



Appendix C

RF Test Data for 2.4GWIFI(Conducted Measurement)

Product Name: AC1200 Dual Band XPON ONT

Trade Mark: N/A

Test Model: X122

Environmental Conditions

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



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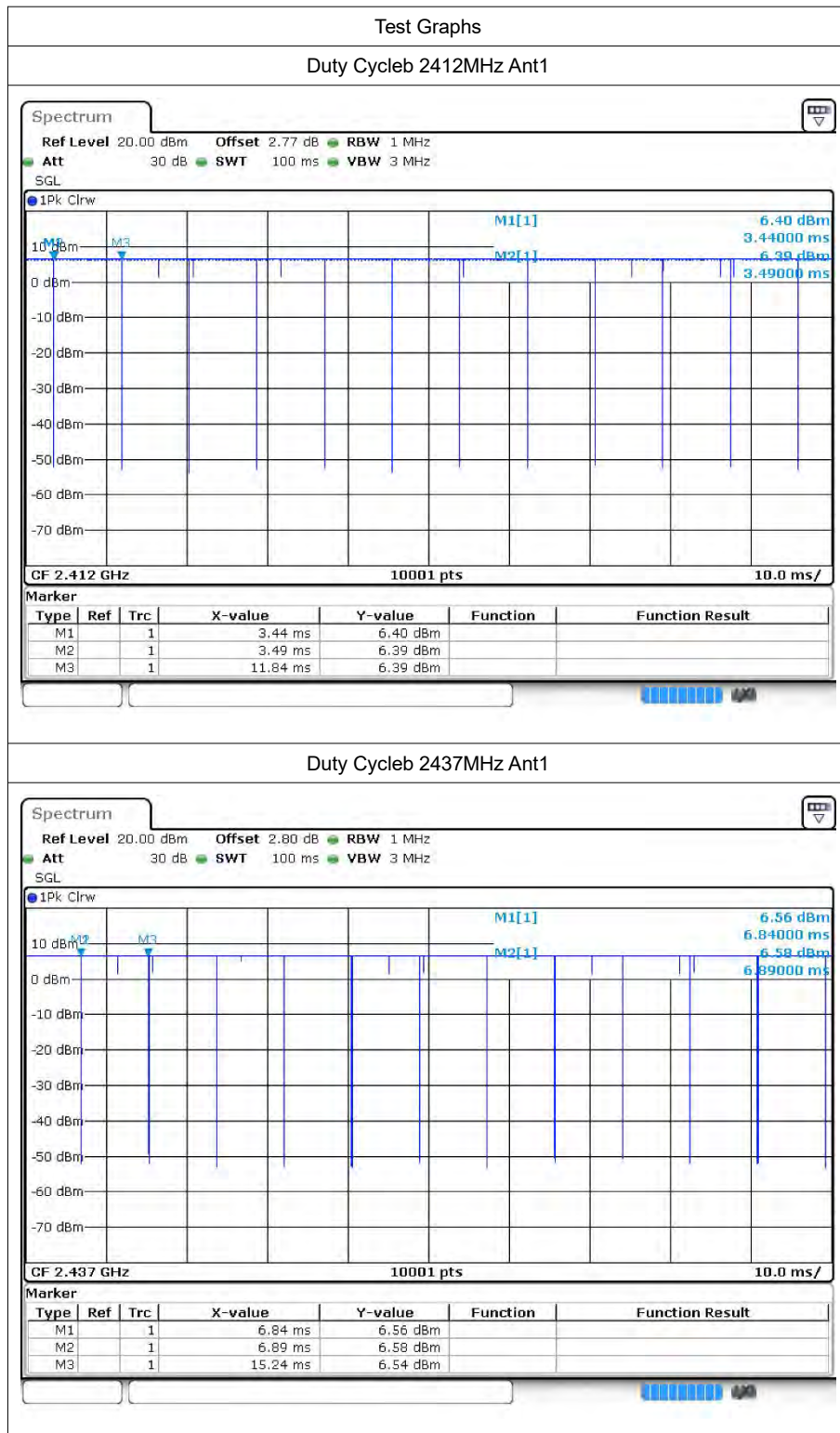


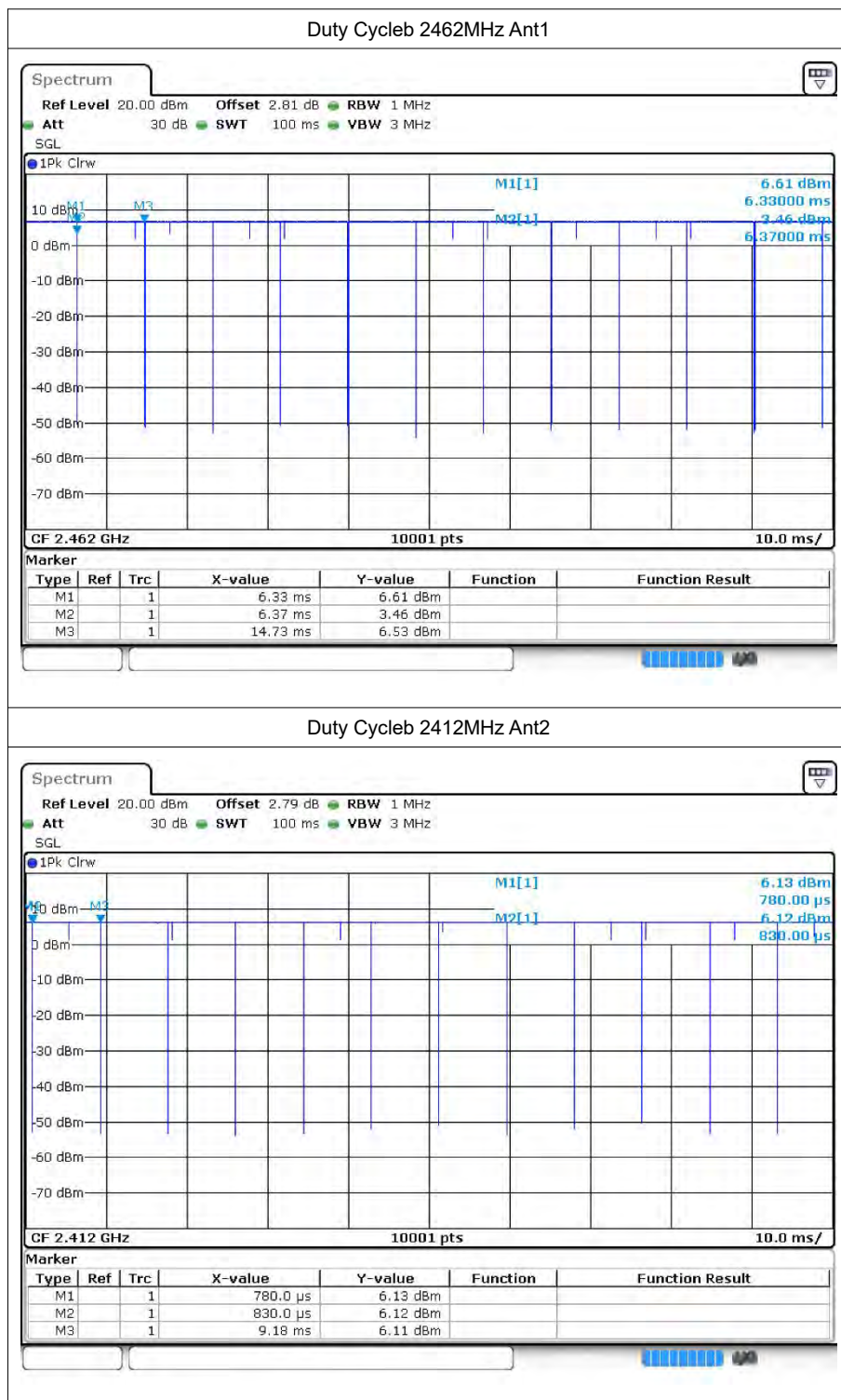
1 Duty Cycle

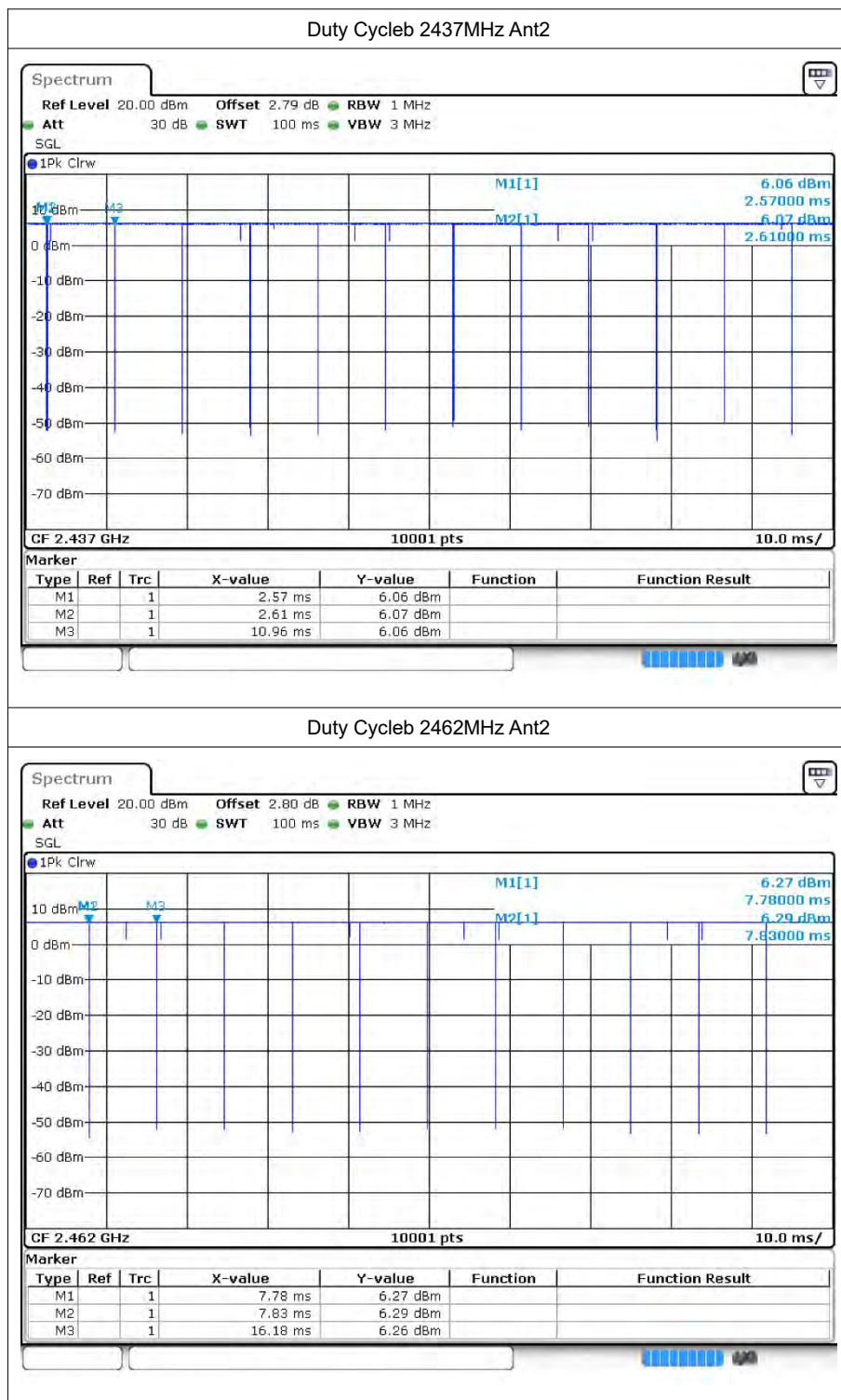
1.1 Test Result

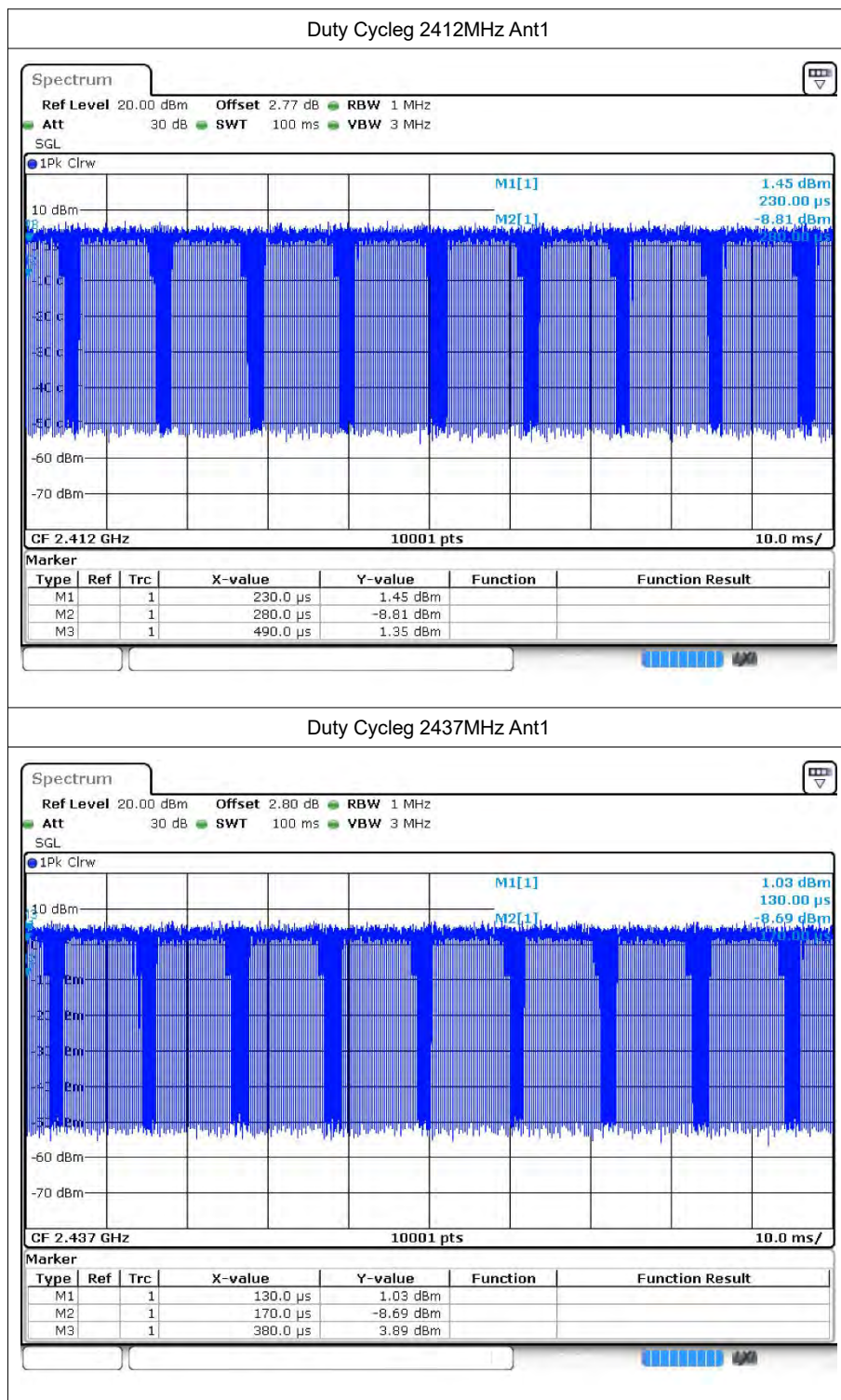
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.58	0.02	0.12
b	2437	Ant1	99.59	0.02	0.12
b	2462	Ant1	99.61	0.02	0.12
b	2412	Ant2	99.58	0.02	0.12
b	2437	Ant2	99.6	0.02	0.12
b	2462	Ant2	99.62	0.02	0.12
g	2412	Ant1	99.58	0.02	0.12
g	2437	Ant1	99.59	0.02	0.12
g	2462	Ant1	99.61	0.02	0.12
g	2412	Ant2	99.58	0.02	0.12
g	2437	Ant2	99.6	0.02	0.12
g	2462	Ant2	99.62	0.02	0.12
n20	2412	Ant1	92.93	0.32	2.22
n20	2437	Ant1	92.91	0.32	2.22
n20	2462	Ant1	92.92	0.32	2.22
n20	2412	Ant2	92.87	0.32	2.27
n20	2437	Ant2	92.95	0.32	2.22
n20	2462	Ant2	92.95	0.32	2.22
n40	2422	Ant1	92.92	0.32	2.27
n40	2437	Ant1	92.9	0.32	2.22
n40	2452	Ant1	92.94	0.32	2.27
n40	2422	Ant2	92.94	0.32	2.22
n40	2437	Ant2	92.97	0.32	2.27
n40	2452	Ant2	92.97	0.32	2.27

