Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Server

Trade Mark: N/A

Test Model: iPollo V1 mini Classic Plus WiFi

Environmental Conditions

Temperature:	25.4° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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1 Duty Cycle

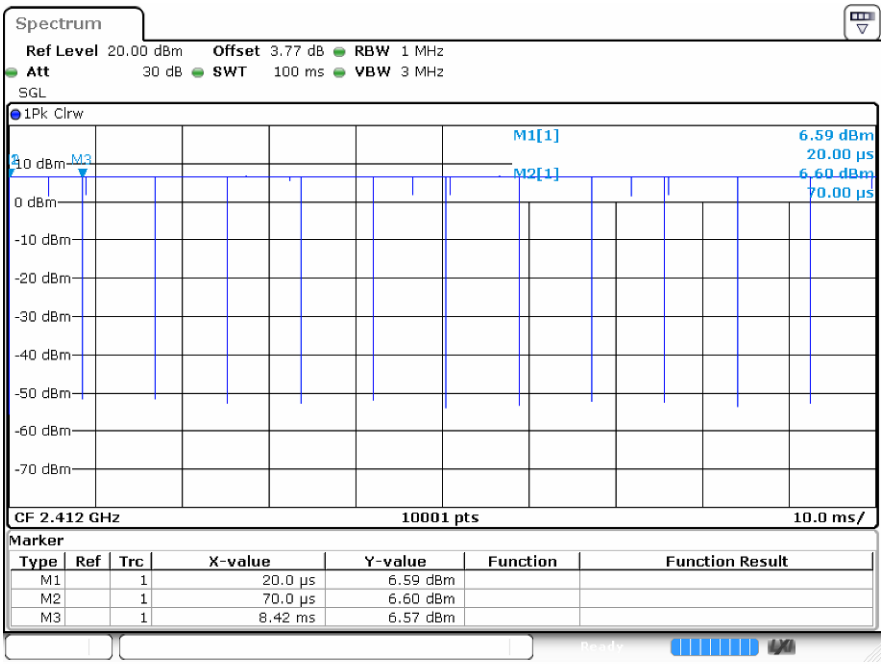
1.1 Test Result

Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	1/T (kHz)
b	2412	Ant1	99.59	0.01
b	2437	Ant1	99.61	0.01
b	2462	Ant1	99.61	0.01
g	2412	Ant1	86.91	4.76
g	2437	Ant1	86.89	4.76
g	2462	Ant1	87.07	4.76
n20	2412	Ant1	87.33	4.35
n20	2437	Ant1	87.37	4.35
n20	2462	Ant1	87.32	4.17

