

Appendix C

RF Test Data for 2.4GHz WIFI Conducted Measurement

FCC ID:2BGNI-P30

Product Name:Smart POS Terminal

Test Model:P30

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	52.6%
ATM Pressure:	101Kpa
Test Engineer:	Emiya Lin
Supervised by:	Simba Huang

Contents

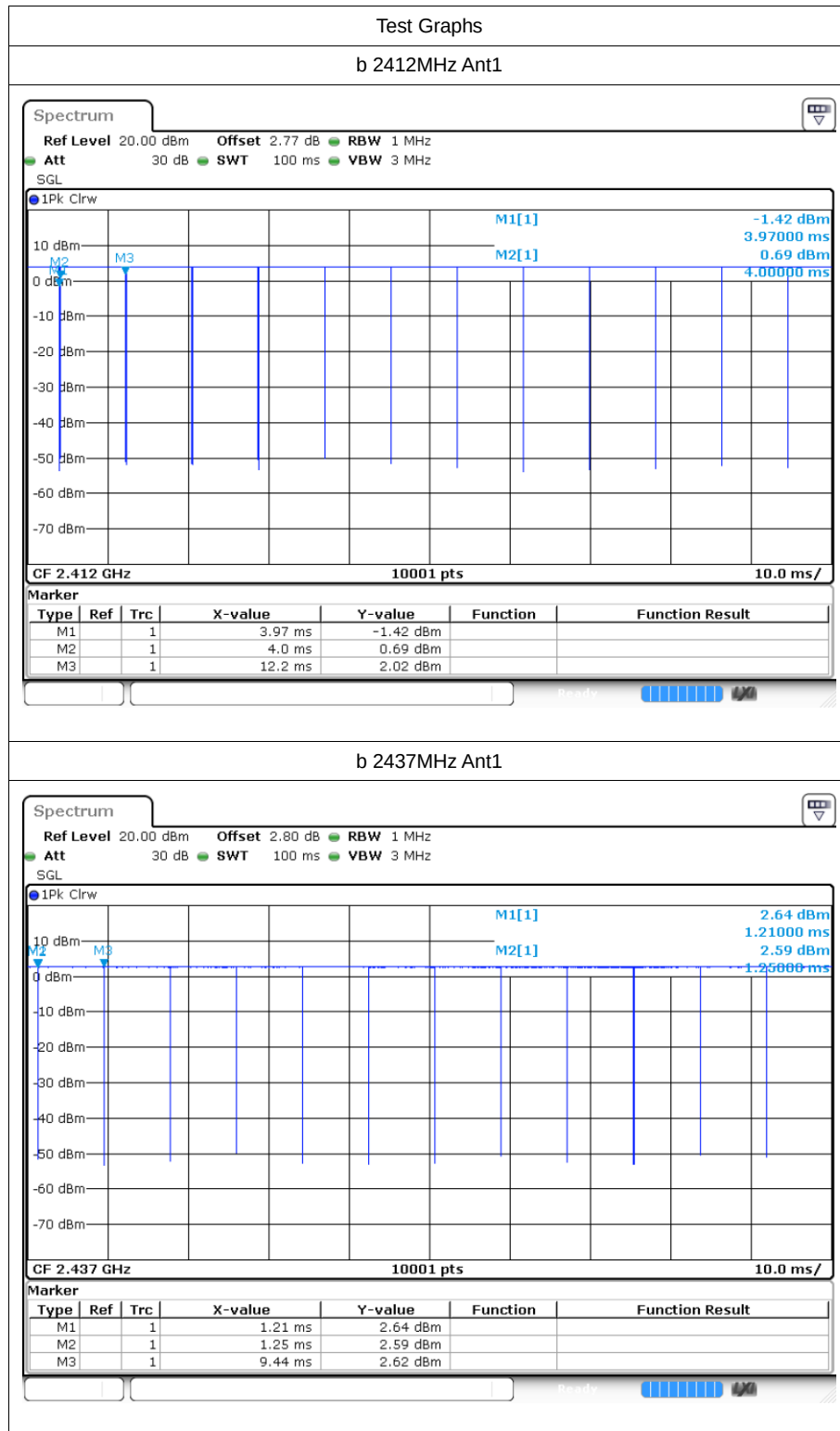
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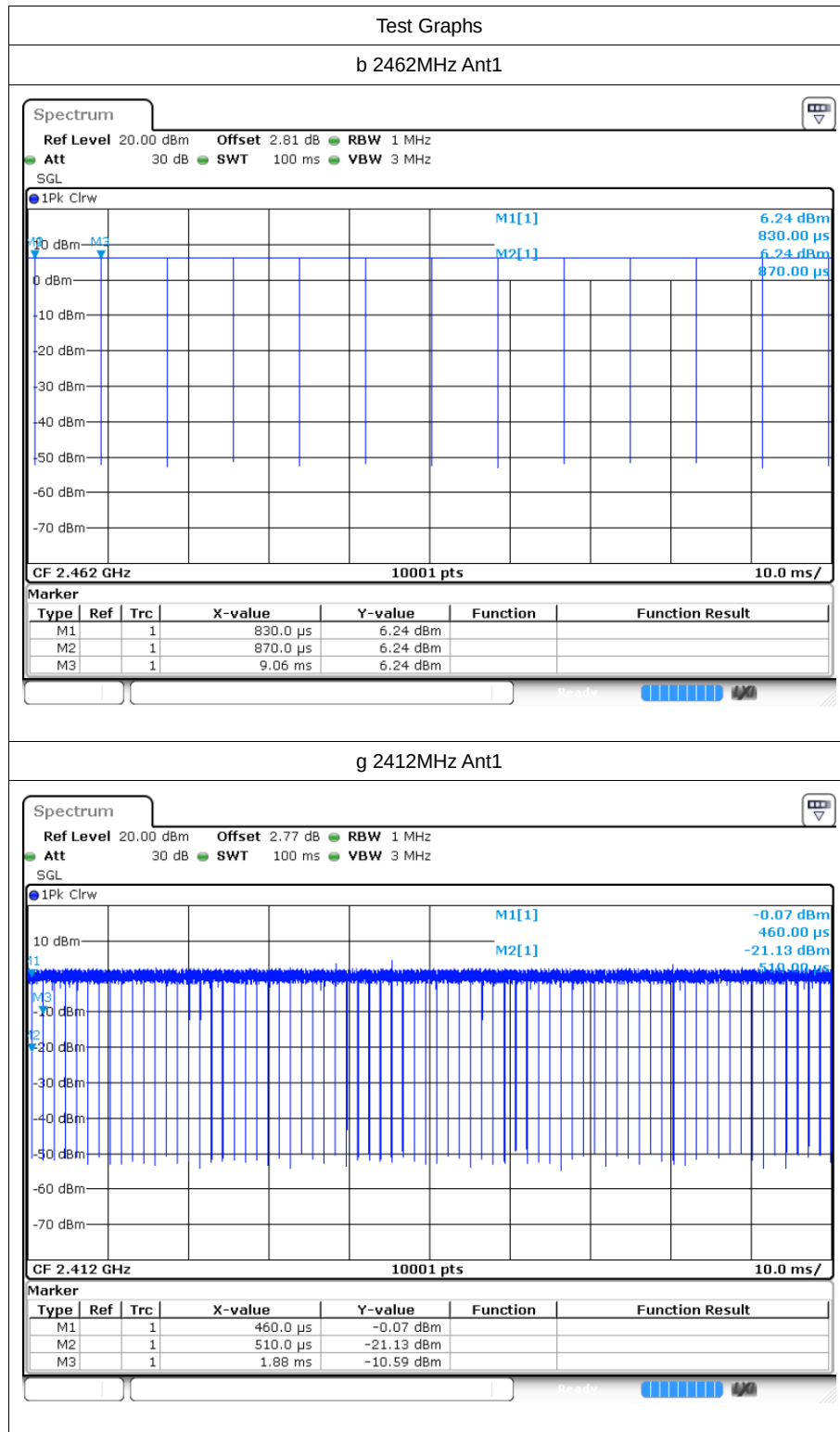
1 Duty Cycle

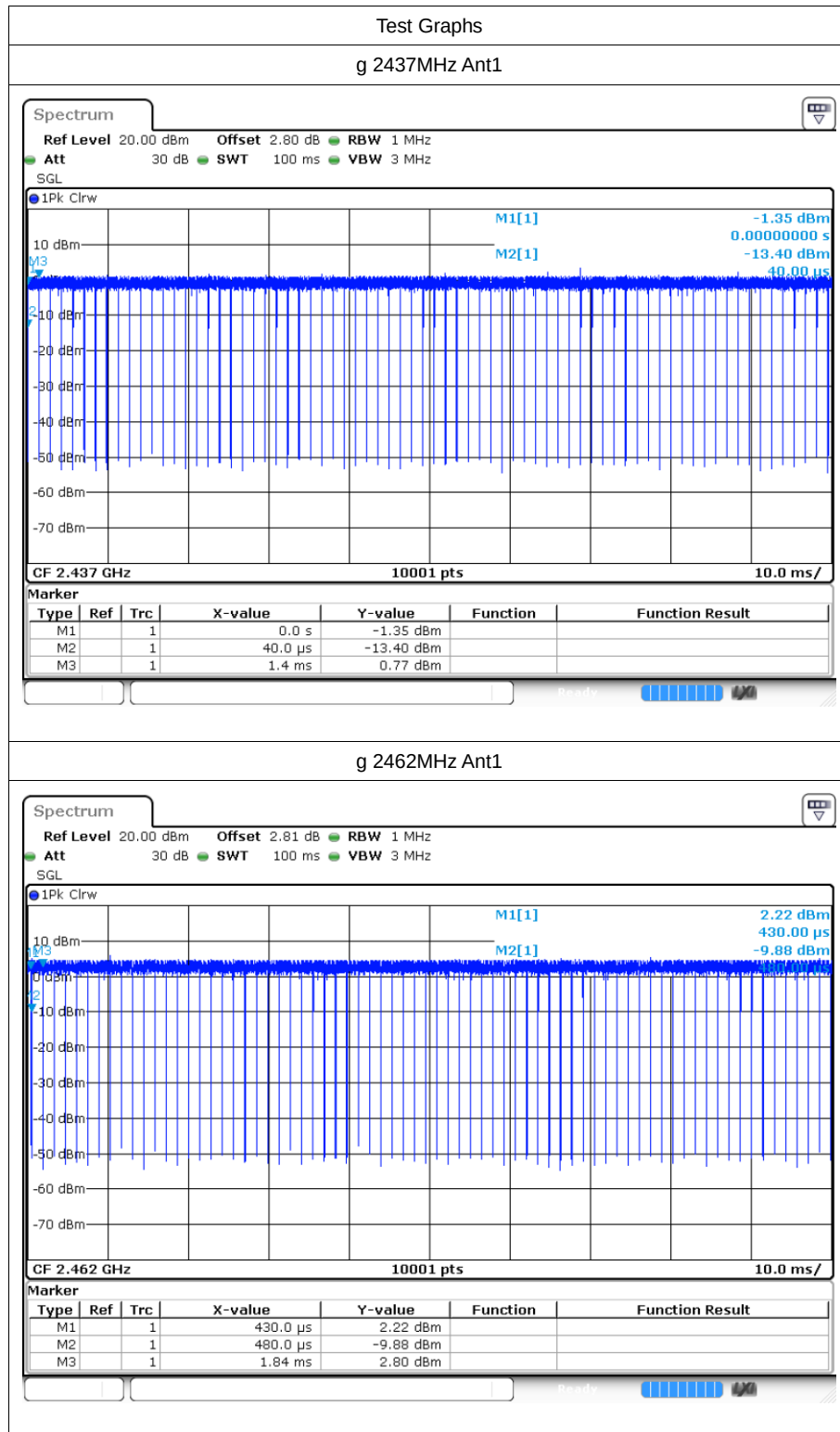
1.1 Test Result

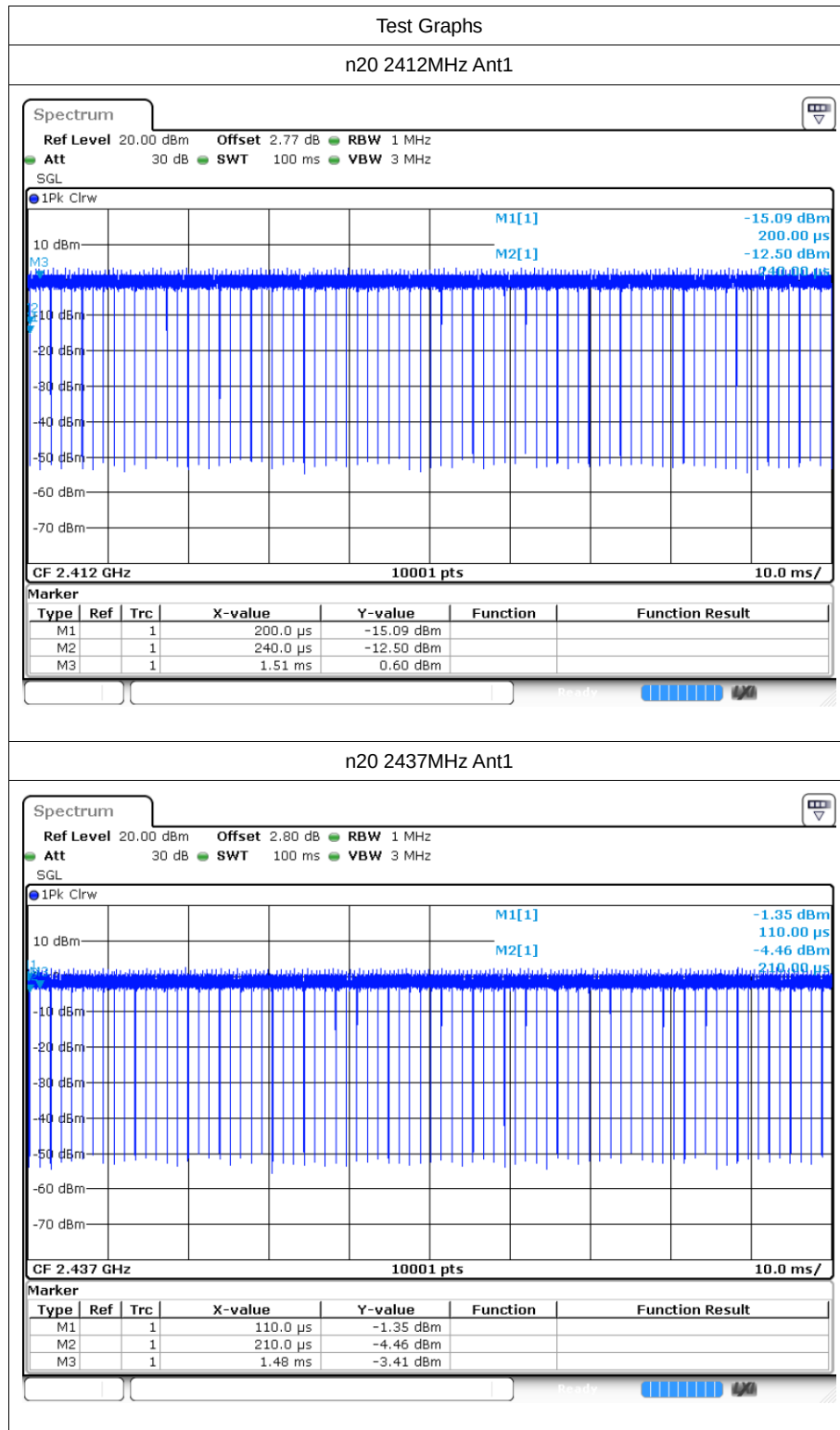
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Duty Factor (dB)	1/T (kHz)
b	2412	Ant1	99.68	0.01	0.12
b	2437	Ant1	99.51	0.02	0.12
b	2462	Ant1	99.56	0.02	0.12
g	2412	Ant1	97.86	0.09	0.73
g	2437	Ant1	97.72	0.10	0.74
g	2462	Ant1	97.93	0.09	0.74
n20	2412	Ant1	97.71	0.10	0.79
n20	2437	Ant1	97.47	0.11	0.79
n20	2462	Ant1	97.67	0.10	0.79

