



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: WIFI Repeater

Trade Mark: N/A

Test Model: PR9

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



Contents

	Page
COVER PAGE	
1 Duty Cycle	3
1.1 Test Result	3
1.2 Test Graphs	4
2 Maximum Conducted Output Power	13
2.1 Test Result	13
3 -6dB Bandwidth	14
3.1 Test Result	14
3.2 Test Graphs	15
4 Maximum Power Spectral Density Level	24
4.1 Test Result	24
4.2 Test Graphs	25
5 Band Edge	34
5.1 Test Result	34
5.2 Test Graphs	35
6 Conducted RF Spurious Emission	47
6.1 Test Result	47
6.2 Test Graphs	48
7 Restrict Band	66
7.1 Test Result	66
7.2 Test Graphs	68

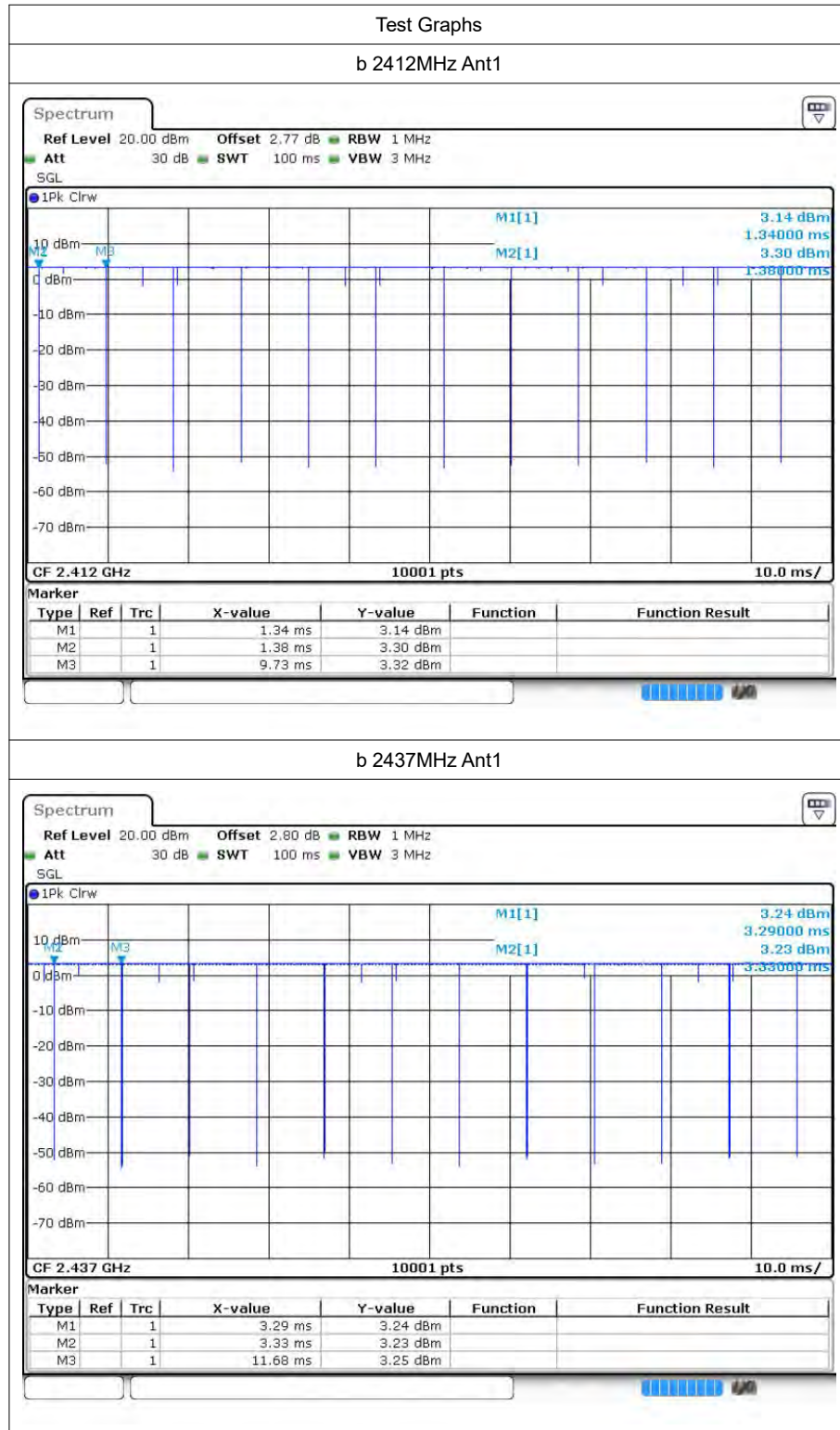


1 Duty Cycle

1.1 Test Result

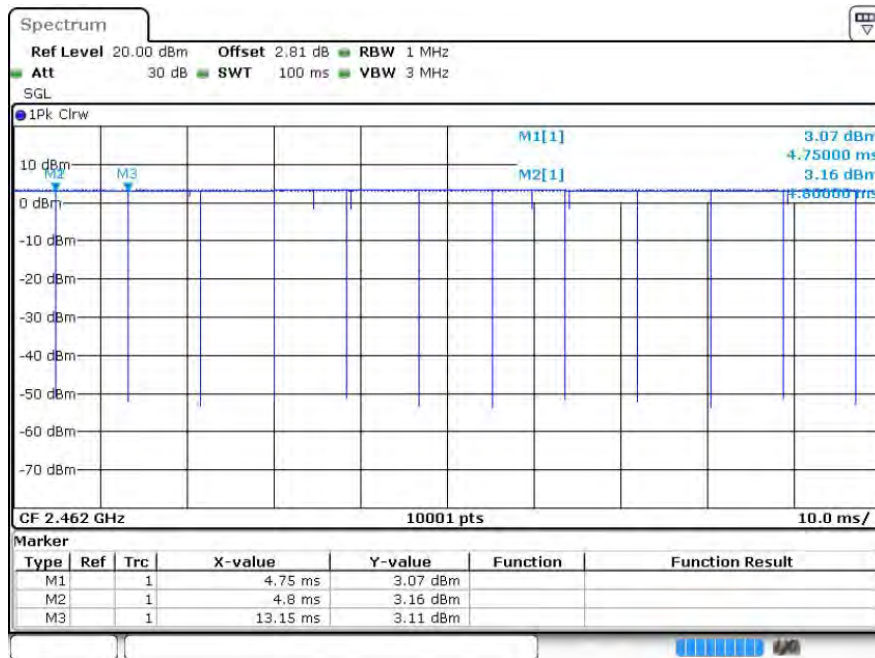
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.61	0.02	0.12
b	2437	Ant1	99.6	0.02	0.12
b	2462	Ant1	99.59	0.02	0.12
g	2412	Ant1	86.84	0.61	4.76
g	2437	Ant1	86.98	0.61	4.76
g	2462	Ant1	86.95	0.61	4.55
n20	2412	Ant1	87.52	0.58	4.35
n20	2437	Ant1	87.6	0.57	4.35
n20	2462	Ant1	87.56	0.58	4.35
n40	2422	Ant1	88.03	0.55	4.17
n40	2437	Ant1	88.03	0.55	4.17
n40	2452	Ant1	88.05	0.55	4.17
ax20	2412	Ant1	87.07	0.6	4.55
ax20	2437	Ant1	87	0.6	4.55
ax20	2462	Ant1	87	0.6	4.55
ax40	2422	Ant1	87.13	0.6	4.35
ax40	2437	Ant1	86.96	0.61	4.55
ax40	2452	Ant1	86.96	0.61	4.35

