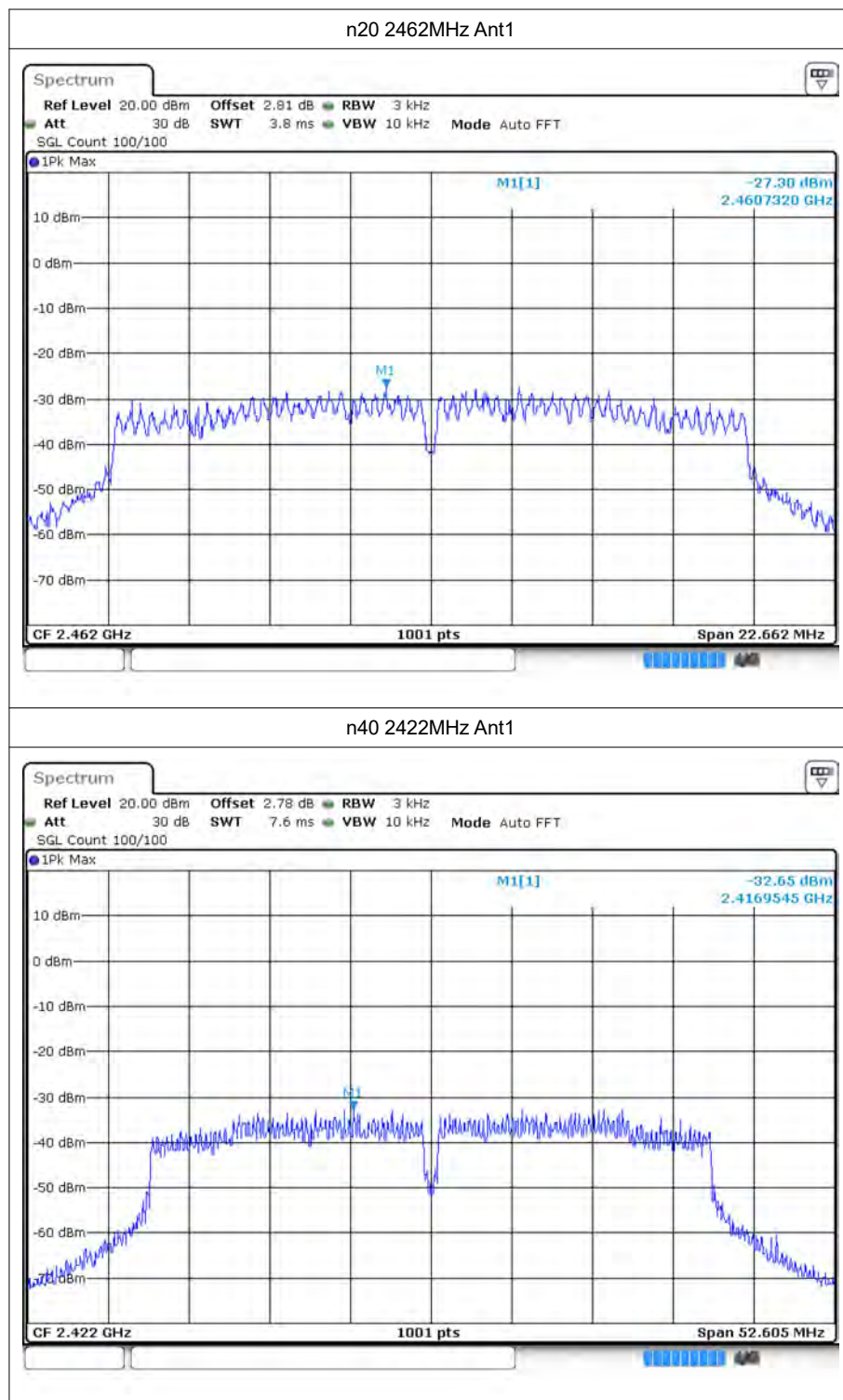
4.2 Test Graphs

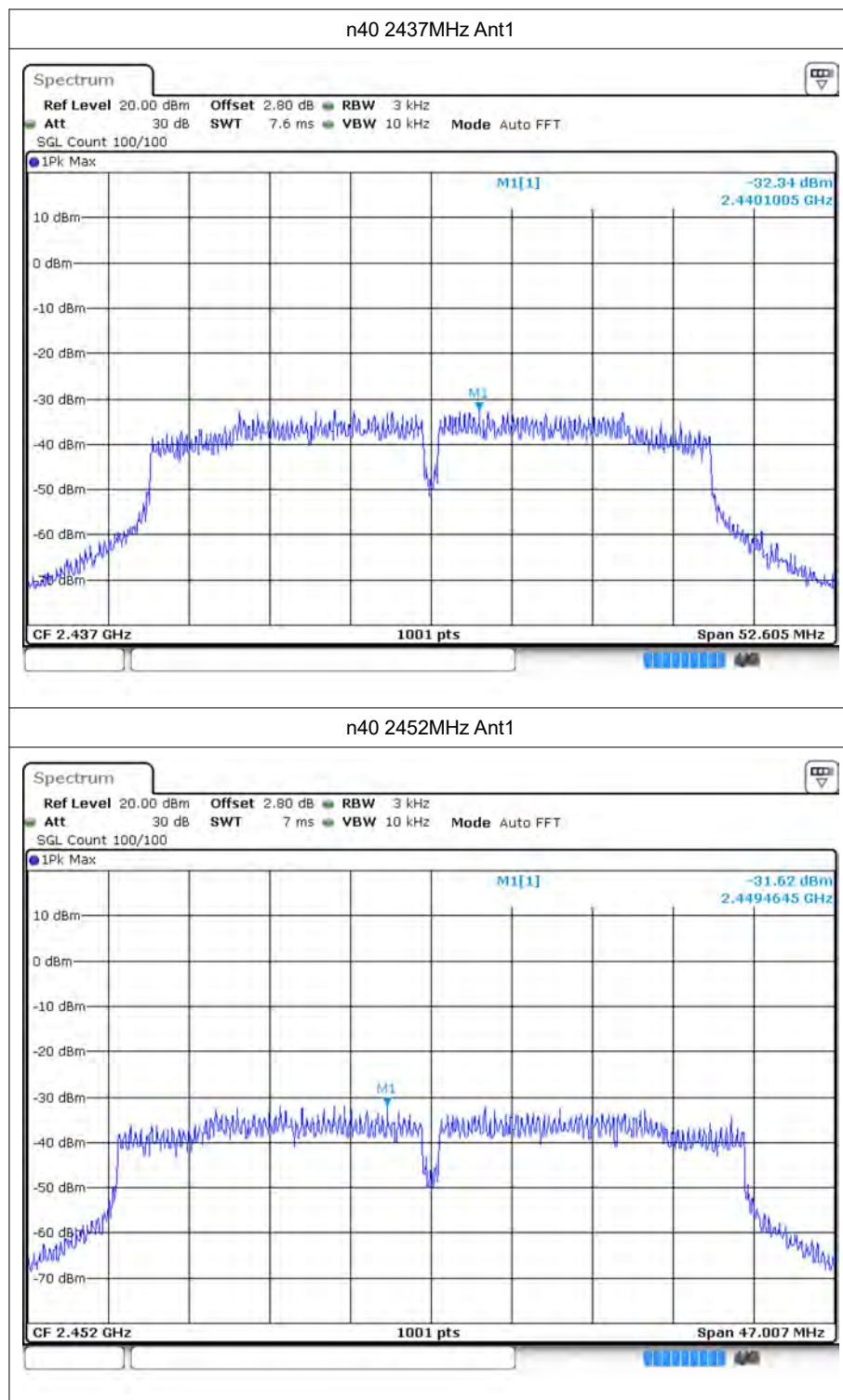












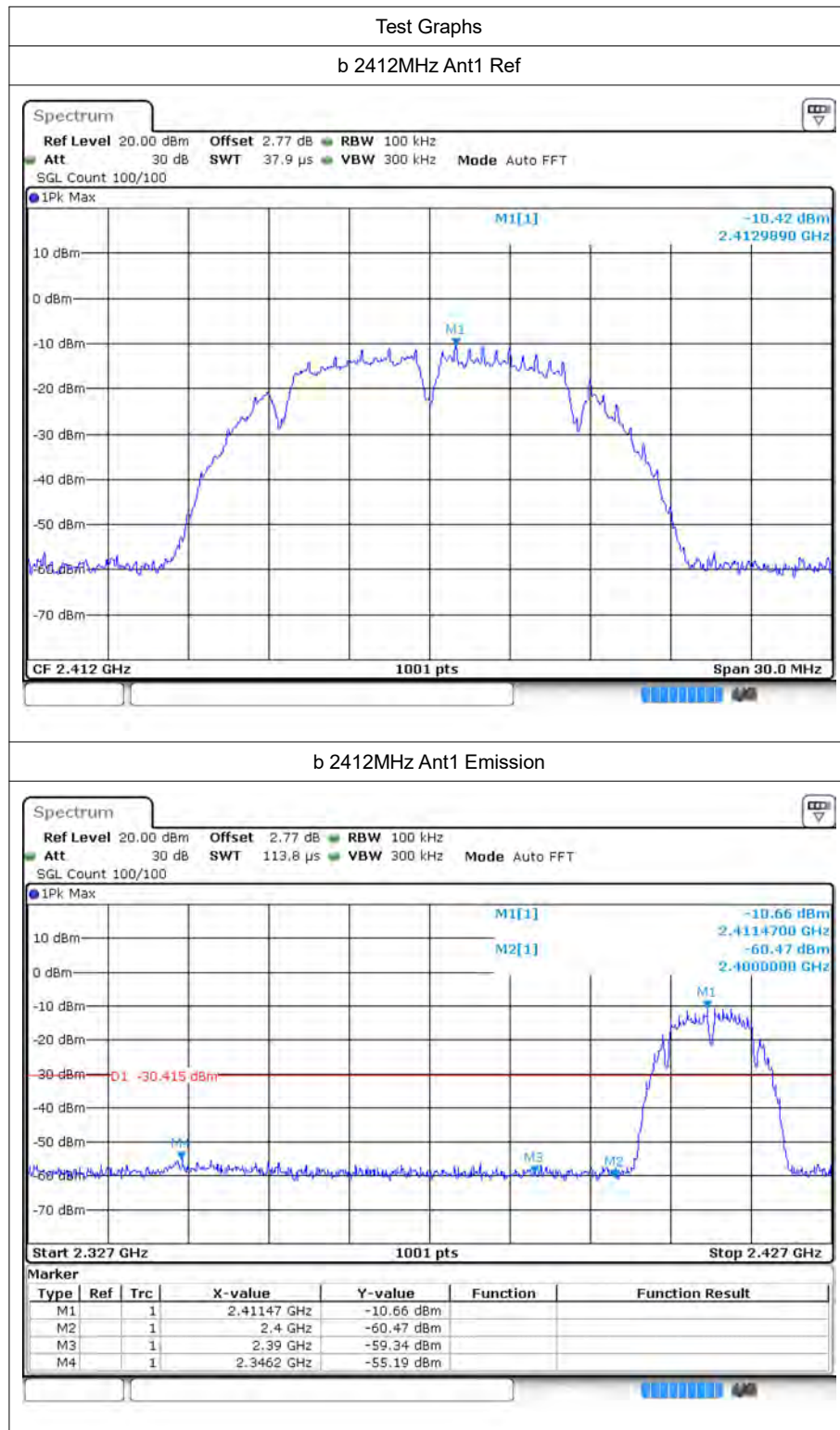


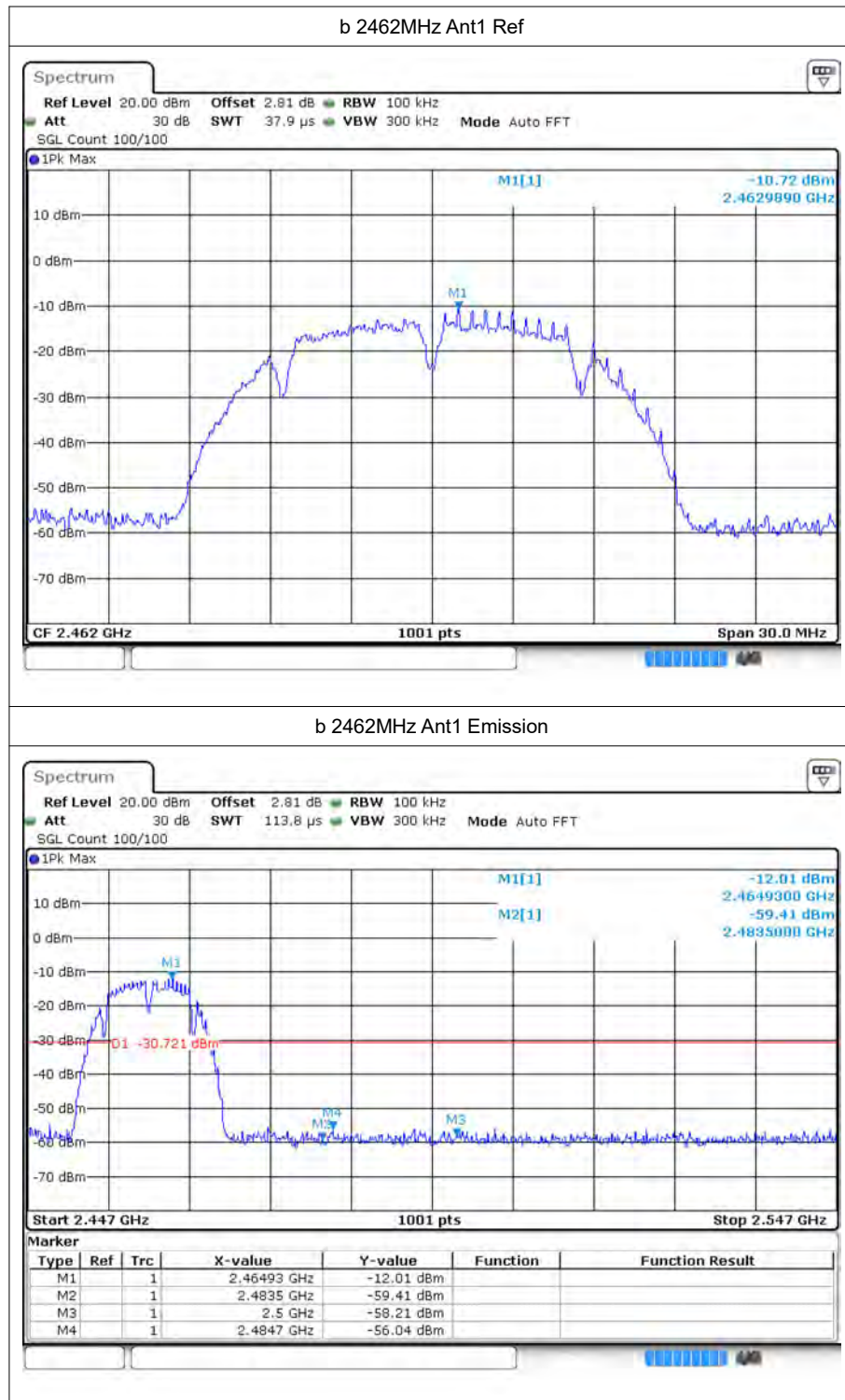
5 Band Edge

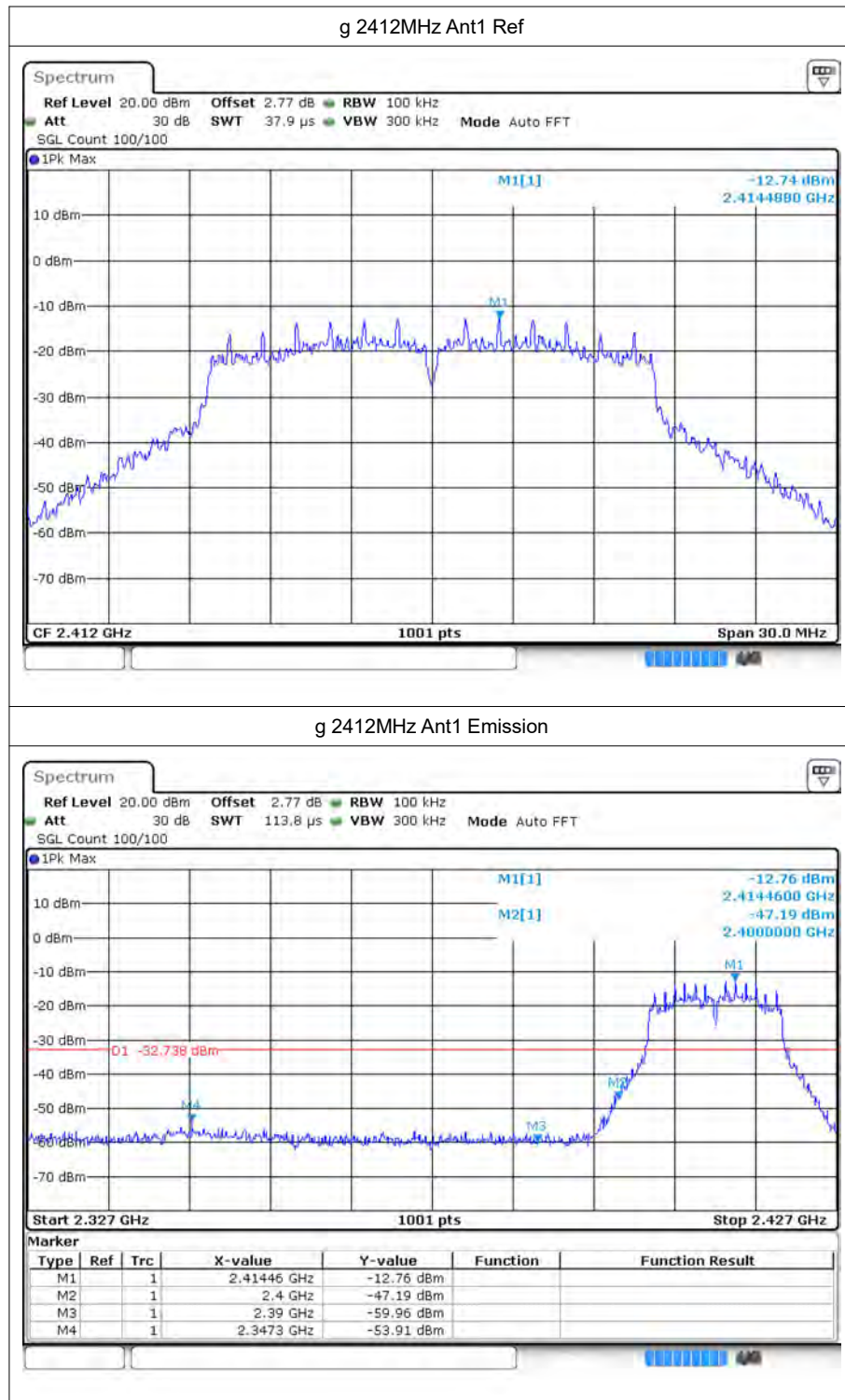
5.1 Test Result

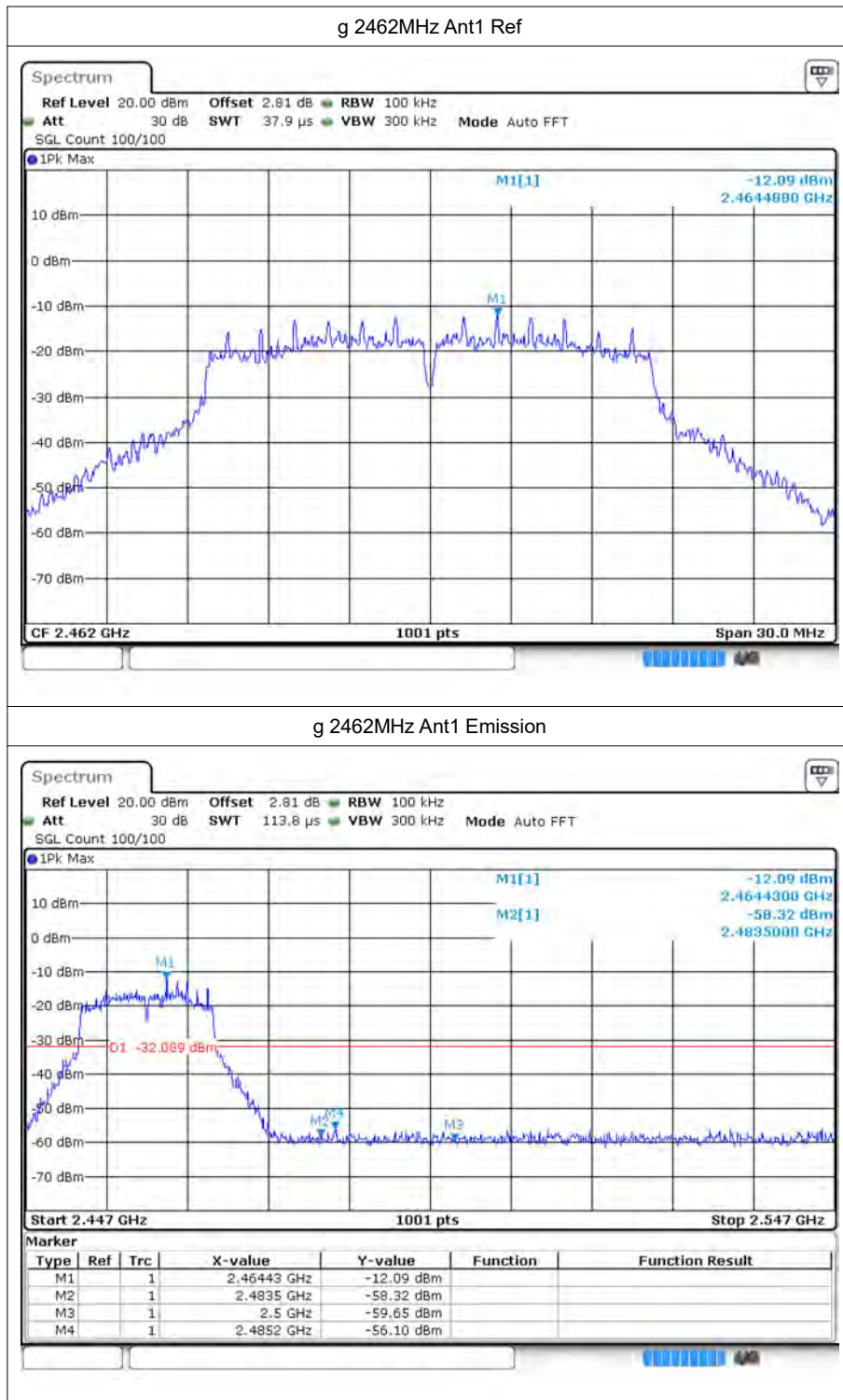
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-44.77	-20	Pass
b	2462	Ant1	-45.31	-20	Pass
g	2412	Ant1	-41.16	-20	Pass
g	2462	Ant1	-44.01	-20	Pass
n20	2412	Ant1	-41.26	-20	Pass
n20	2462	Ant1	-43.35	-20	Pass
n40	2422	Ant1	-37.3	-20	Pass
n40	2452	Ant1	-38.4	-20	Pass