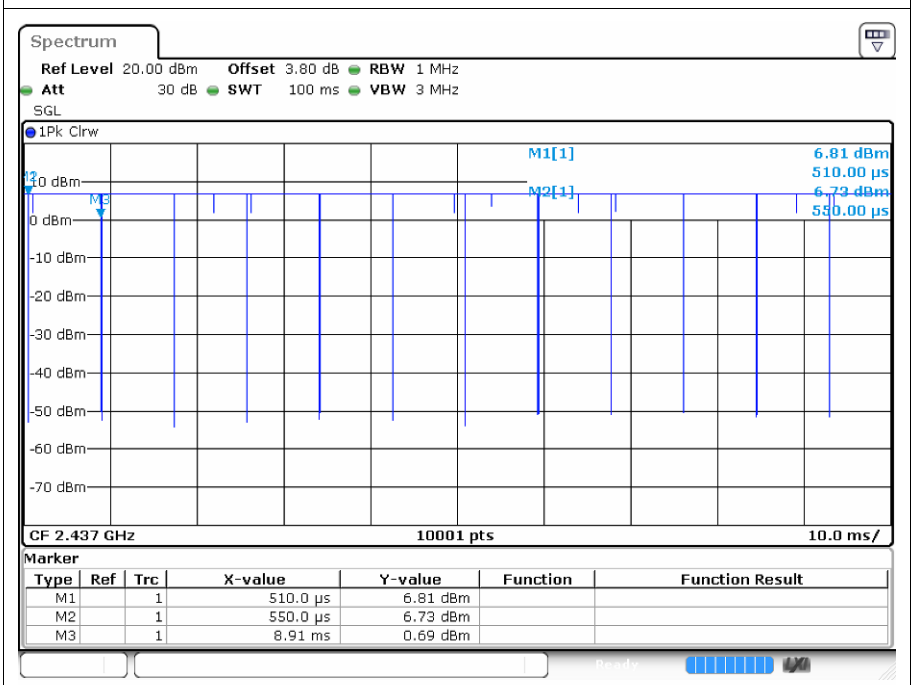
1.2 Test Graphs

Test Graphs

b 2412MHz Ant1

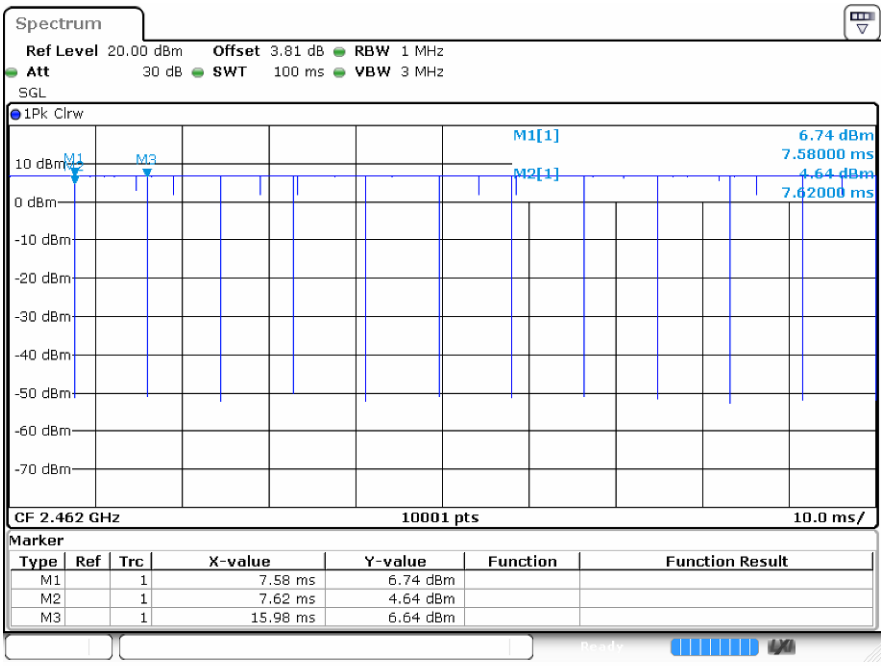


b 2437MHz Ant1

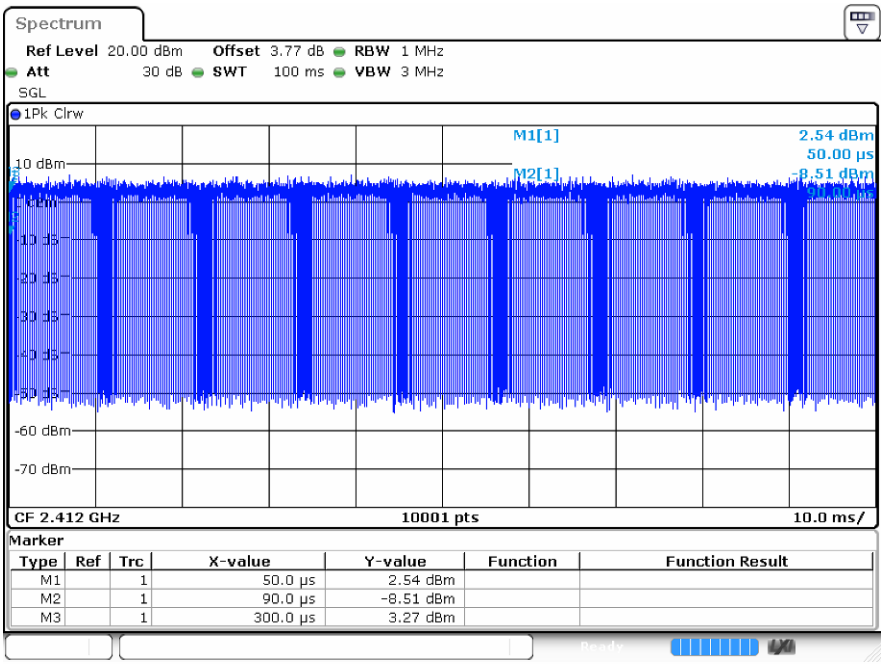


Test Graphs

b 2462MHz Ant1

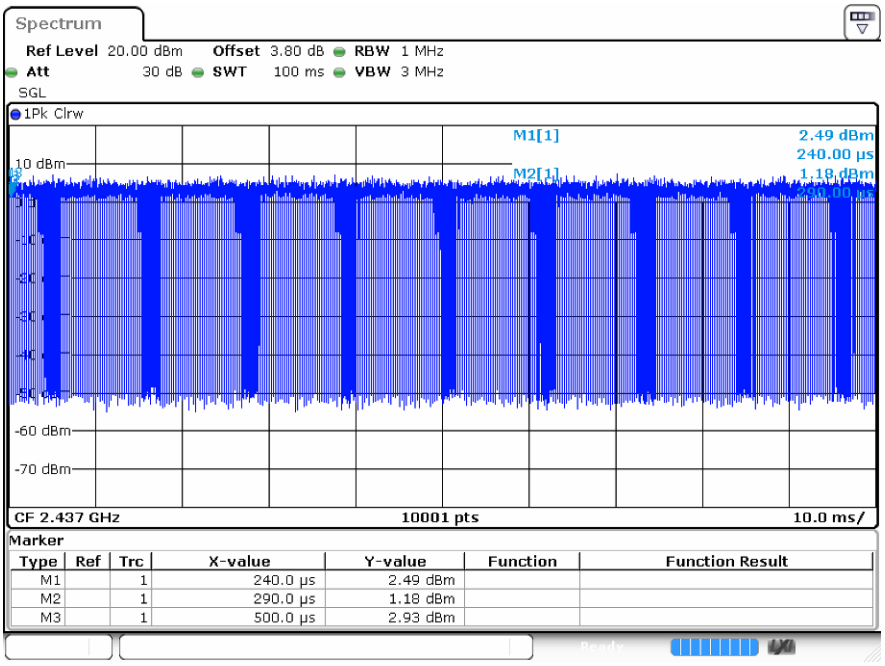


g 2412MHz Ant1

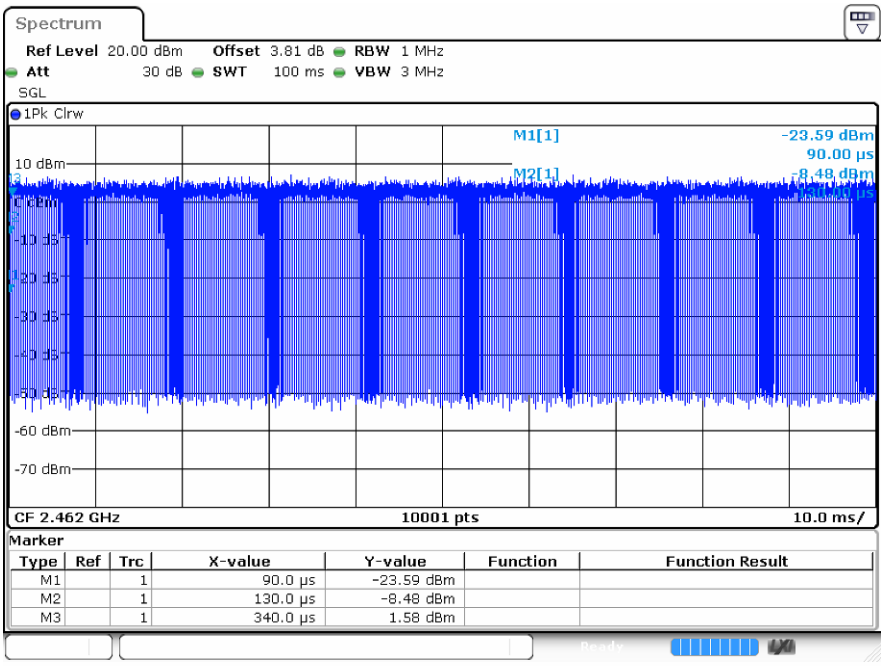


Test Graphs

g 2437MHz Ant1

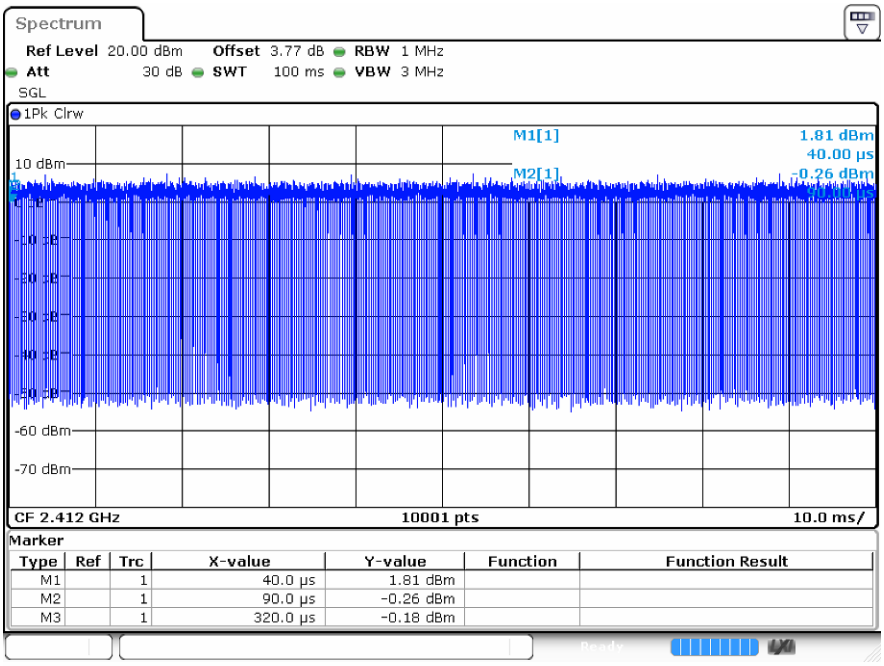


g 2462MHz Ant1

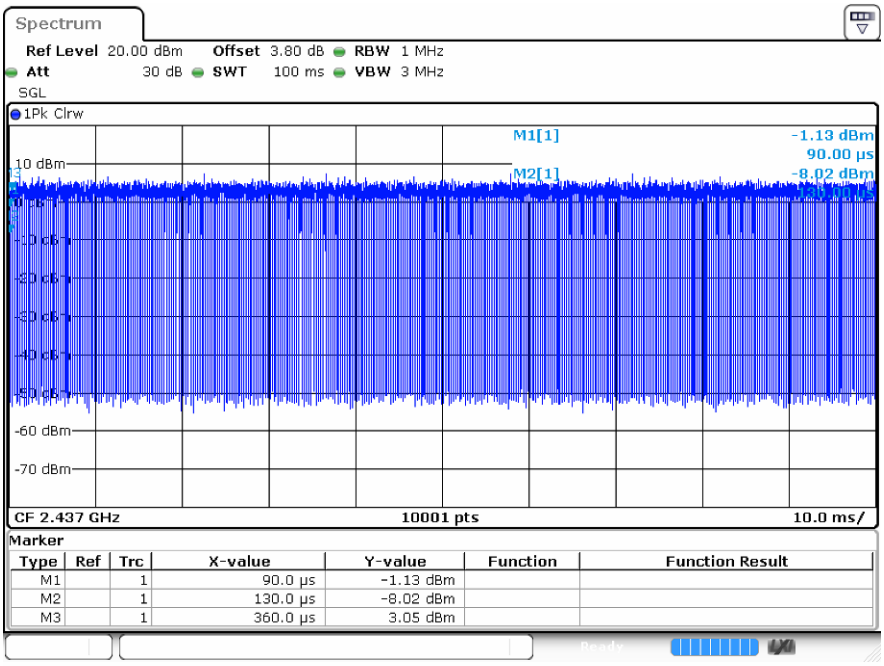


Test Graphs

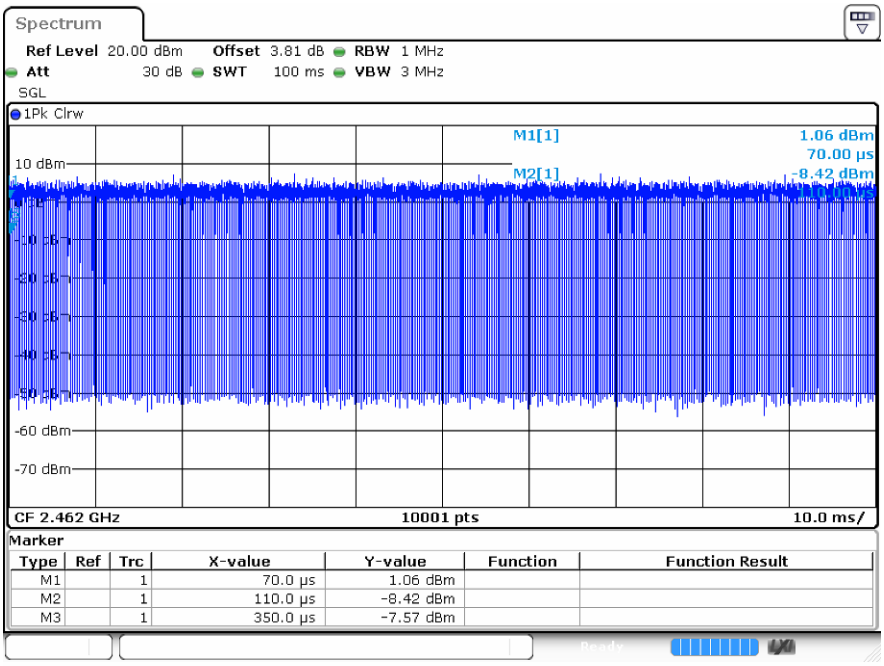
n20 2412MHz Ant1



n20 2437MHz Ant1



Test Graphs
n20 2462MHz Ant1



2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
b	2412	Ant1	17.16	30	Pass
b	2437	Ant1	17.3	30	Pass
b	2462	Ant1	17.21	30	Pass
g	2412	Ant1	15.29	30	Pass
g	2437	Ant1	15.4	30	Pass
g	2462	Ant1	15.31	30	Pass
n20	2412	Ant1	15.34	30	Pass
n20	2437	Ant1	15.41	30	Pass
n20	2462	Ant1	15.29	30	Pass

3 -6dB Bandwidth

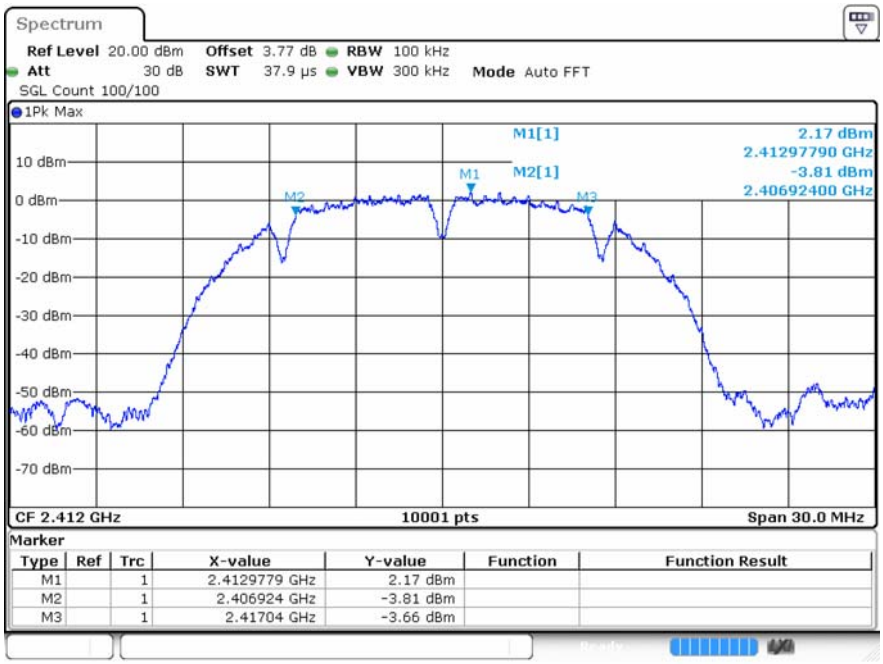
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.116	0.5	Pass
b	2437	Ant1	10.08	0.5	Pass
b	2462	Ant1	9.972	0.5	Pass
g	2412	Ant1	13.08	0.5	Pass
g	2437	Ant1	15.114	0.5	Pass
g	2462	Ant1	15.096	0.5	Pass
n20	2412	Ant1	15.117	0.5	Pass
n20	2437	Ant1	15.108	0.5	Pass
n20	2462	Ant1	15.114	0.5	Pass