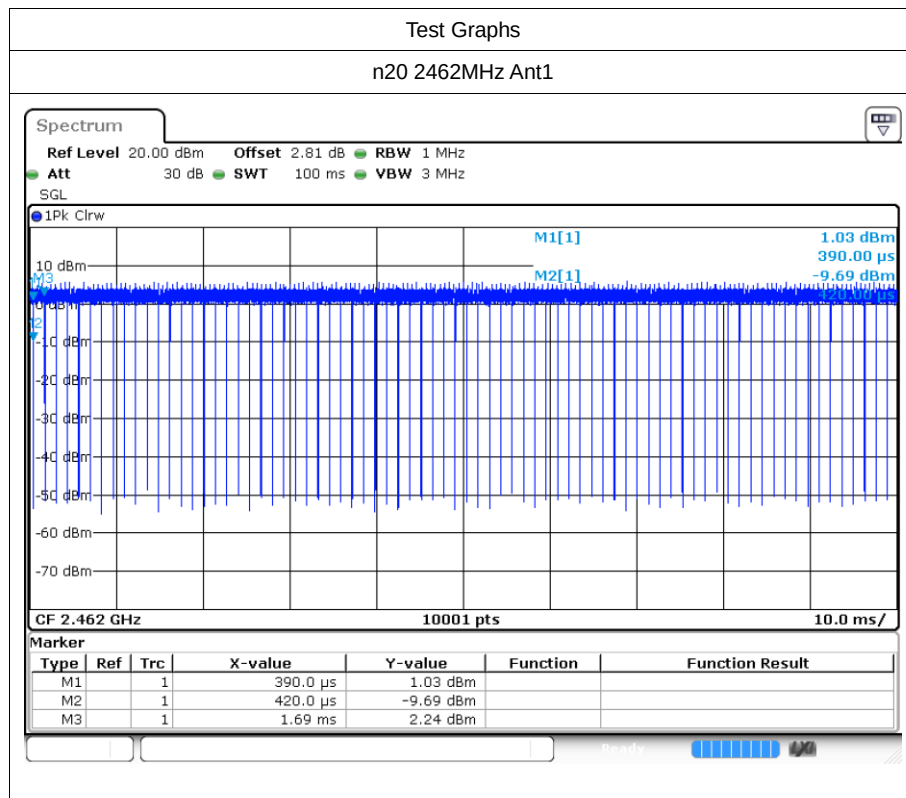
1.2 Test Graphs











2 Maximum Conducted Output Power

2.1 Test Result

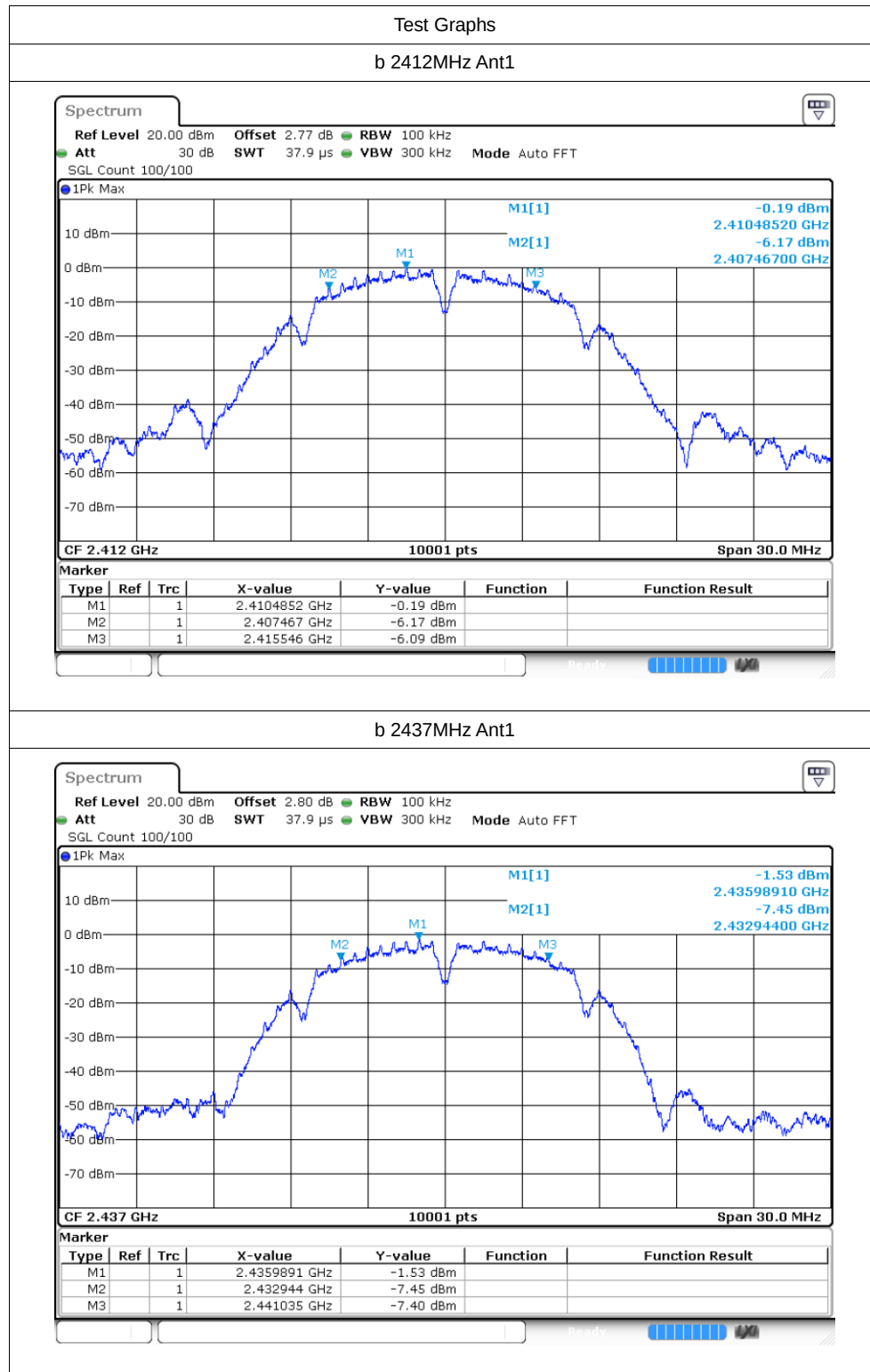
Test Data of Conducted Output Power				
Test Mode	Test Channel (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
802.11b	2412	13.37	≤ 30	Pass
	2437	12.1	≤ 30	Pass
	2462	15.65	≤ 30	Pass
802.11g	2412	13.71	≤ 30	Pass
	2437	12.99	≤ 30	Pass
	2462	15.93	≤ 30	Pass
802.11n20	2412	13.45	≤ 30	Pass
	2437	12.62	≤ 30	Pass
	2462	15.7	≤ 30	Pass

3 -6dB Bandwidth

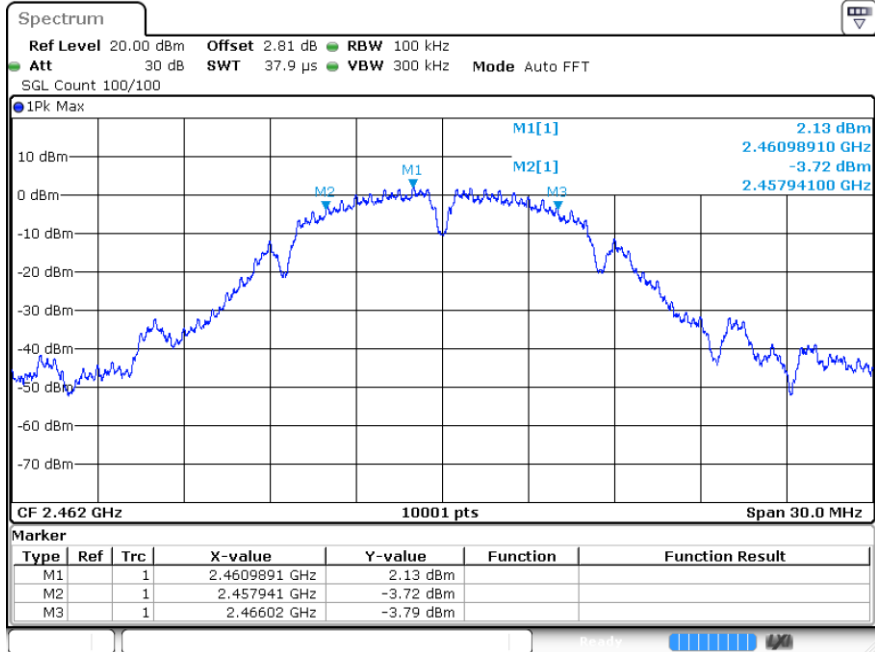
3.1 Test Result

Test Data of Occupied Bandwidth and DTS Bandwidth				
Test Mode	Test Channel (MHz)	-6dB Bandwidth (MHz)	Limits (MHz)	Pass or Fail
802.11b	2412	8.079	≥ 0.5	Pass
	2437	8.091	≥ 0.5	Pass
	2462	8.079	≥ 0.5	Pass
802.11g	2412	16.431	≥ 0.5	Pass
	2437	16.557	≥ 0.5	Pass
	2462	16.305	≥ 0.5	Pass
802.11n20	2412	17.316	≥ 0.5	Pass
	2437	17.304	≥ 0.5	Pass
	2462	17.265	≥ 0.5	Pass