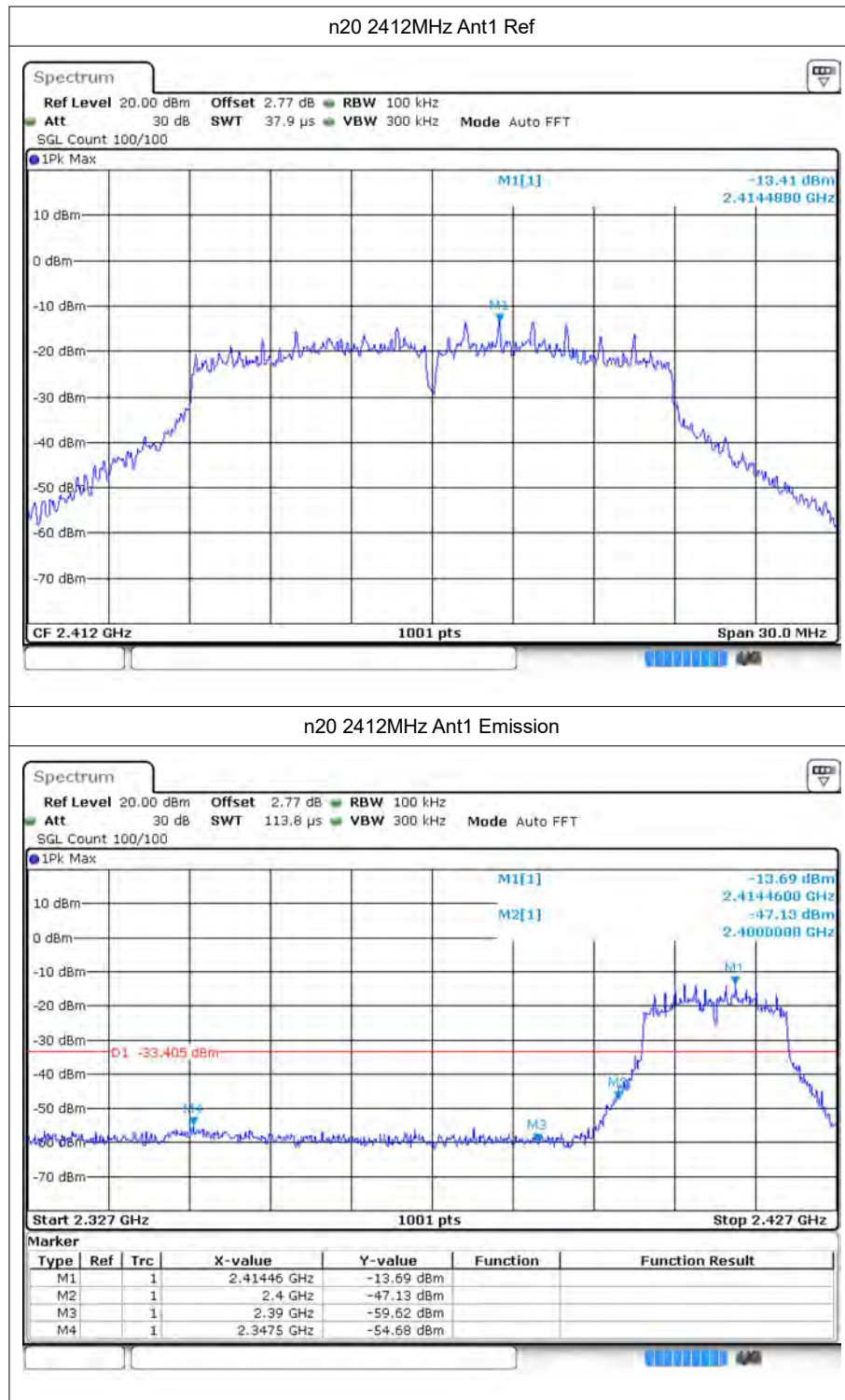
5.2 Test Graphs

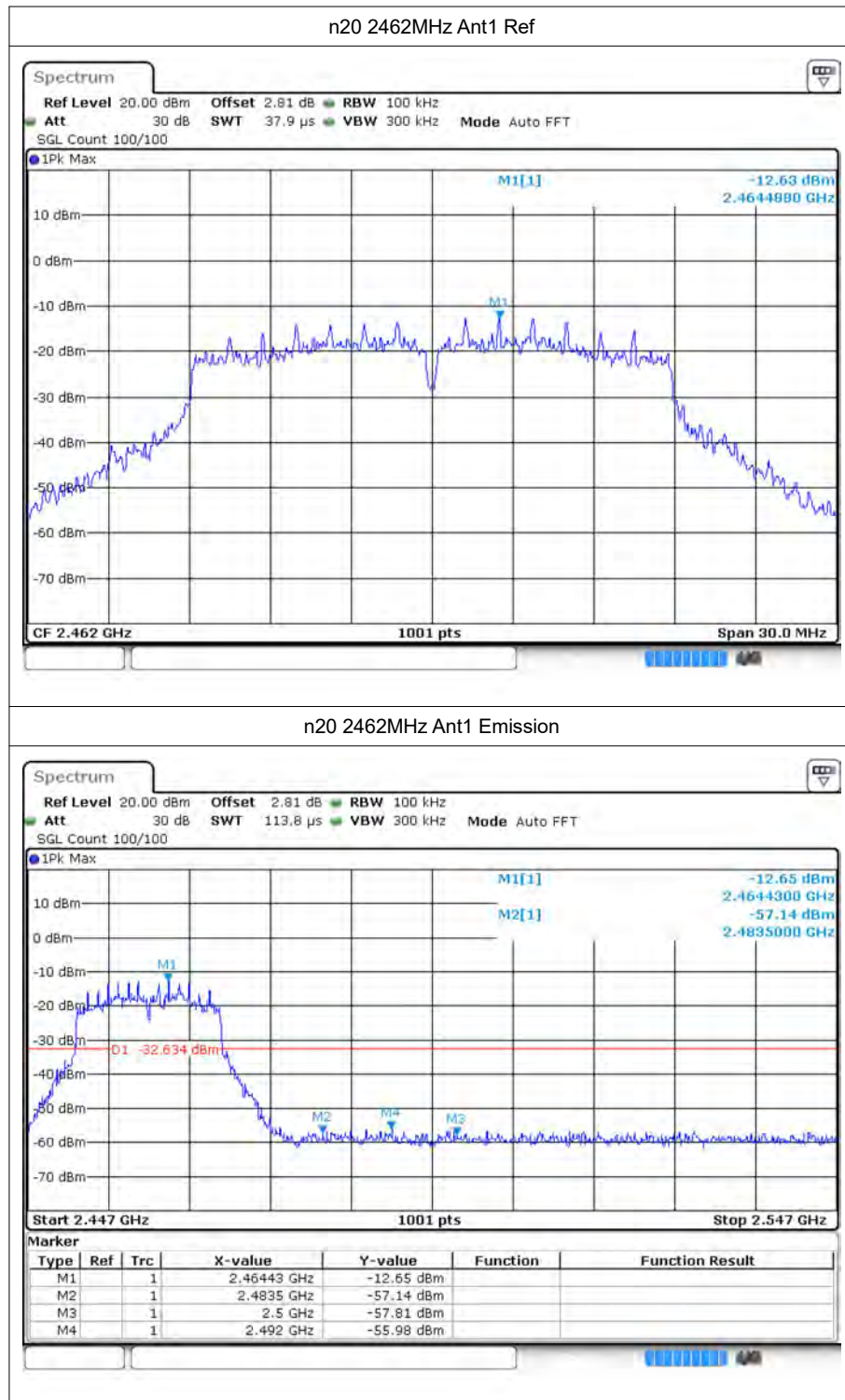


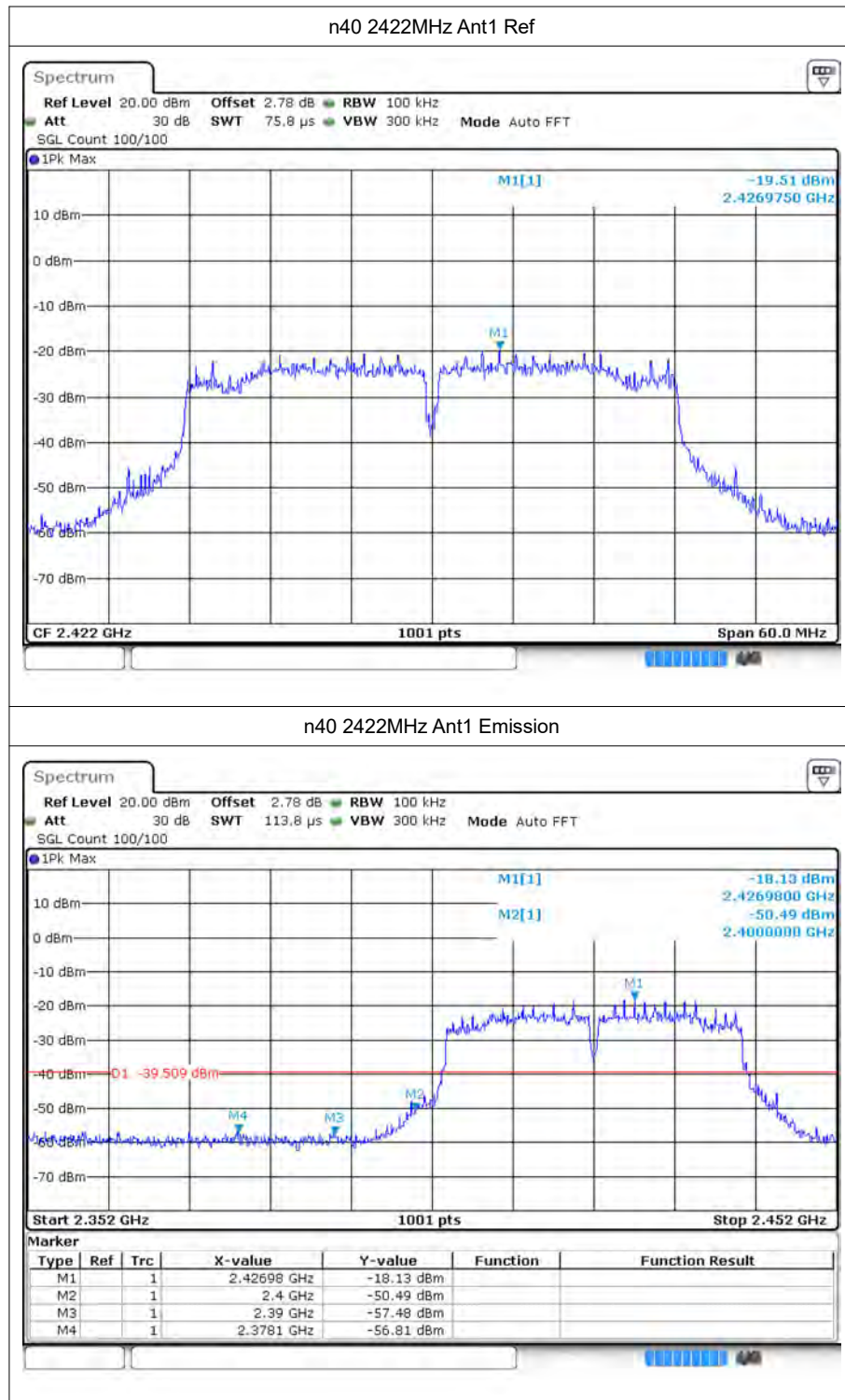


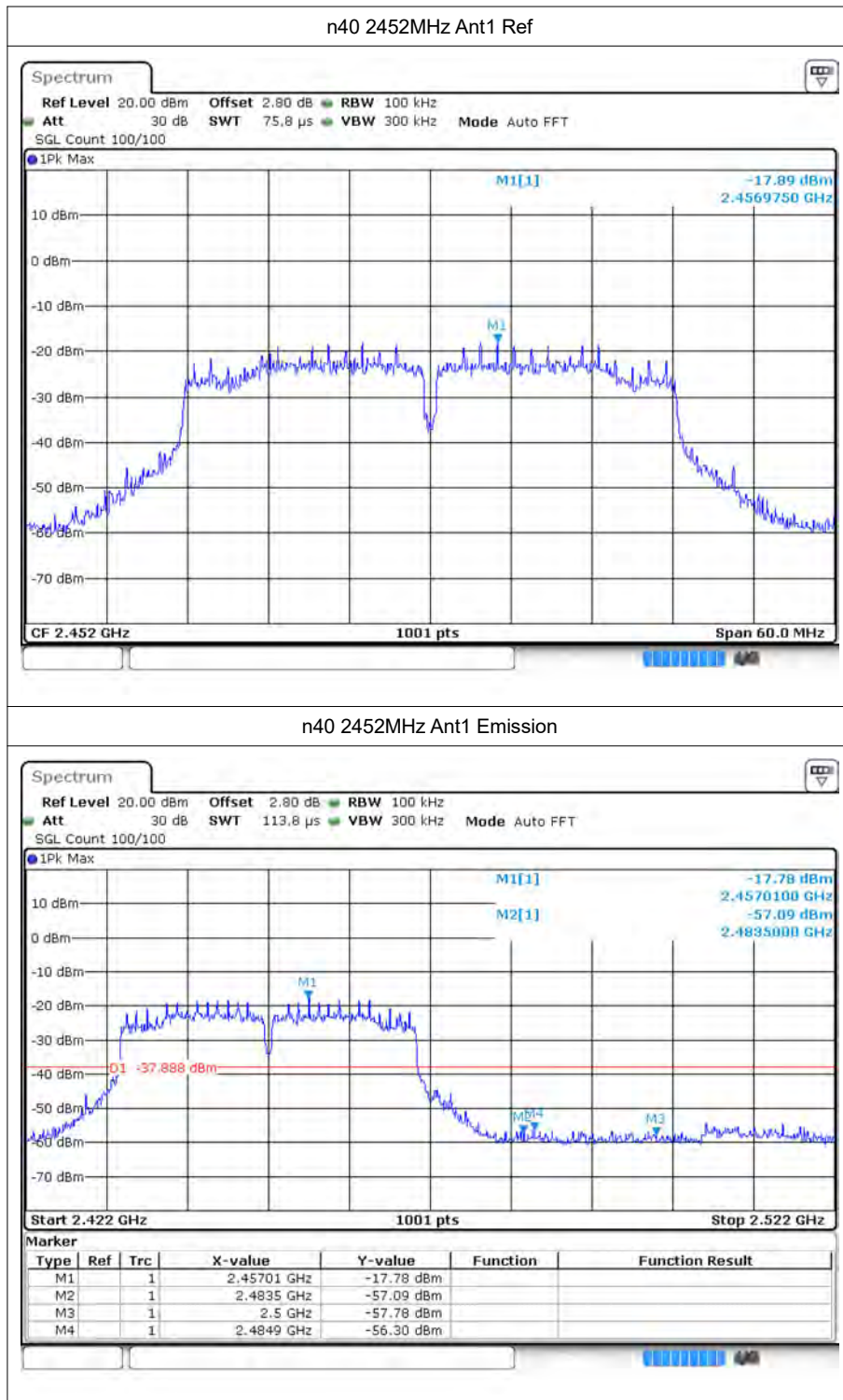












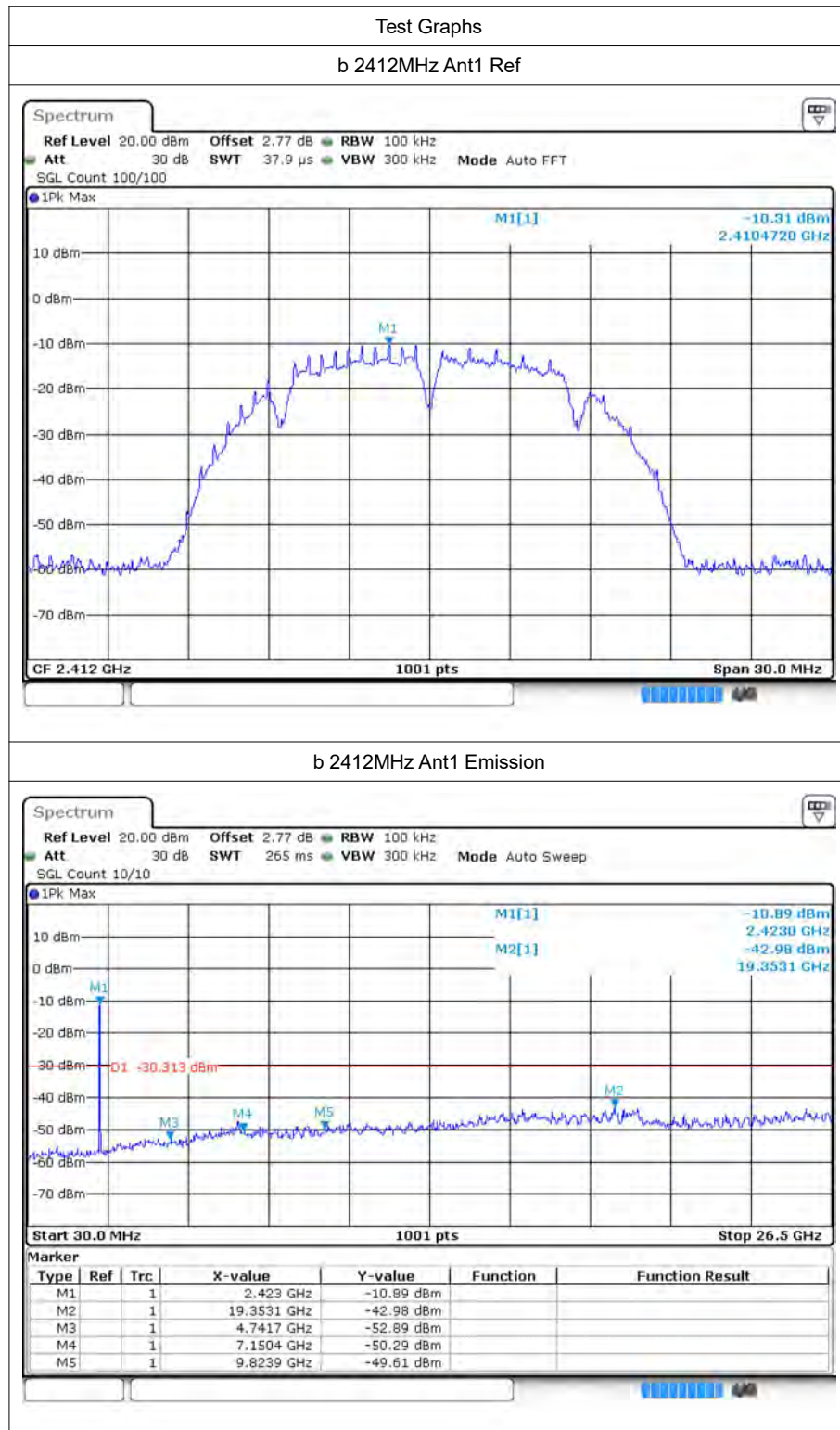


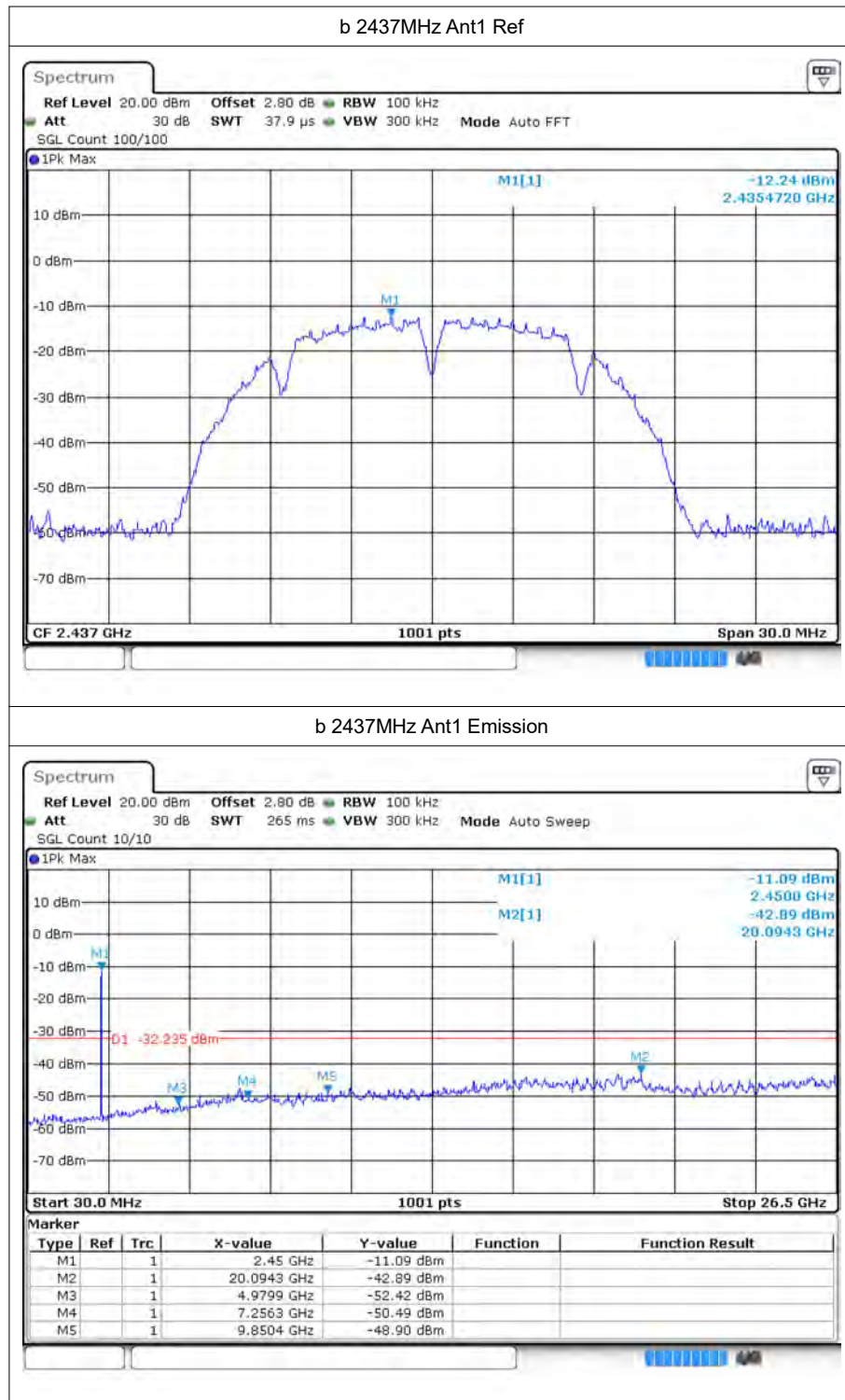
6 Conducted RF Spurious Emission

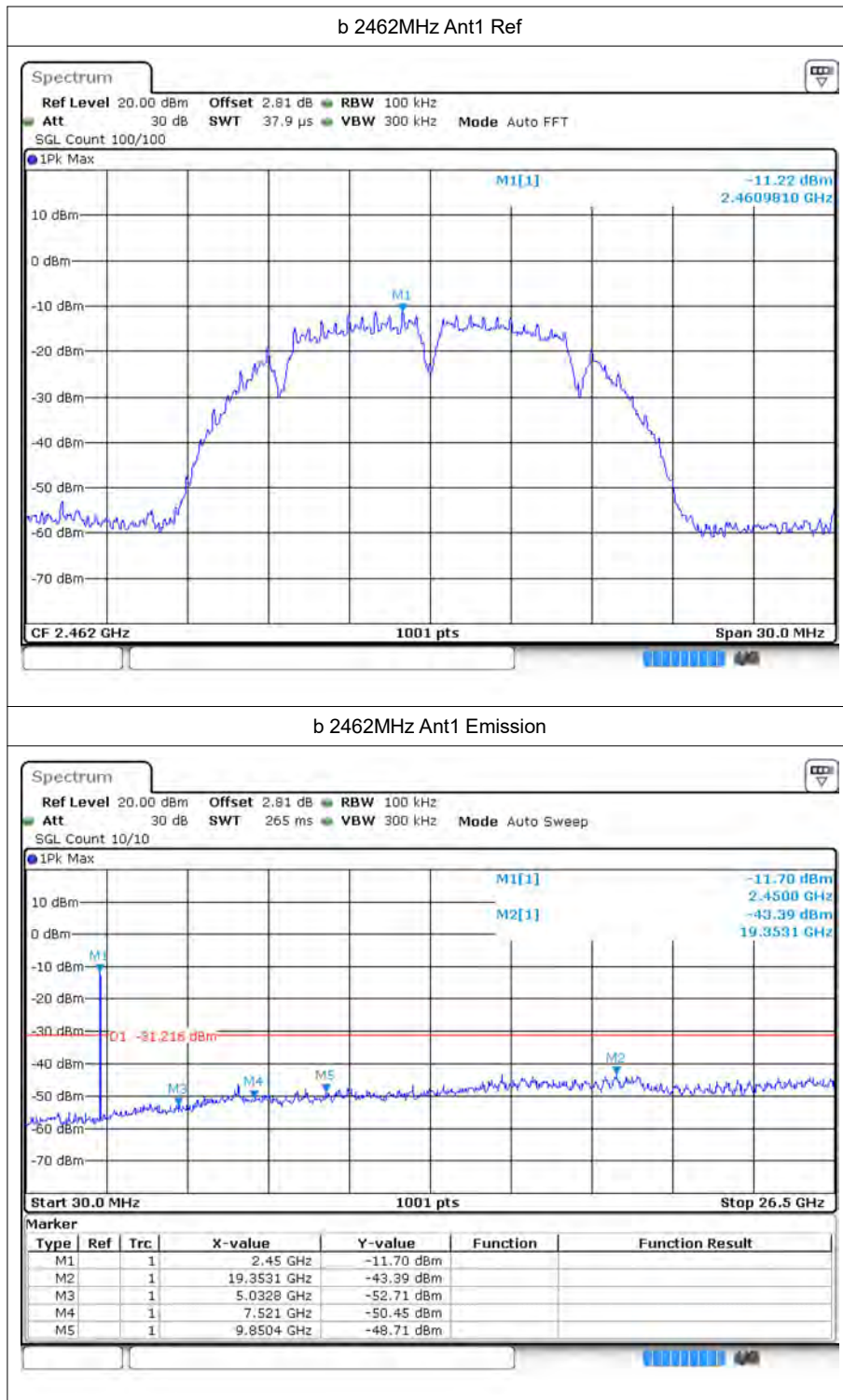
6.1 Test Result

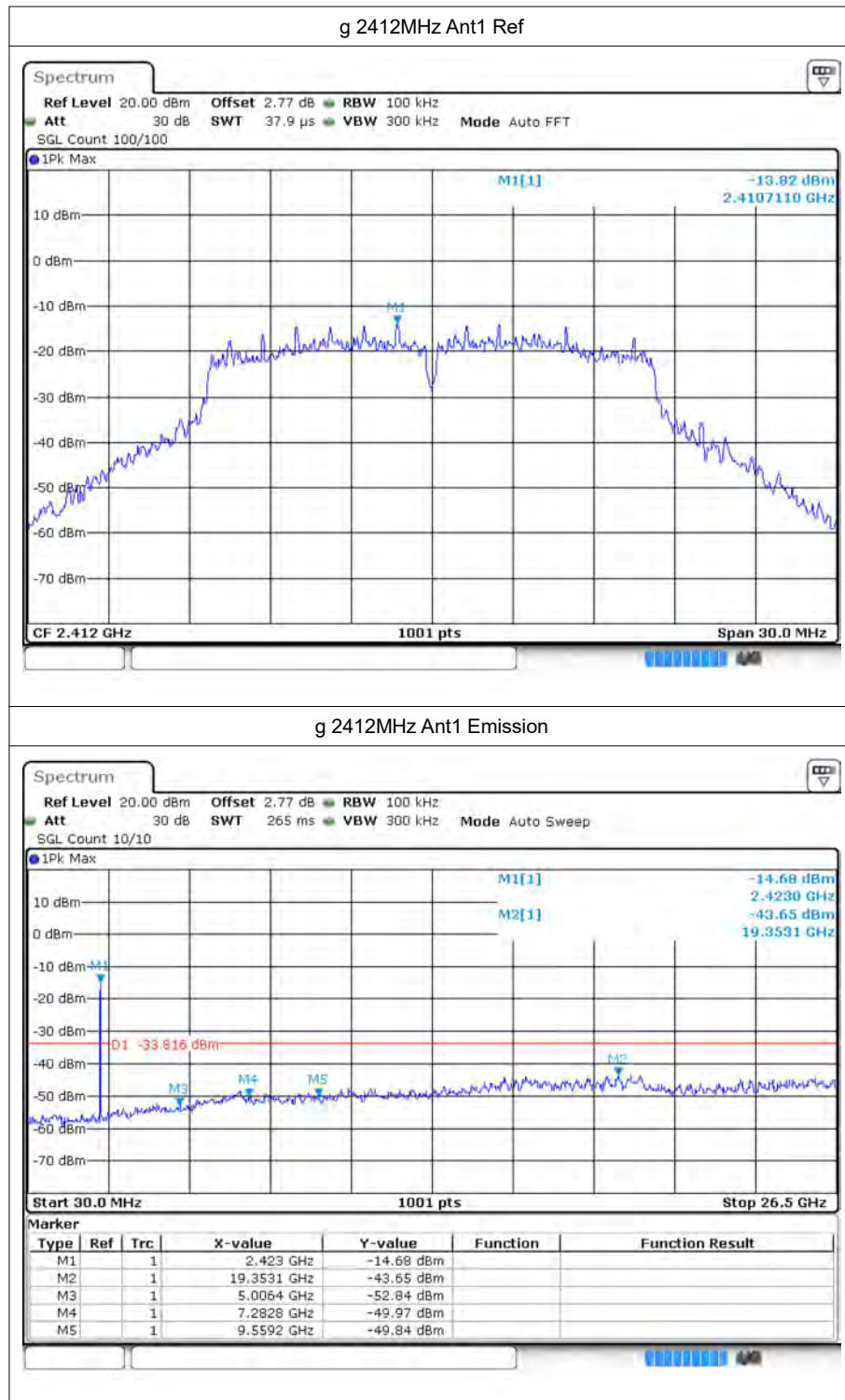
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-32.66	-20	Pass
b	2437	Ant1	-30.64	-20	Pass
b	2462	Ant1	-32.17	-20	Pass
g	2412	Ant1	-29.83	-20	Pass
g	2437	Ant1	-31.36	-20	Pass
g	2462	Ant1	-30.99	-20	Pass
n20	2412	Ant1	-29.75	-20	Pass
n20	2437	Ant1	-30.28	-20	Pass
n20	2462	Ant1	-30.15	-20	Pass
n40	2422	Ant1	-24.25	-20	Pass
n40	2437	Ant1	-25.34	-20	Pass
n40	2452	Ant1	-23.67	-20	Pass