1.2 Test Graphs

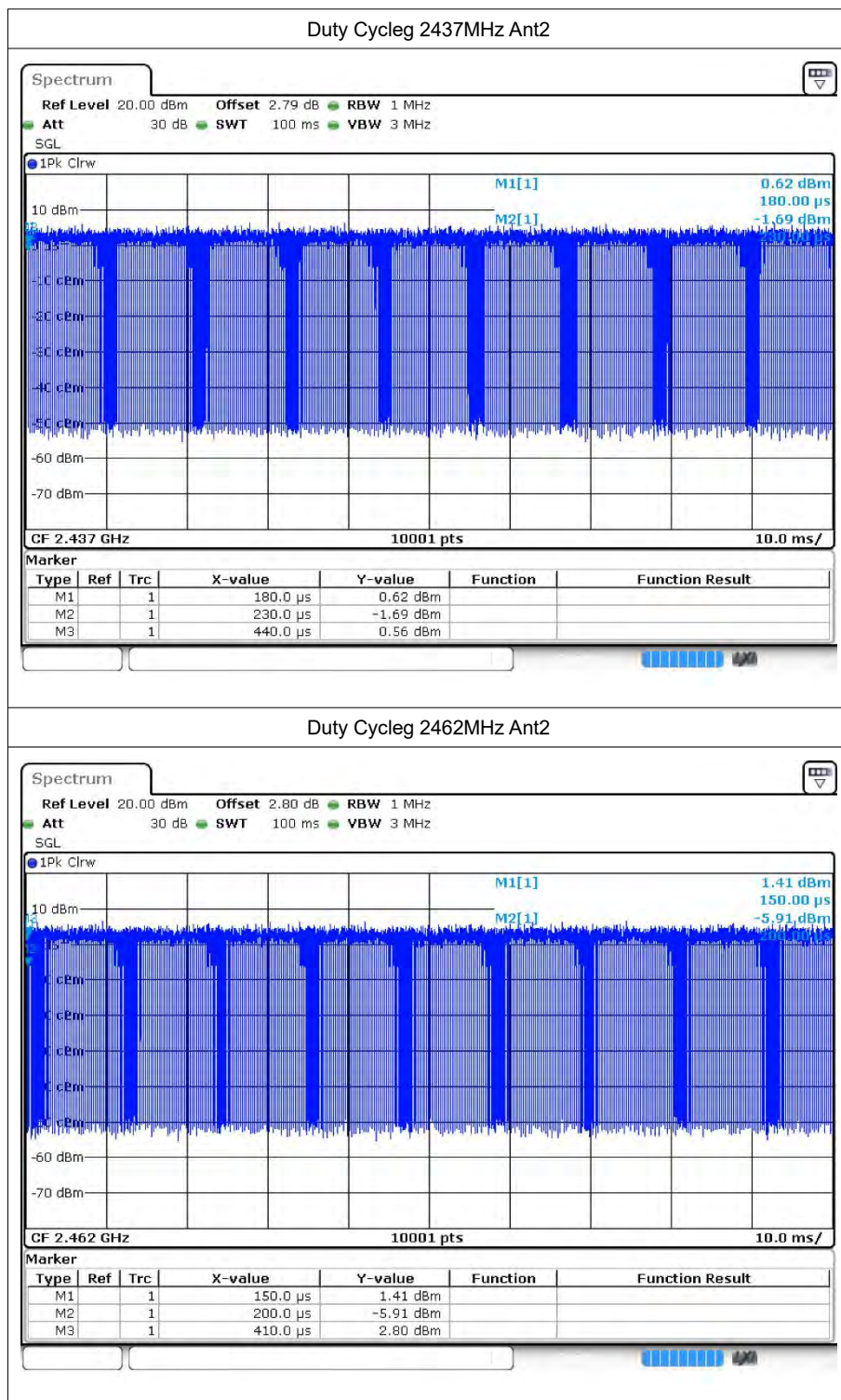


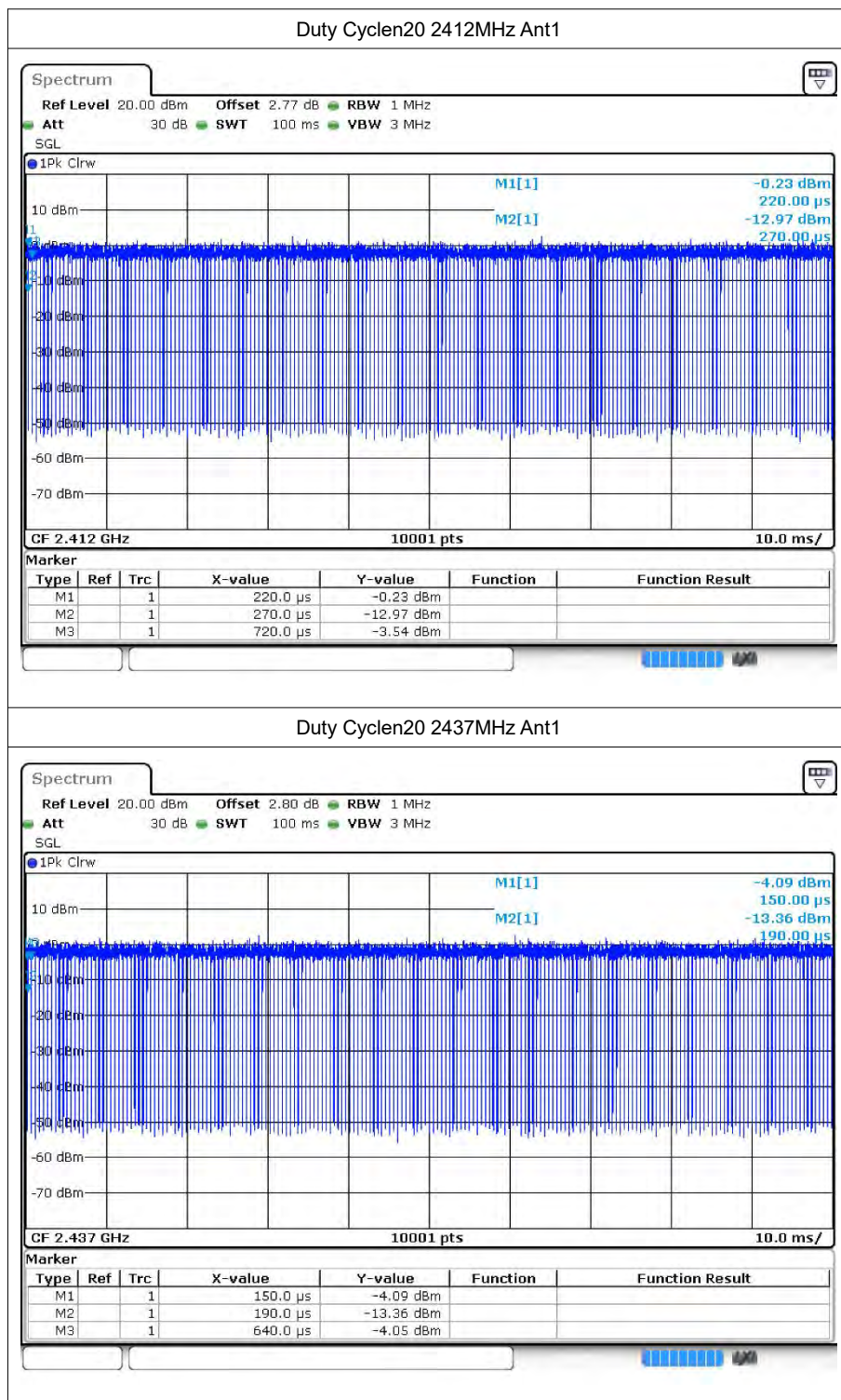


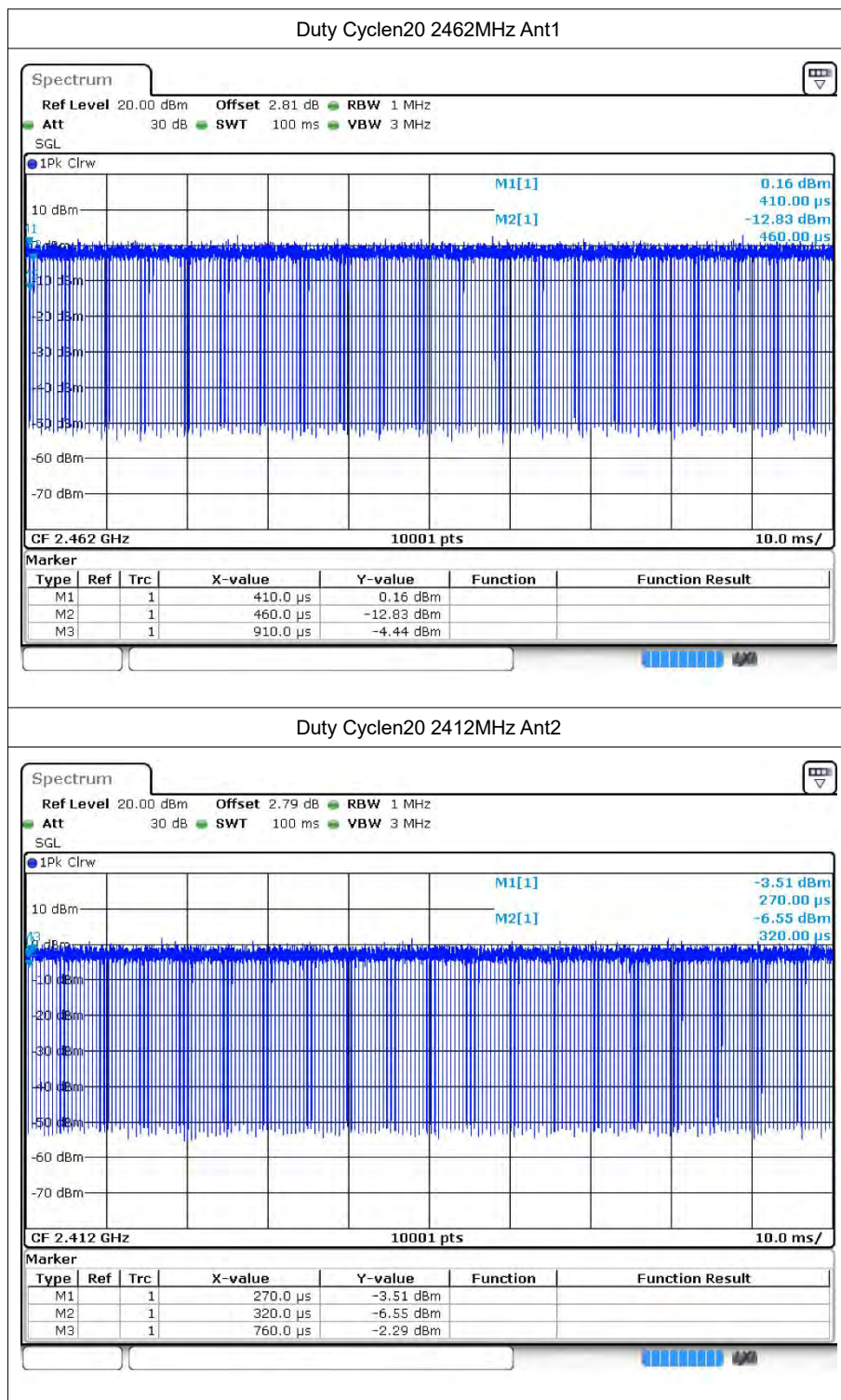


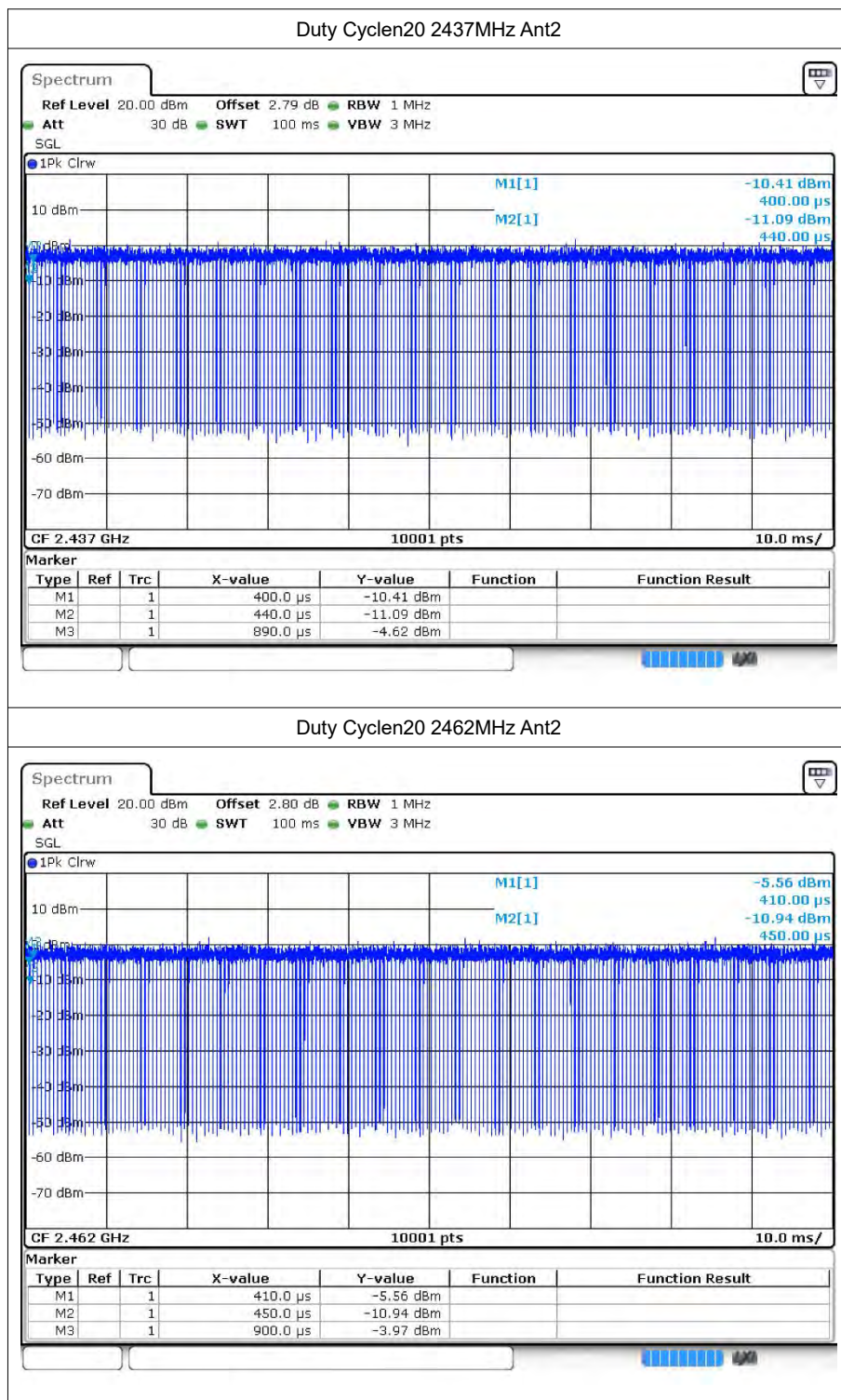


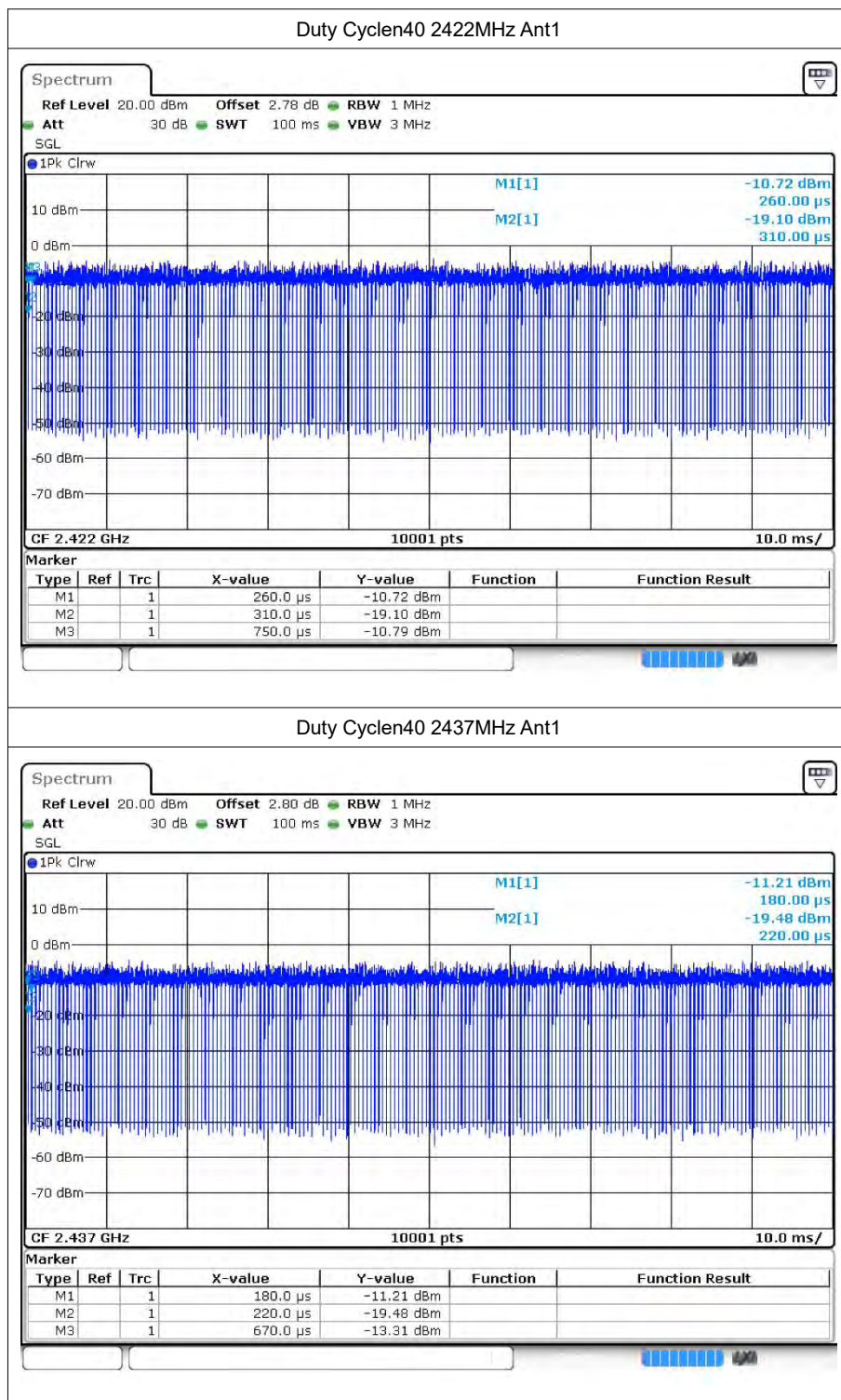


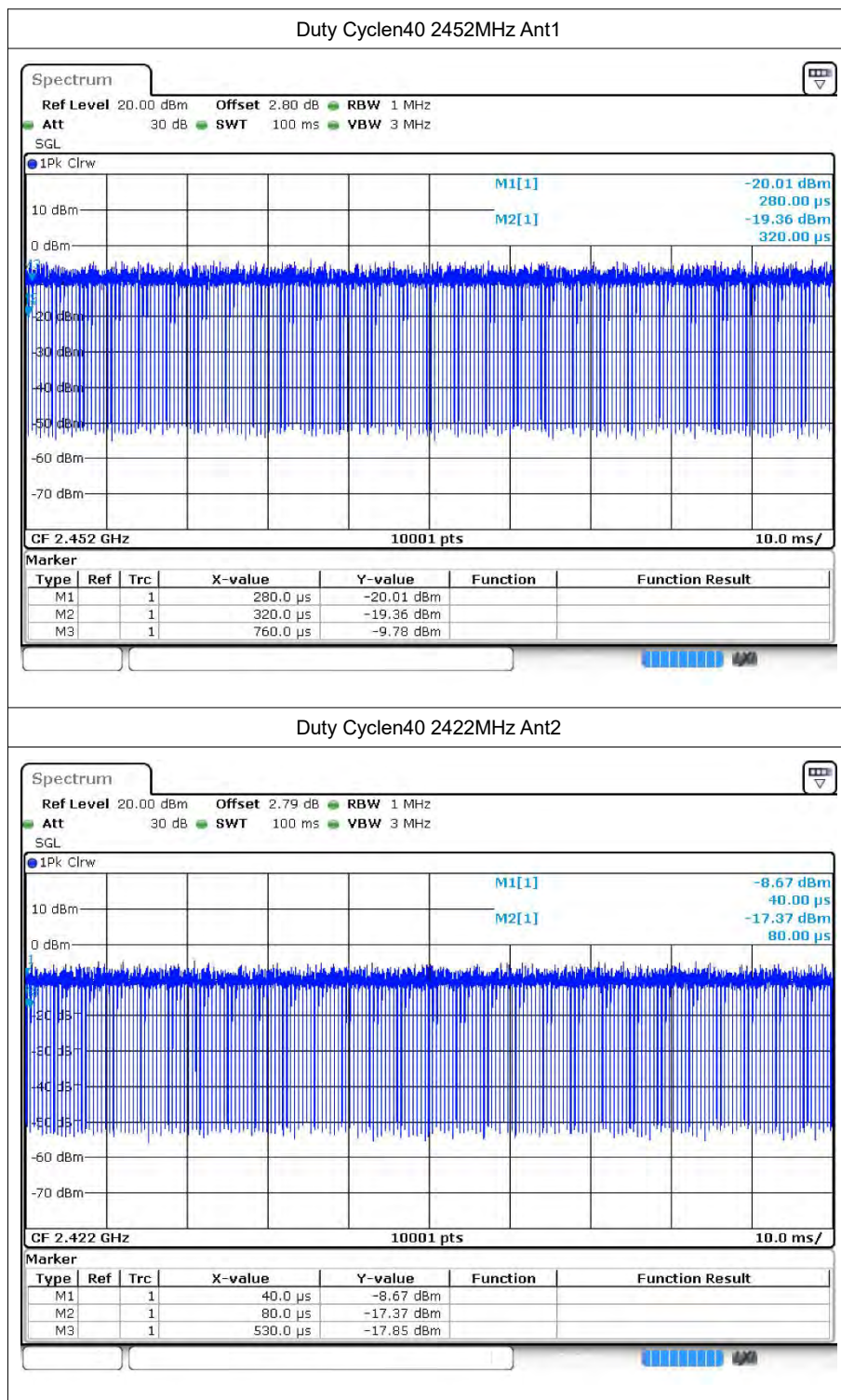


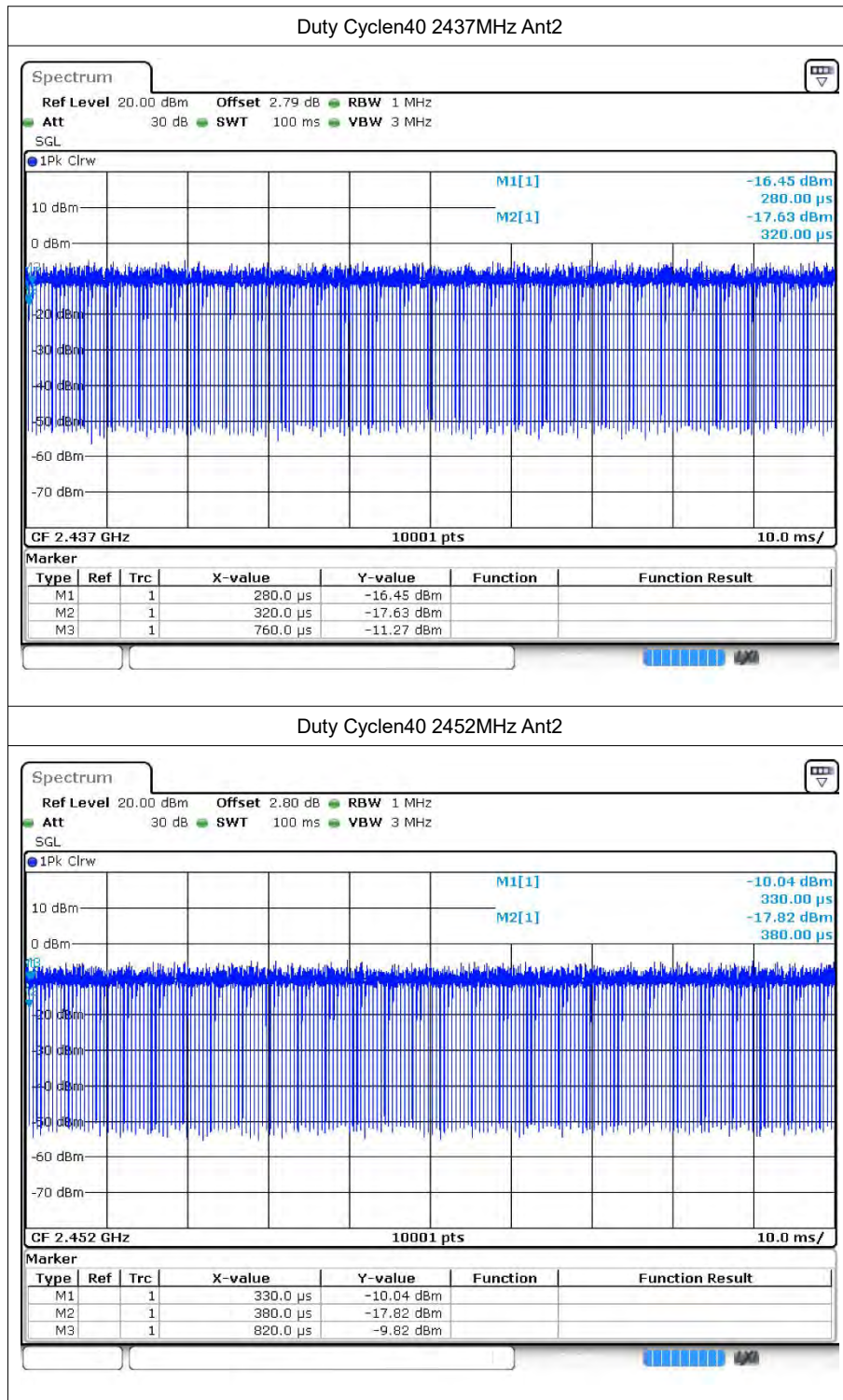












2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	16.93	30	Pass
b	2437	Ant1	17.06	30	Pass
b	2462	Ant1	17.09	30	Pass
g	2412	Ant1	16.1	30	Pass
g	2437	Ant1	16.08	30	Pass
g	2462	Ant1	16.09	30	Pass
n20	2412	Ant1	11.61	30	Pass
n20	2437	Ant1	11.62	30	Pass
n20	2462	Ant1	11.58	30	Pass
n40	2422	Ant1	12.26	30	Pass
n40	2437	Ant1	12.11	30	Pass
n40	2452	Ant1	12.05	30	Pass
b	2412	Ant2	16.62	30	Pass
b	2437	Ant2	16.59	30	Pass
b	2462	Ant2	15.89	30	Pass
g	2412	Ant2	15.49	30	Pass
g	2437	Ant2	15.5	30	Pass
g	2462	Ant2	15.75	30	Pass
n20	2412	Ant2	10.69	30	Pass
n20	2437	Ant2	10.6	30	Pass
n20	2462	Ant2	10.95	30	Pass
n40	2422	Ant2	11.26	30	Pass
n40	2437	Ant2	11.31	30	Pass
n40	2452	Ant2	11.41	30	Pass
n20	2412	SUM	14.18	27.36	Pass
n20	2437	SUM	14.15	27.36	Pass