1.2 Test Graphs

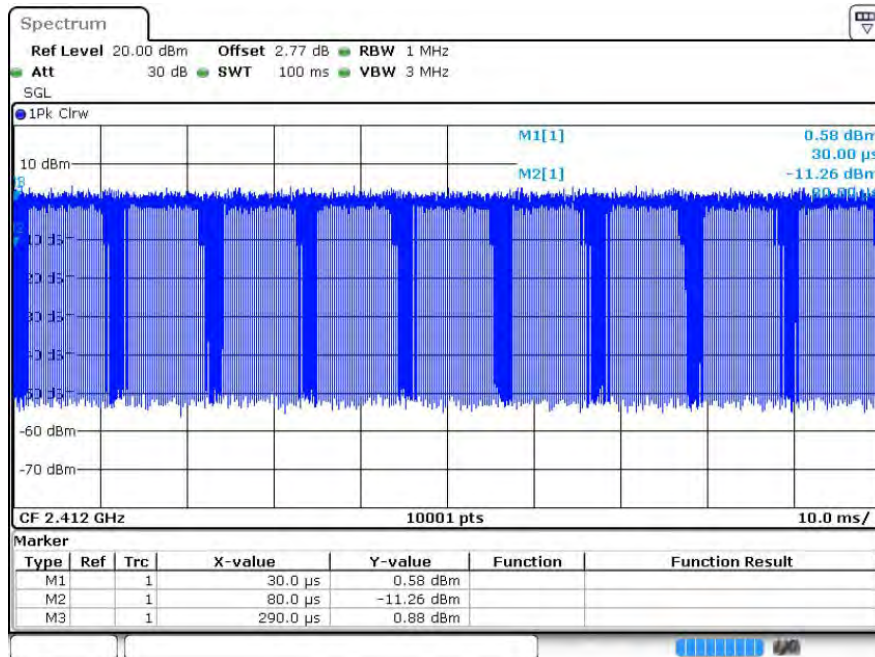


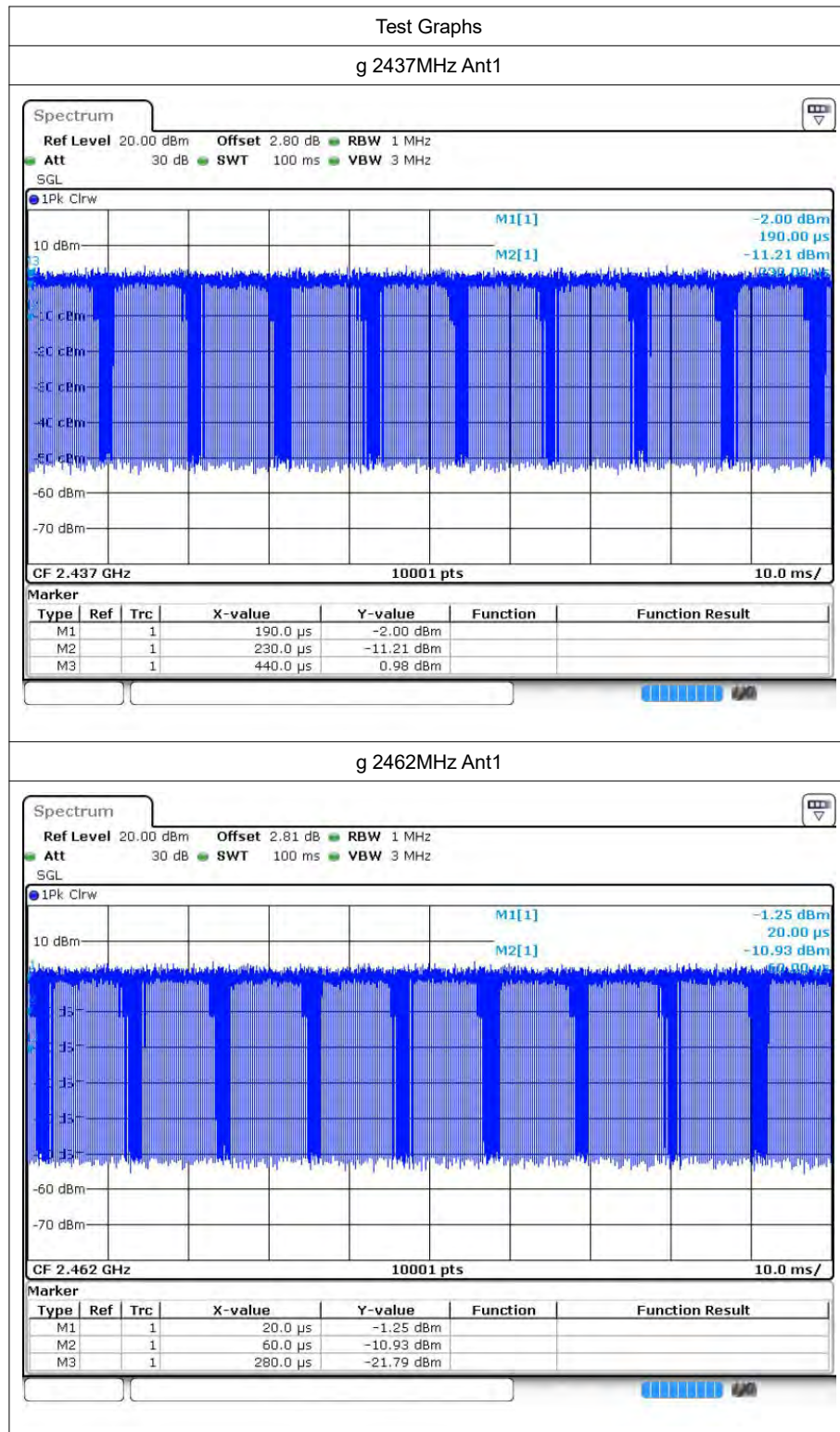
Test Graphs

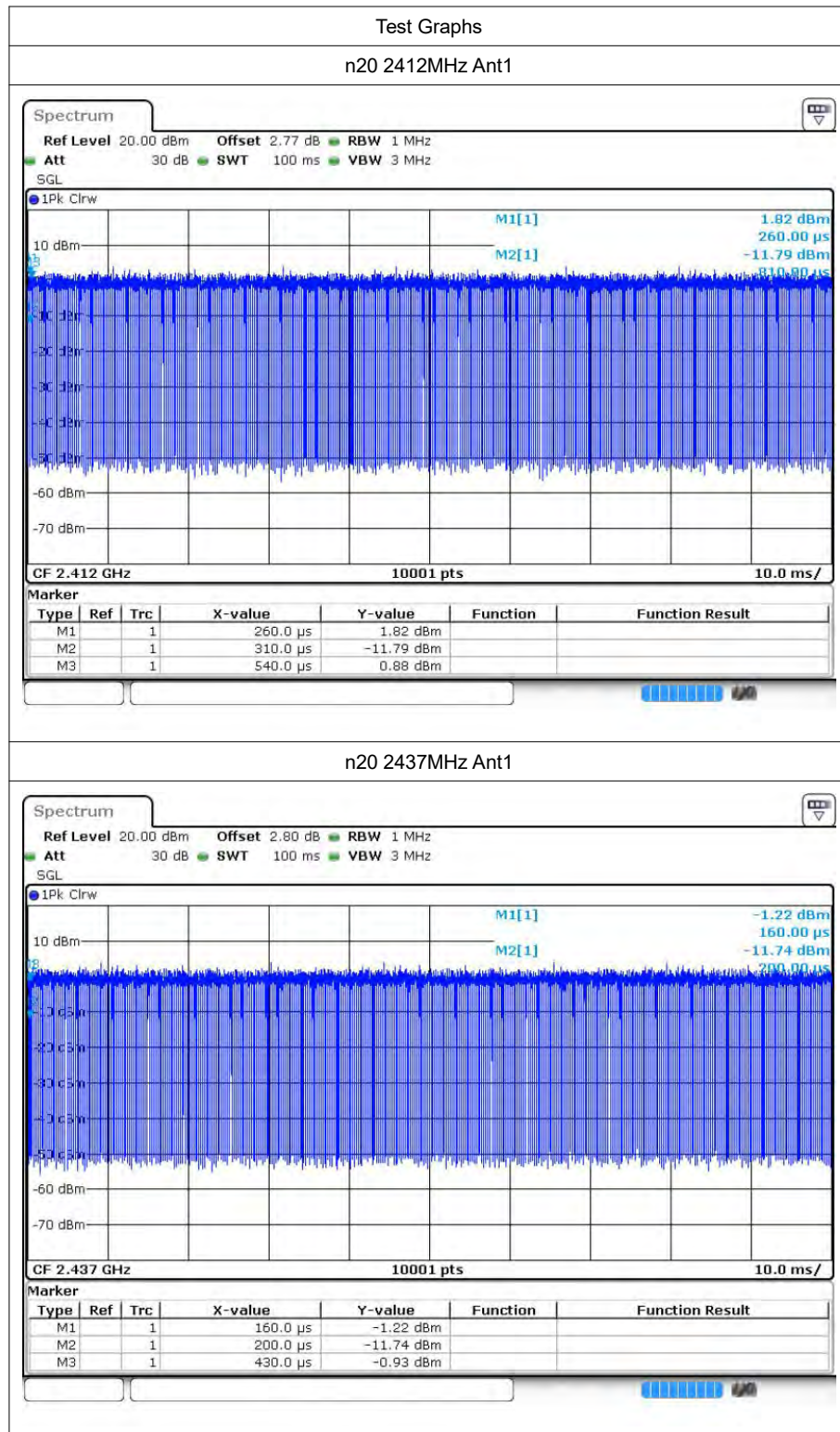
b 2462MHz Ant1



g 2412MHz Ant1





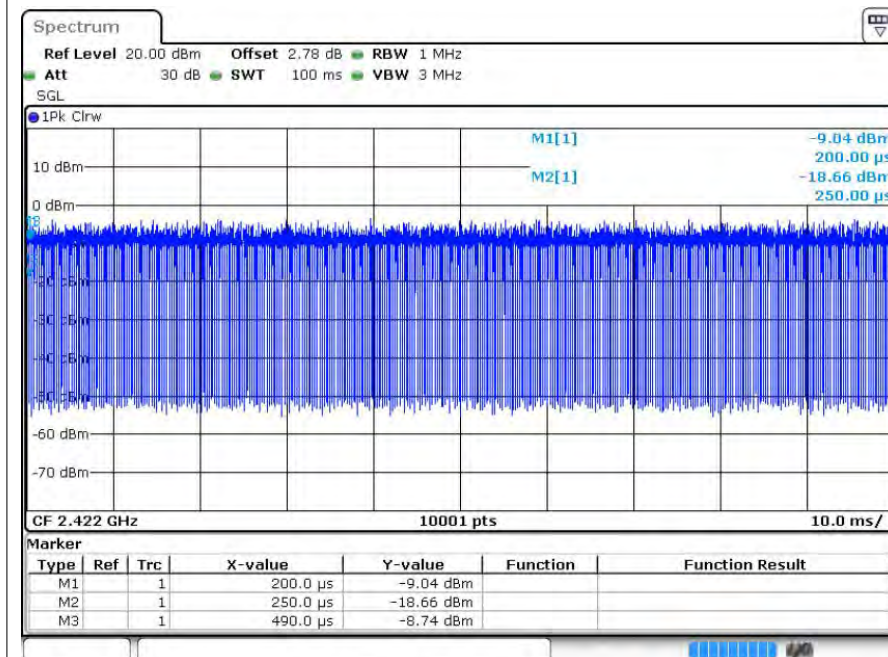


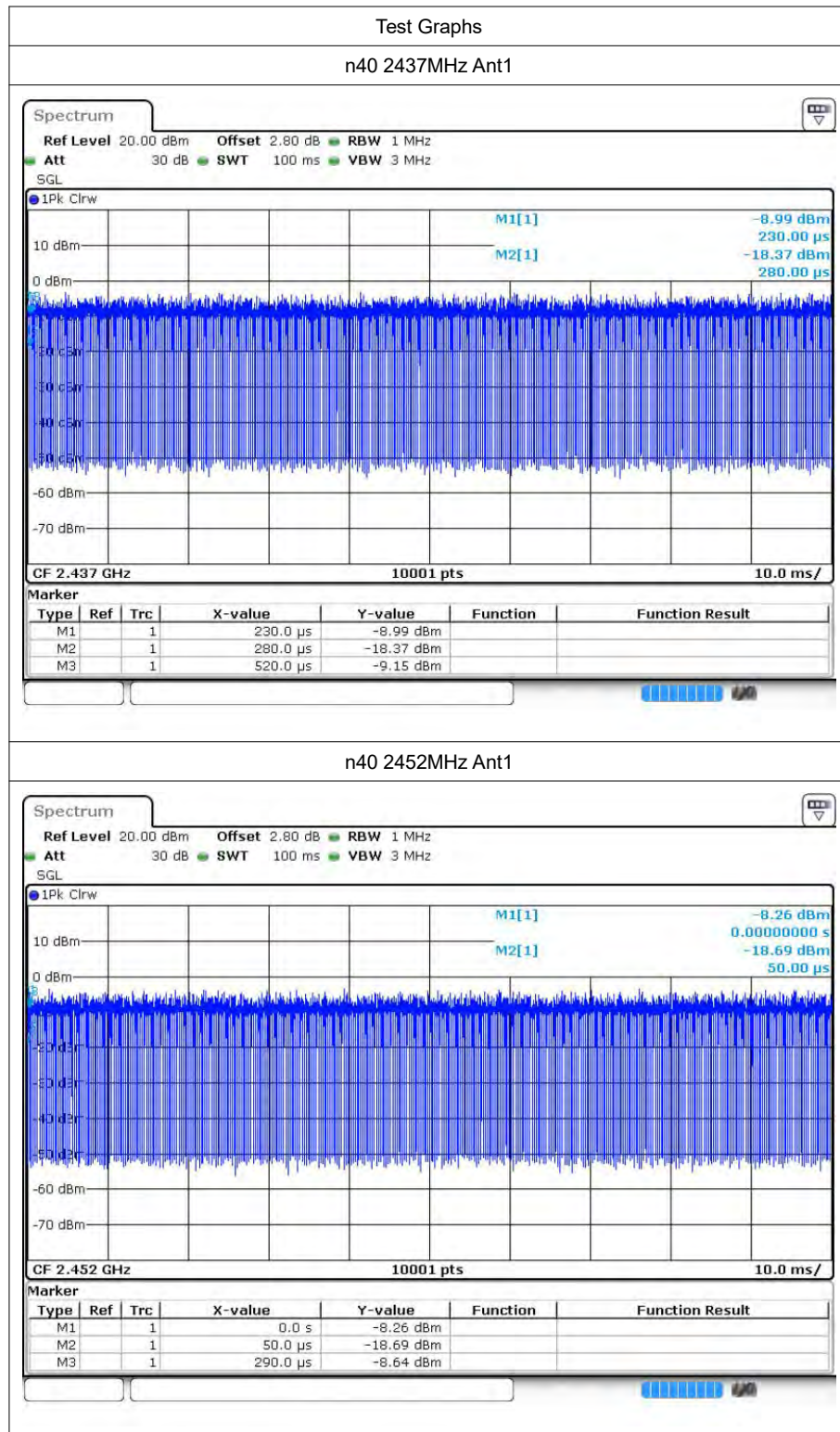
Test Graphs

n20 2462MHz Ant1



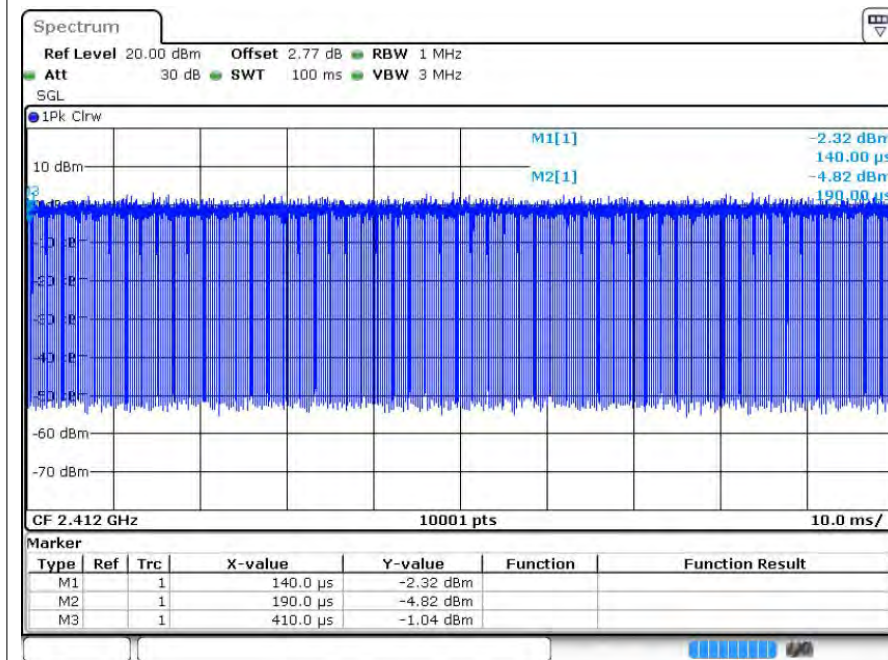
n40 2422MHz Ant1



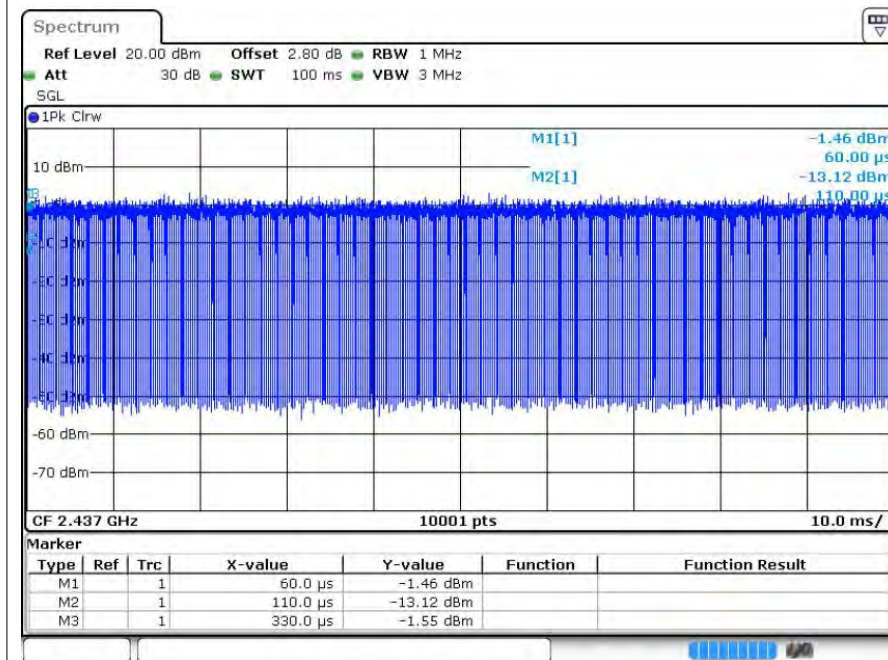


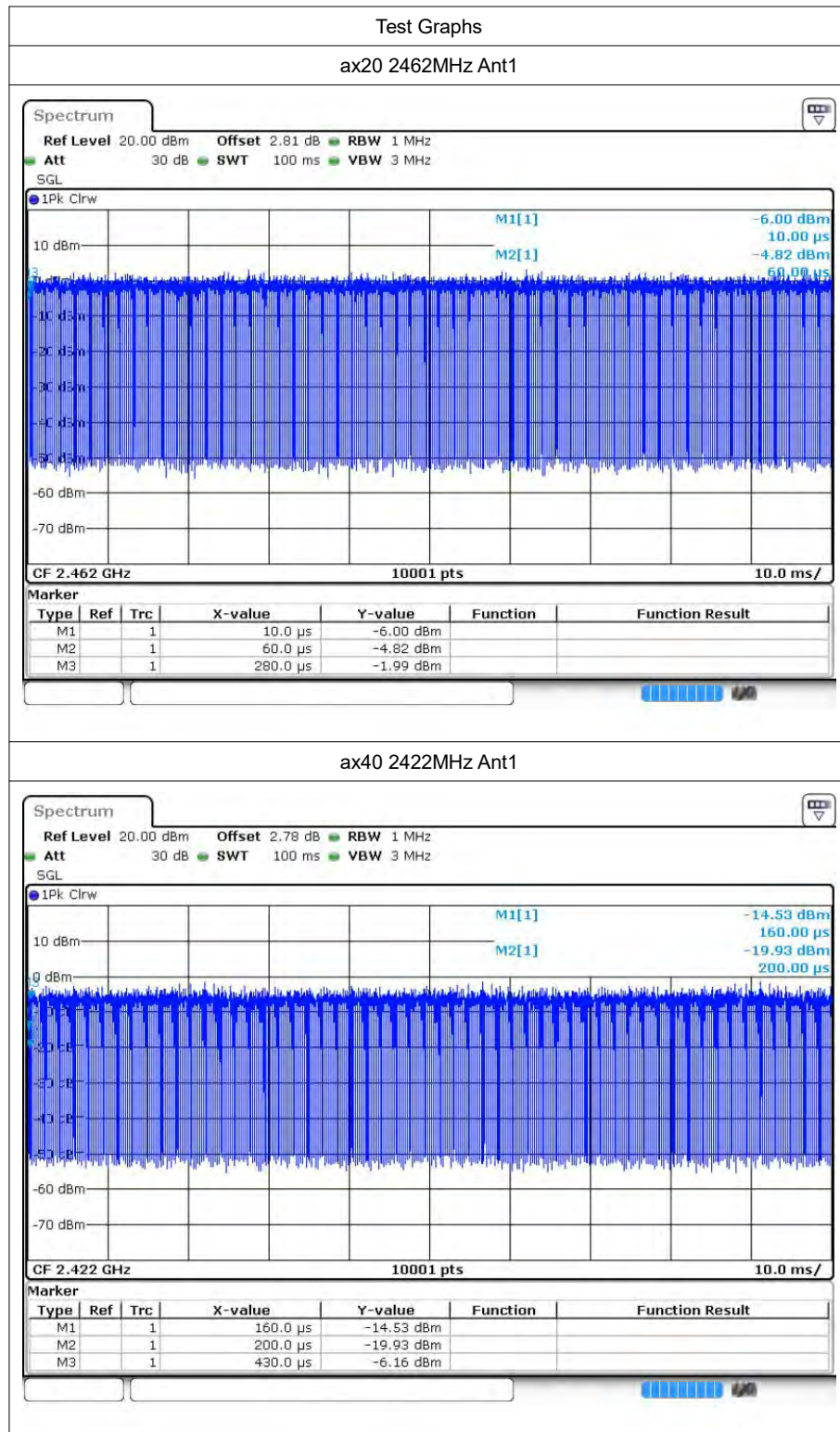
Test Graphs

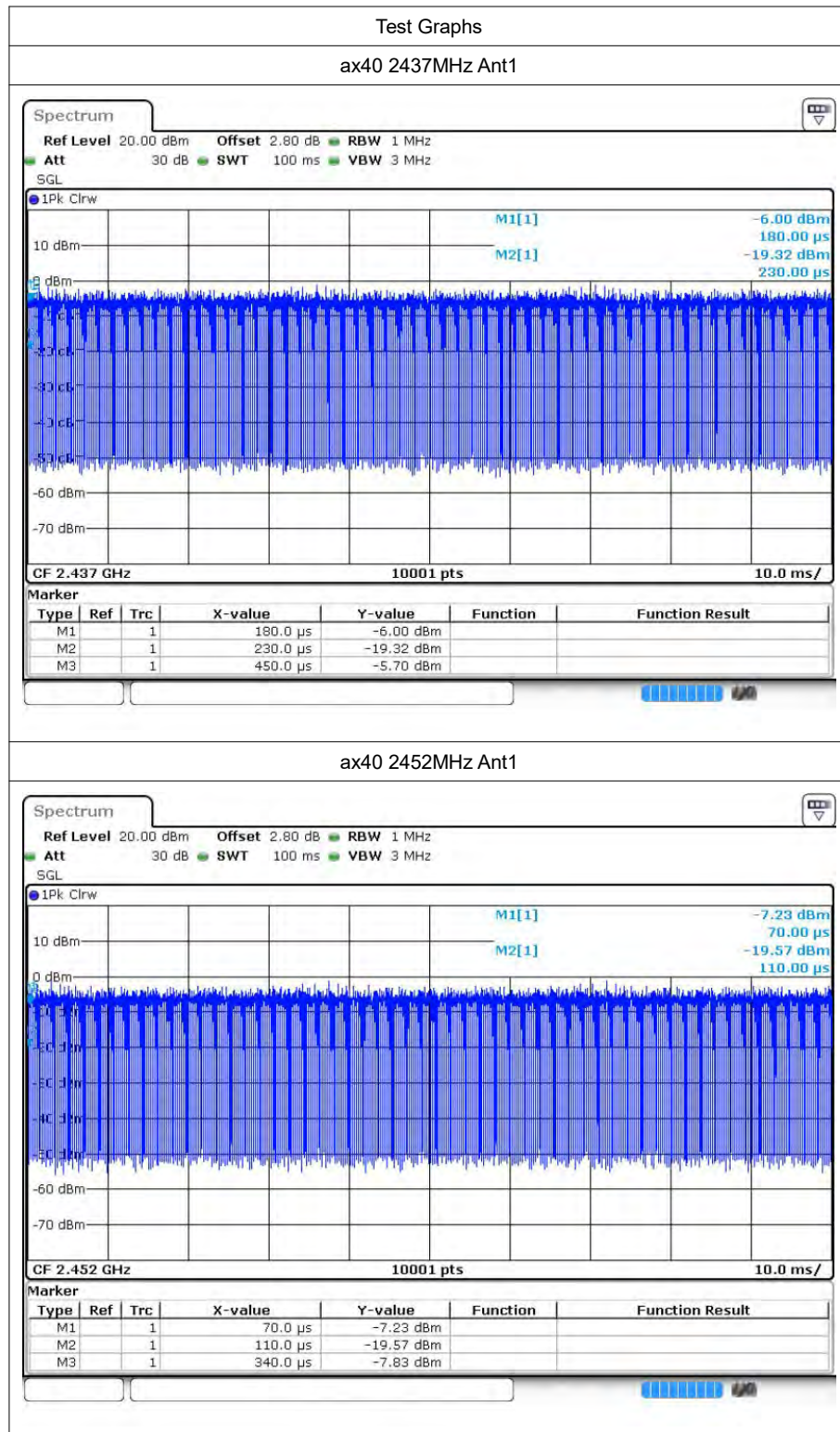
ax20 2412MHz Ant1



ax20 2437MHz Ant1







2 Maximum Conducted Output Power

2.1 Test Result

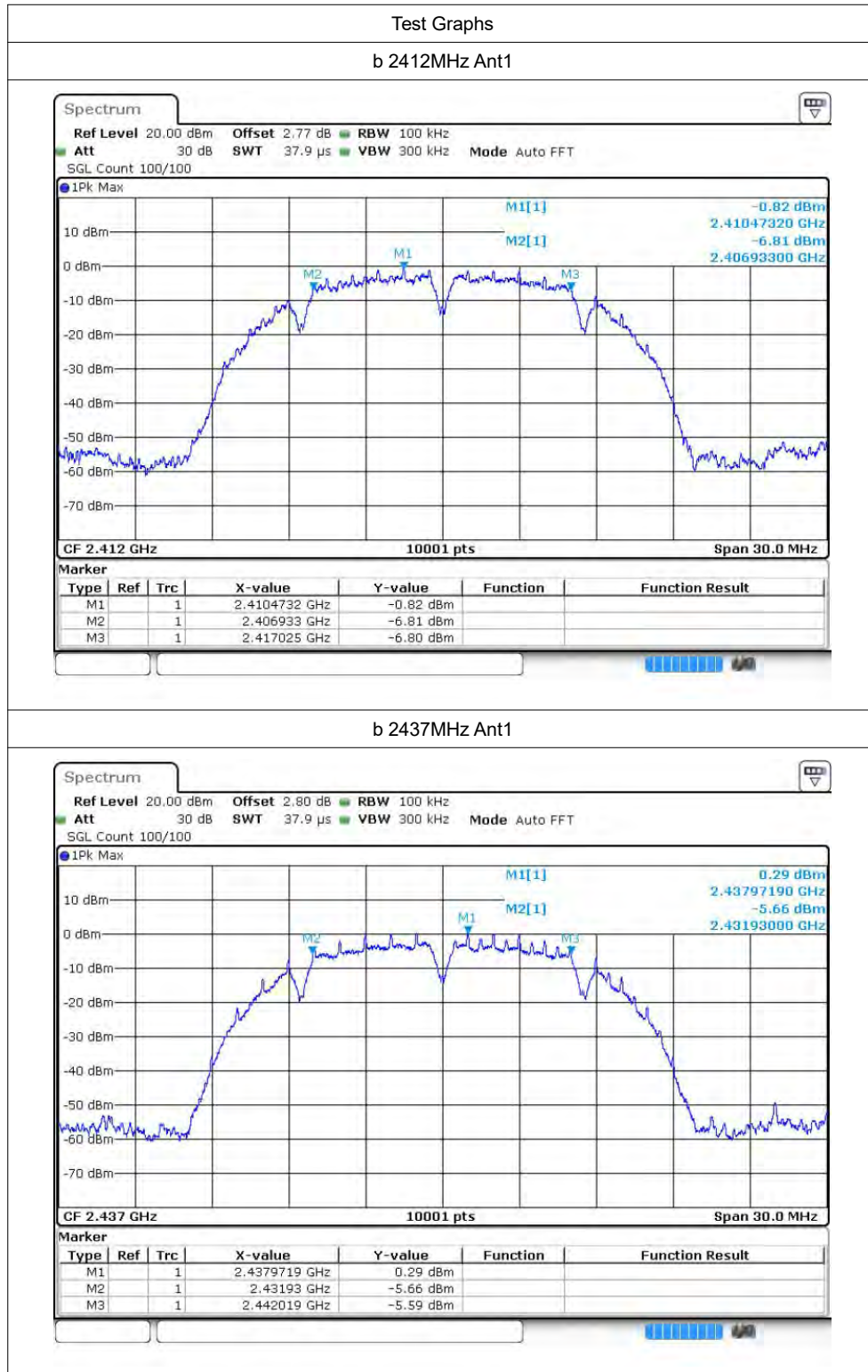
Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	13.62	30	Pass
b	2437	Ant1	13.68	30	Pass
b	2462	Ant1	13.71	30	Pass
g	2412	Ant1	13.41	30	Pass
g	2437	Ant1	13.44	30	Pass
g	2462	Ant1	13.43	30	Pass
n20	2412	Ant1	12.95	30	Pass
n20	2437	Ant1	12.93	30	Pass
n20	2462	Ant1	12.88	30	Pass
n40	2422	Ant1	12.76	30	Pass
n40	2437	Ant1	12.83	30	Pass
n40	2452	Ant1	12.78	30	Pass
ax20	2412	Ant1	13.29	30	Pass
ax20	2437	Ant1	13.22	30	Pass
ax20	2462	Ant1	13.17	30	Pass
ax40	2422	Ant1	12.46	30	Pass
ax40	2437	Ant1	12.57	30	Pass
ax40	2452	Ant1	12.59	30	Pass

3 -6dB Bandwidth

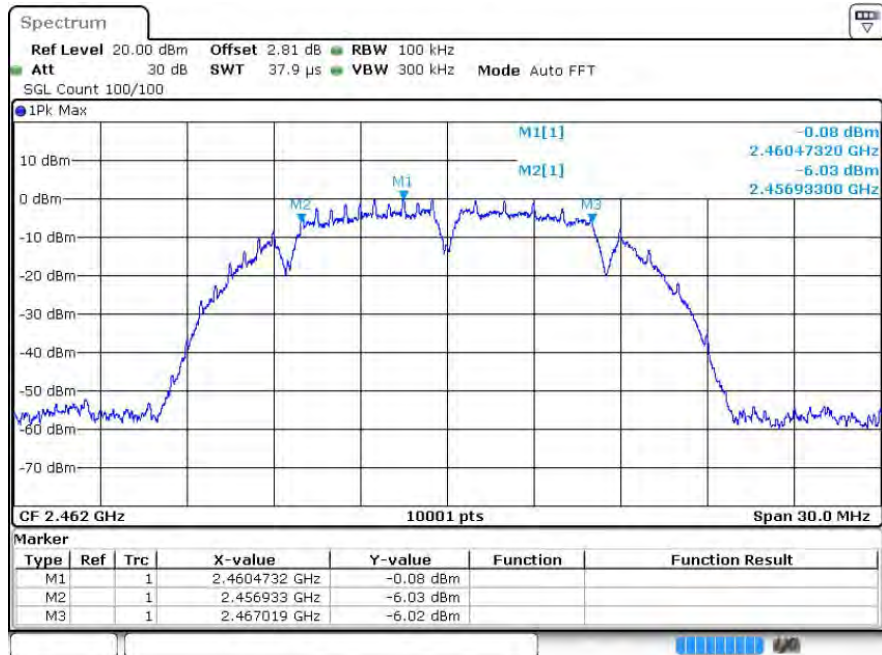
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.092	0.5	Pass
b	2437	Ant1	10.089	0.5	Pass
b	2462	Ant1	10.086	0.5	Pass
g	2412	Ant1	15.084	0.5	Pass
g	2437	Ant1	15.066	0.5	Pass
g	2462	Ant1	15.093	0.5	Pass
n20	2412	Ant1	15.108	0.5	Pass
n20	2437	Ant1	15.105	0.5	Pass
n20	2462	Ant1	12.597	0.5	Pass
n40	2422	Ant1	35.022	0.5	Pass
n40	2437	Ant1	35.064	0.5	Pass
n40	2452	Ant1	35.058	0.5	Pass
ax20	2412	Ant1	15.081	0.5	Pass
ax20	2437	Ant1	15.114	0.5	Pass
ax20	2462	Ant1	15.105	0.5	Pass
ax40	2422	Ant1	35.022	0.5	Pass
ax40	2437	Ant1	33.798	0.5	Pass
ax40	2452	Ant1	33.834	0.5	Pass