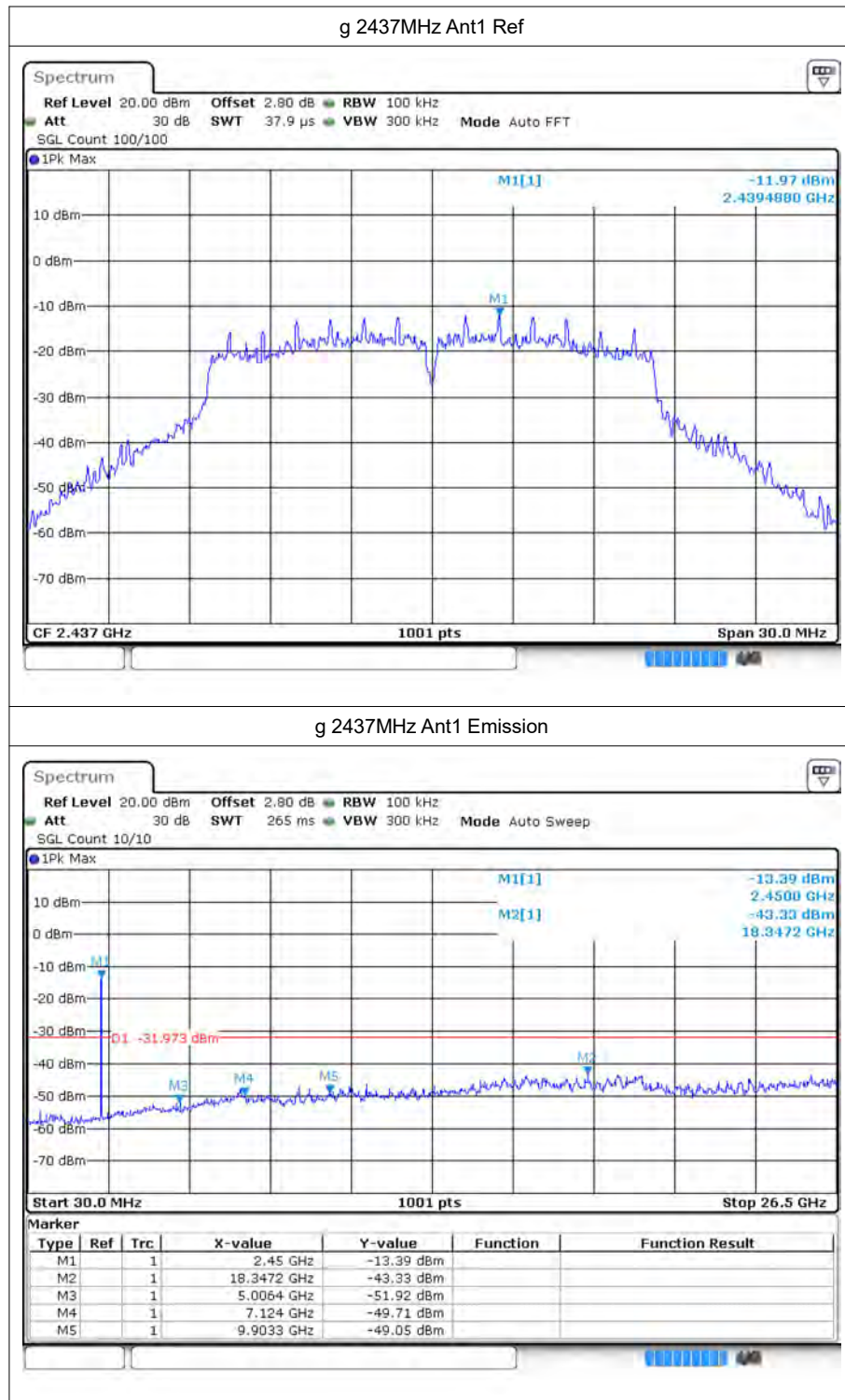
6.2 Test Graphs

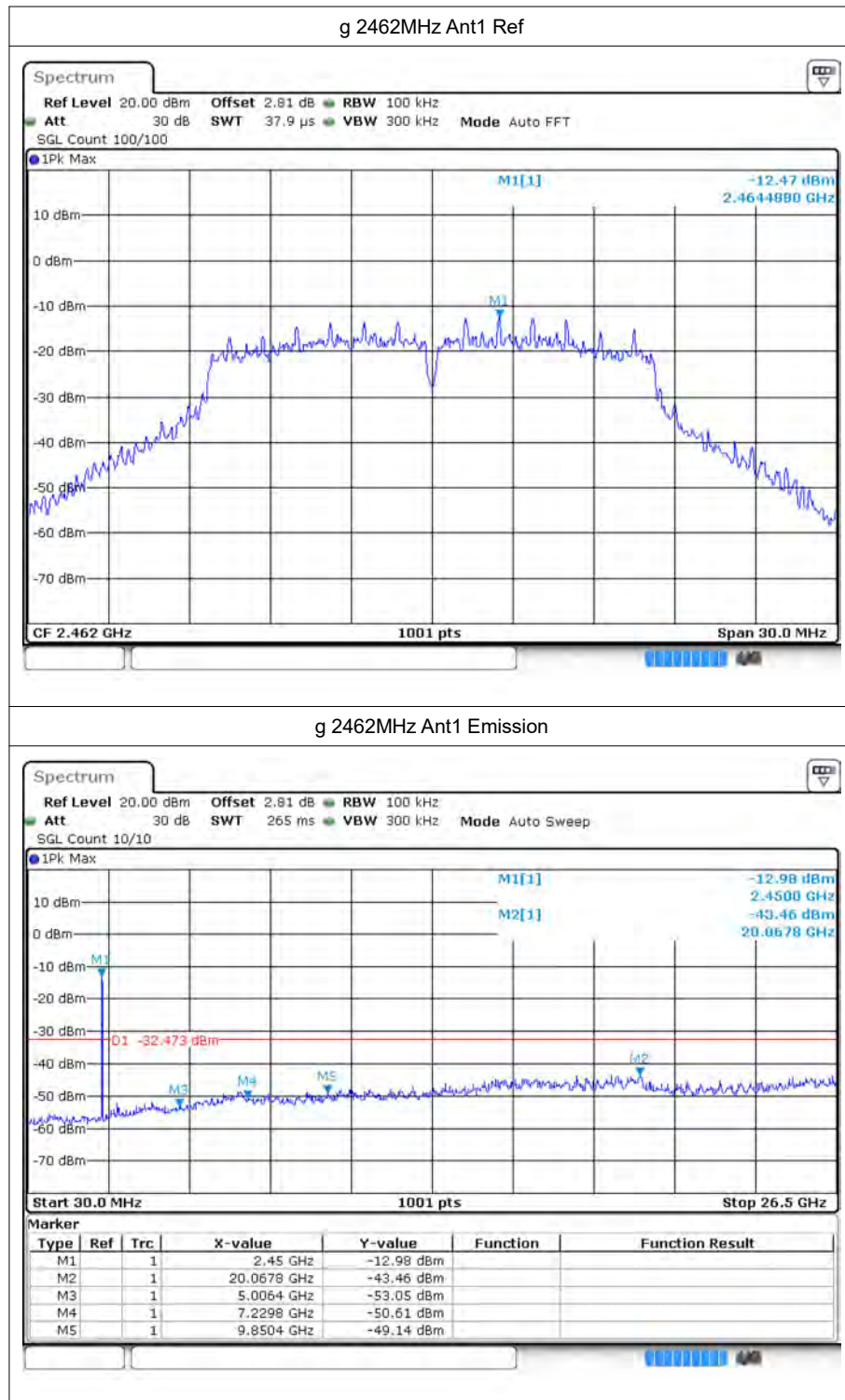


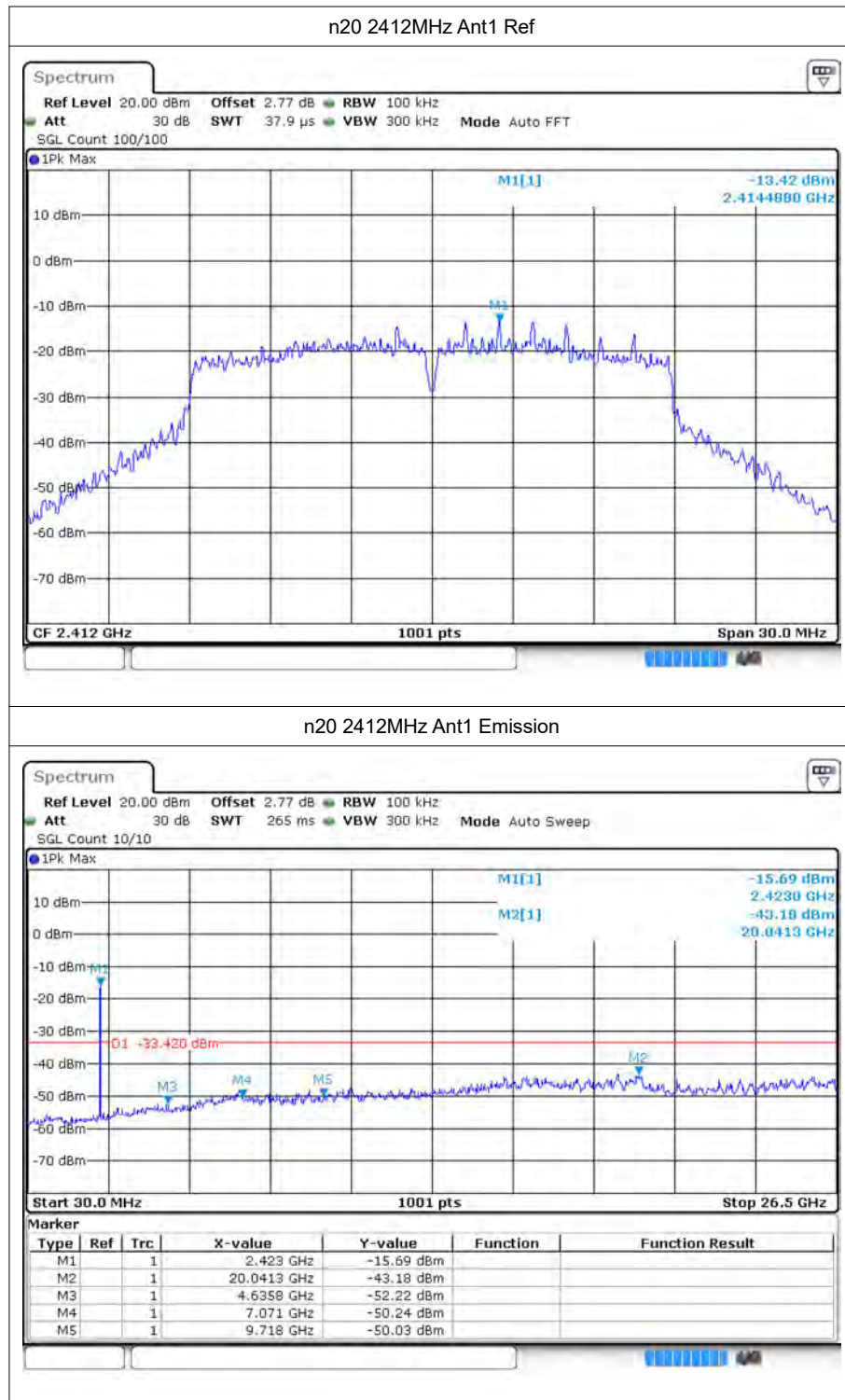


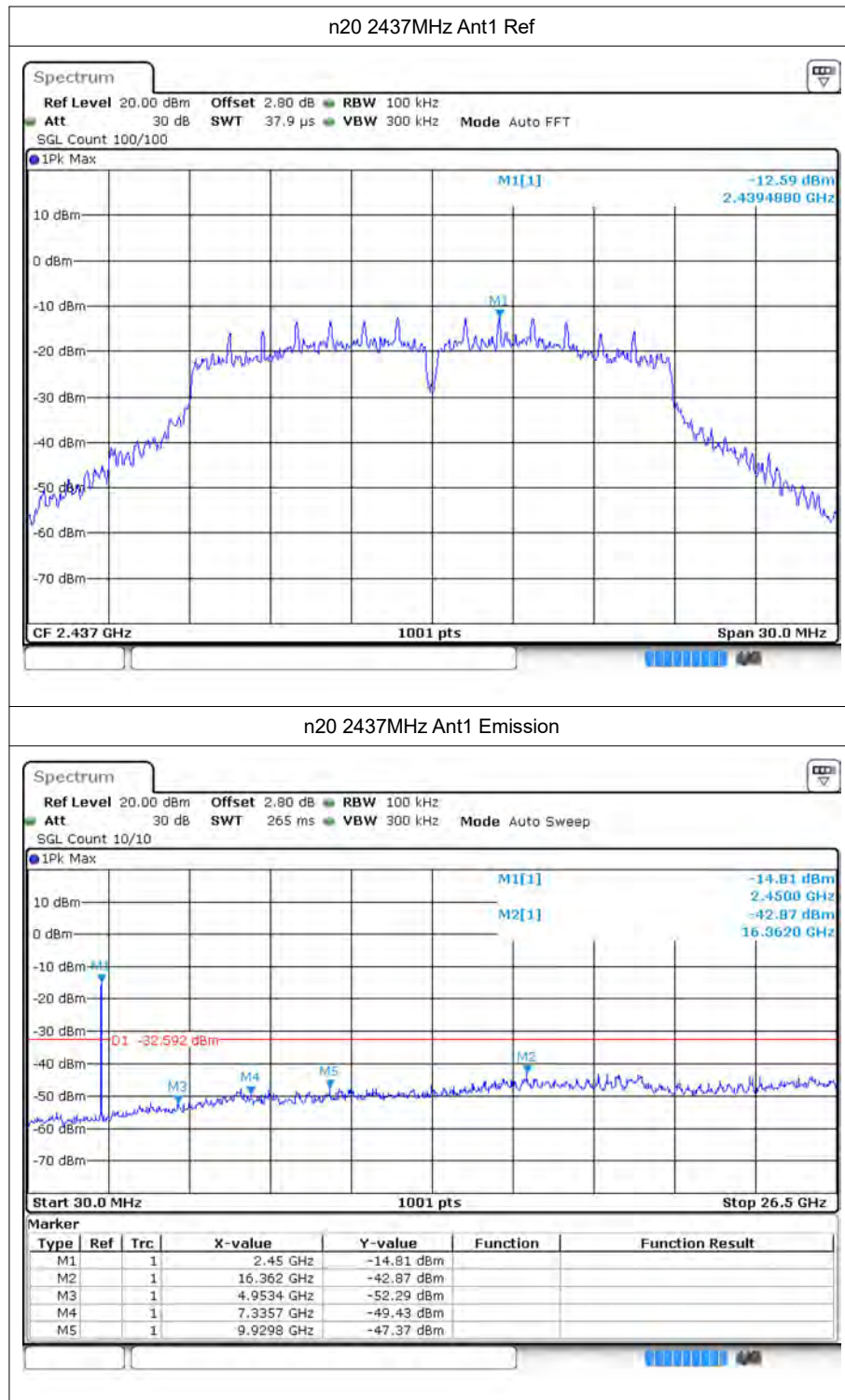


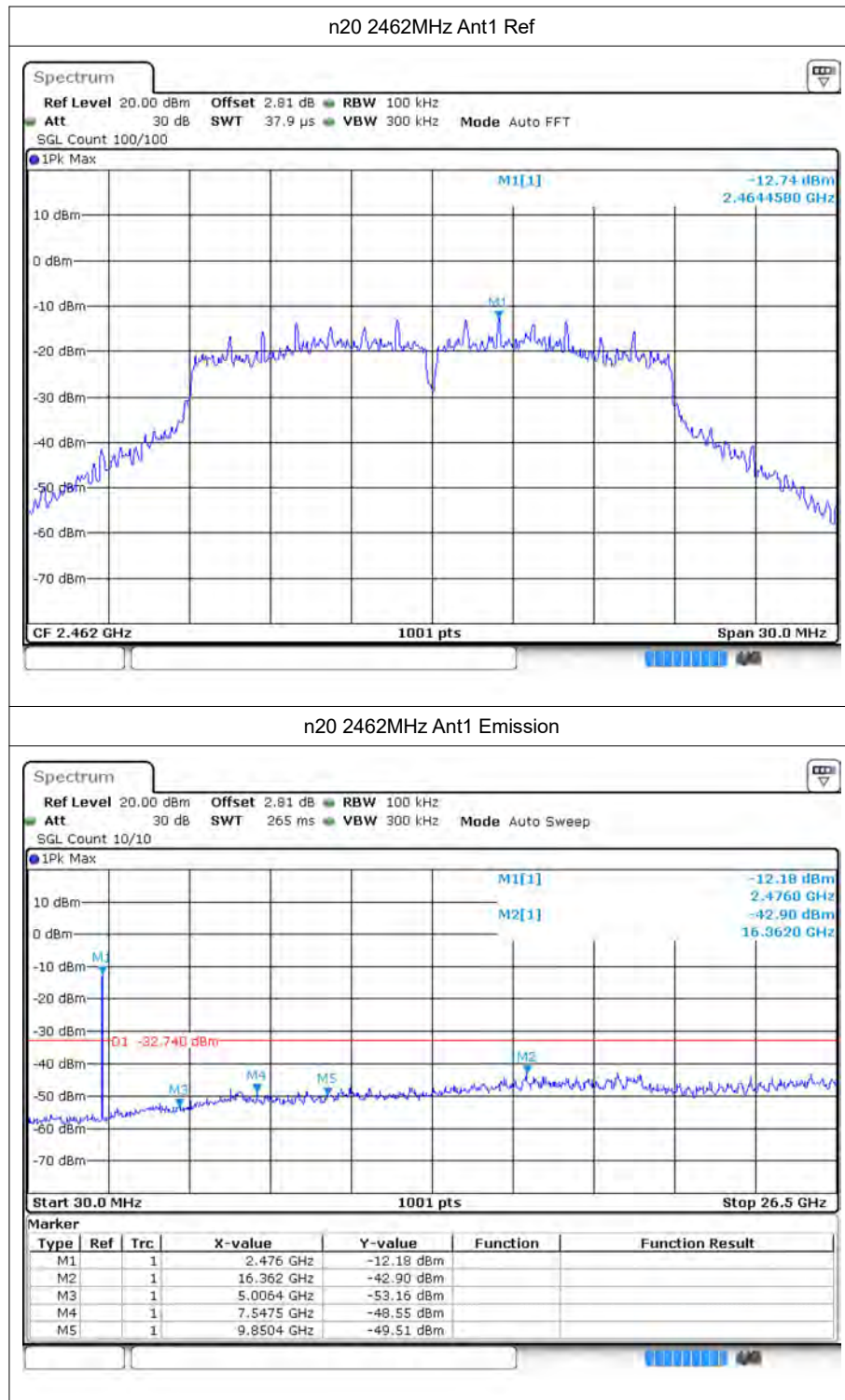


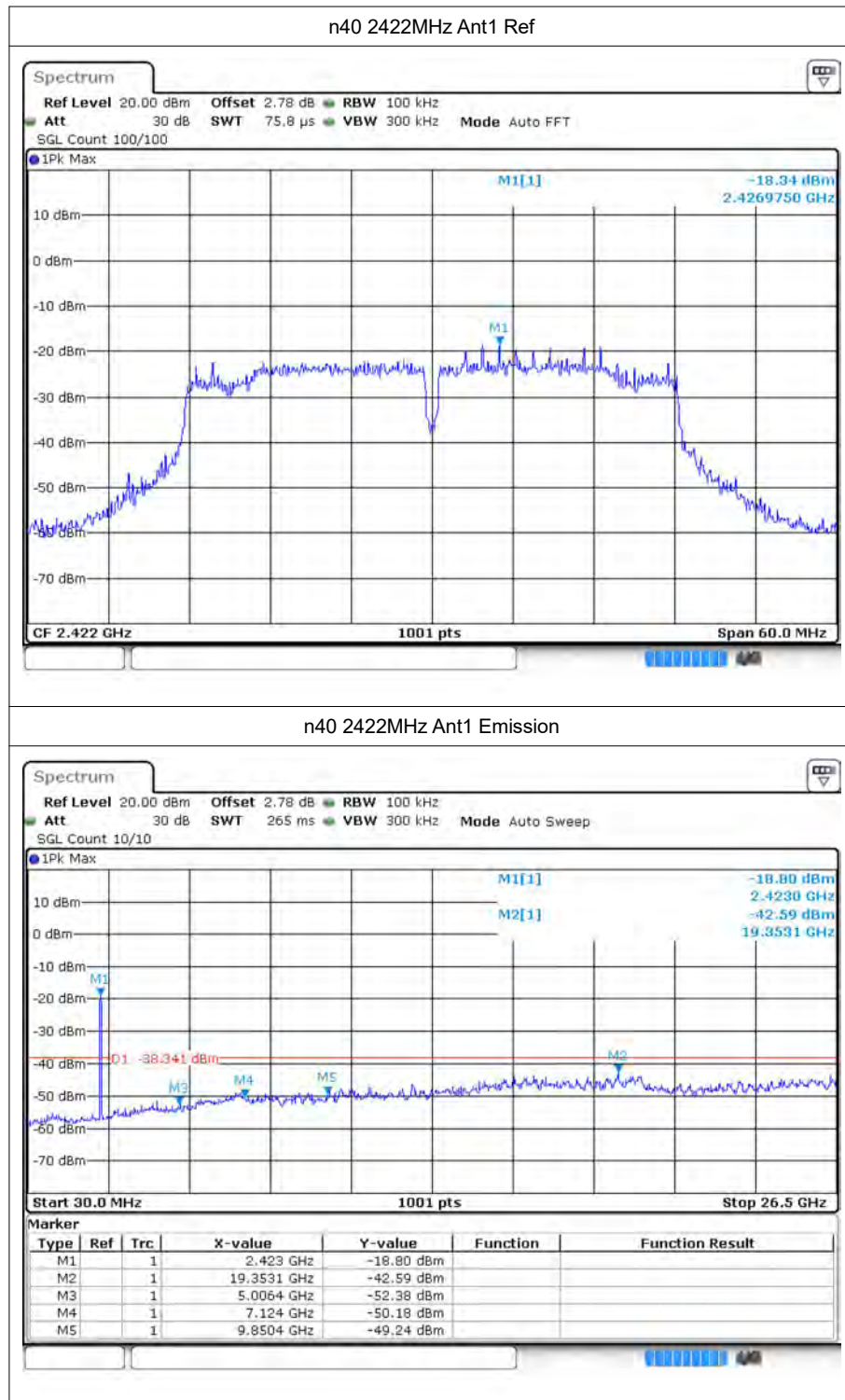


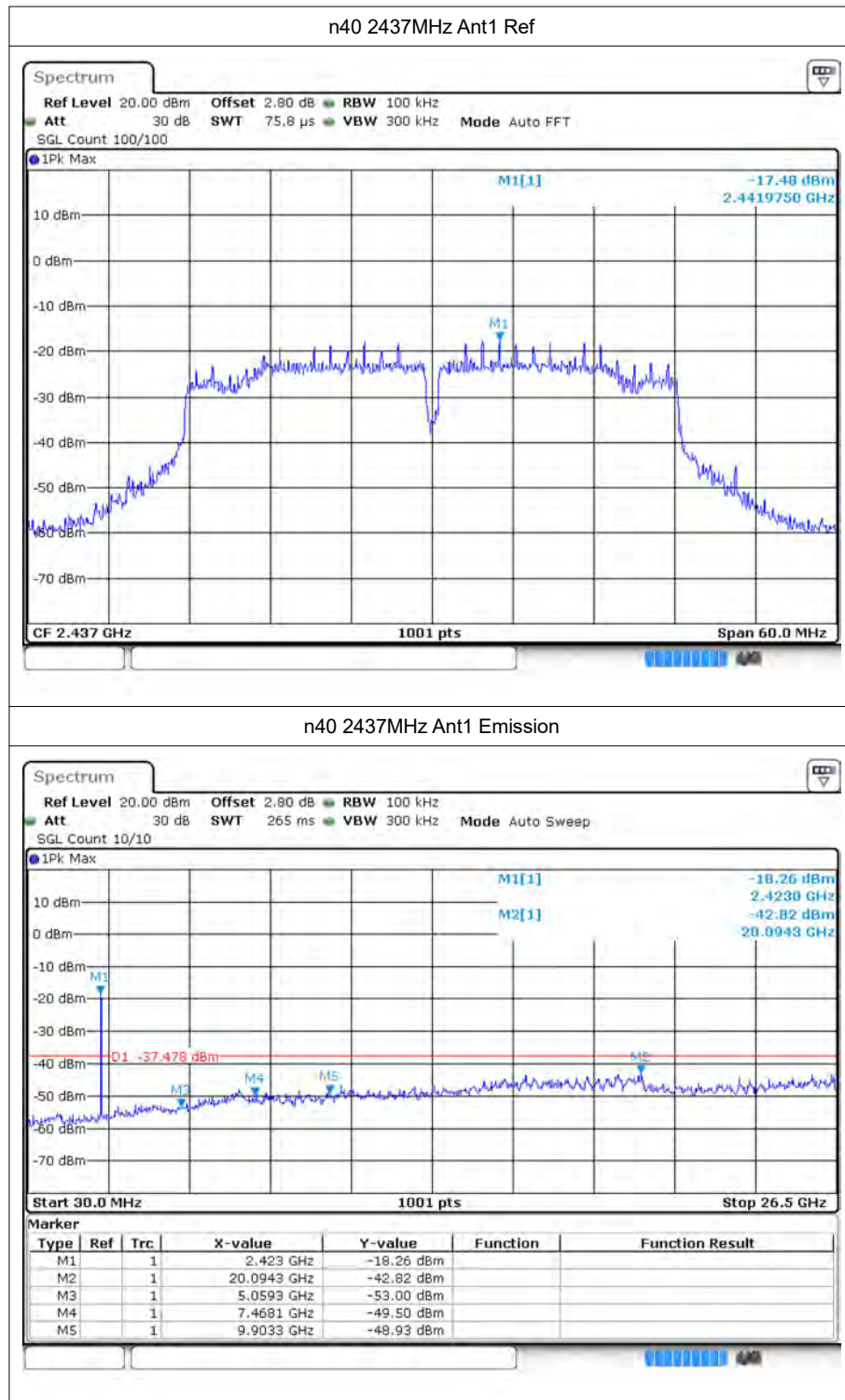


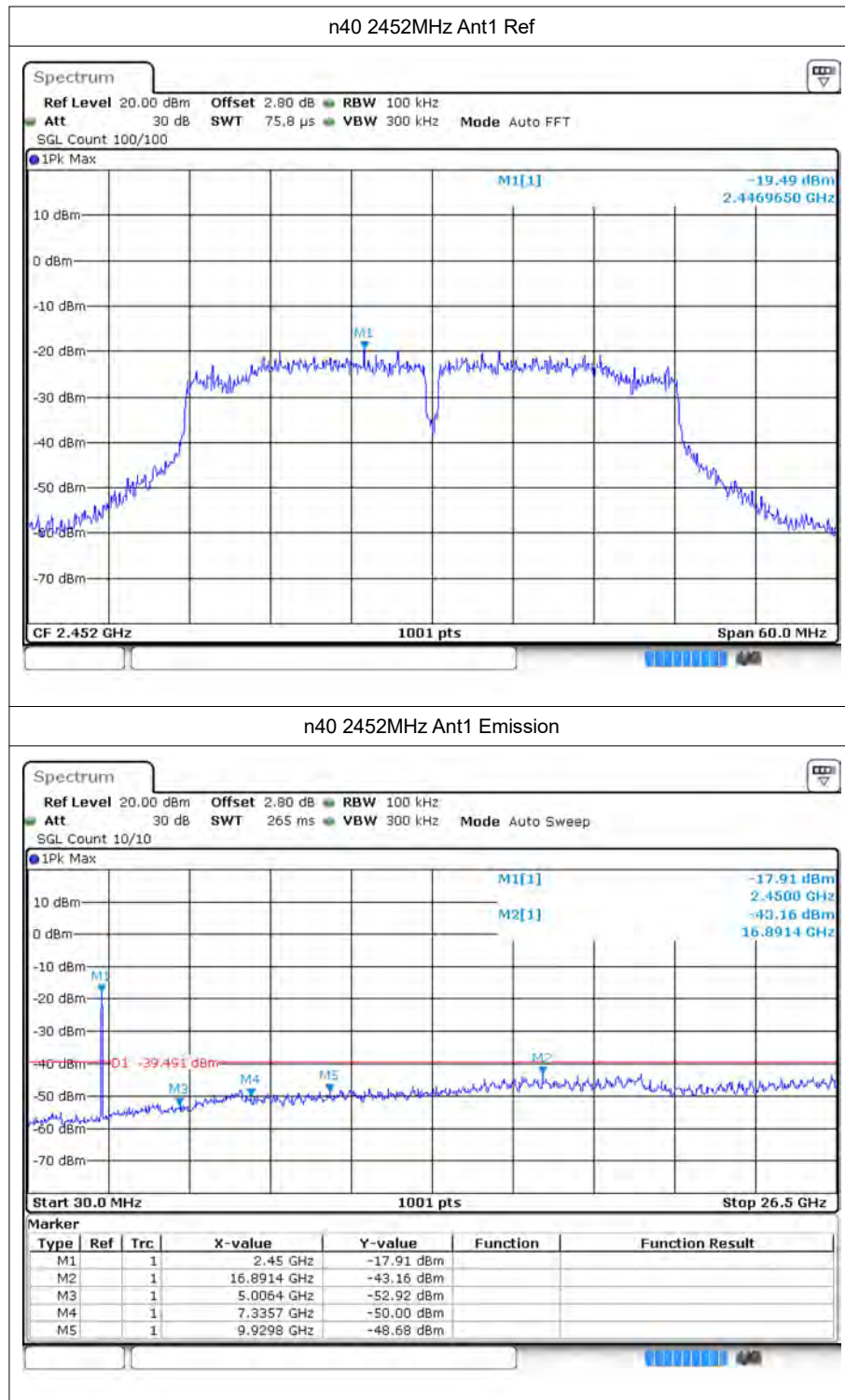














7 Restrict Band

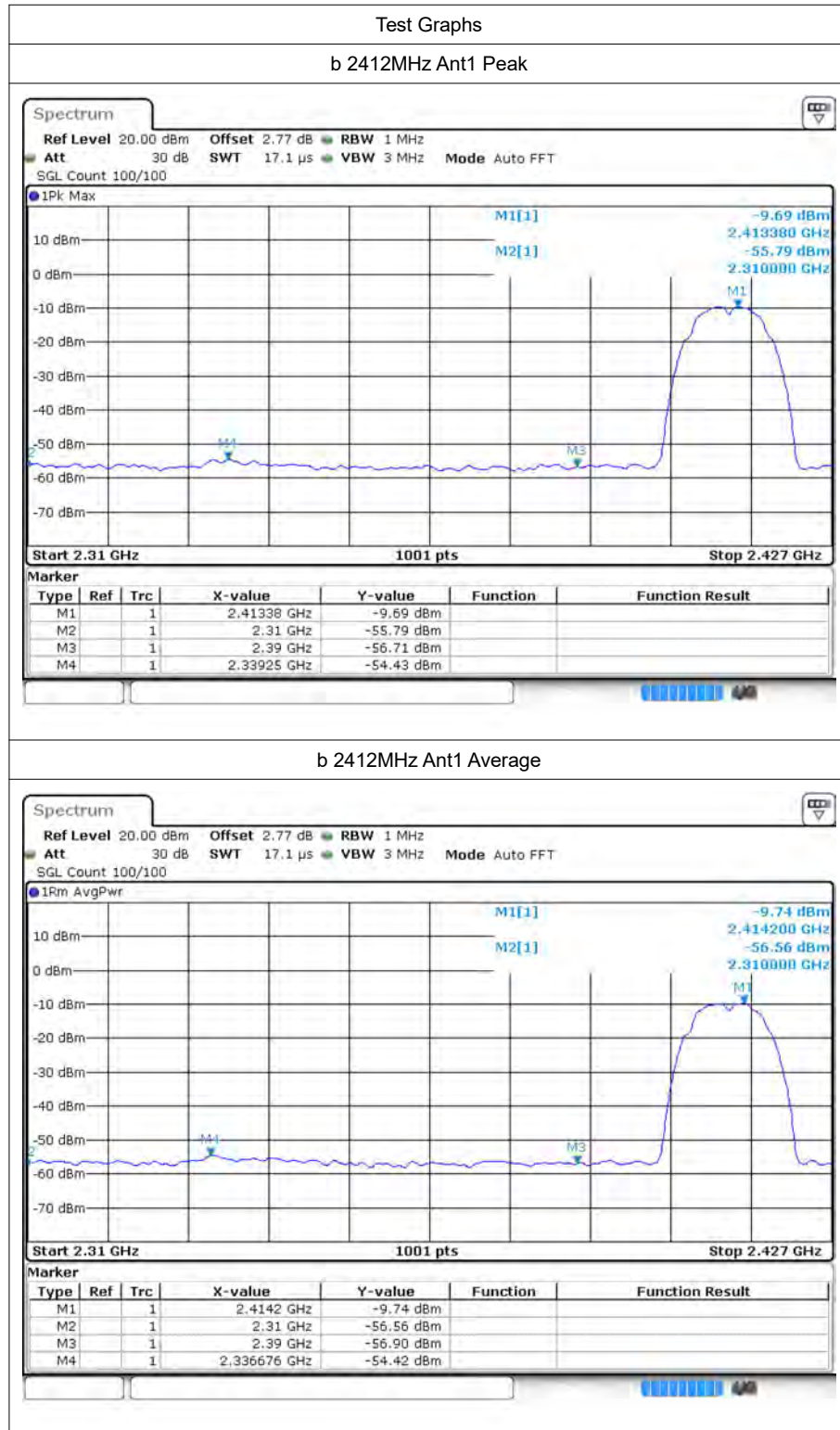
7.1 Test Result

Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
b	2412	Ant1	2310	-55.79	2	-	41.47	Peak	74	Pass
b	2412	Ant1	2310	-56.56	2	0	40.7	Average	54	Pass
b	2412	Ant1	2339.25	-54.42	2	-	42.84	Peak	74	Pass
b	2412	Ant1	2336.676	-54.42	2	0	42.84	Average	54	Pass
b	2412	Ant1	2390	-56.71	2	-	40.55	Peak	74	Pass
b	2412	Ant1	2390	-56.9	2	0	40.36	Average	54	Pass
b	2462	Ant1	2483.5	-48.5	2	-	48.76	Peak	74	Pass
b	2462	Ant1	2483.5	-56.38	2	0	40.88	Average	54	Pass
b	2462	Ant1	2495.124	-47.8	2	-	49.46	Peak	74	Pass
b	2462	Ant1	2488.976	-55.21	2	0	42.05	Average	54	Pass