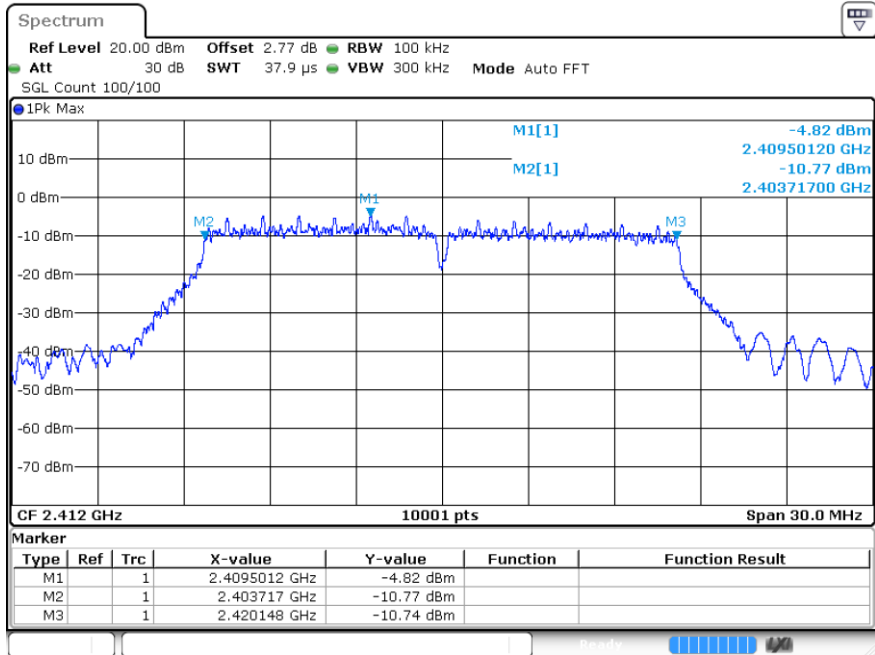
3.2 Test Graphs



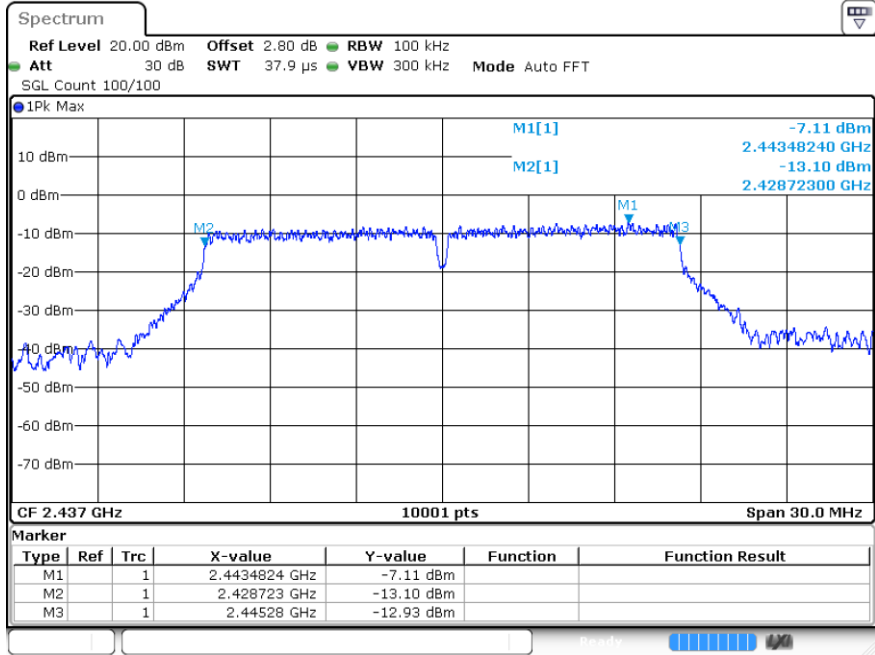
b 2462MHz Ant1



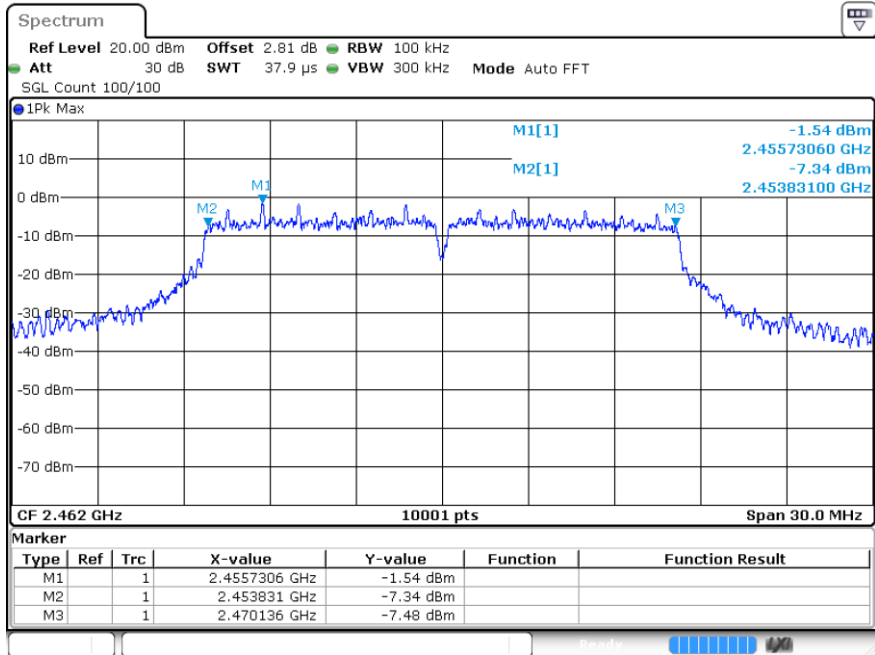
g 2412MHz Ant1



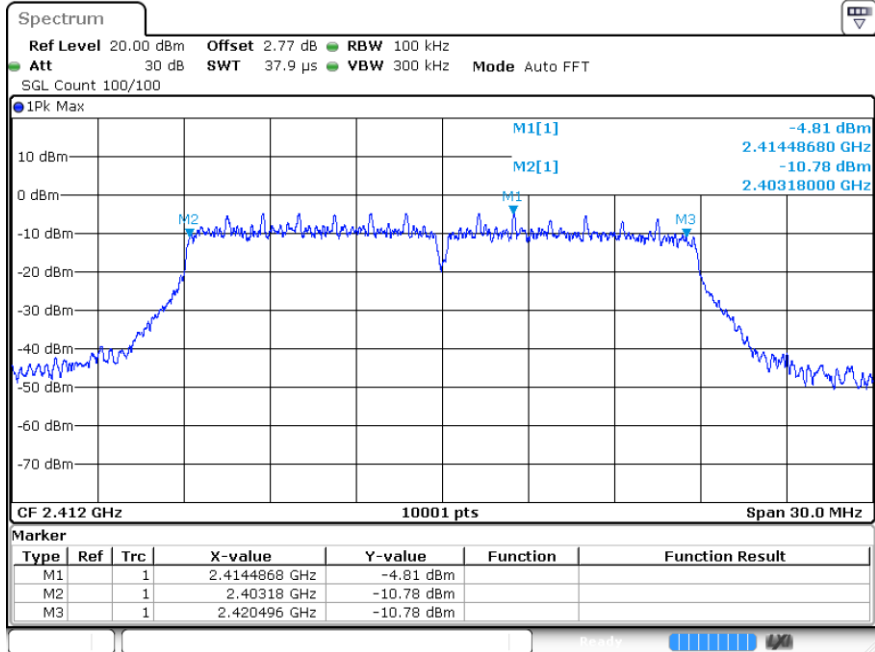
g 2437MHz Ant1



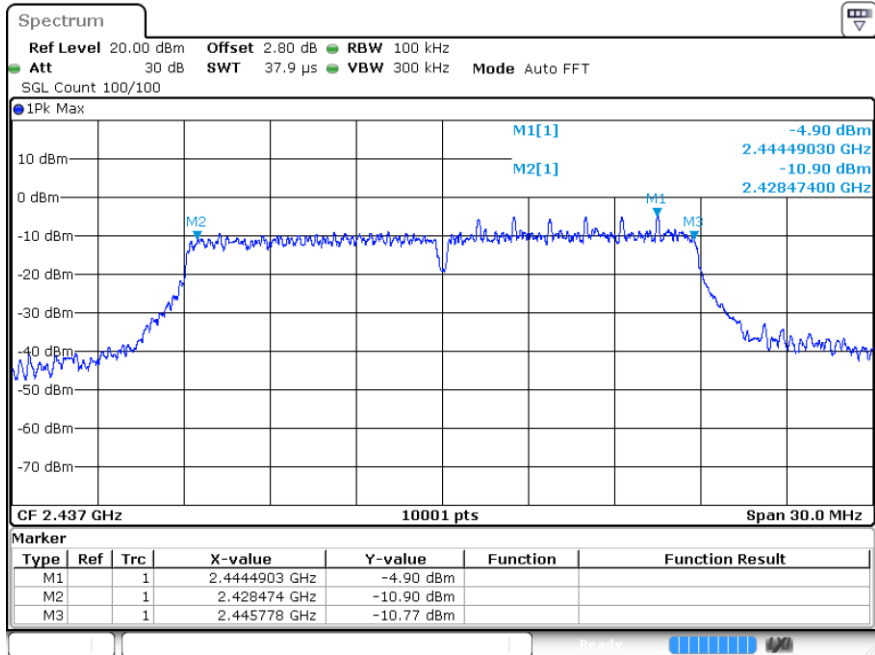
g 2462MHz Ant1

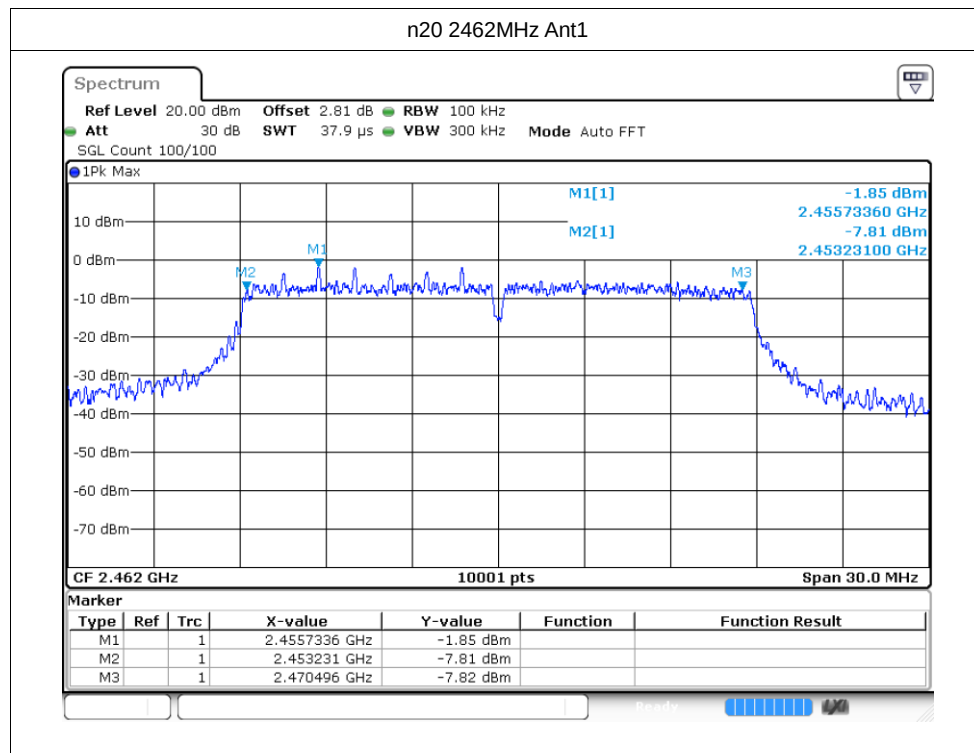


n20 2412MHz Ant1



n20 2437MHz Ant1



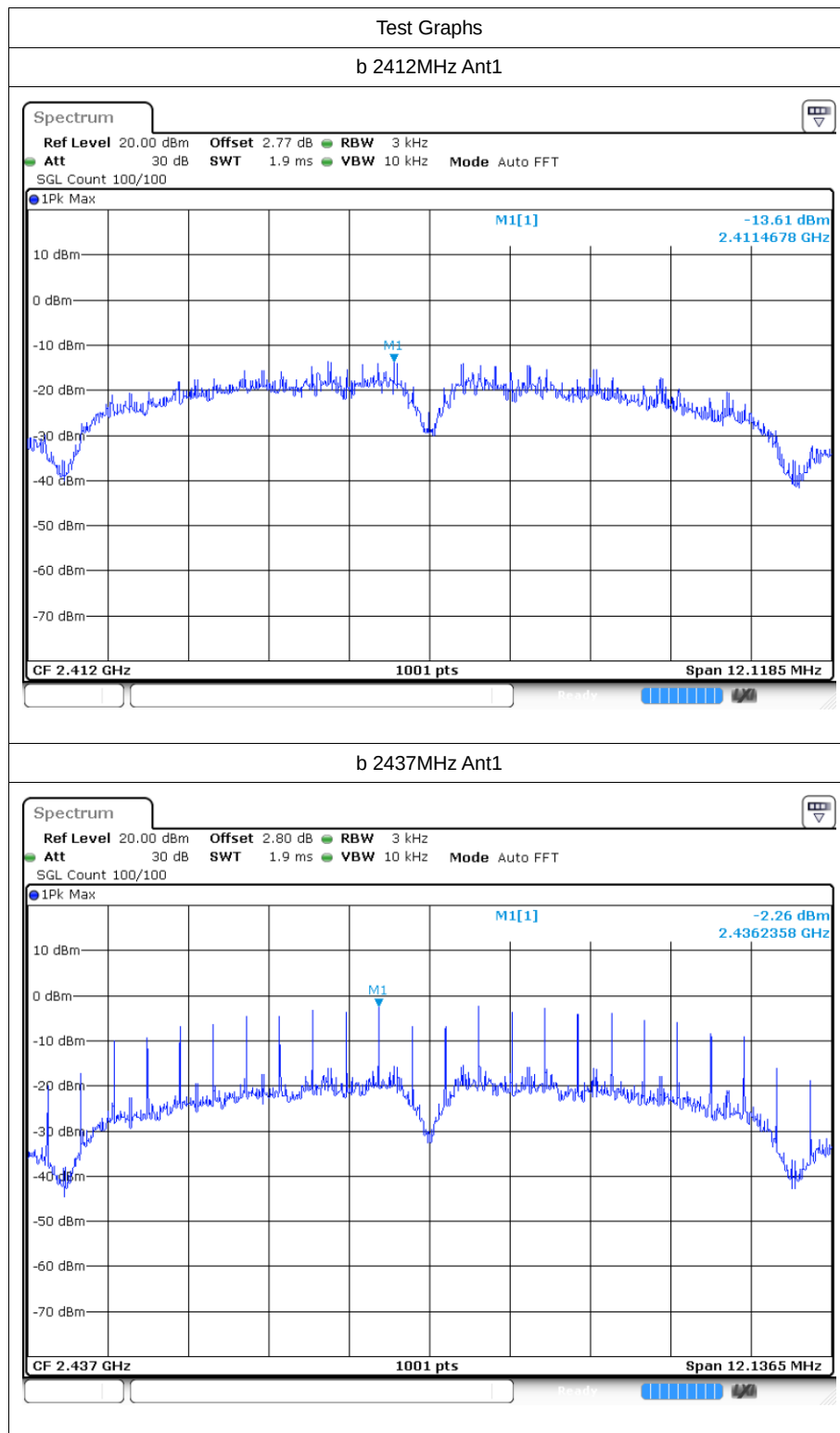


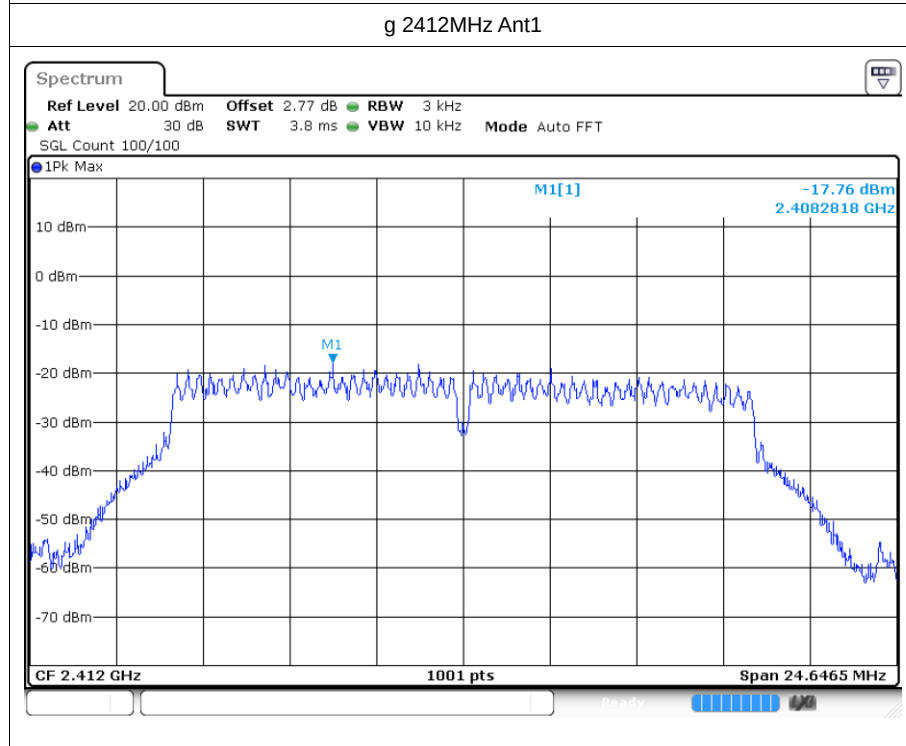
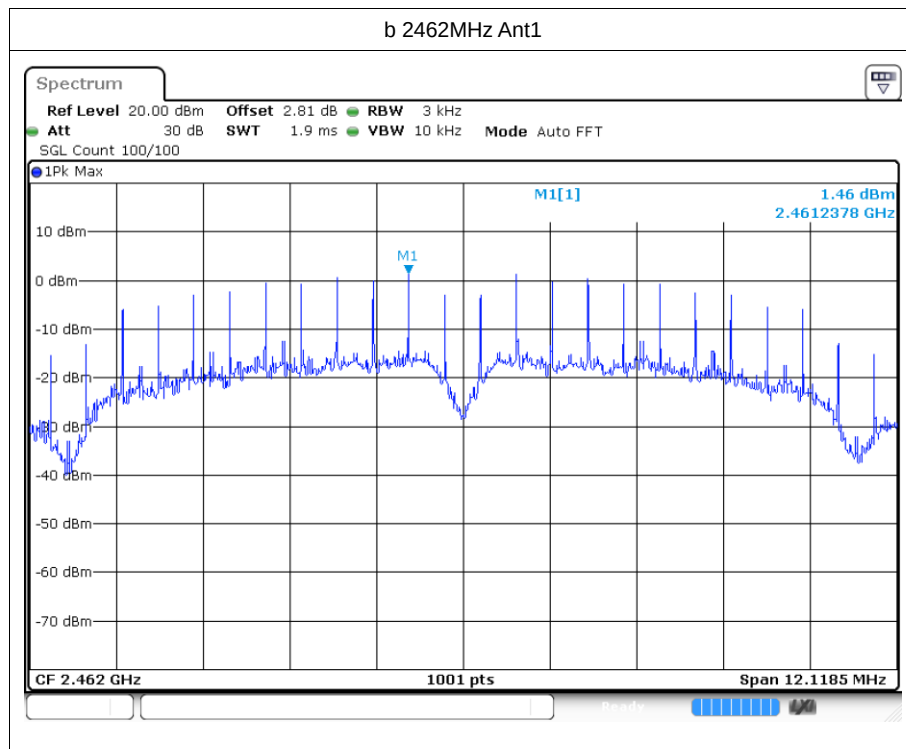
4 Maximum Power Spectral Density Level

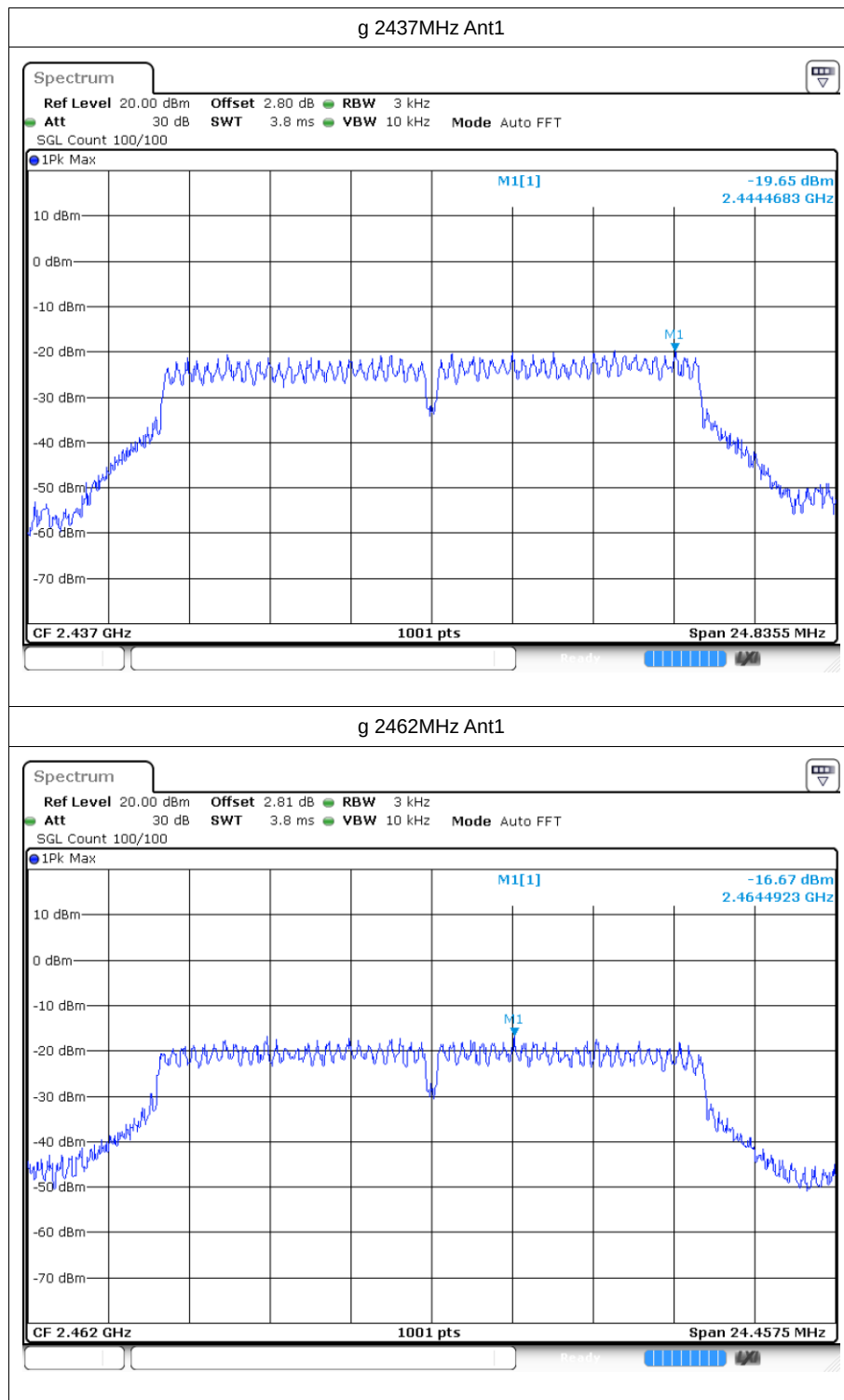
4.1 Test Result

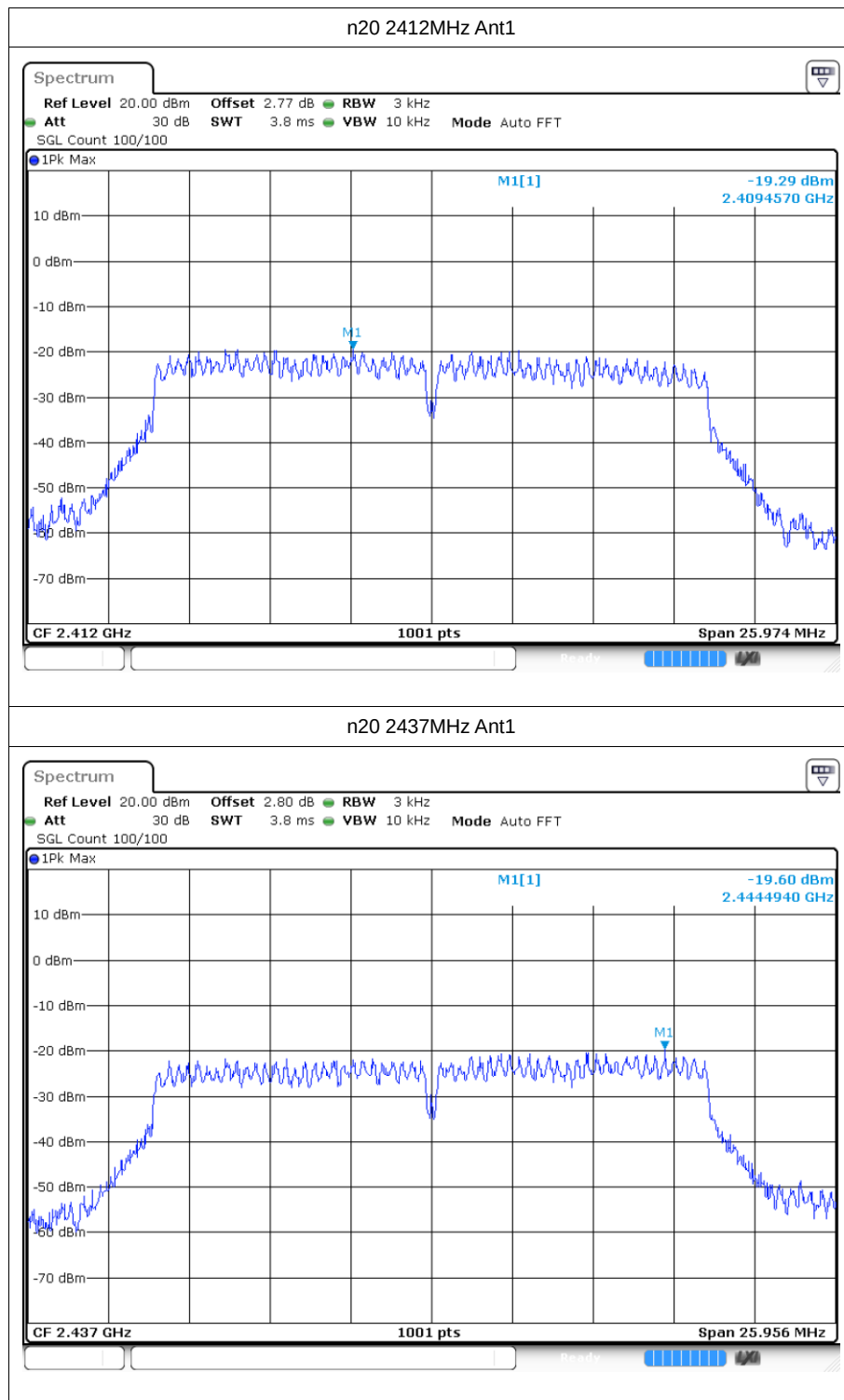
Test Data of Conducted Output Power Spectral Density				
Test Mode	Test Channel	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
802.11b	2412	-13.61	≤ 8	Pass
	2437	-2.26	≤ 8	Pass
	2462	1.46	≤ 8	Pass
802.11g	2412	-17.76	≤ 8	Pass
	2437	-19.65	≤ 8	Pass
	2462	-16.67	≤ 8	Pass
802.11n20	2412	-19.29	≤ 8	Pass
	2437	-19.6	≤ 8	Pass
	2462	-17.24	≤ 8	Pass