n20	2462	SUM	14.29	27.36	Pass
n40	2422	SUM	14.80	27.36	Pass
n40	2437	SUM	14.74	27.36	Pass
n40	2452	SUM	14.75	27.36	Pass

Note:

For MIMO mode:

Directional gain= $10\log[(10^{G1/20}+10^{G2/20})^2/2]$ dB_i=8.64dB_i

Limit = $30-(8.64-6)$ =27.36dBm for POWER

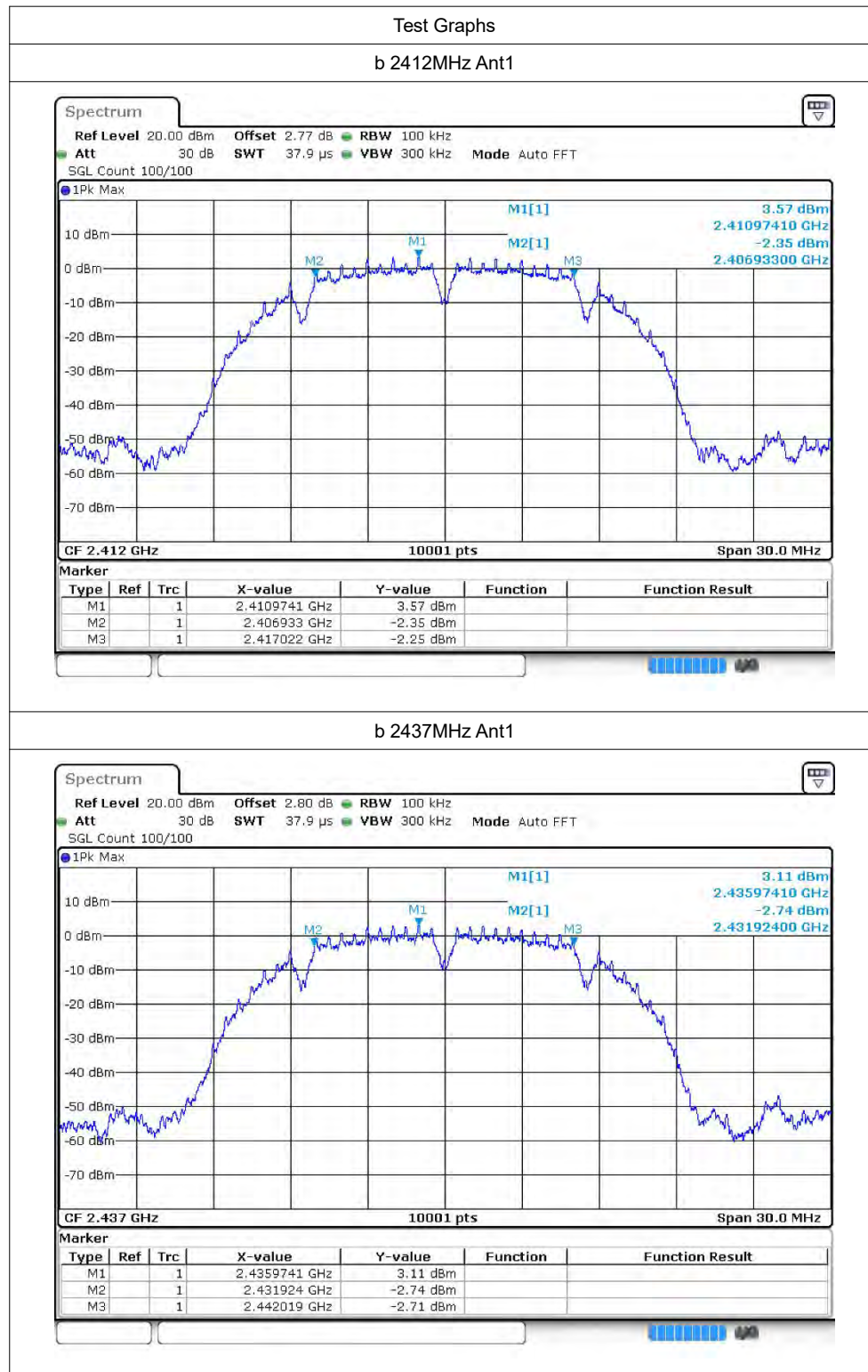


3 -6dB Bandwidth

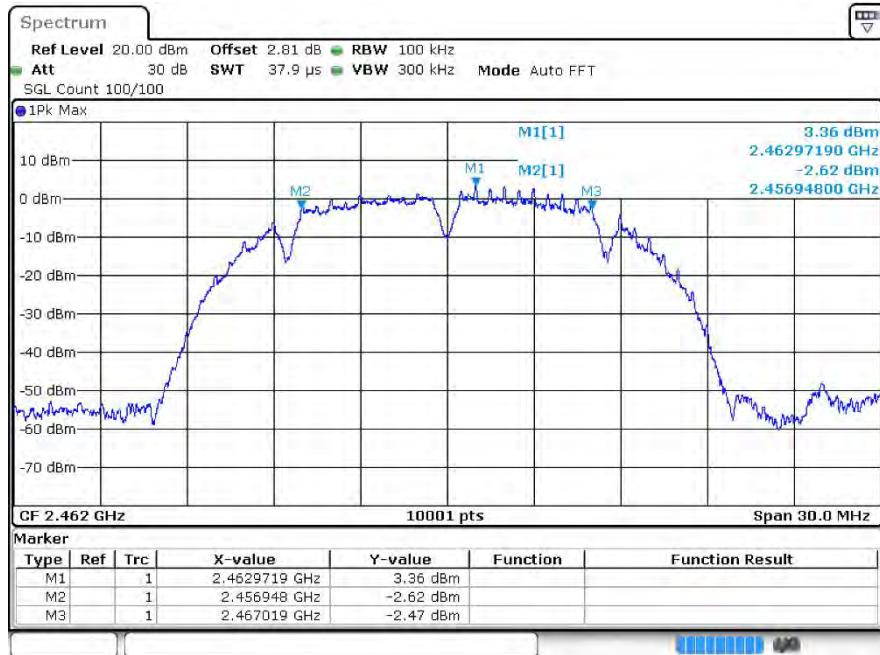
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.089	0.5	Pass
b	2437	Ant1	10.095	0.5	Pass
b	2462	Ant1	10.071	0.5	Pass
g	2412	Ant1	15.111	0.5	Pass
g	2437	Ant1	15.117	0.5	Pass
g	2462	Ant1	12.846	0.5	Pass
n20	2412	Ant1	15.111	0.5	Pass
n20	2437	Ant1	17.169	0.5	Pass
n20	2462	Ant1	15.066	0.5	Pass
n40	2422	Ant1	30.072	0.5	Pass
n40	2437	Ant1	31.344	0.5	Pass
n40	2452	Ant1	31.284	0.5	Pass
b	2412	Ant2	10.098	0.5	Pass
b	2437	Ant2	10.071	0.5	Pass
b	2462	Ant2	10.074	0.5	Pass
g	2412	Ant2	15.096	0.5	Pass
g	2437	Ant2	15.099	0.5	Pass
g	2462	Ant2	15.111	0.5	Pass
n20	2412	Ant2	15.951	0.5	Pass
n20	2437	Ant2	15.096	0.5	Pass
n20	2462	Ant2	12.615	0.5	Pass
n40	2422	Ant2	31.308	0.5	Pass
n40	2437	Ant2	33.804	0.5	Pass
n40	2452	Ant2	31.284	0.5	Pass

