



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Flow Gateway v4

Trade Mark: M5STACK

Test Model: FGV4

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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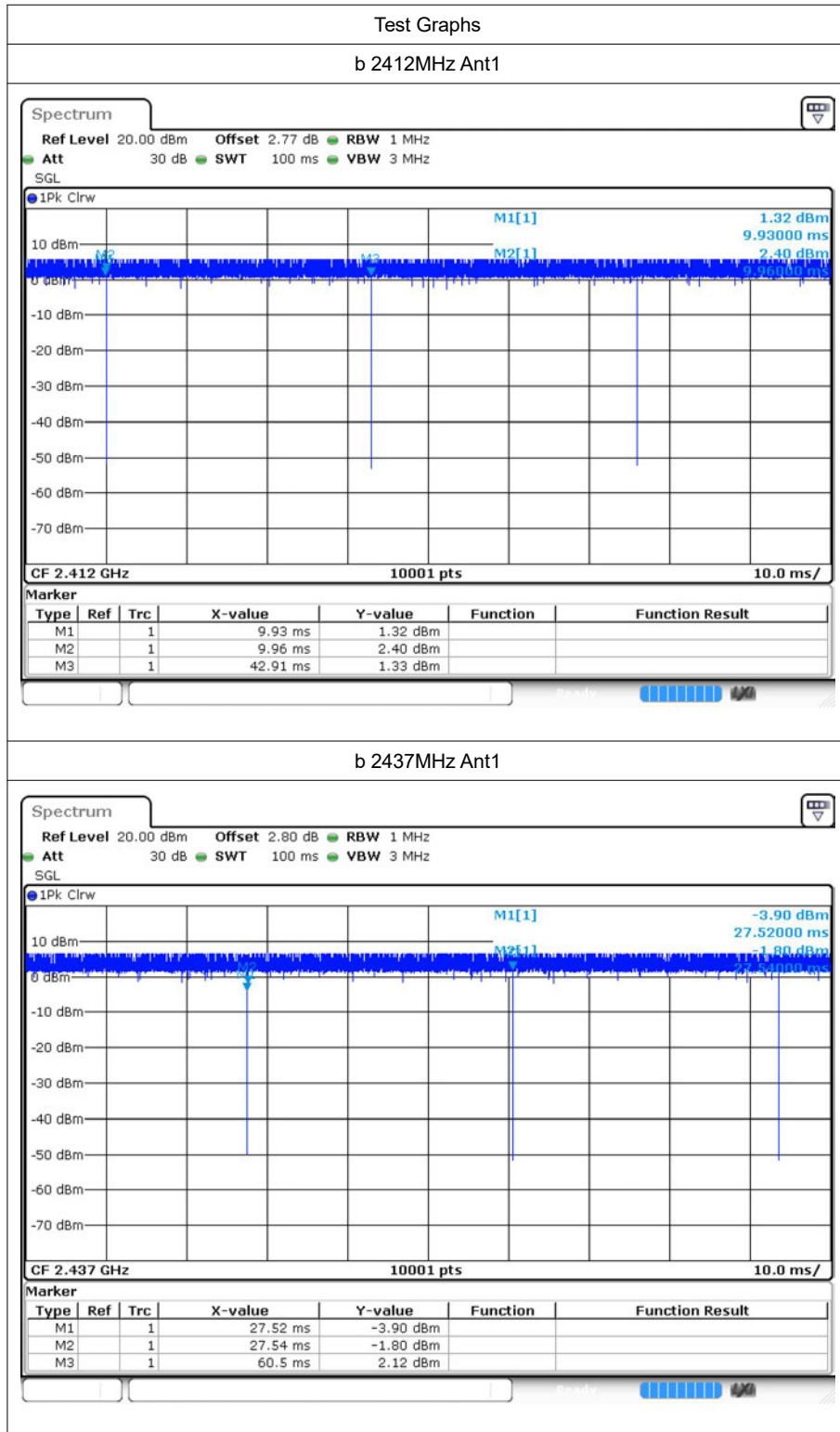
1 Duty Cycle

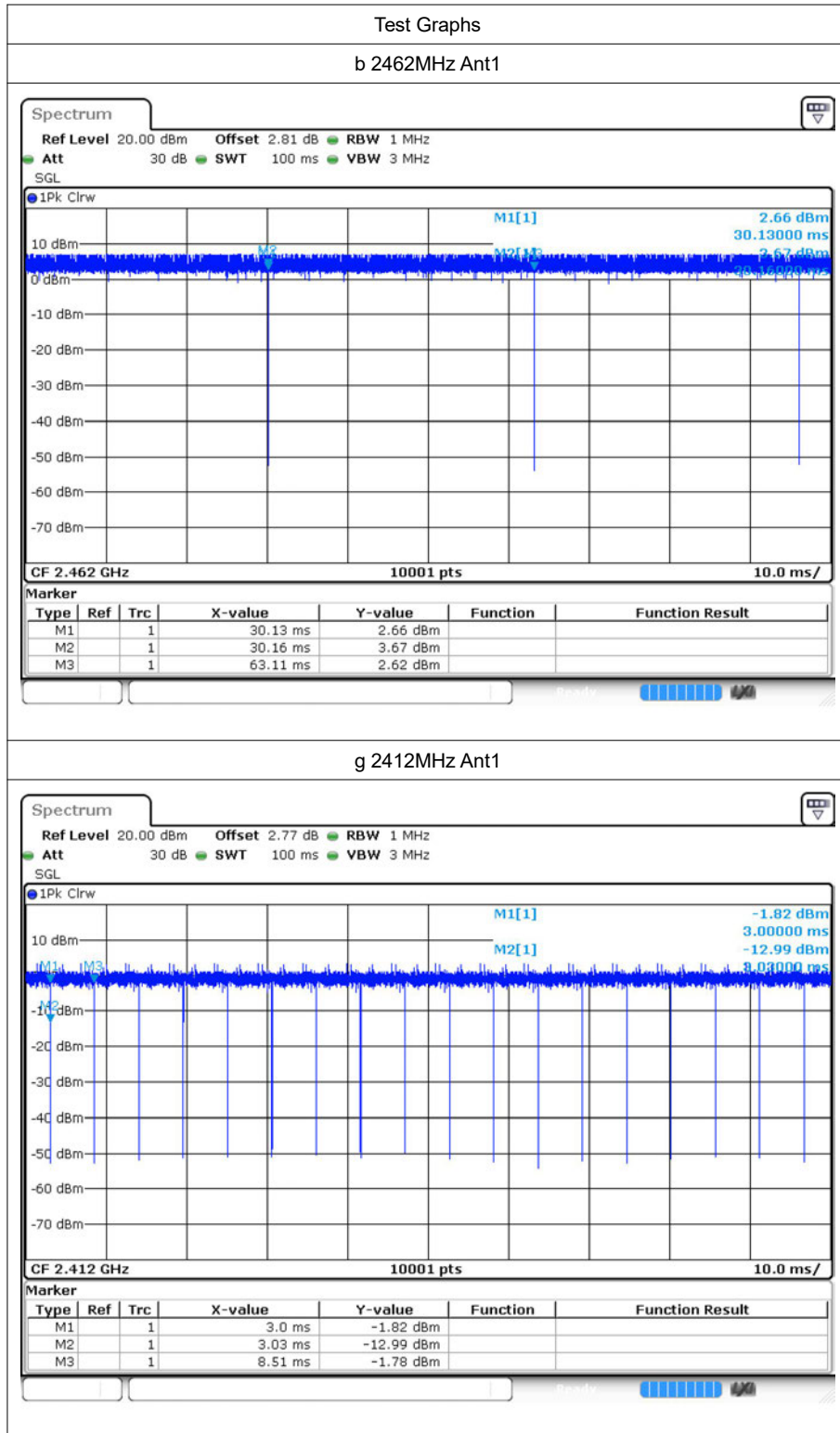
1.1 Test Result

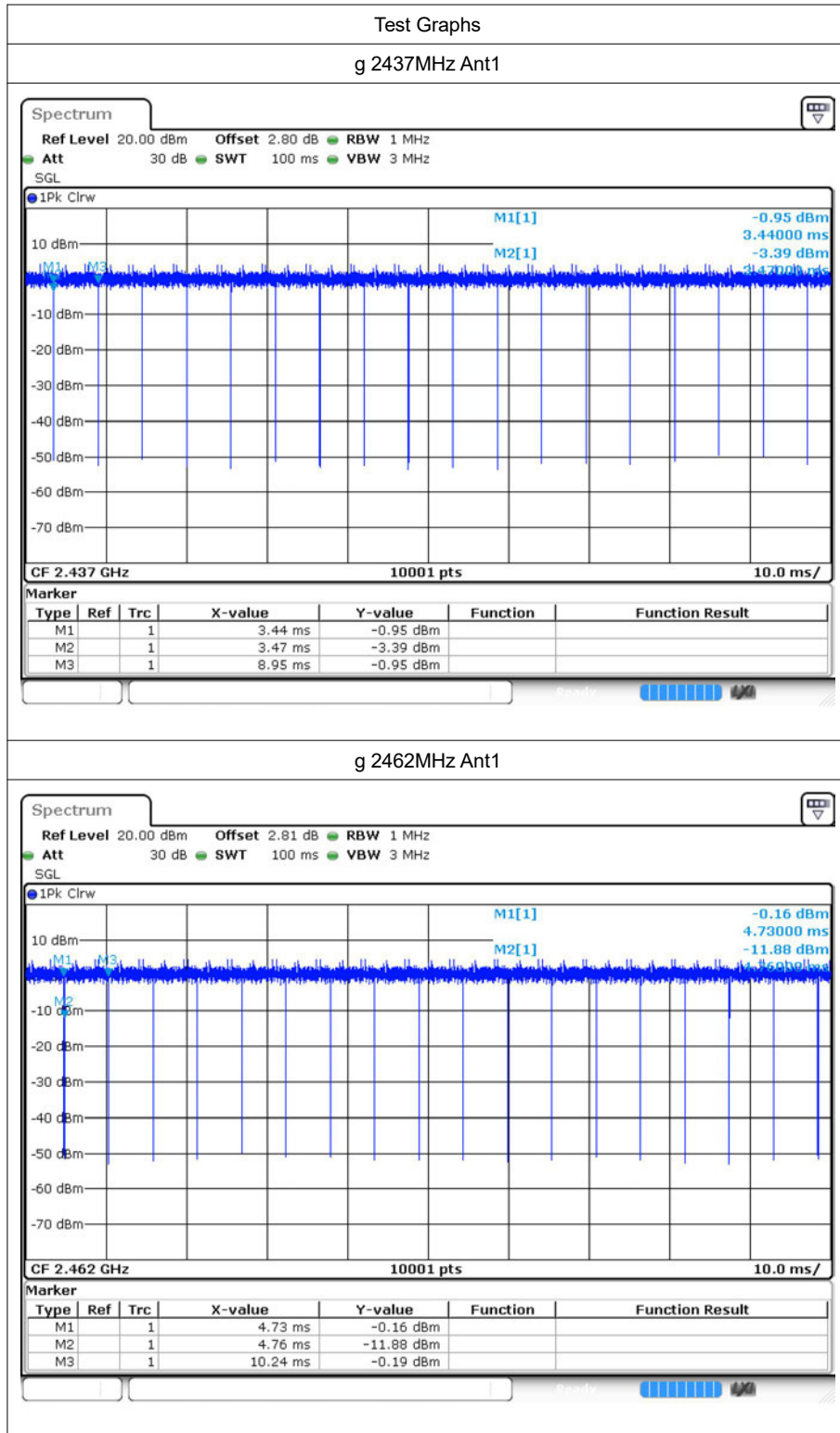
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.94	0	0.03
b	2437	Ant1	99.95	0	0.03
b	2462	Ant1	99.94	0	0.03
g	2412	Ant1	99.64	0.02	0.18
g	2437	Ant1	99.64	0.02	0.18
g	2462	Ant1	99.64	0.02	0.18
n20	2412	Ant1	99.69	0.01	0.2
n20	2437	Ant1	99.7	0.01	0.2
n20	2462	Ant1	99.7	0.01	0.2
n40	2422	Ant1	99.36	0.03	0.4
n40	2437	Ant1	99.35	0.03	0.4
n40	2452	Ant1	99.37	0.03	0.4