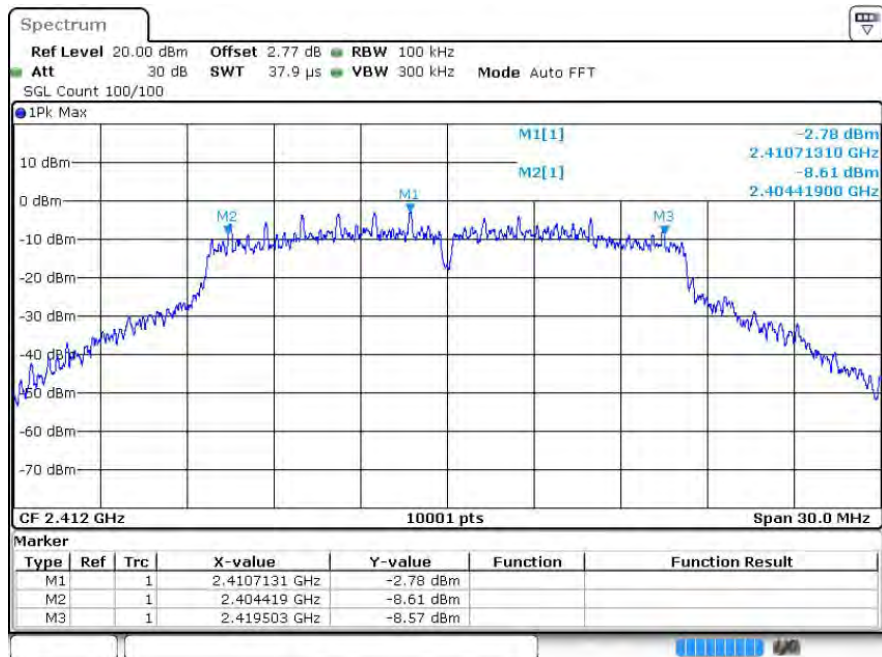
3.2 Test Graphs



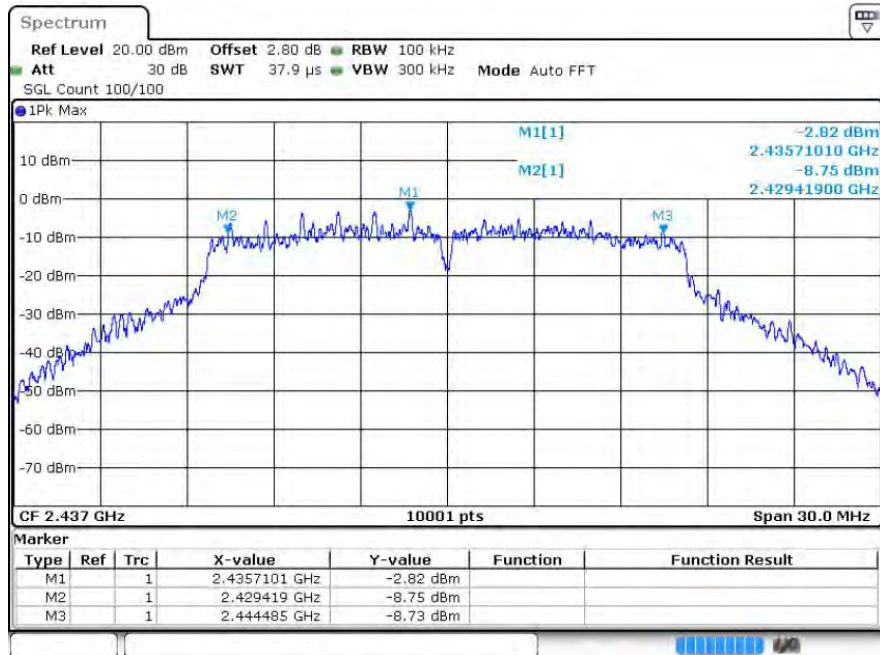
b 2462MHz Ant1



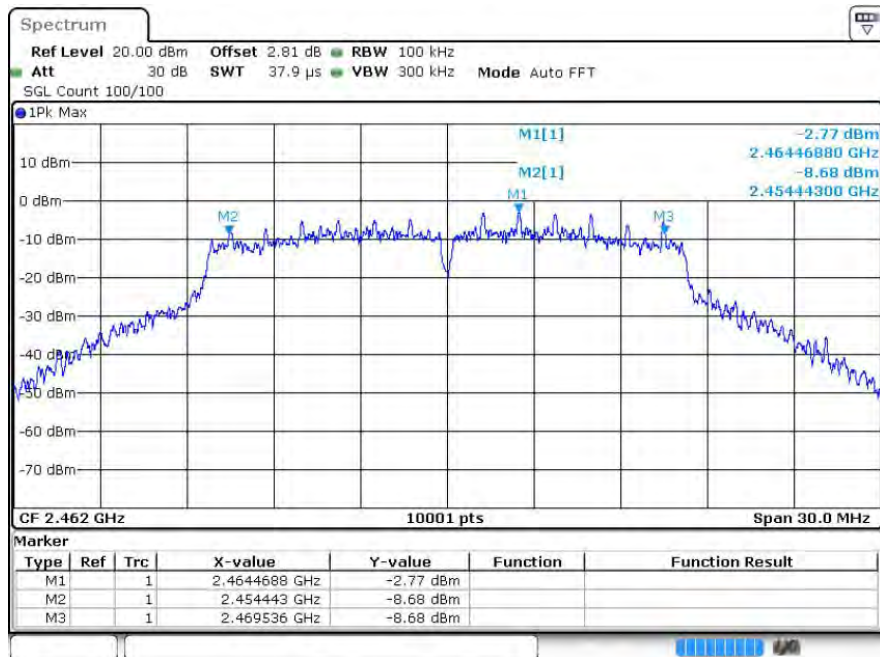
g 2412MHz Ant1



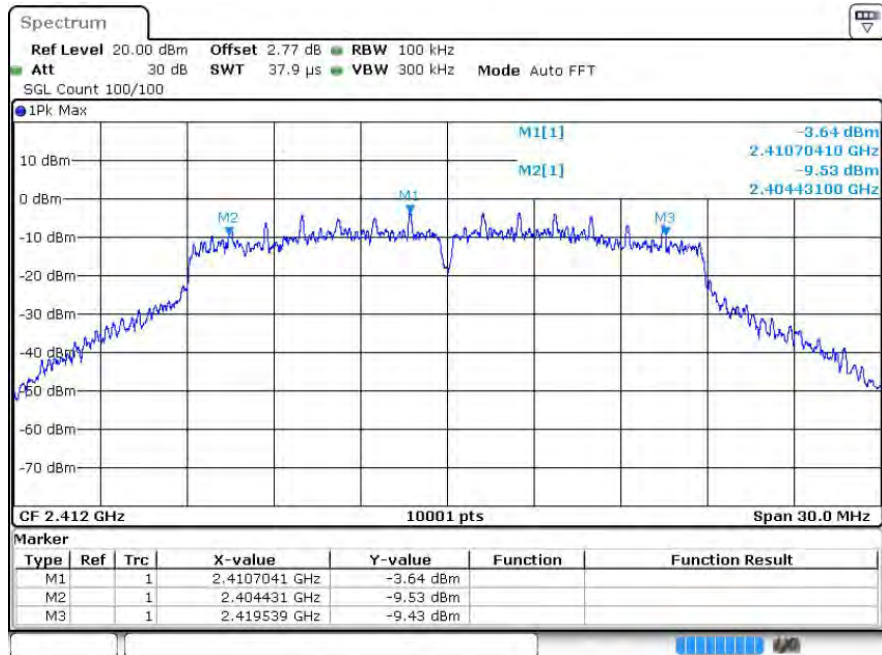
g 2437MHz Ant1



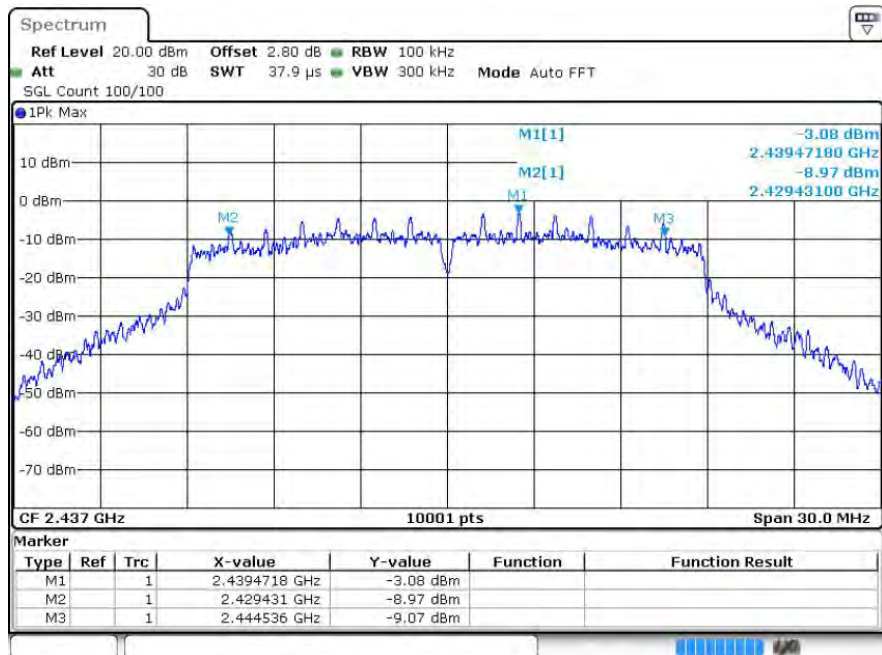
g 2462MHz Ant1



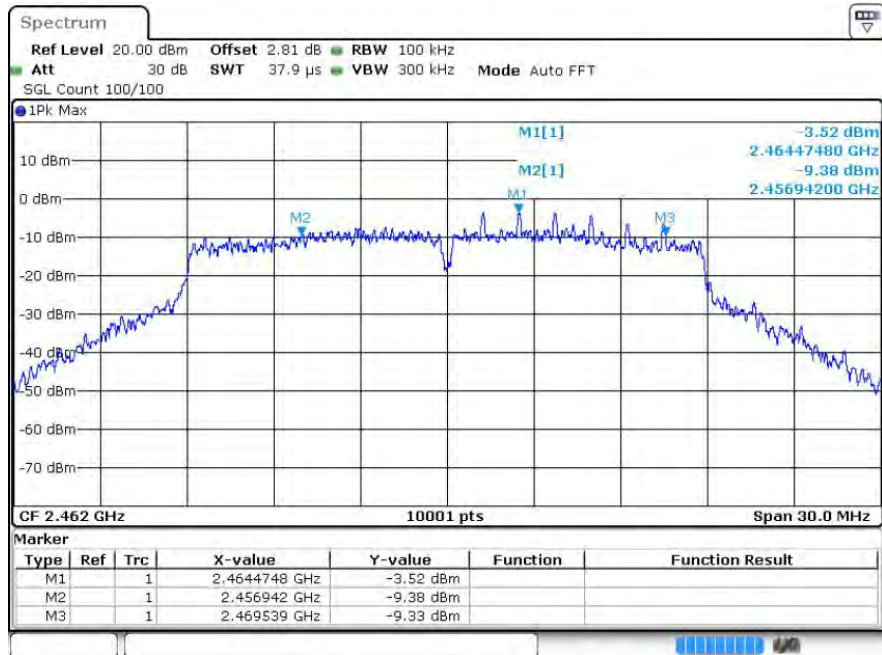
n20 2412MHz Ant1



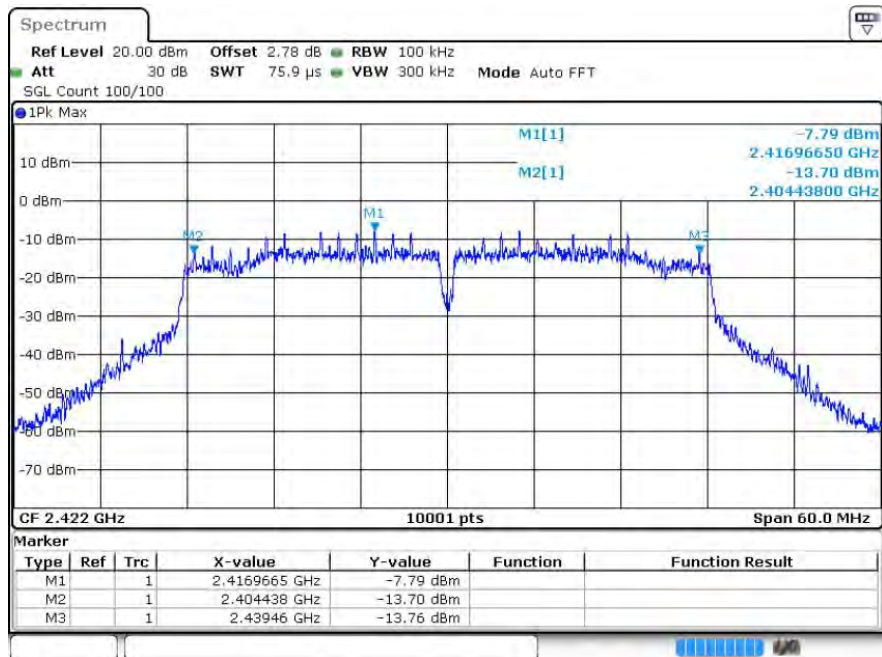
n20 2437MHz Ant1



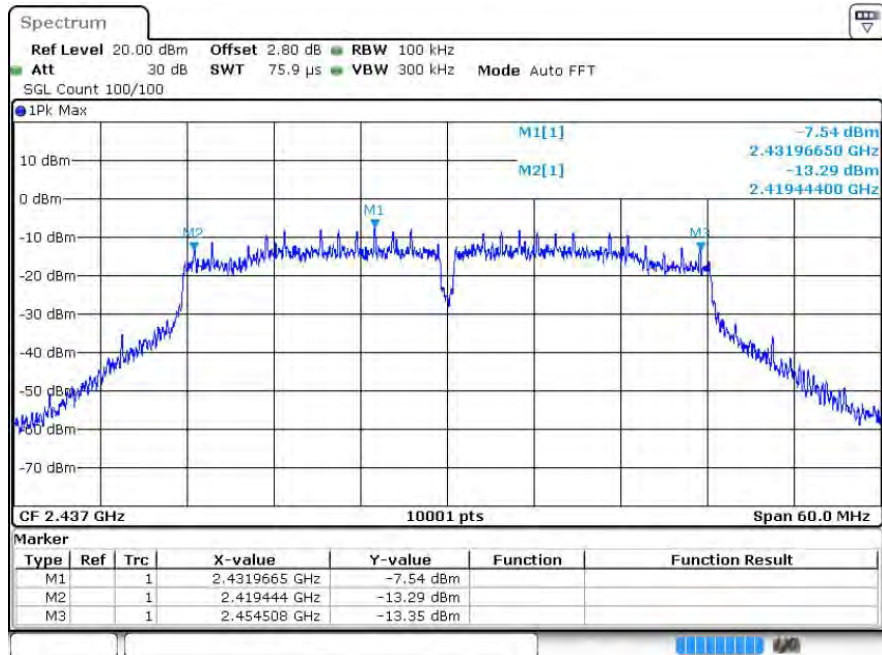
n20 2462MHz Ant1



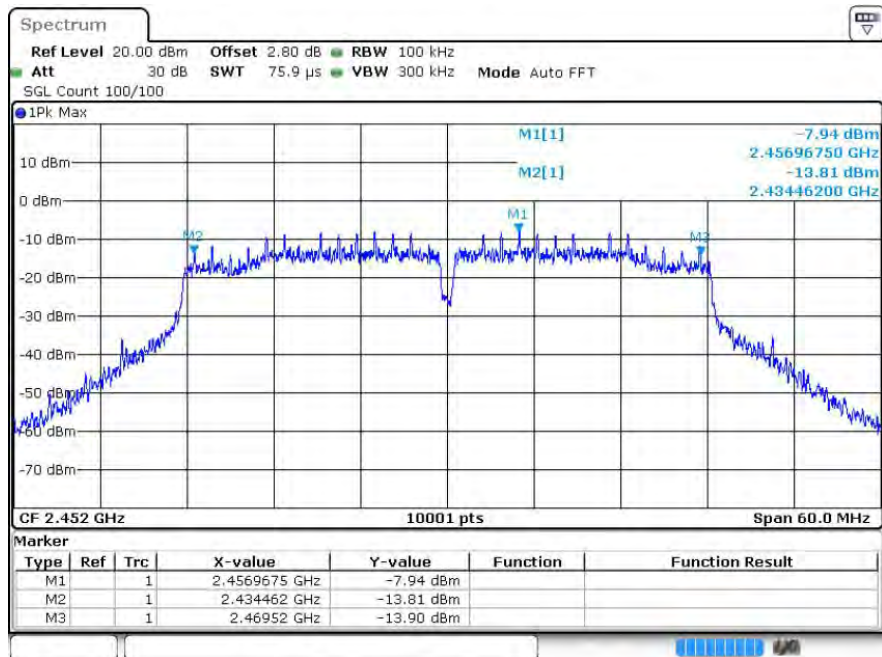
n40 2422MHz Ant1



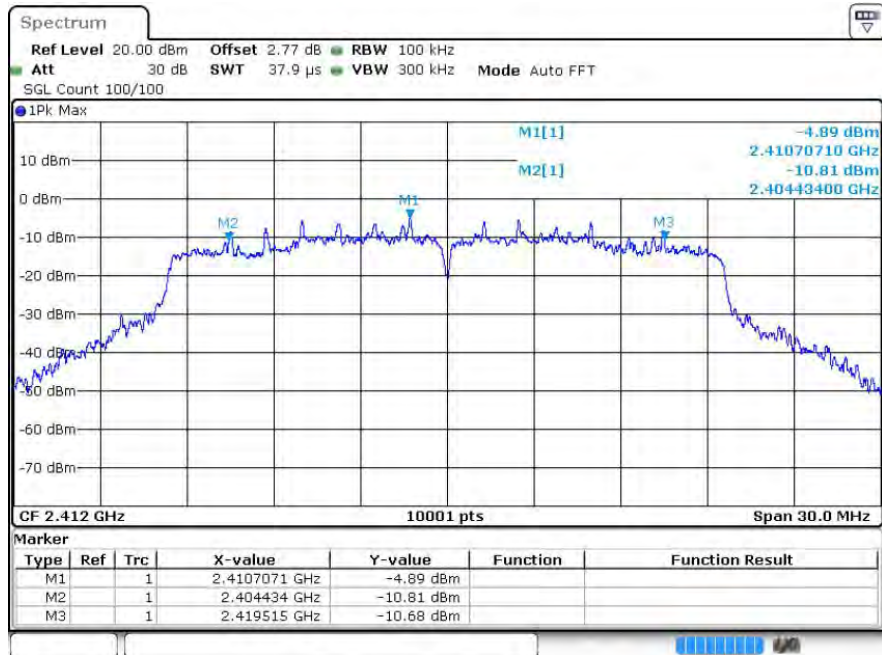
n40 2437MHz Ant1



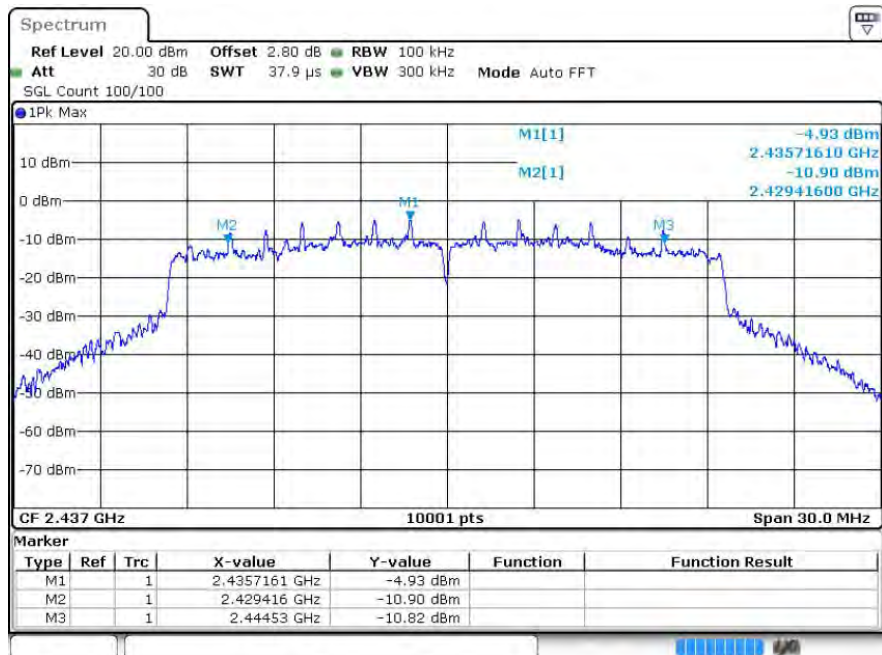
n40 2452MHz Ant1



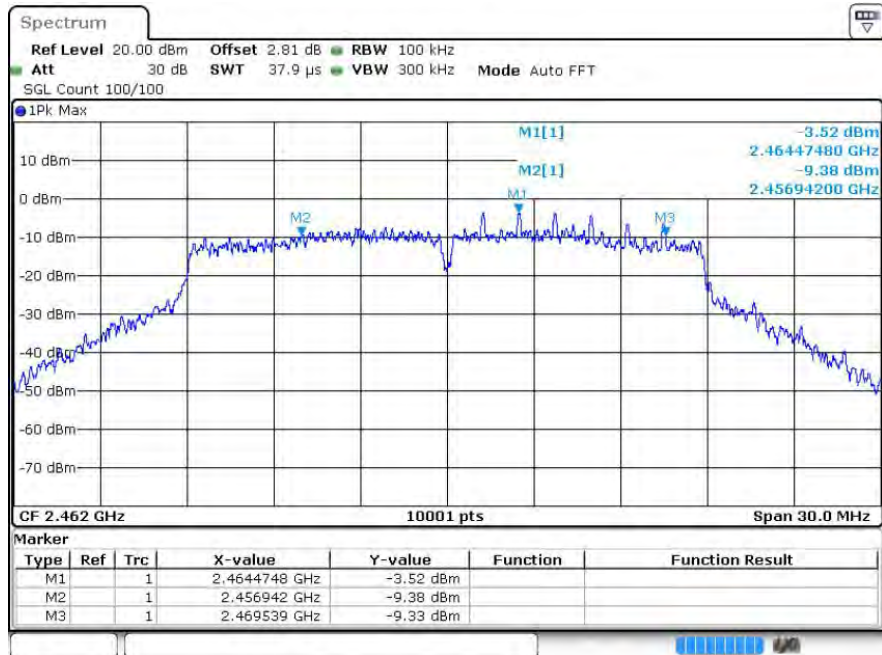
ax20 2412MHz Ant1



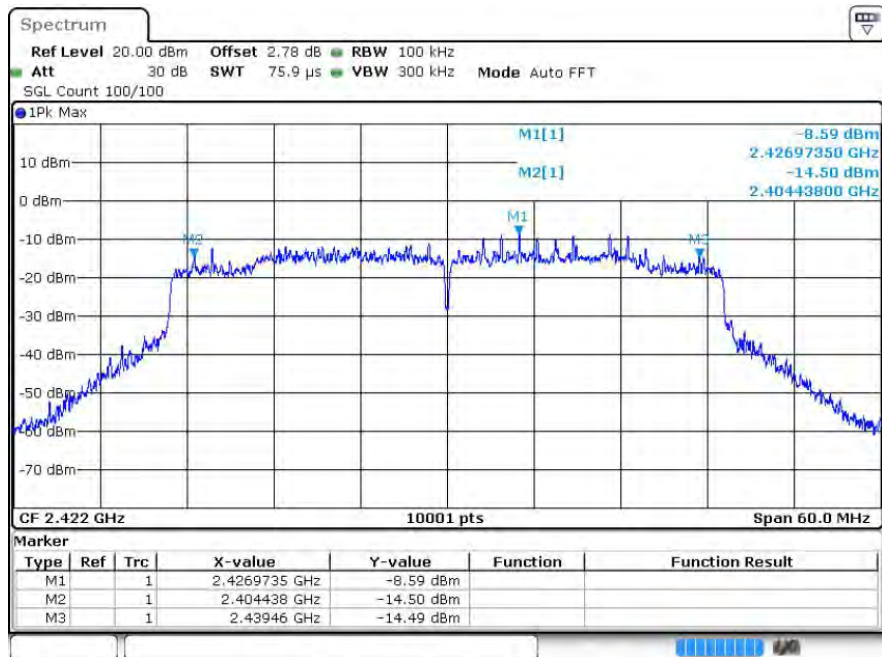
ax20 2437MHz Ant1



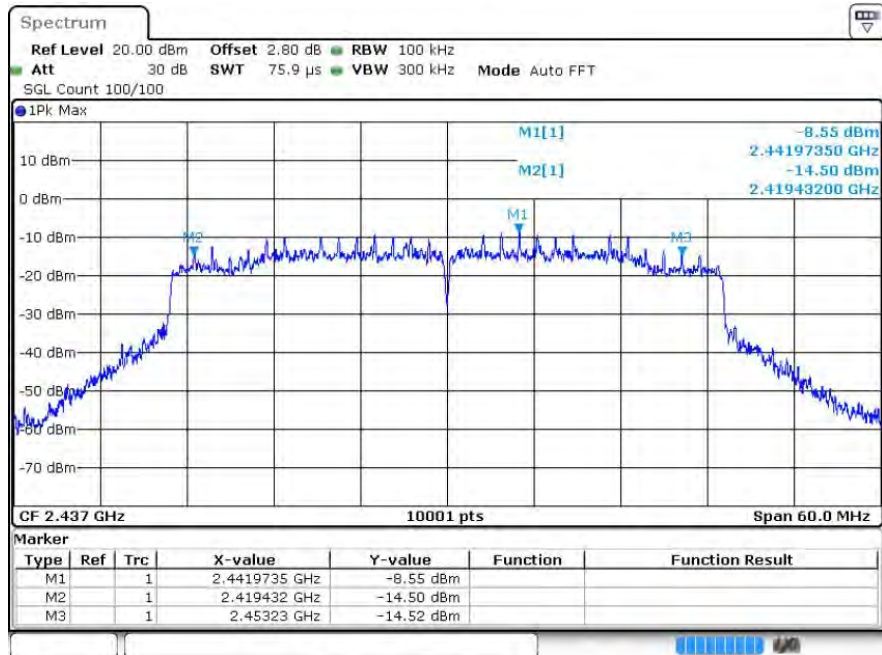
ax20 2462MHz Ant1



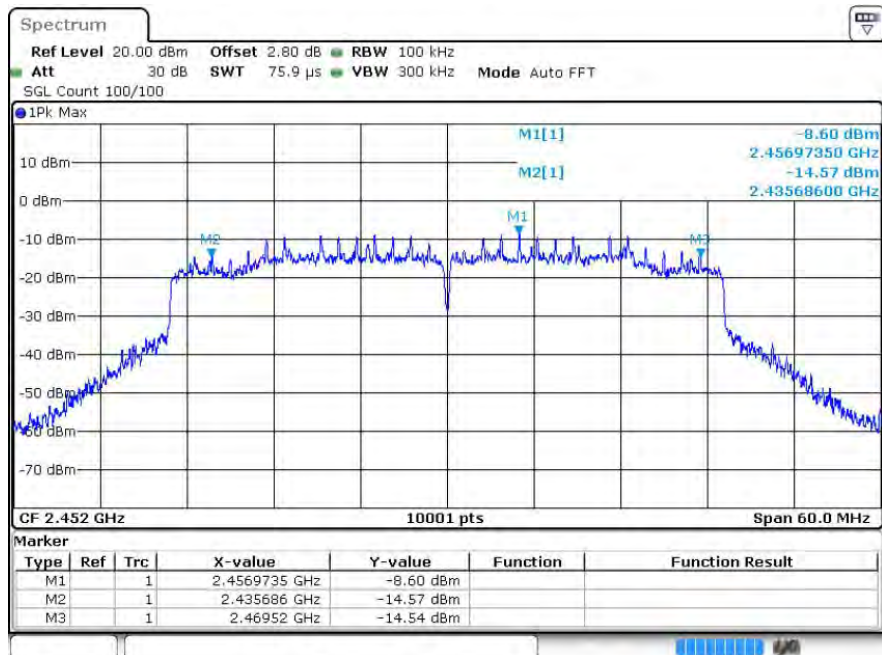
ax40 2422MHz Ant1



ax40 2437MHz Ant1



ax40 2452MHz Ant1

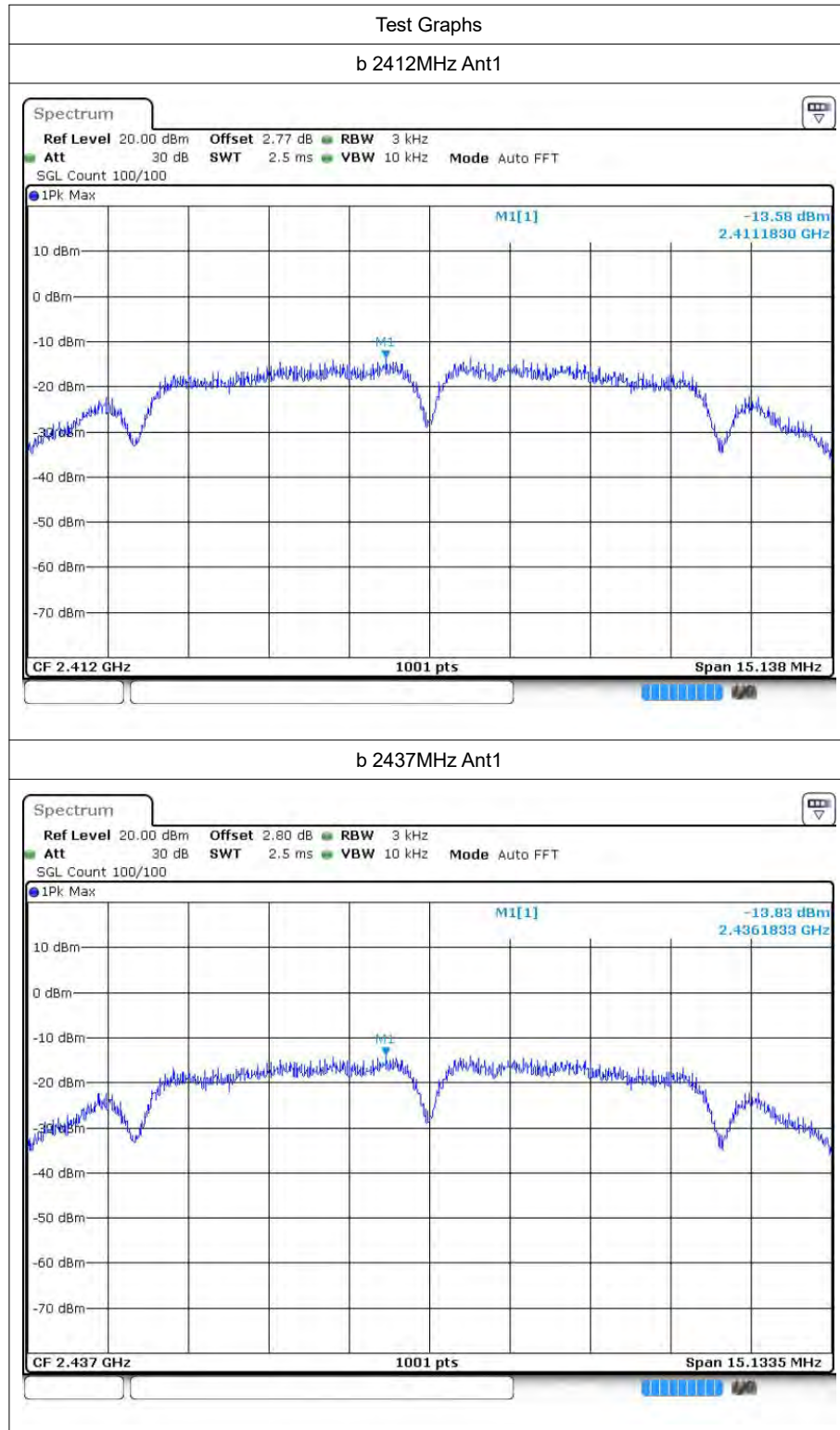


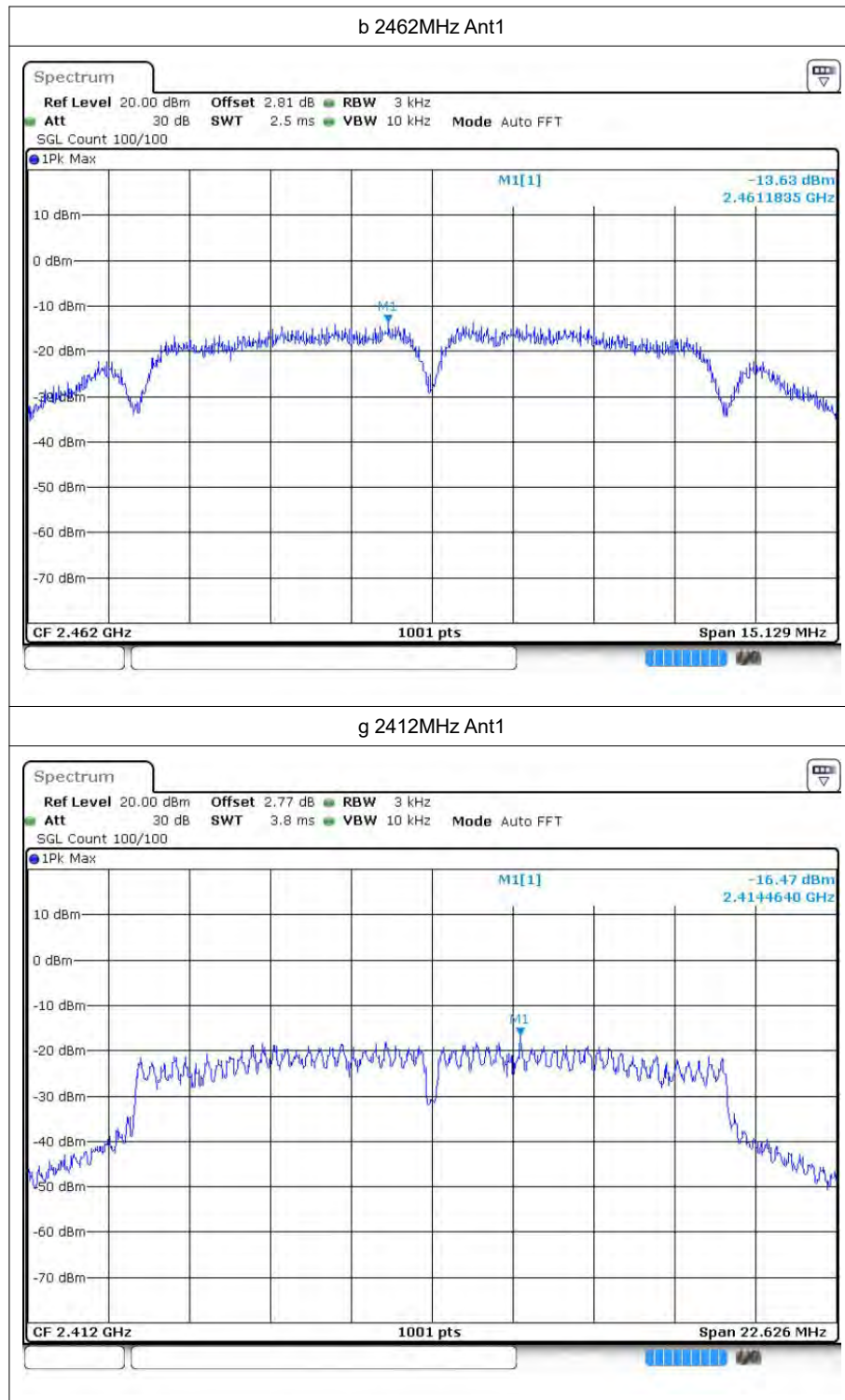
4 Maximum Power Spectral Density Level

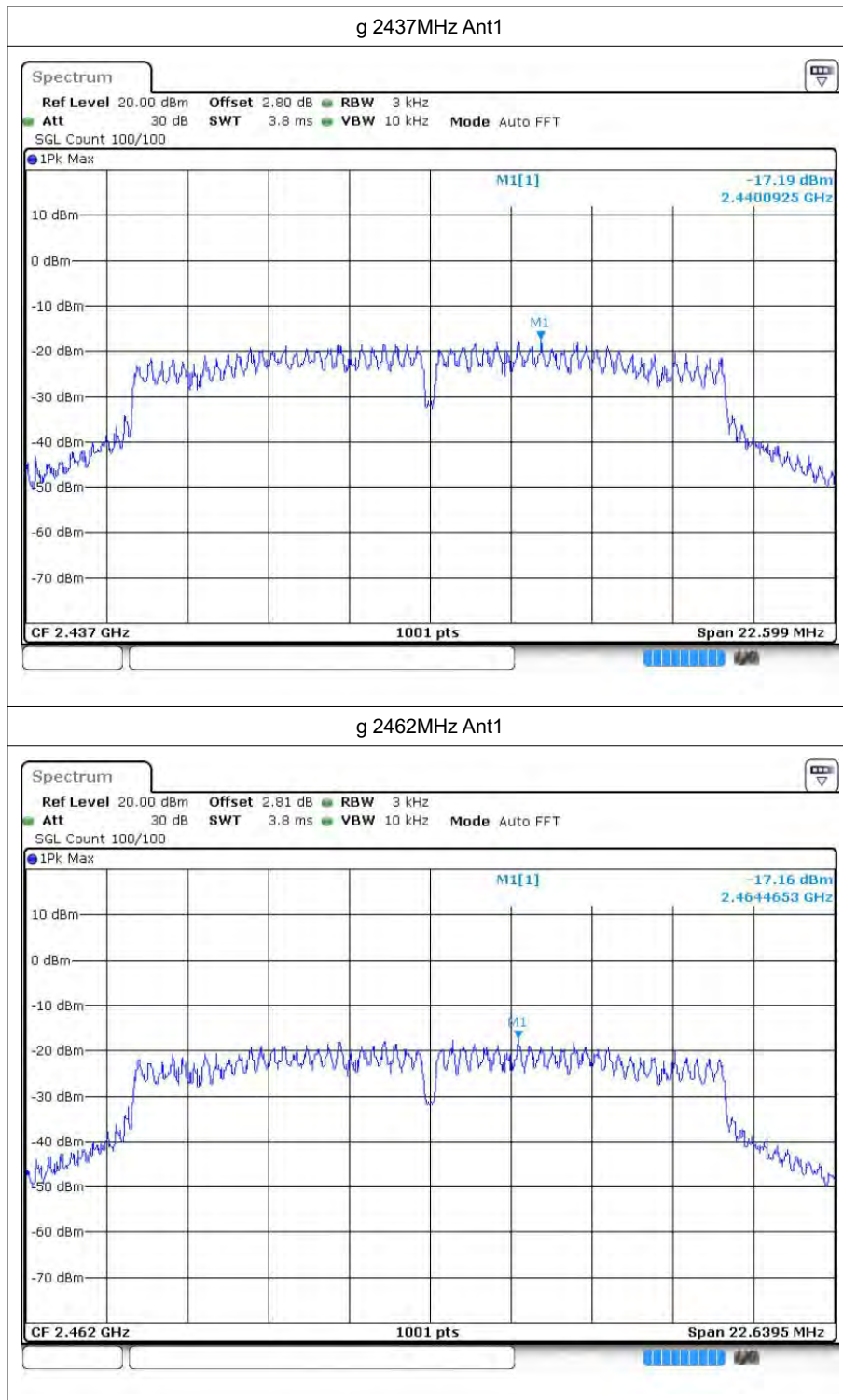
4.1 Test Result

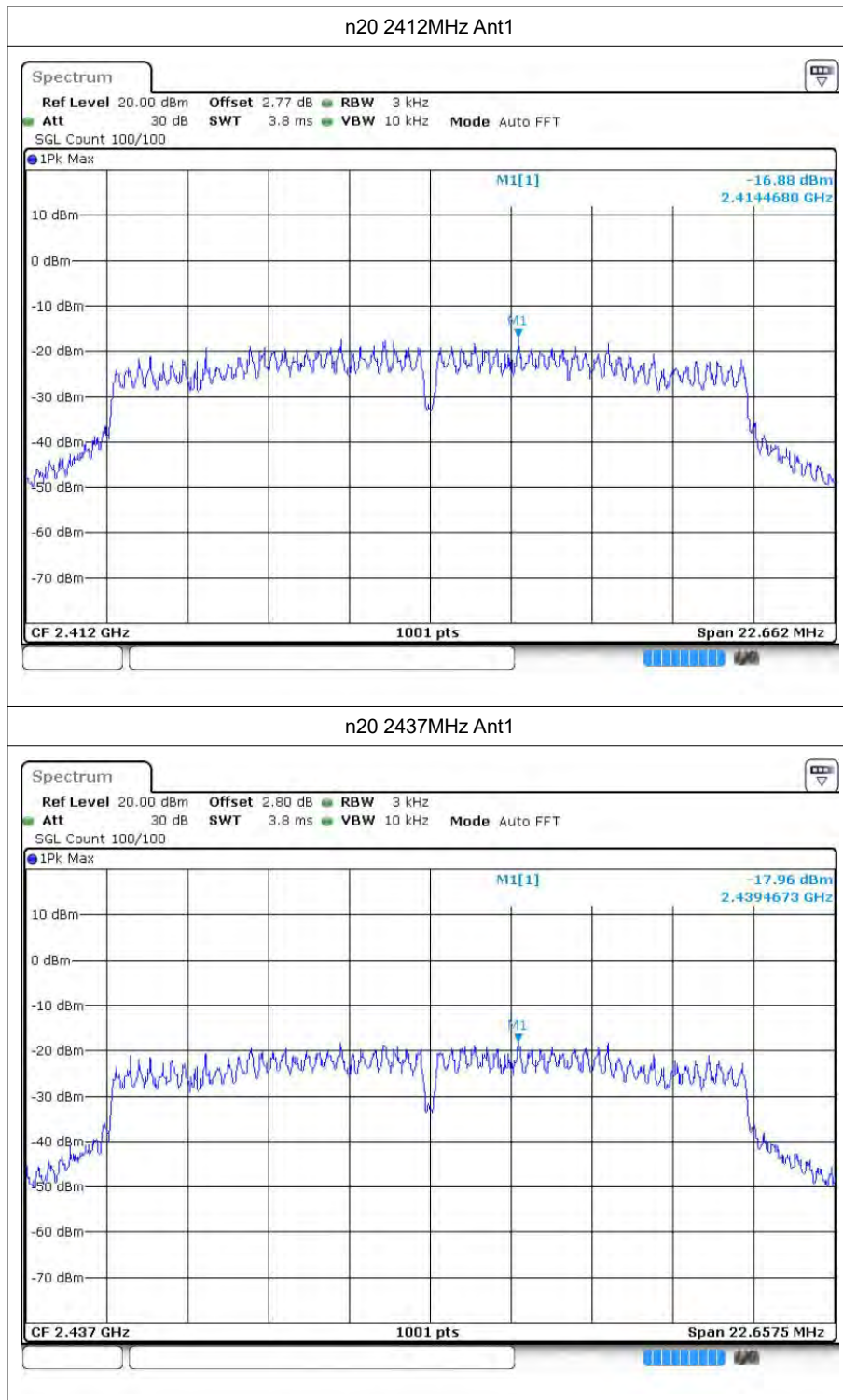
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-13.58	≤8	Pass
b	2437	Ant1	-13.83	≤8	Pass
b	2462	Ant1	-13.63	≤8	Pass
g	2412	Ant1	-16.47	≤8	Pass
g	2437	Ant1	-17.19	≤8	Pass
g	2462	Ant1	-17.16	≤8	Pass
n20	2412	Ant1	-16.88	≤8	Pass
n20	2437	Ant1	-17.96	≤8	Pass
n20	2462	Ant1	-17.57	≤8	Pass
n40	2422	Ant1	-22.38	≤8	Pass
n40	2437	Ant1	-21.72	≤8	Pass
n40	2452	Ant1	-21.95	≤8	Pass
ax20	2412	Ant1	-5.14	≤8	Pass
ax20	2437	Ant1	-4.7	≤8	Pass
ax20	2462	Ant1	-4.47	≤8	Pass
ax40	2422	Ant1	-8.72	≤8	Pass
ax40	2437	Ant1	-8.36	≤8	Pass
ax40	2452	Ant1	-8.58	≤8	Pass