b	2462	Ant1	2500	-48.59	2	-	48.67	Peak	74	Pass
b	2462	Ant1	2500	-56.42	2	0	40.84	Average	54	Pass
g	2412	Ant1	2310	-48.05	2	-	49.21	Peak	74	Pass
g	2412	Ant1	2310	-57.01	2	0.62	40.87	Average	54	Pass
g	2412	Ant1	2336.676	-45.46	2	-	51.8	Peak	74	Pass
g	2412	Ant1	2340.654	-55.04	2	0.62	42.84	Average	54	Pass
g	2412	Ant1	2390	-48.95	2	-	40.55	Peak	74	Pass
g	2412	Ant1	2390	-56.73	2	0.62	41.15	Average	54	Pass
g	2462	Ant1	2483.5	-49.49	2	-	47.77	Peak	74	Pass
g	2462	Ant1	2483.5	-55.76	2	0.63	42.13	Average	54	Pass
g	2462	Ant1	2495.124	-46.6	2	-	50.66	Peak	74	Pass
g	2462	Ant1	2485.001	-55.56	2	0.63	42.33	Average	54	Pass
g	2462	Ant1	2500	-48.84	2	-	48.67	Peak	74	Pass
g	2462	Ant1	2500	-56.4	2	0.63	41.49	Average	54	Pass
n20	2412	Ant1	2310	-49.77	2	-	47.49	Peak	74	Pass
n20	2412	Ant1	2310	-56.29	2	0.58	41.55	Average	54	Pass
n20	2412	Ant1	2343.93	-46.37	2	-	50.89	Peak	74	Pass
n20	2412	Ant1	2341.473	-54.46	2	0.58	43.38	Average	54	Pass
n20	2412	Ant1	2390	-51.27	2	-	45.99	Peak	74	Pass
n20	2412	Ant1	2390	-57.16	2	0.58	40.68	Average	54	Pass