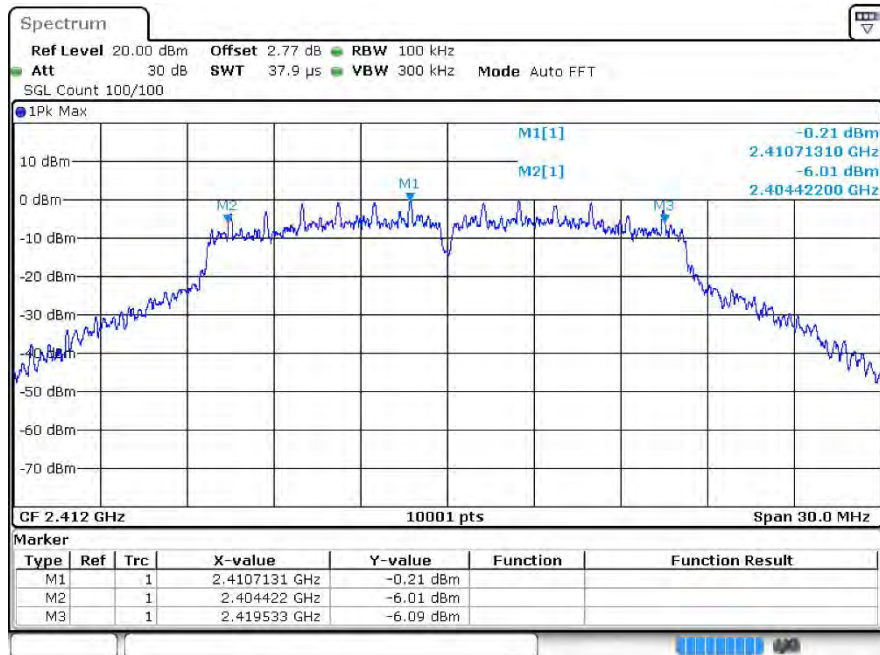
3.2 Test Graphs



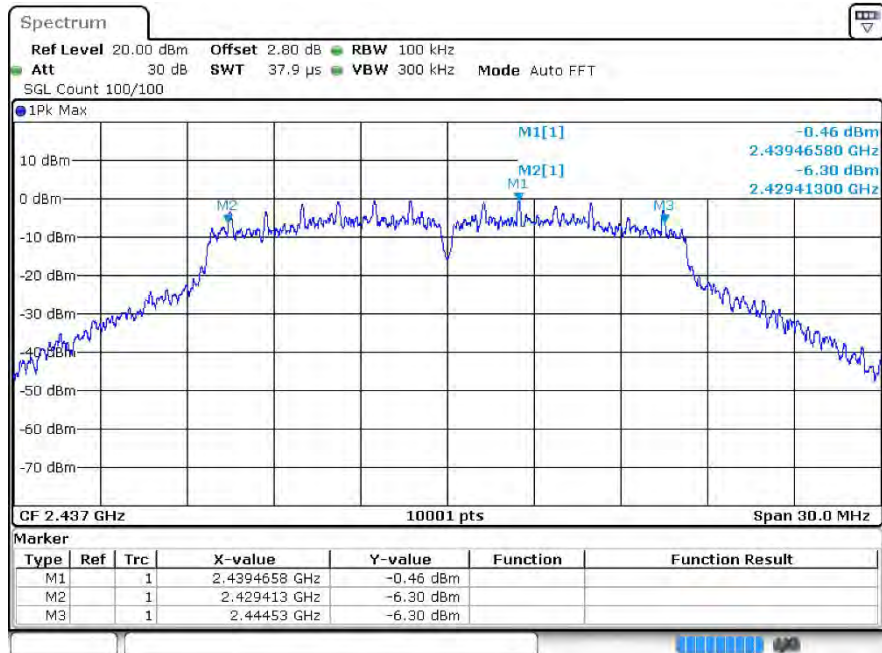
b 2462MHz Ant1



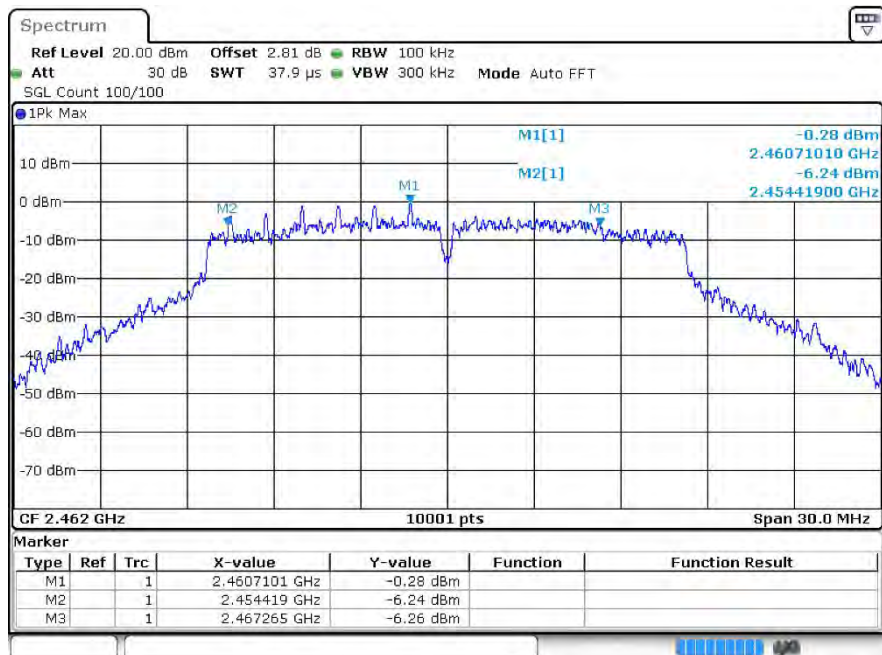
g 2412MHz Ant1

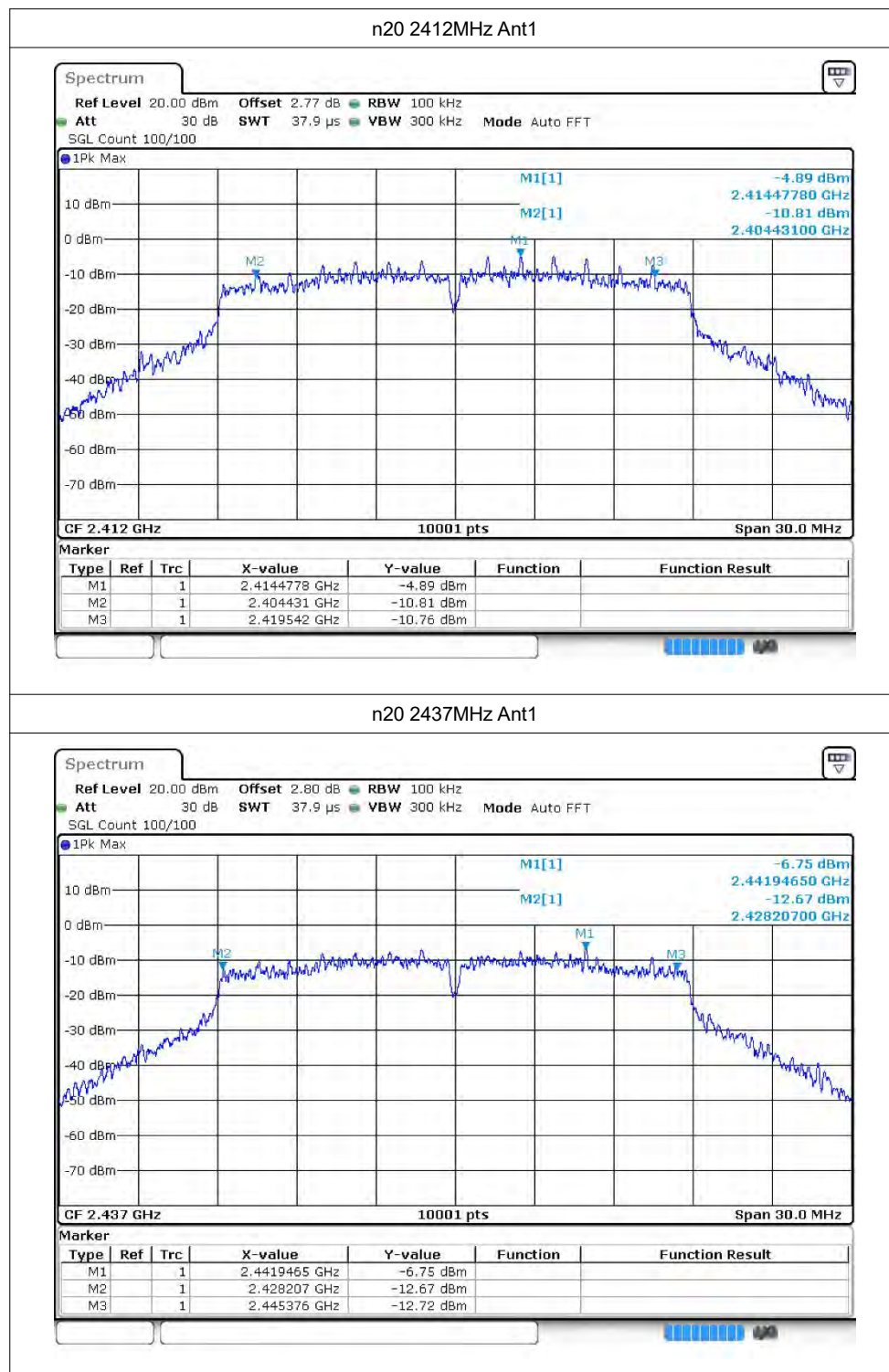


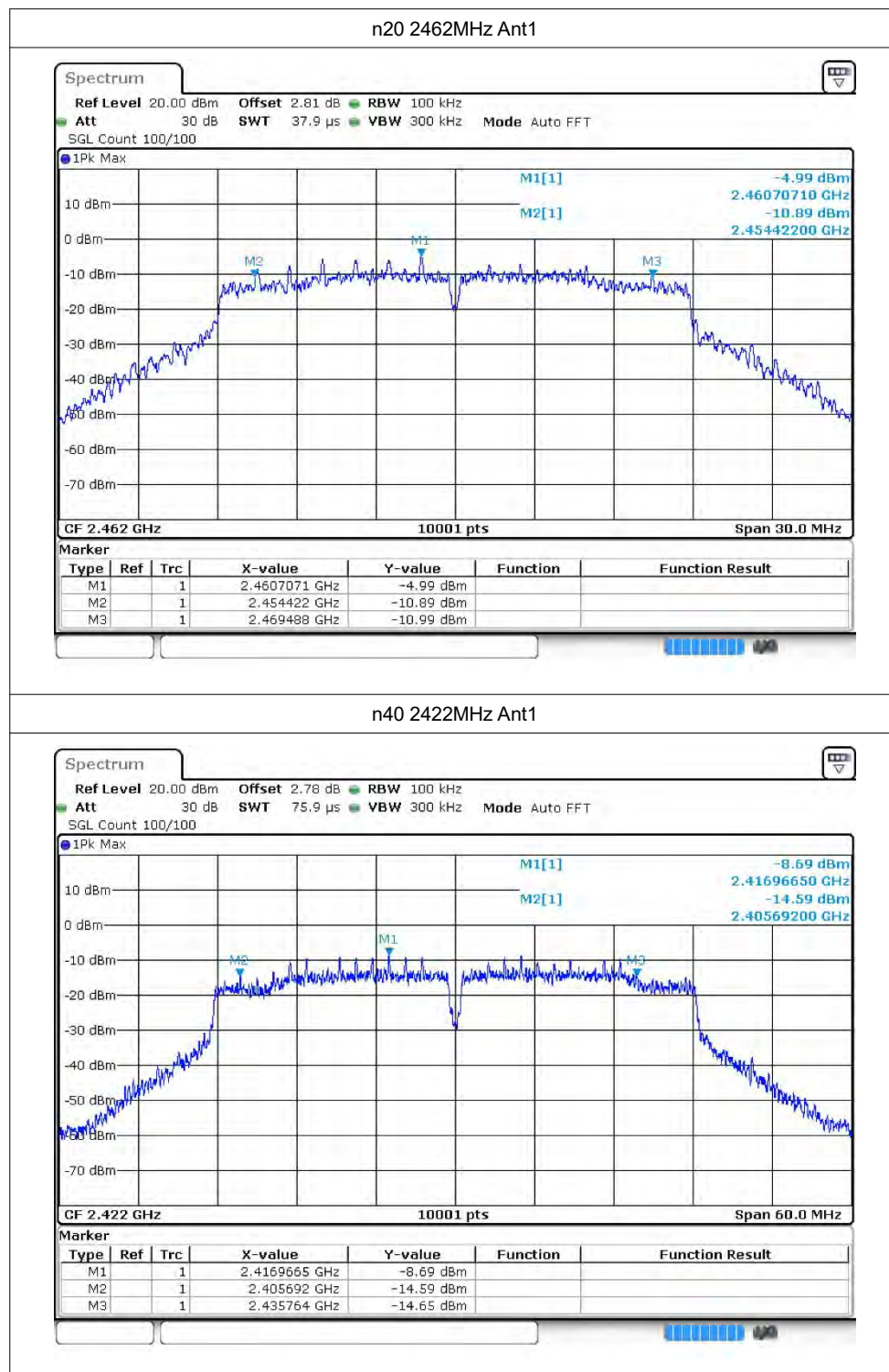
g 2437MHz Ant1

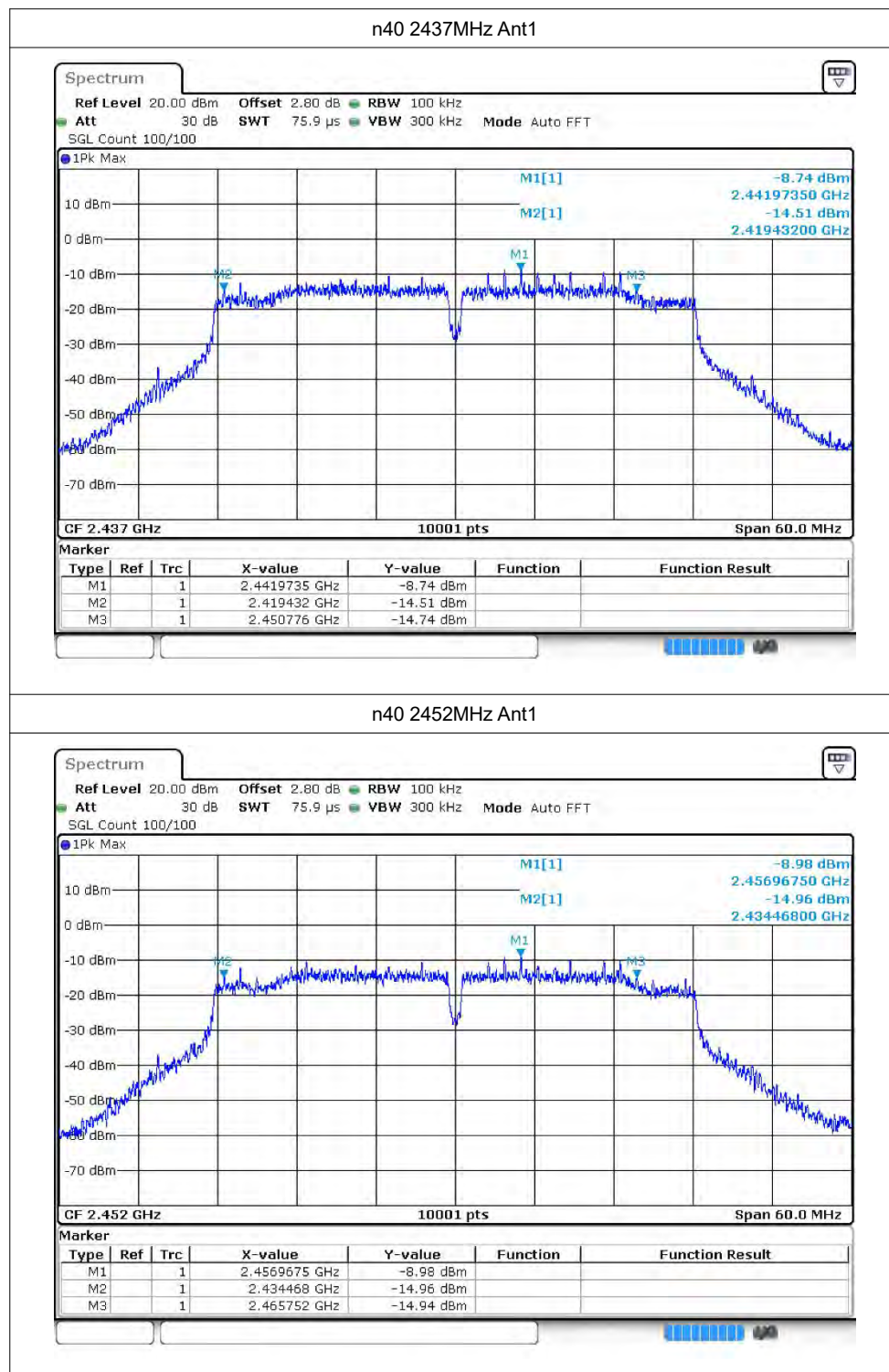


g 2462MHz Ant1

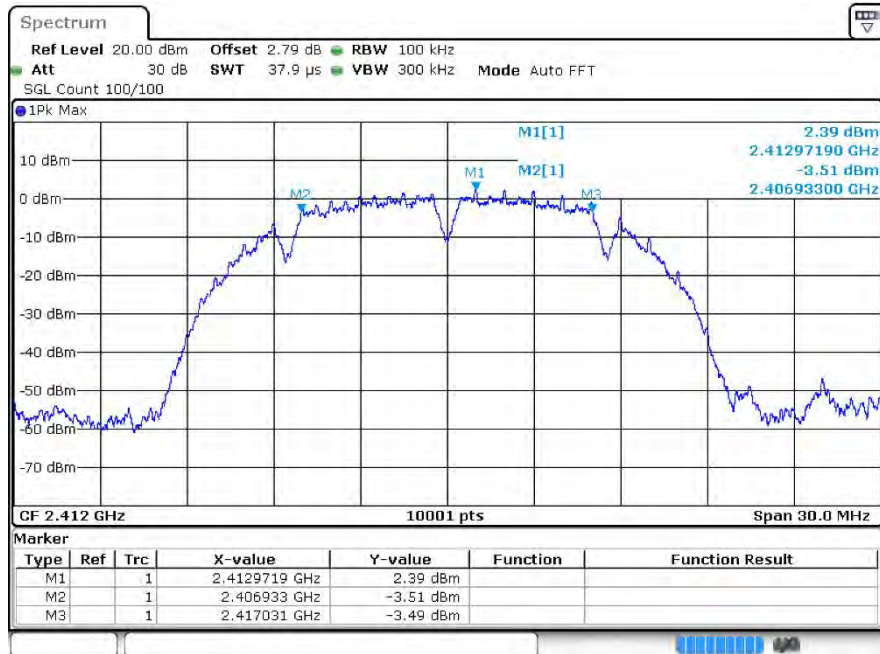




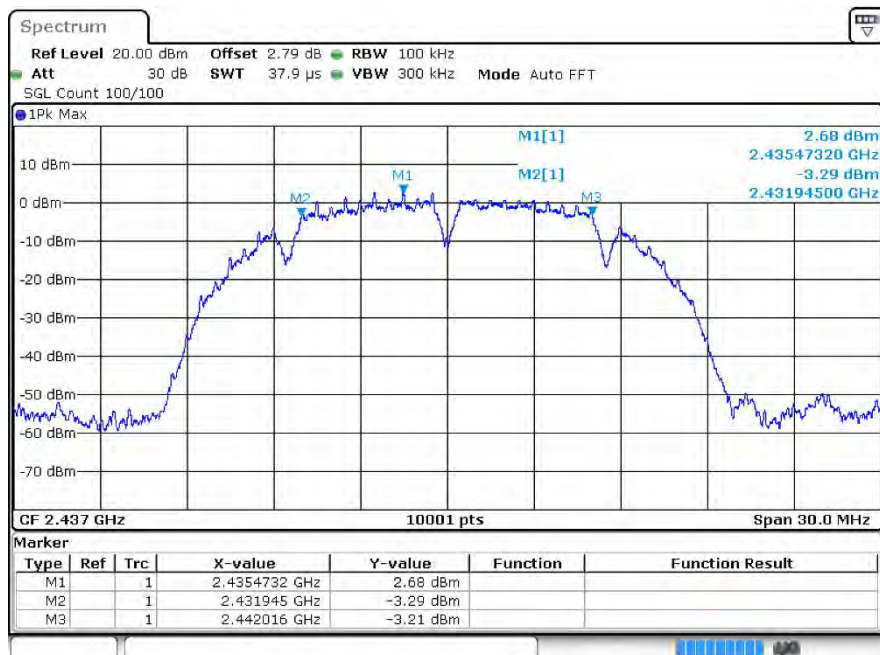




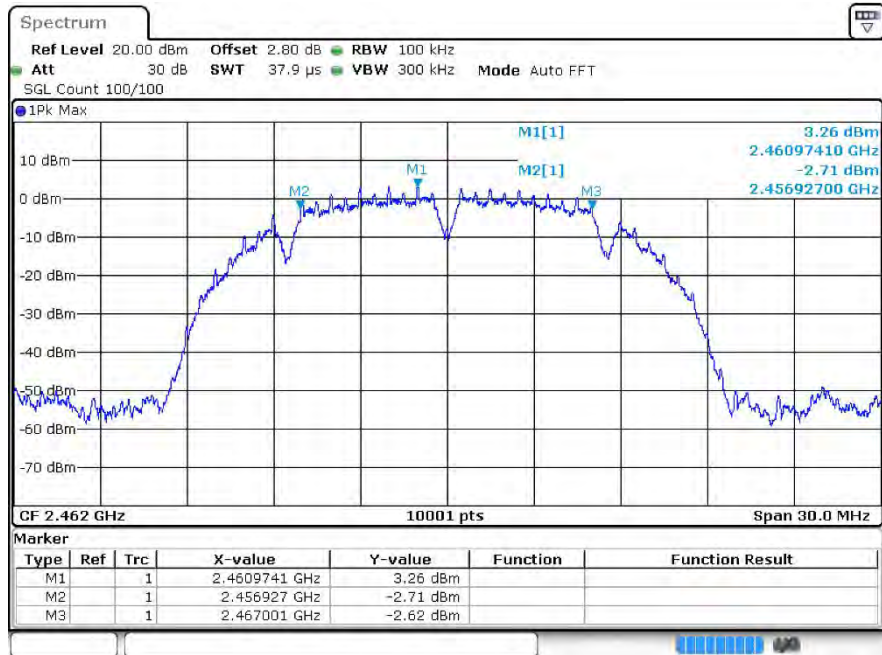
b 2412MHz Ant2



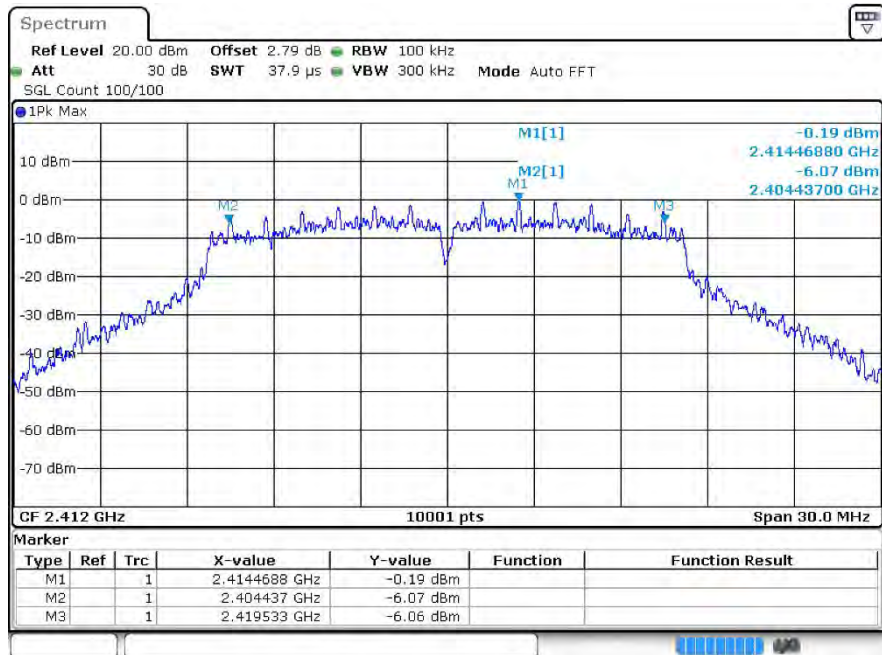
b 2437MHz Ant2



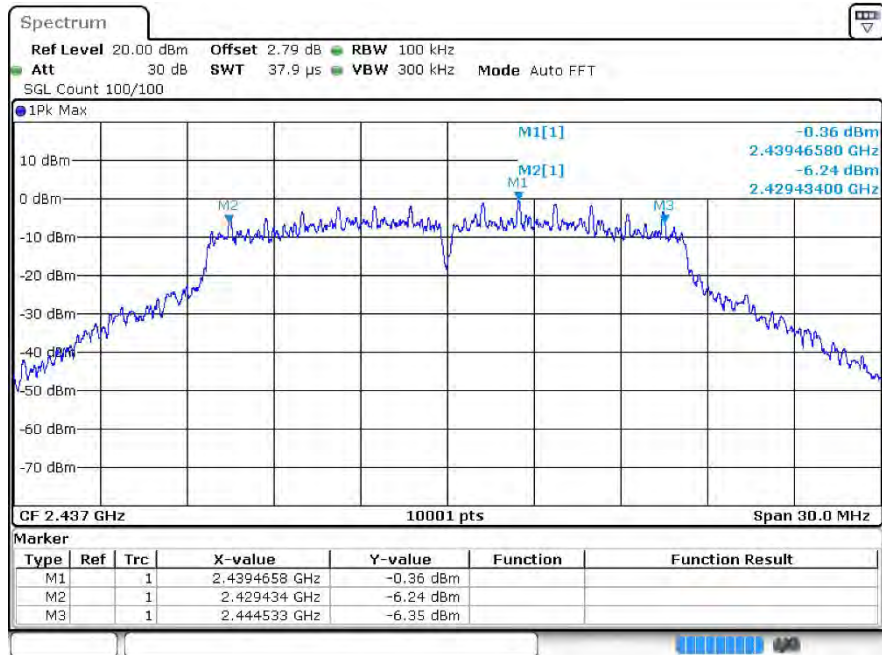
b 2462MHz Ant2



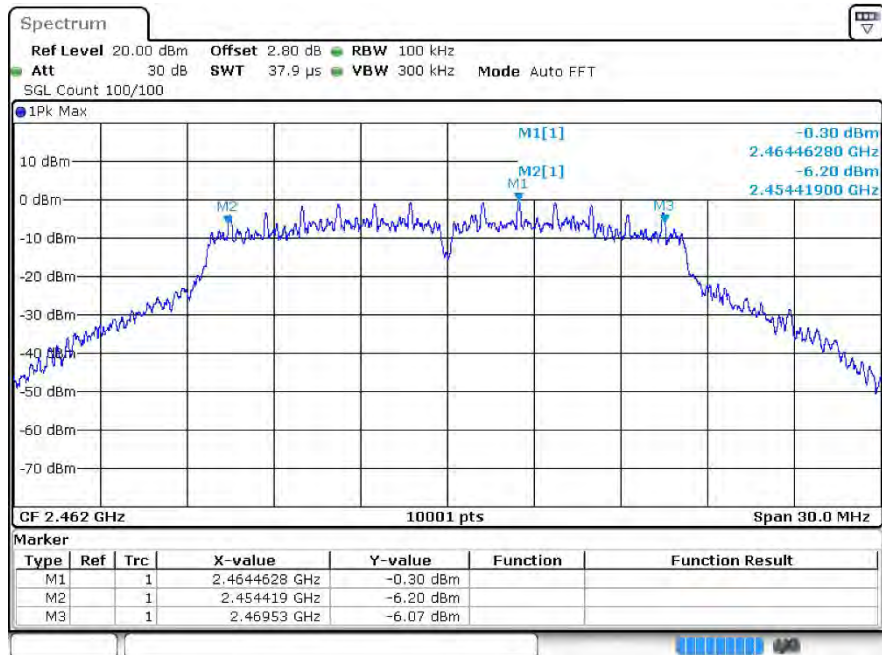