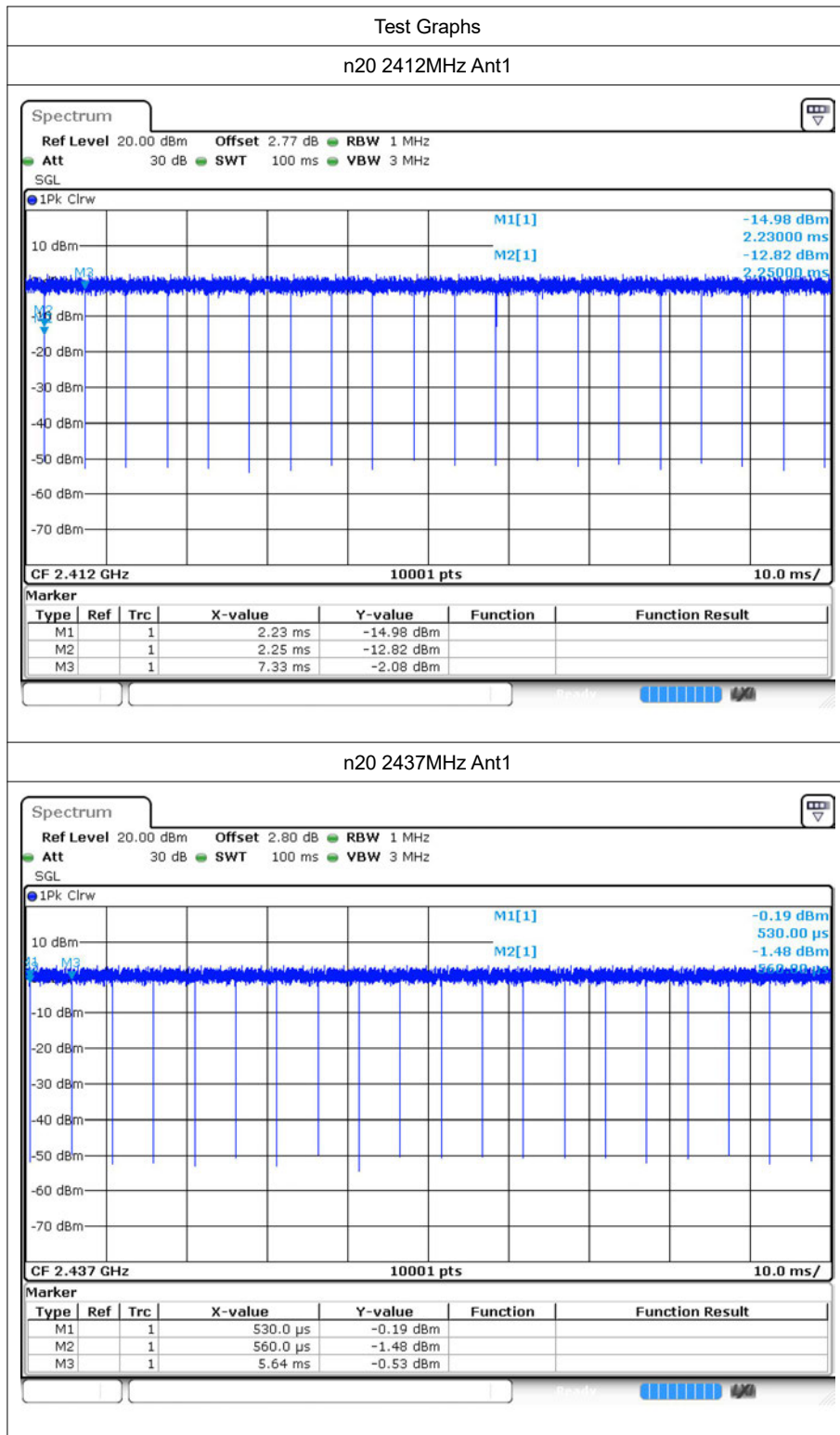


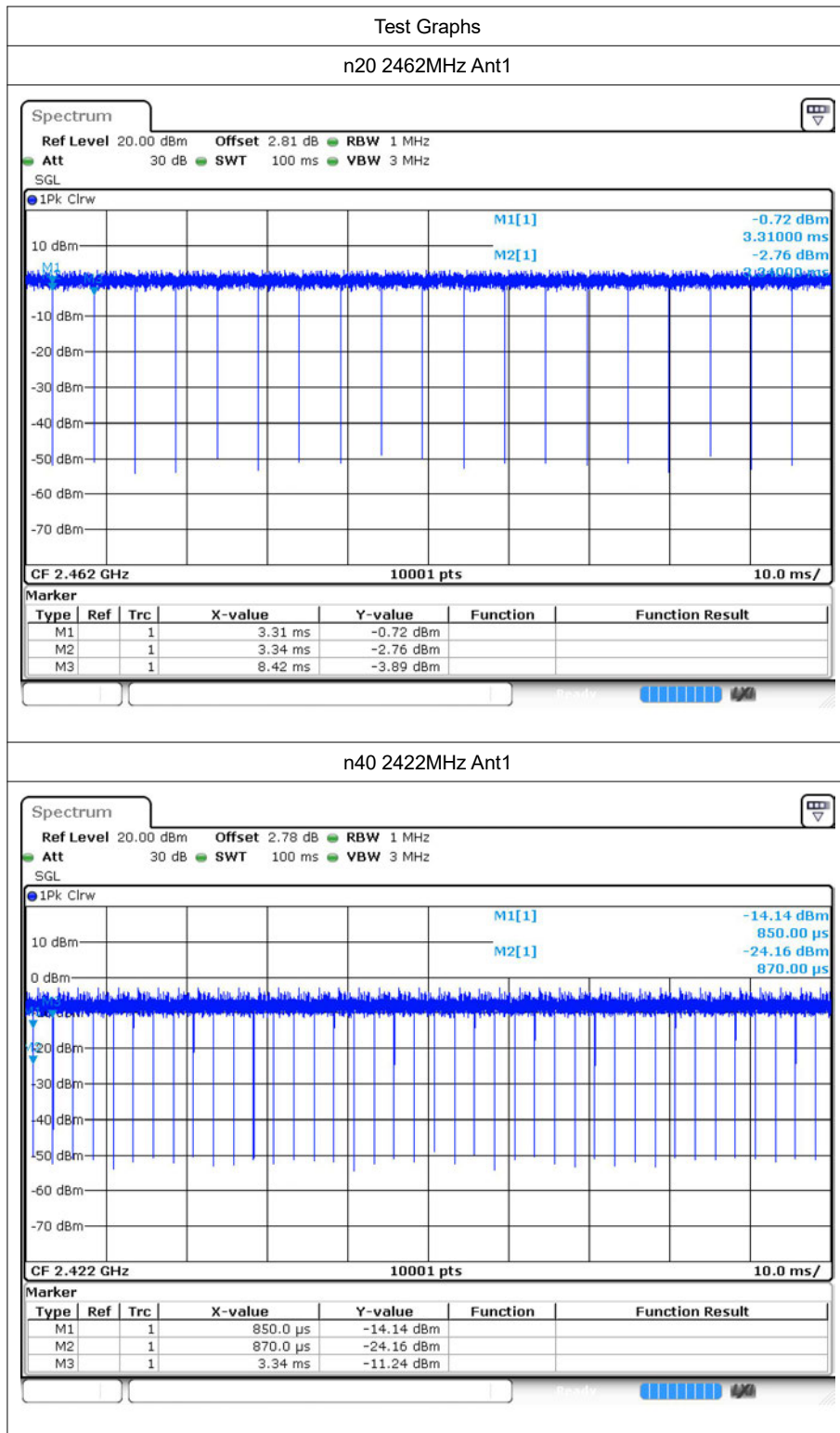
1.2 Test Graphs

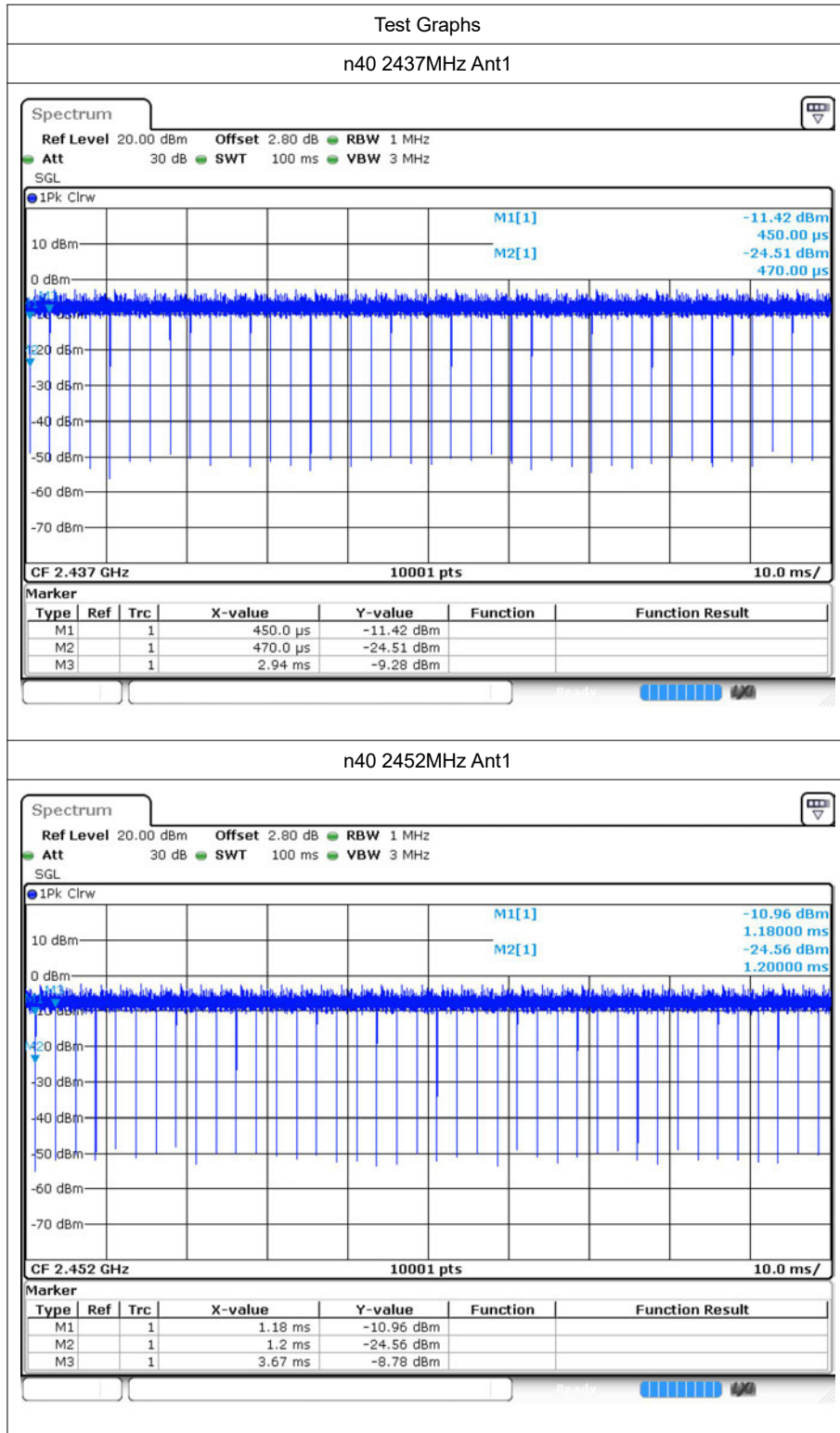












2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	13.17	30	Pass
b	2437	Ant1	13.83	30	Pass
b	2462	Ant1	14.25	30	Pass
g	2412	Ant1	12.37	30	Pass
g	2437	Ant1	13.25	30	Pass
g	2462	Ant1	13.67	30	Pass
n20	2412	Ant1	12.27	30	Pass
n20	2437	Ant1	11.9	30	Pass
n20	2462	Ant1	13.43	30	Pass
n40	2422	Ant1	12.43	30	Pass
n40	2437	Ant1	12.83	30	Pass
n40	2452	Ant1	13.34	30	Pass