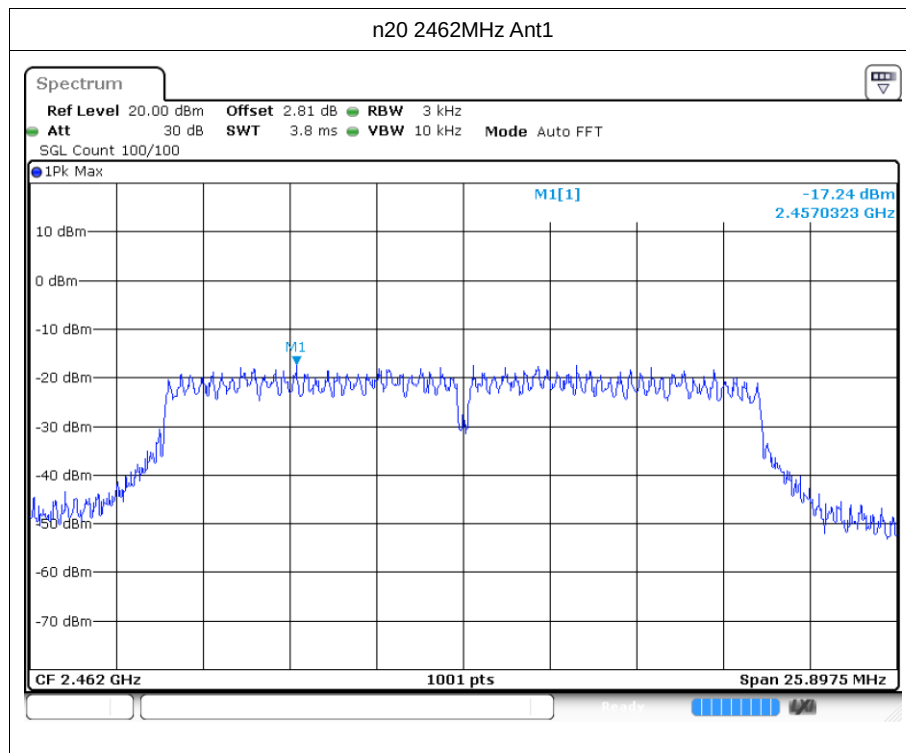
4.2 Test Graphs









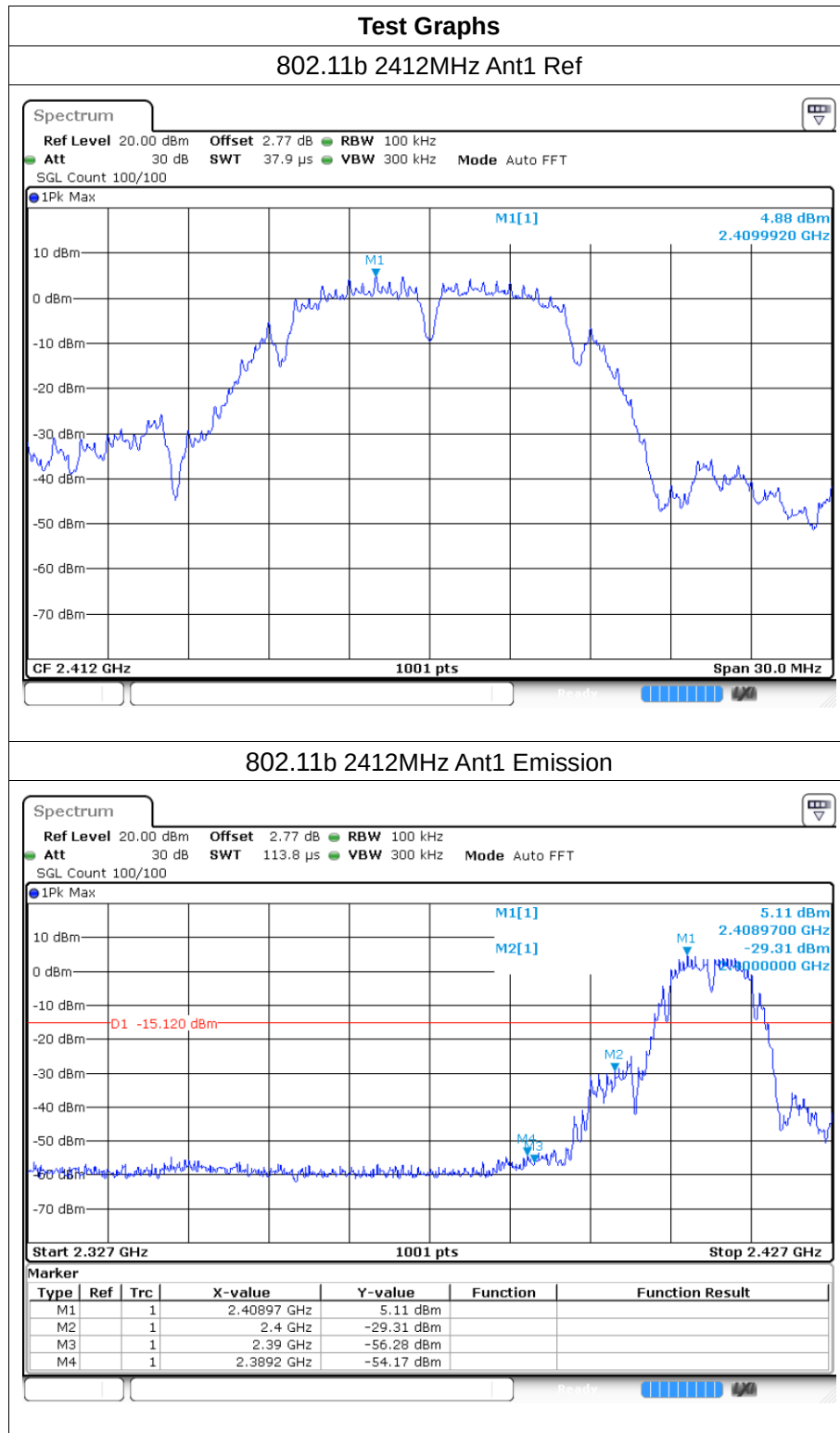


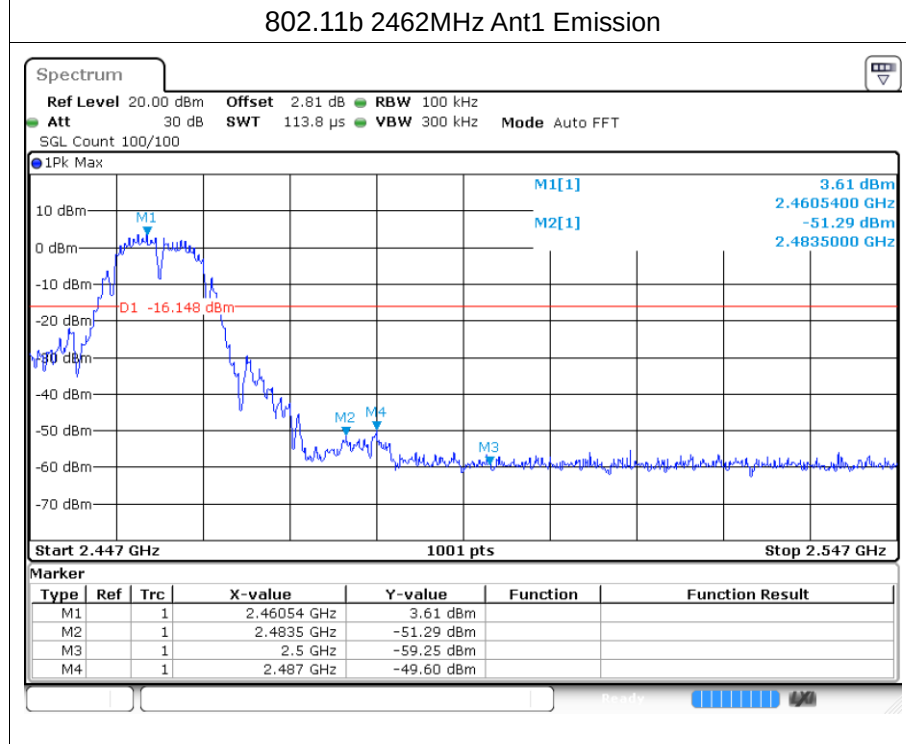
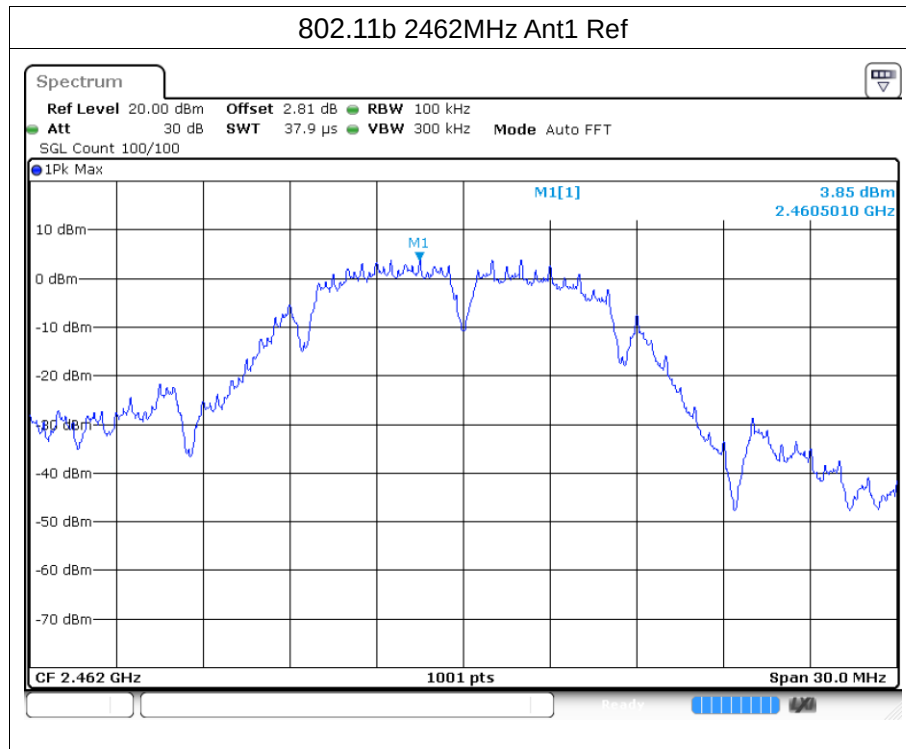
5 Band Edge

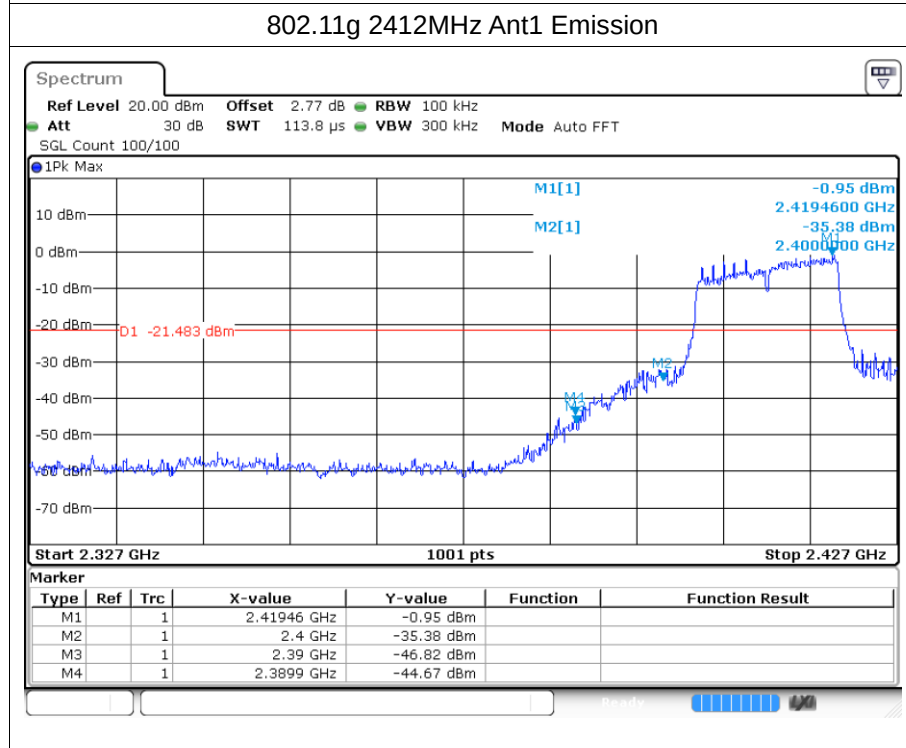
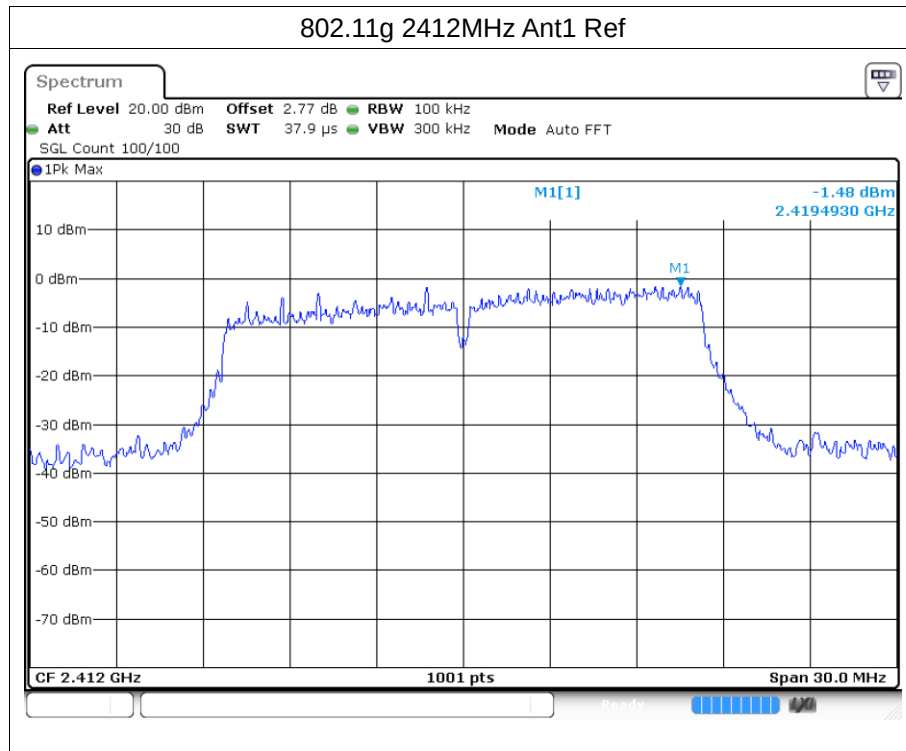
5.1 Test Result

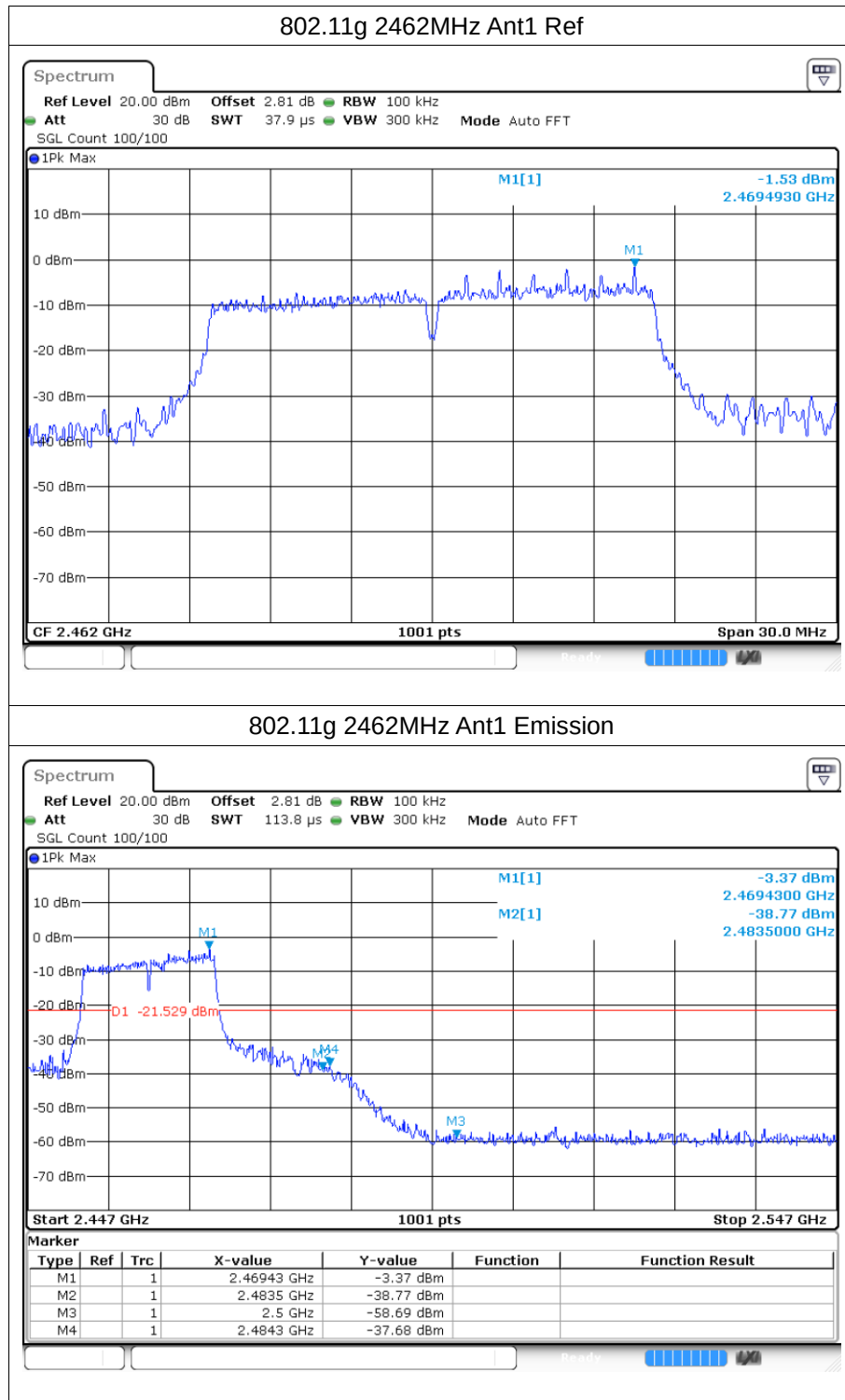
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
802.11b	2412	Ant1	-59.05	-20	-59.05
802.11b	2462	Ant1	-53.45	-20	Pass
802.11g	2412	Ant1	-43.19	-20	Pass
802.11g	2462	Ant1	-36.15	-20	Pass
802.11n20	2412	Ant1	-42.92	-20	Pass
802.11n20	2462	Ant1	-34	-20	Pass