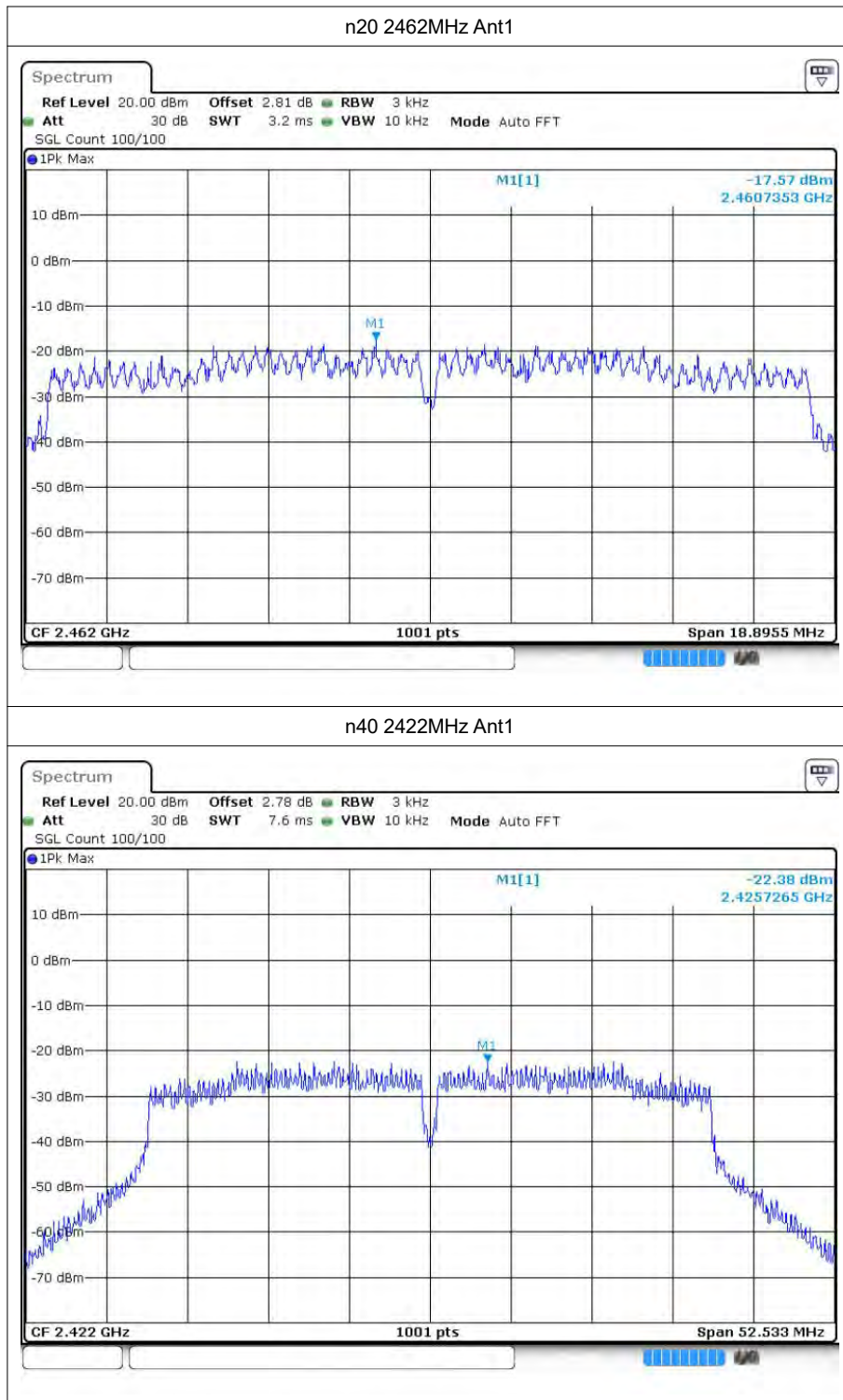
4.2 Test Graphs

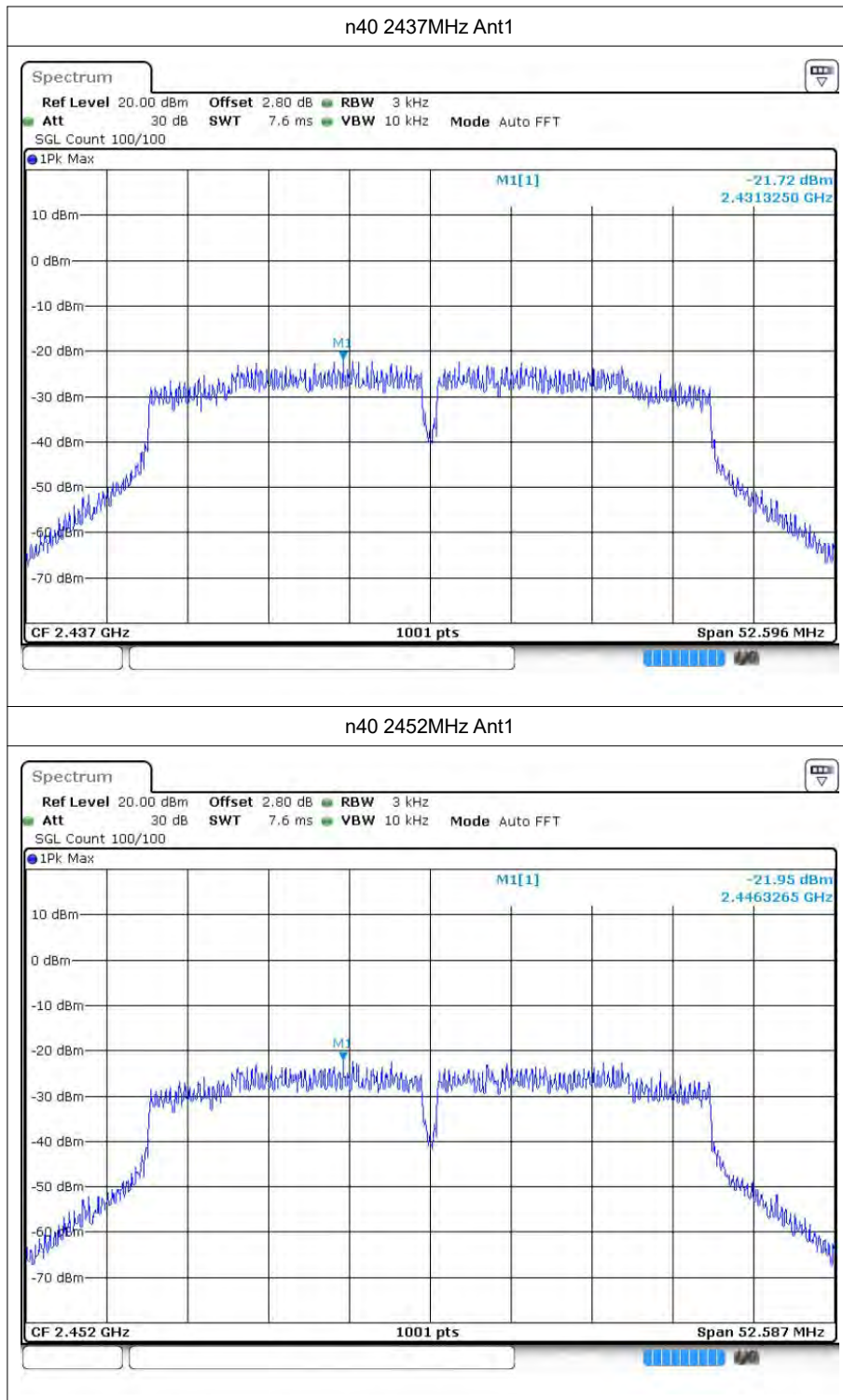


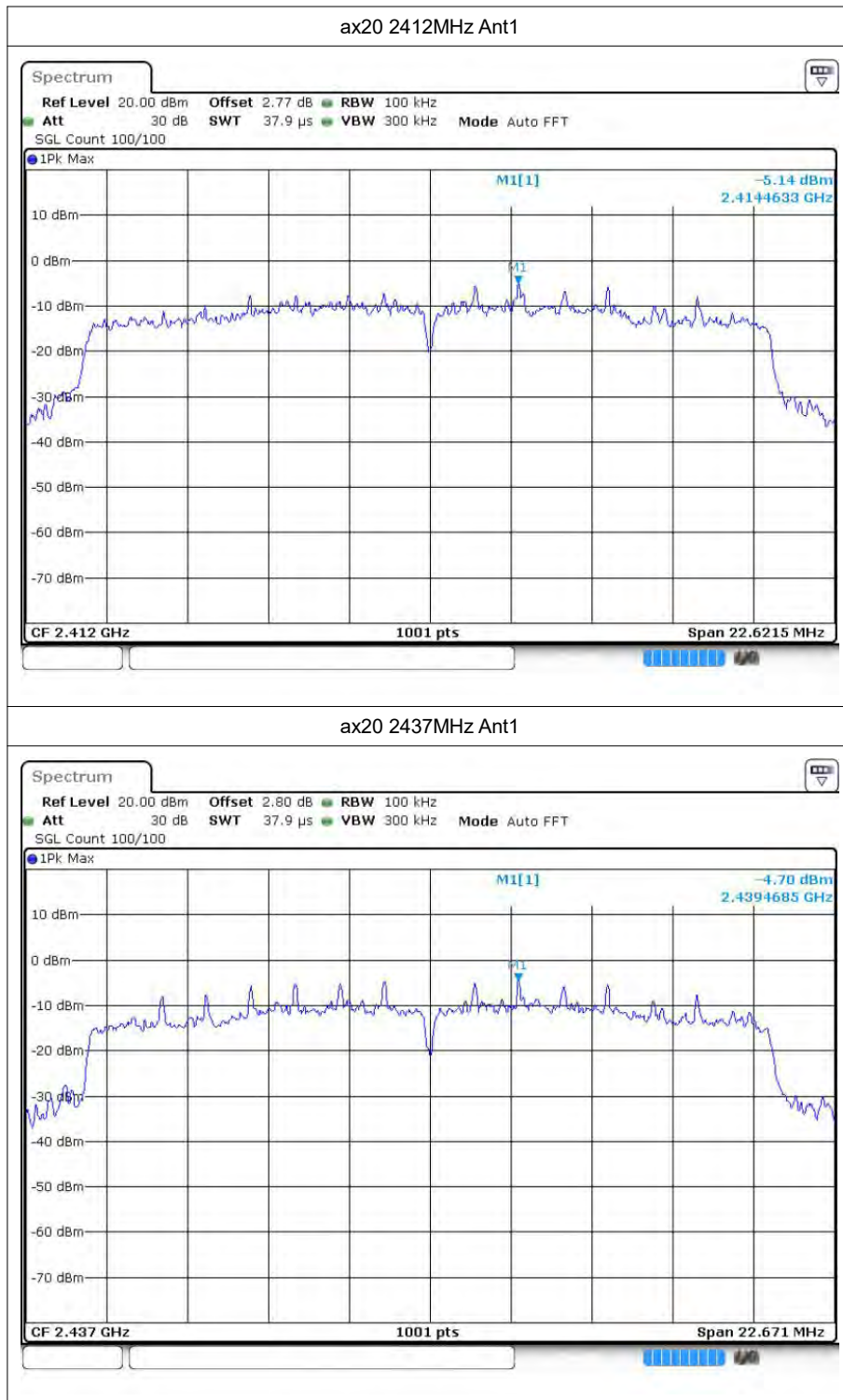


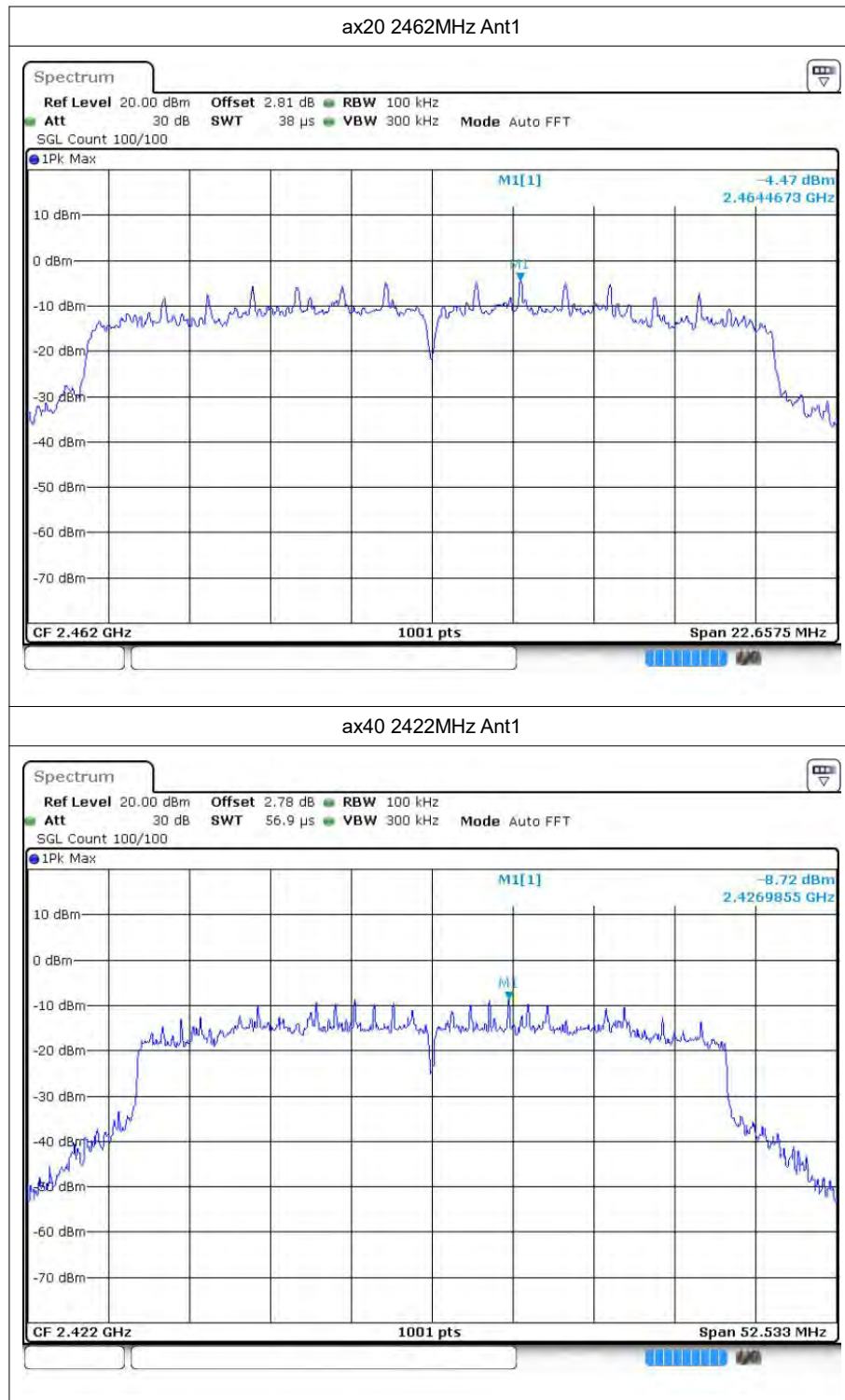


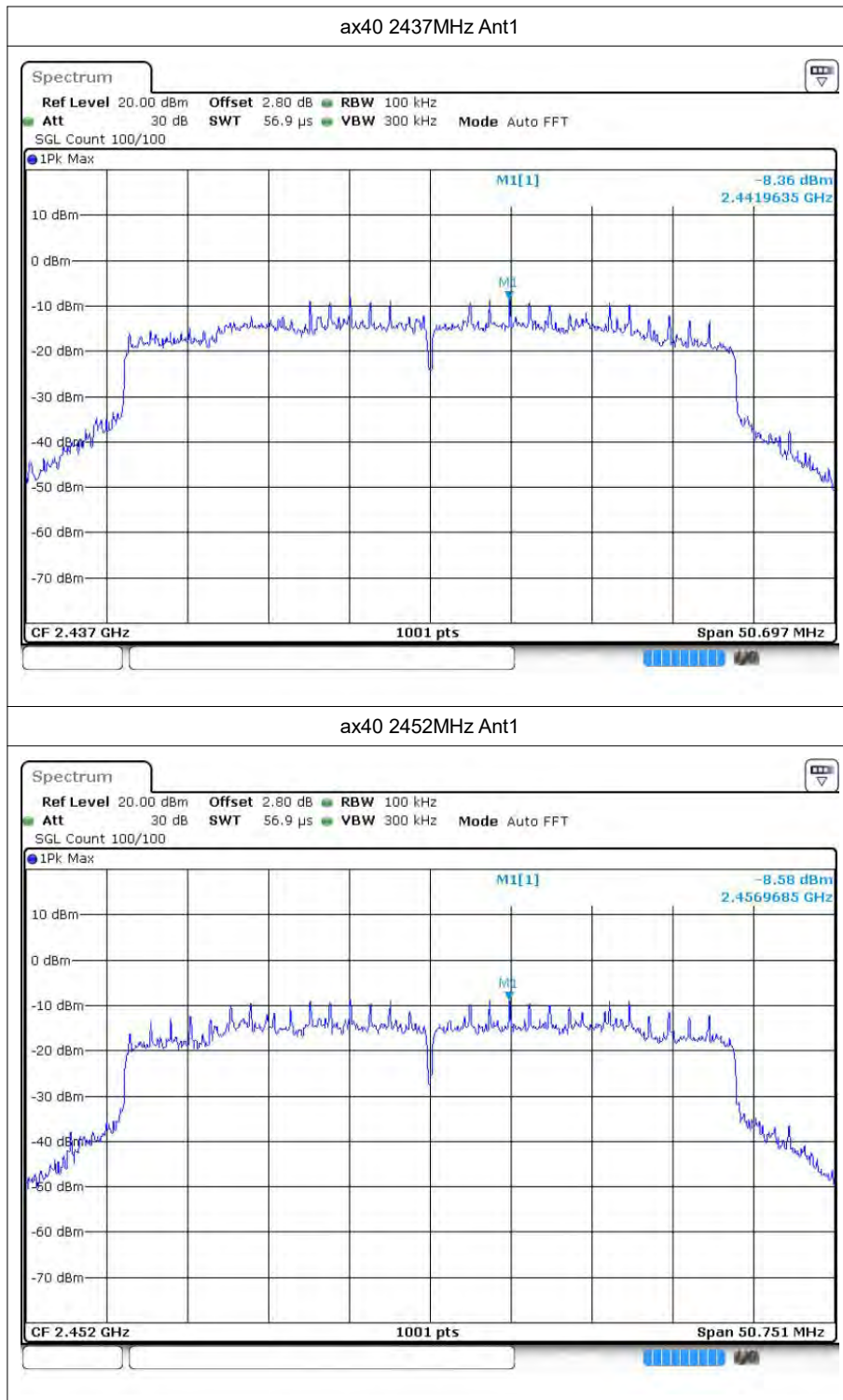












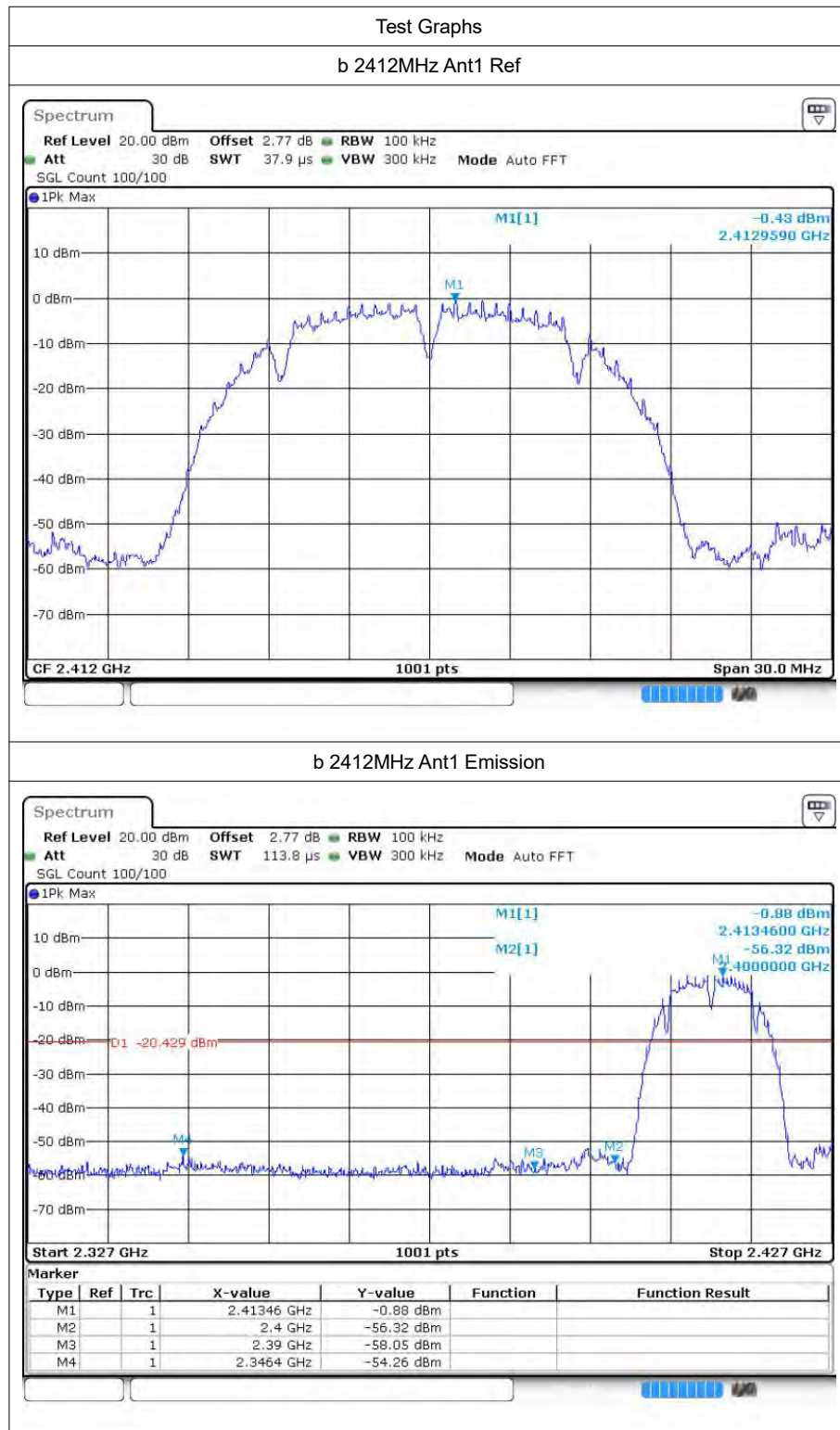


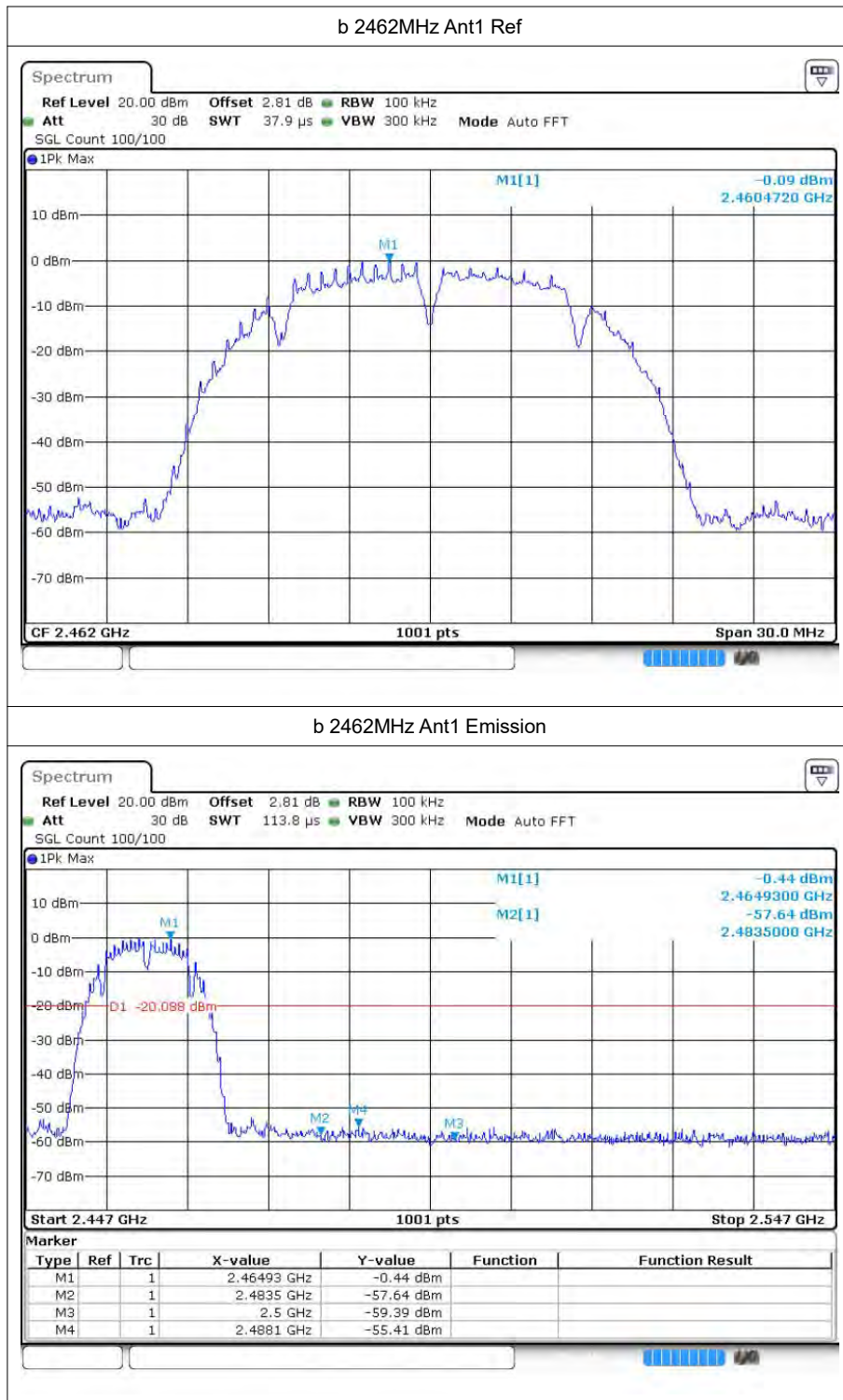
5 Band Edge

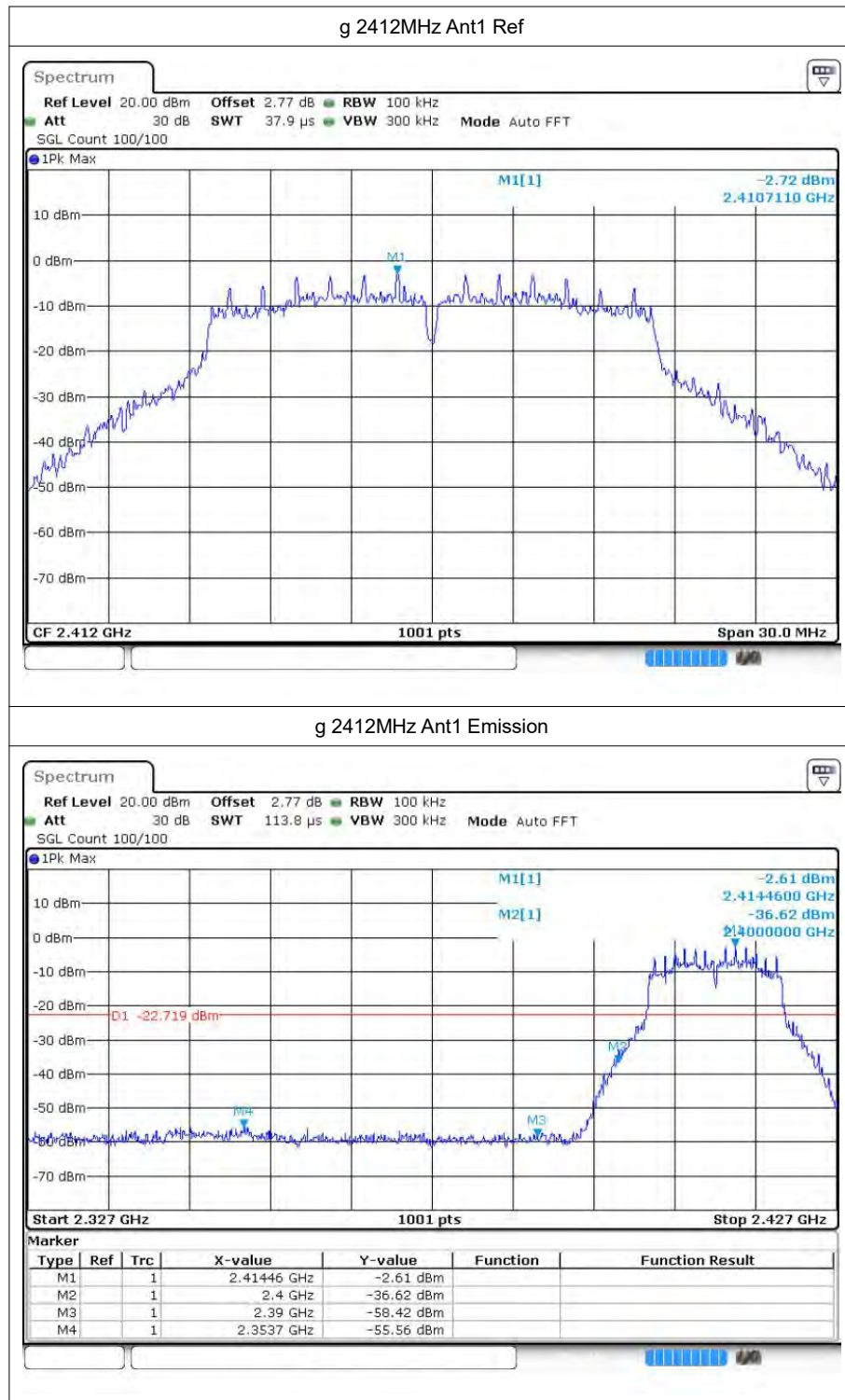
5.1 Test Result

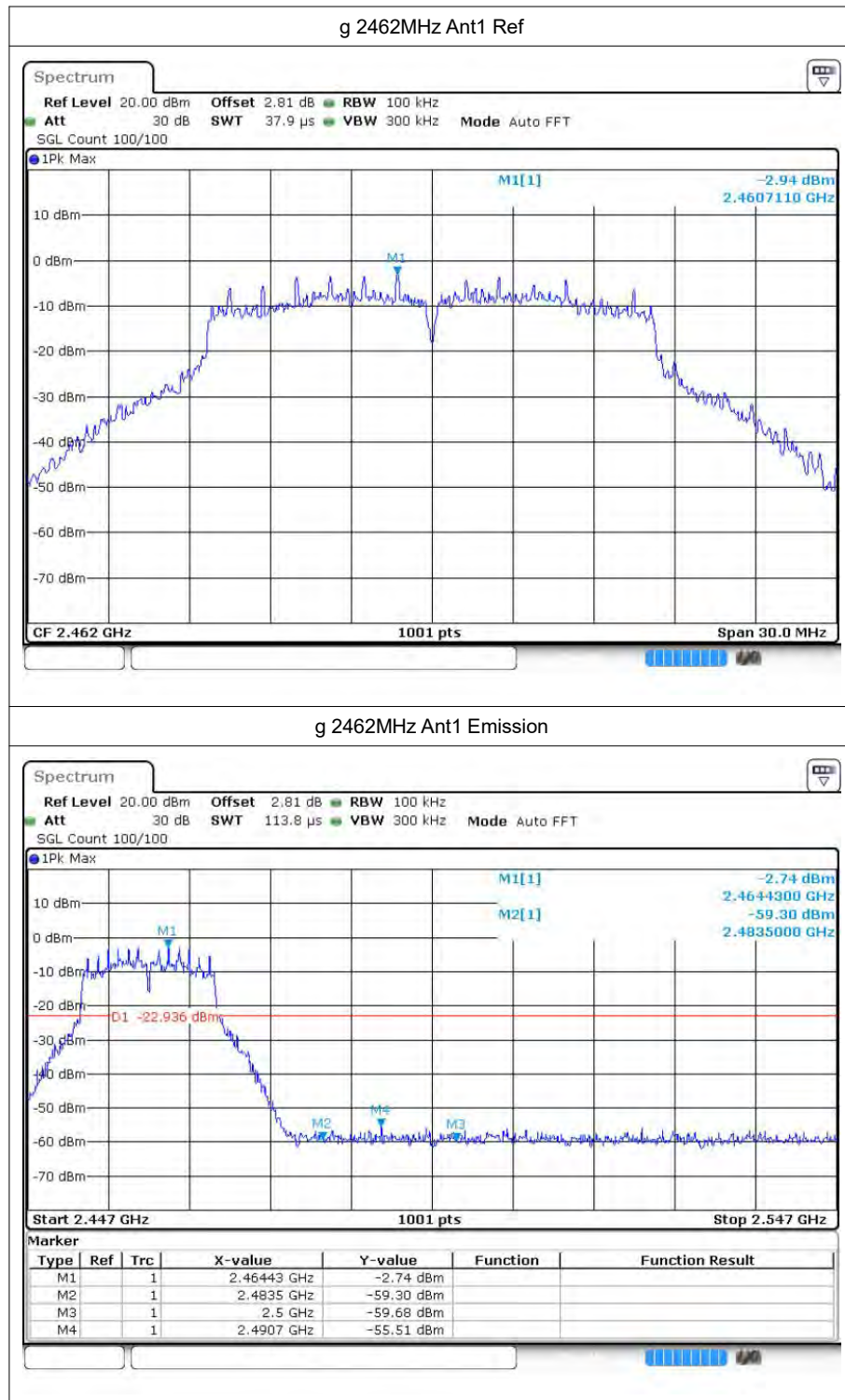
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-53.82	-20	Pass
b	2462	Ant1	-55.32	-20	Pass
g	2412	Ant1	-52.83	-20	Pass
g	2462	Ant1	-52.57	-20	Pass
n20	2412	Ant1	-50.9	-20	Pass
n20	2462	Ant1	-52.56	-20	Pass
n40	2422	Ant1	-48.38	-20	Pass
n40	2452	Ant1	-47.59	-20	Pass
ax20	2412	Ant1	-50.79	-20	Pass
ax20	2462	Ant1	-52.36	-20	Pass
ax40	2422	Ant1	-47.66	-20	Pass
ax40	2452	Ant1	-46.36	-20	Pass