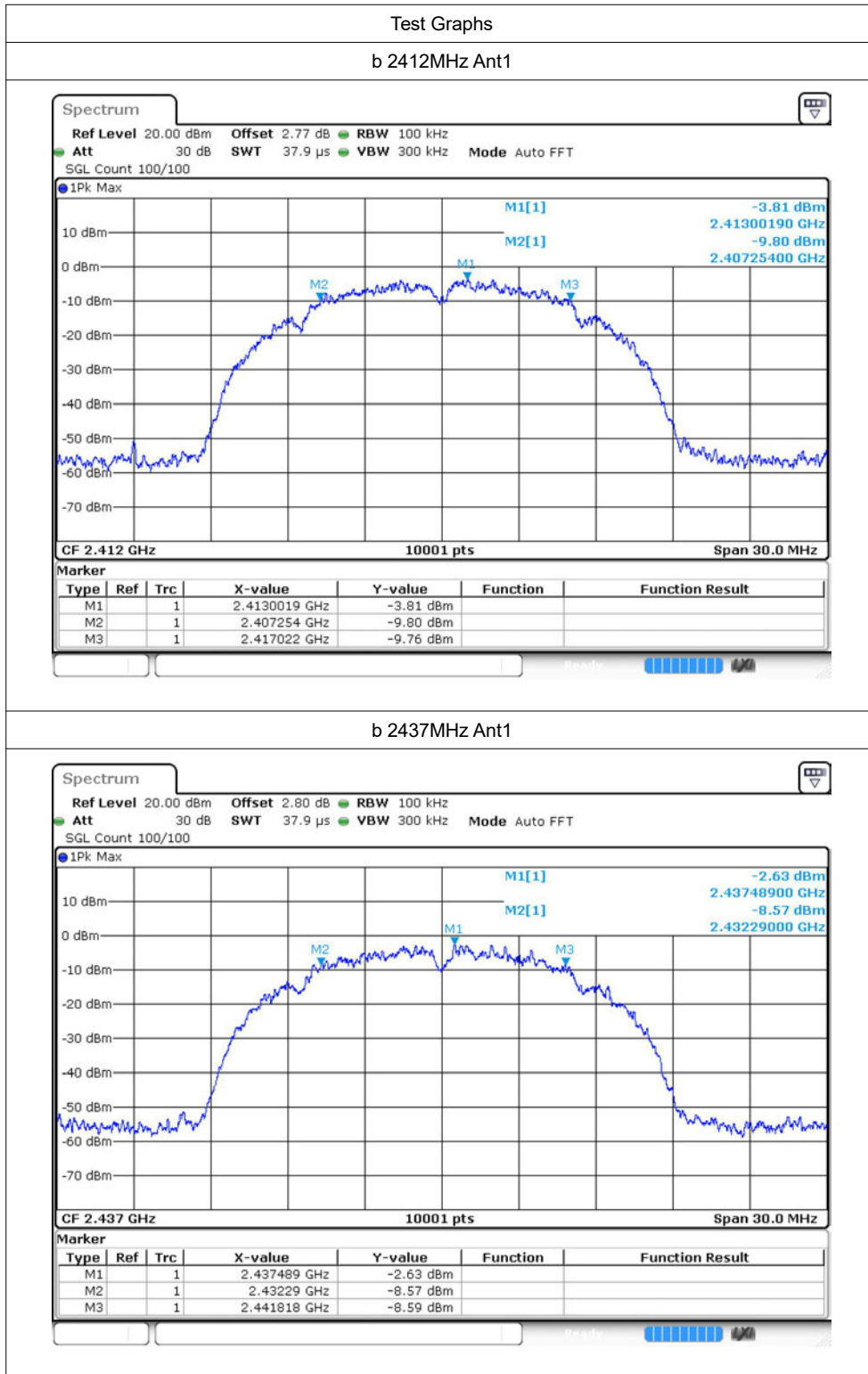


3 -6dB Bandwidth

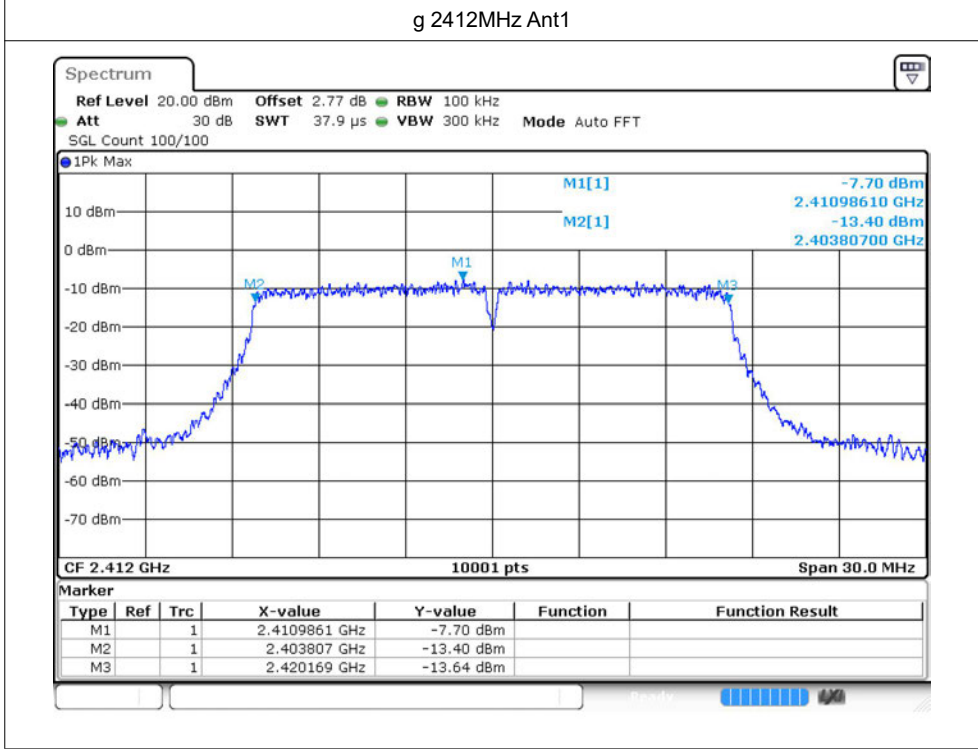
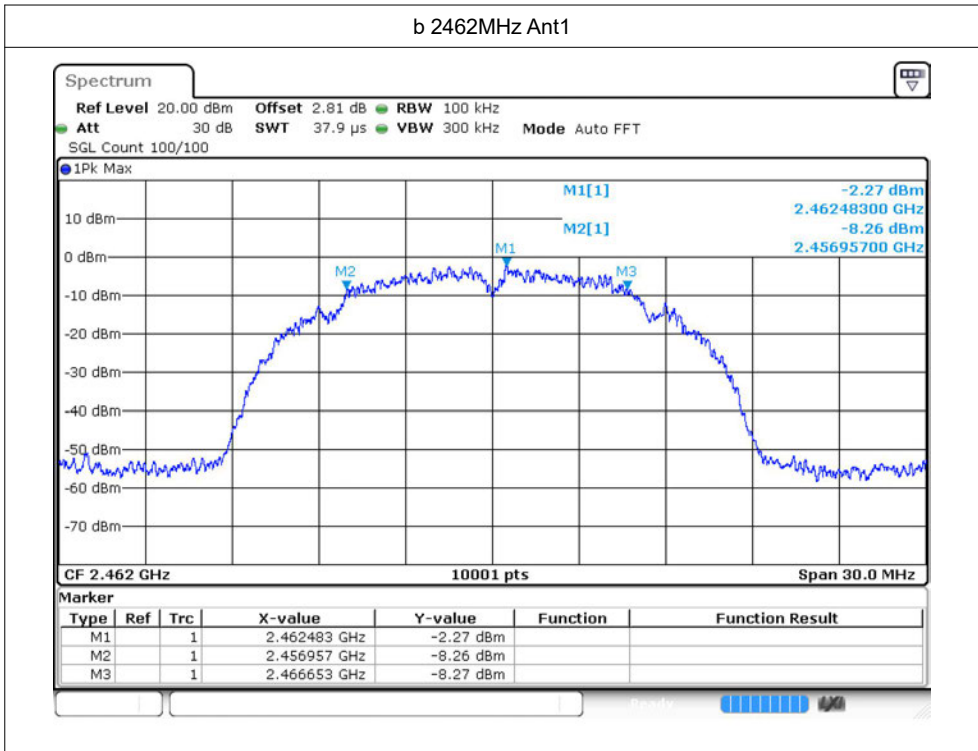
3.1 Test Result

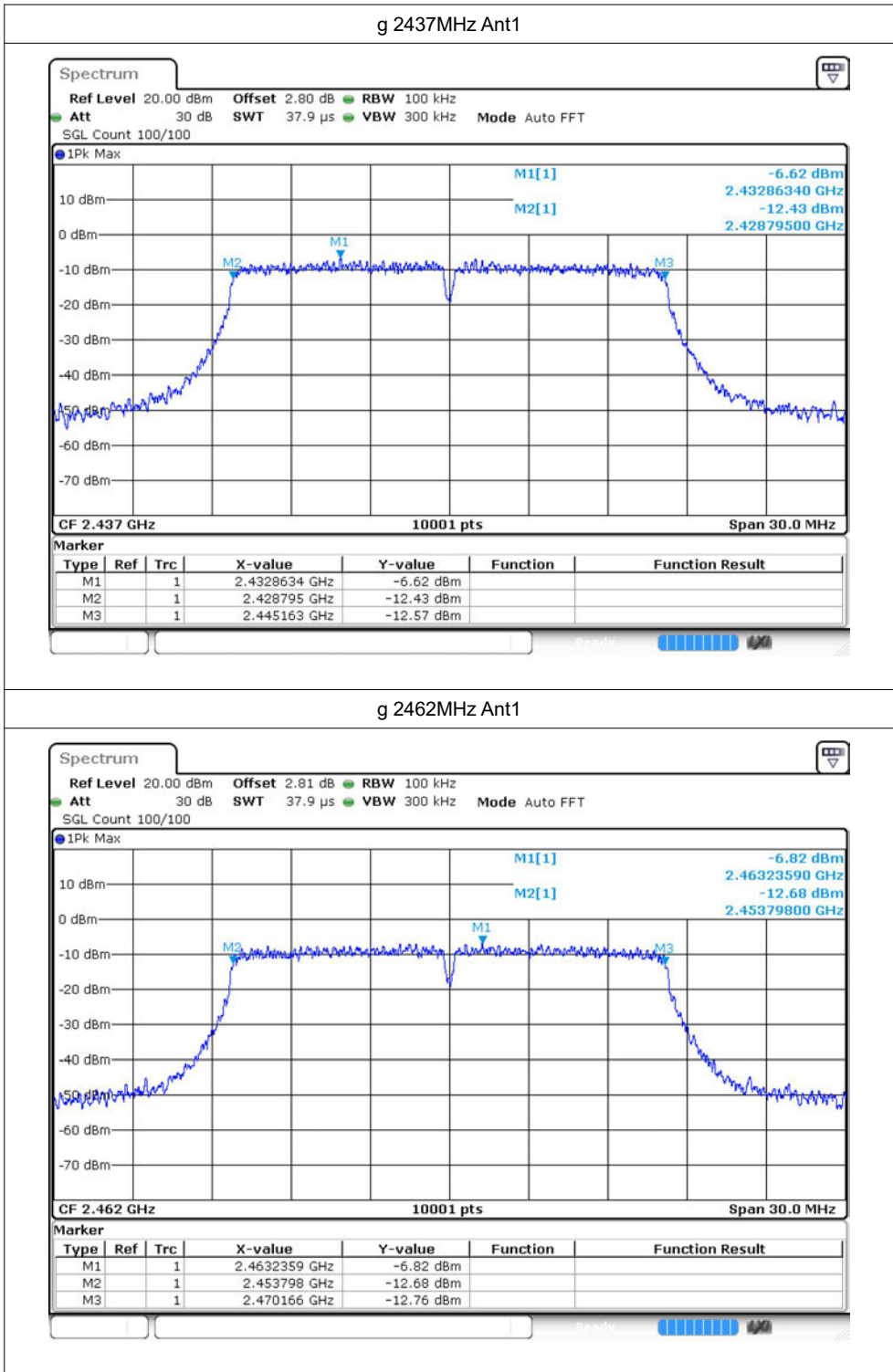
Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	9.768	0.5	Pass
b	2437	Ant1	9.528	0.5	Pass
b	2462	Ant1	9.696	0.5	Pass
g	2412	Ant1	16.362	0.5	Pass
g	2437	Ant1	16.368	0.5	Pass
g	2462	Ant1	16.368	0.5	Pass
n20	2412	Ant1	17.076	0.5	Pass
n20	2437	Ant1	17.151	0.5	Pass
n20	2462	Ant1	16.923	0.5	Pass
n40	2422	Ant1	33.024	0.5	Pass
n40	2437	Ant1	33.78	0.5	Pass
n40	2452	Ant1	35.022	0.5	Pass