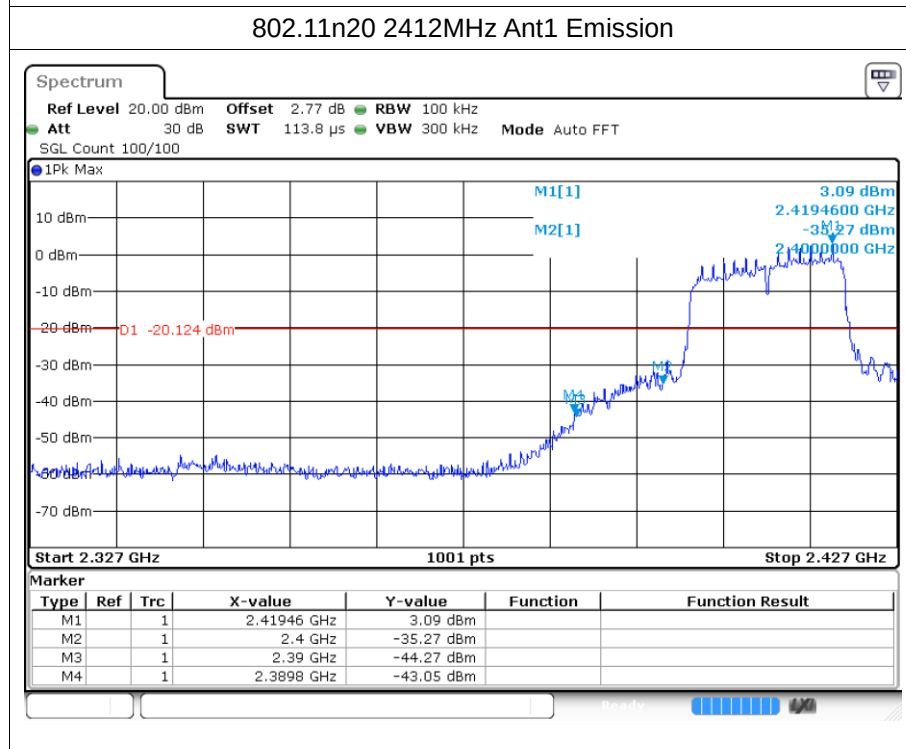
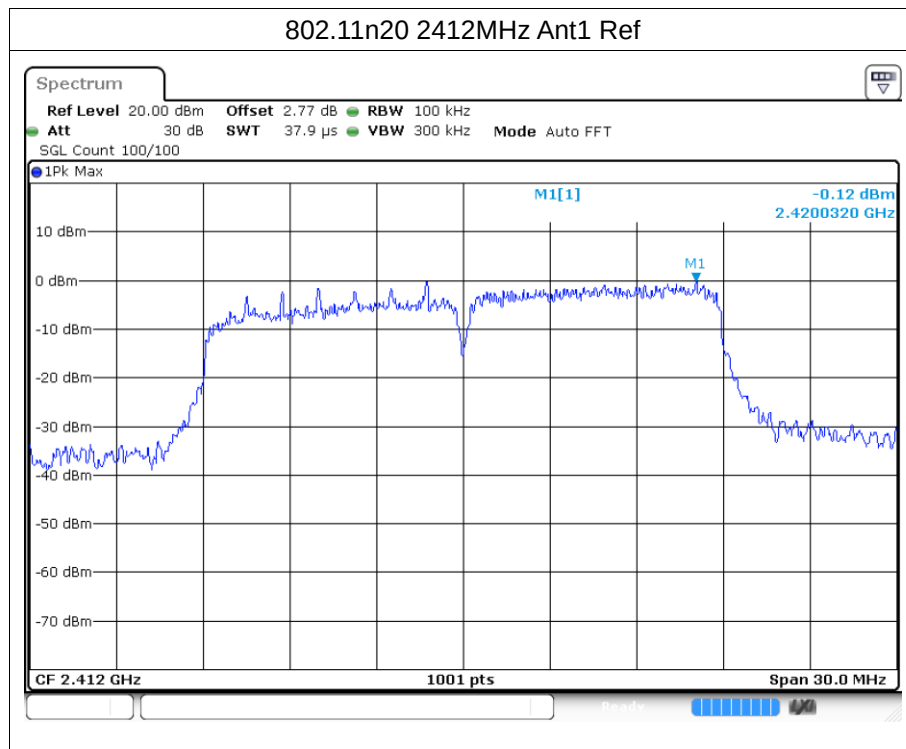
5.2 Test Graphs