g 2412MHz Ant2

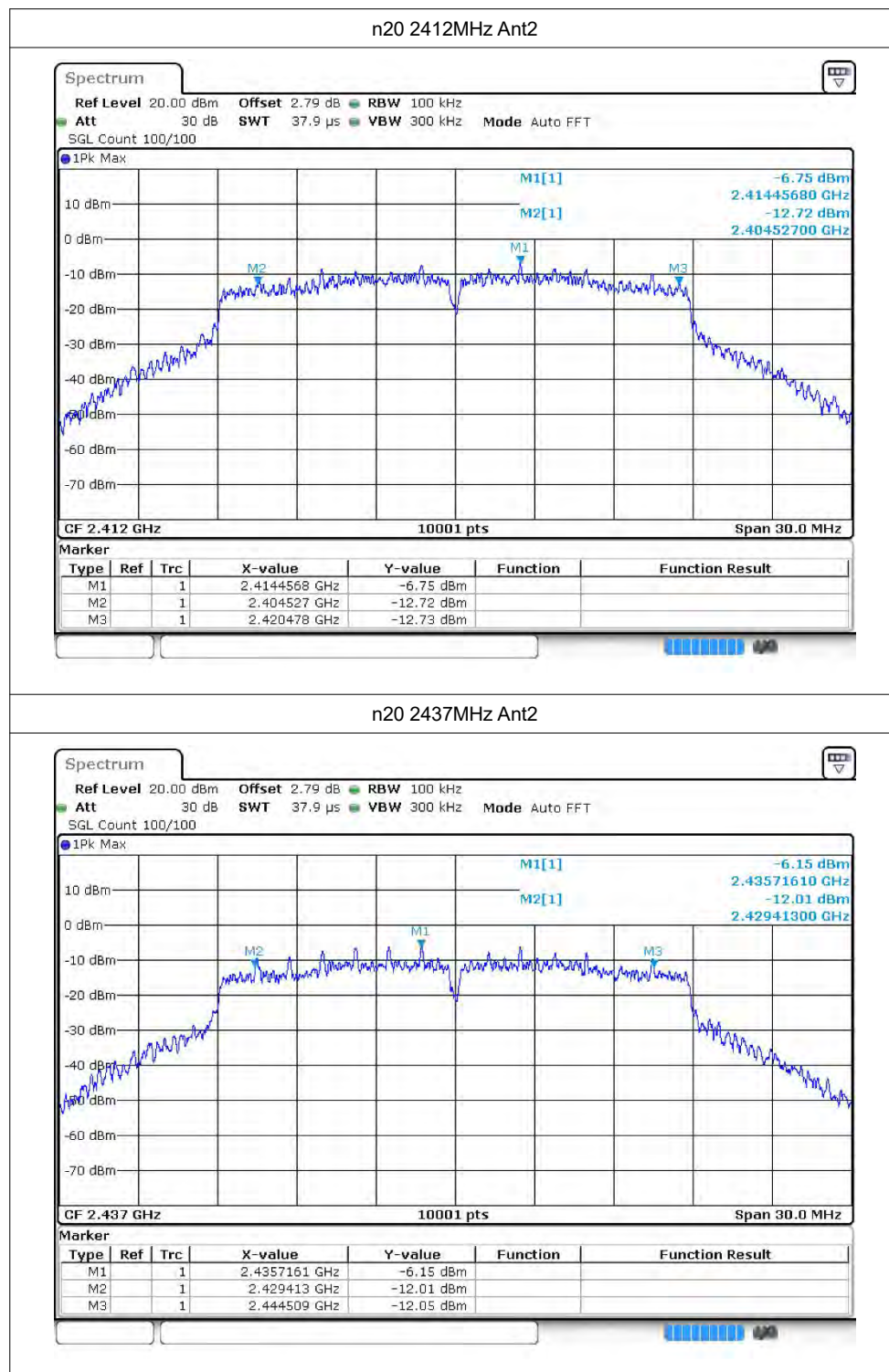


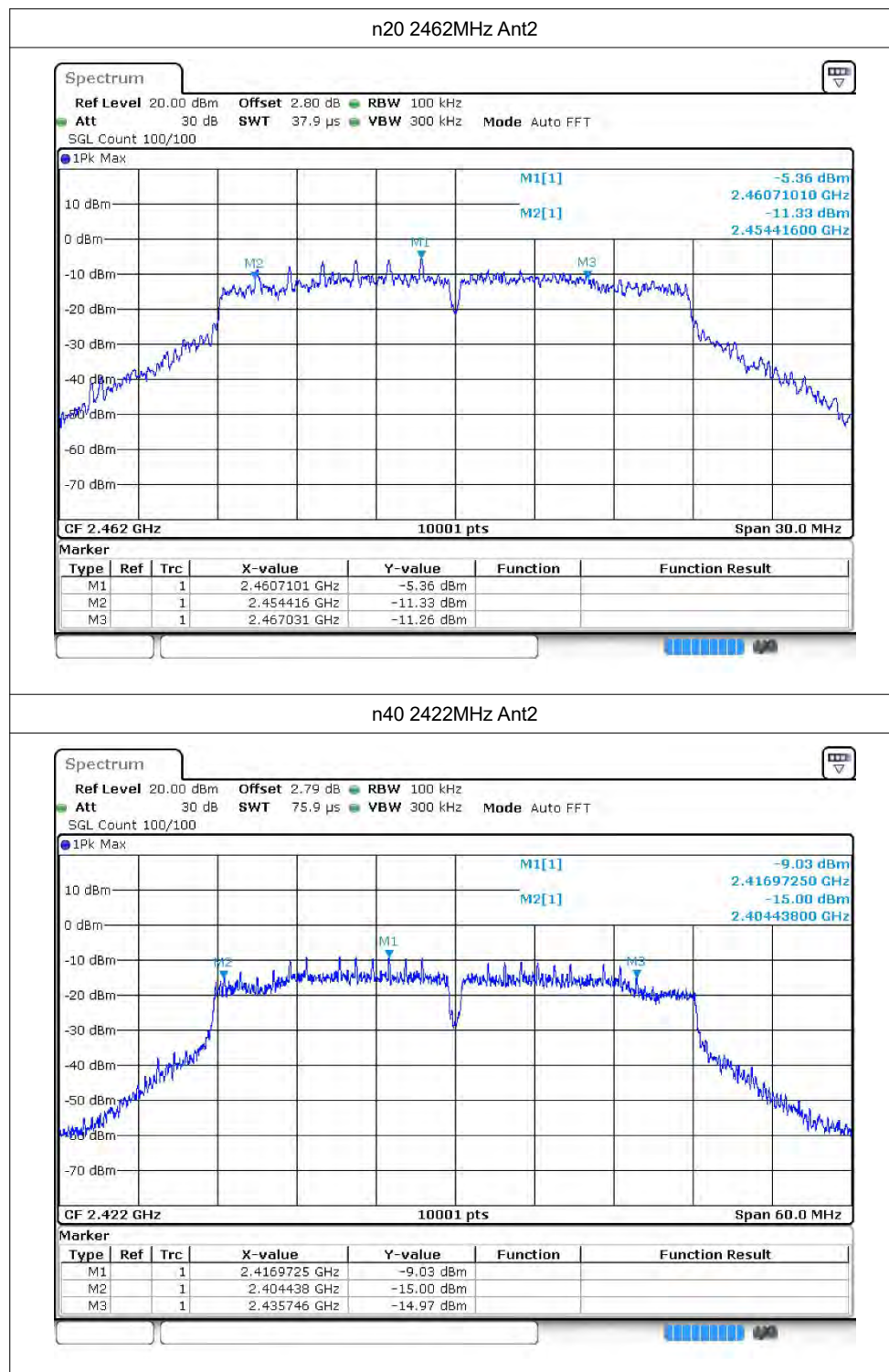
g 2437MHz Ant2

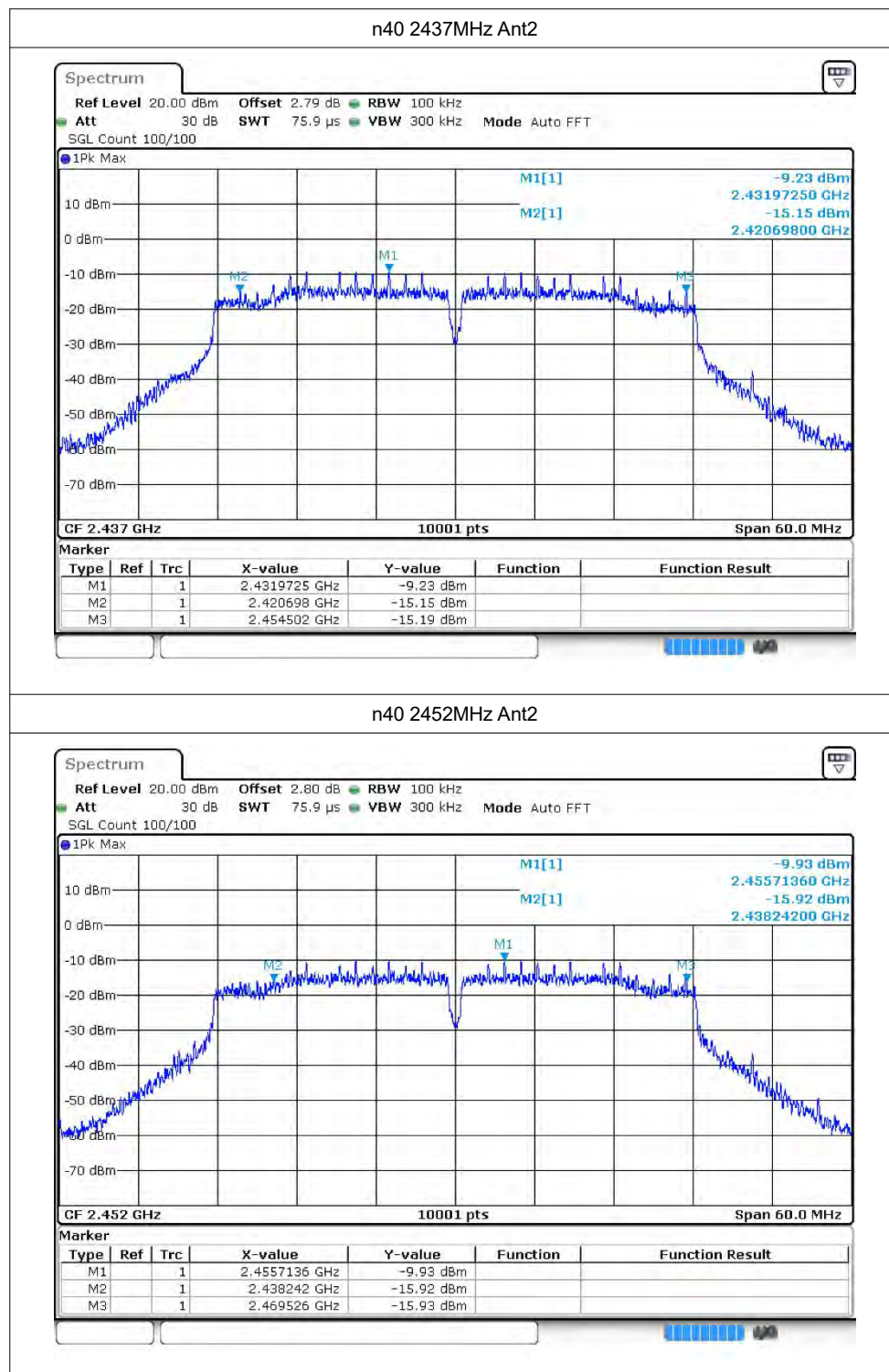


g 2462MHz Ant2









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	2.4	≤8	Pass
b	2437	Ant1	1.7	≤8	Pass
b	2462	Ant1	3.45	≤8	Pass
g	2412	Ant1	-0.25	≤8	Pass
g	2437	Ant1	-0.05	≤8	Pass
g	2462	Ant1	-0.17	≤8	Pass
n20	2412	Ant1	-4.72	≤8	Pass
n20	2437	Ant1	-4.84	≤8	Pass
n20	2462	Ant1	-5.38	≤8	Pass
n40	2422	Ant1	-8.13	≤8	Pass
n40	2437	Ant1	-8.79	≤8	Pass
n40	2452	Ant1	-8.71	≤8	Pass
b	2412	Ant2	2.73	≤8	Pass
b	2437	Ant2	3.03	≤8	Pass
b	2462	Ant2	2.81	≤8	Pass