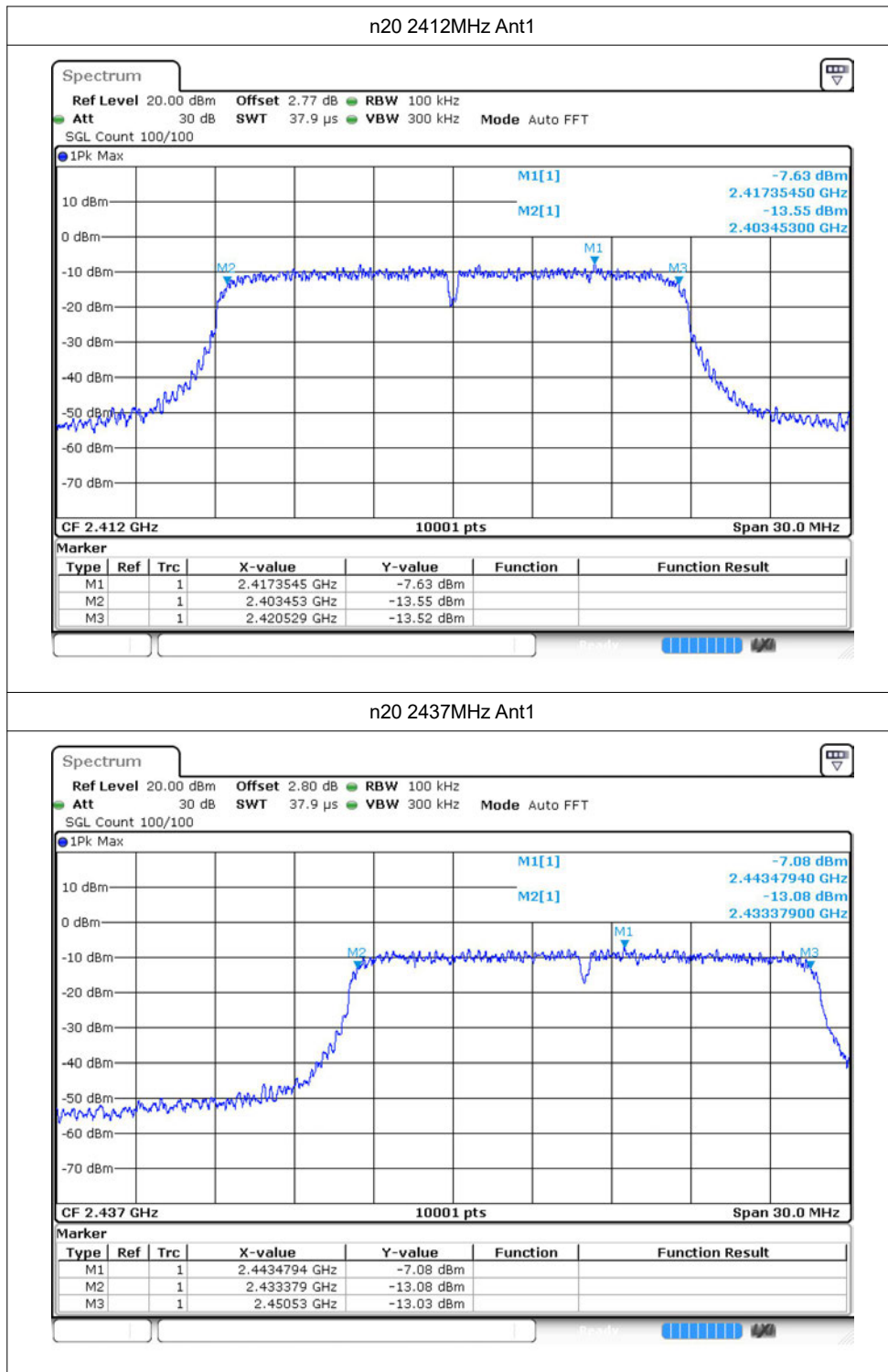
3.2 Test Graphs

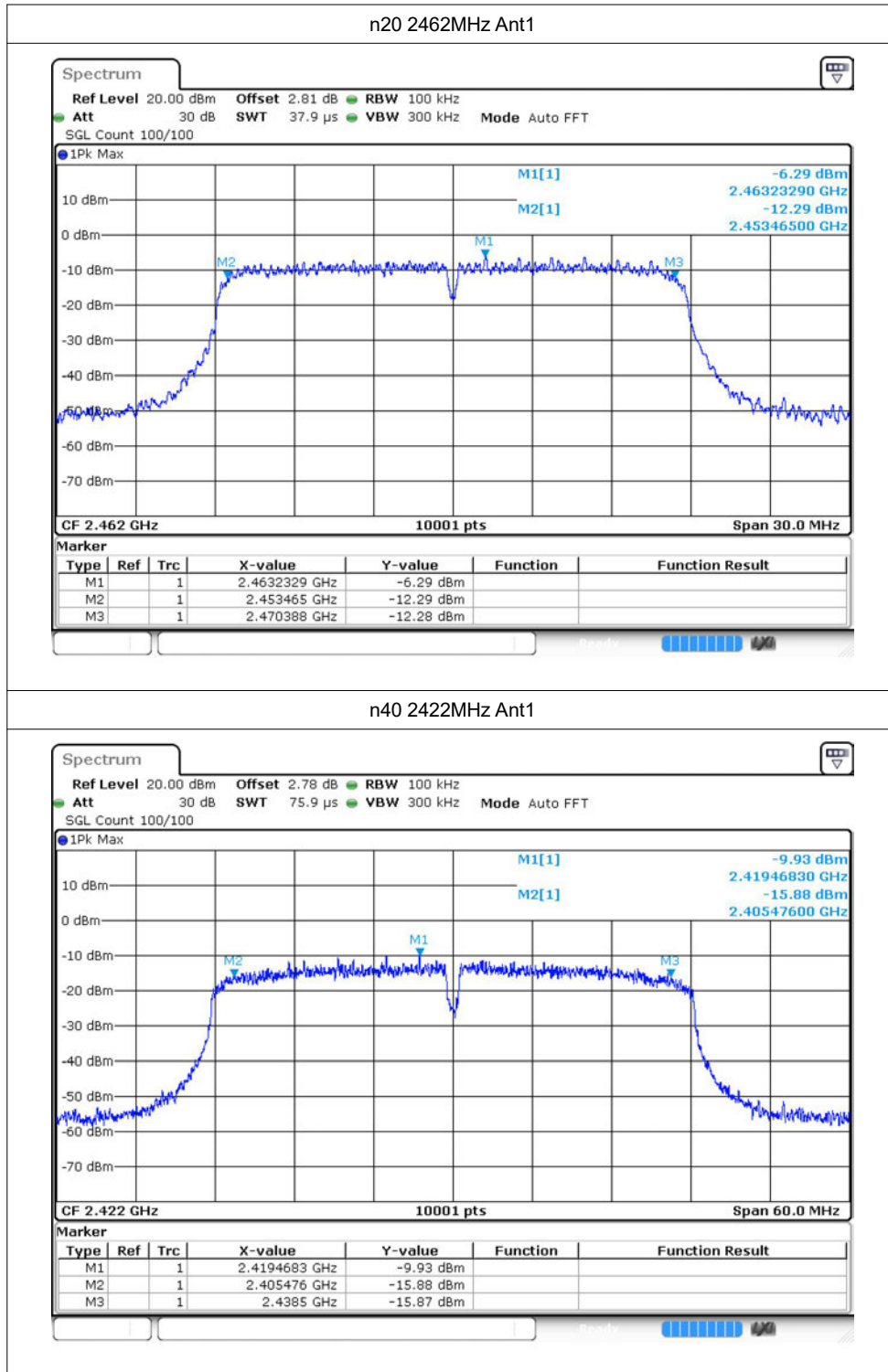


b 2437MHz Ant1

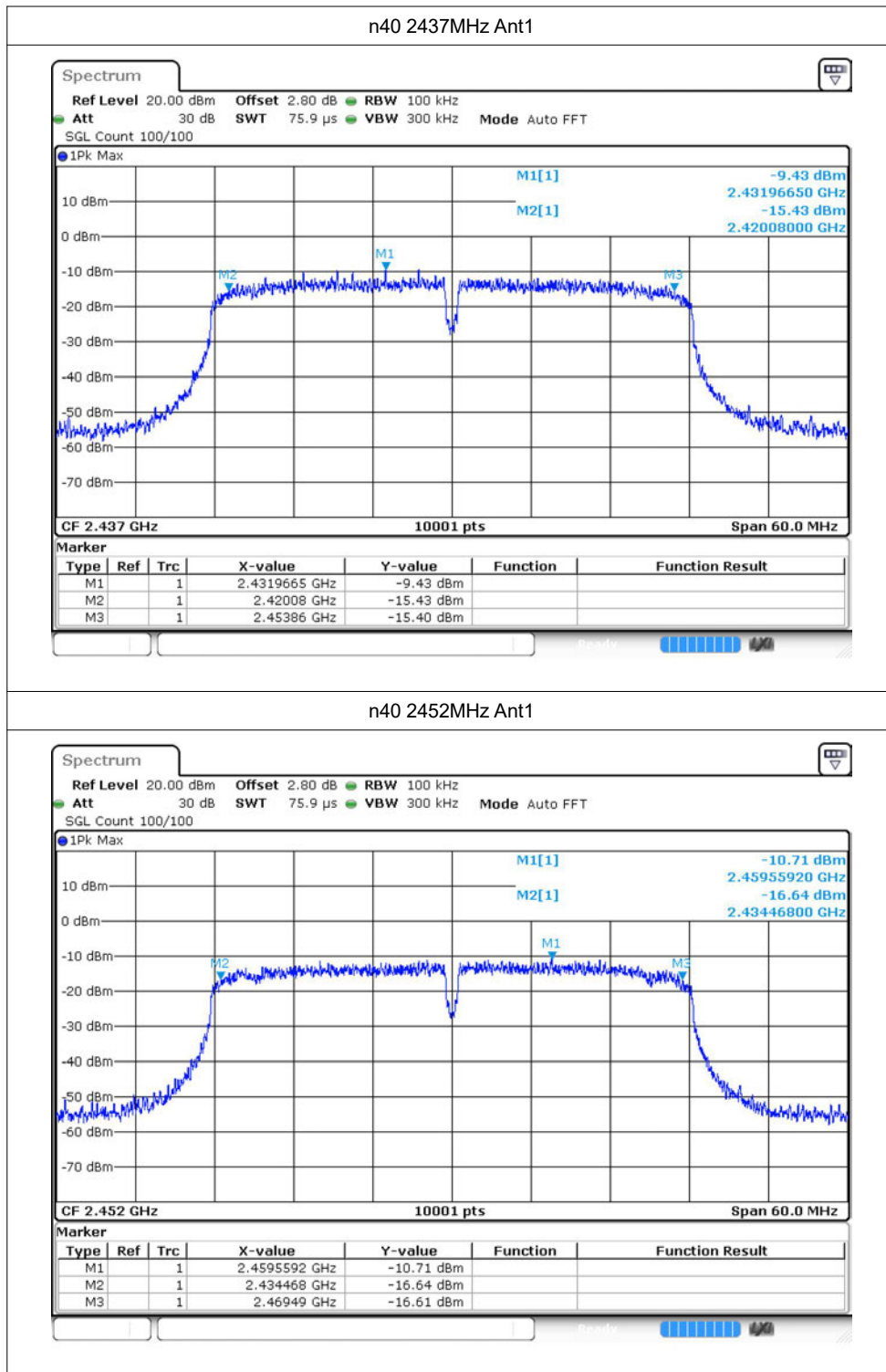








n40 2422MHz Ant1



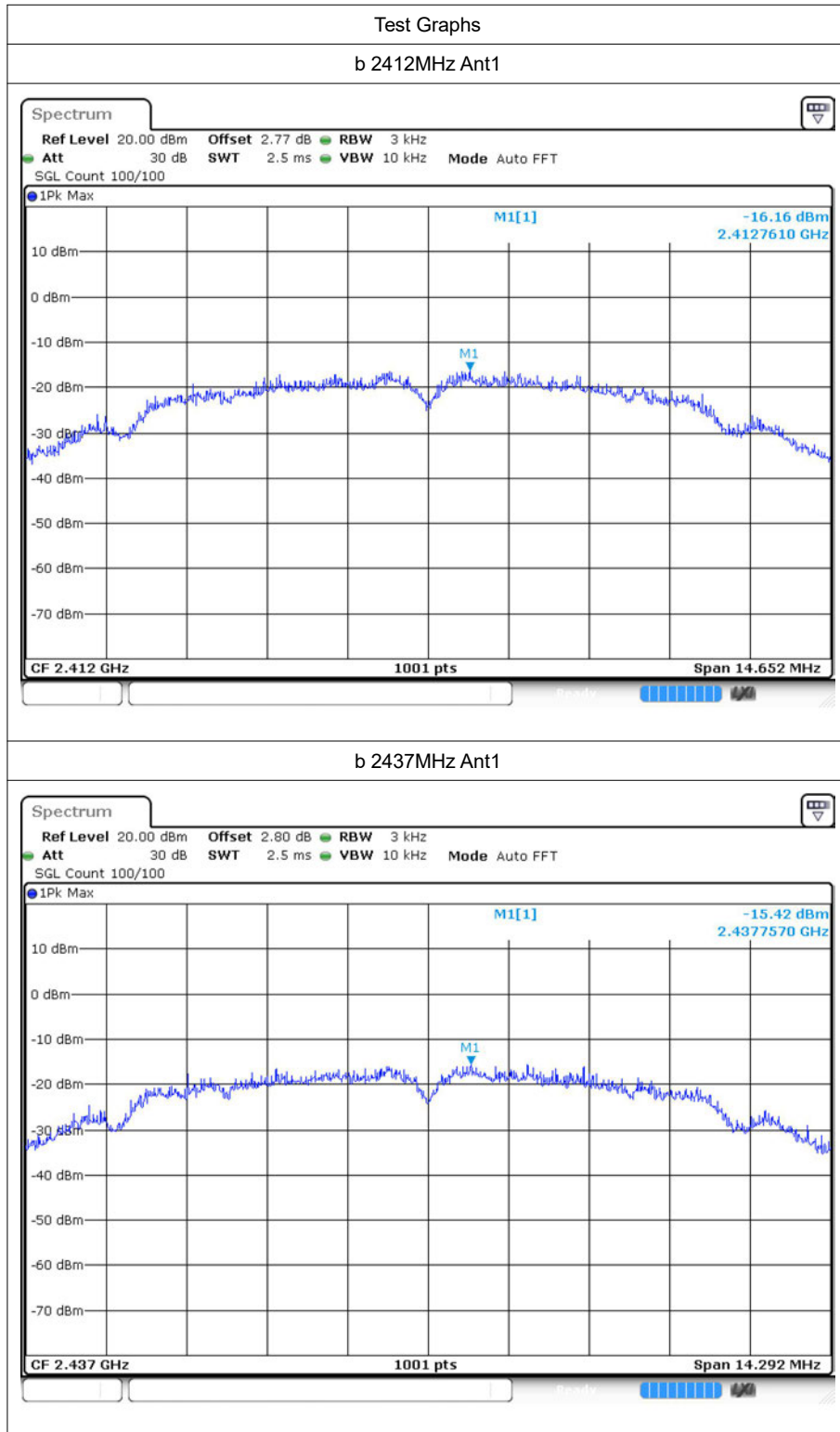
n40 2452MHz Ant1

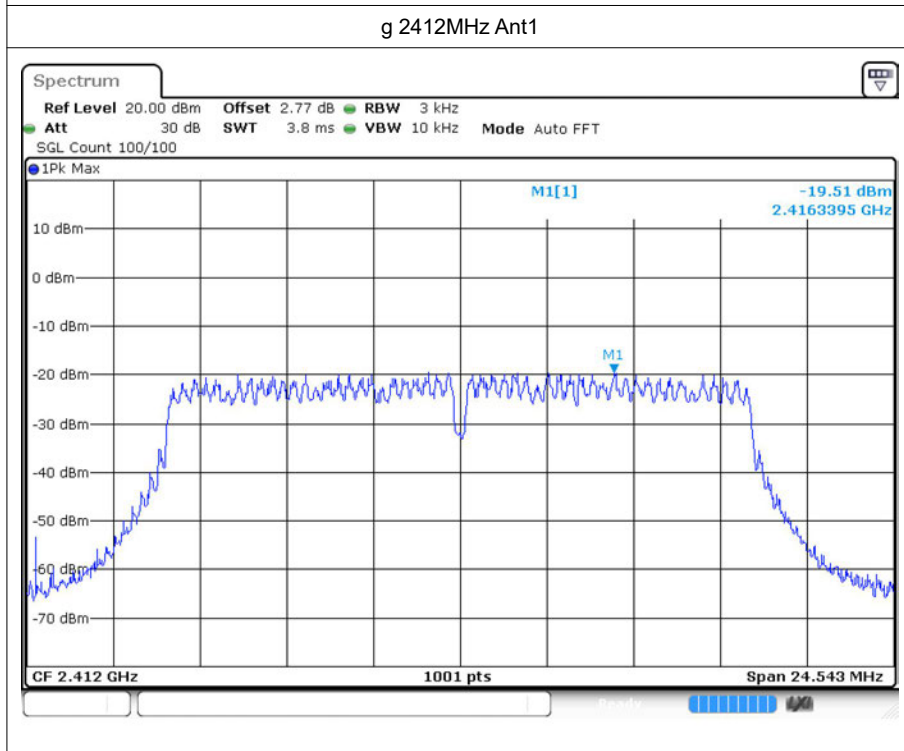
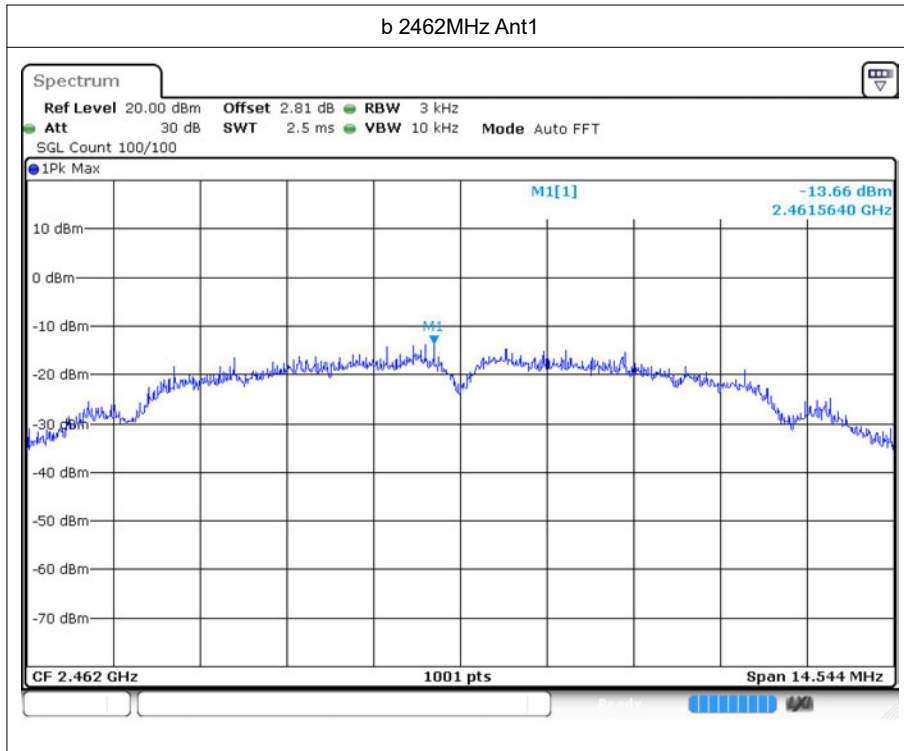
4 Maximum Power Spectral Density Level