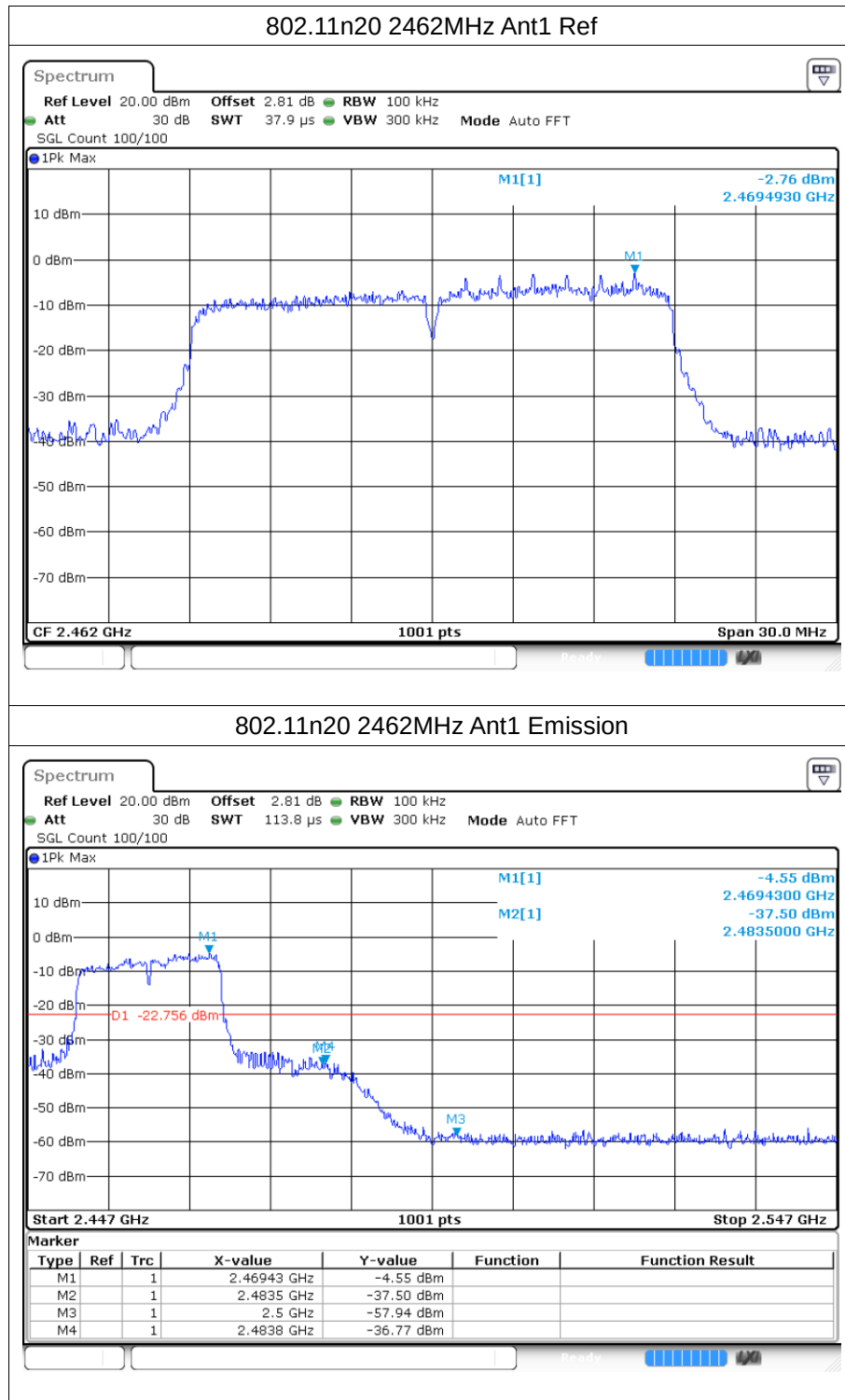










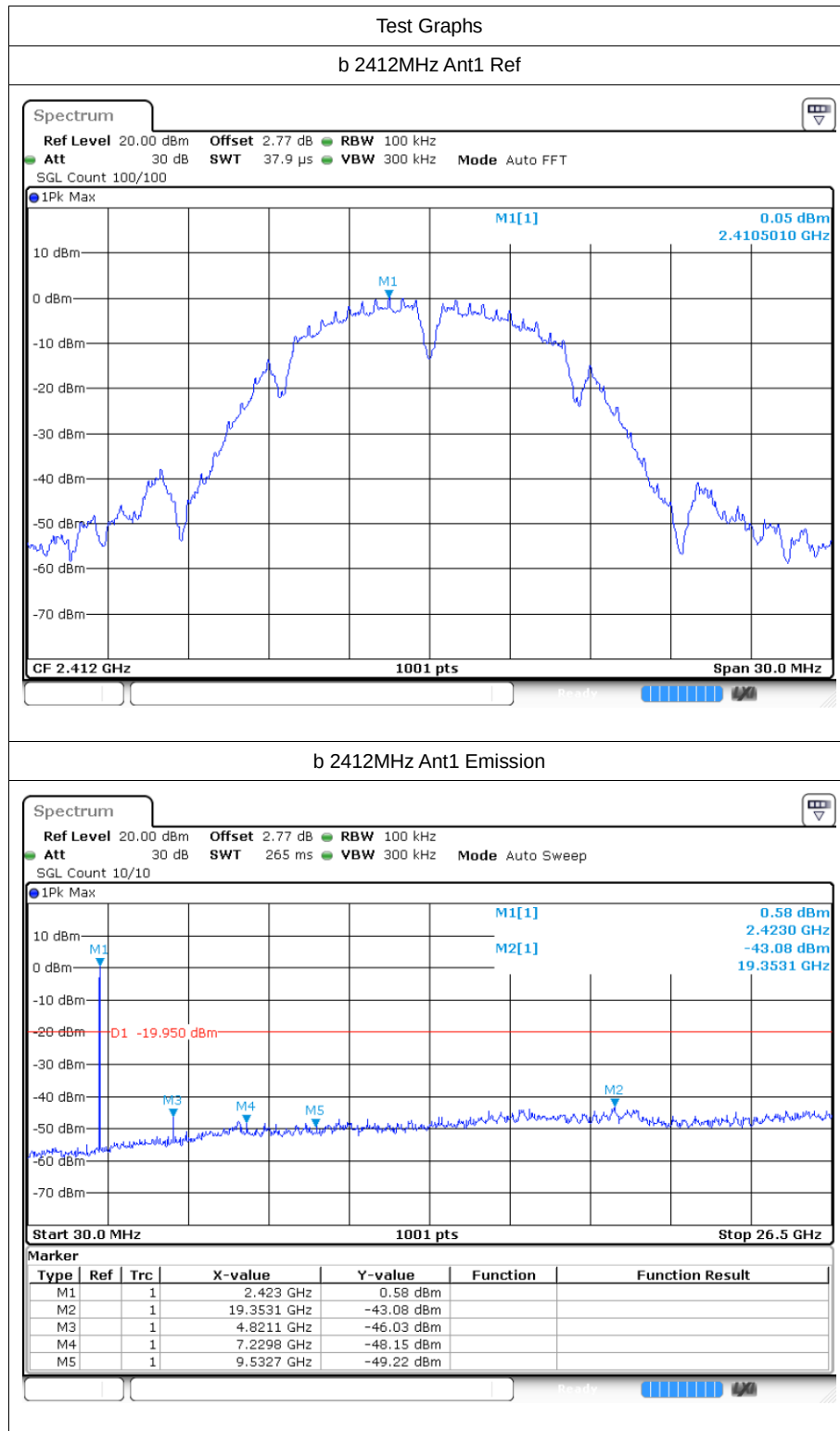


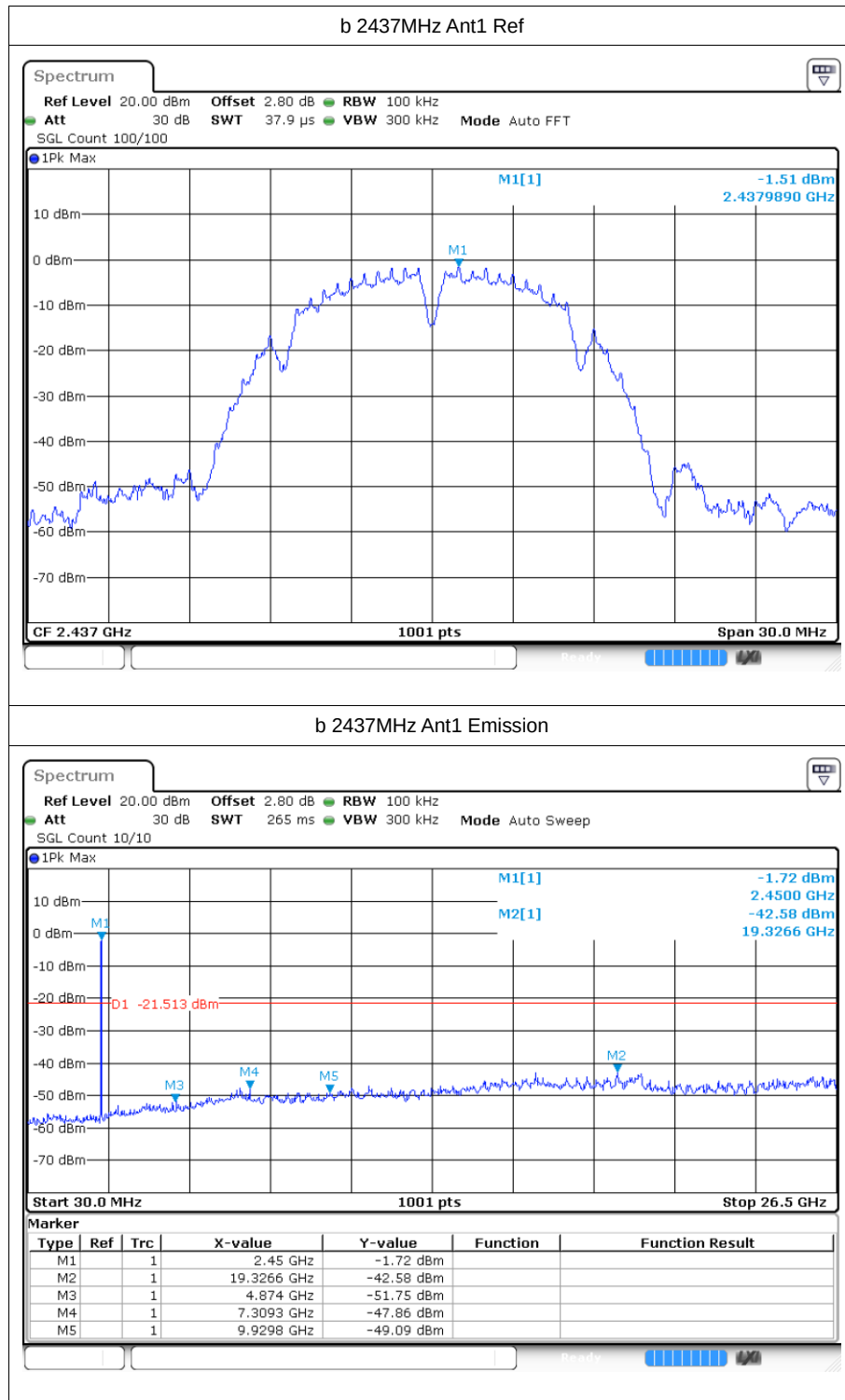
6 Conducted RF Spurious Emission

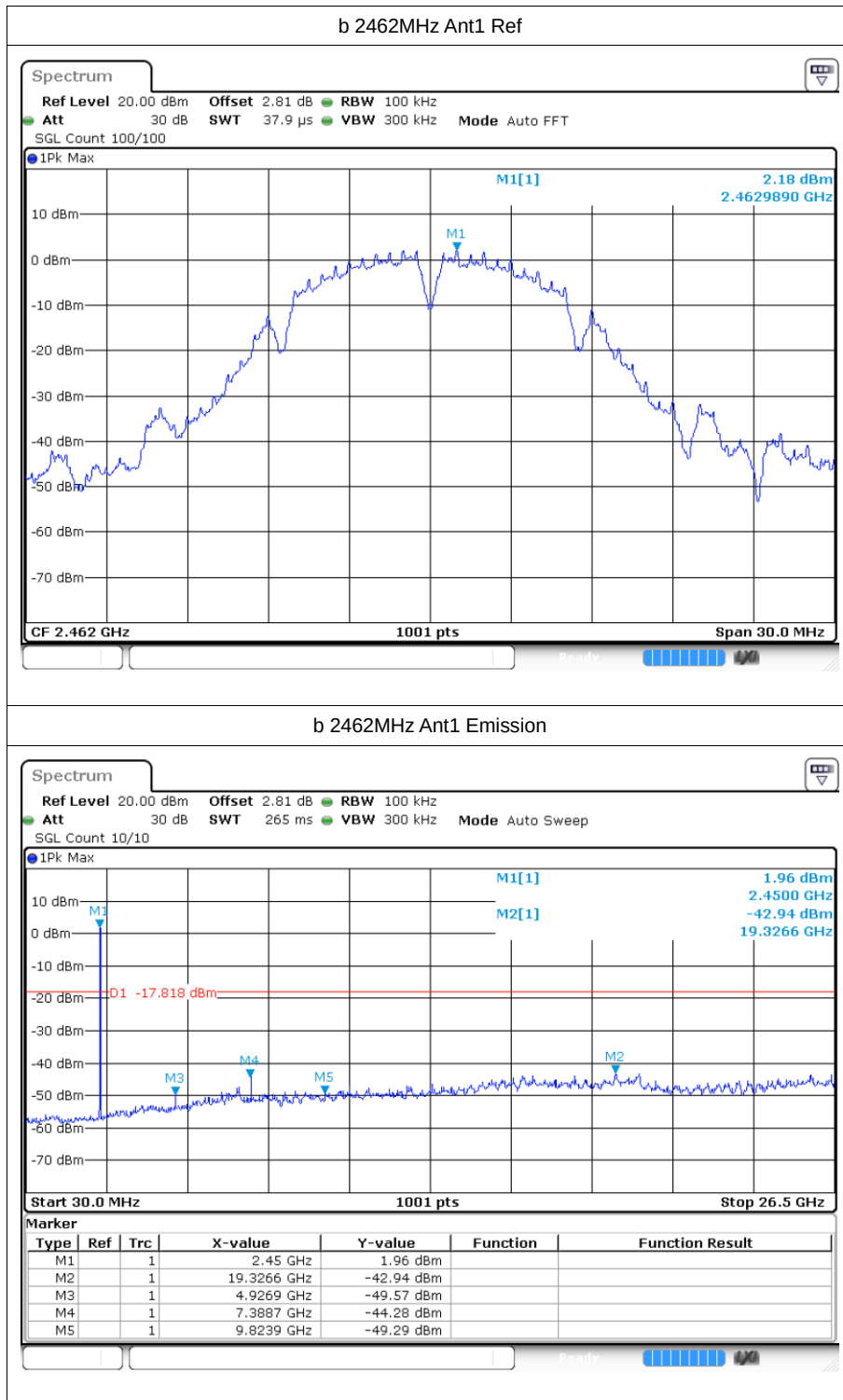
6.1 Test Result

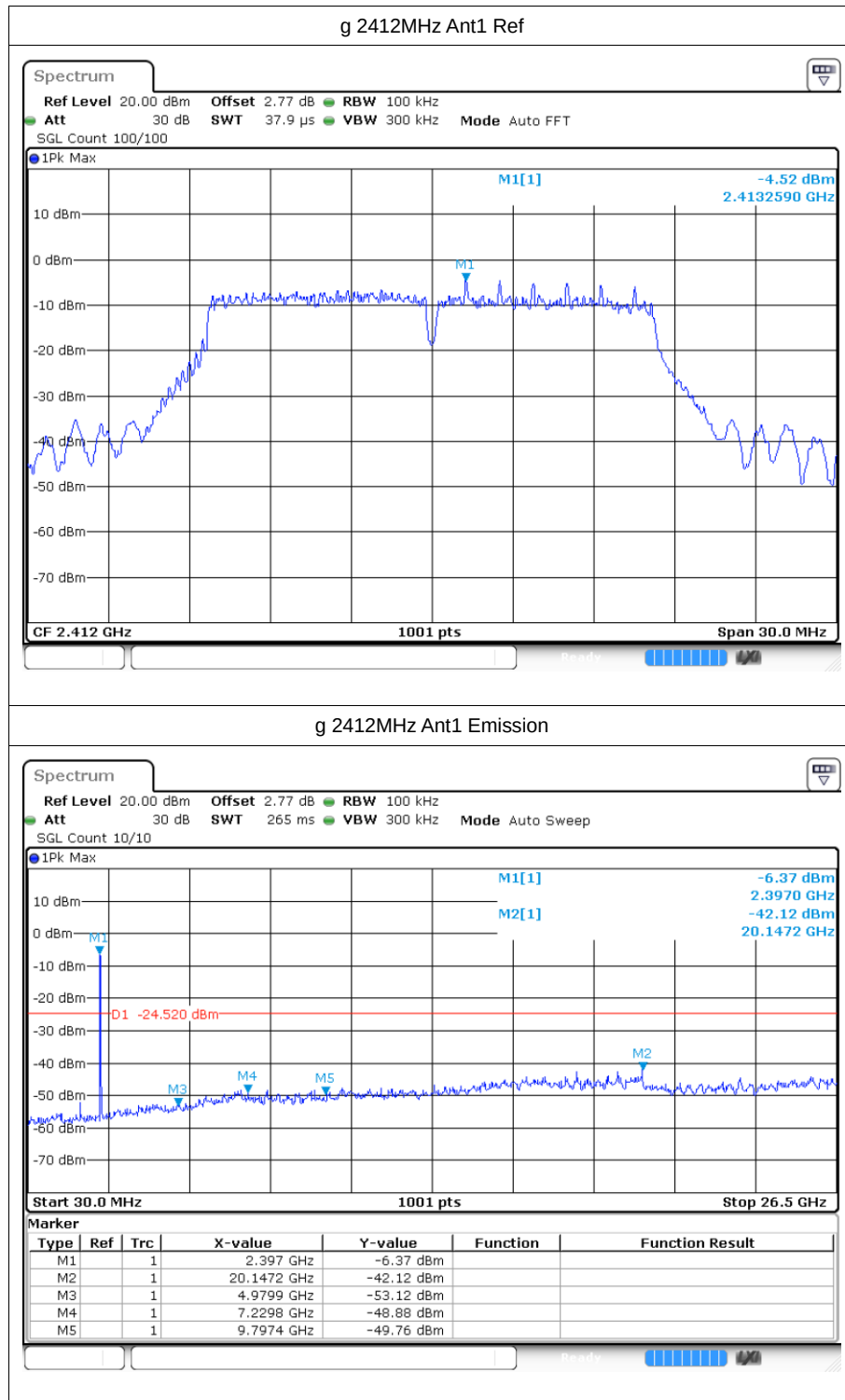
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-43.12	-20	Pass
b	2437	Ant1	-41.06	-20	Pass
b	2462	Ant1	-45.12	-20	Pass
g	2412	Ant1	-37.6	-20	Pass
g	2437	Ant1	-37.25	-20	Pass
g	2462	Ant1	-41.48	-20	Pass
n20	2412	Ant1	-35.02	-20	Pass
n20	2437	Ant1	-36.09	-20	Pass
n20	2462	Ant1	-40.86	-20	Pass