n20	2462	Ant1	2483.5	-49.76	2	-	47.5	Peak	74	Pass
n20	2462	Ant1	2483.5	-56.23	2	0.58	41.61	Average	54	Pass
n20	2462	Ant1	2495.177	-46.62	2	-	50.64	Peak	74	Pass
n20	2462	Ant1	2487.757	-55.74	2	0.58	42.1	Average	54	Pass

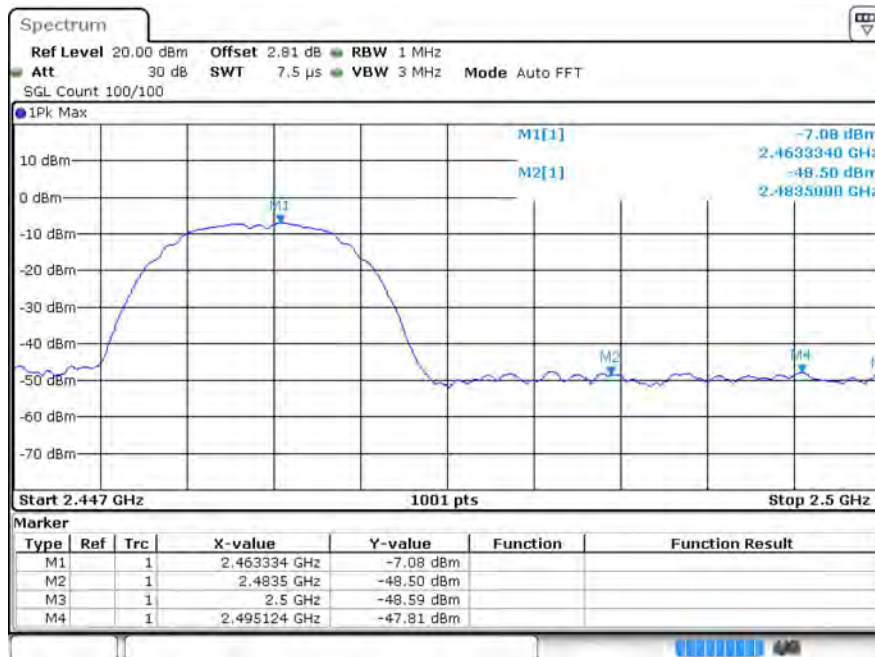


n20	2462	Ant1	2500	-50.41	2	-	46.85	Peak	74	Pass
n20	2462	Ant1	2500	-56.25	2	0.58	41.59	Average	54	Pass
n40	2422	Ant1	2310	-49.83	2	-	47.43	Peak	74	Pass
n40	2422	Ant1	2310	-56.36	2	1.15	42.05	Average	54	Pass
n40	2422	Ant1	2341.95	-45.24	2	-	52.02	Peak	74	Pass
n40	2422	Ant1	2342.092	-53.89	2	1.15	44.52	Average	54	Pass
n40	2422	Ant1	2390	-50.08	2	-	47.18	Peak	74	Pass
n40	2422	Ant1	2390	-57.4	2	1.15	41.01	Average	54	Pass
n40	2452	Ant1	2483.5	-48.87	2	-	48.39	Peak	74	Pass
n40	2452	Ant1	2483.5	-56.59	2	1.15	41.82	Average	54	Pass
n40	2452	Ant1	2491.342	-48.25	2	-	49.01	Peak	74	Pass
n40	2452	Ant1	2497.348	-55.98	2	1.15	42.43	Average	54	Pass
n40	2452	Ant1	2500	-49.63	2	-	47.63	Peak	74	Pass
n40	2452	Ant1	2500	-56.5	2	1.15	41.91	Average	54	Pass