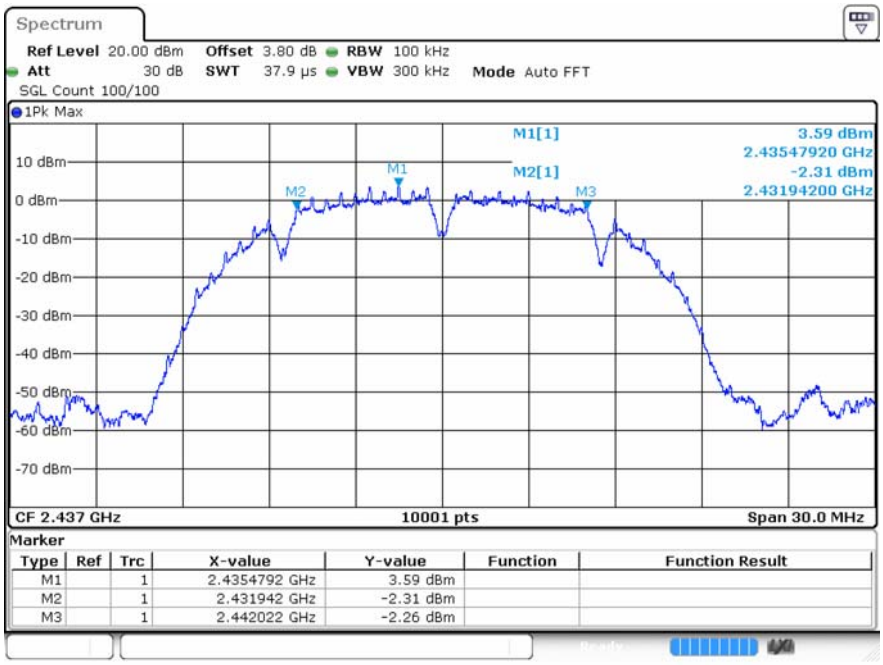
3.2 Test Graphs

Test Graphs

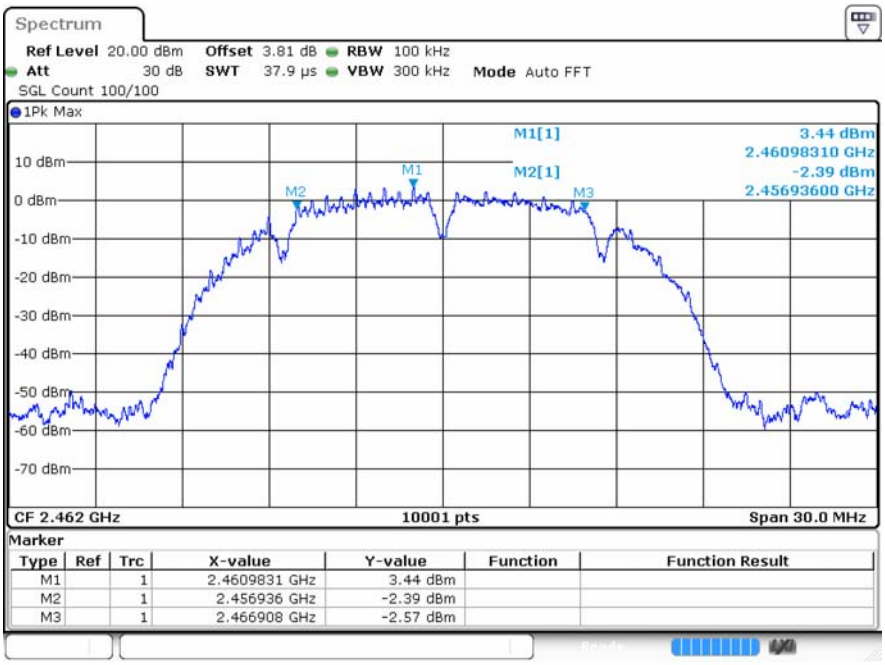
b 2412MHz Ant1



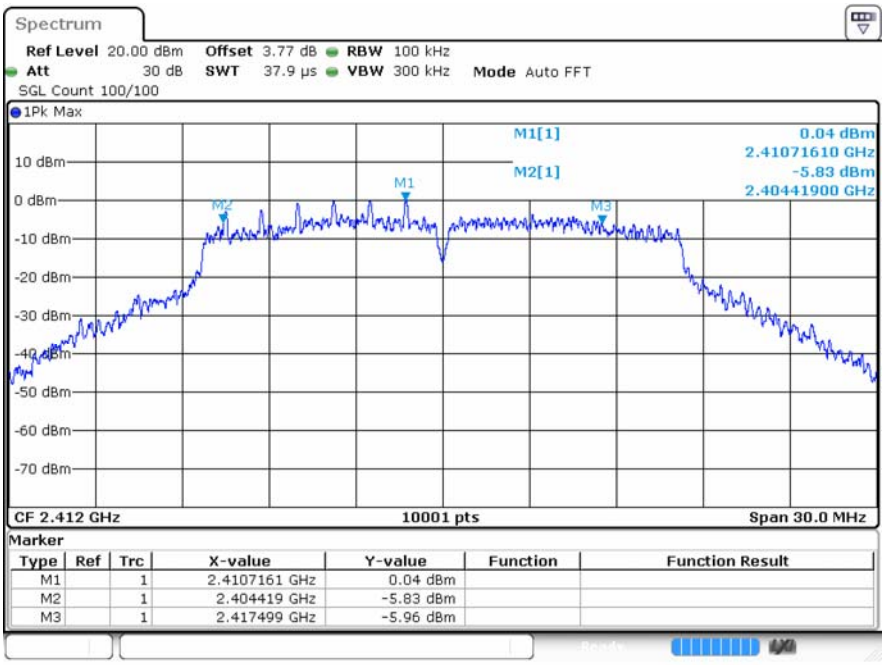
b 2437MHz Ant1



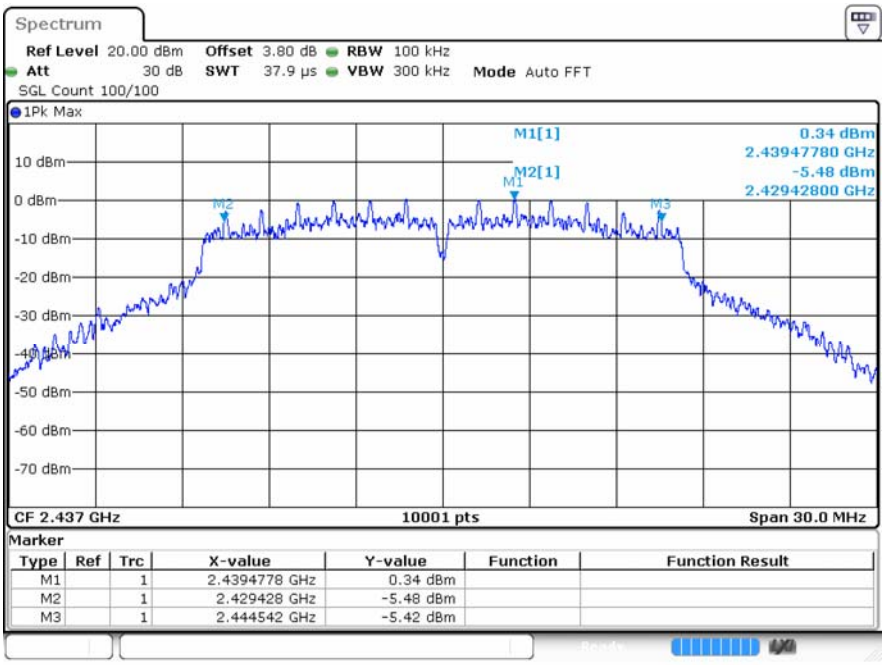
b 2462MHz Ant1



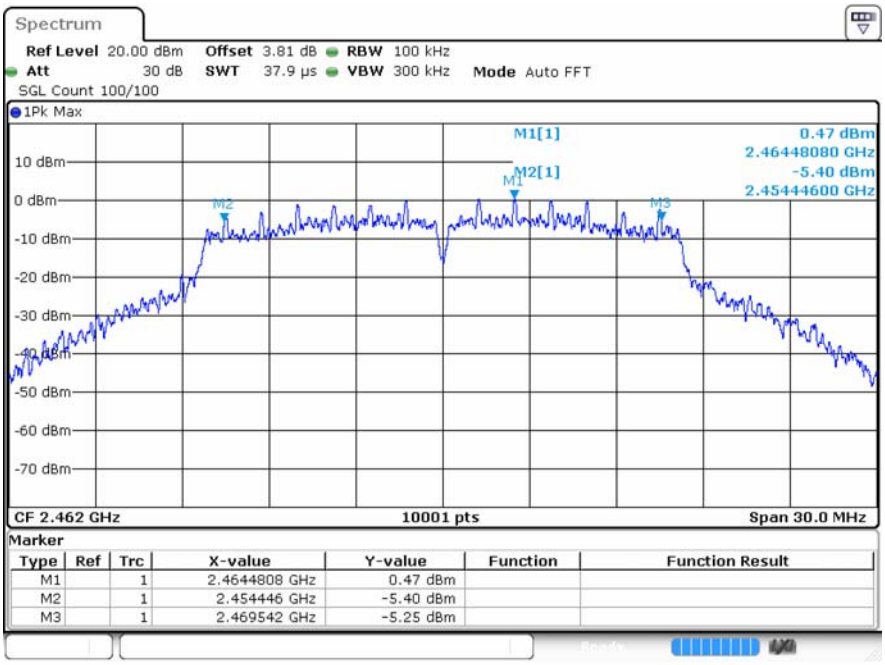
g 2412MHz Ant1



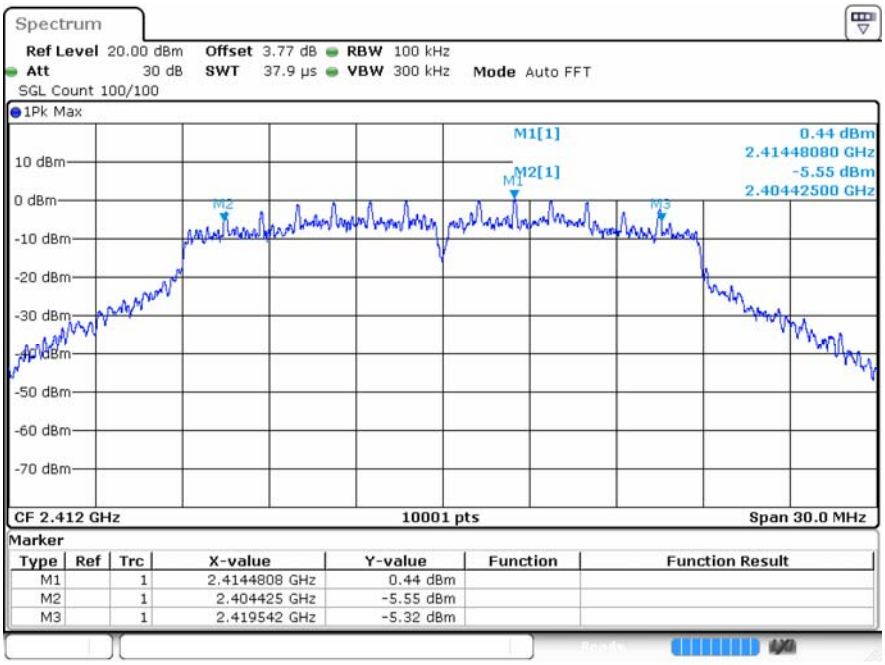
g 2437MHz Ant1



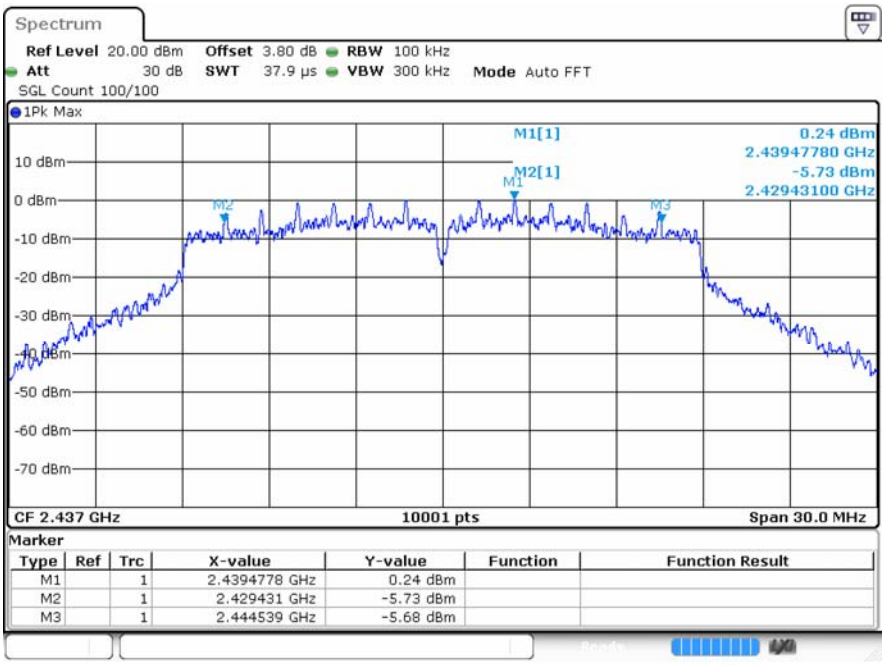
g 2462MHz Ant1



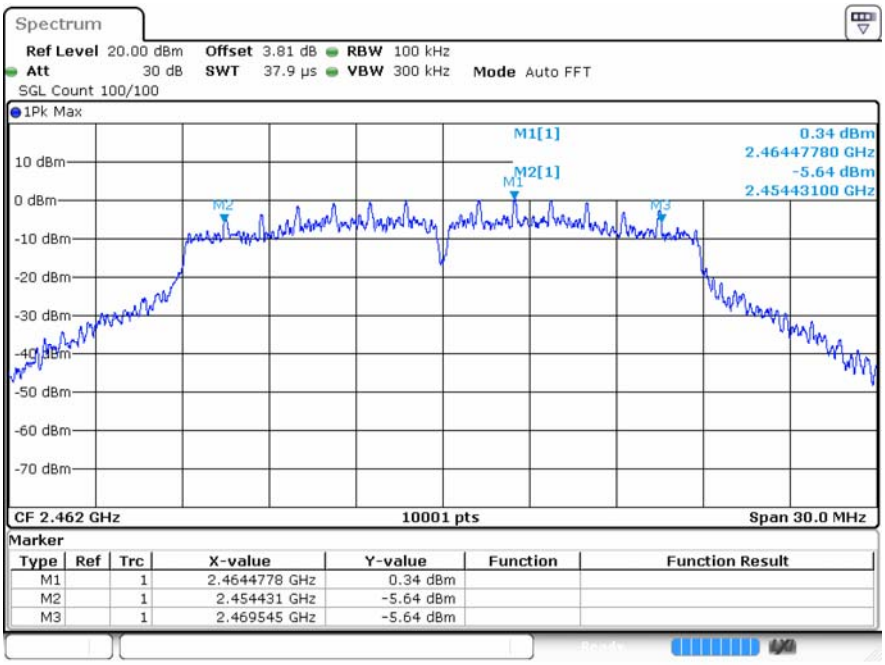
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1



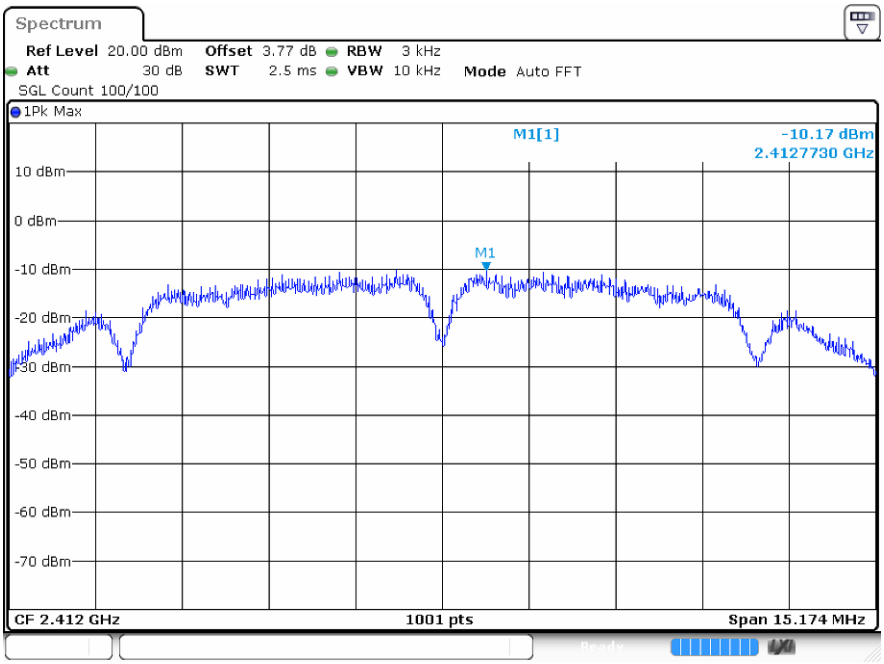
4 Maximum Power Spectral Density Level

4.1 Test Result

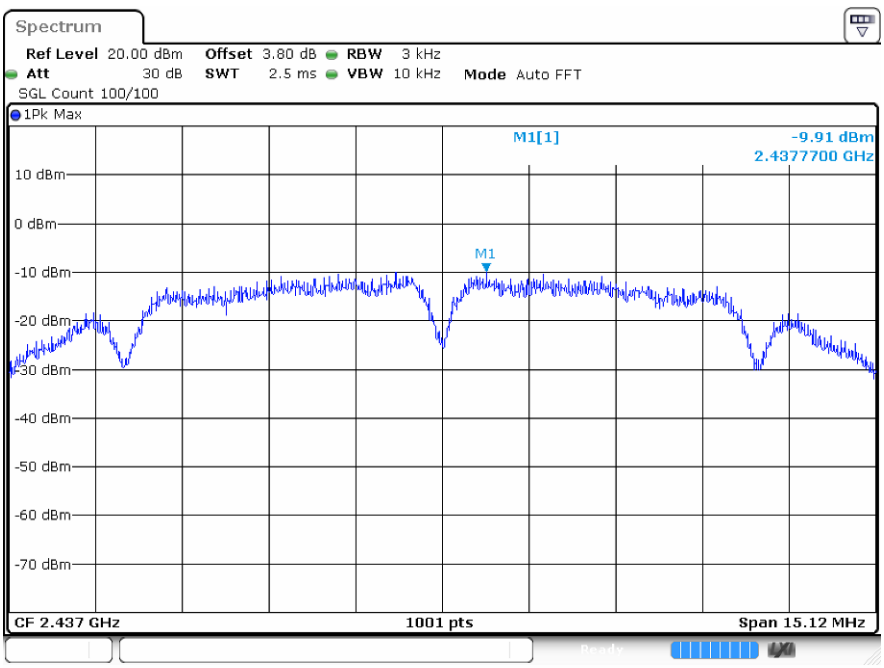
Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-10.17	≤8	Pass
b	2437	Ant1	-9.91	≤8	Pass
b	2462	Ant1	-10.04	≤8	Pass
g	2412	Ant1	-15.09	≤8	Pass
g	2437	Ant1	-14.83	≤8	Pass
g	2462	Ant1	-13.96	≤8	Pass
n20	2412	Ant1	-14.47	≤8	Pass
n20	2437	Ant1	-13.87	≤8	Pass
n20	2462	Ant1	-13.45	≤8	Pass