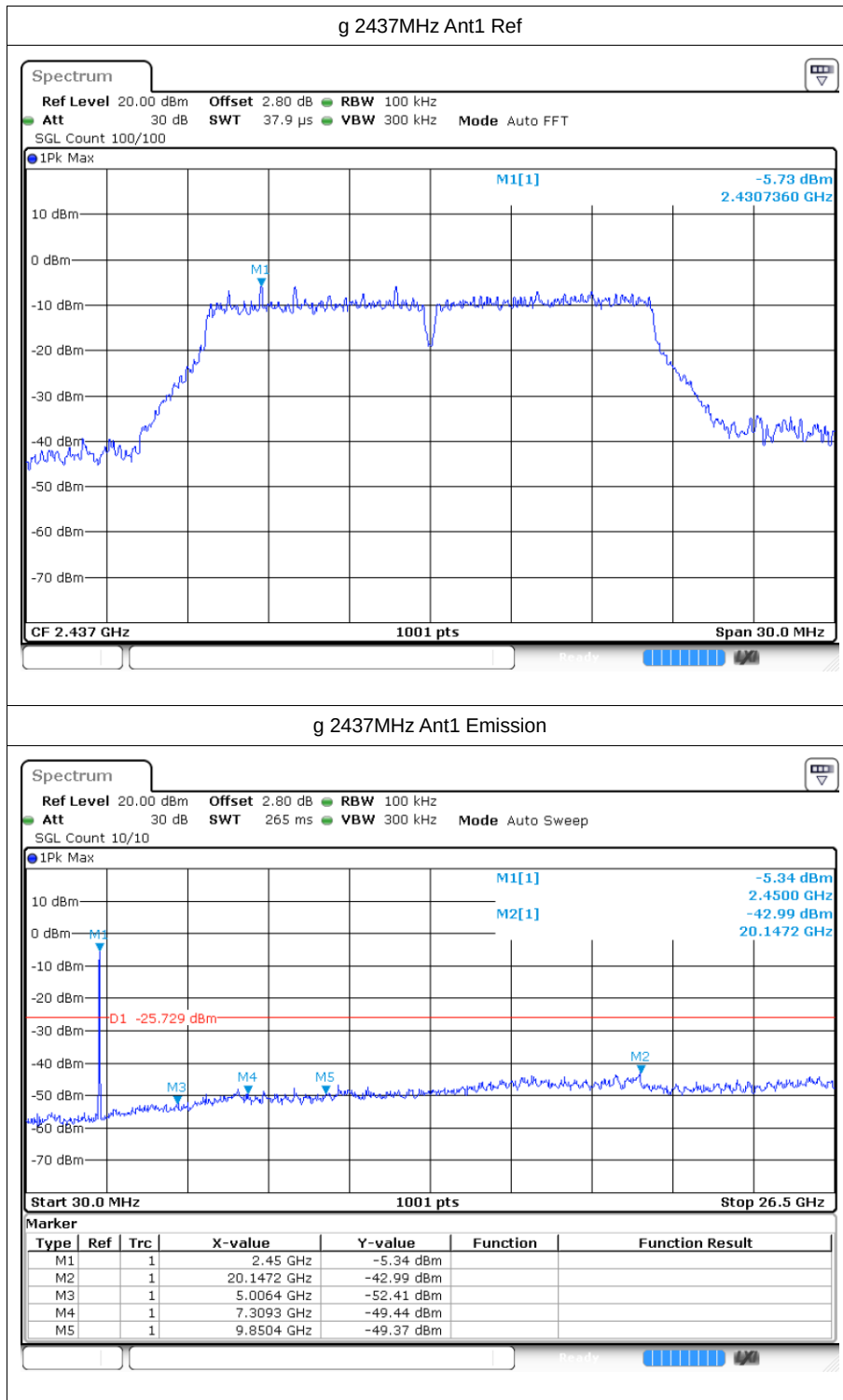
6.2 Test Graphs

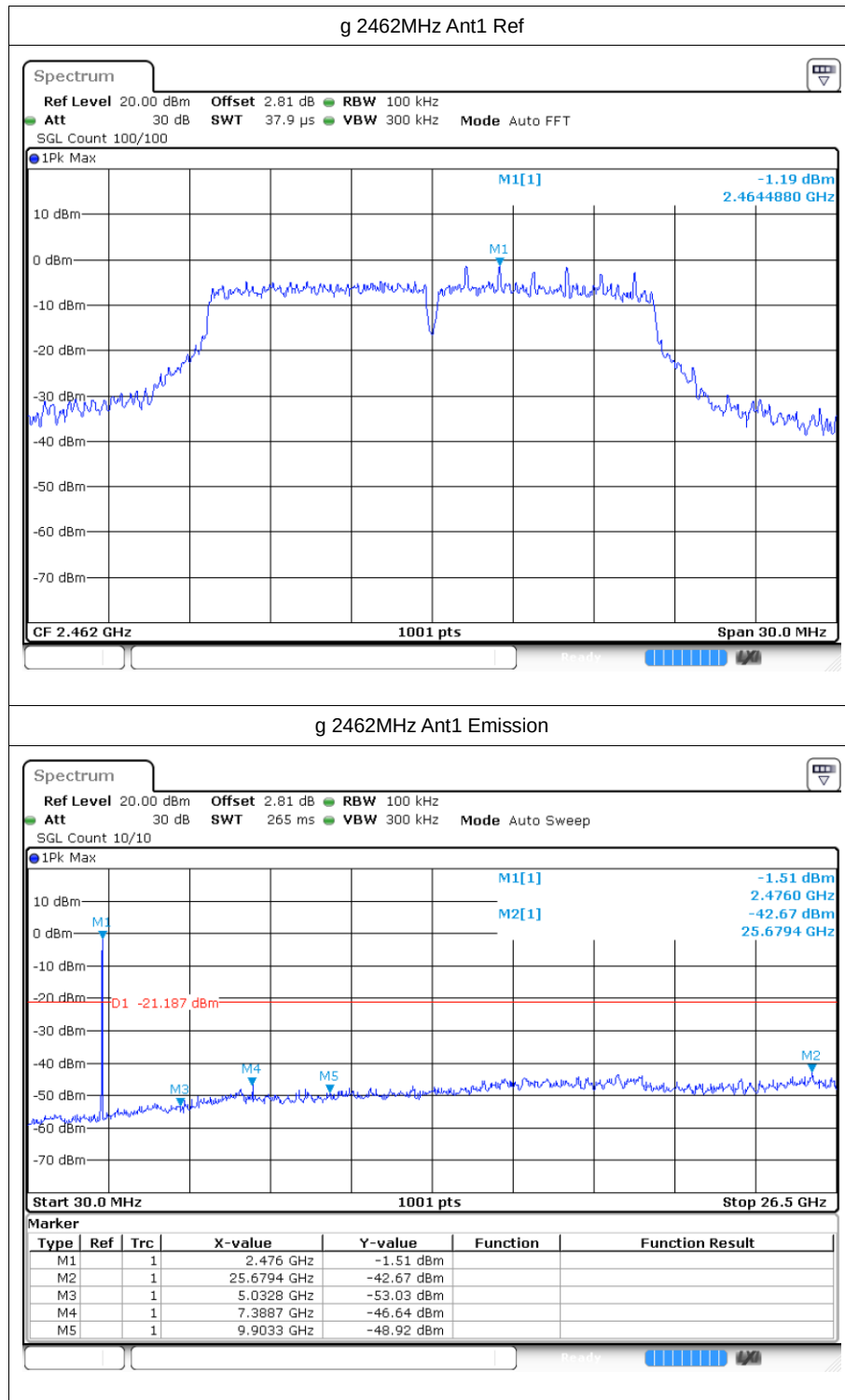


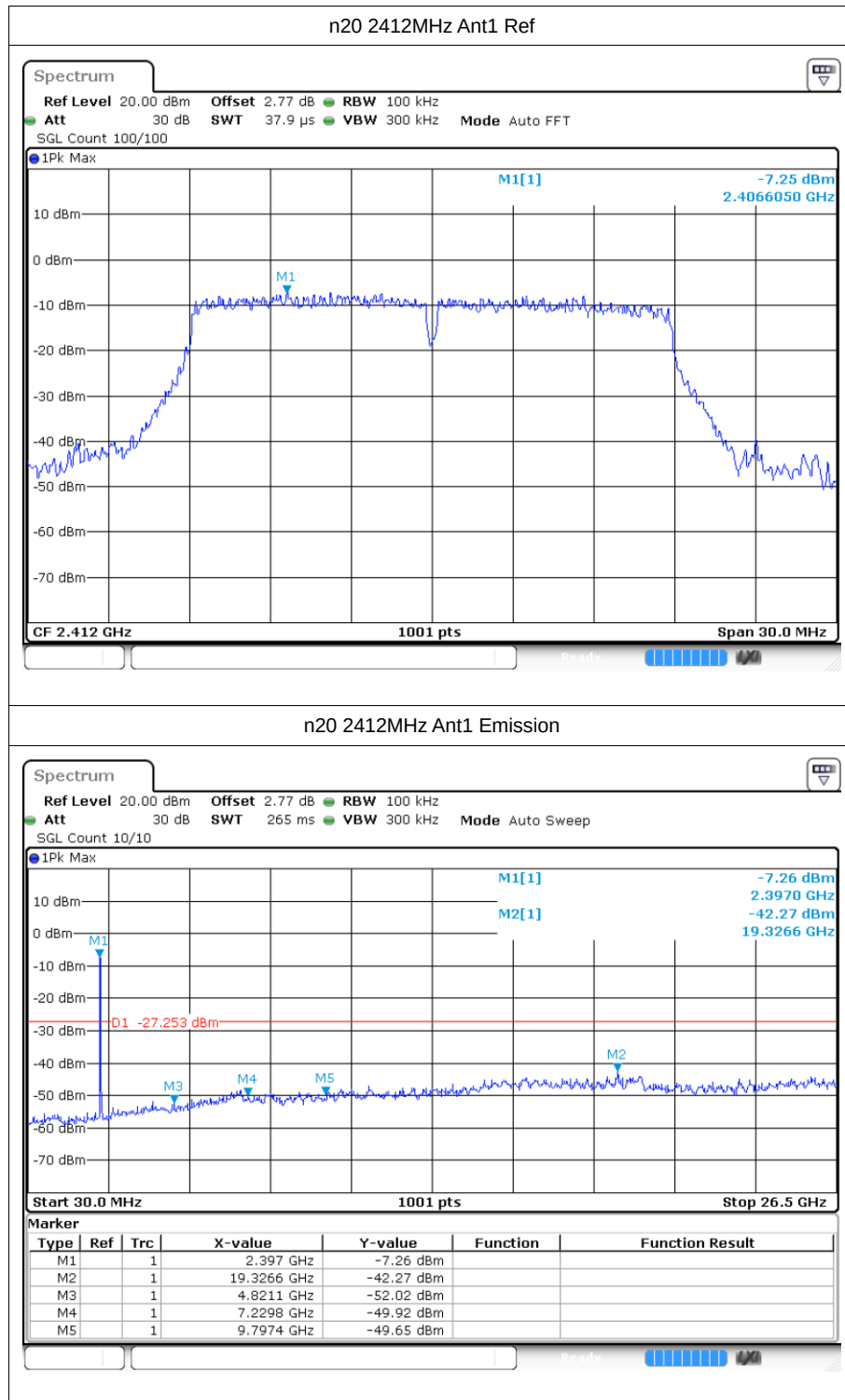


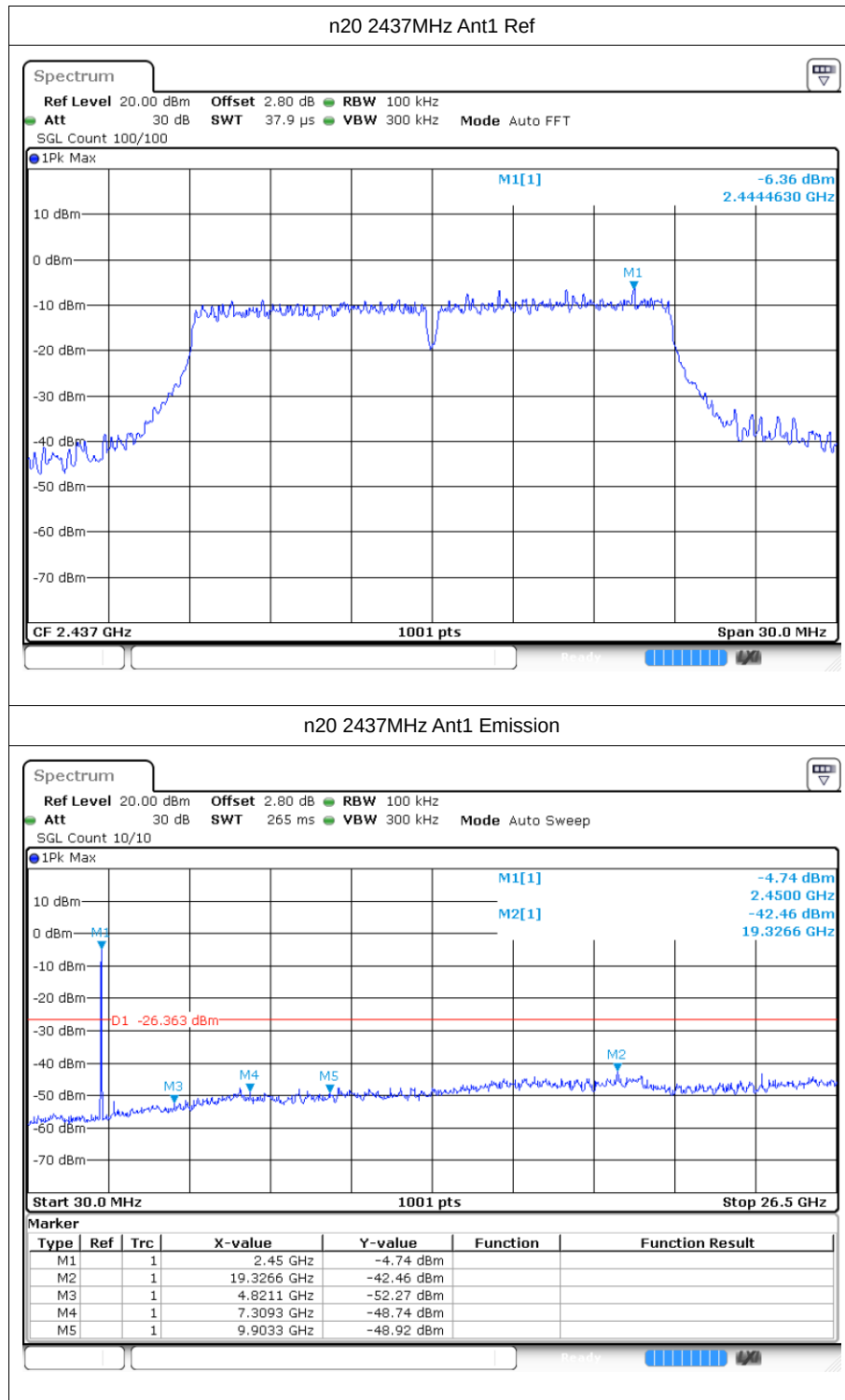


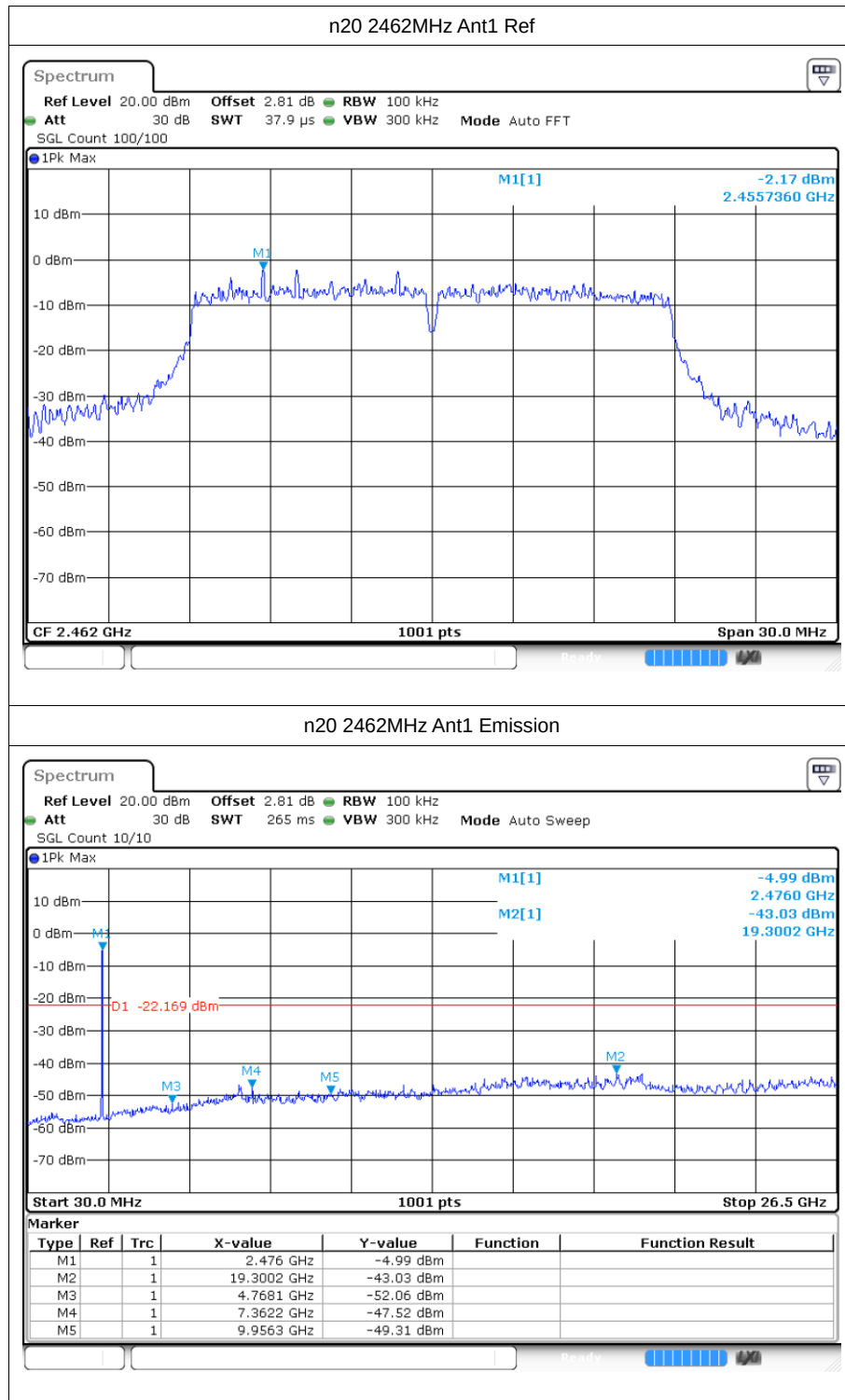












7 Restrict Band

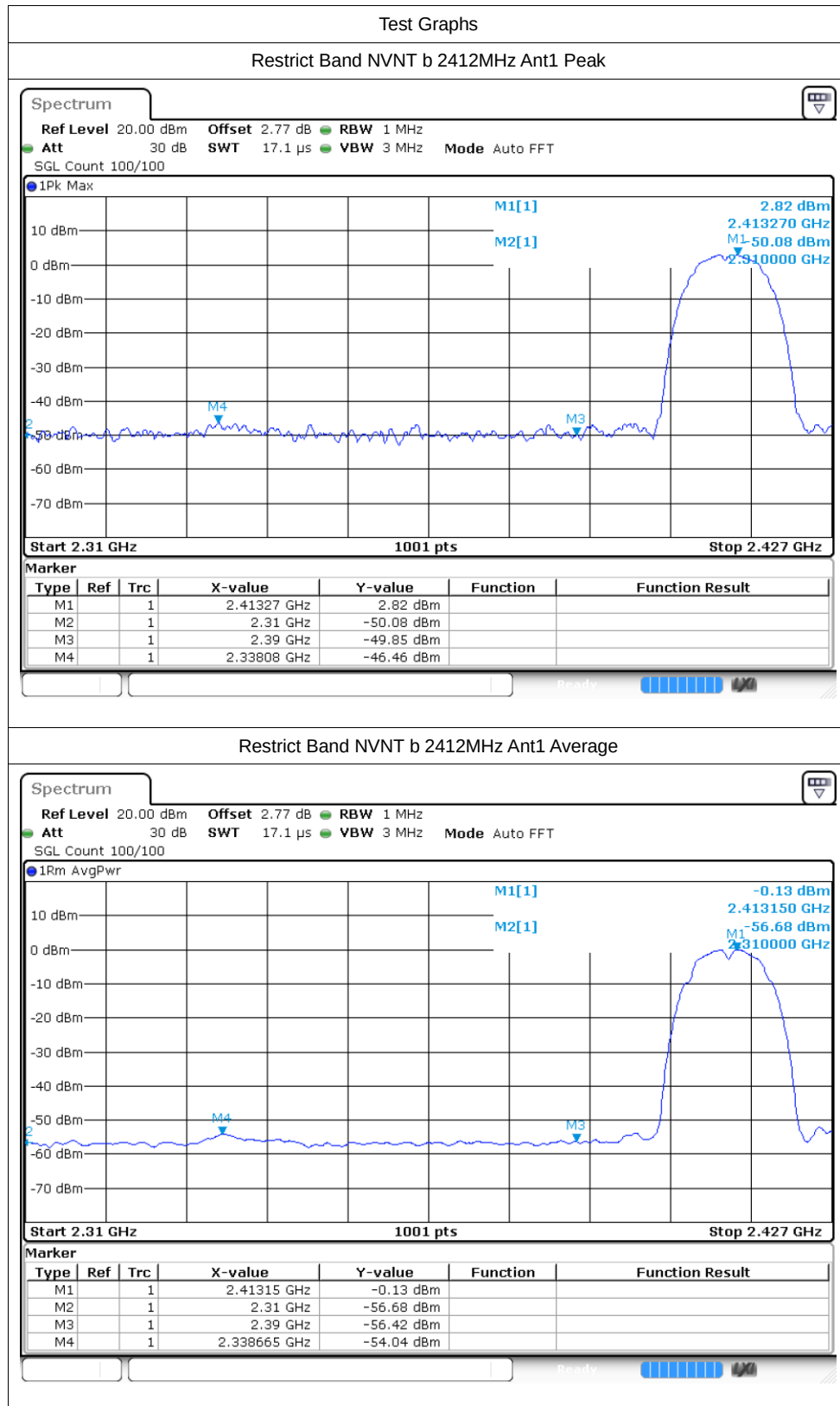
7.1 Test Result

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-50.08	2	-	47.18	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-56.68	2	0.01	40.58	Average	54	Pass
NVNT	b	2412	Ant1	2338.08	-46.46	2	-	50.8	Peak	74	Pass
NVNT	b	2412	Ant1	2338.665	-54.03	2	0.01	43.23	Average	54	Pass
NVNT	b	2412	Ant1	2390	-49.85	2	-	47.41	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-56.42	2	0.01	40.84	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-49.75	2	-	47.51	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-55.93	2	0.02	41.33	Average	54	Pass
NVNT	b	2462	Ant1	2484.895	-47.02	2	-	50.24	Peak	74	Pass
NVNT	b	2462	Ant1	2487.015	-55.83	2	0.02	41.43	Average	54	Pass
NVNT	b	2462	Ant1	2500	-51.03	2	-	46.23	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-56.87	2	0.02	40.39	Average	54	Pass
NVNT	g	2412	Ant1	2310	-49.83	2	-	47.43	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-56.38	2	0.09	40.88	Average	54	Pass
NVNT	g	2412	Ant1	2341.707	-47.17	2	-	50.09	Peak	74	Pass
NVNT	g	2412	Ant1	2339.835	-54.47	2	0.09	42.79	Average	54	Pass
NVNT	g	2412	Ant1	2390	-50.76	2	-	46.5	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-56.06	2	0.09	41.2	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-49.28	2	-	47.98	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-56.09	2	0.09	41.17	Average	54	Pass
NVNT	g	2462	Ant1	2495.018	-45.66	2	-	51.6	Peak	74	Pass
NVNT	g	2462	Ant1	2484.842	-55.47	2	0.09	41.79	Average	54	Pass
NVNT	g	2462	Ant1	2500	-48.84	2	-	48.42	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-56.43	2	0.09	40.83	Average	54	Pass
NVNT	n20	2412	Ant1	2310	-49.56	2	-	47.7	Peak	74	Pass
NVNT	n20	2412	Ant1	2310	-56.23	2	0.10	41.03	Average	54	Pass
NVNT	n20	2412	Ant1	2339.484	-46.71	2	-	50.55	Peak	74	Pass
NVNT	n20	2412	Ant1	2336.793	-54.36	2	0.10	42.9	Average	54	Pass
NVNT	n20	2412	Ant1	2390	-50.41	2	-	46.85	Peak	74	Pass
NVNT	n20	2412	Ant1	2390	-57.18	2	0.10	40.08	Average	54	Pass
NVNT	n20	2462	Ant1	2483.5	-50.26	2	-	47	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.5	-56.4	2	0.10	40.86	Average	54	Pass
NVNT	n20	2462	Ant1	2490.672	-48.06	2	-	49.2	Peak	74	Pass
NVNT	n20	2462	Ant1	2487.333	-55.7	2	0.10	41.56	Average	54	Pass

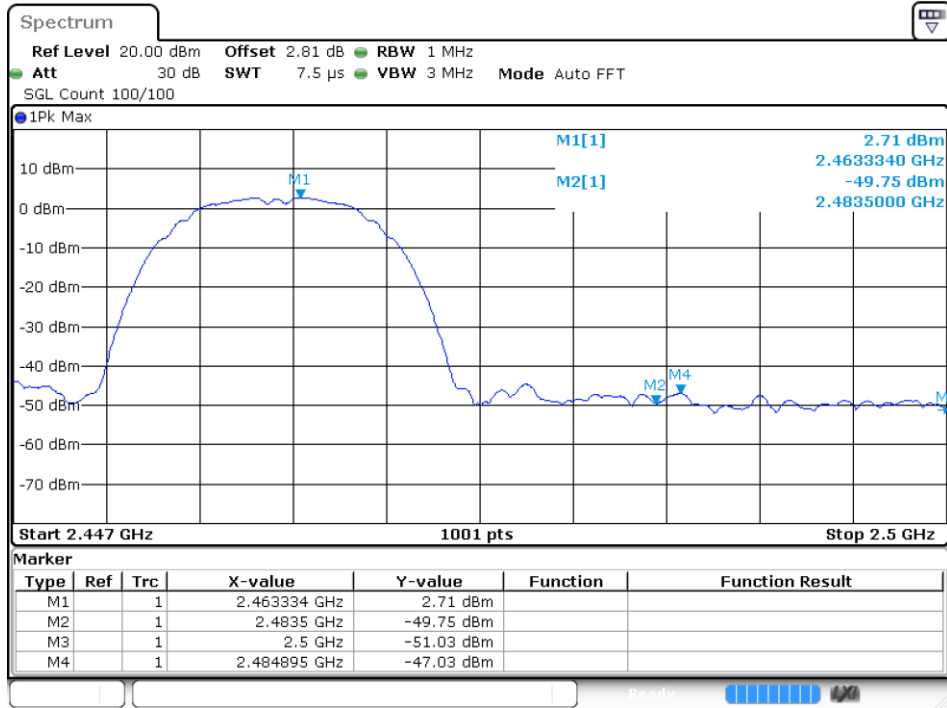


NVNT	n20	2462	Ant1	2500	-49.83	2	-	47.43	Peak	74	Pass
NVNT	n20	2462	Ant1	2500	-56.3	2	0.10	40.96	Average	54	Pass