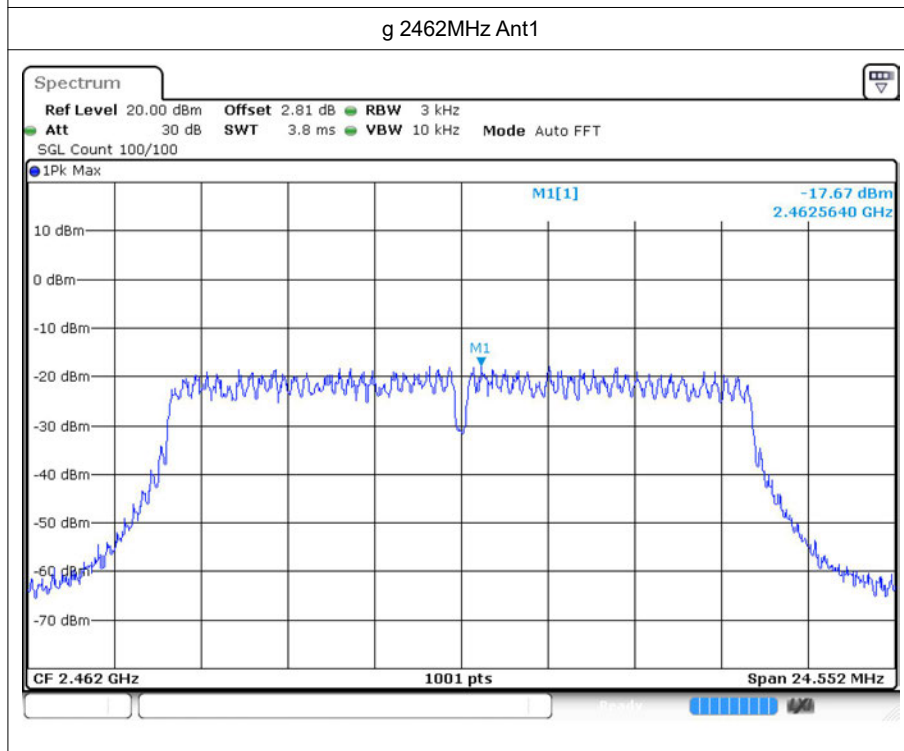
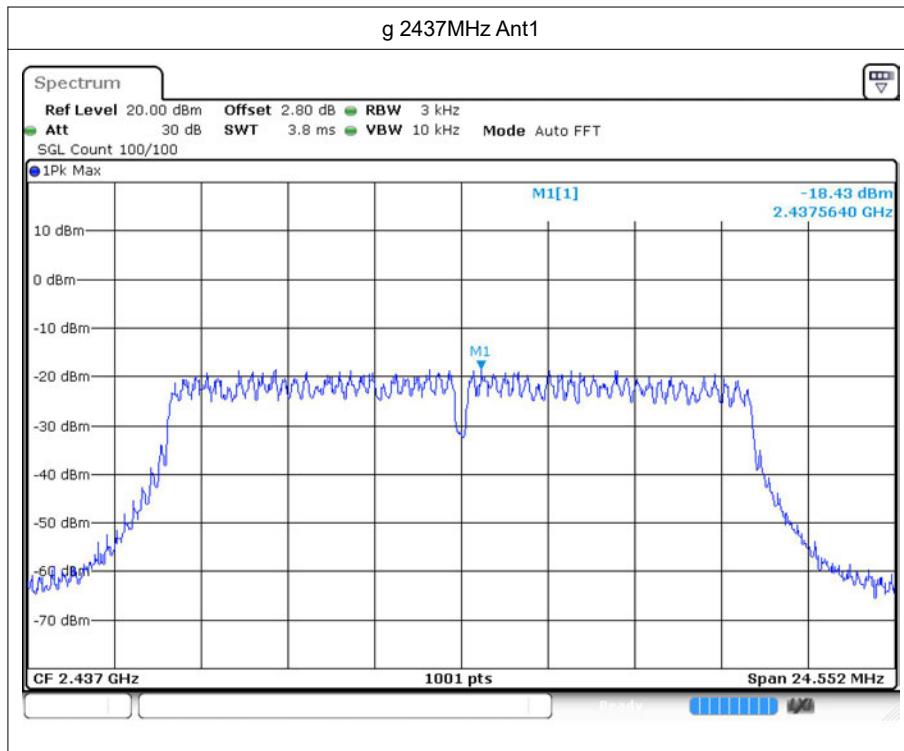
4.1 Test Result

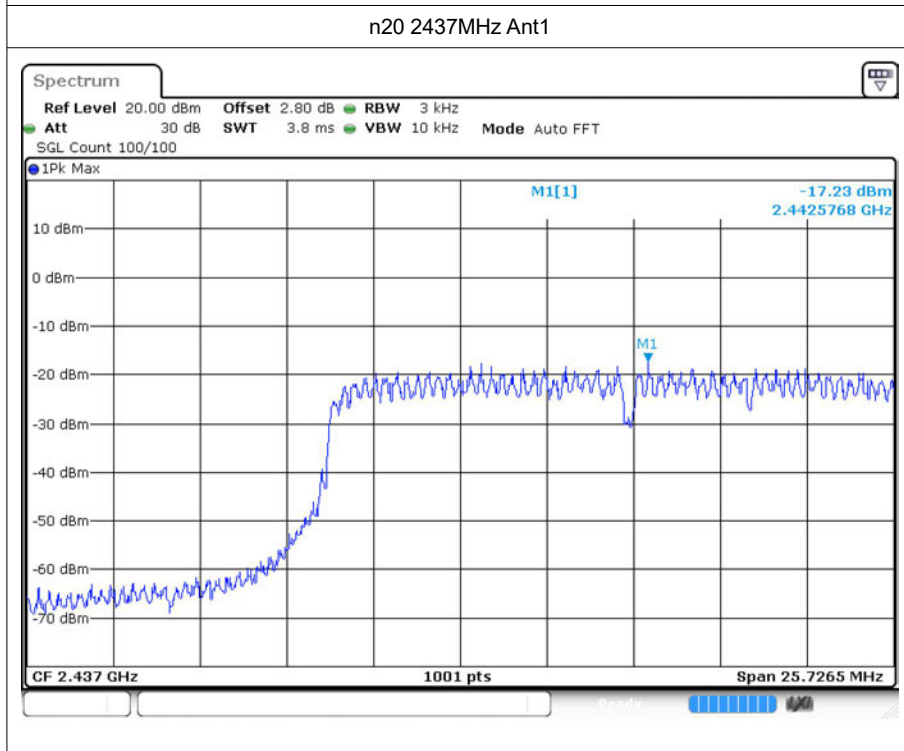
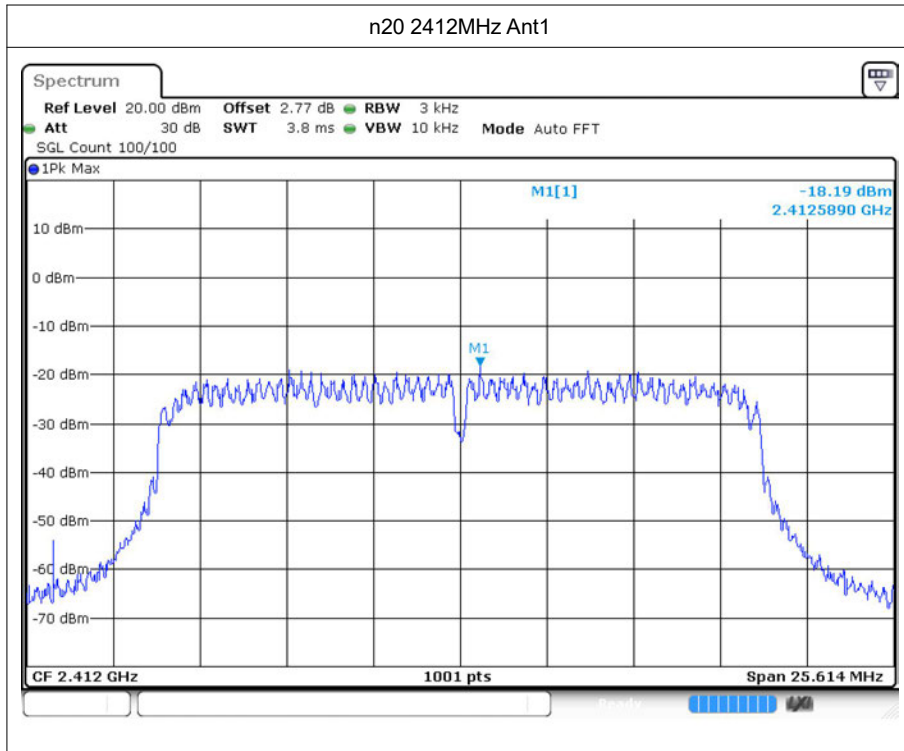
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-16.16	≤8	Pass
b	2437	Ant1	-15.42	≤8	Pass
b	2462	Ant1	-13.66	≤8	Pass
g	2412	Ant1	-19.51	≤8	Pass
g	2437	Ant1	-18.43	≤8	Pass
g	2462	Ant1	-17.67	≤8	Pass
n20	2412	Ant1	-18.19	≤8	Pass
n20	2437	Ant1	-17.23	≤8	Pass
n20	2462	Ant1	-16.7	≤8	Pass
n40	2422	Ant1	-21.81	≤8	Pass
n40	2437	Ant1	-21.75	≤8	Pass
n40	2452	Ant1	-21.26	≤8	Pass

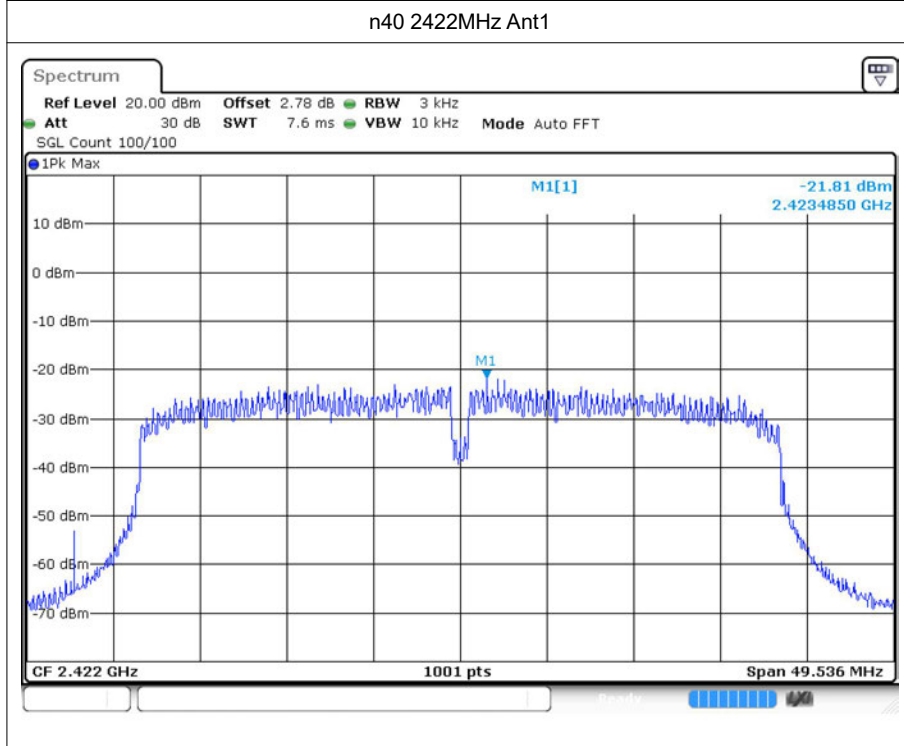
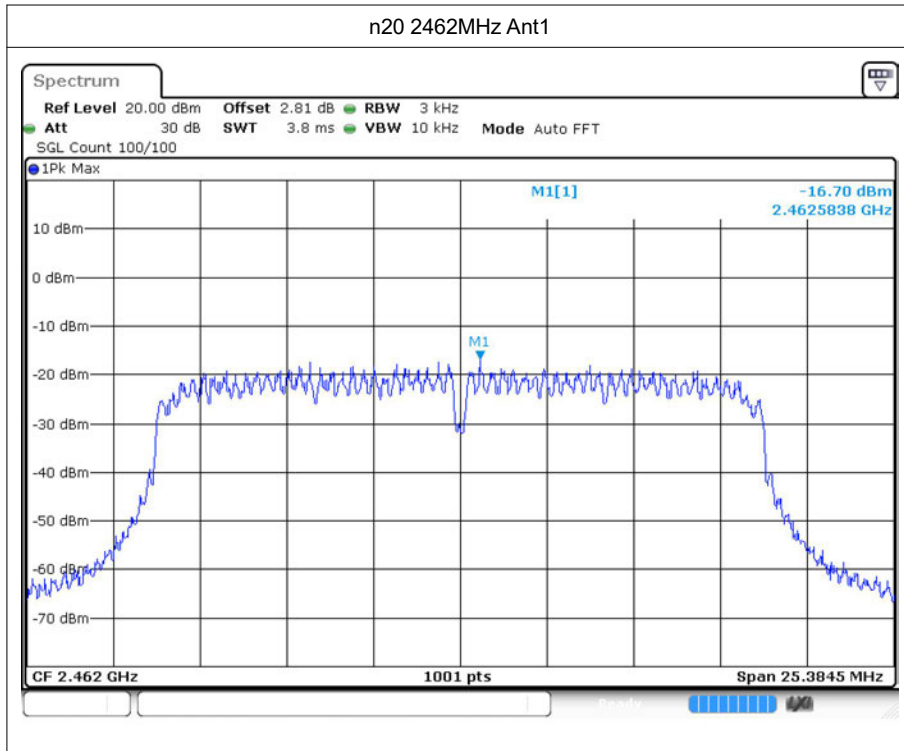
4.2 Test Graphs