4.2 Test Graphs

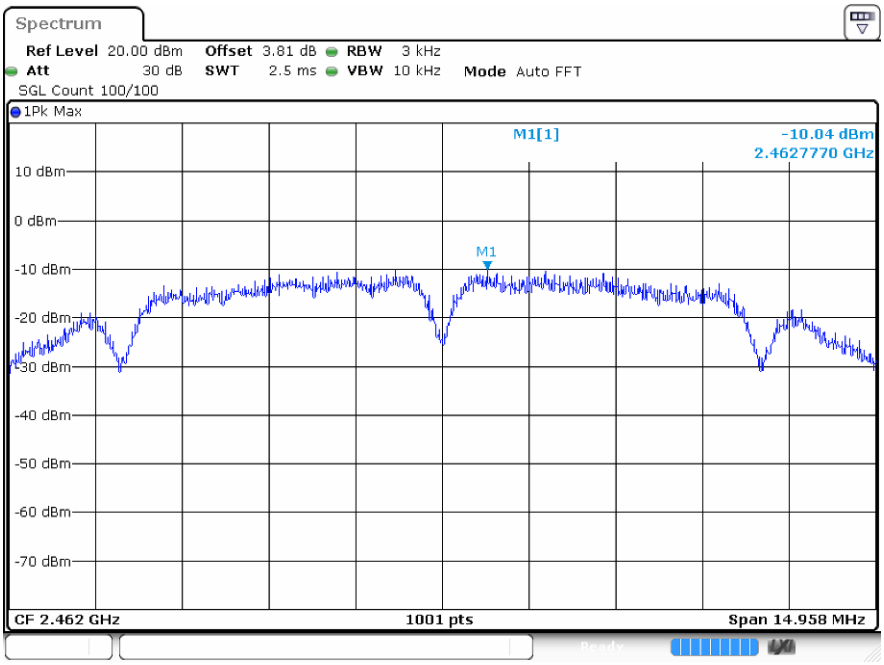
Test Graphs
b 2412MHz Ant1



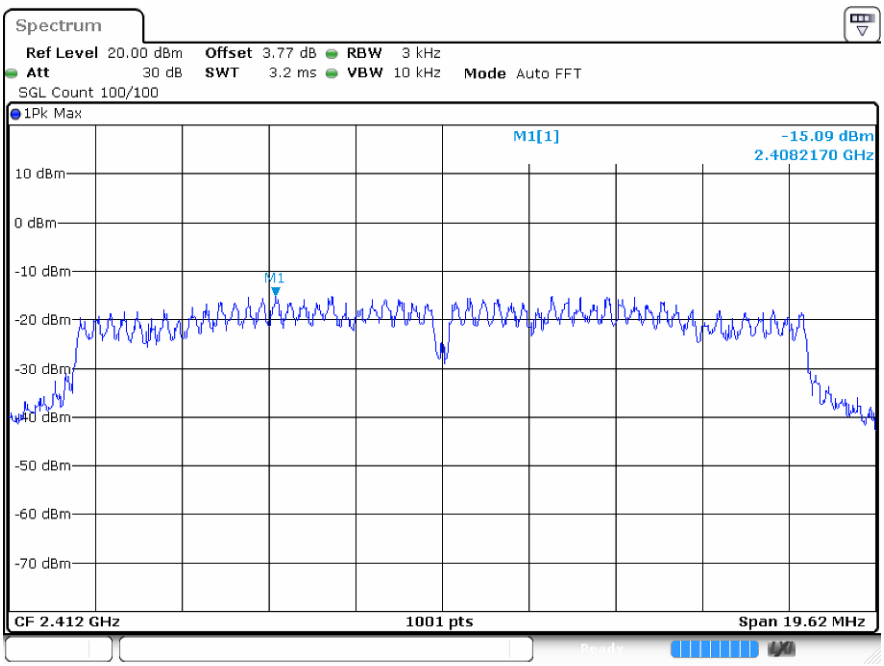
b 2437MHz Ant1



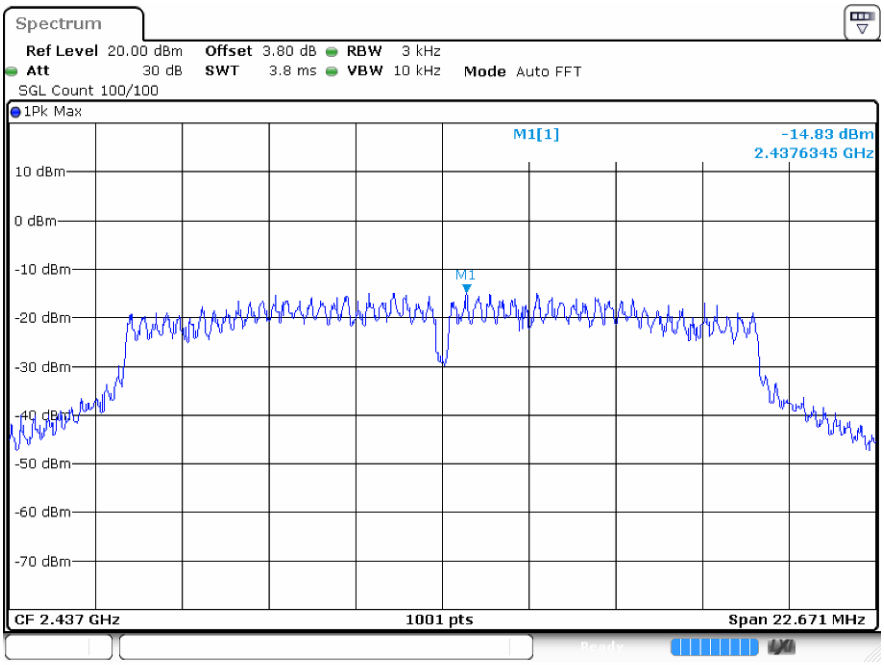
b 2462MHz Ant1



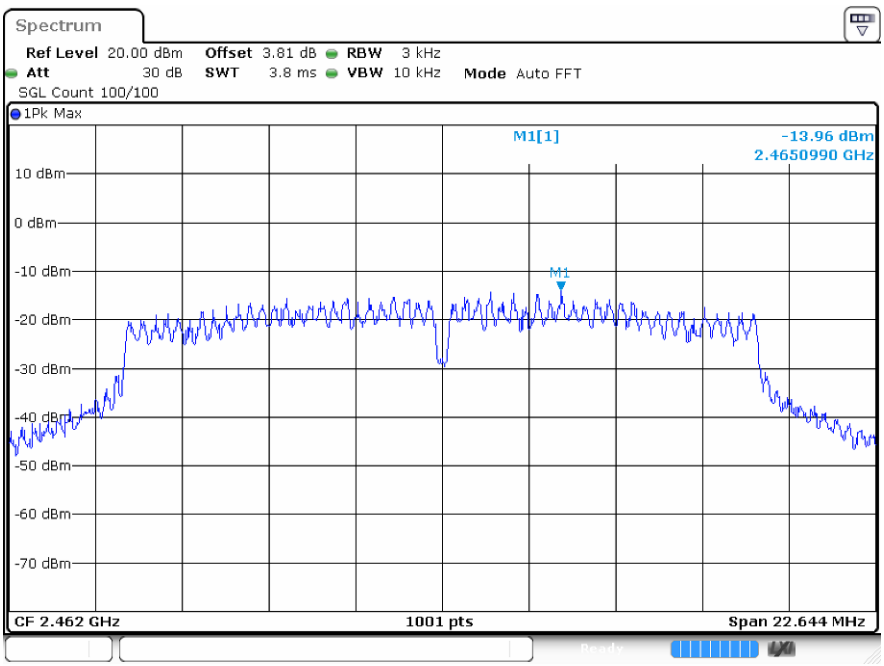
g 2412MHz Ant1



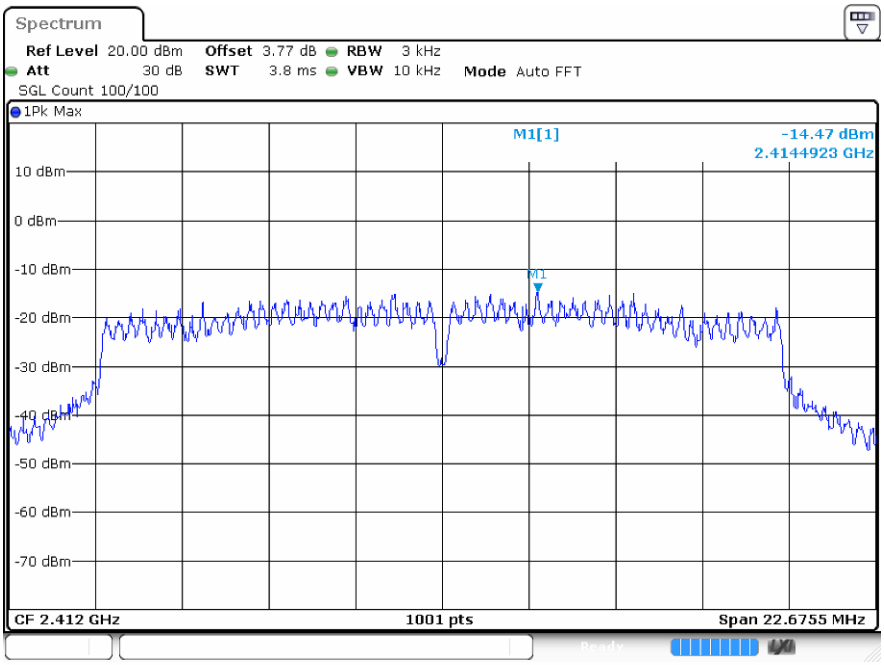
g 2437MHz Ant1



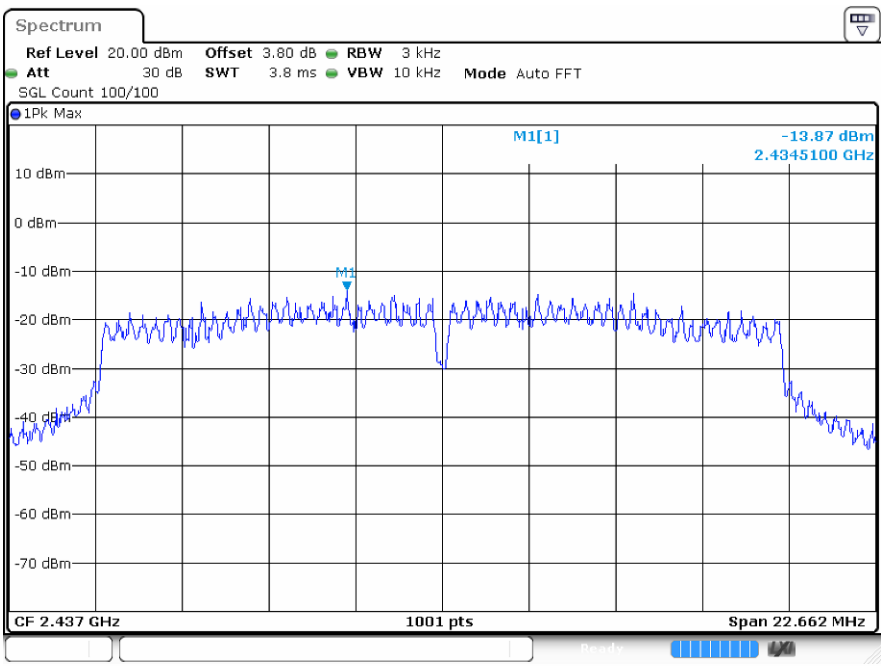
g 2462MHz Ant1



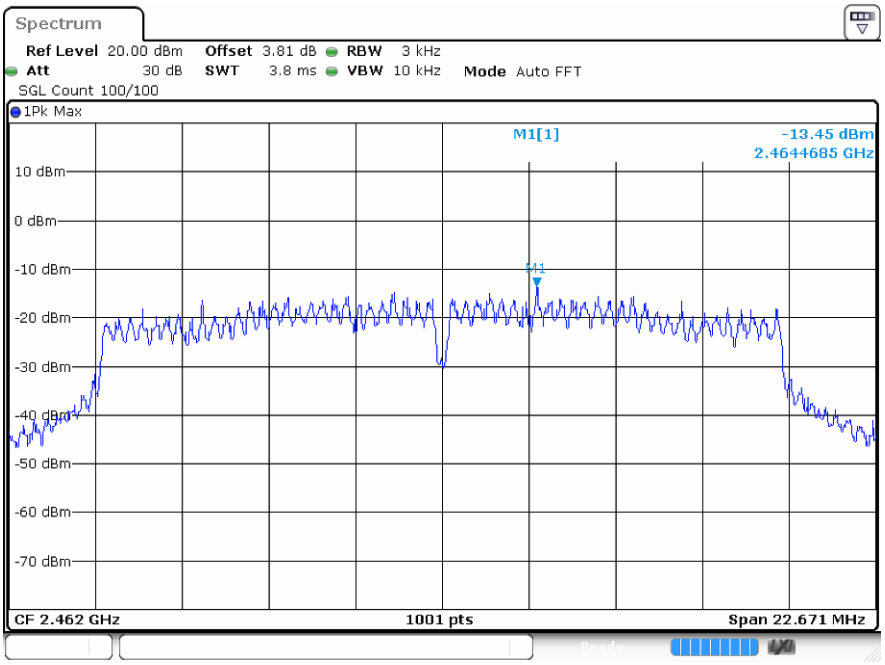
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1



5 Band Edge

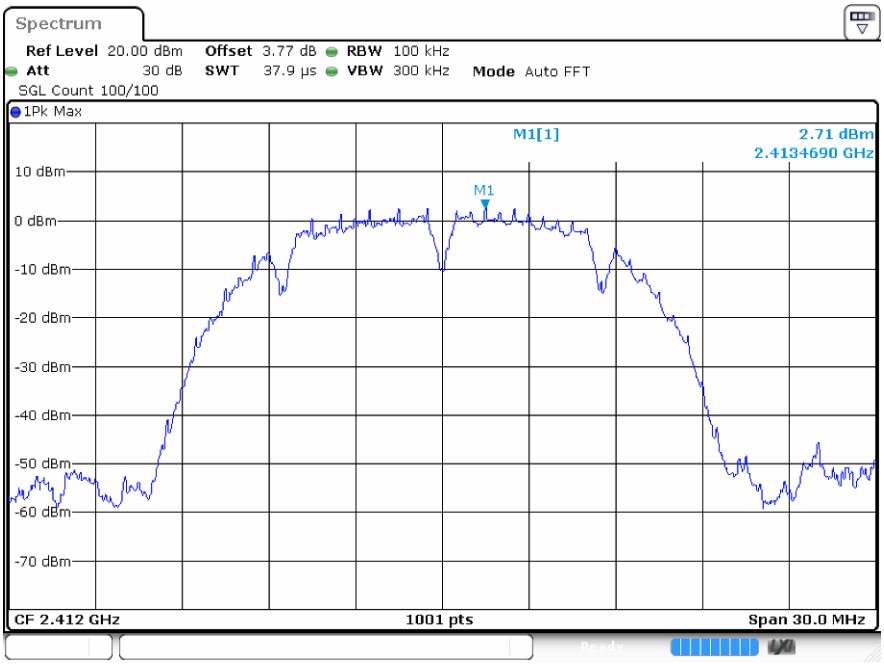
5.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-53.32	-20	-53.32
b	2462	Ant1	-57.27	-20	Pass
g	2412	Ant1	-54.17	-20	Pass
g	2462	Ant1	-54.74	-20	Pass
n20	2412	Ant1	-54.12	-20	Pass
n20	2462	Ant1	-54.17	-20	Pass