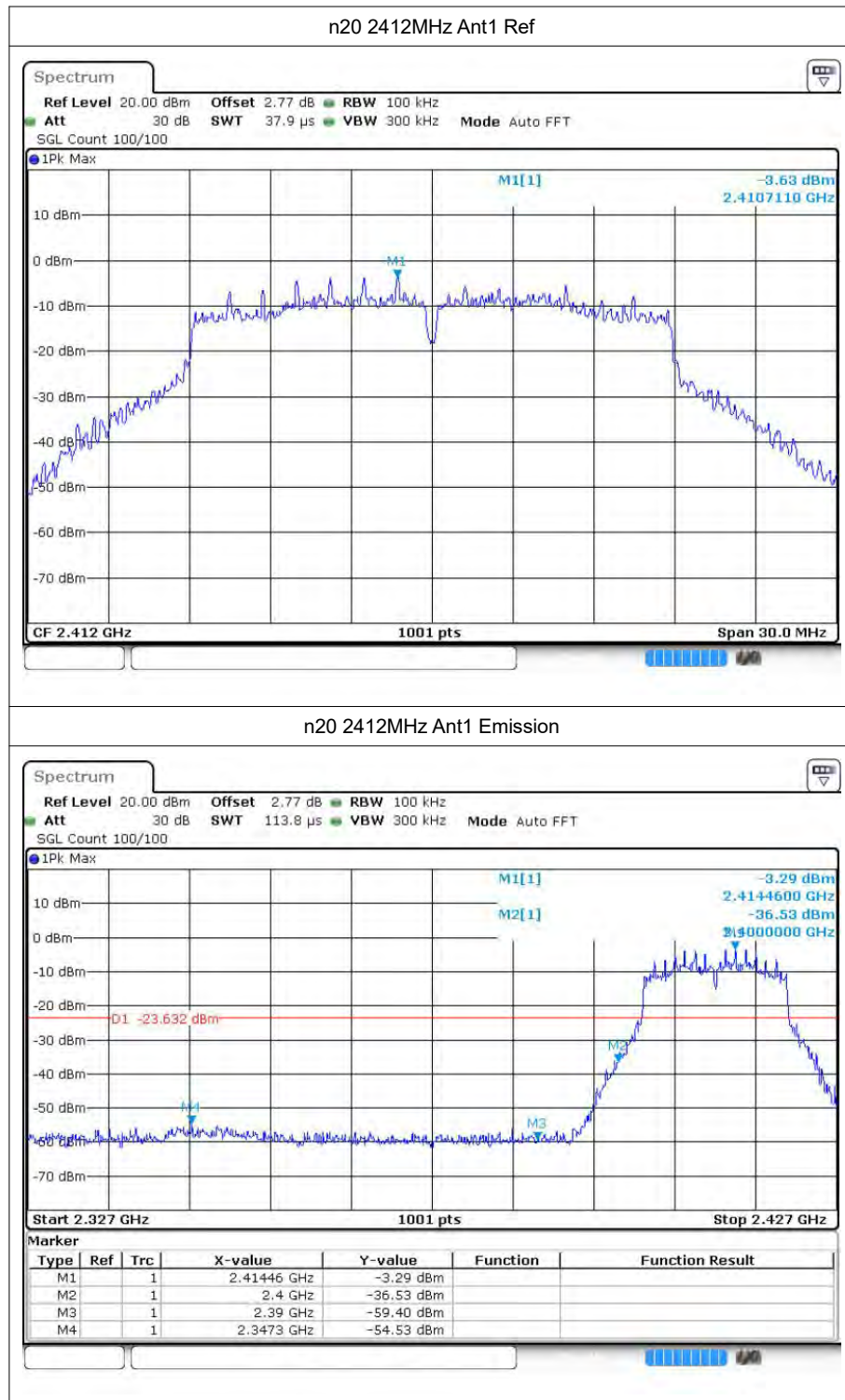
5.2 Test Graphs

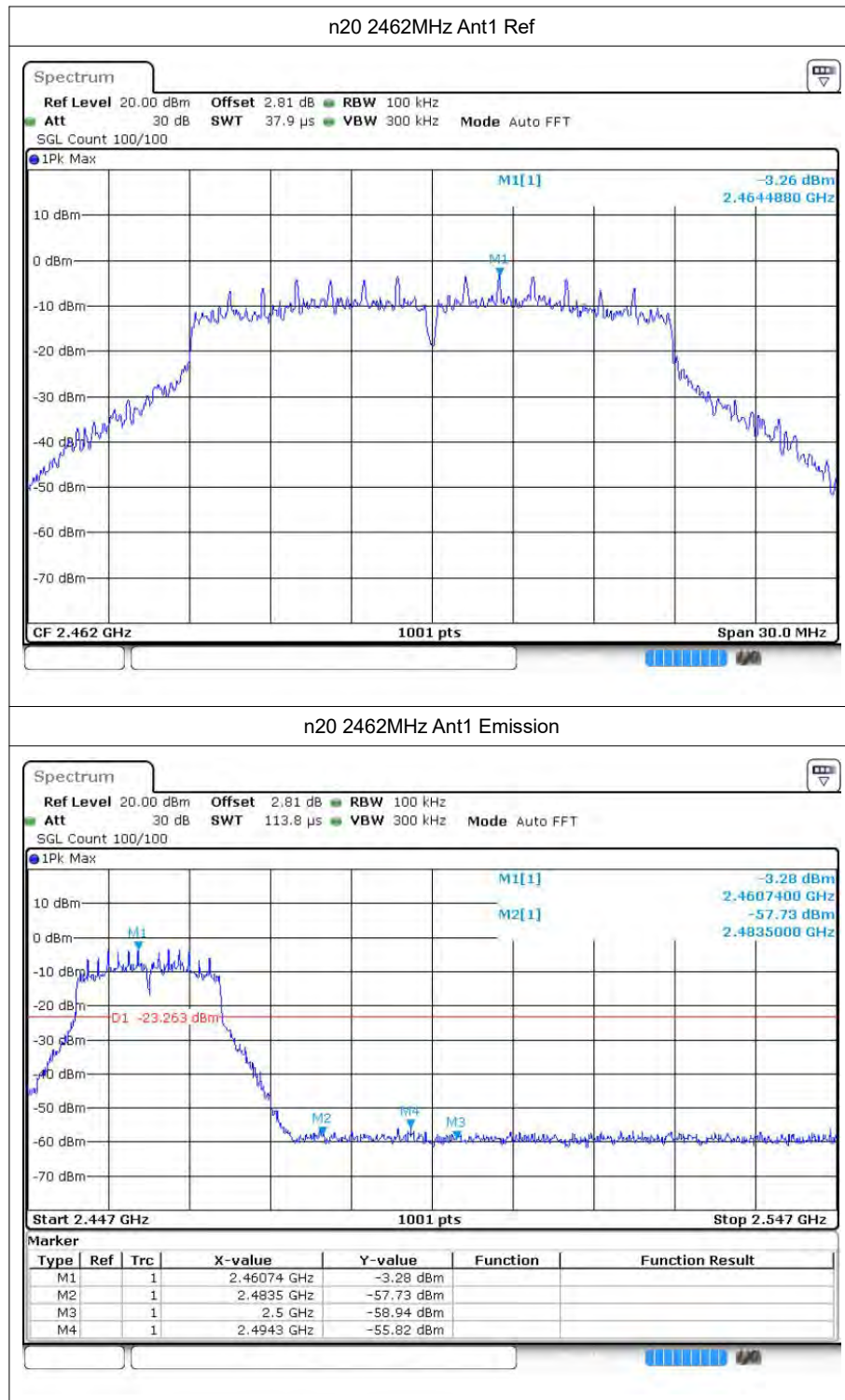


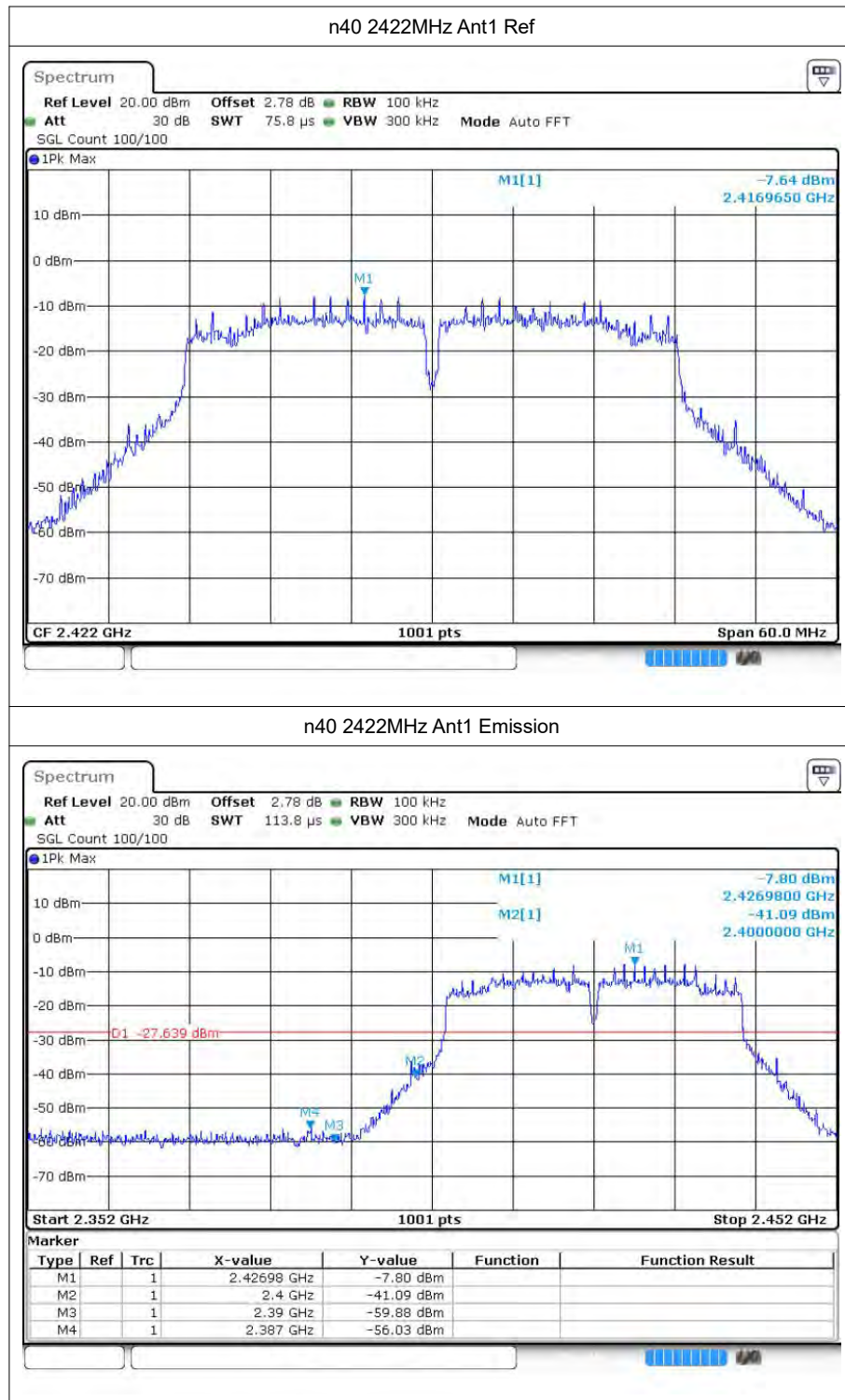


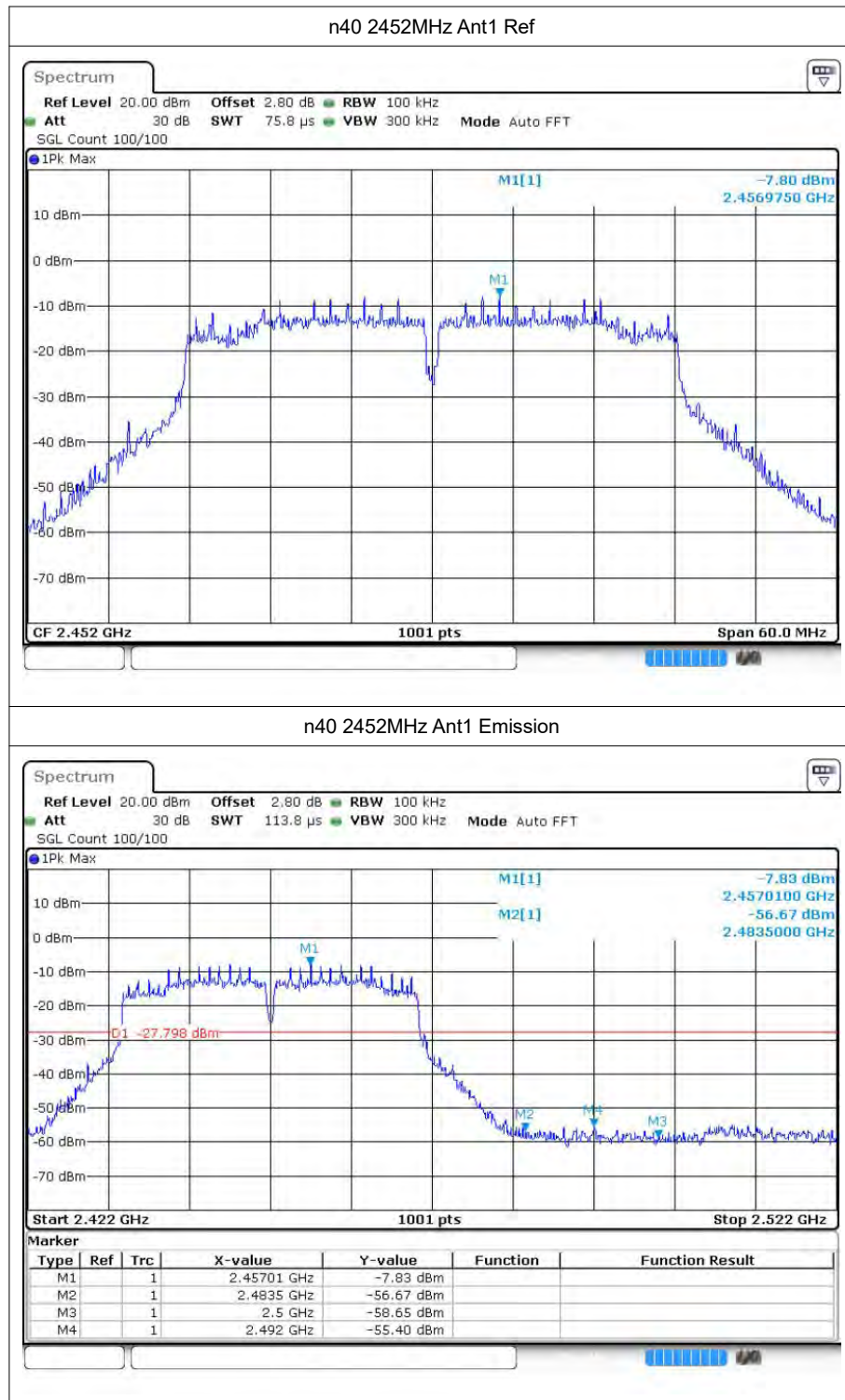


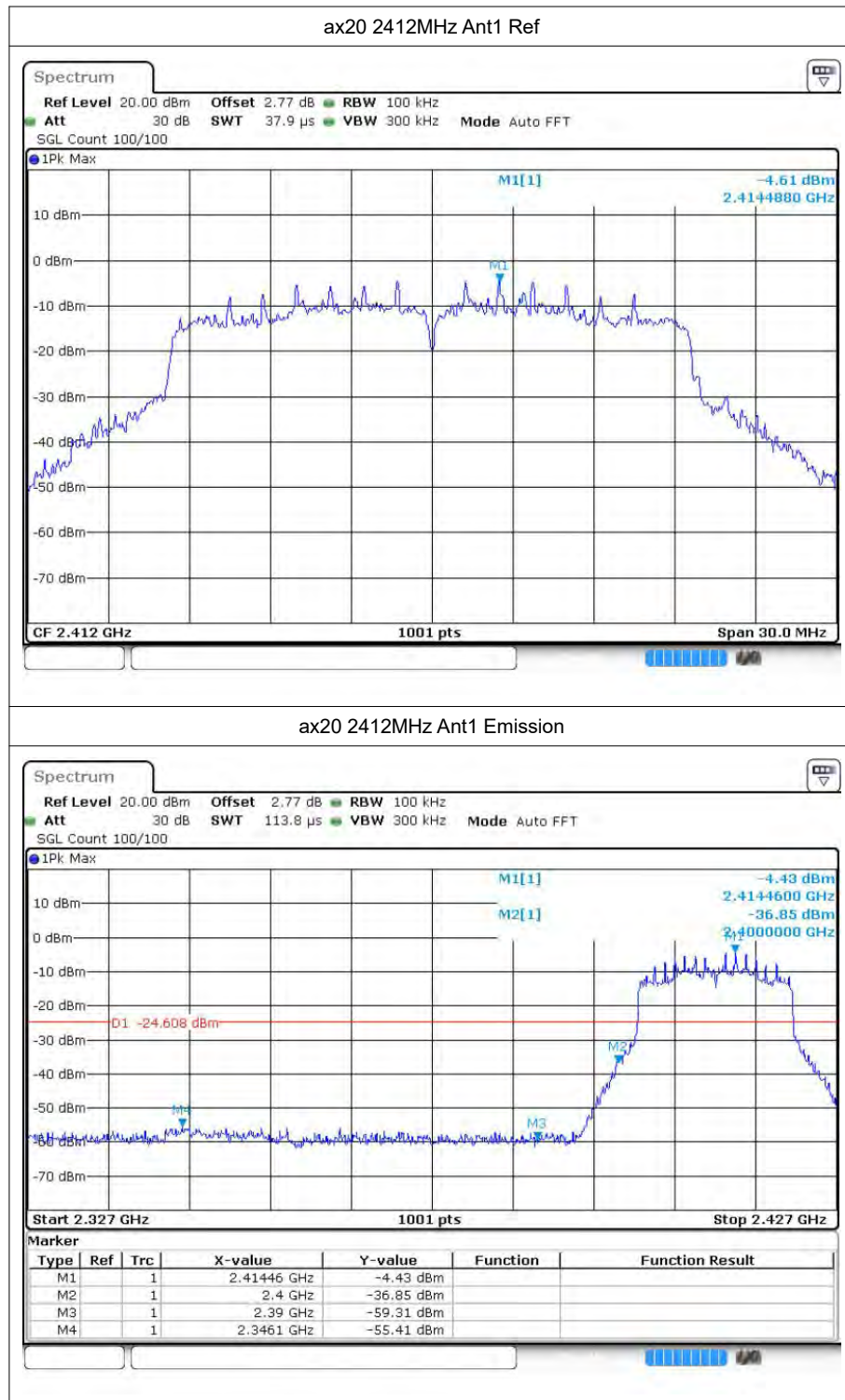


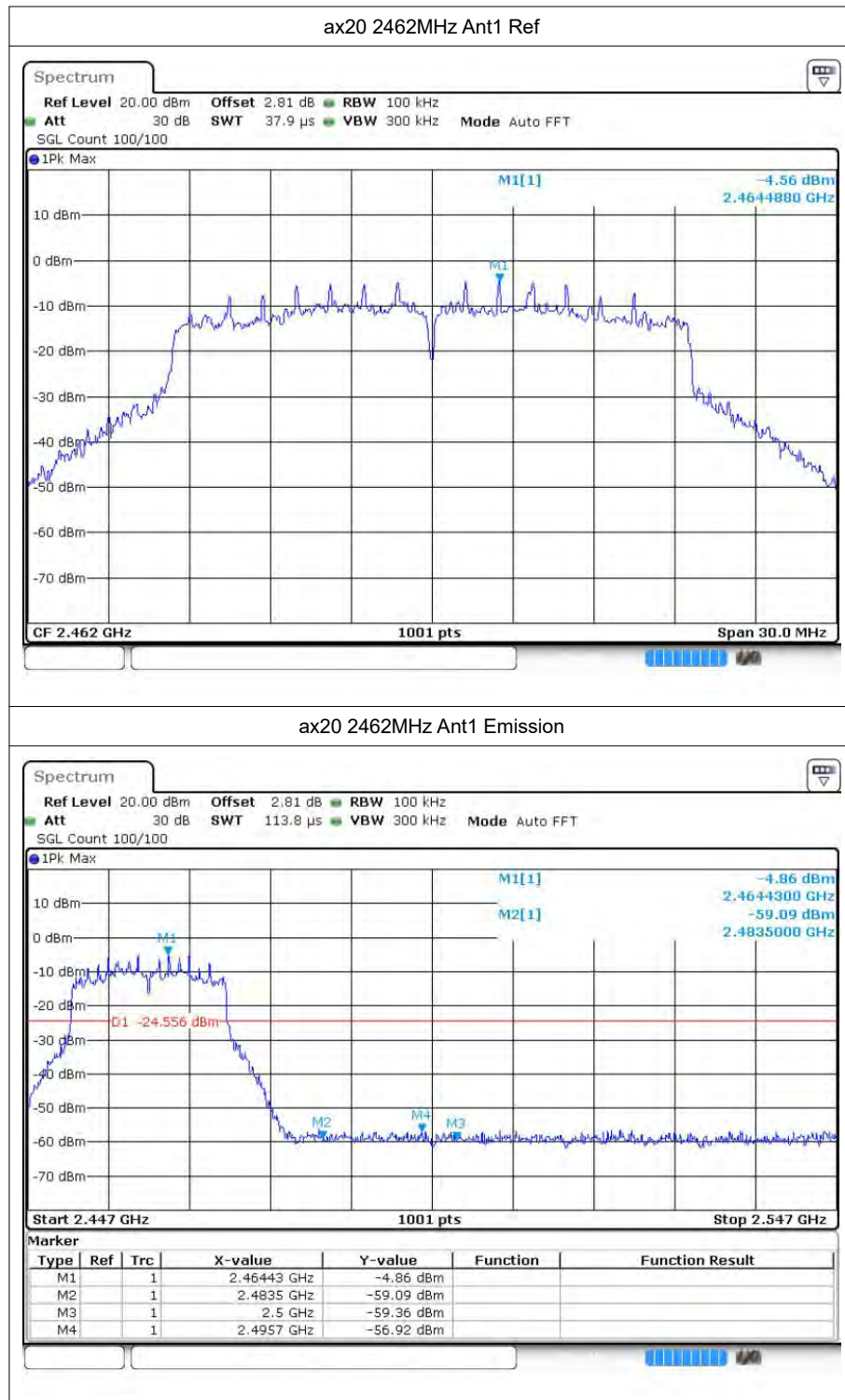


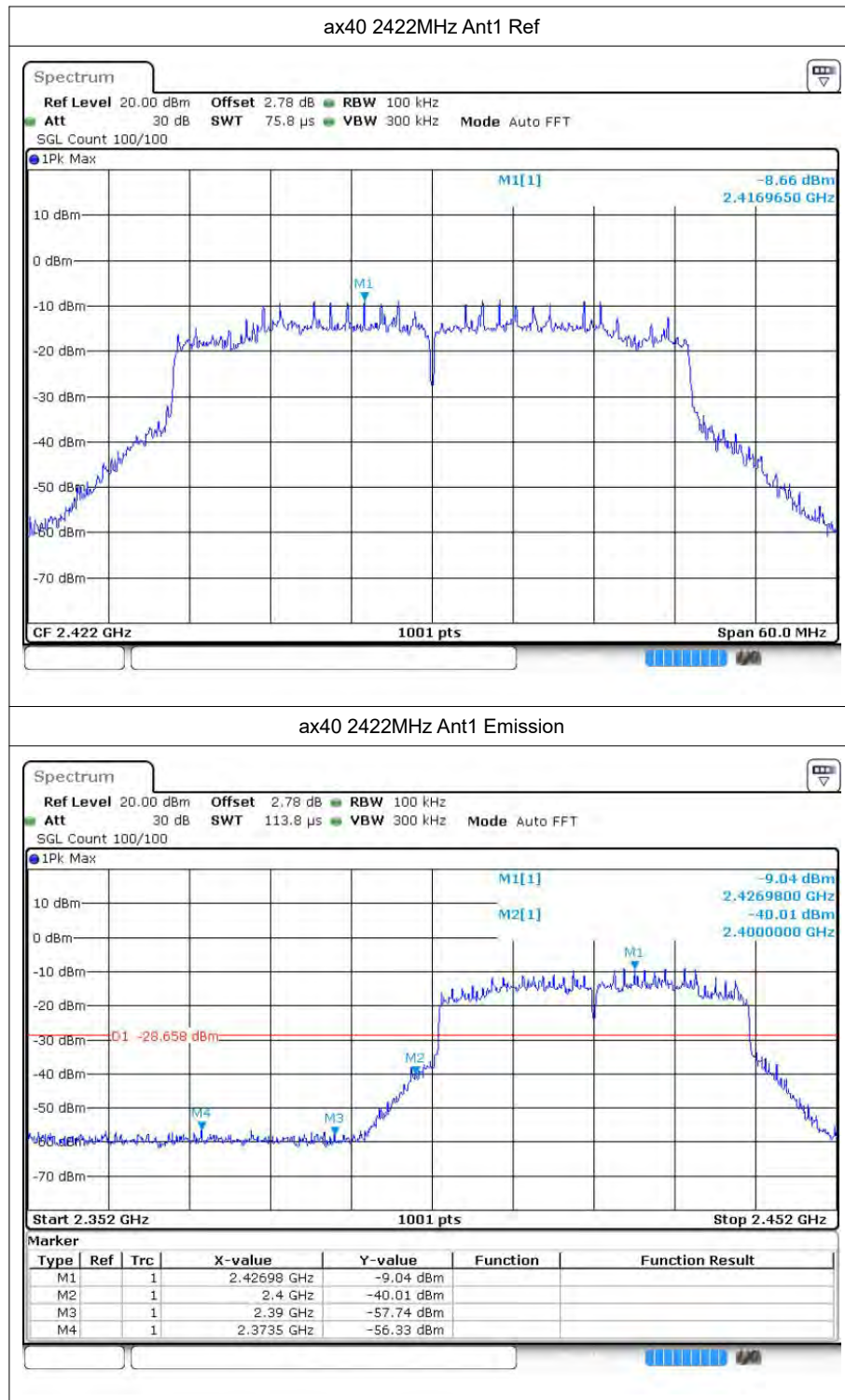


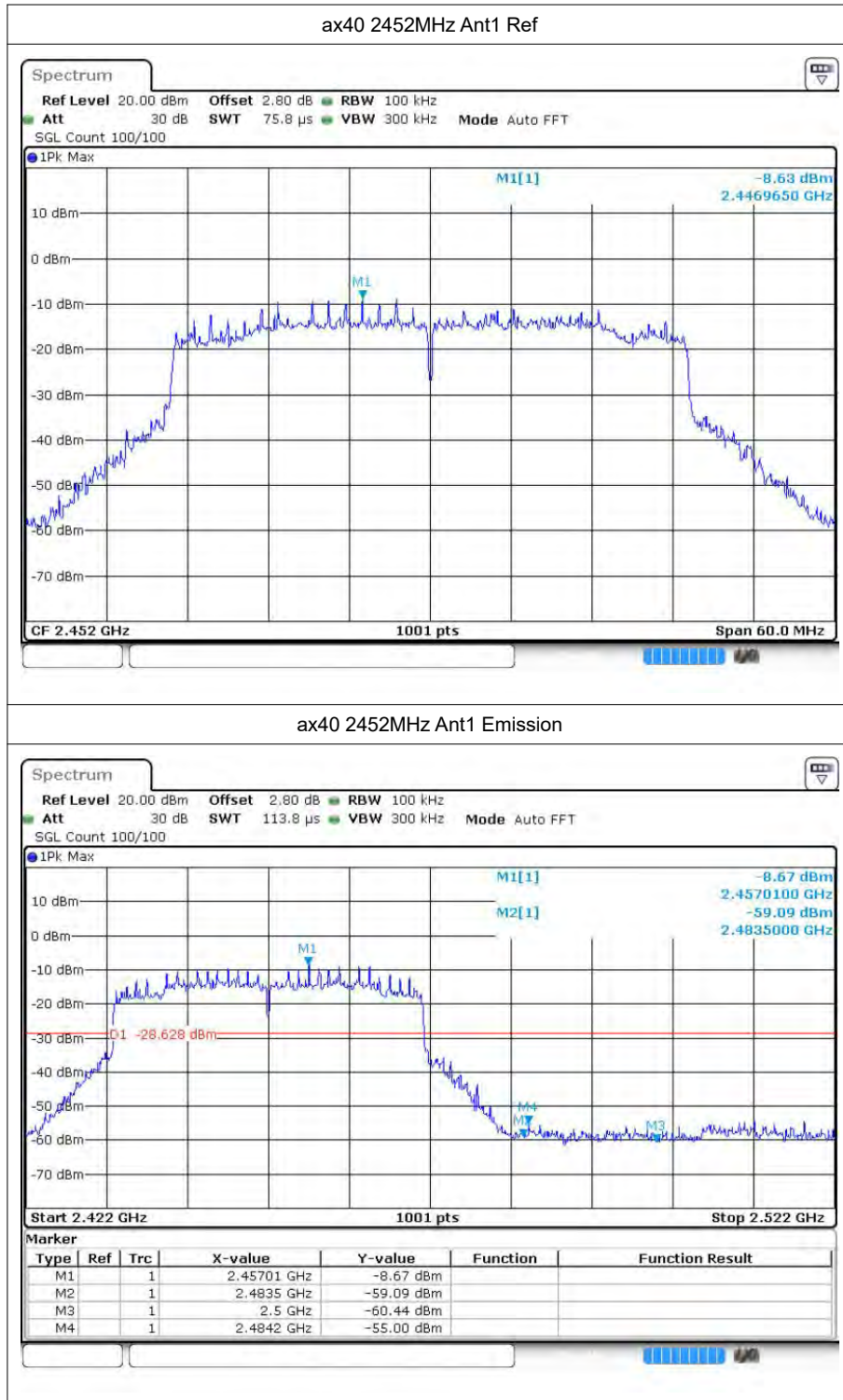












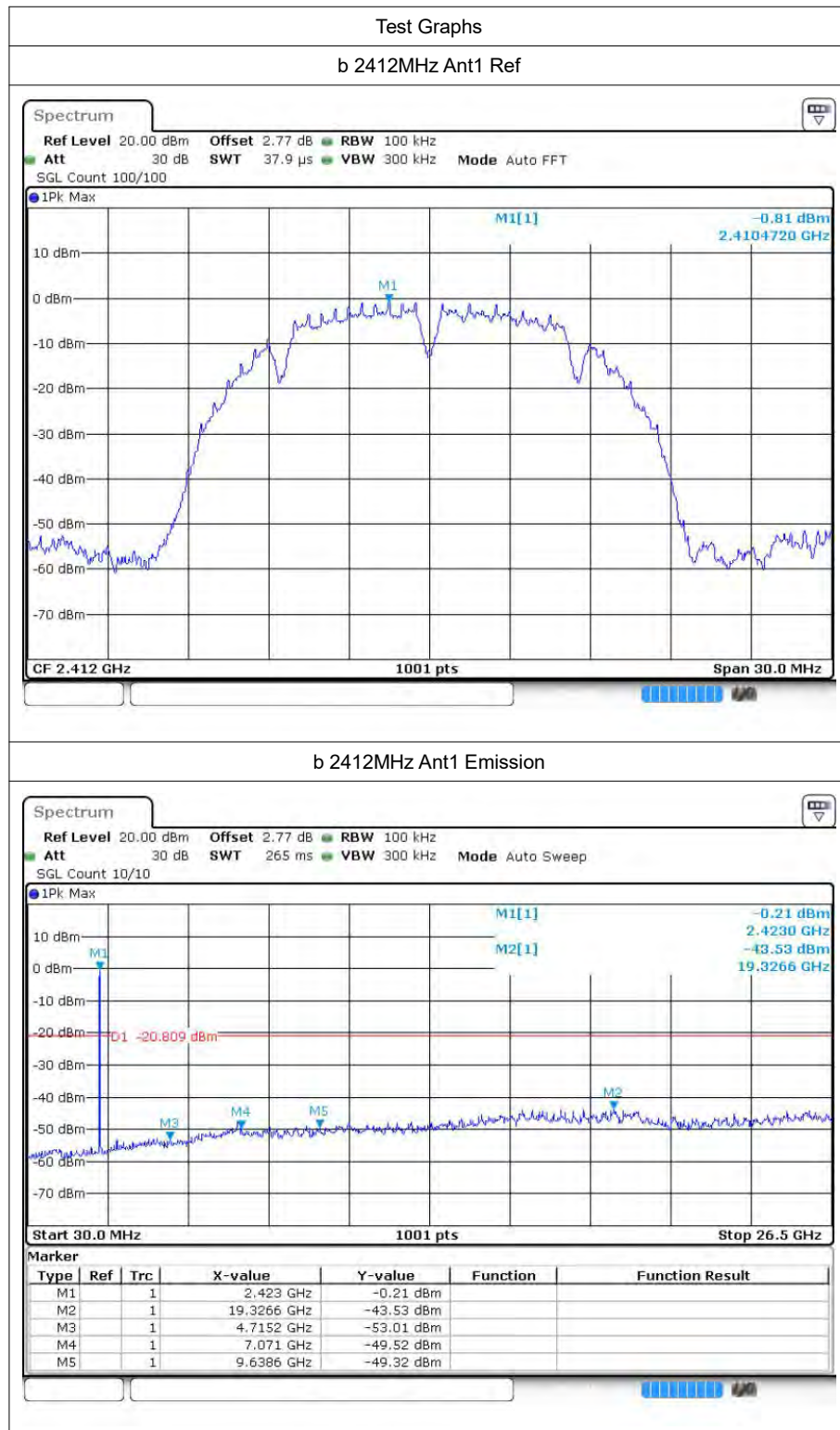


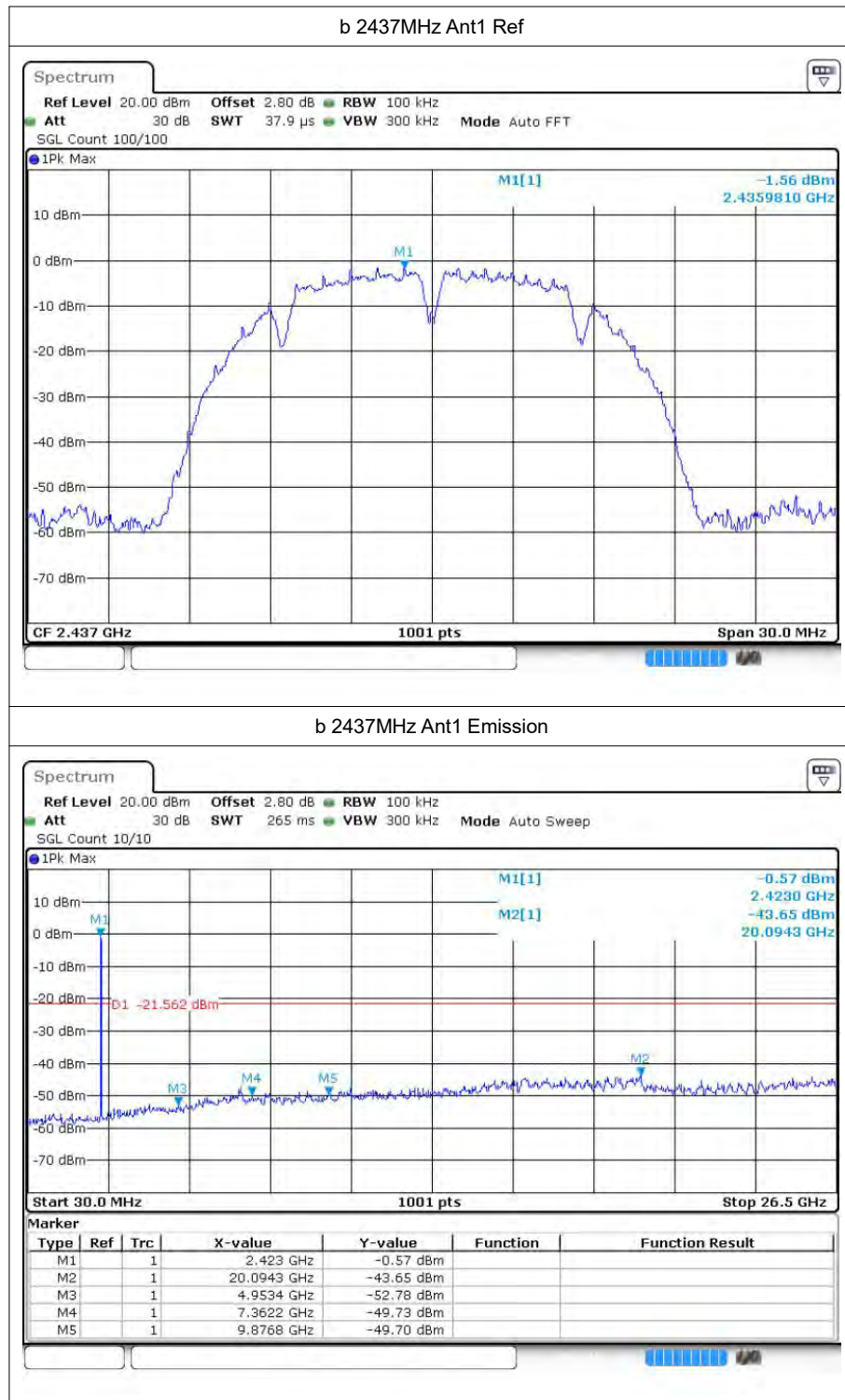
6 Conducted RF Spurious Emission

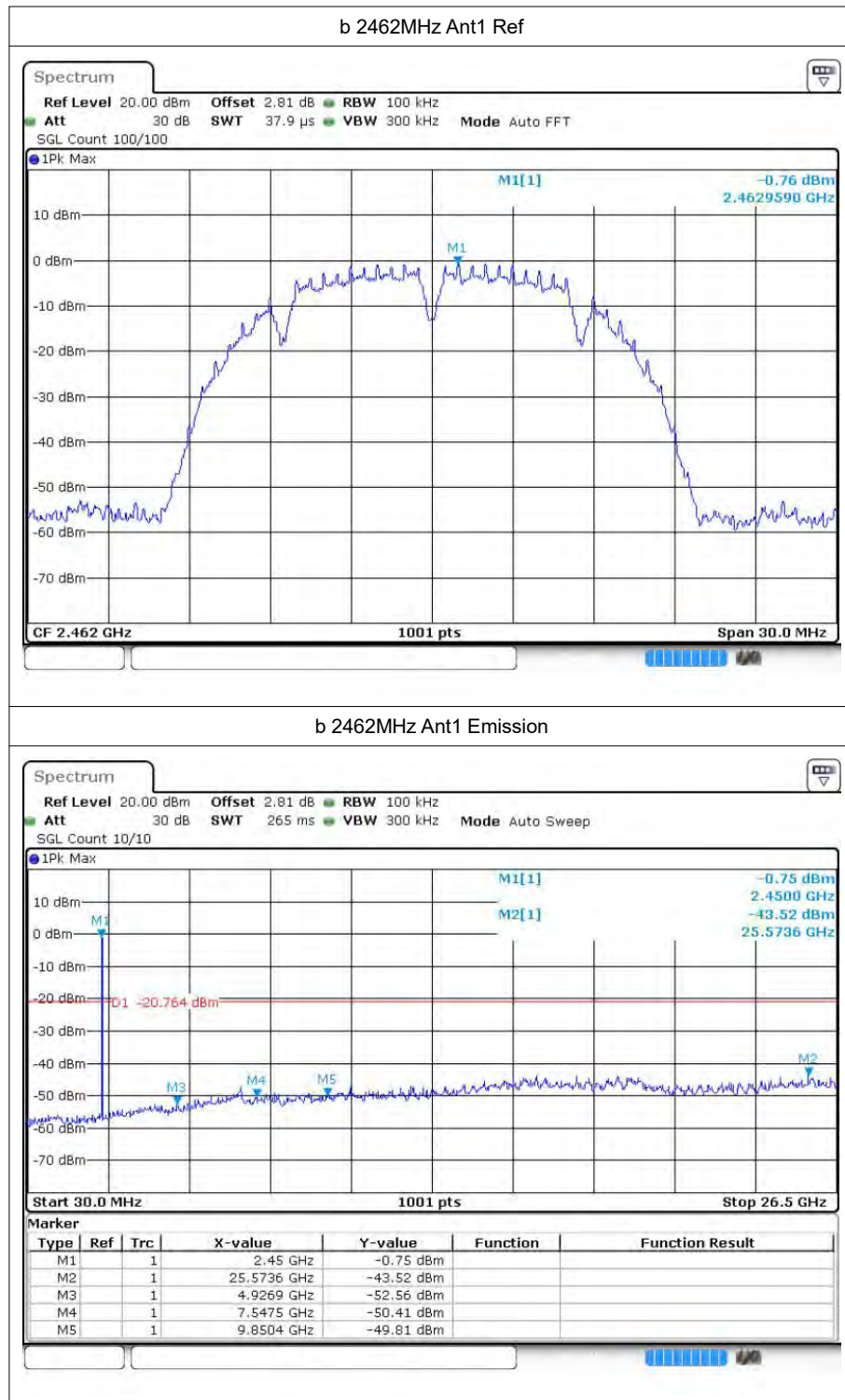
6.1 Test Result

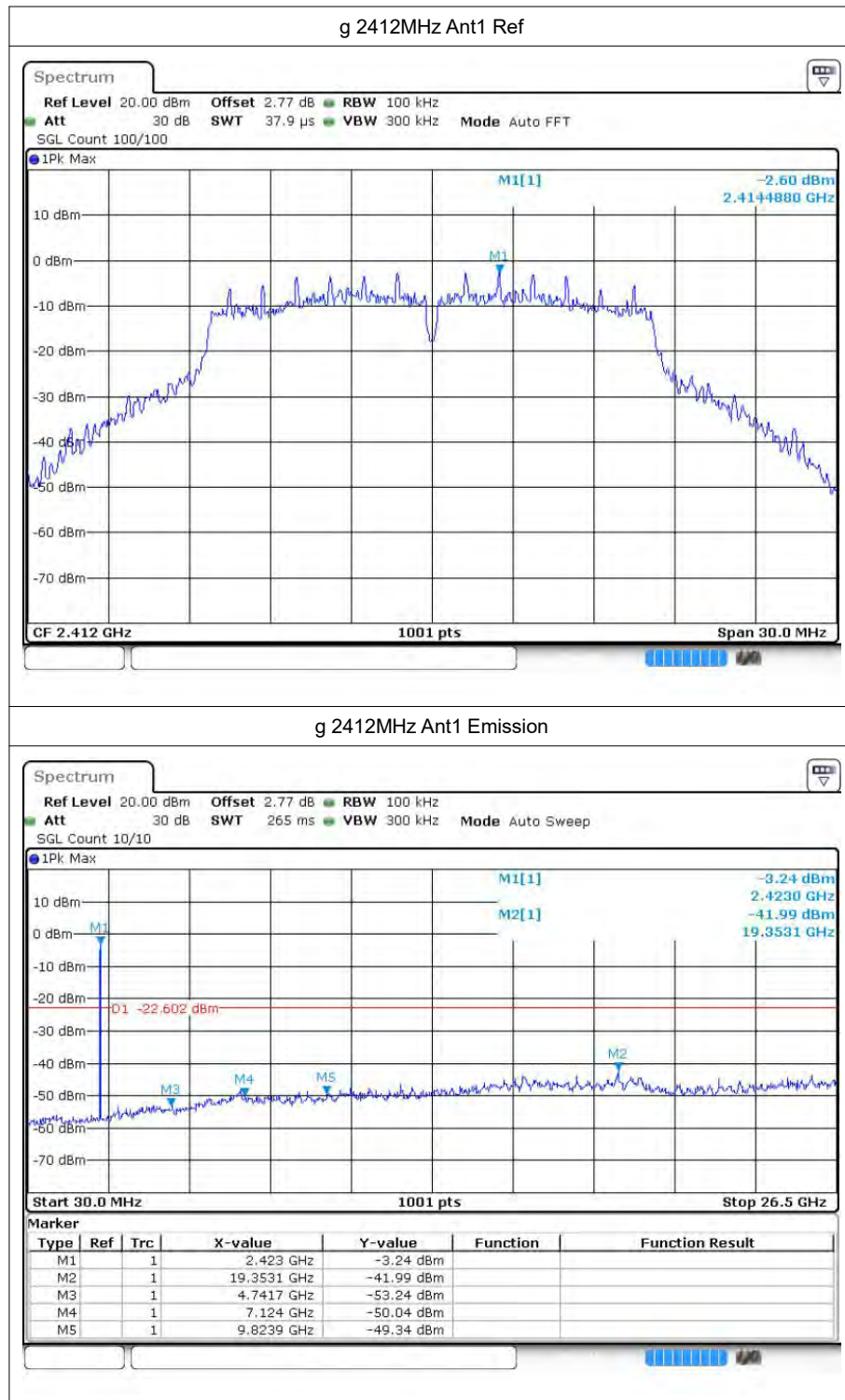
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-42.71	-20	Pass
b	2437	Ant1	-42.08	-20	Pass
b	2462	Ant1	-42.76	-20	Pass
g	2412	Ant1	-39.38	-20	Pass
g	2437	Ant1	-40.5	-20	Pass
g	2462	Ant1	-39.53	-20	Pass
n20	2412	Ant1	-40.44	-20	Pass
n20	2437	Ant1	-39.73	-20	Pass
n20	2462	Ant1	-39.69	-20	Pass
n40	2422	Ant1	-35.72	-20	Pass
n40	2437	Ant1	-36.2	-20	Pass
n40	2452	Ant1	-35.5	-20	Pass
ax20	2412	Ant1	-38.58	-20	Pass
ax20	2437	Ant1	-38.34	-20	Pass
ax20	2462	Ant1	-38.76	-20	Pass
ax40	2422	Ant1	-34.53	-20	Pass
ax40	2437	Ant1	-35.35	-20	Pass
ax40	2452	Ant1	-34.77	-20	Pass