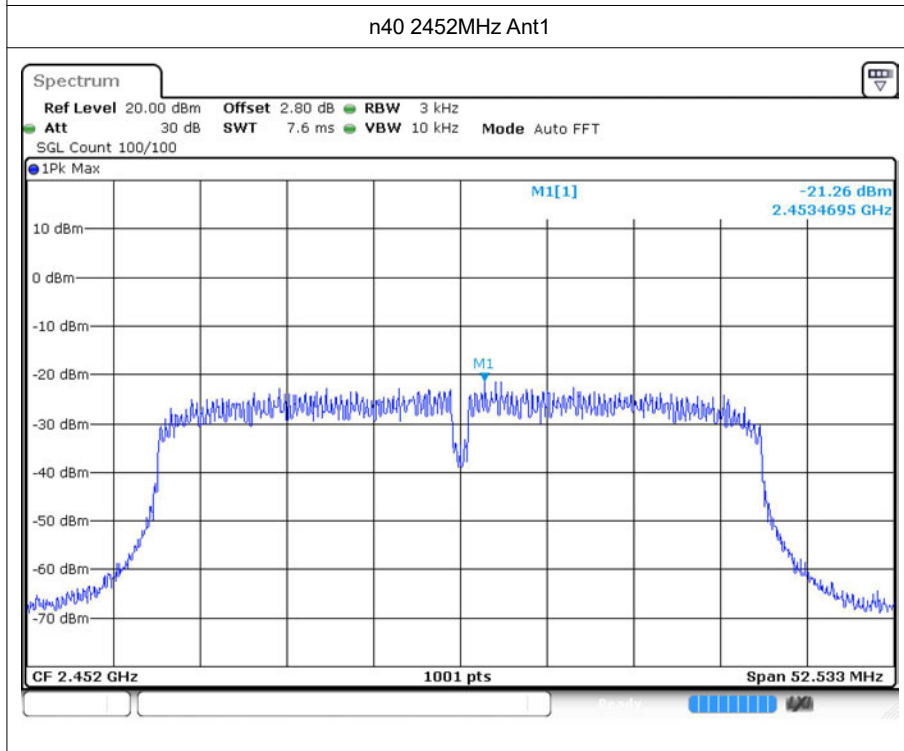
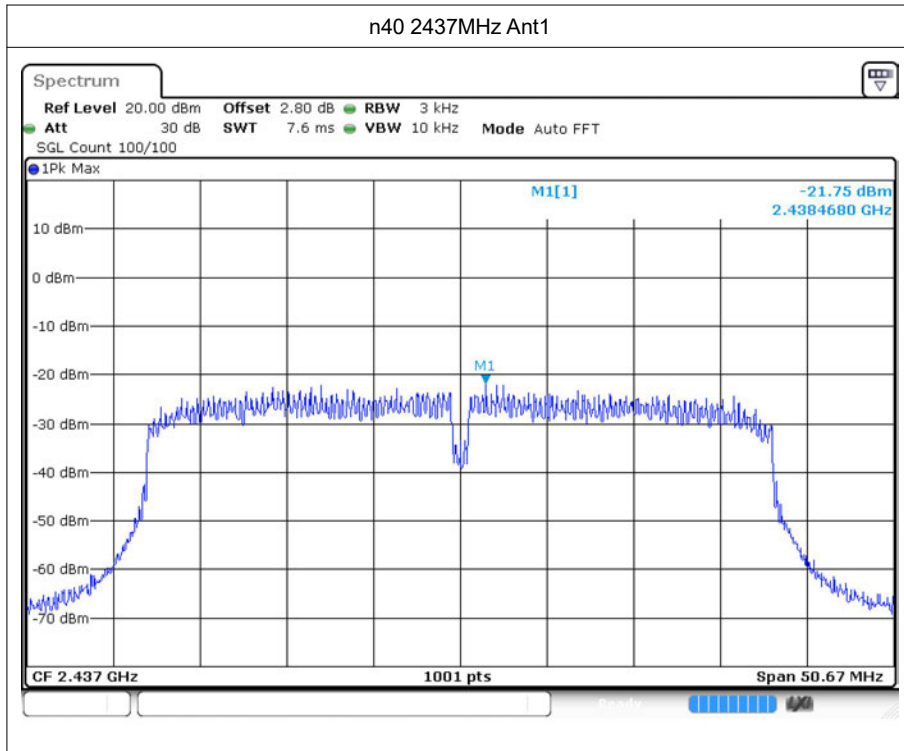












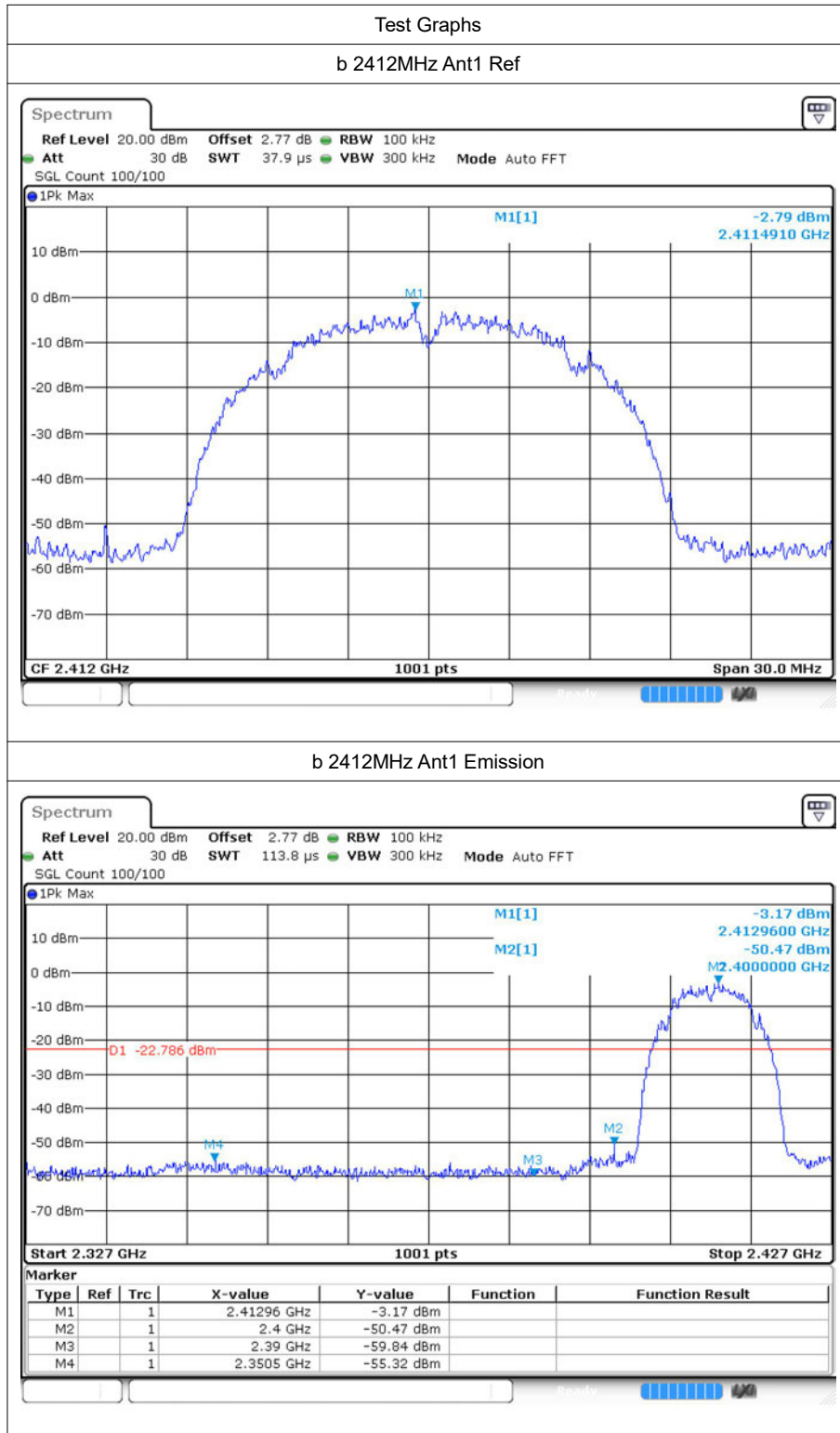


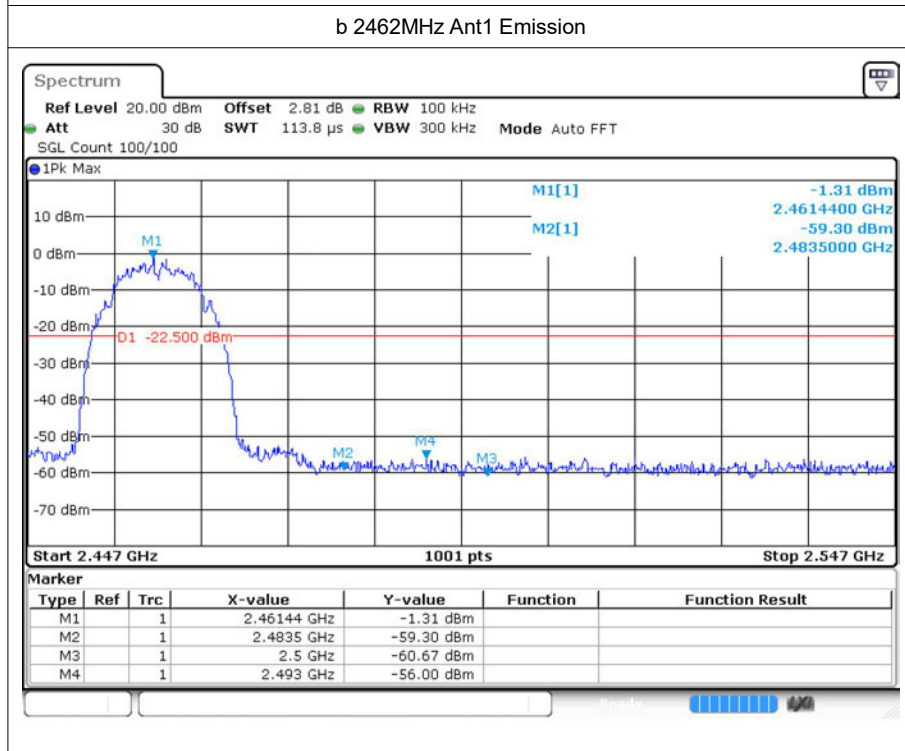
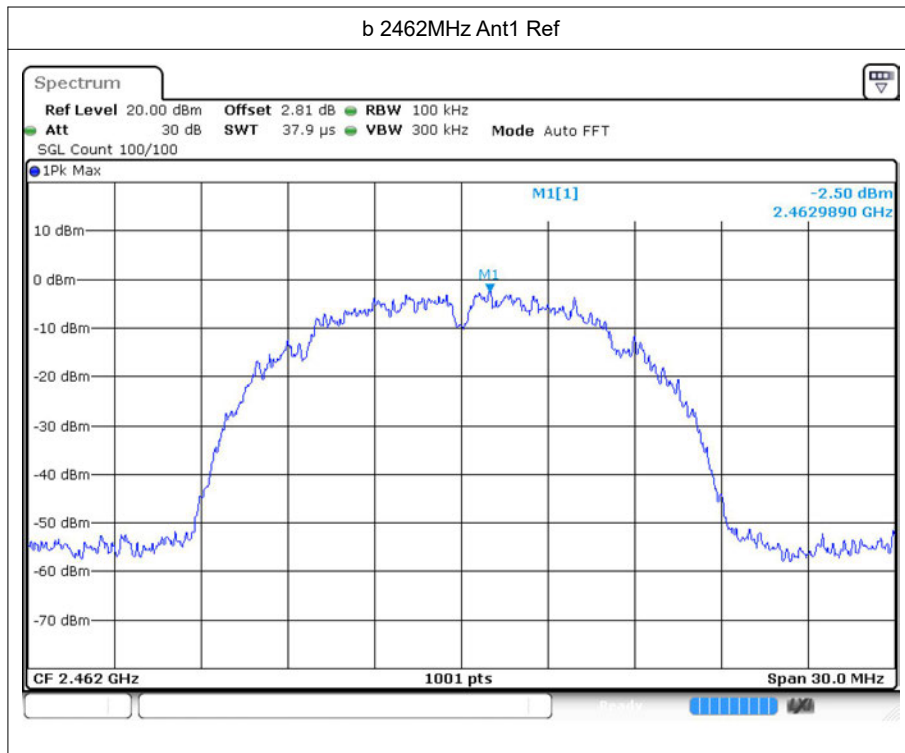
5 Band Edge