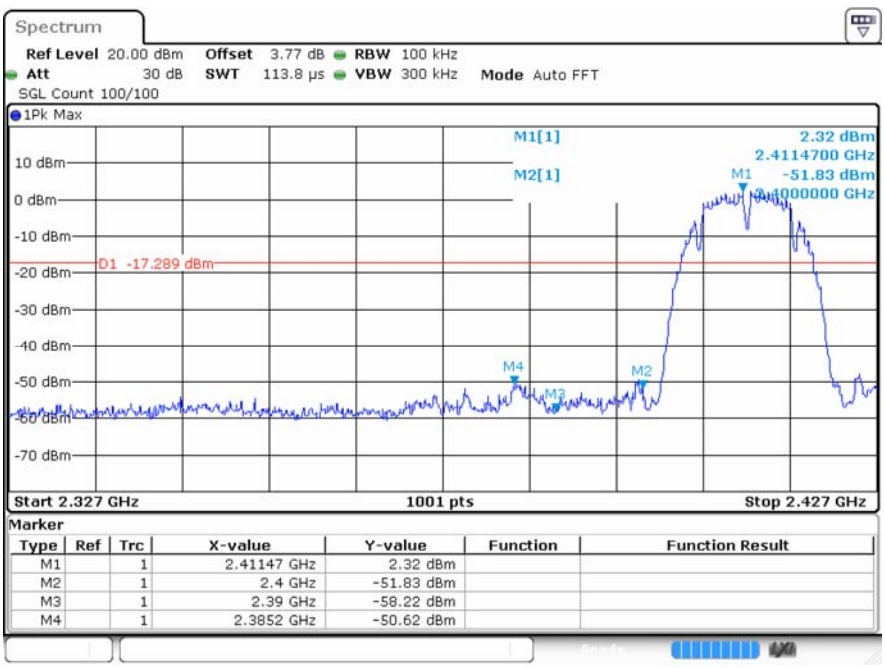
5.2 Test Graphs

Test Graphs

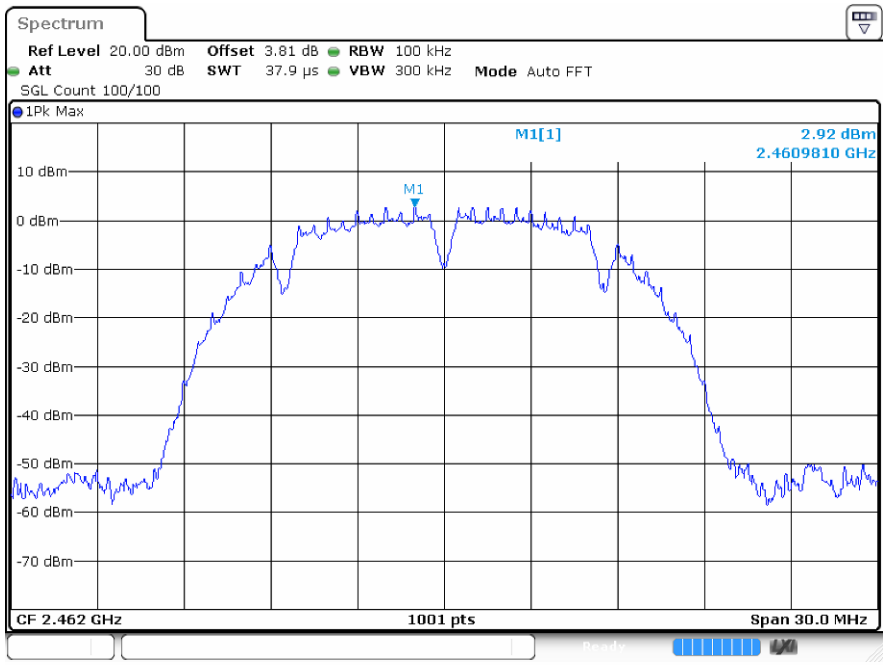
b 2412MHz Ant1 Ref



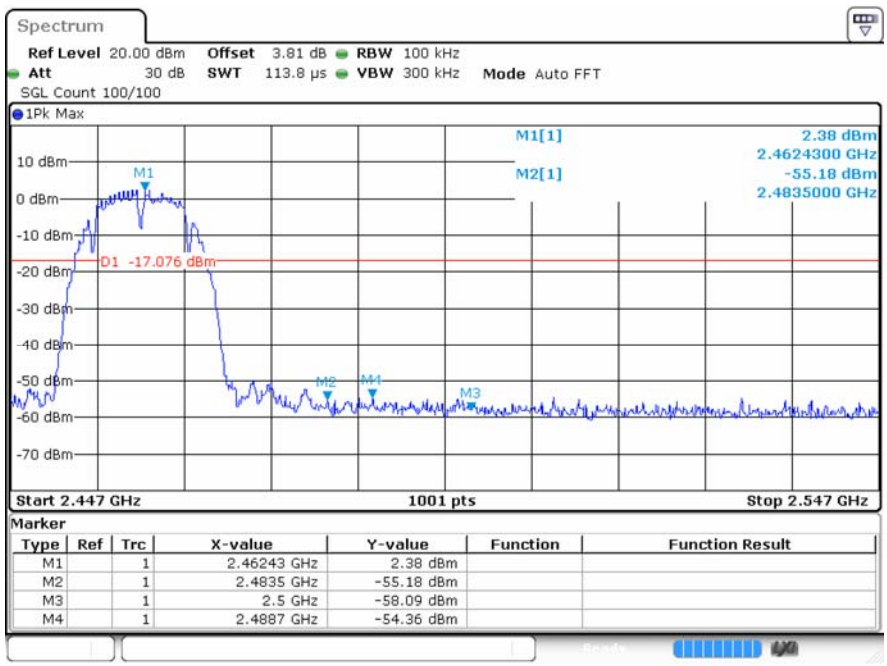
b 2412MHz Ant1 Emission



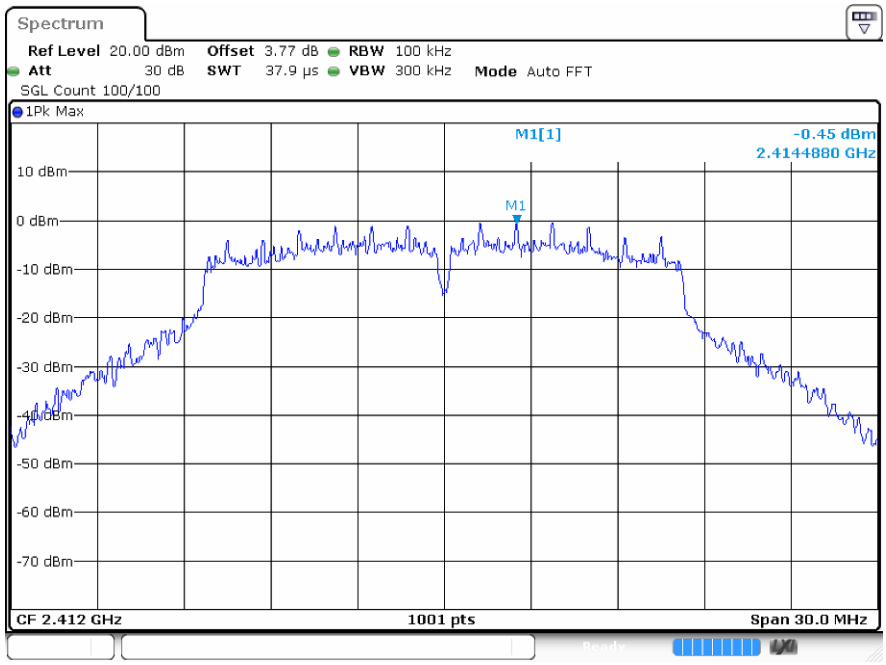
b 2462MHz Ant1 Ref



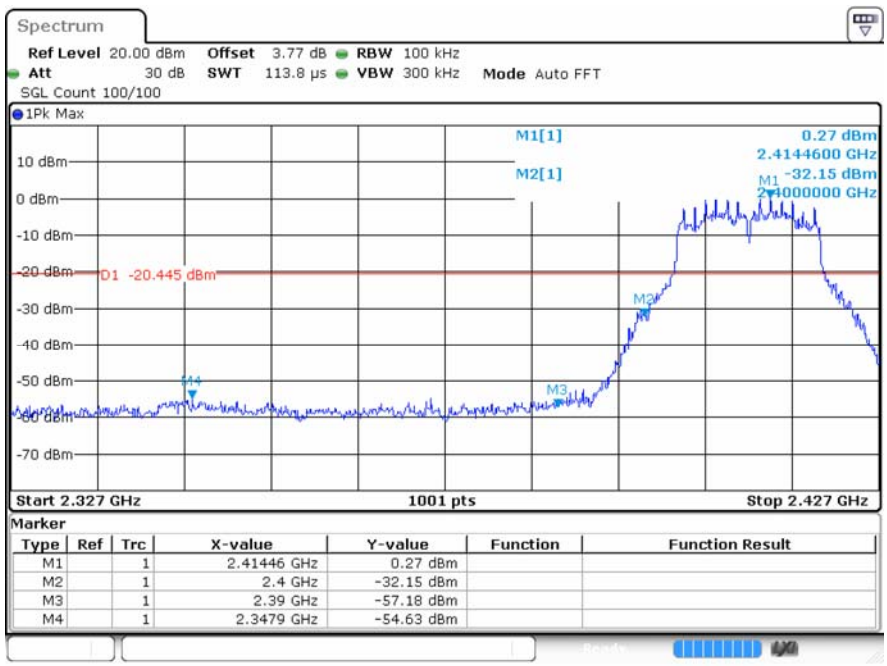
b 2462MHz Ant1 Emission



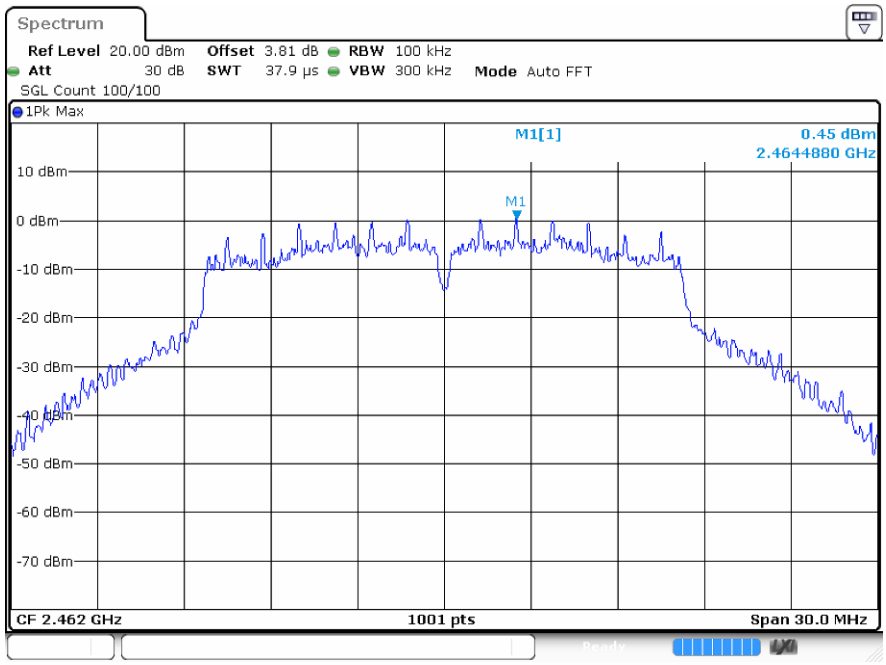
g 2412MHz Ant1 Ref



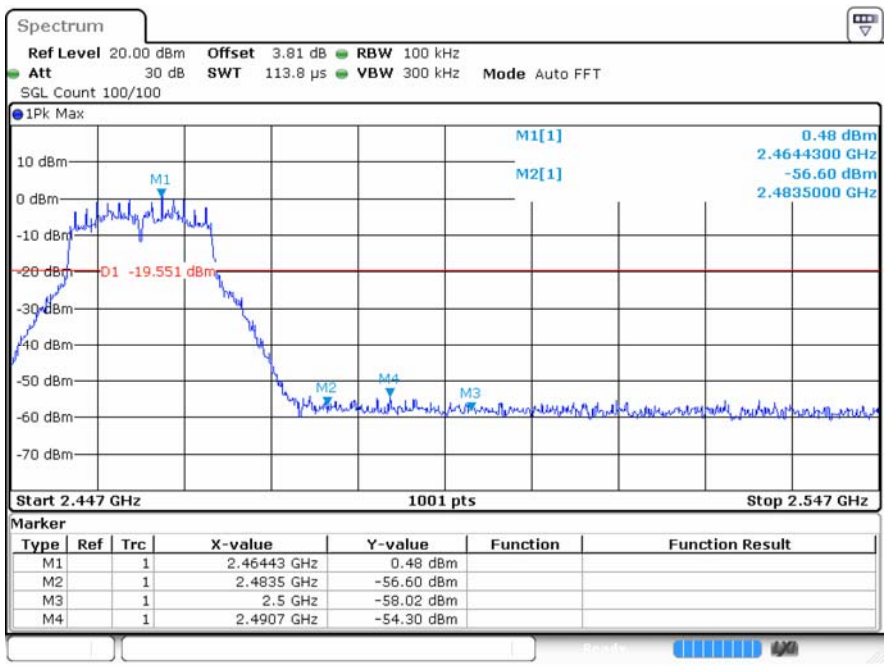
g 2412MHz Ant1 Emission



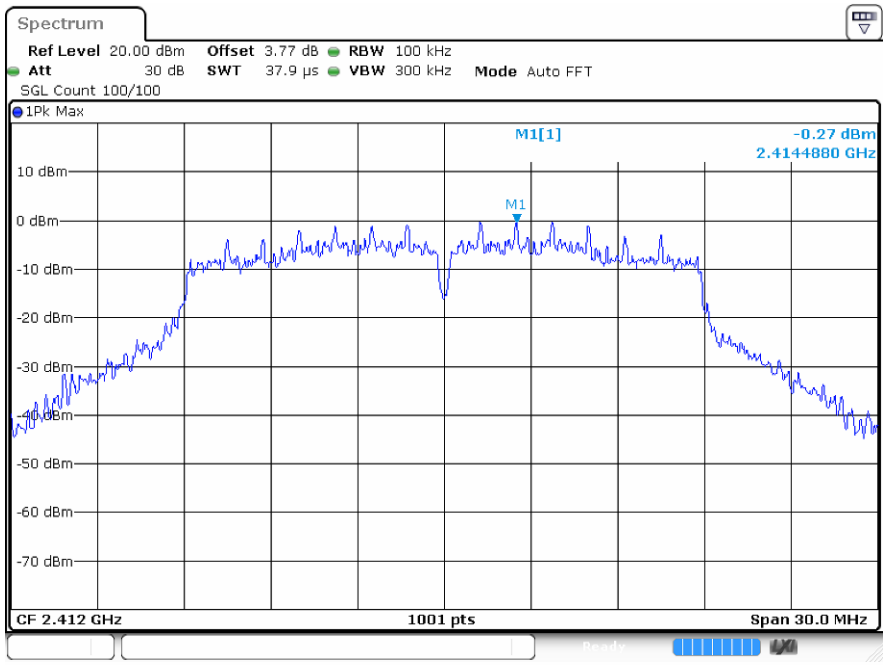
g 2462MHz Ant1 Ref



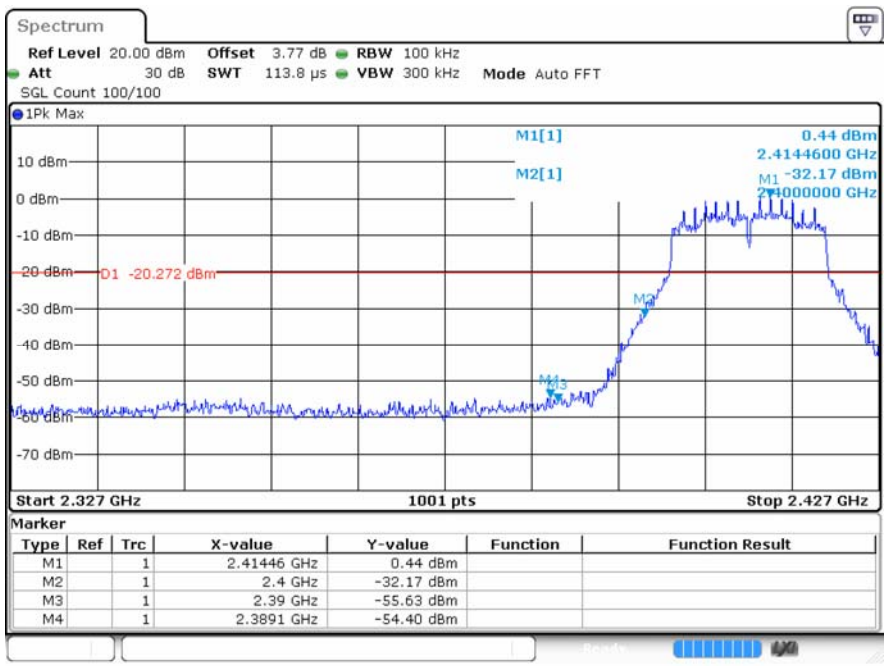
g 2462MHz Ant1 Emission



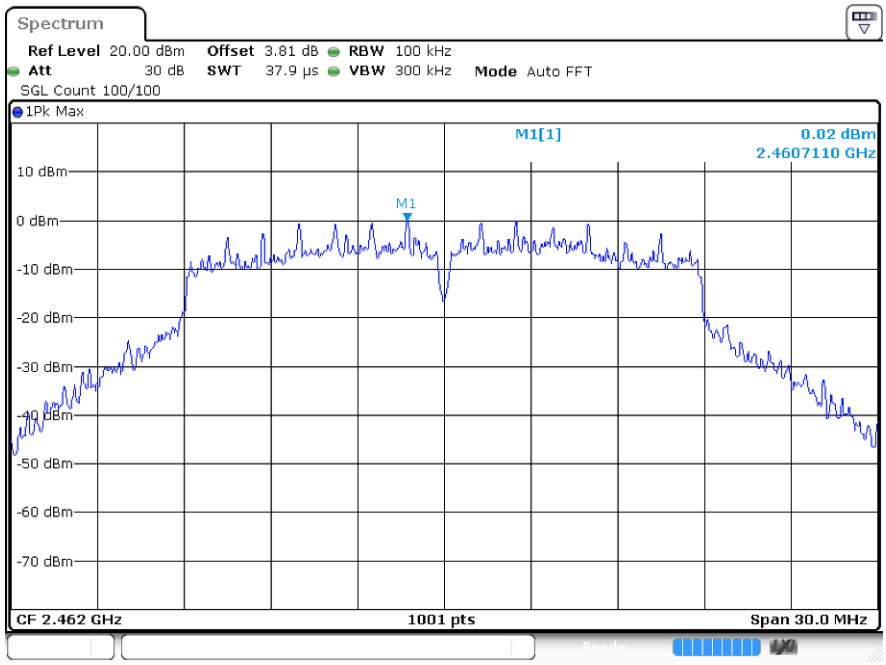
n20 2412MHz Ant1 Ref



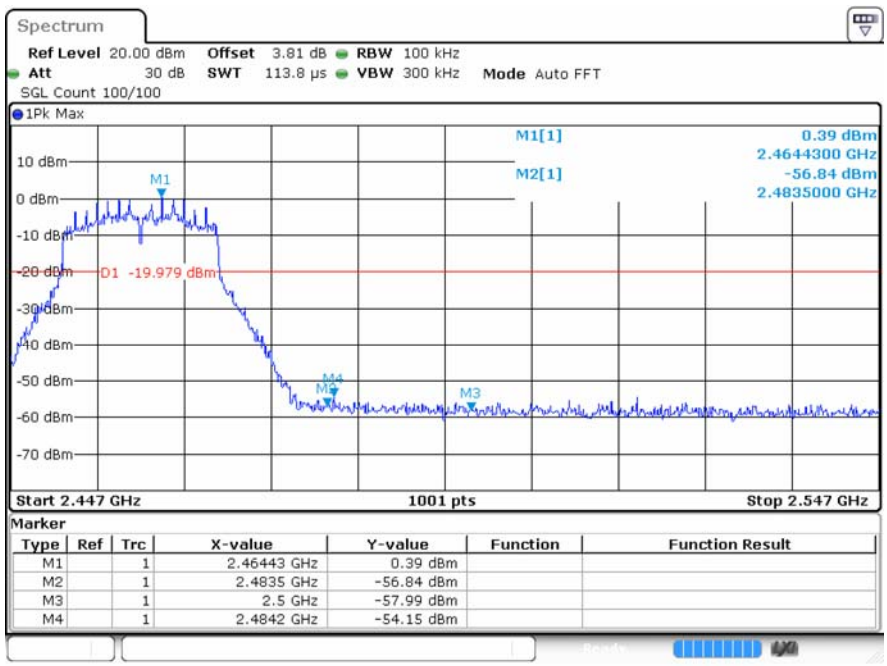
n20 2412MHz Ant1 Emission



n20 2462MHz Ant1 Ref



n20 2462MHz Ant1 Emission



6 Conducted RF Spurious Emission

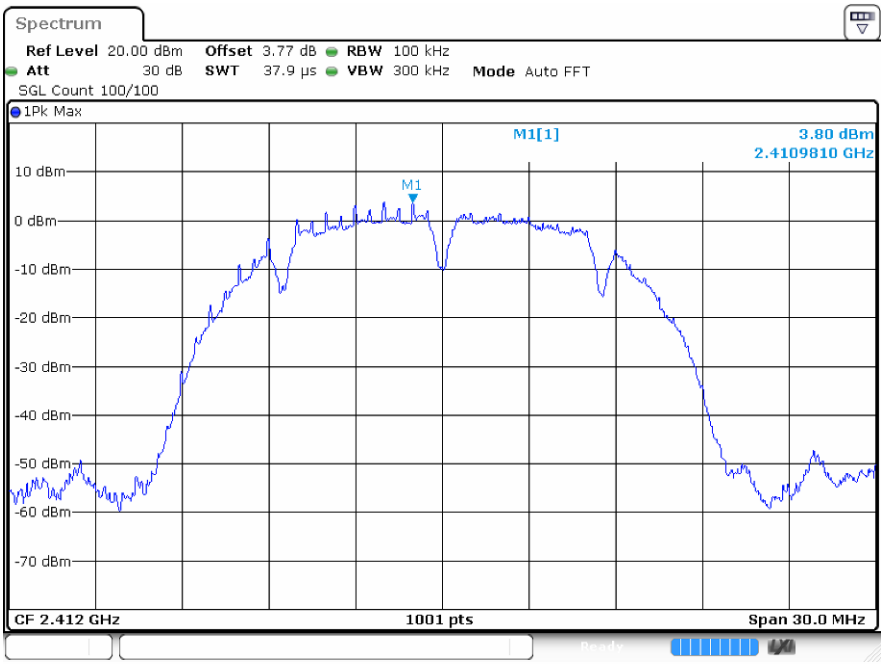
6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-49.44	-20	Pass
b	2437	Ant1	-48.6	-20	Pass
b	2462	Ant1	-49.39	-20	Pass
g	2412	Ant1	-45.99	-20	Pass
g	2437	Ant1	-45.92	-20	Pass
g	2462	Ant1	-46.1	-20	Pass
n20	2412	Ant1	-45.47	-20	Pass
n20	2437	Ant1	-45.41	-20	Pass
n20	2462	Ant1	-46.05	-20	Pass