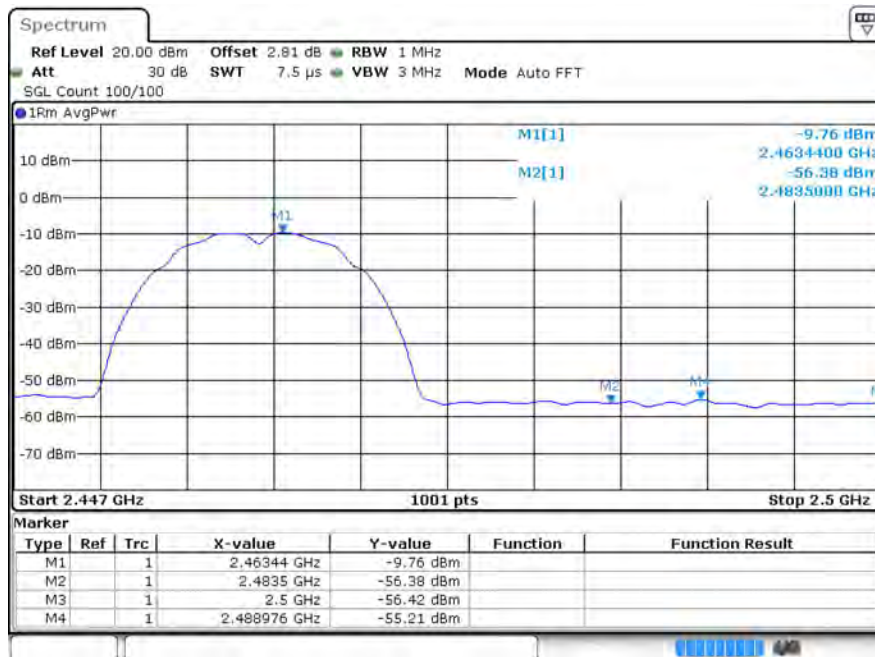
7.2 Test Graphs



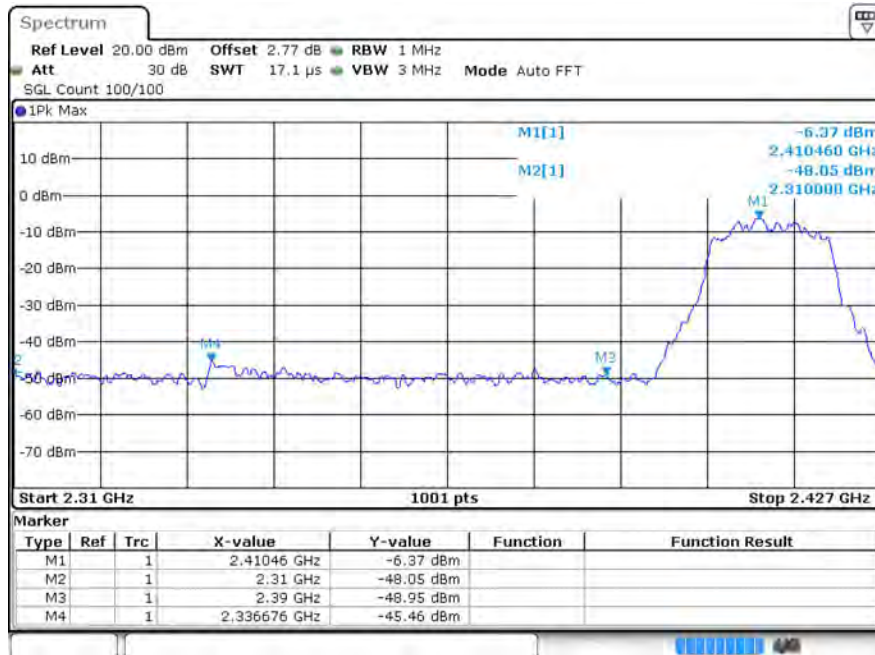
b 2462MHz Ant1 Peak



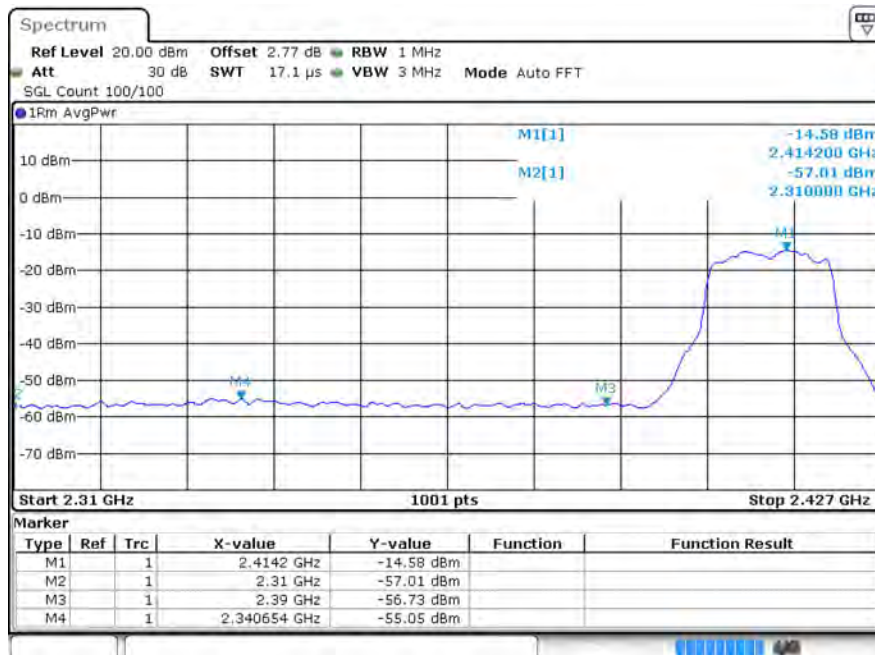
b 2462MHz Ant1 Average

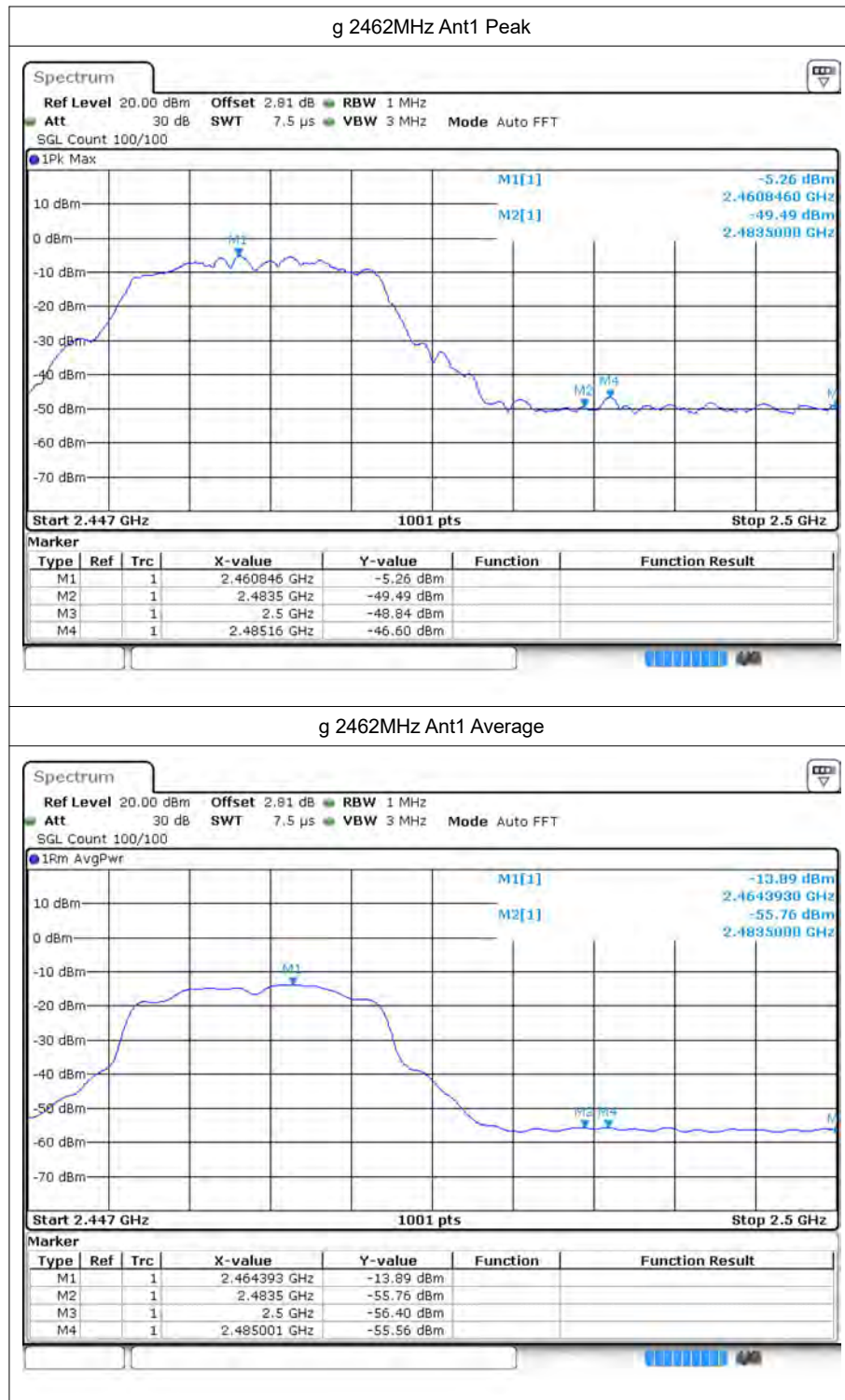


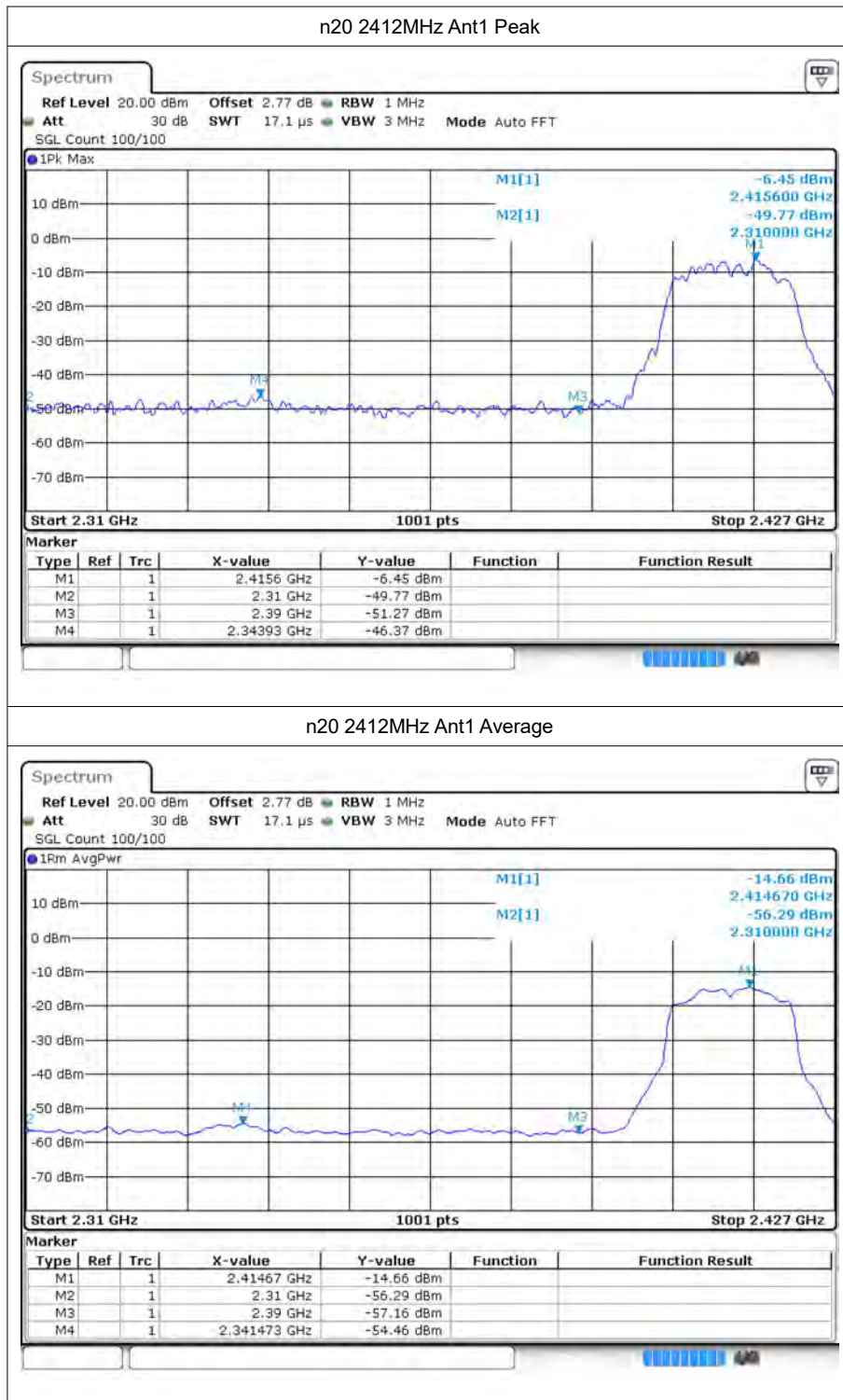
g 2412MHz Ant1 Peak



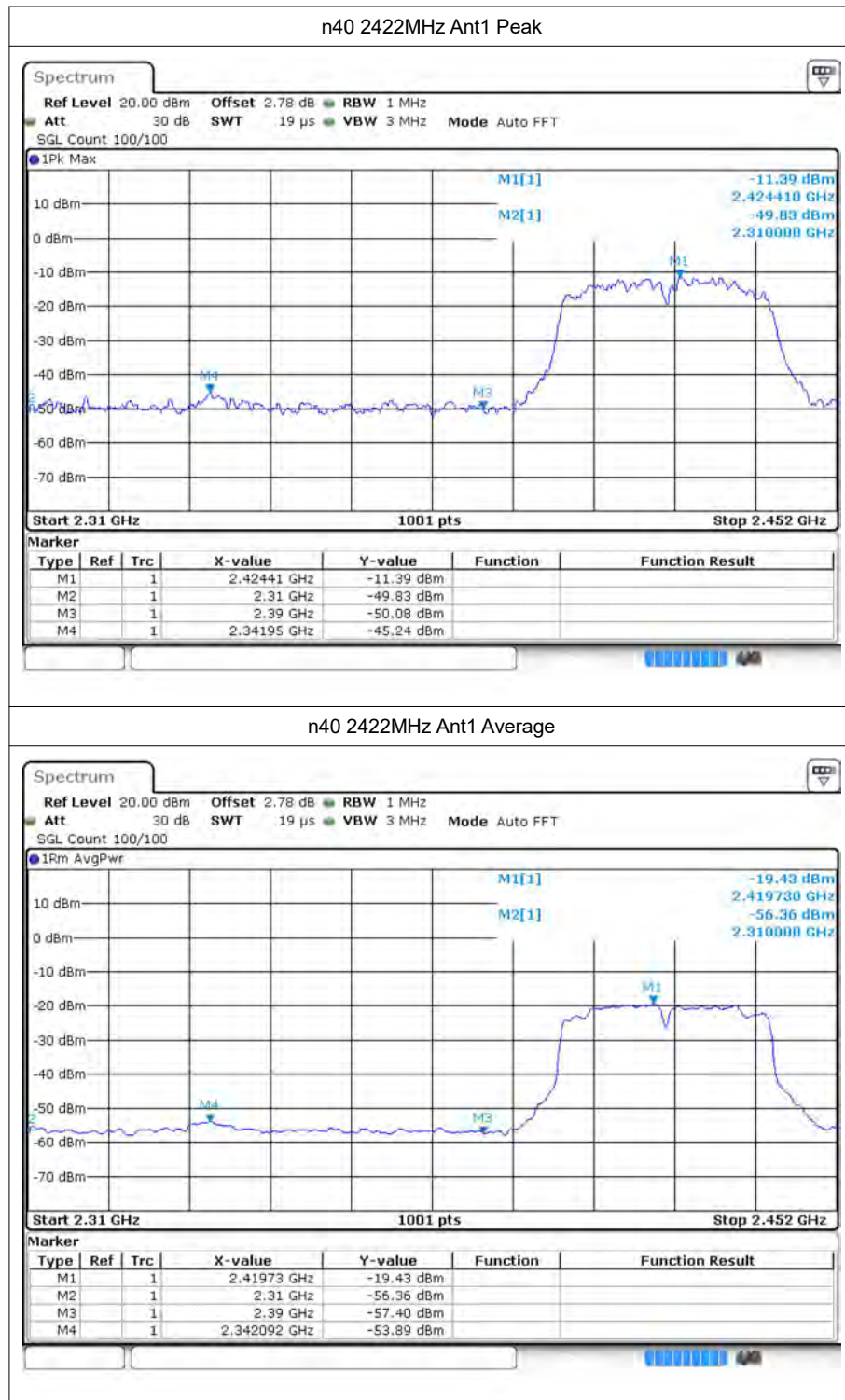
g 2412MHz Ant1 Average

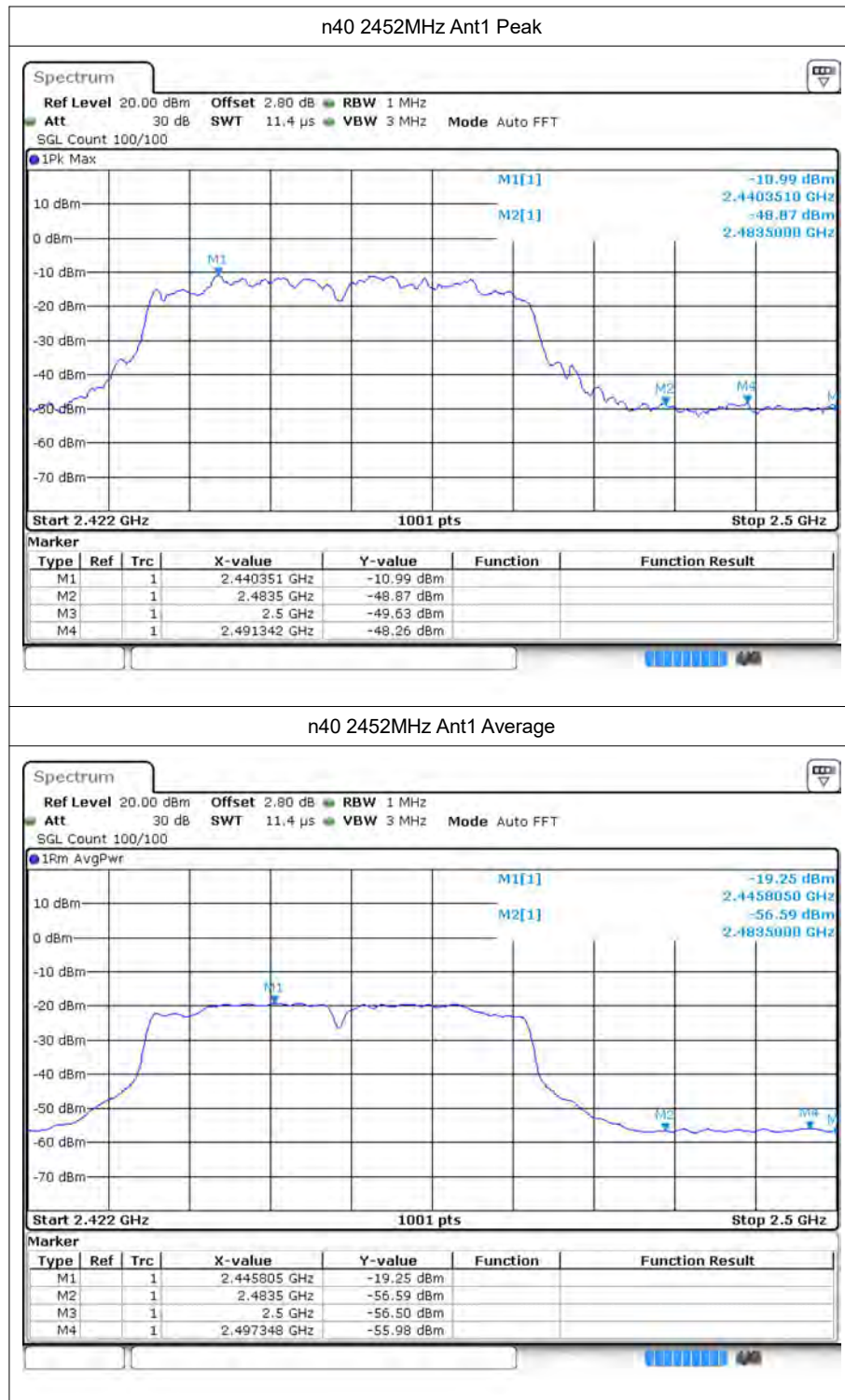












---The End---