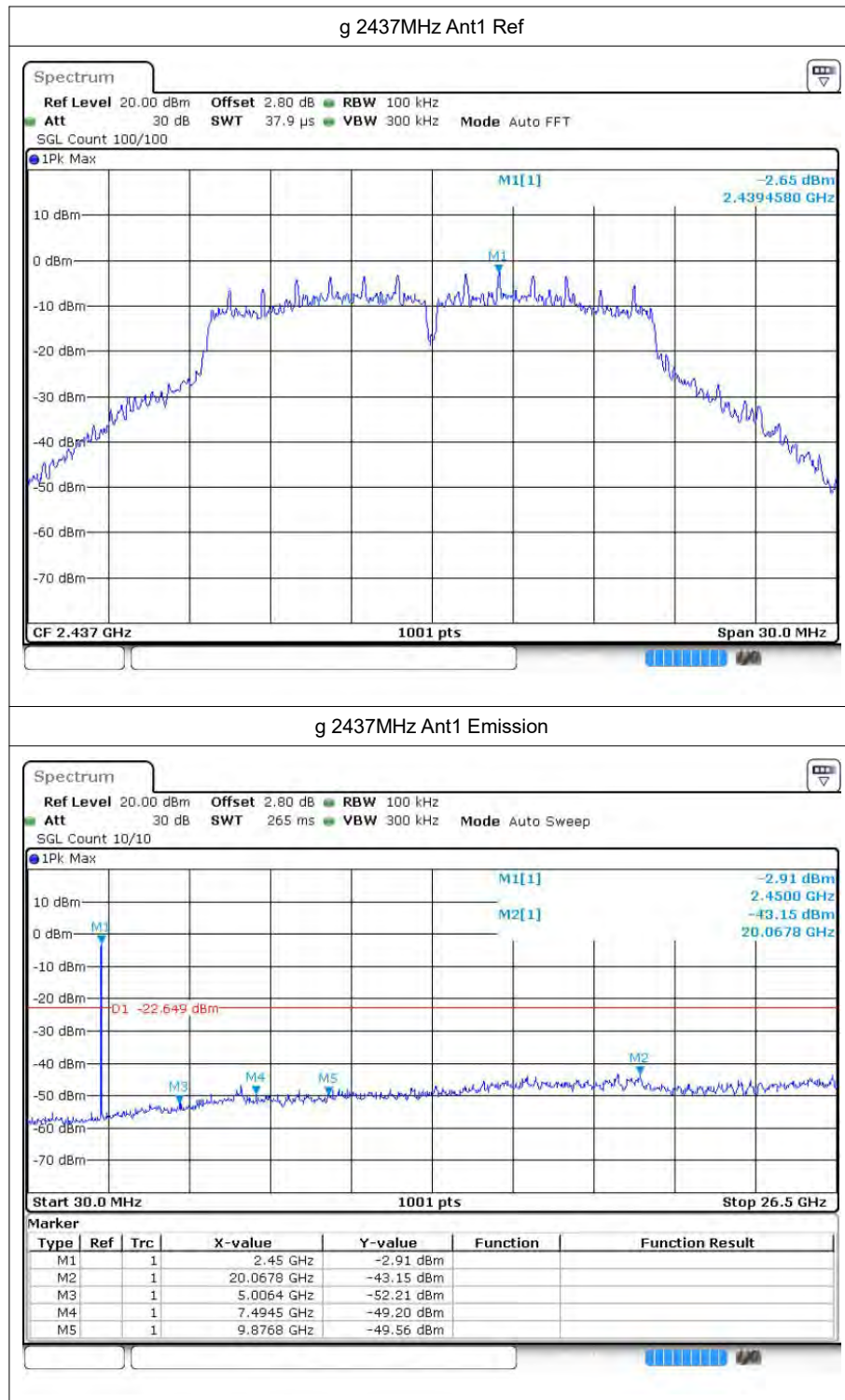
6.2 Test Graphs

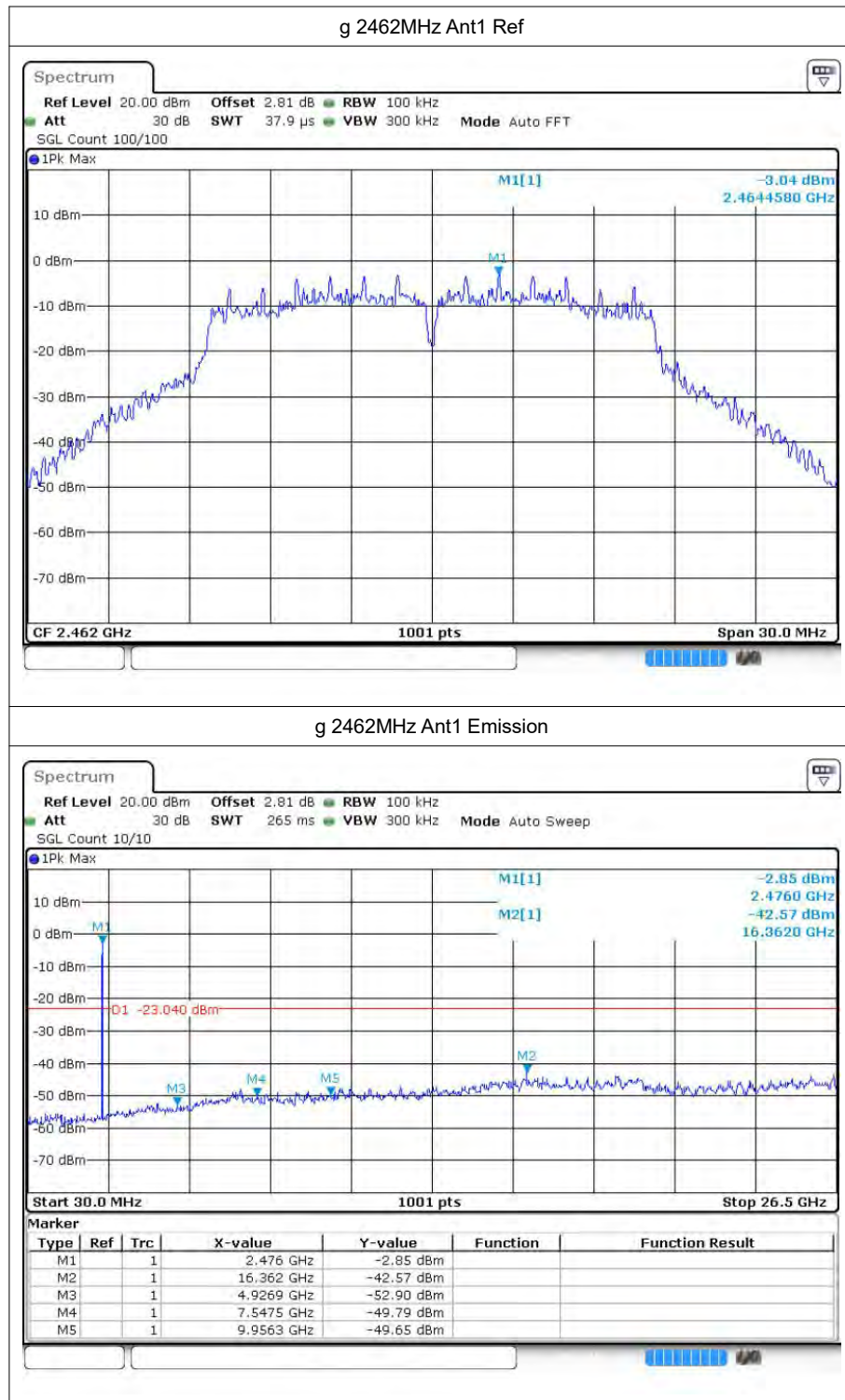


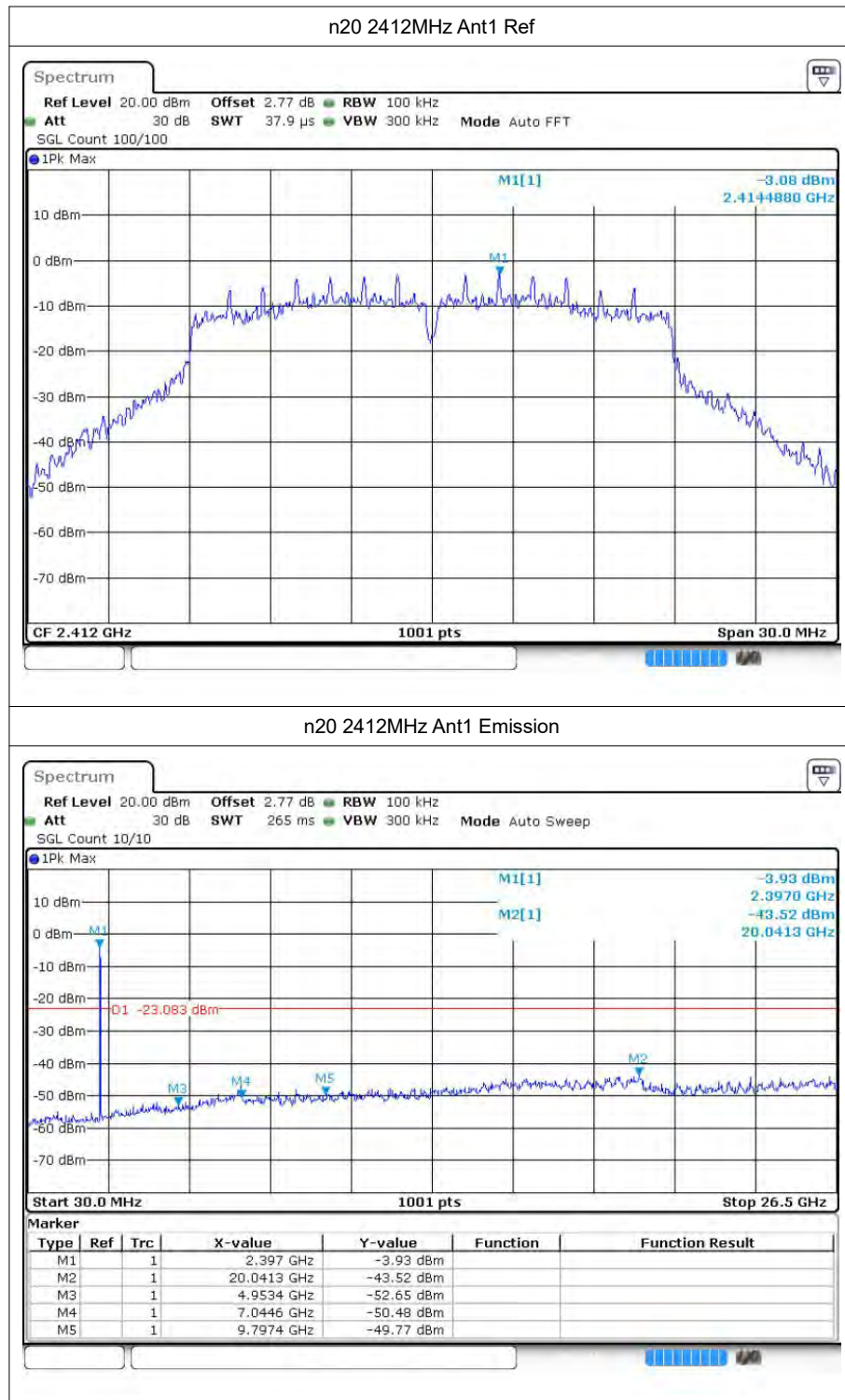


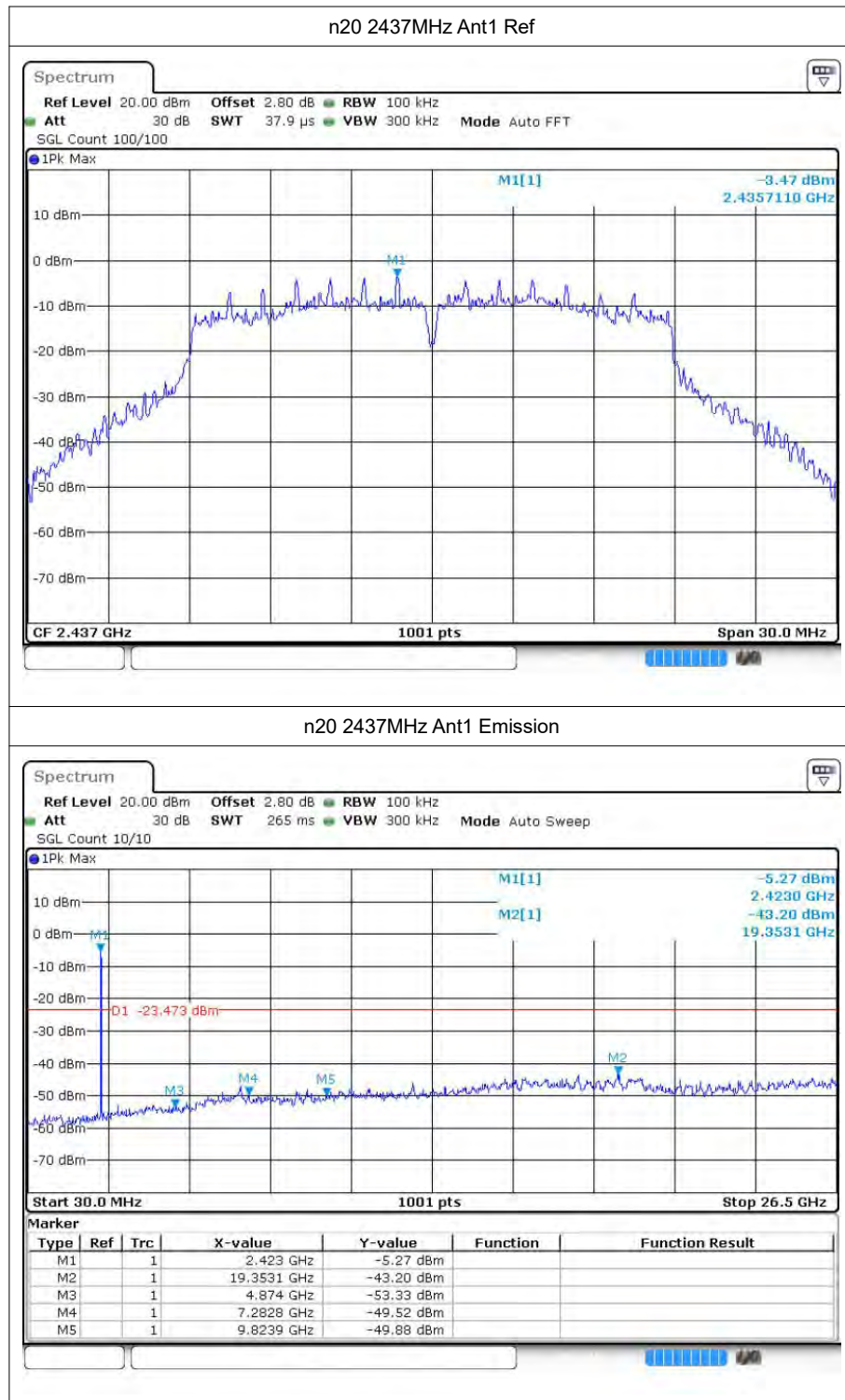


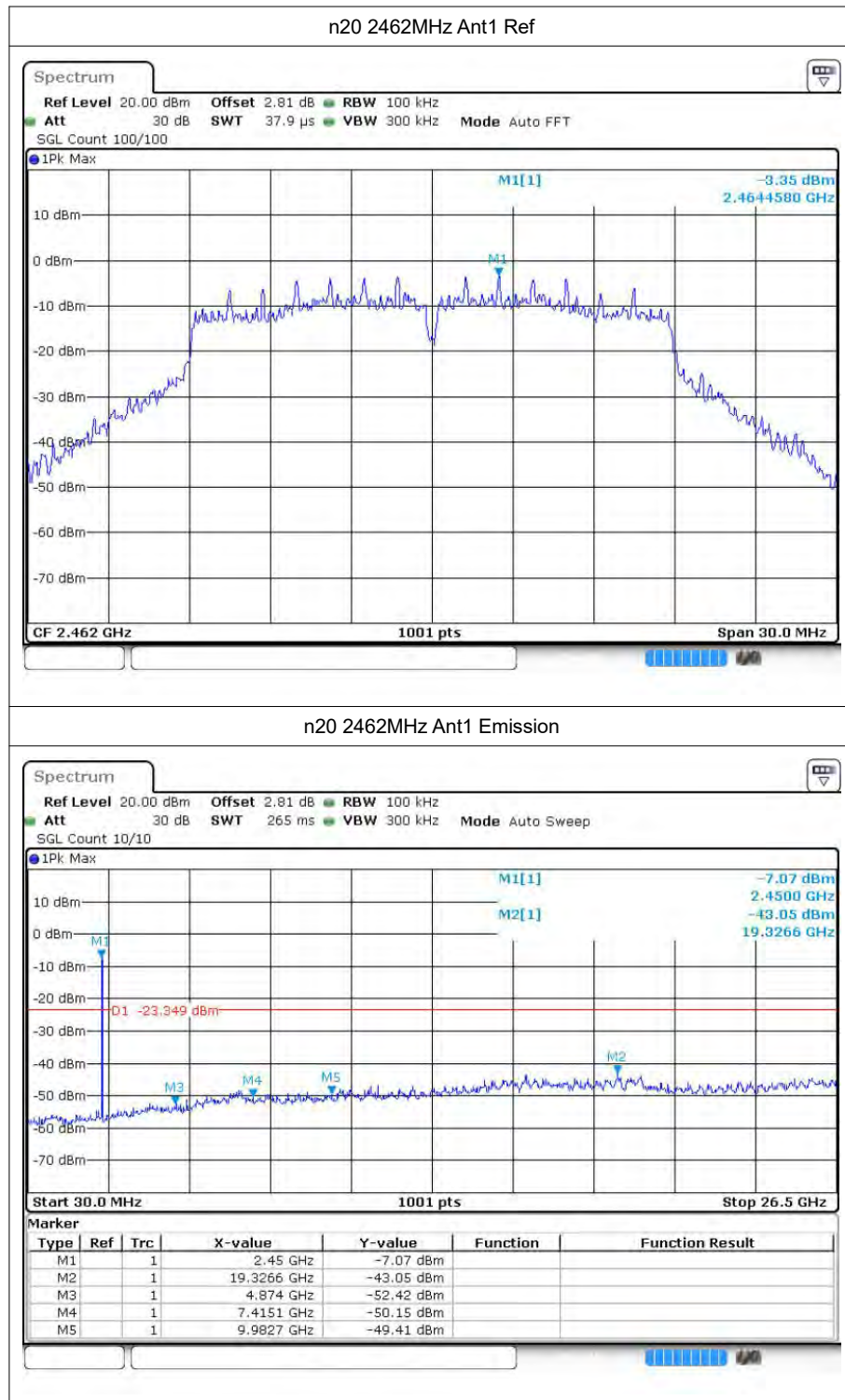


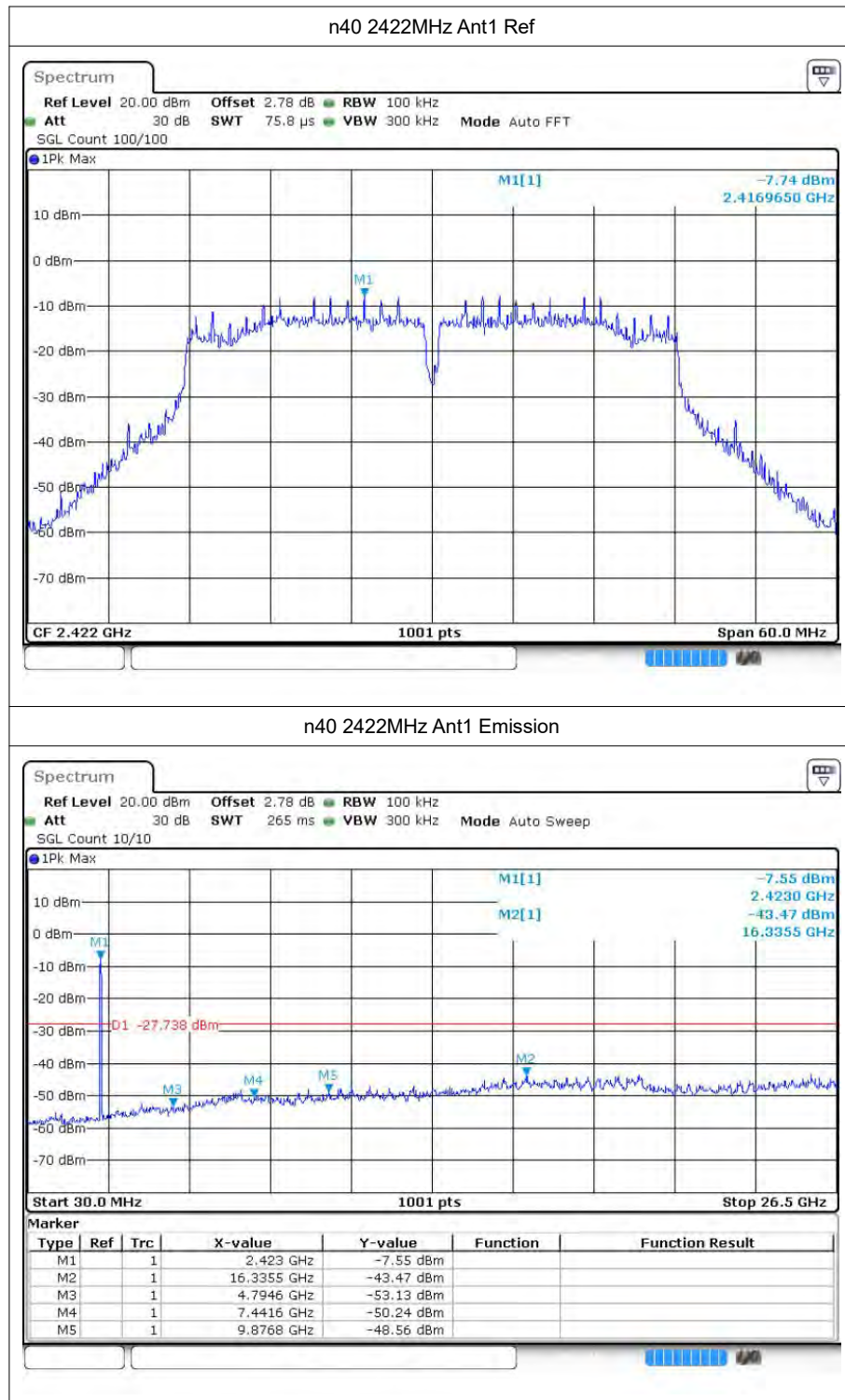


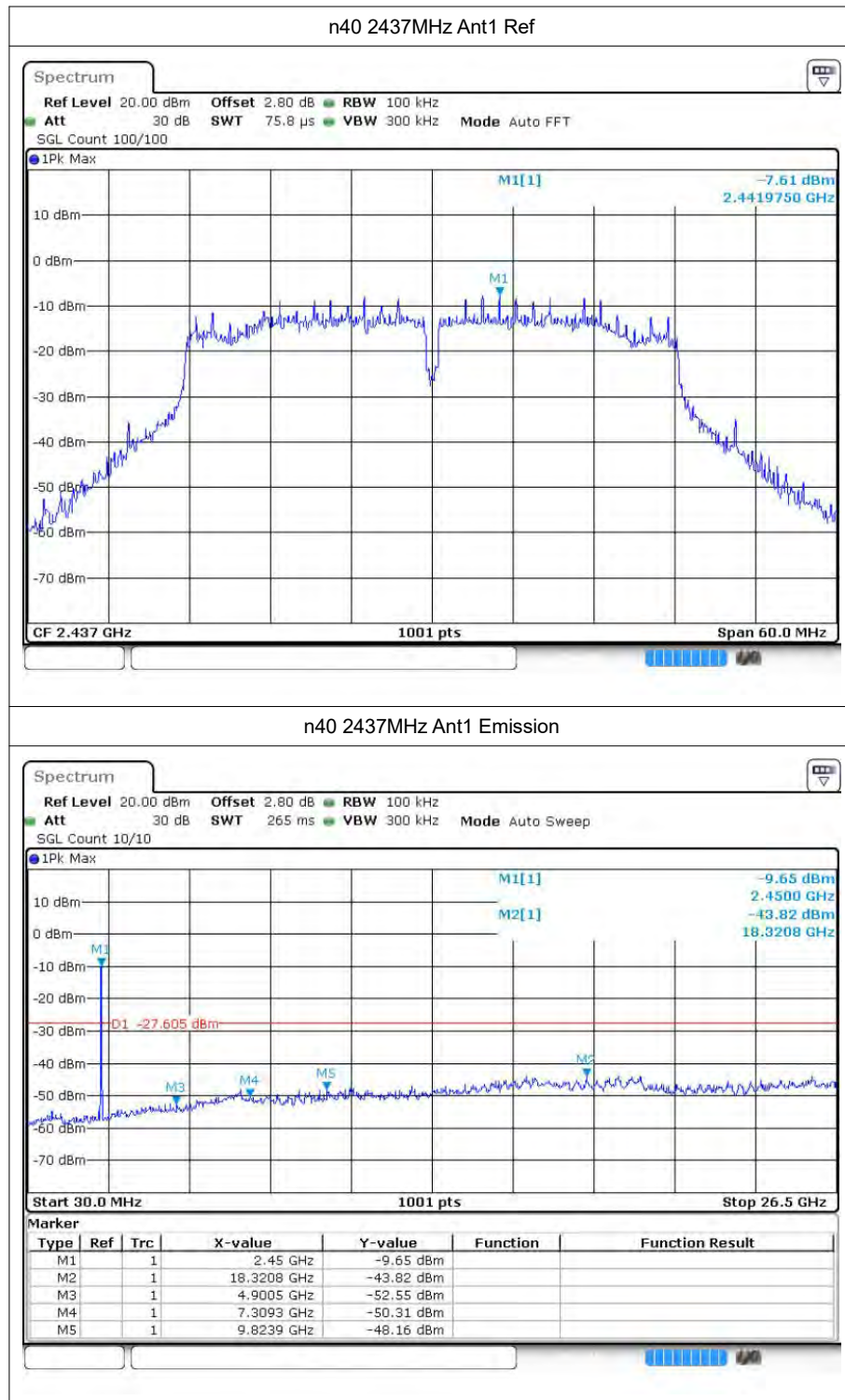


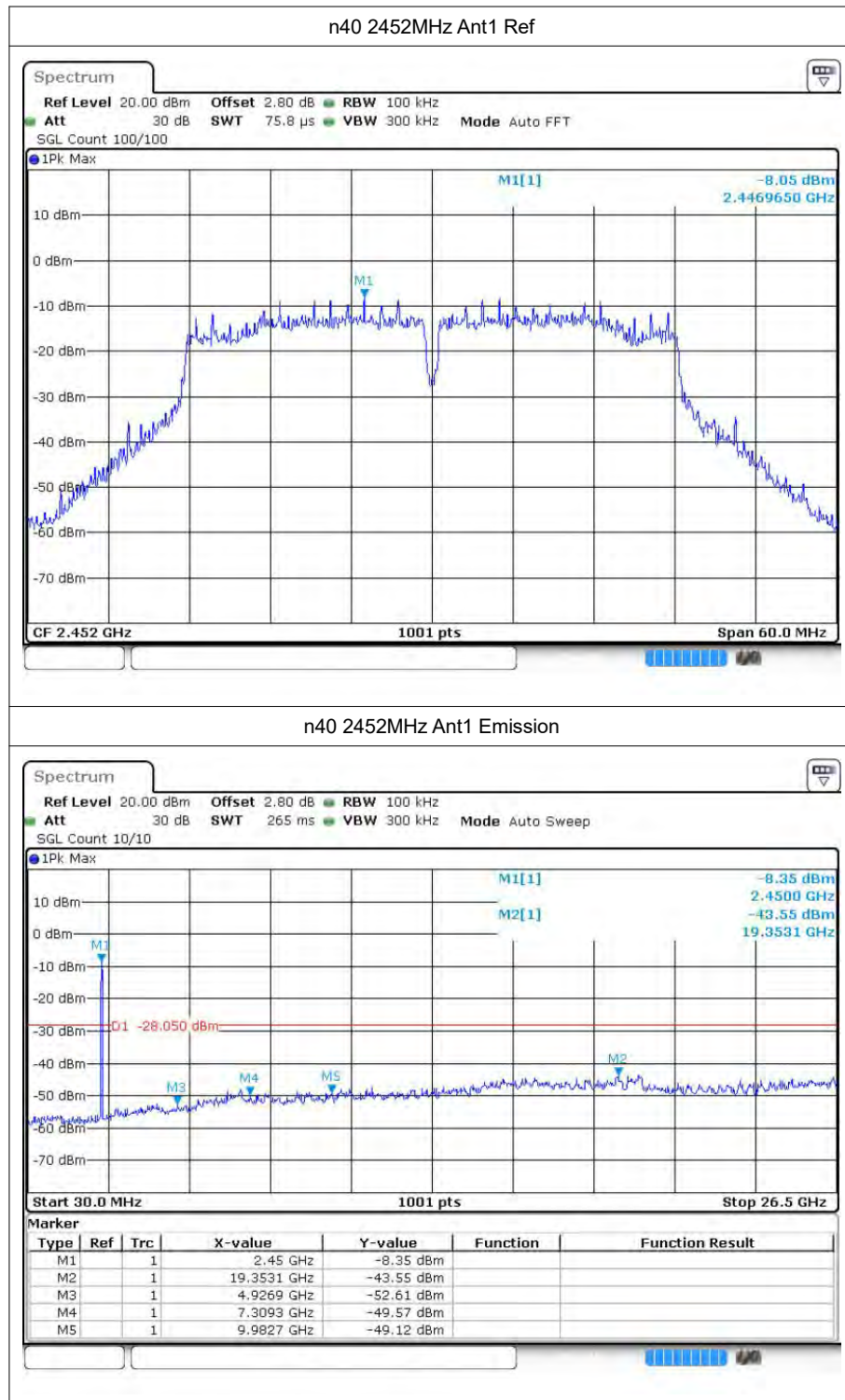


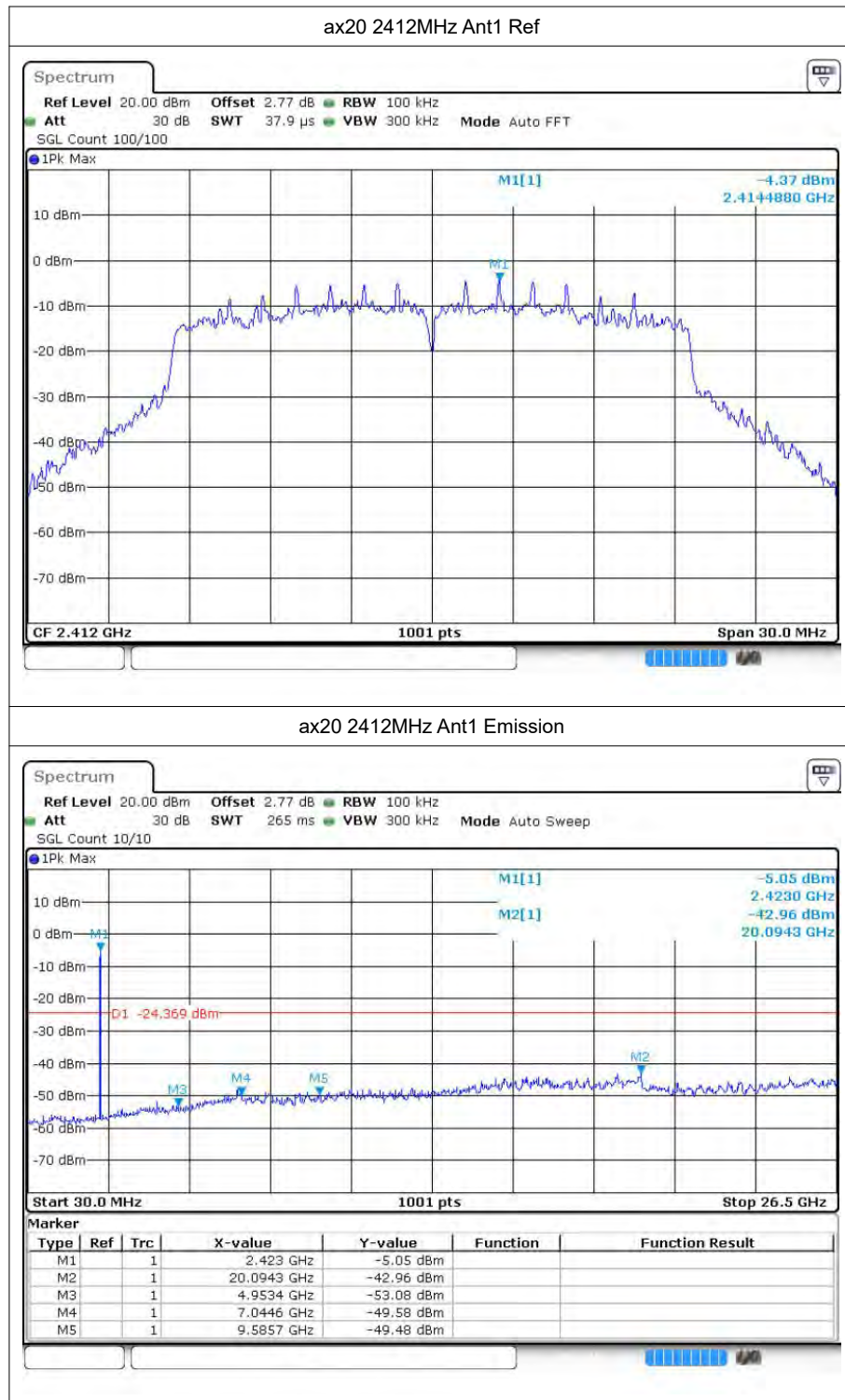


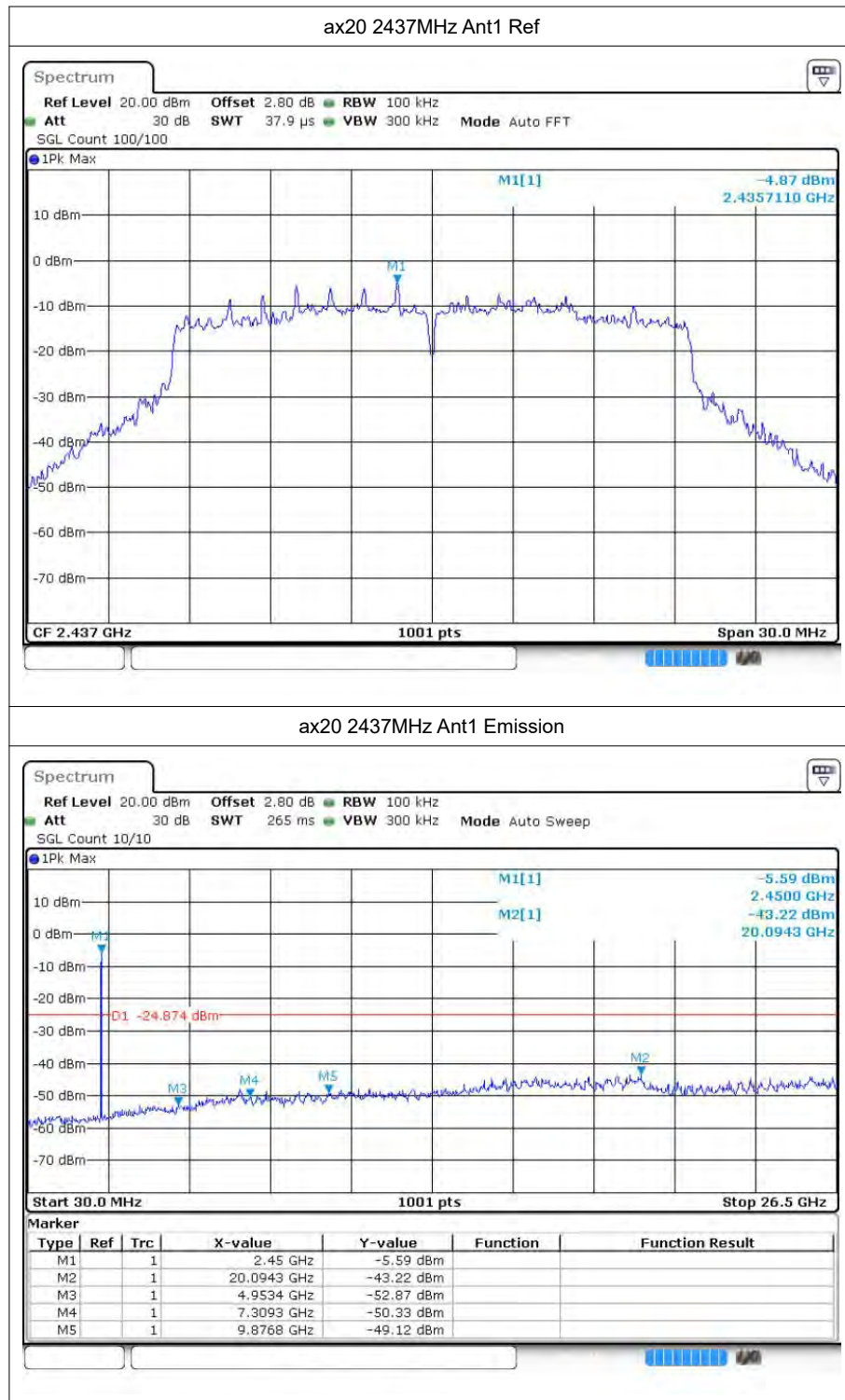


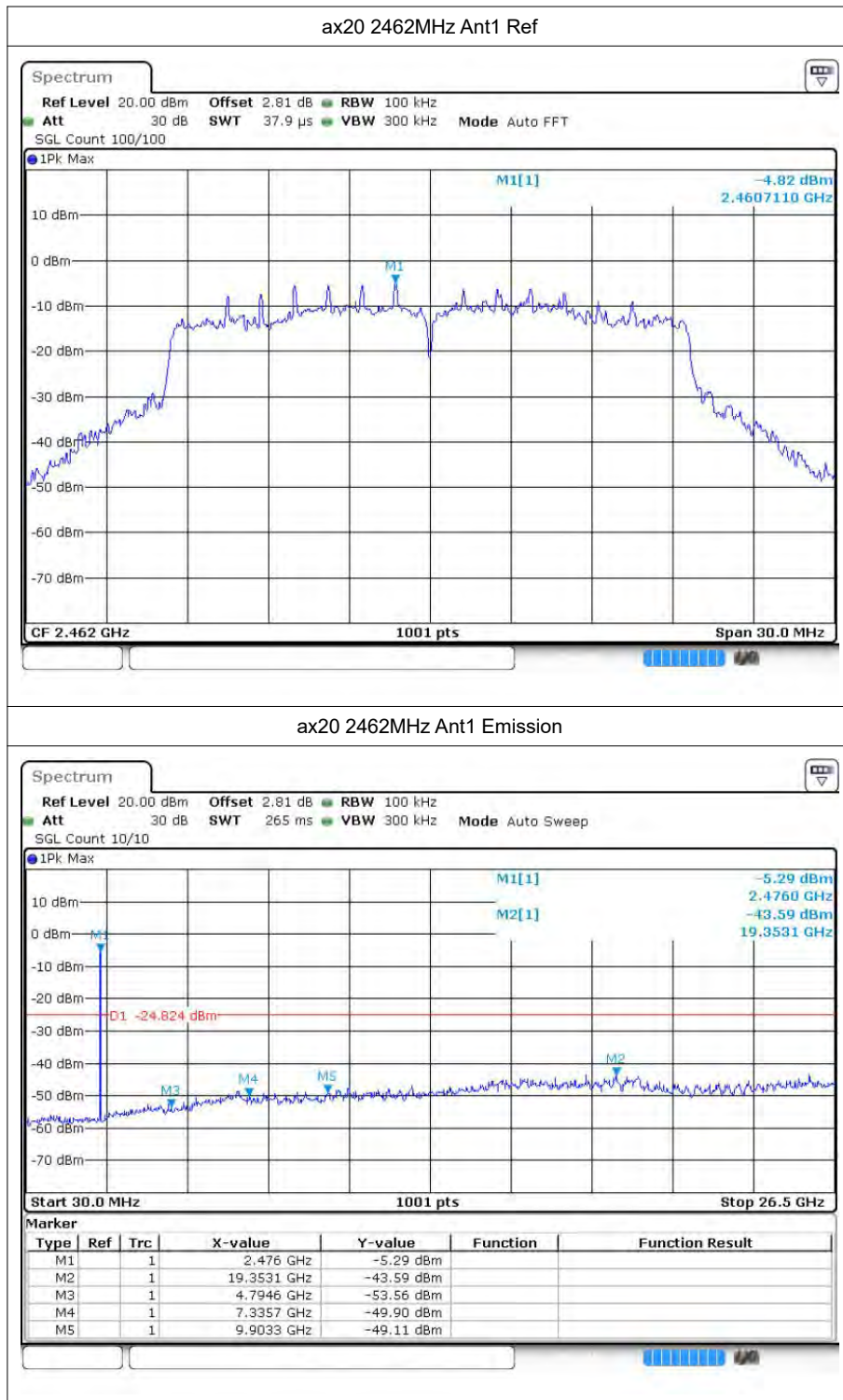


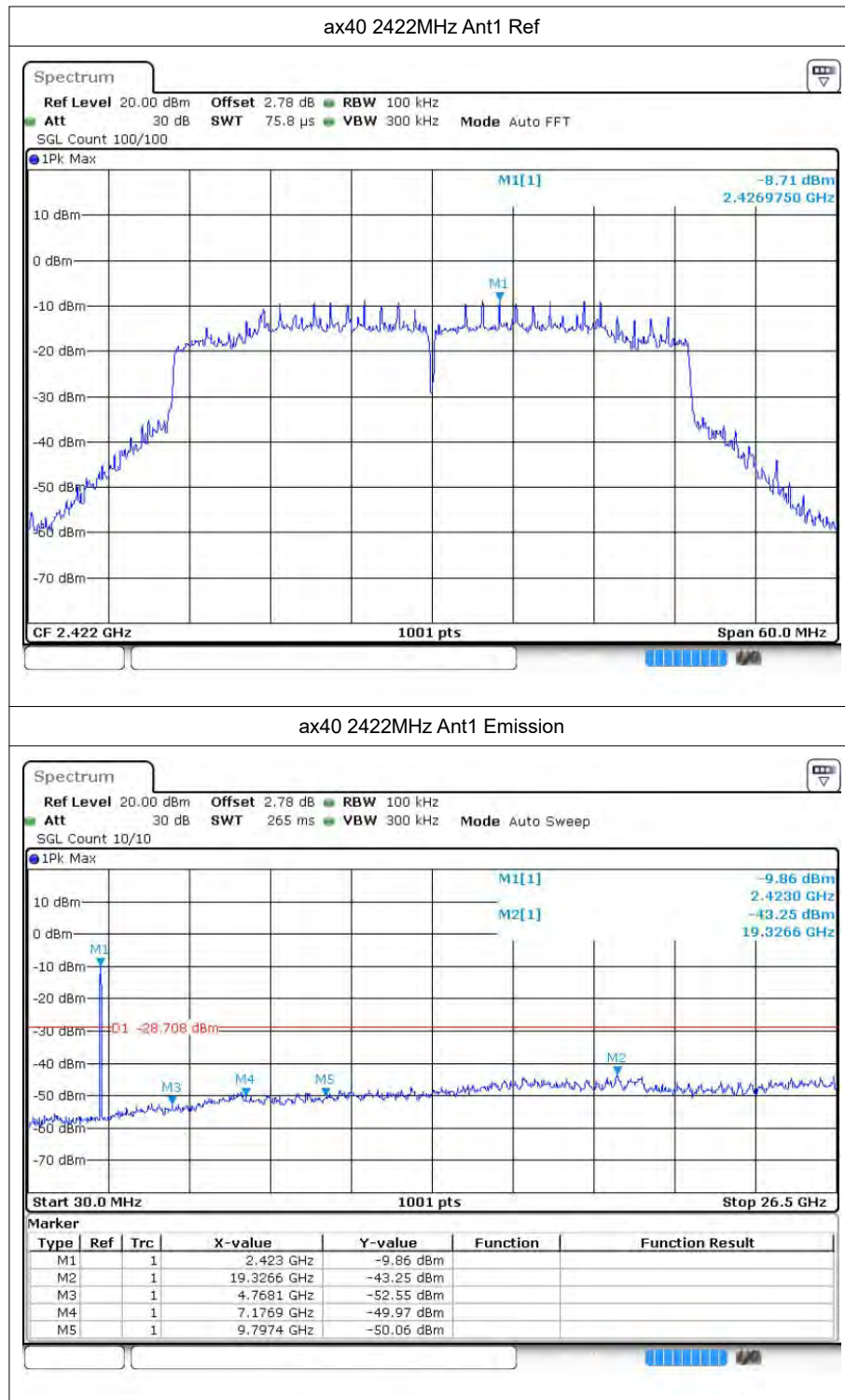


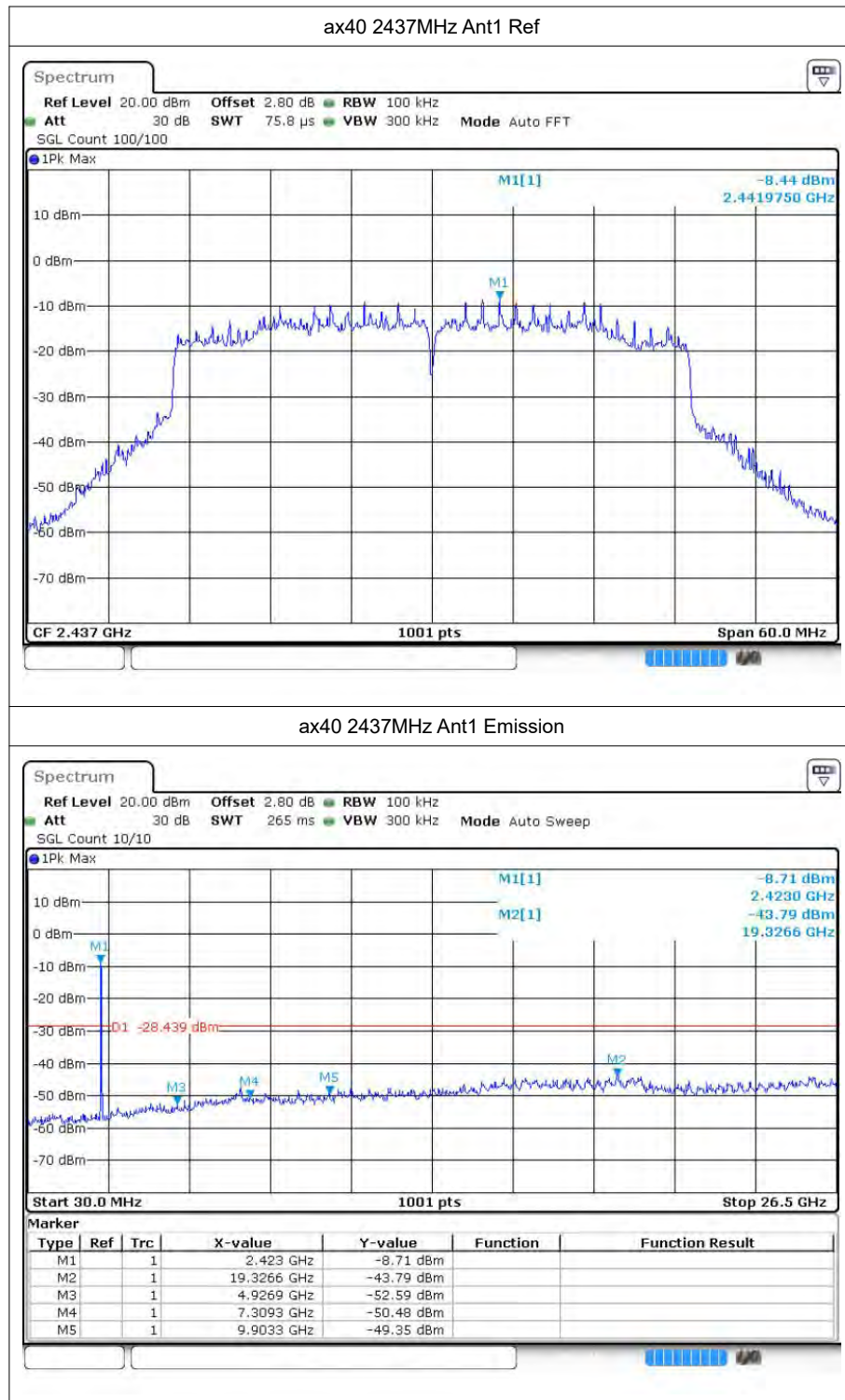


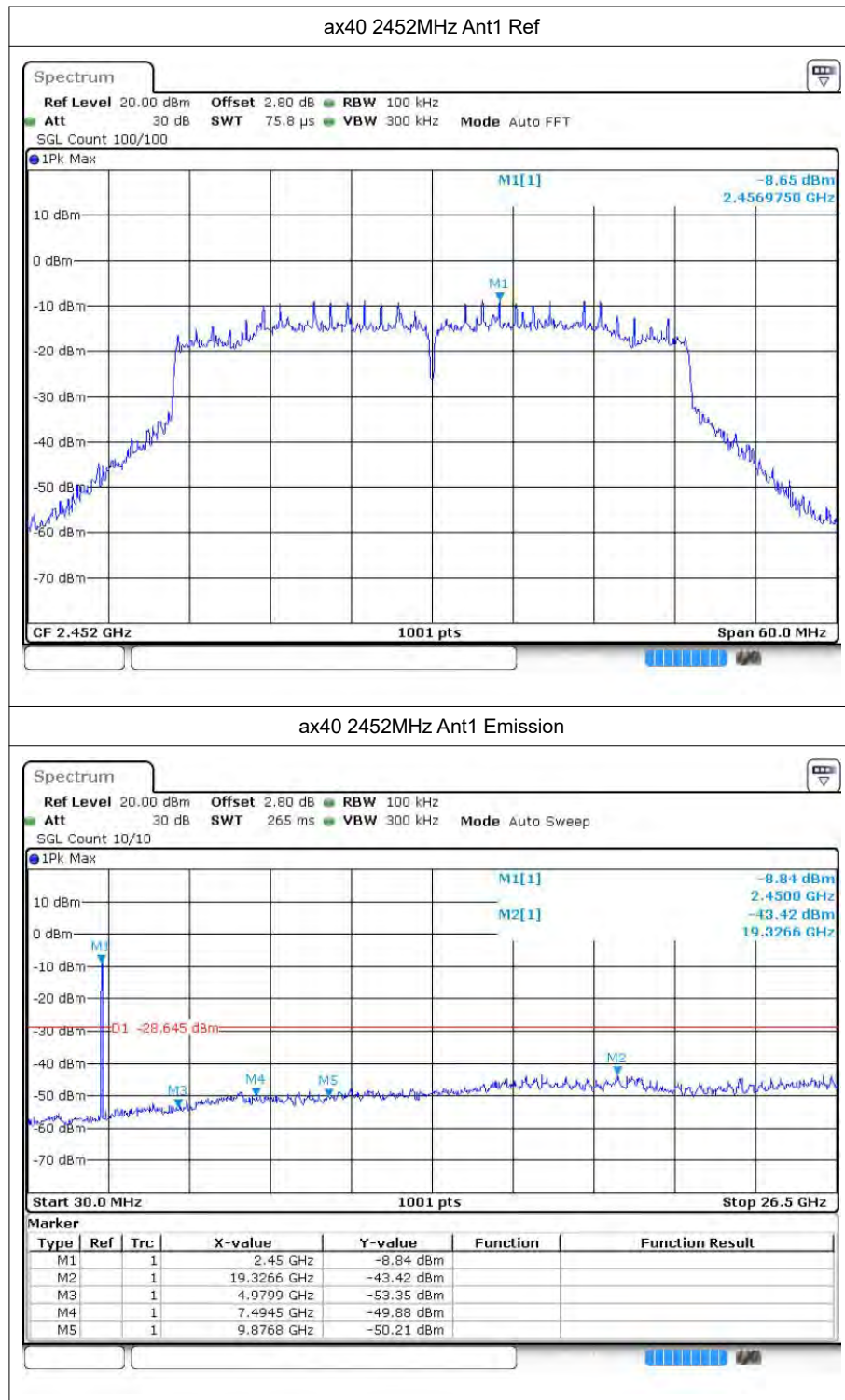














7 Restrict Band

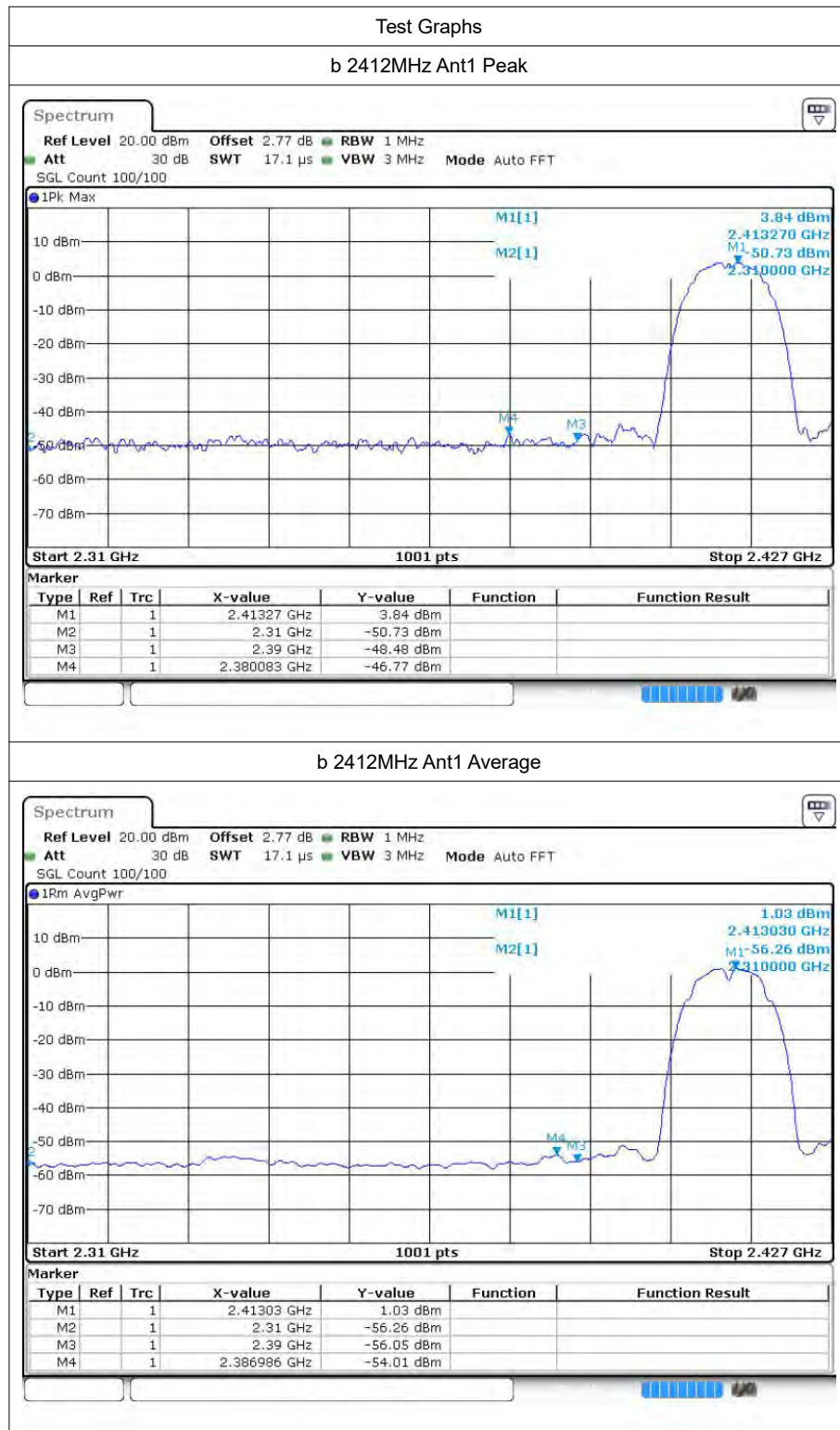
7.1 Test Result

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	-50.73	2.55	-	47.08	Peak	74	Pass
b	2412	Ant1	2310	-56.26	2.55	0	41.55	Average	54	Pass
b	2412	Ant1	2380.083	-46.77	2.55	-	51.04	Peak	74	Pass
b	2412	Ant1	2386.986	-54.01	2.55	0	43.8	Average	54	Pass
b	2412	Ant1	2390	-48.48	2.55	-	49.33	Peak	74	Pass
b	2412	Ant1	2390	-56.05	2.55	0	41.76	Average	54	Pass
b	2462	Ant1	2483.5	-48.34	2.55	-	49.47	Peak	74	49.47
b	2462	Ant1	2483.5	-55.41	2.55	0	42.4	Average	54	Pass
b	2462	Ant1	2495.548	-47.37	2.55	-	50.44	Peak	74	Pass
b	2462	Ant1	2499.894	-55.22	2.55	0	42.59	Average	54	Pass
b	2462	Ant1	2500	-50.21	2.55	-	47.6	Peak	74	Pass
b	2462	Ant1	2500	-55.23	2.55	0	42.58	Average	54	Pass
g	2412	Ant1	2310	-49.35	2.55	-	48.46	Peak	74	Pass
g	2412	Ant1	2310	-56.86	2.55	0.61	41.56	Average	54	Pass
g	2412	Ant1	2345.1	-46.38	2.55	-	51.43	Peak	74	Pass
g	2412	Ant1	2338.665	-54.57	2.55	0.61	43.85	Average	54	Pass
g	2412	Ant1	2390	-51.63	2.55	-	49.33	Peak	74	Pass
g	2412	Ant1	2390	-56.33	2.55	0.61	42.09	Average	54	Pass
g	2462	Ant1	2483.5	-50.17	2.55	-	47.64	Peak	74	Pass
g	2462	Ant1	2483.5	-56.26	2.55	0.61	42.16	Average	54	Pass
g	2462	Ant1	2495.548	-47.28	2.55	-	50.53	Peak	74	Pass
g	2462	Ant1	2490.513	-55.43	2.55	0.61	42.99	Average	54	Pass
g	2462	Ant1	2500	-48.4	2.55	-	47.6	Peak	74	Pass
g	2462	Ant1	2500	-56.37	2.55	0.61	42.05	Average	54	Pass
n20	2412	Ant1	2310	-49	2.55	-	48.81	Peak	74	Pass
n20	2412	Ant1	2310	-56.75	2.55	0.58	41.64	Average	54	Pass
n20	2412	Ant1	2379.615	-46.93	2.55	-	50.88	Peak	74	Pass
n20	2412	Ant1	2337.378	-54.59	2.55	0.58	43.8	Average	54	Pass
n20	2412	Ant1	2390	-50.67	2.55	-	47.14	Peak	74	Pass
n20	2412	Ant1	2390	-57.41	2.55	0.58	40.98	Average	54	Pass
n20	2462	Ant1	2483.5	-49.27	2.55	-	48.54	Peak	74	Pass
n20	2462	Ant1	2483.5	-55.91	2.55	0.58	42.48	Average	54	Pass