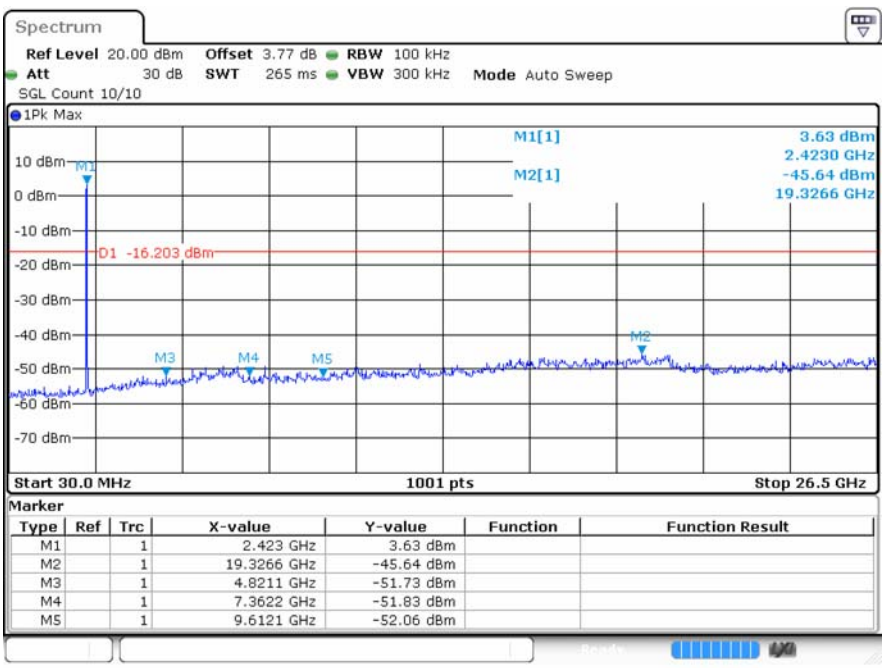
6.2 Test Graphs

Test Graphs

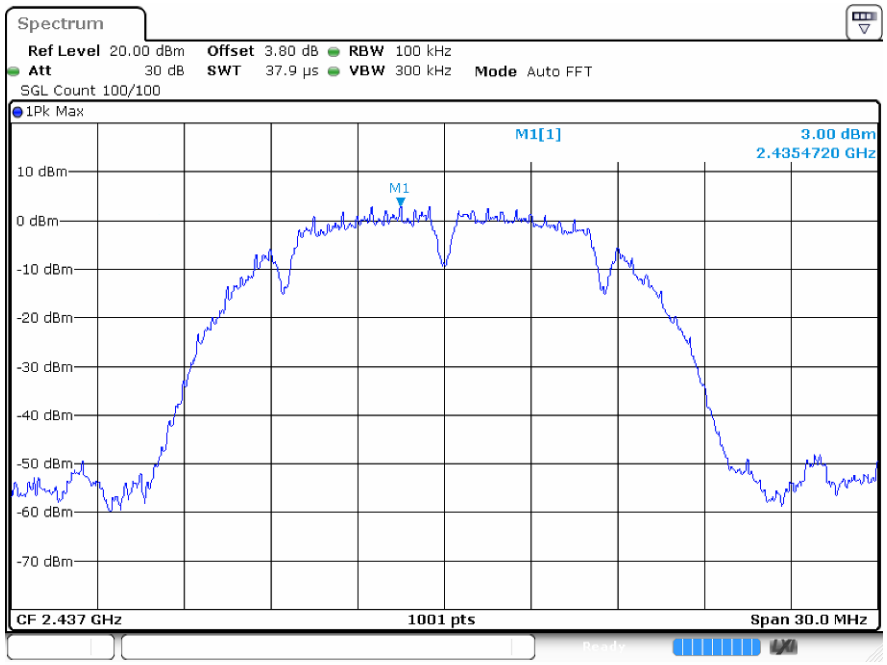
b 2412MHz Ant1 Ref



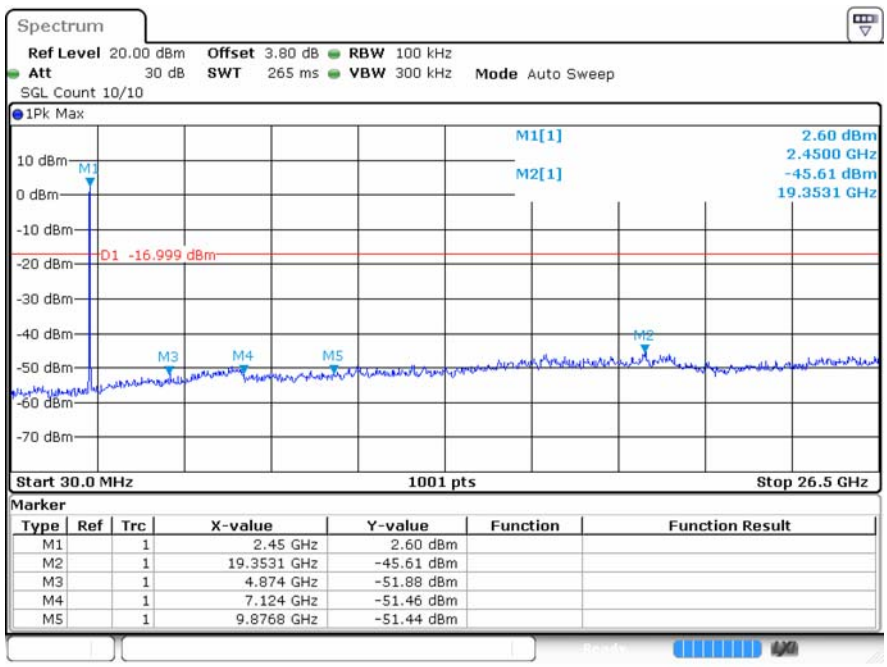
b 2412MHz Ant1 Emission



b 2437MHz Ant1 Ref



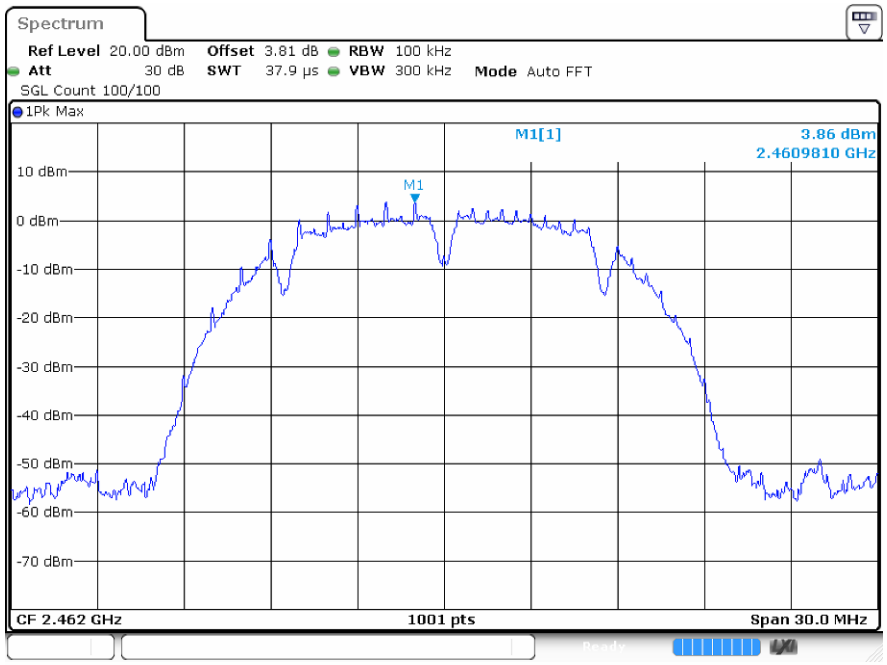
b 2437MHz Ant1 Emission



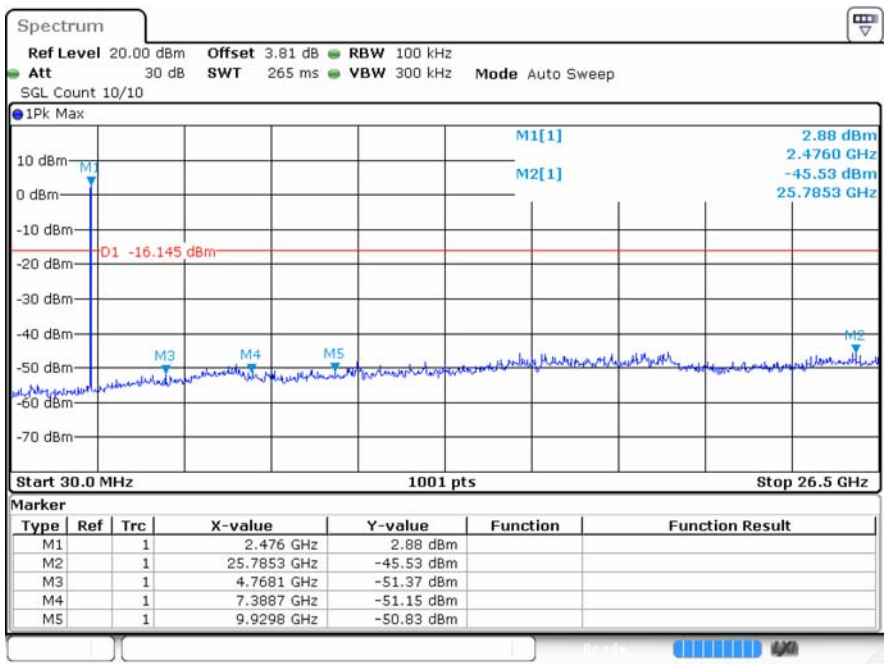
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45 GHz	2.60 dBm		
M2		1	19.3531 GHz	-45.61 dBm		
M3		1	4.874 GHz	-51.88 dBm		
M4		1	7.124 GHz	-51.46 dBm		
M5		1	9.8768 GHz	-51.44 dBm		