g	2412	Ant2	-0.48	≤8	Pass
g	2437	Ant2	-0.18	≤8	Pass
g	2462	Ant2	-0.33	≤8	Pass
n20	2412	Ant2	-5.44	≤8	Pass
n20	2437	Ant2	-5.15	≤8	Pass
n20	2462	Ant2	-7.9	≤8	Pass
n40	2422	Ant2	-9.37	≤8	Pass
n40	2437	Ant2	-11.01	≤8	Pass
n40	2452	Ant2	-9.42	≤8	Pass
n20	2412	SUM	-2.05	≤5.36	Pass
n20	2437	SUM	-1.98	≤5.36	Pass
n20	2462	SUM	-3.45	≤5.36	Pass
n40	2422	SUM	-5.70	≤5.36	Pass
n40	2437	SUM	-6.75	≤5.36	Pass
n40	2452	SUM	-6.04	≤5.36	Pass

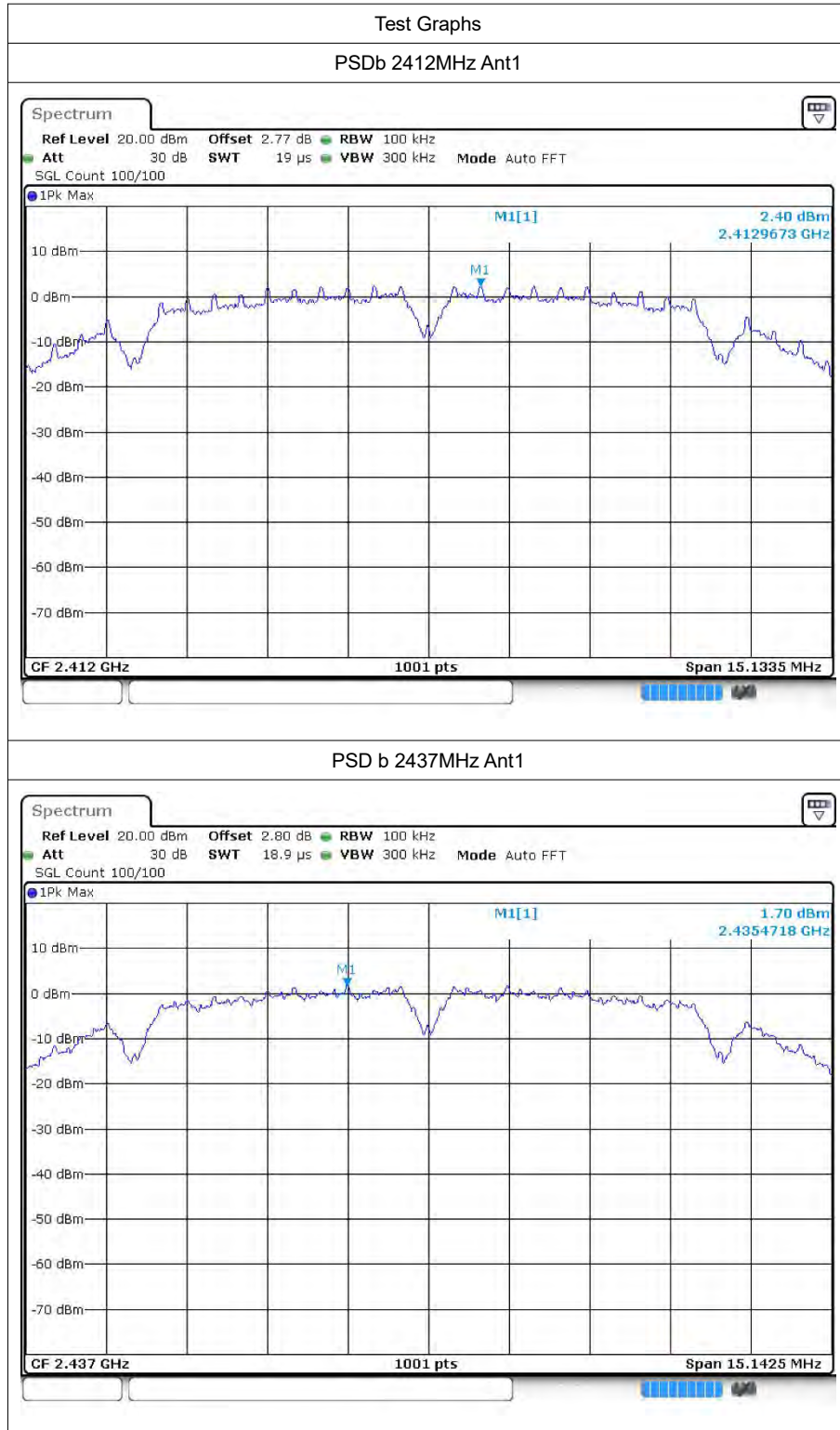
Note:

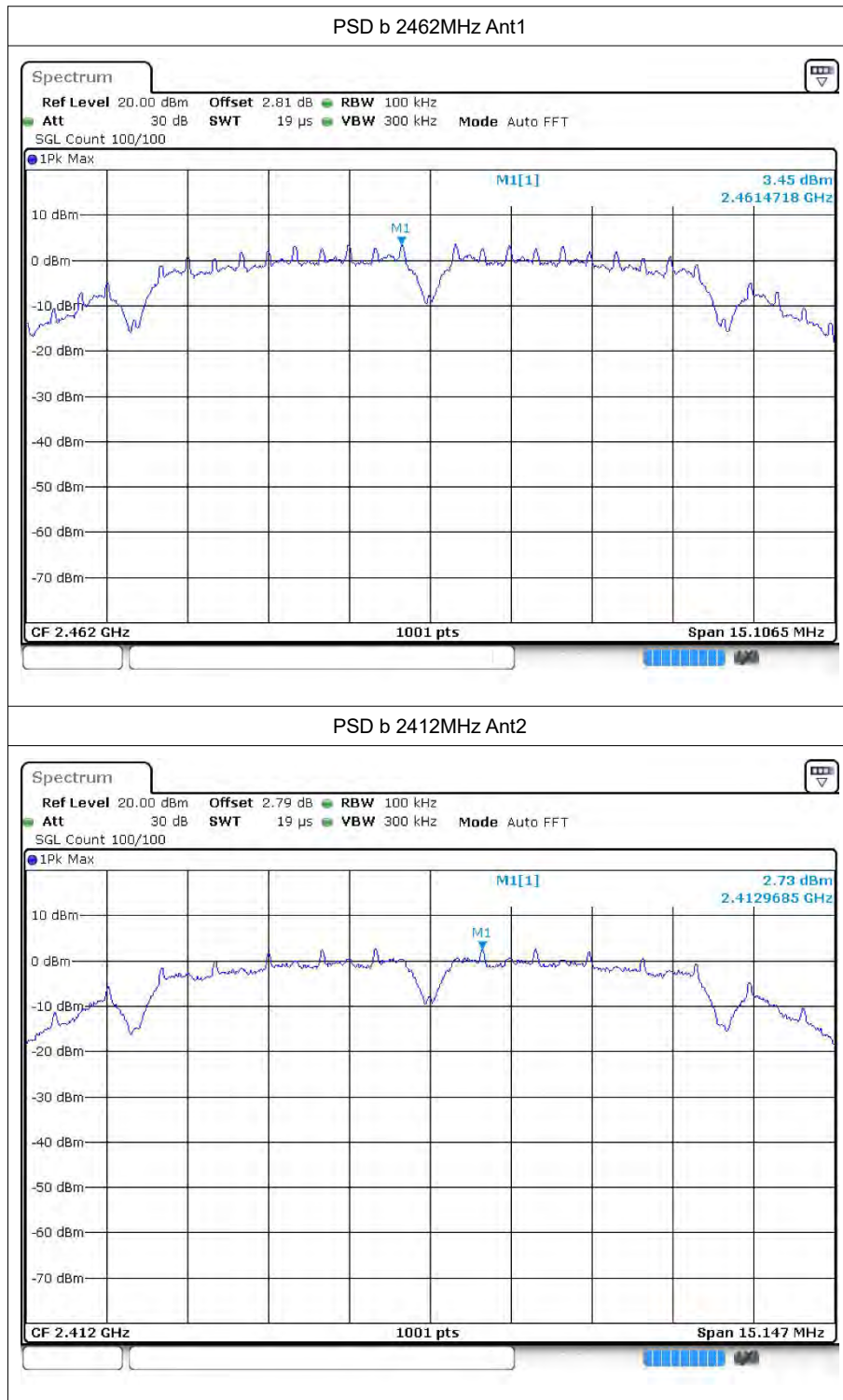
For MIMO mode:

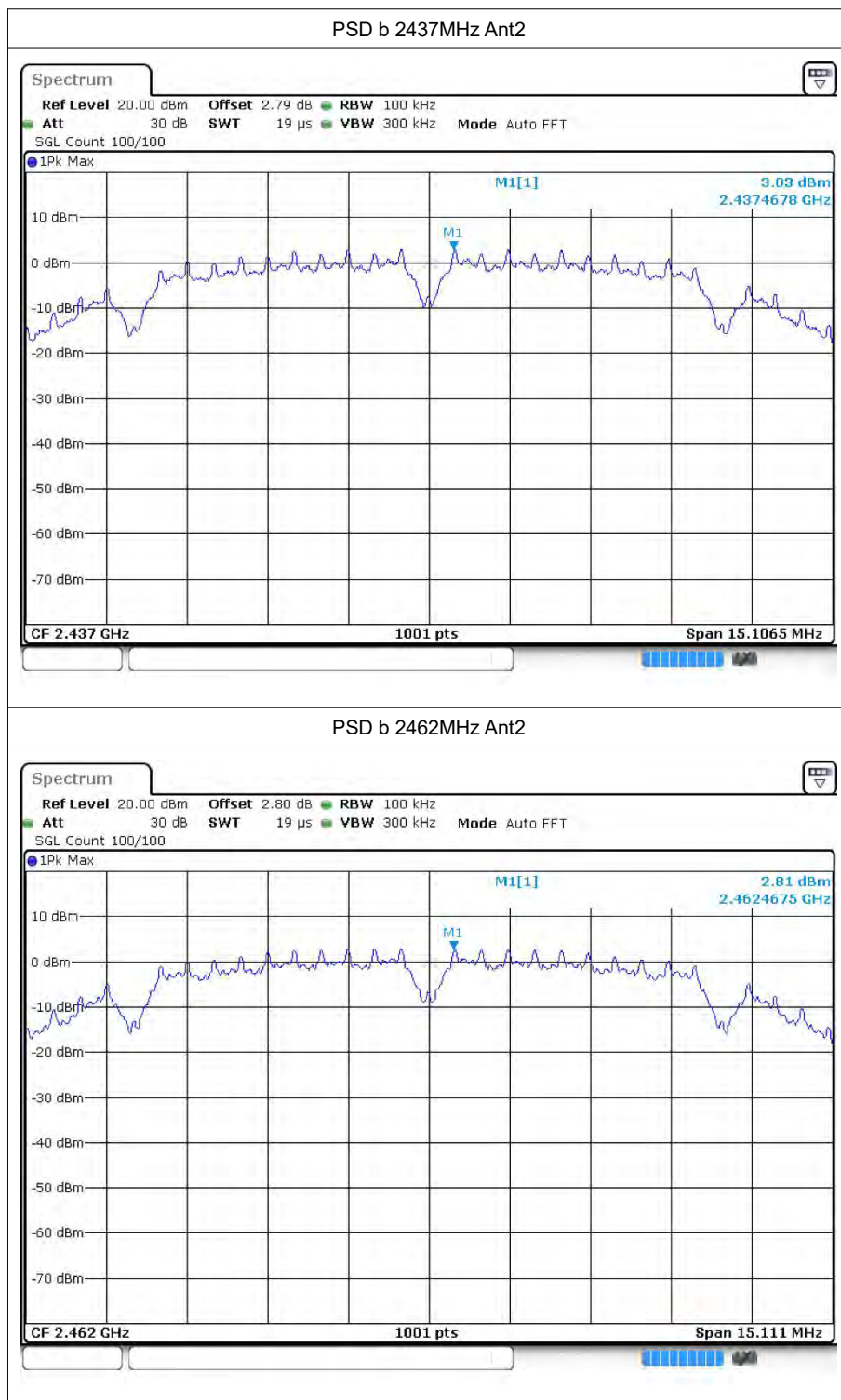
Directional gain= $10\log[(10^{G1/20}+10^{G2/20})^2/2]$ dBi=8.64dBi