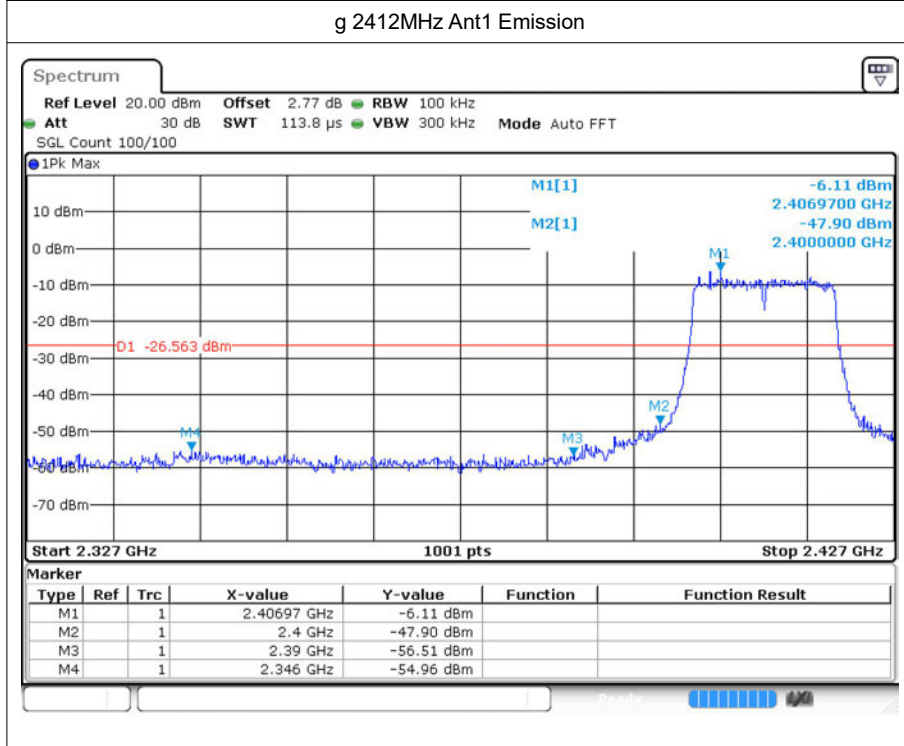
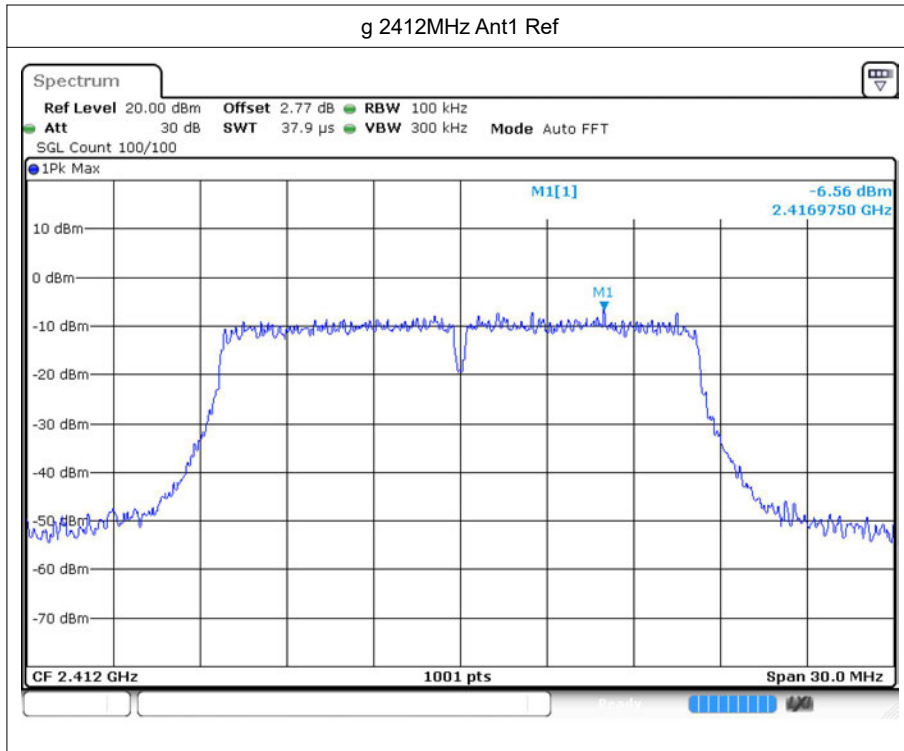
5.1 Test Result

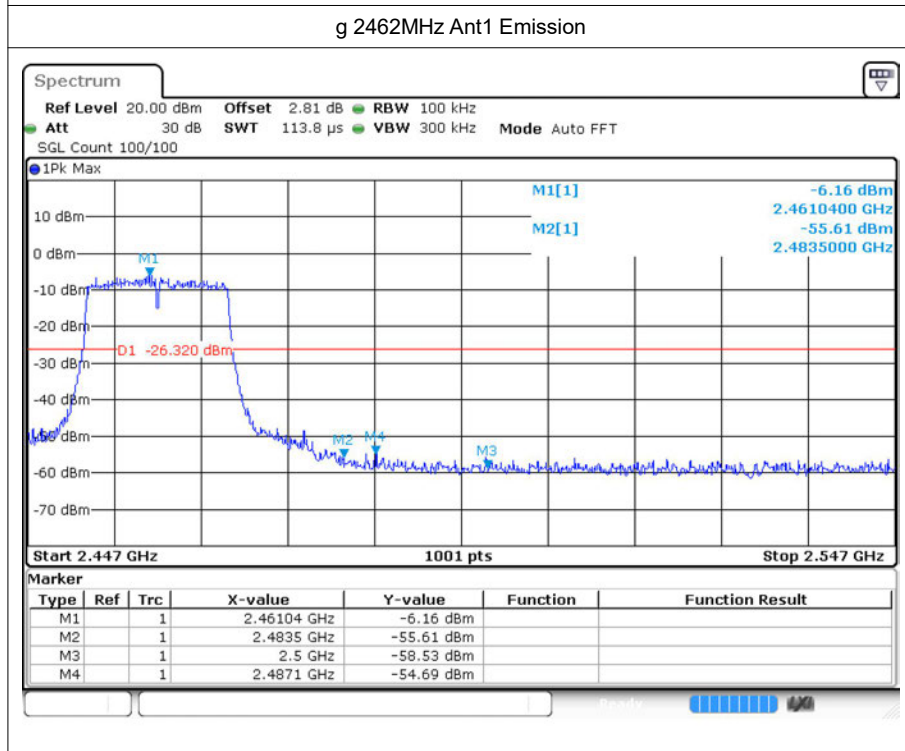
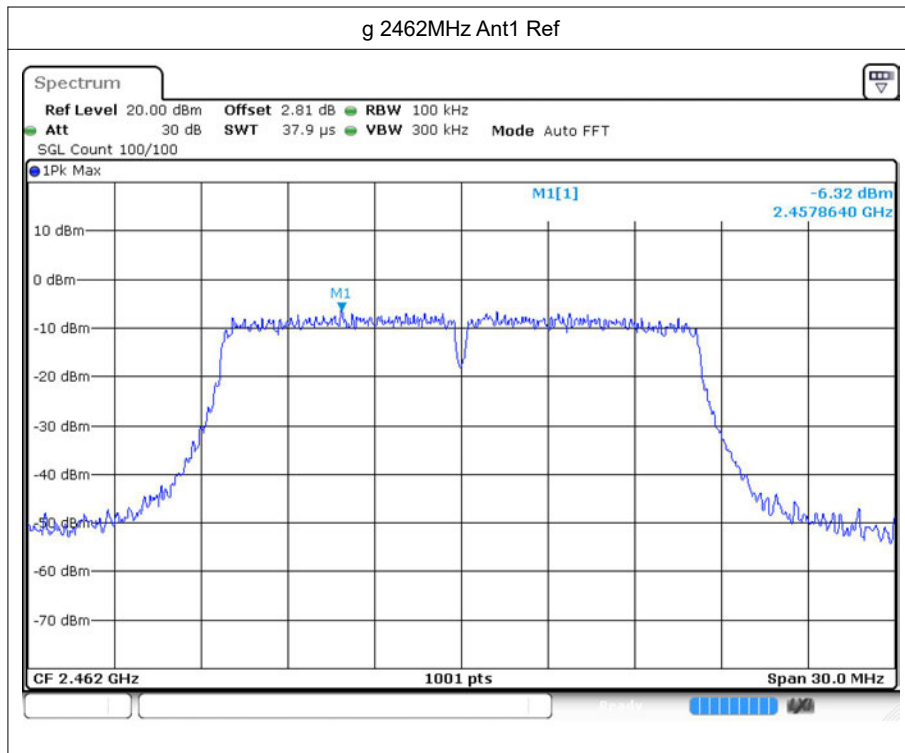
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-52.52	-20	Pass
b	2462	Ant1	-53.49	-20	Pass
g	2412	Ant1	-48.4	-20	Pass
g	2462	Ant1	-48.37	-20	Pass
n20	2412	Ant1	-50.28	-20	Pass
n20	2462	Ant1	-48.05	-20	Pass
n40	2422	Ant1	-41.76	-20	Pass
n40	2452	Ant1	-42.15	-20	Pass