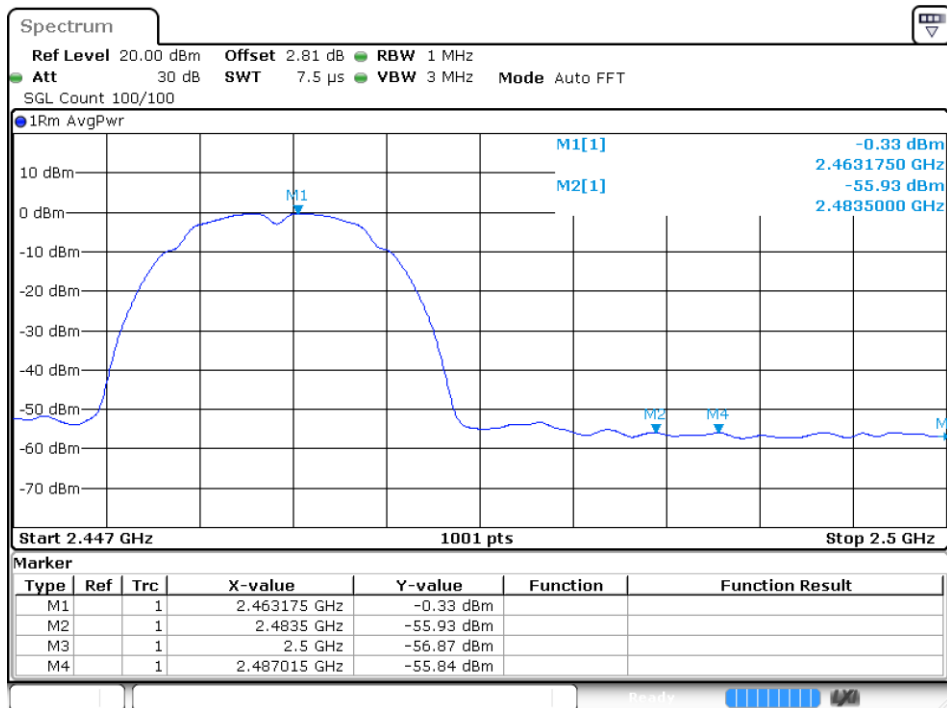
7.2 Test Graphs

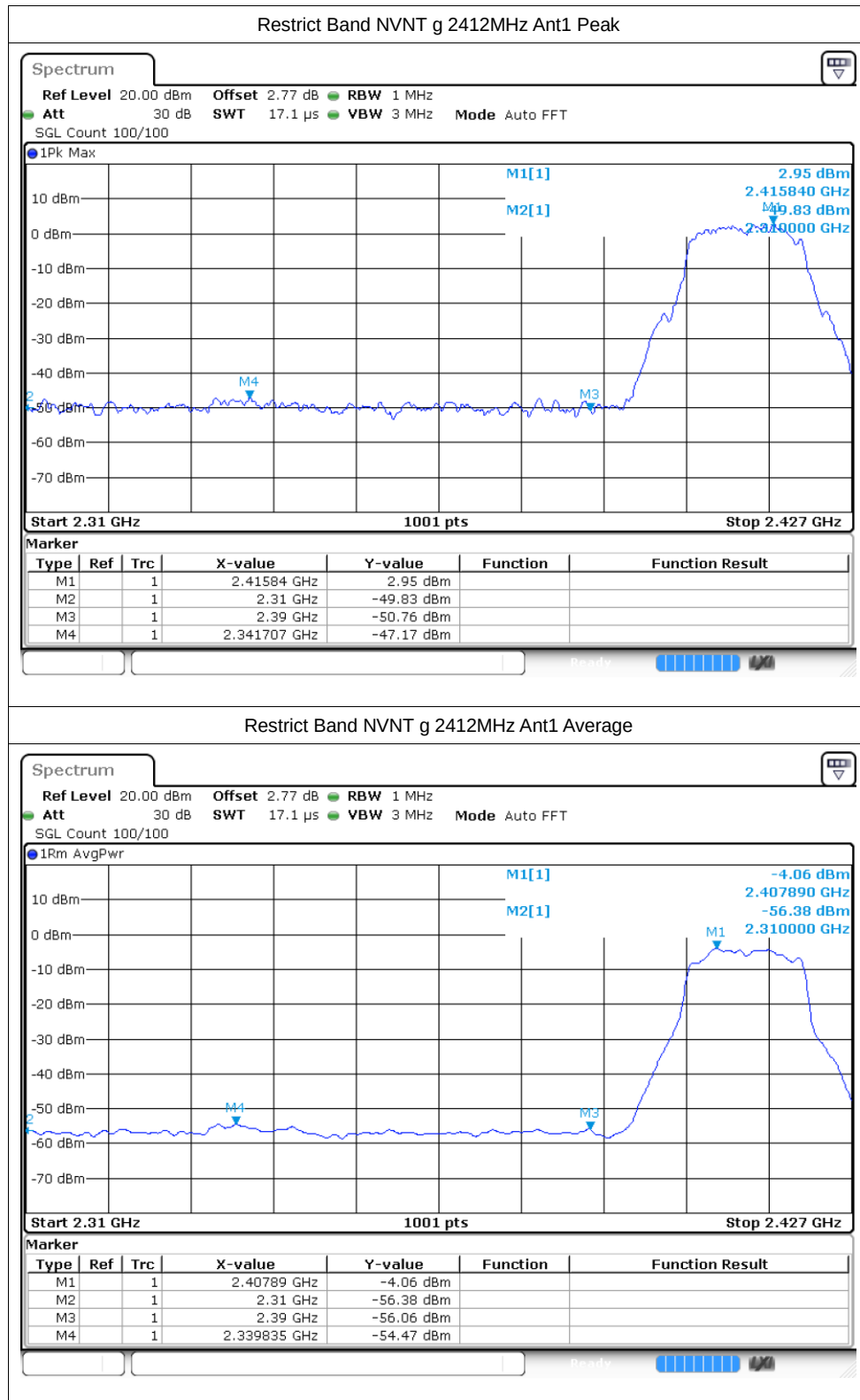


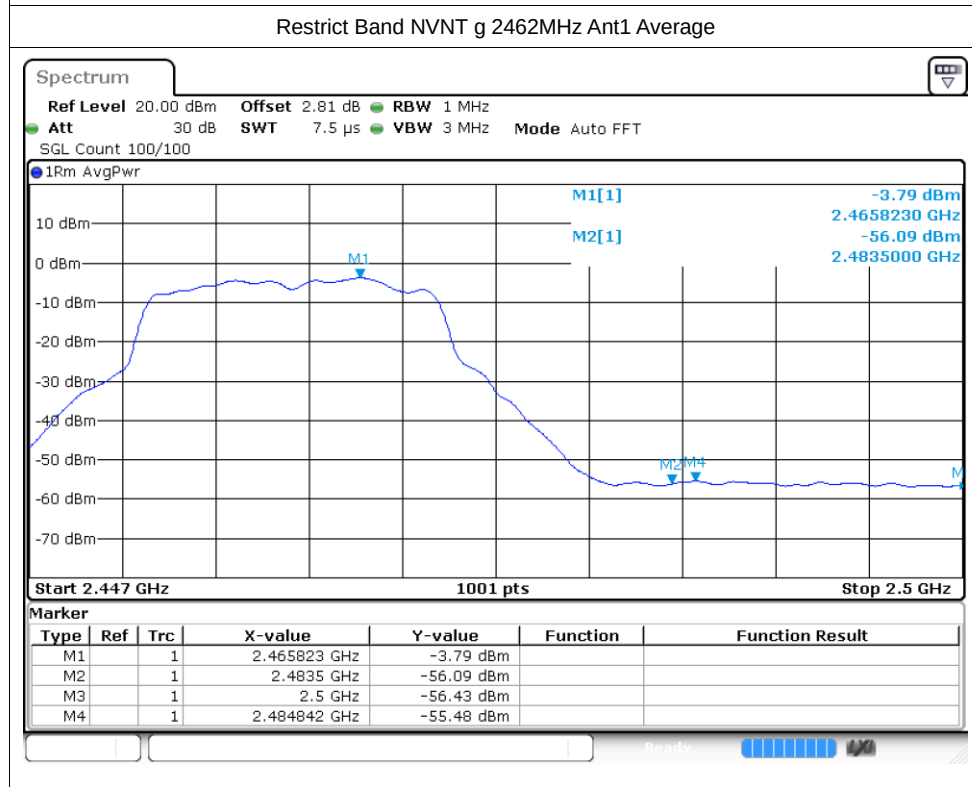
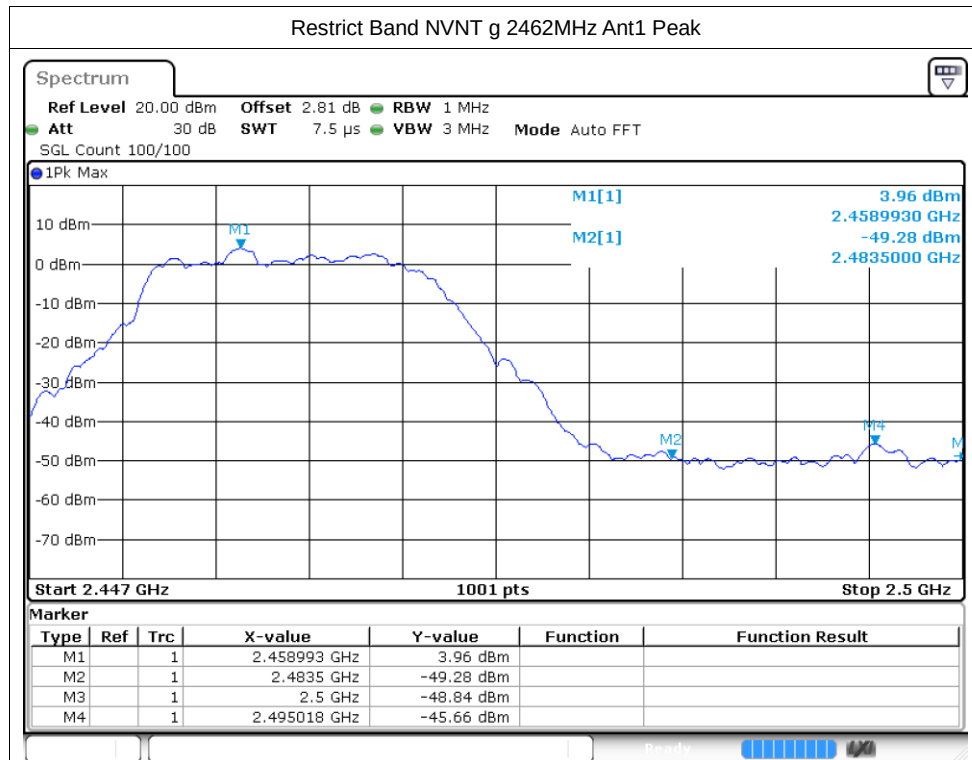
Restrict Band NVNT b 2462MHz Ant1 Peak

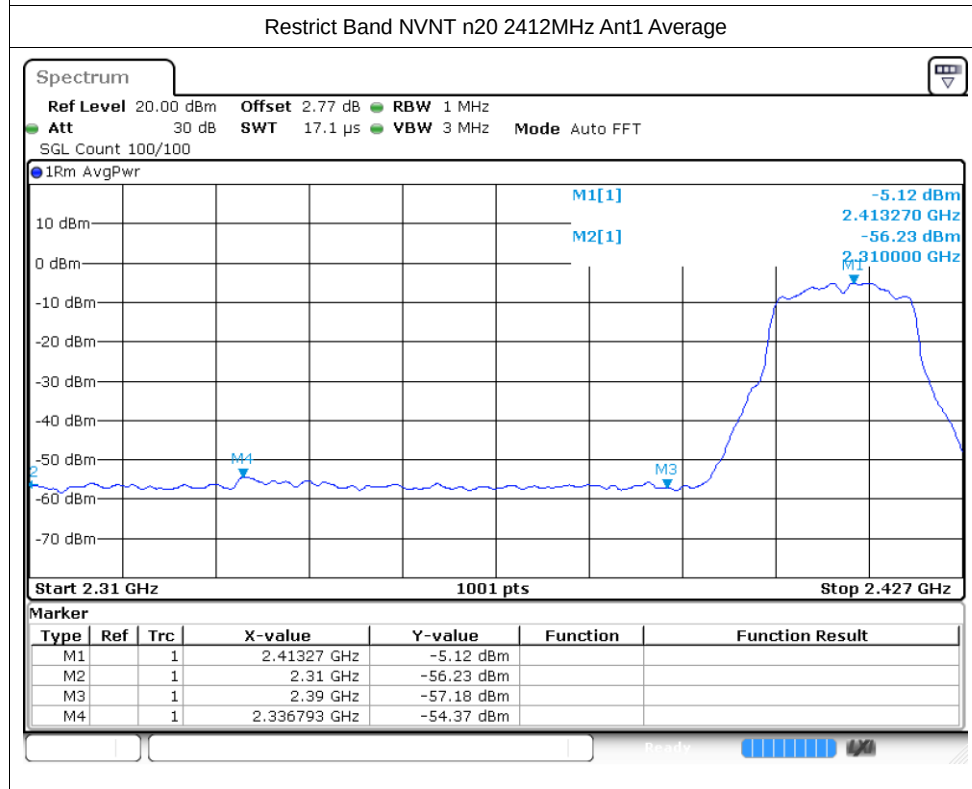
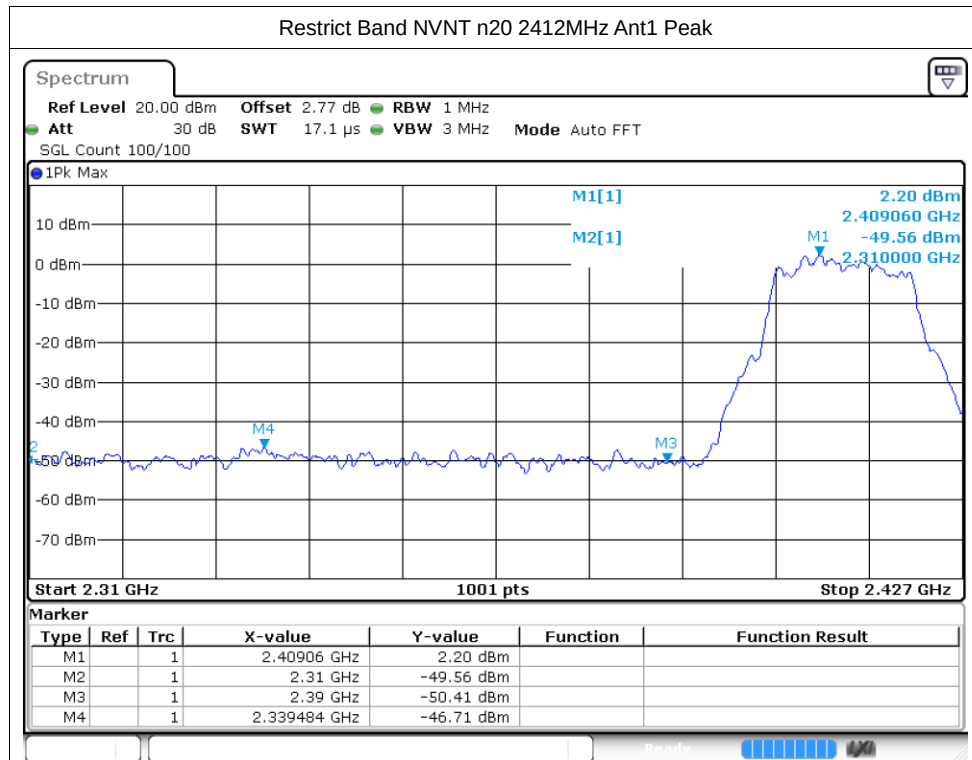


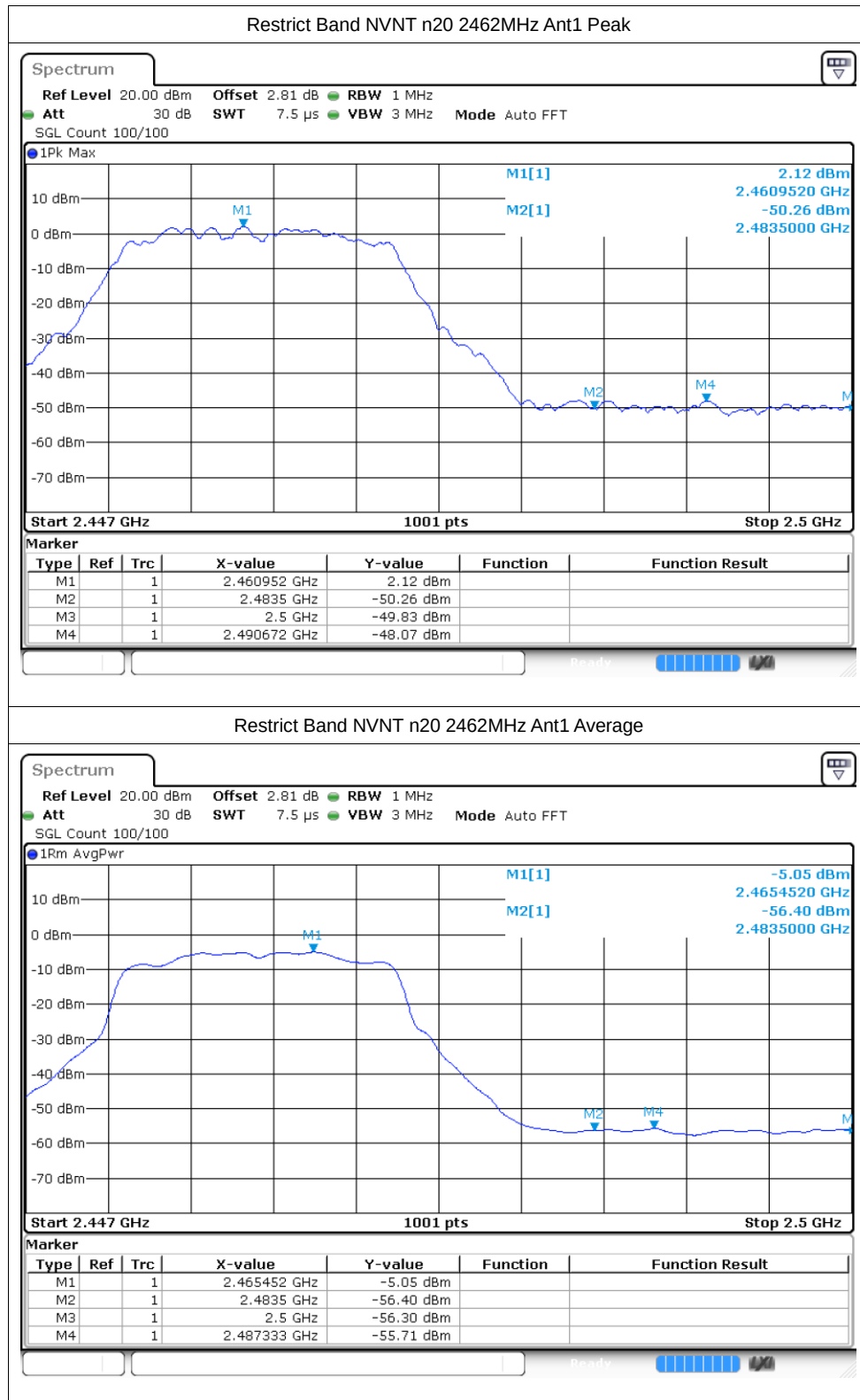
Restrict Band NVNT b 2462MHz Ant1 Average











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