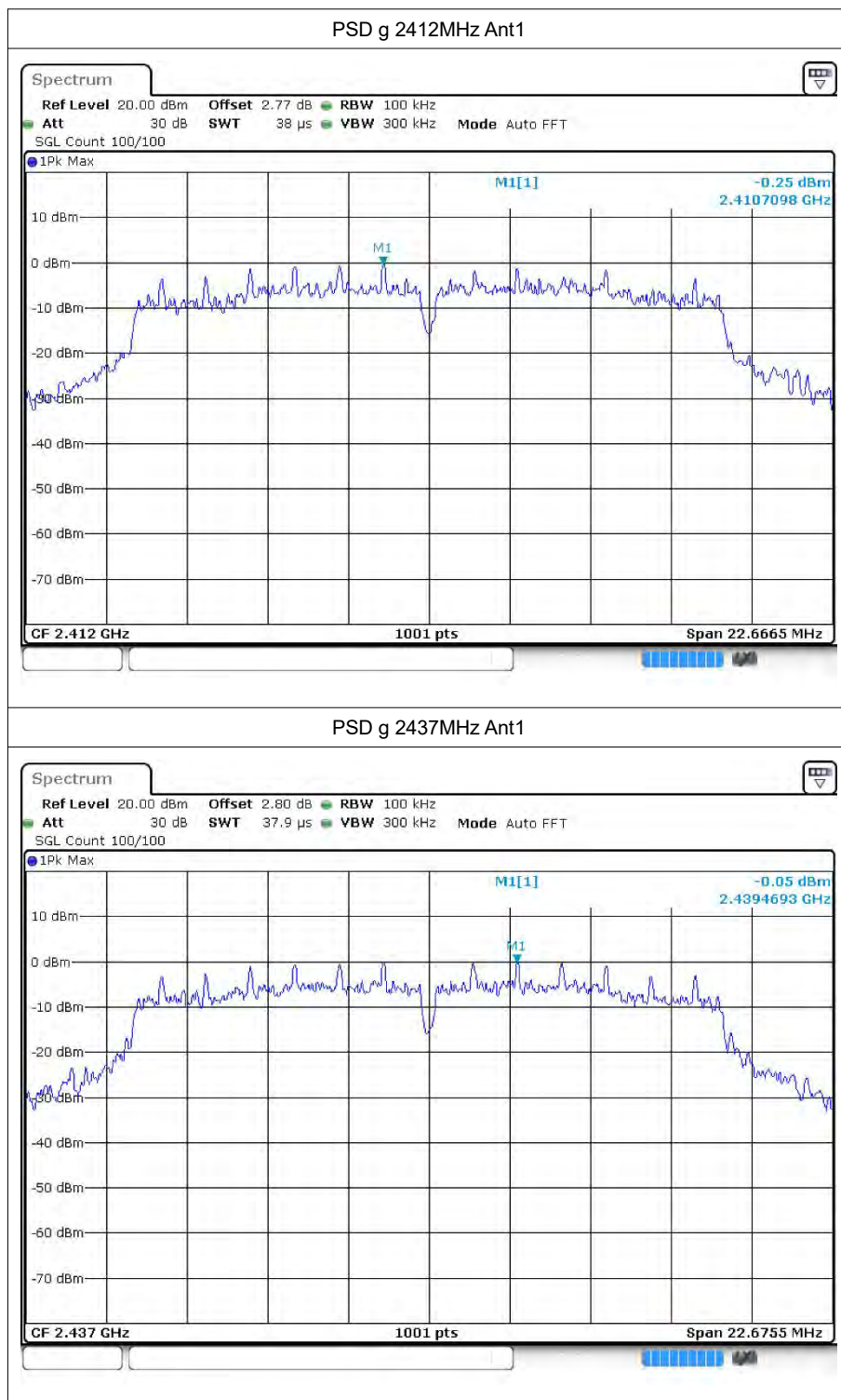
Limit = $8-(8.64-6)=5.36$ dBm for PSD

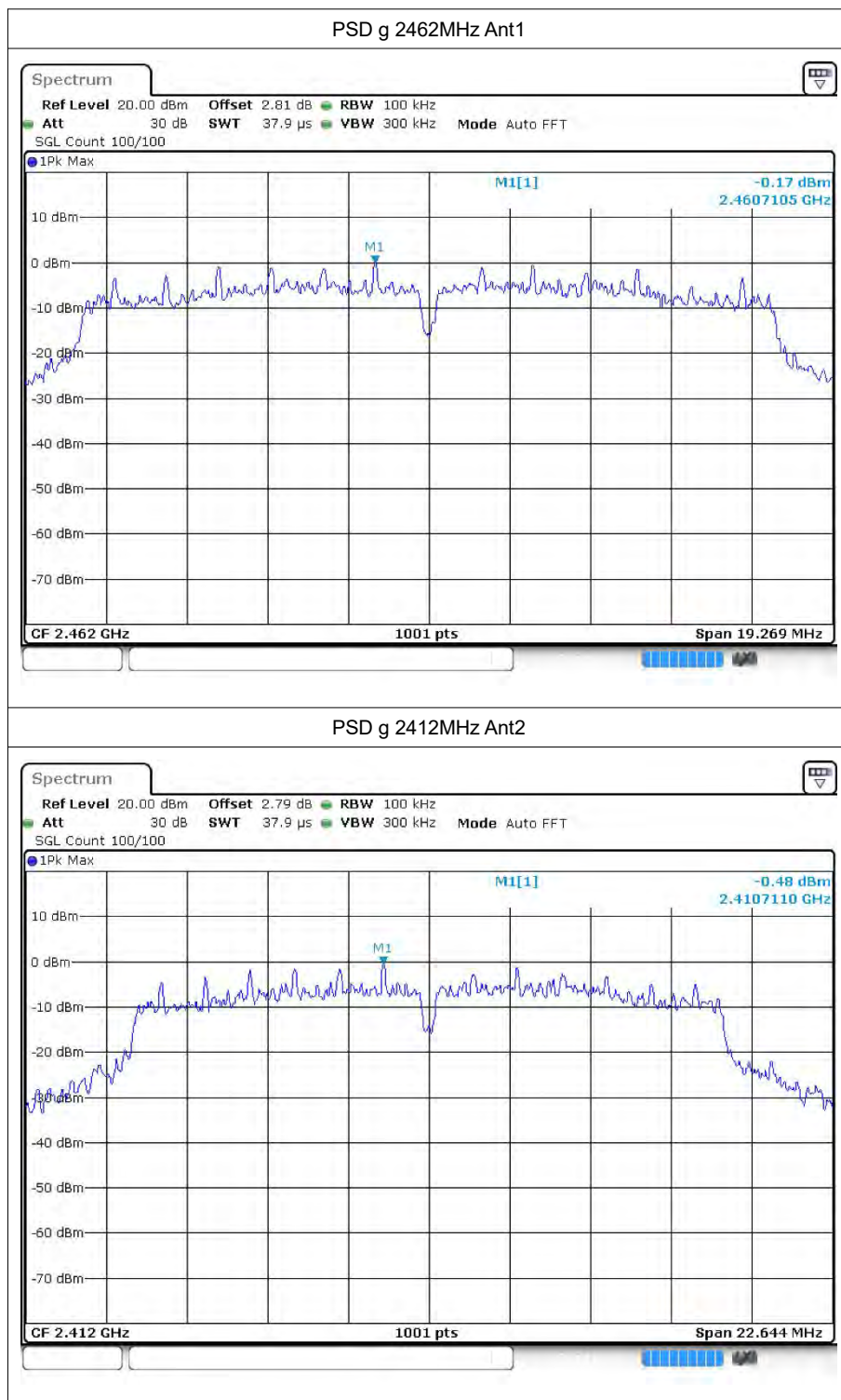
4.2 Test Graphs

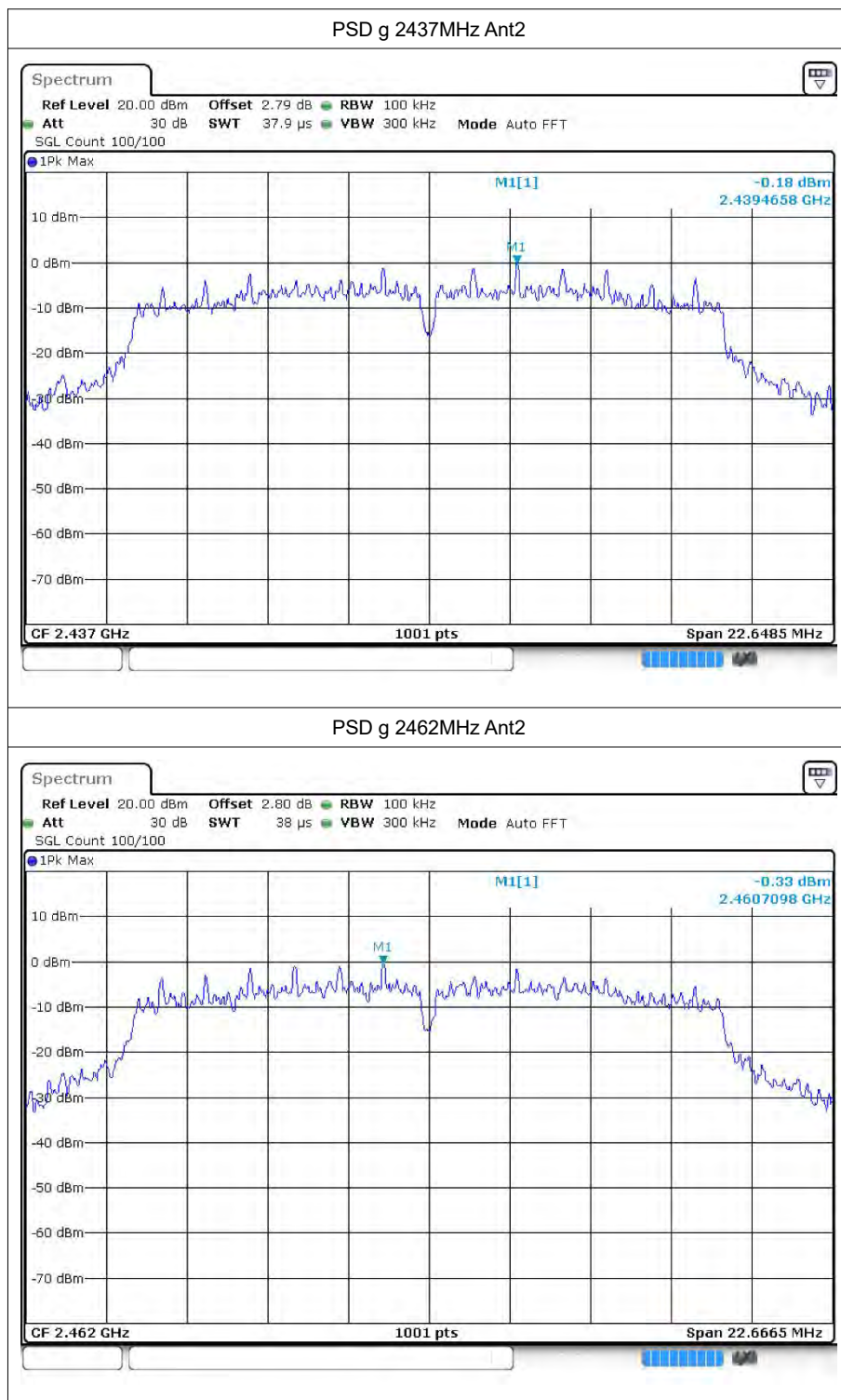


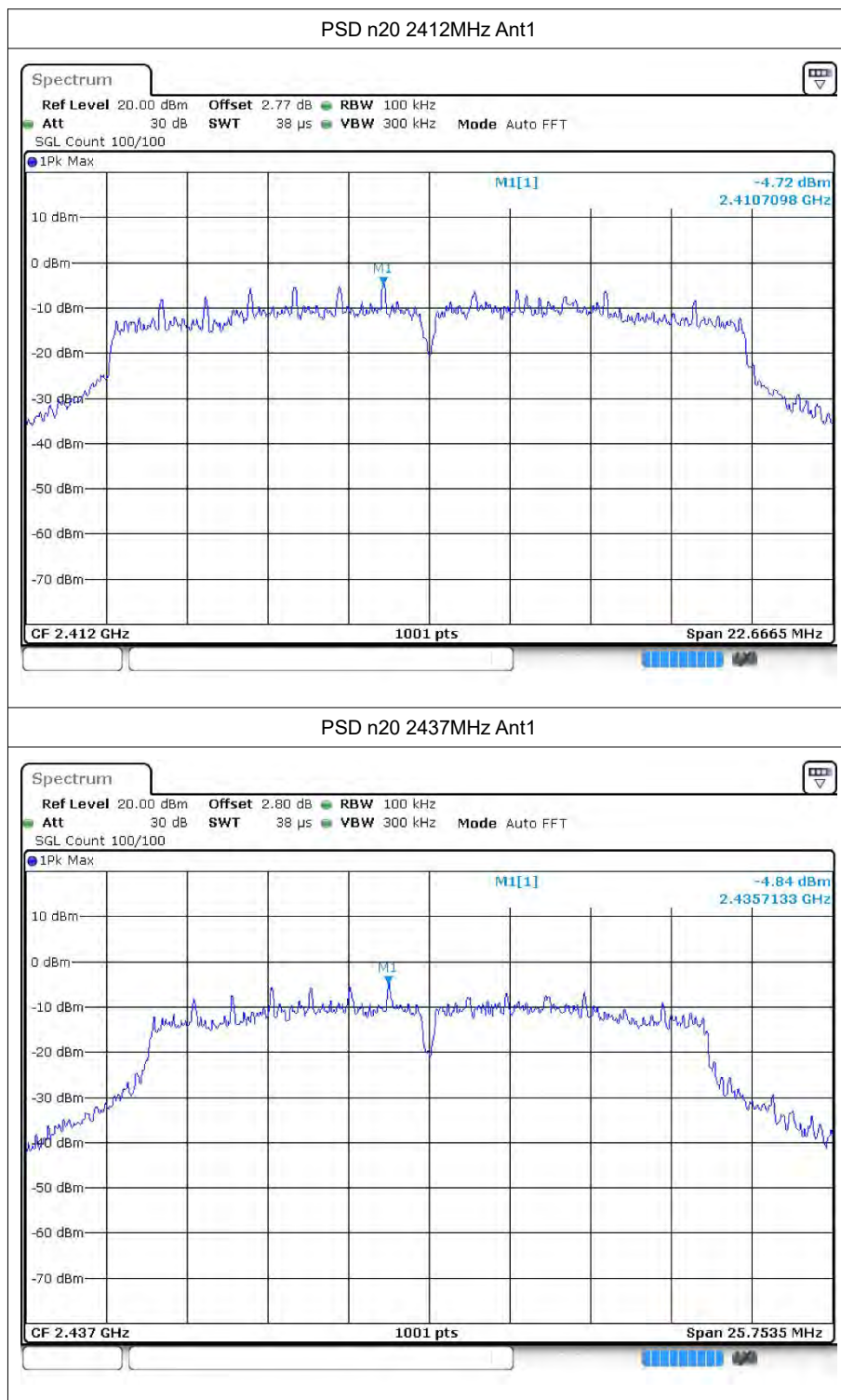


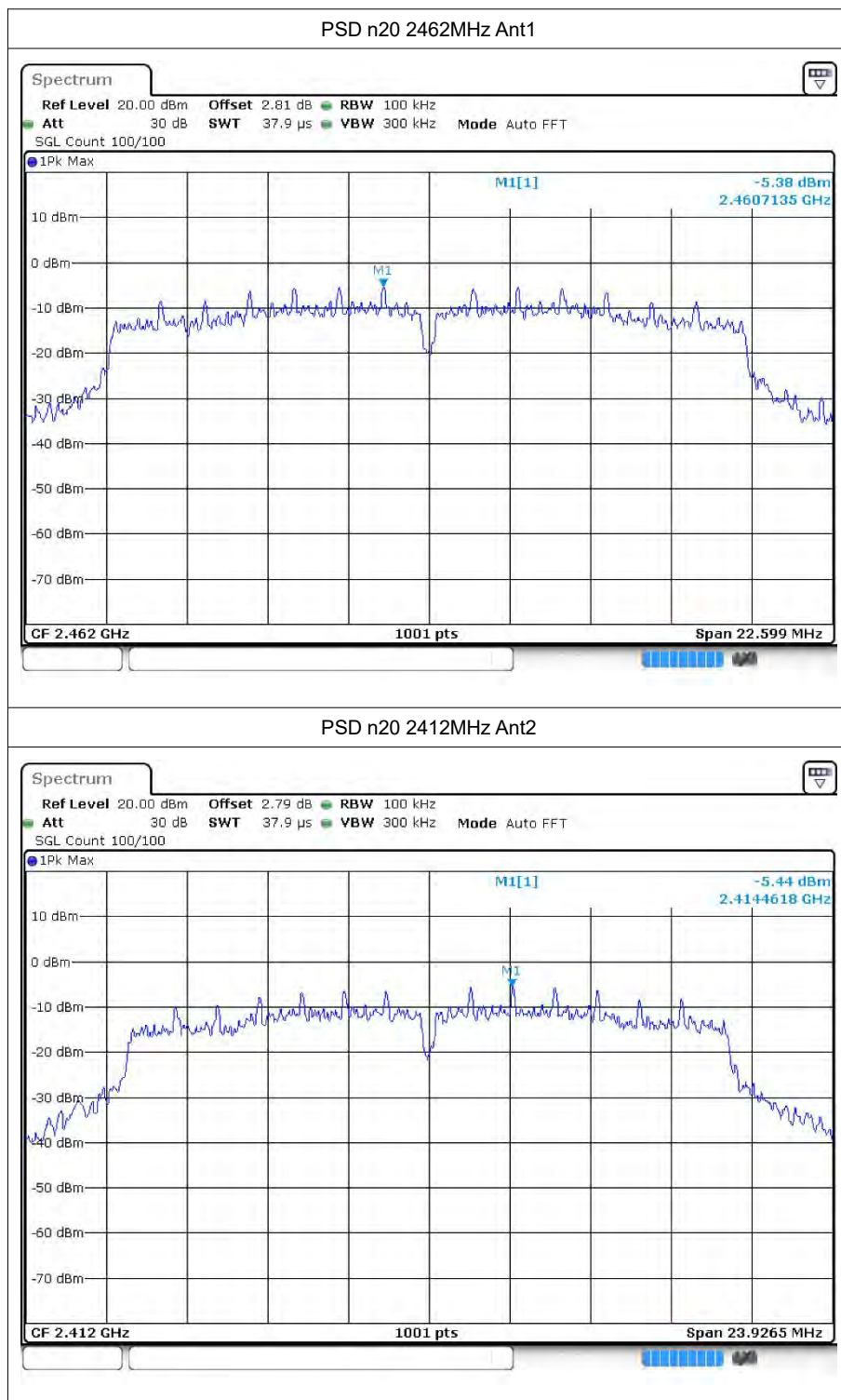


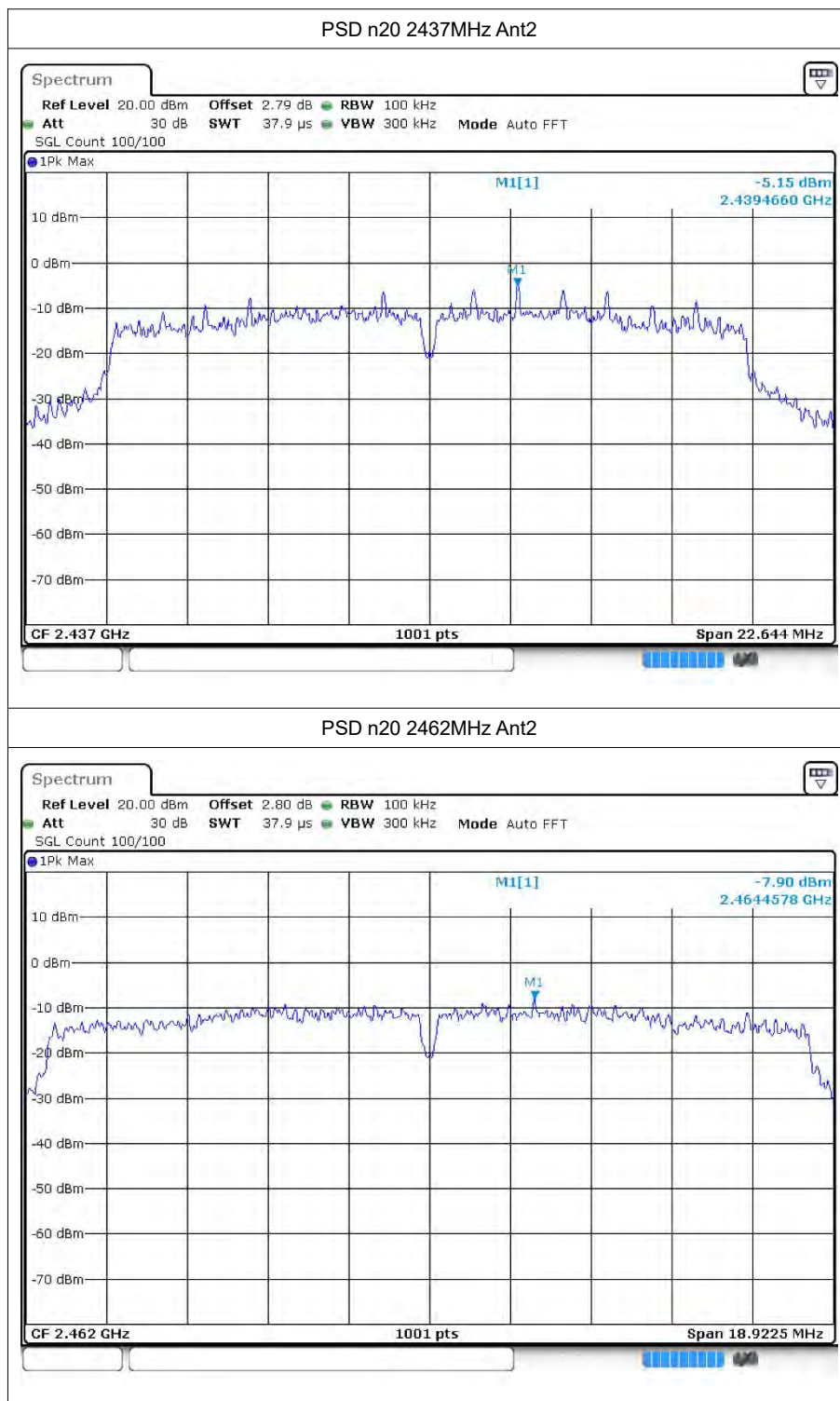


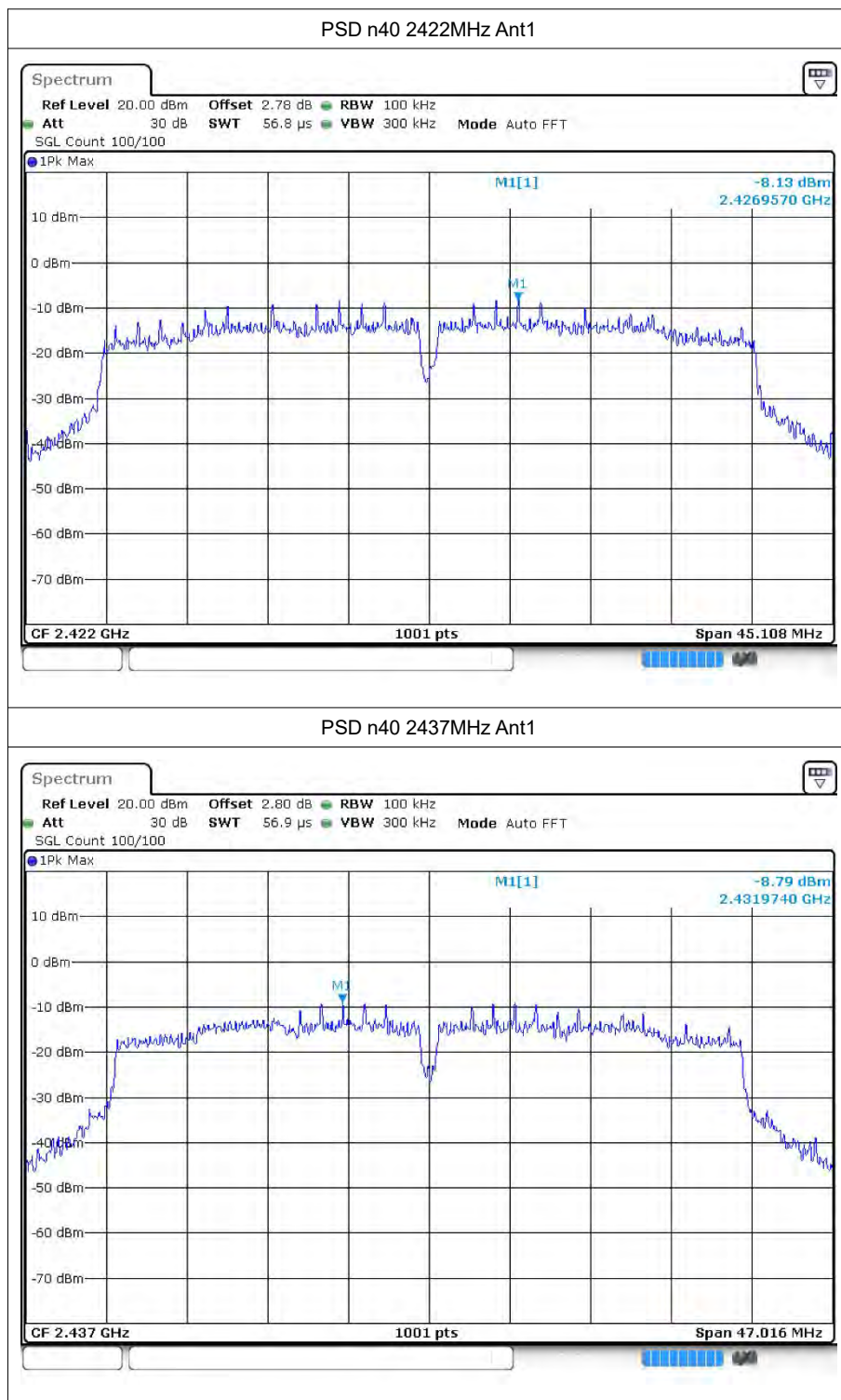


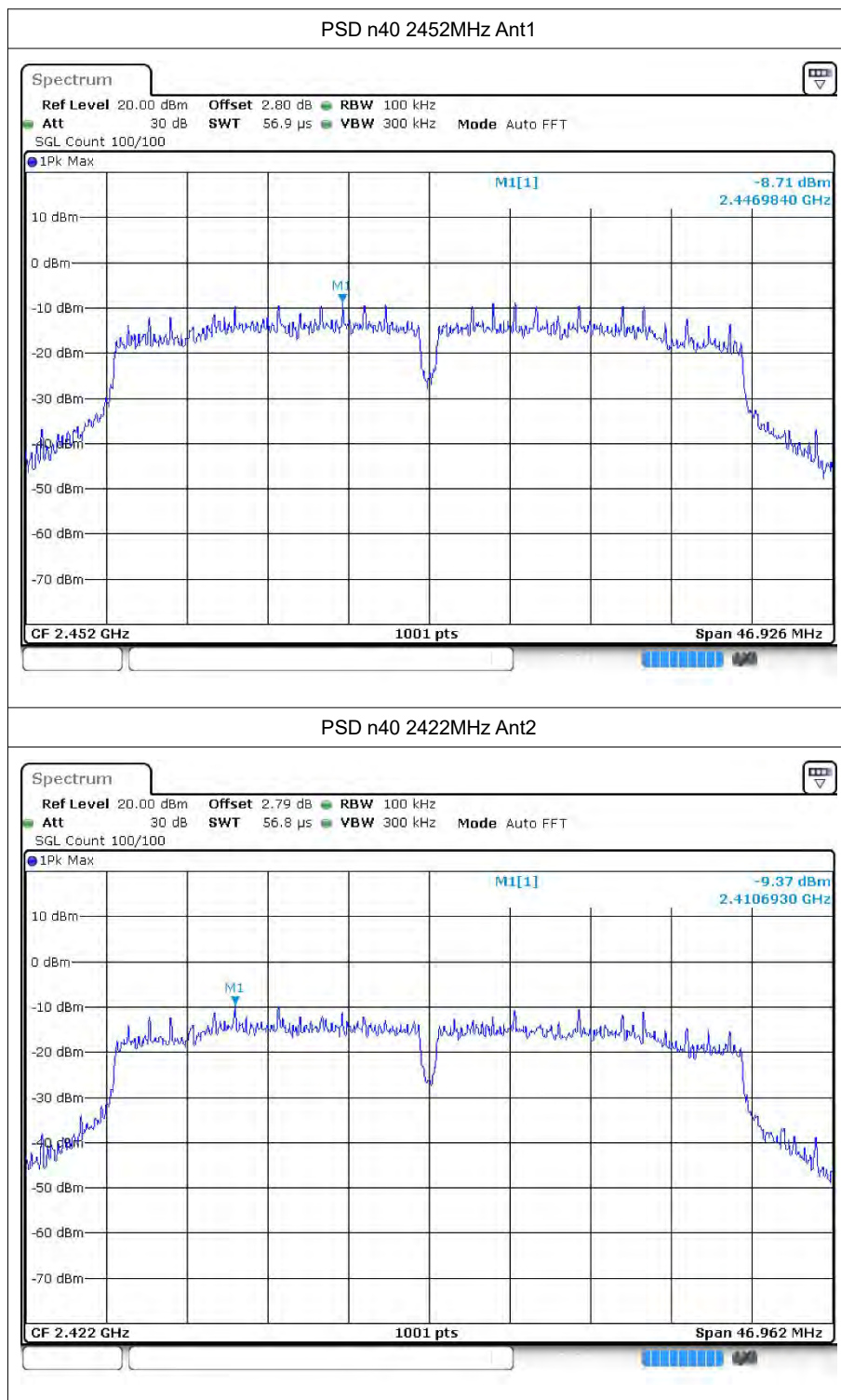


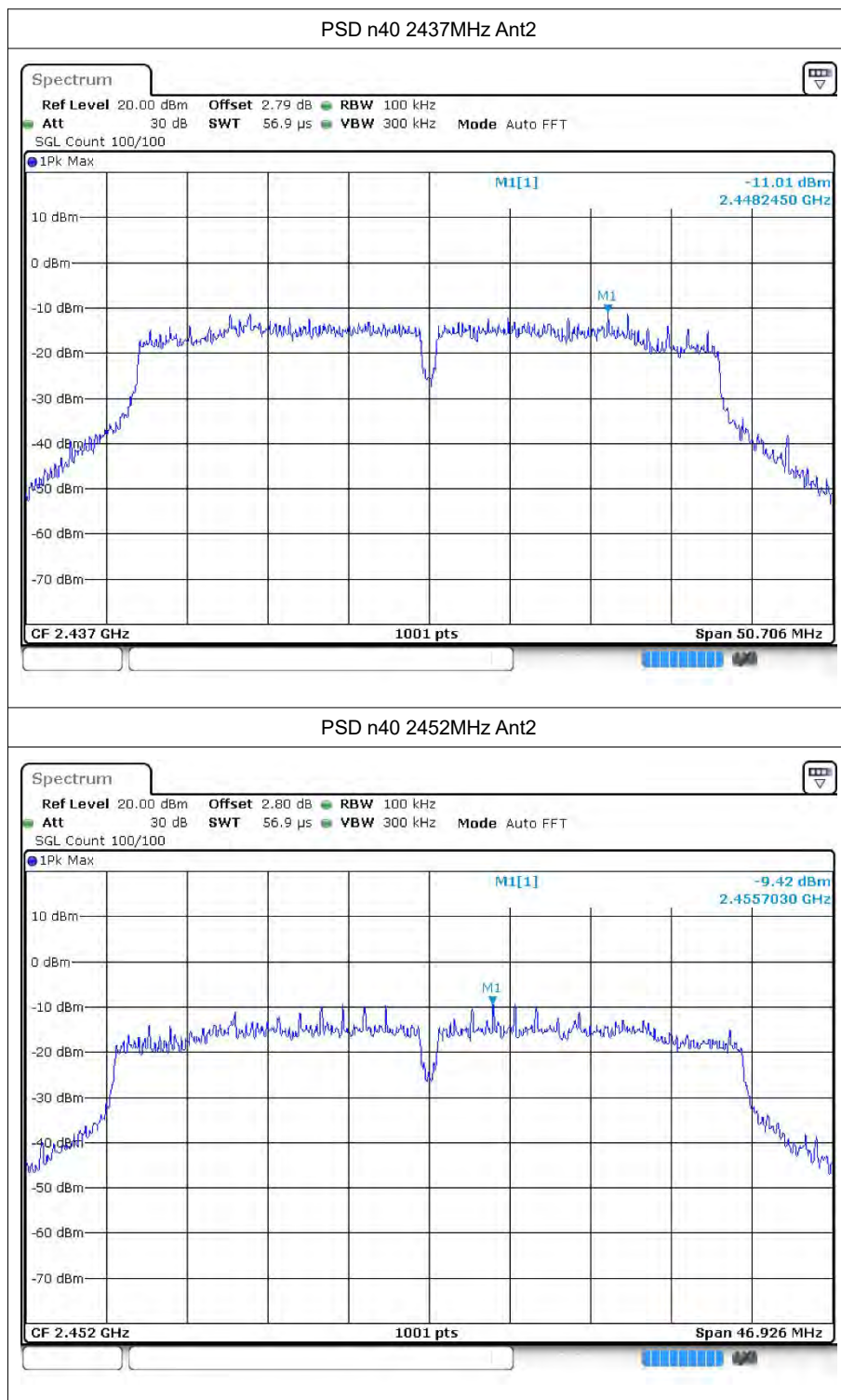














5 Band Edge

5.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-57.22	-20	#BE_NVNT_ b_2412_Ant1 _Value#
b	2462	Ant1	-57.22	-20	Pass
g	2412	Ant1	-55.32	-20	Pass
g	2462	Ant1	-54.88	-20	Pass
n20	2412	Ant1	-49.76	-20	Pass
n20	2462	Ant1	-49.81	-20	Pass
n40	2422	Ant1	-47.88	-20	Pass
n40	2452	Ant1	-46.09	-20	Pass
b	2412	Ant2	-57.21	-20	#BE_NVNT_ b_2412_Ant2 _Value#
b	2462	Ant2	-58.42	-20	Pass
g	2412	Ant2	-54.65	-20	Pass
g	2462	Ant2	-54.7	-20	Pass
n20	2412	Ant2	-49.38	-20	Pass
n20	2462	Ant2	-51.2	-20	Pass
n40	2422	Ant2	-46.58	-20	Pass
n40	2452	Ant2	-46.88	-20	Pass

5.2 Test Graphs