n20	2462	Ant1	2494.488	-46.65	2.55	-	51.16	Peak	74	Pass
n20	2462	Ant1	2486.485	-55.51	2.55	0.58	42.88	Average	54	Pass



n20	2462	Ant1	2500	-48.33	2.55	-	49.48	Peak	74	Pass
n20	2462	Ant1	2500	-56.36	2.55	0.58	42.03	Average	54	Pass
n40	2422	Ant1	2310	-49.8	2.55	-	48.01	Peak	74	Pass
n40	2422	Ant1	2310	-56.87	2.55	0.55	41.49	Average	54	Pass
n40	2422	Ant1	2326.046	-46.86	2.55	-	50.95	Peak	74	Pass
n40	2422	Ant1	2339.252	-54.76	2.55	0.55	43.6	Average	54	Pass
n40	2422	Ant1	2390	-50.09	2.55	-	47.72	Peak	74	Pass
n40	2422	Ant1	2390	-55.96	2.55	0.55	42.4	Average	54	Pass
n40	2452	Ant1	2483.5	-49.29	2.55	-	48.52	Peak	74	Pass
n40	2452	Ant1	2483.5	-56.29	2.55	0.55	42.07	Average	54	Pass
n40	2452	Ant1	2494.072	-46.82	2.55	-	50.99	Peak	74	Pass
n40	2452	Ant1	2500	-55.56	2.55	0.55	42.8	Average	54	Pass
n40	2452	Ant1	2500	-48.2	2.55	-	49.61	Peak	74	Pass
n40	2452	Ant1	2500	-55.56	2.55	0.55	42.8	Average	54	Pass
ax20	2412	Ant1	2310	-49.09	2.55	-	48.72	Peak	74	Pass
ax20	2412	Ant1	2310	-56.61	2.55	0.6	41.8	Average	54	Pass
ax20	2412	Ant1	2320.647	-46.12	2.55	-	51.69	Peak	74	Pass
ax20	2412	Ant1	2340.186	-54.69	2.55	0.6	43.72	Average	54	Pass
ax20	2412	Ant1	2390	-50.51	2.55	-	47.3	Peak	74	Pass
ax20	2412	Ant1	2390	-57.33	2.55	0.6	41.08	Average	54	Pass
ax20	2462	Ant1	2483.5	-48.62	2.55	-	49.19	Peak	74	Pass
ax20	2462	Ant1	2483.5	-56.93	2.55	0.6	41.48	Average	54	Pass
ax20	2462	Ant1	2495.495	-46.59	2.55	-	51.22	Peak	74	Pass
ax20	2462	Ant1	2495.018	-55.63	2.55	0.6	42.78	Average	54	Pass
ax20	2462	Ant1	2500	-48.24	2.55	-	49.57	Peak	74	Pass
ax20	2462	Ant1	2500	-55.99	2.55	0.6	42.42	Average	54	Pass
ax40	2422	Ant1	2310	-49.94	2.55	-	47.87	Peak	74	Pass
ax40	2422	Ant1	2310	-56.39	2.55	0.6	42.02	Average	54	Pass
ax40	2422	Ant1	2342.234	-45.69	2.55	-	52.12	Peak	74	Pass
ax40	2422	Ant1	2339.252	-54.03	2.55	0.6	44.38	Average	54	Pass
ax40	2422	Ant1	2390	-49.81	2.55	-	48	Peak	74	Pass
ax40	2422	Ant1	2390	-57.1	2.55	0.6	41.31	Average	54	Pass
ax40	2452	Ant1	2483.5	-49.9	2.55	-	47.91	Peak	74	Pass
ax40	2452	Ant1	2483.5	-55.75	2.55	0.61	42.67	Average	54	Pass
ax40	2452	Ant1	2490.016	-48.15	2.55	-	49.66	Peak	74	Pass
ax40	2452	Ant1	2488.066	-55.7	2.55	0.61	42.72	Average	54	Pass
ax40	2452	Ant1	2500	-48.65	2.55	-	49.16	Peak	74	Pass
ax40	2452	Ant1	2500	-56.11	2.55	0.61	42.31	Average	54	Pass

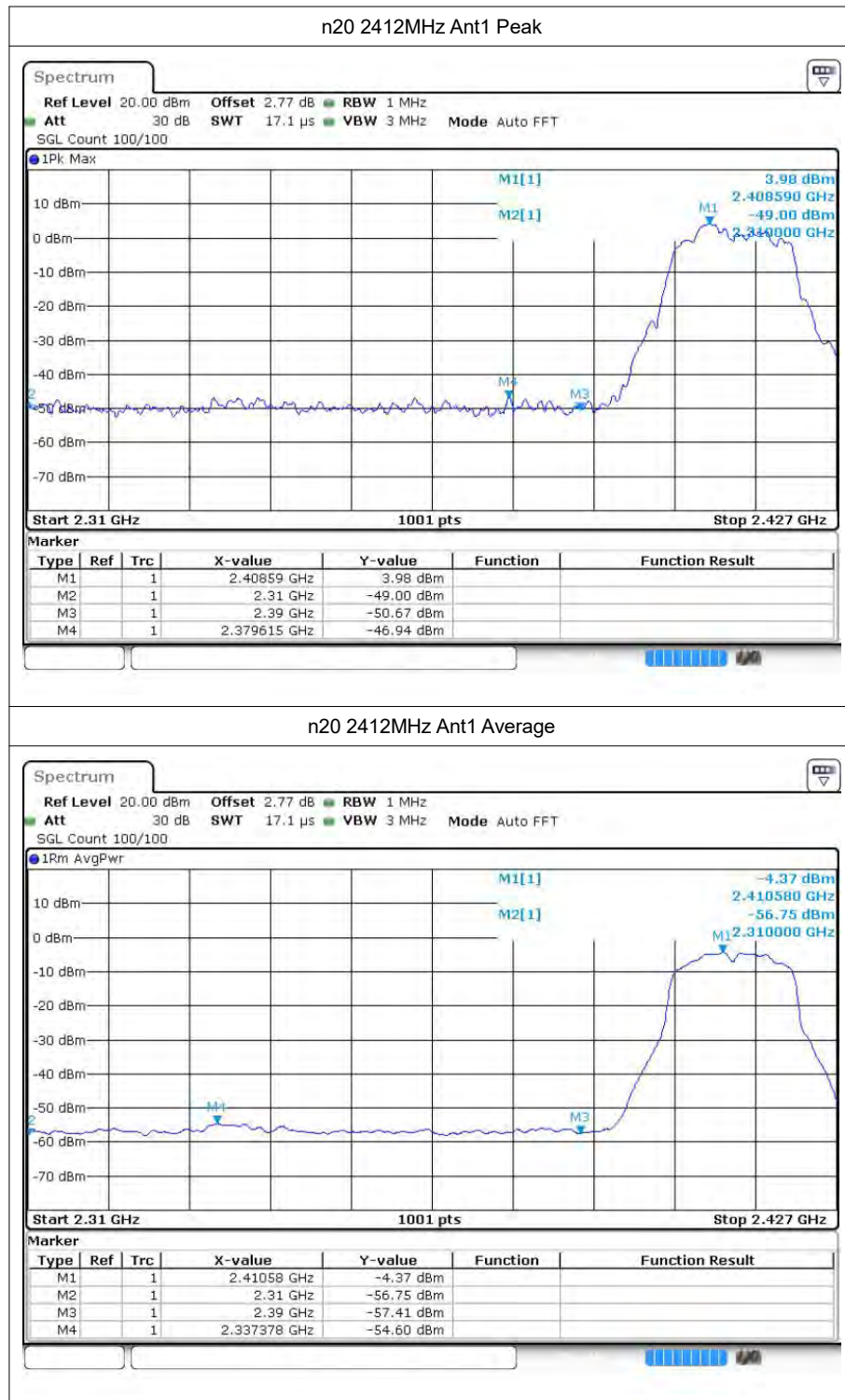
7.2 Test Graphs







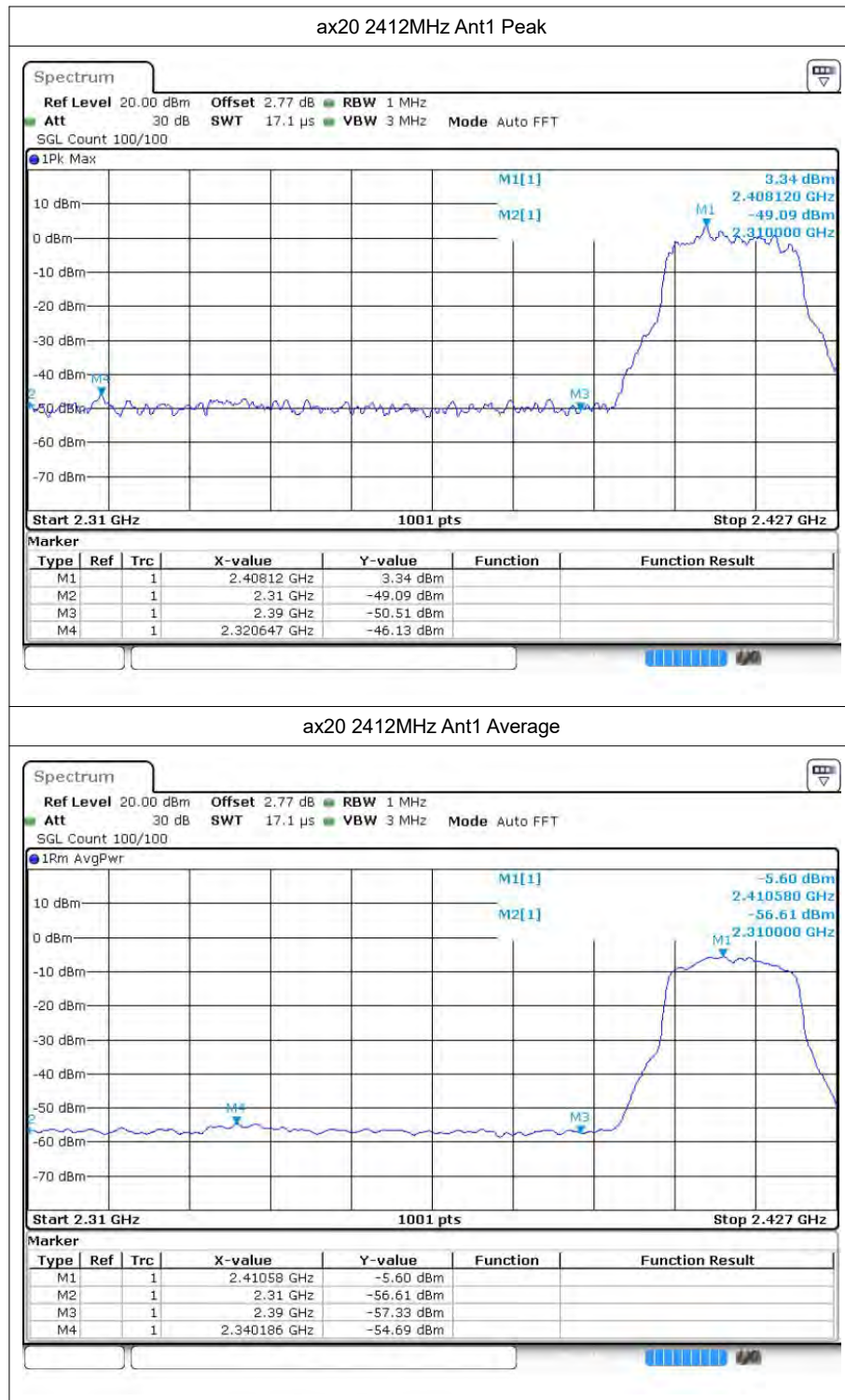




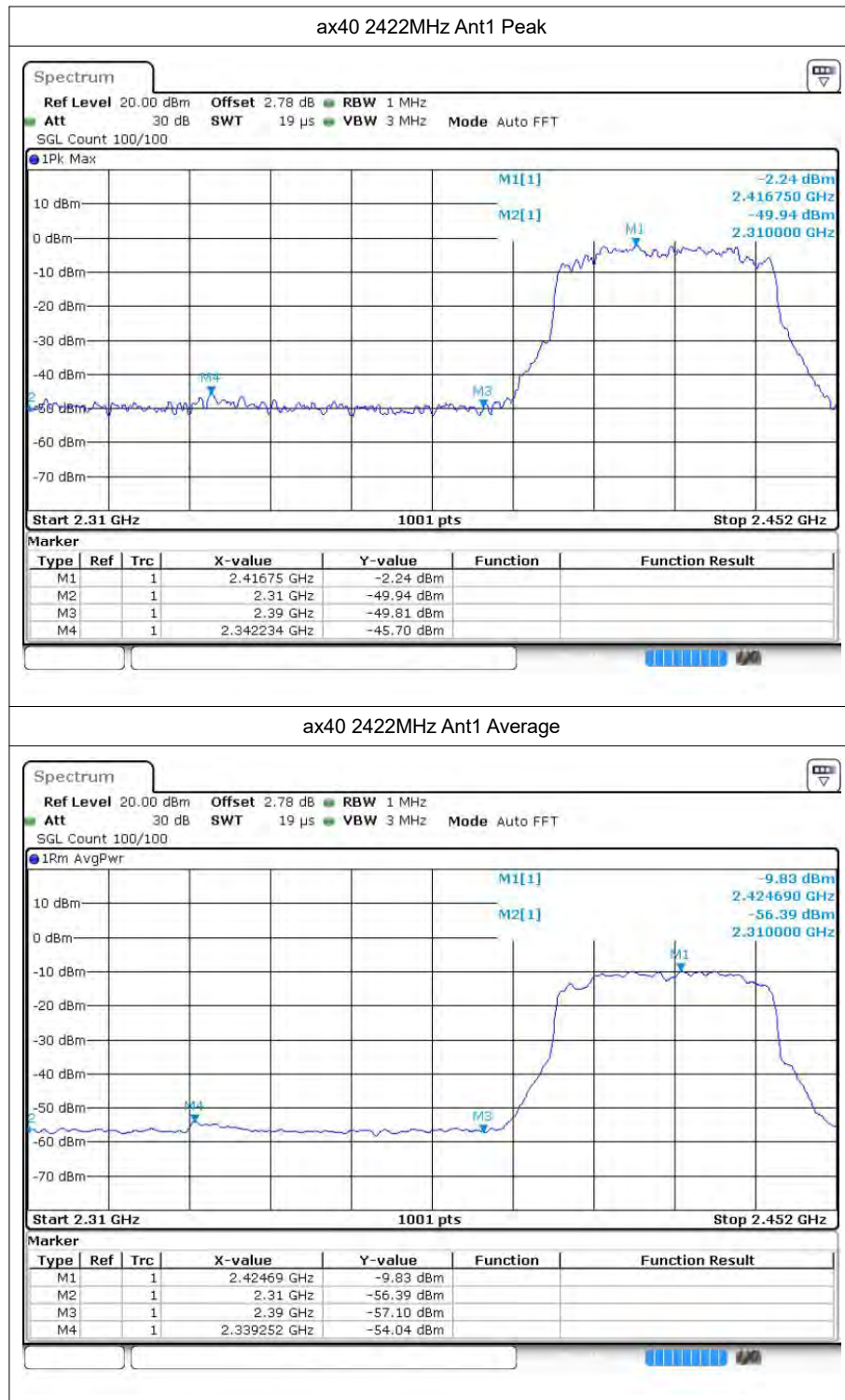














---The End---