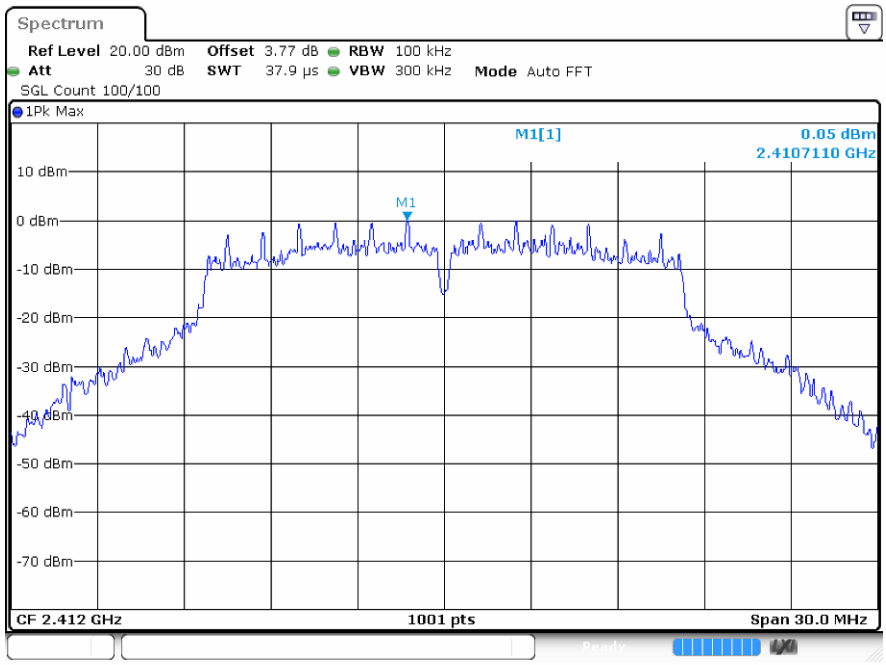
b 2462MHz Ant1 Ref



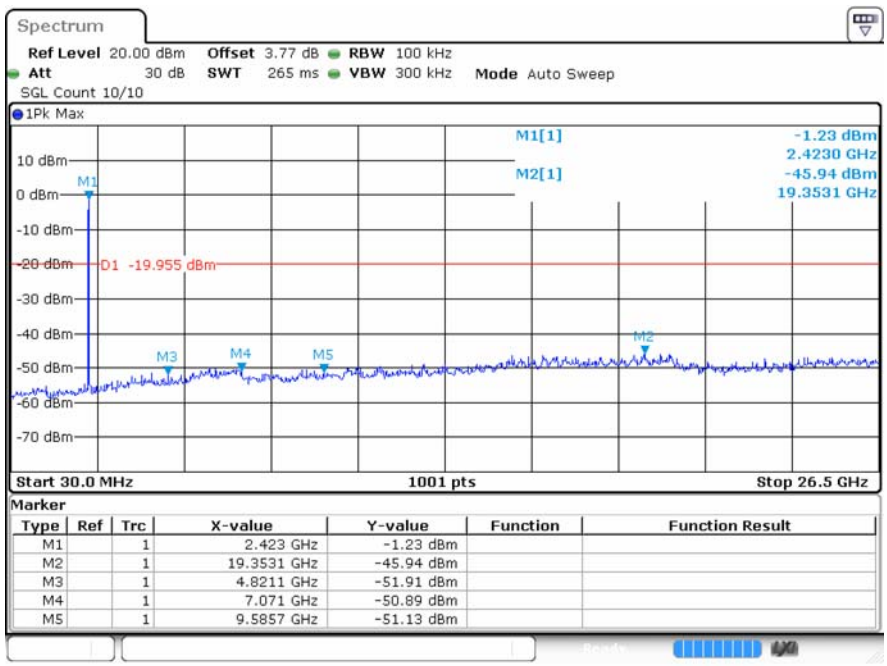
b 2462MHz Ant1 Emission



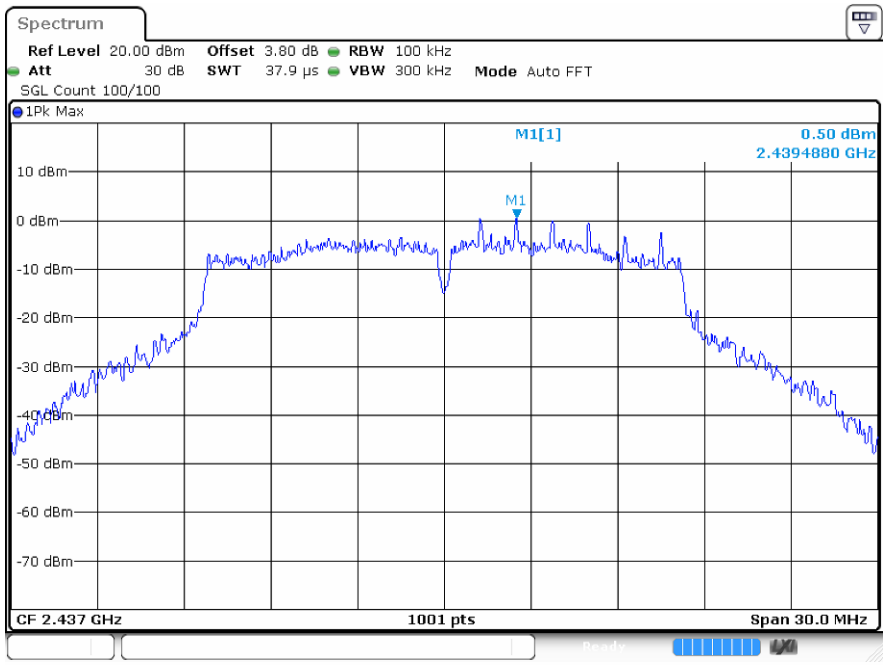
g 2412MHz Ant1 Ref



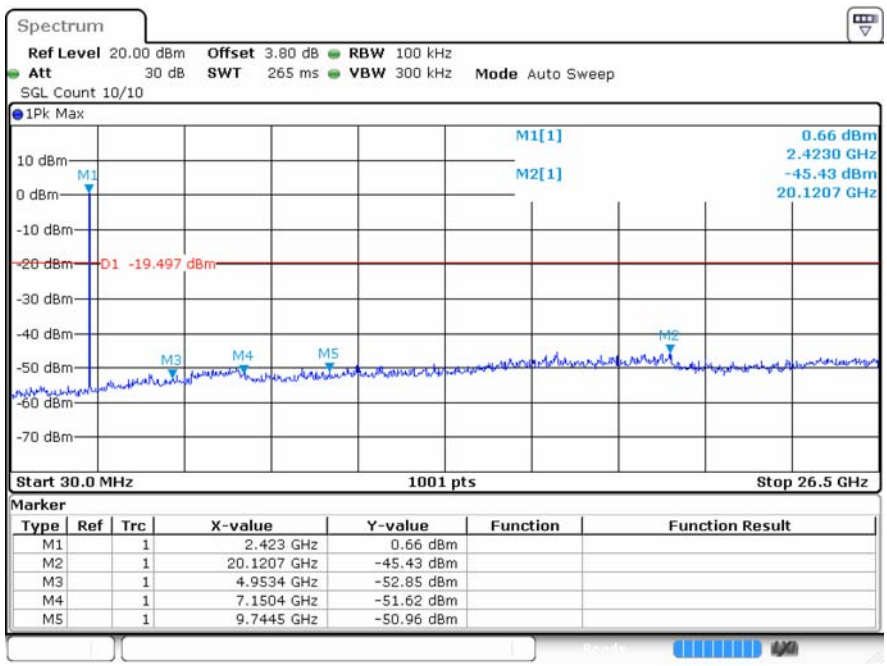
g 2412MHz Ant1 Emission



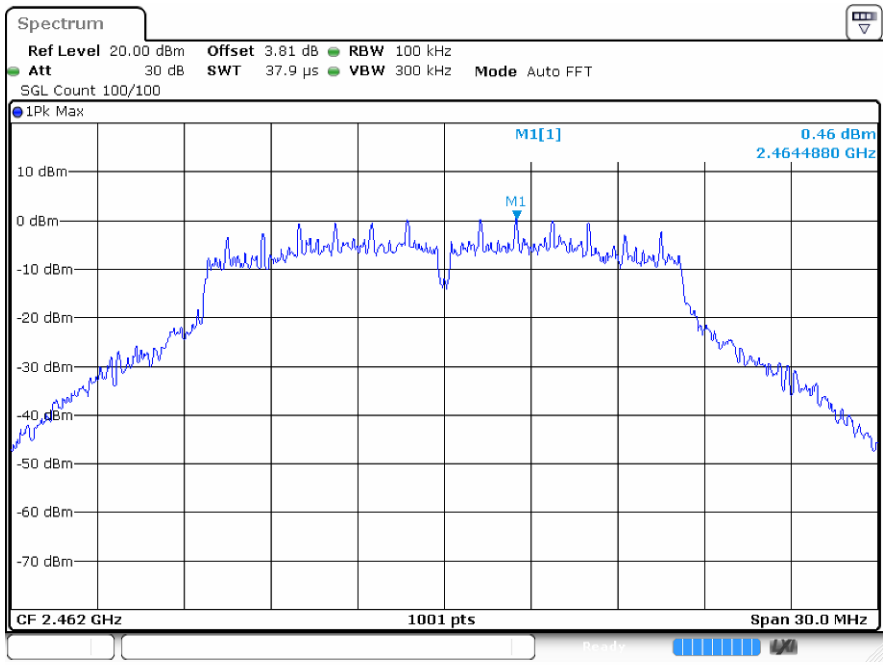
g 2437MHz Ant1 Ref



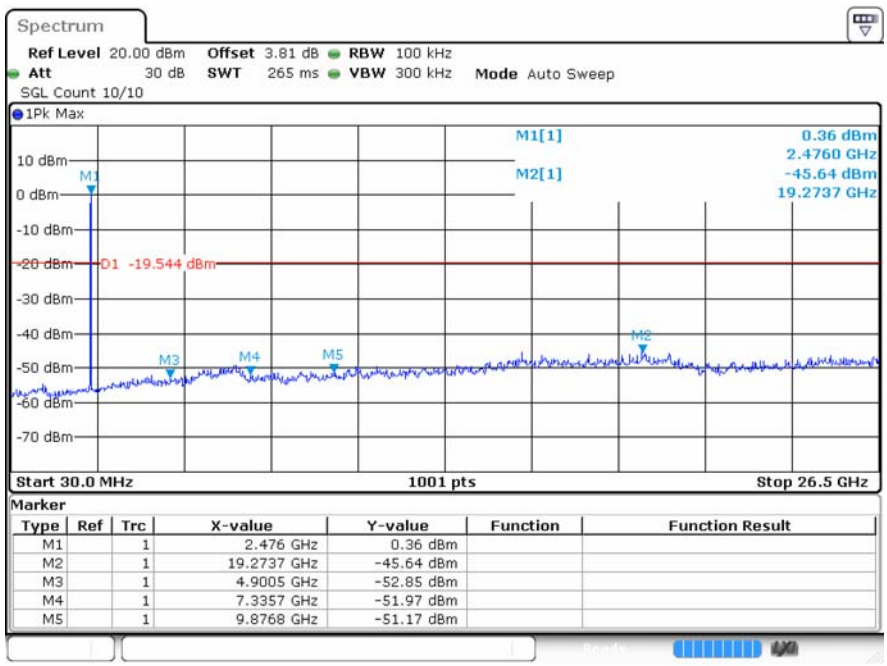
g 2437MHz Ant1 Emission



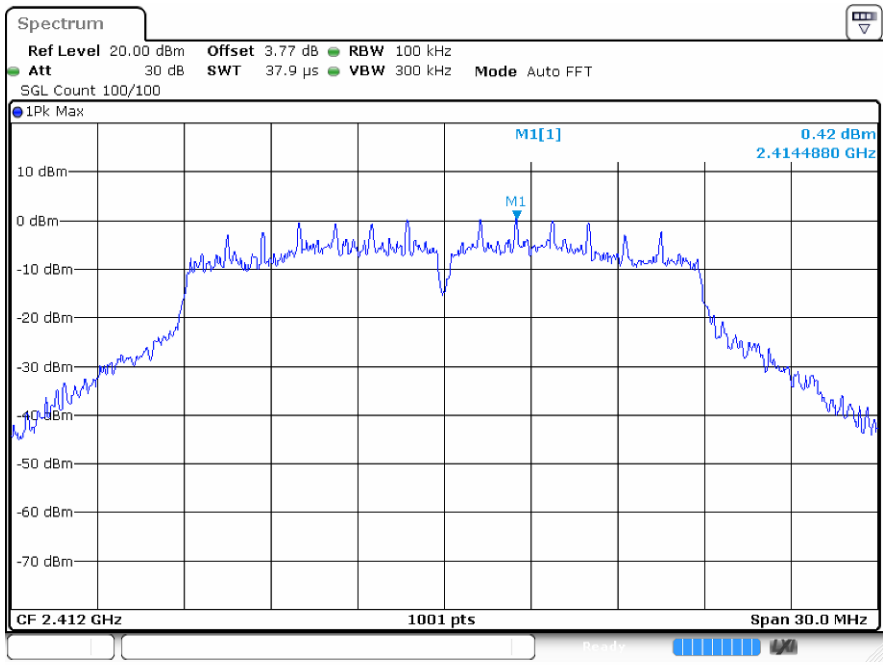
g 2462MHz Ant1 Ref



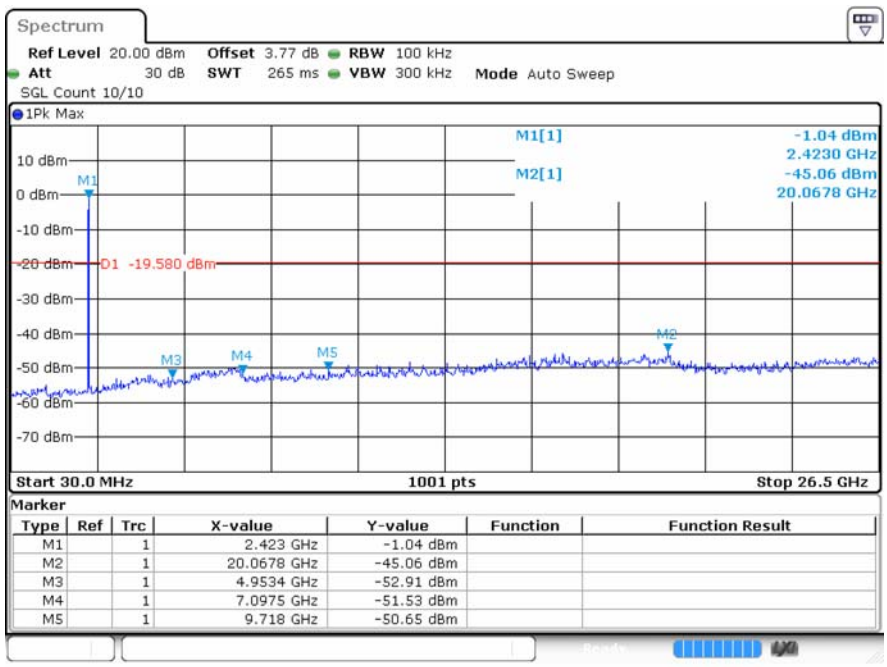
g 2462MHz Ant1 Emission



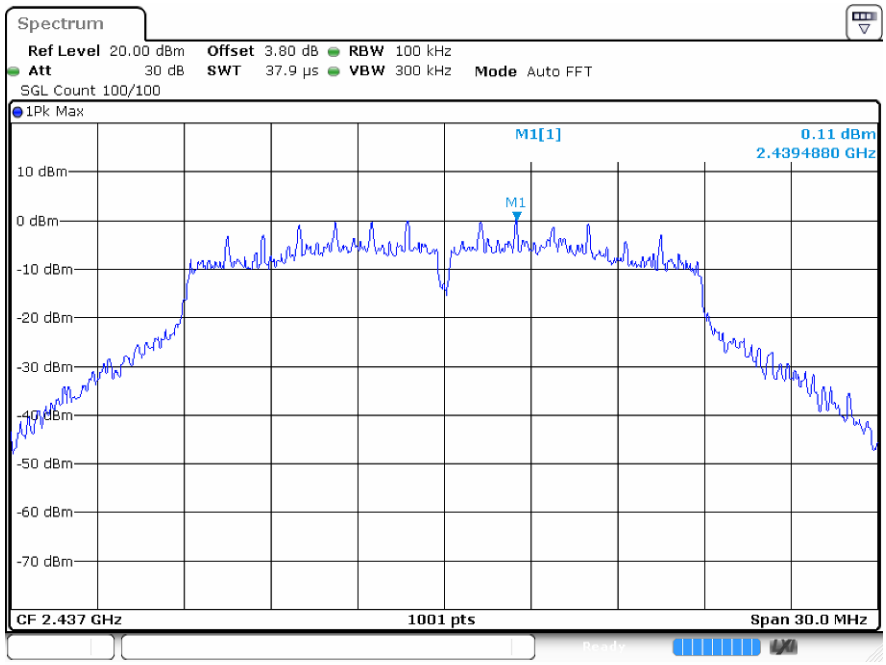
n20 2412MHz Ant1 Ref



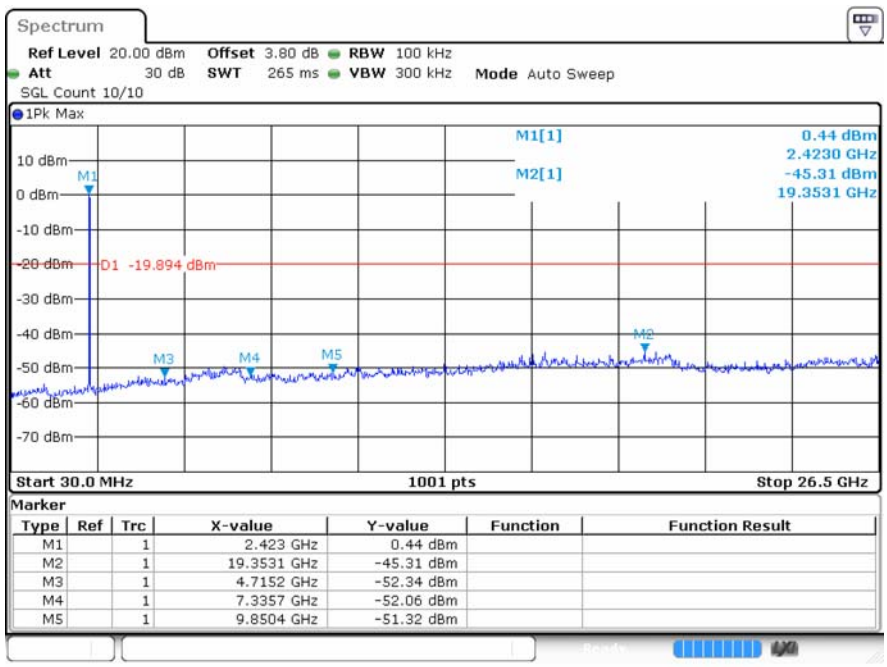