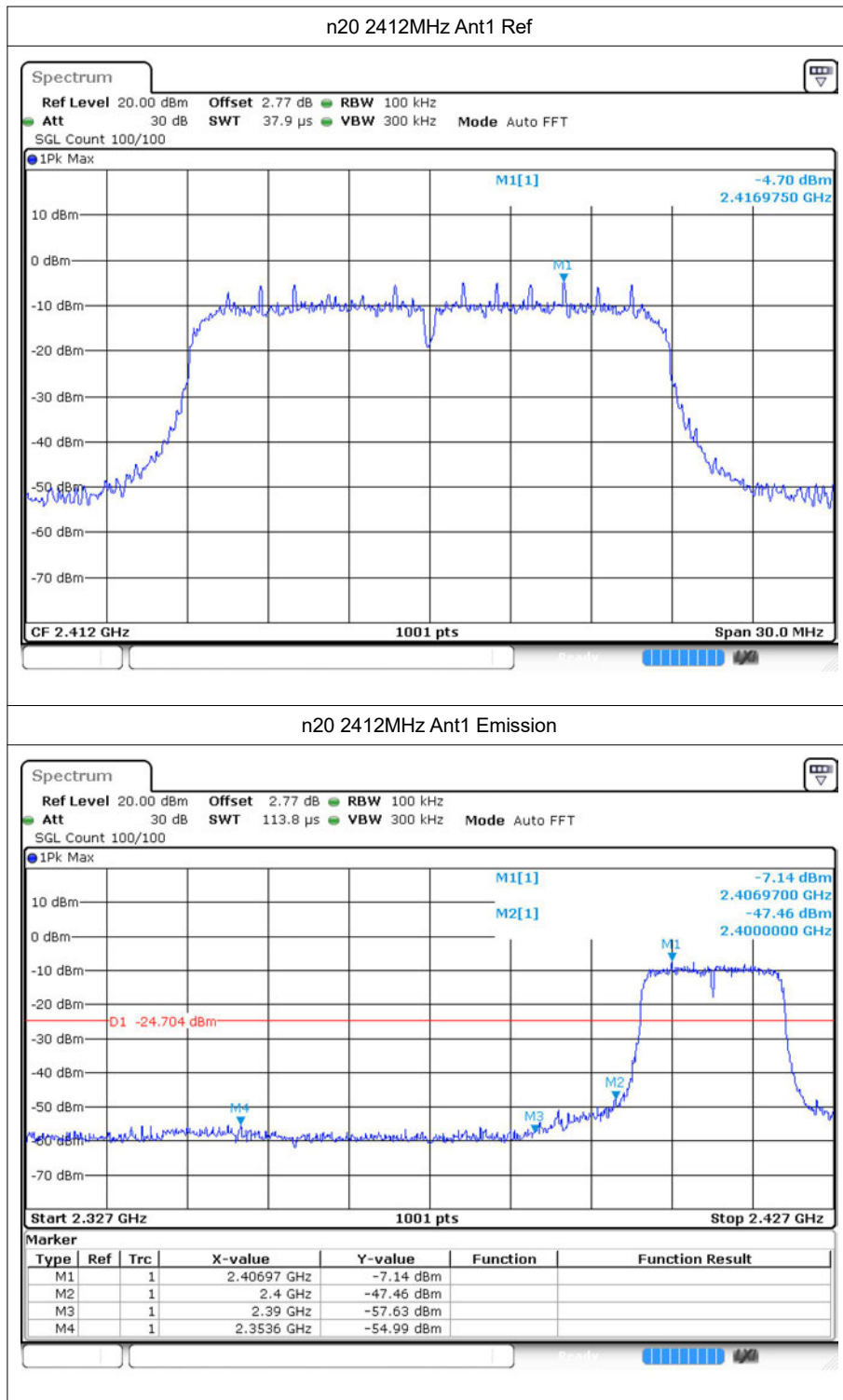
5.2 Test Graphs

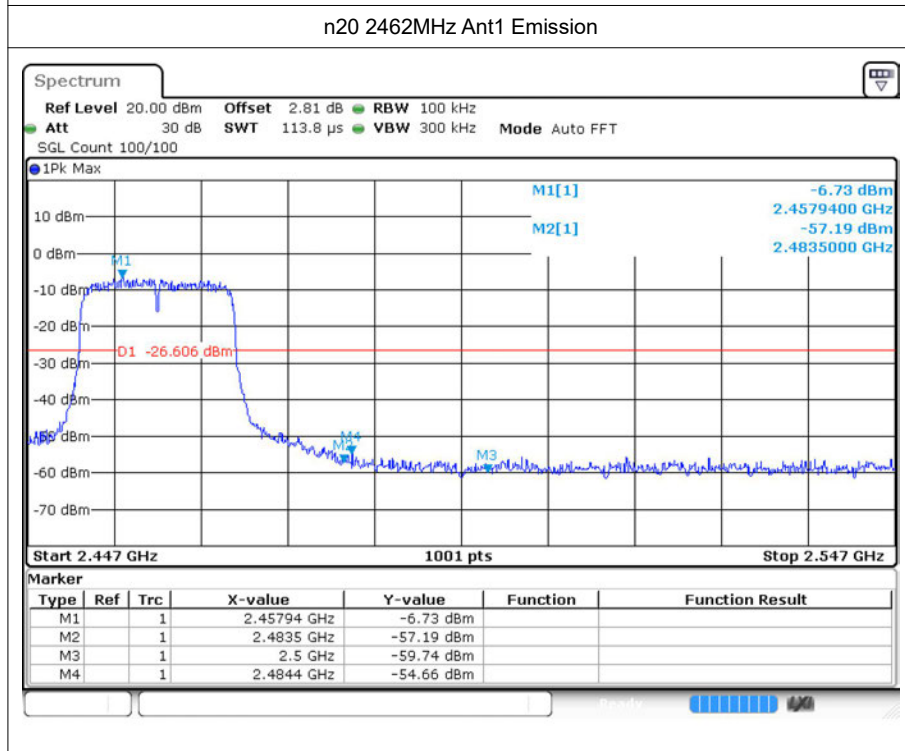
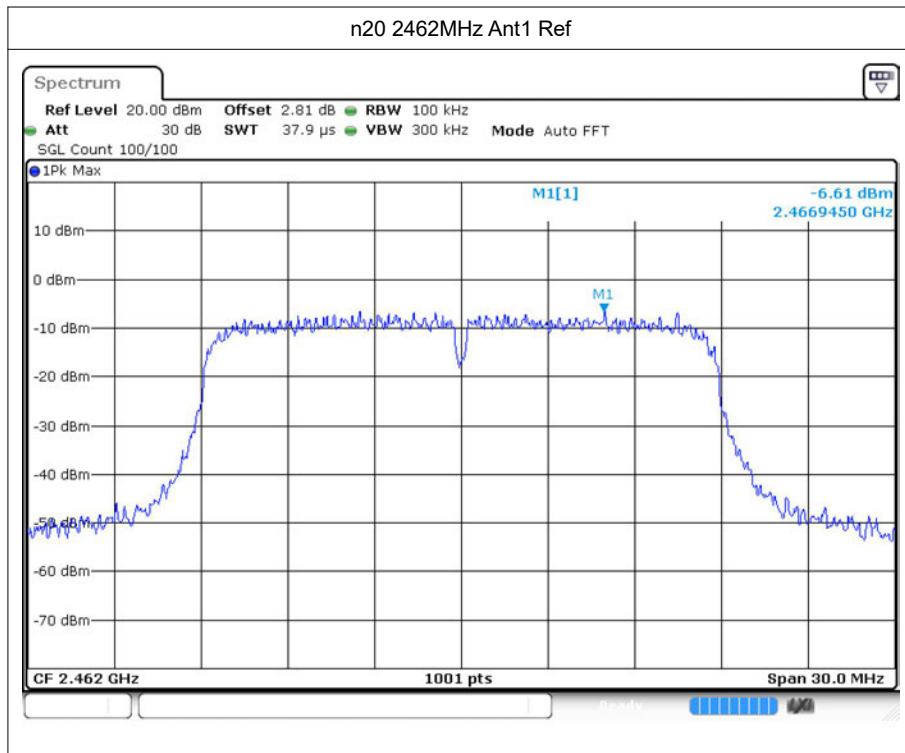


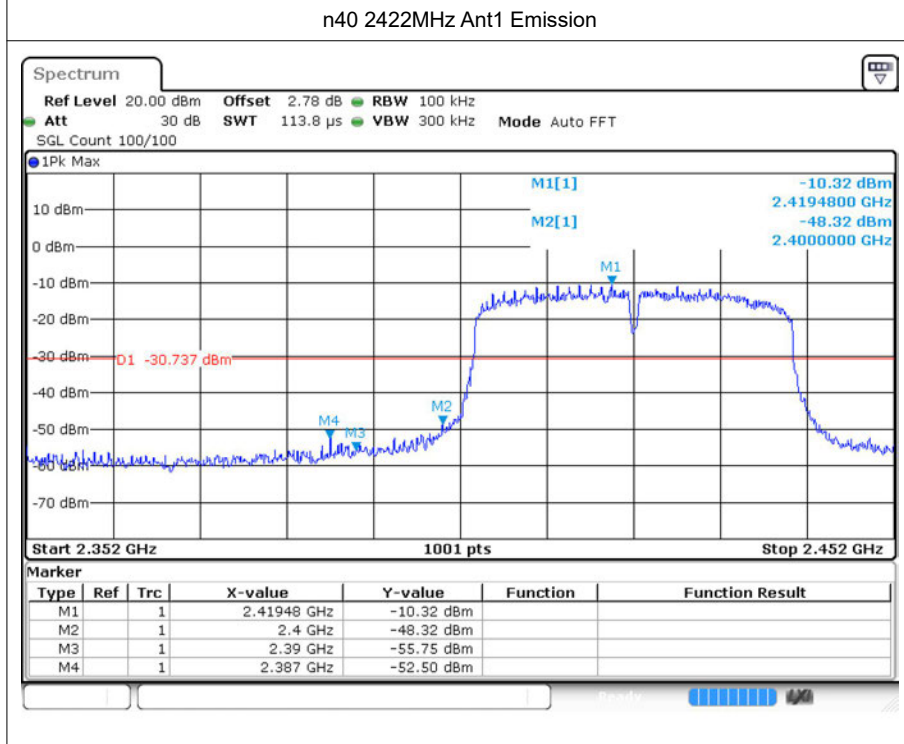
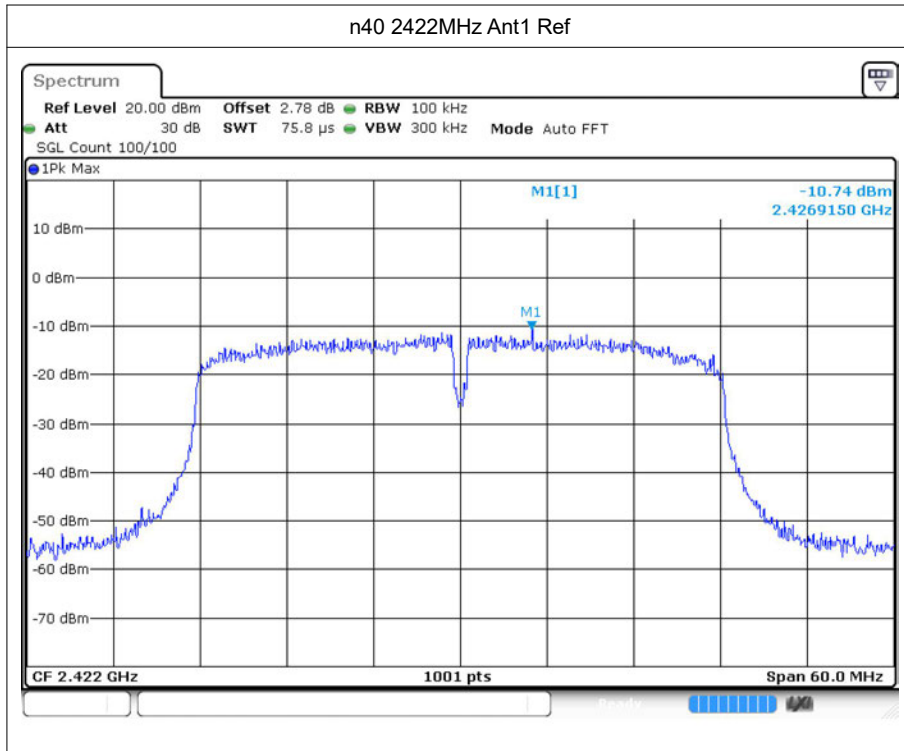


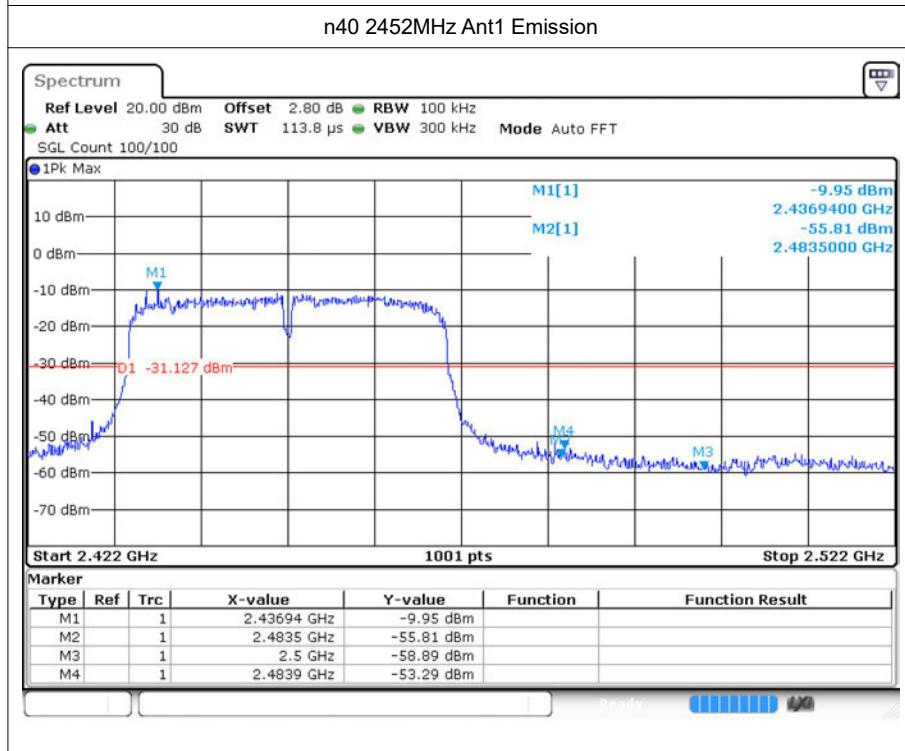
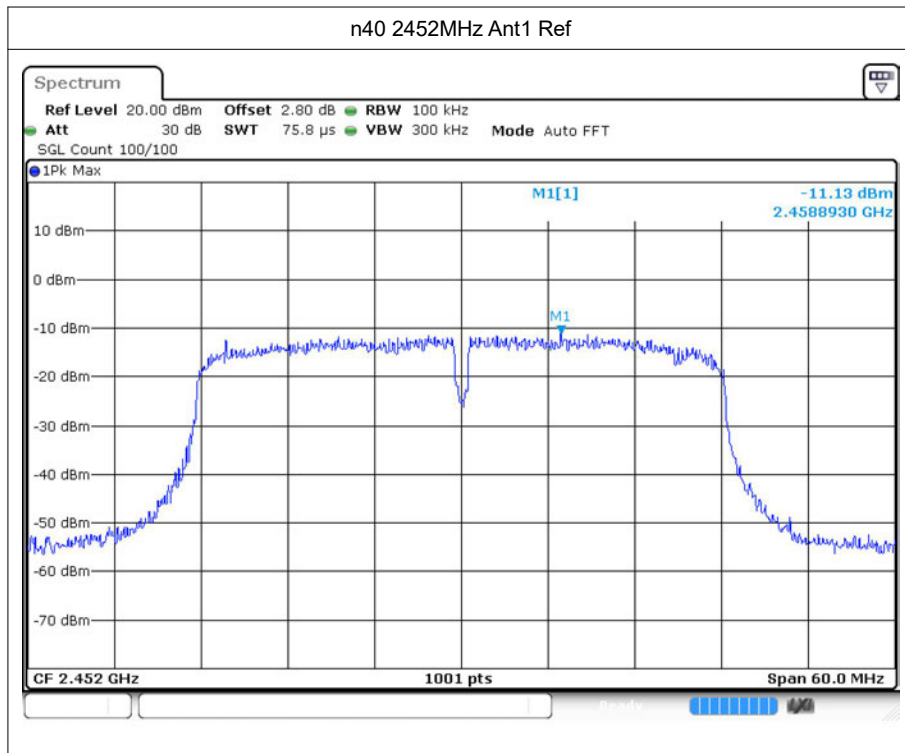














6 Conducted RF Spurious Emission

6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-41.4	-20	Pass
b	2437	Ant1	-41.2	-20	Pass
b	2462	Ant1	-42.7	-20	Pass
g	2412	Ant1	-36.23	-20	Pass
g	2437	Ant1	-36.89	-20	Pass
g	2462	Ant1	-36.2	-20	Pass
n20	2412	Ant1	-38.44	-20	Pass
n20	2437	Ant1	-36.26	-20	Pass
n20	2462	Ant1	-36.45	-20	Pass
n40	2422	Ant1	-32.12	-20	Pass
n40	2437	Ant1	-35.16	-20	Pass
n40	2452	Ant1	-35.19	-20	Pass

6.2 Test Graphs