n20 2412MHz Ant1 Emission



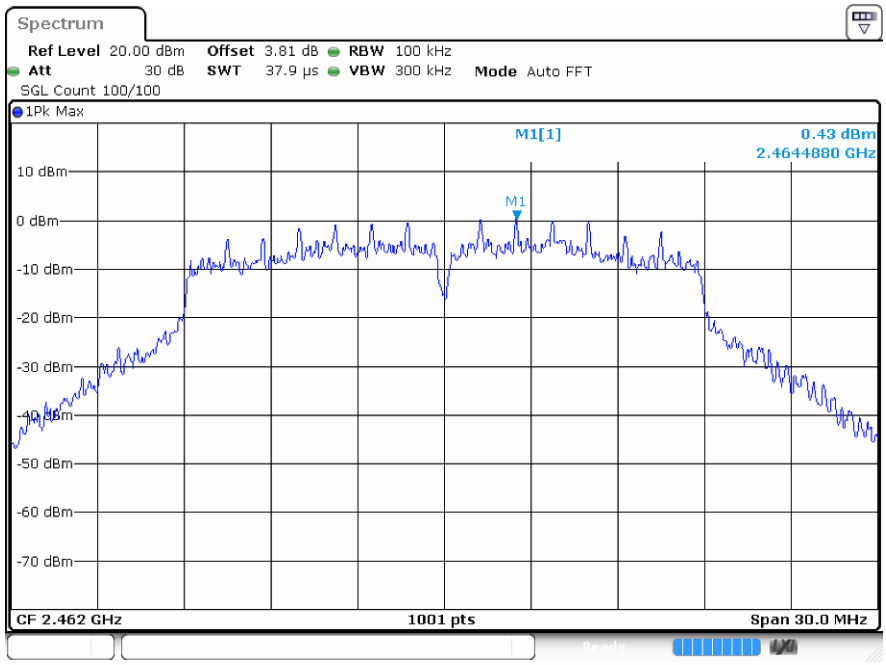
n20 2437MHz Ant1 Ref



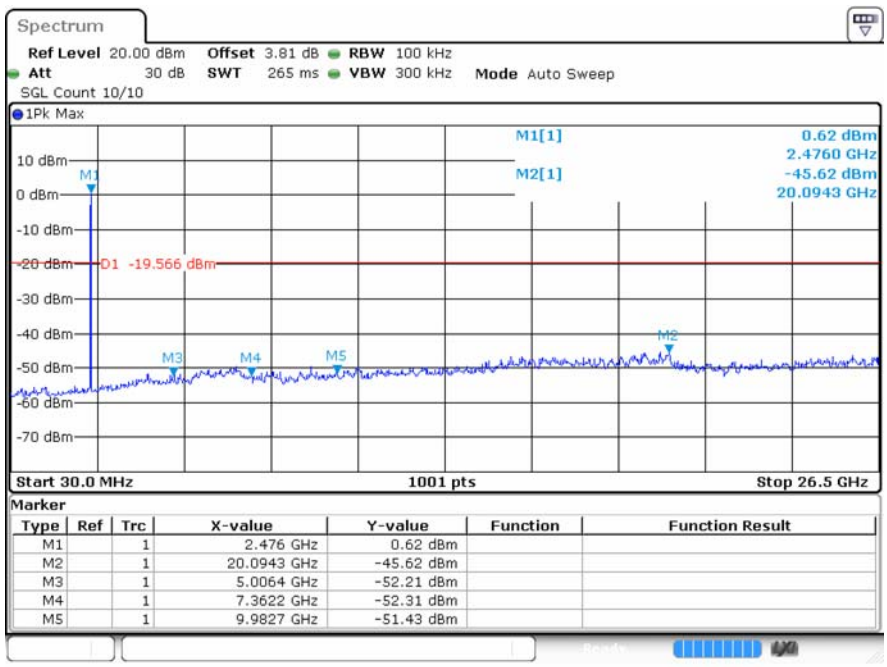
n20 2437MHz Ant1 Emission



n20 2462MHz Ant1 Ref



n20 2462MHz Ant1 Emission



7 Restrict Band

7.1 Test Result

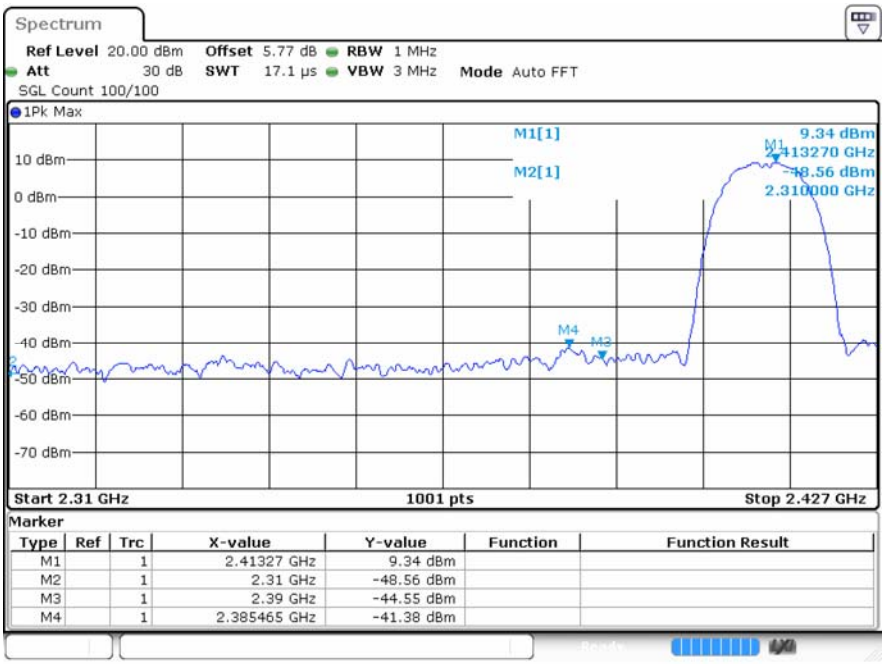
Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
b	2412	Ant1	2310	-48.56	2	48.7	Peak	74	Pass
b	2412	Ant1	2310	-47.11	2	50.15	Average	54	Pass
b	2412	Ant1	2385.465	-41.38	2	55.88	Peak	74	Pass
b	2412	Ant1	2337.729	-43.97	2	53.29	Average	54	Pass
b	2412	Ant1	2390	-44.55	2	52.71	Peak	74	Pass
b	2412	Ant1	2390	-48.22	2	49.04	Average	54	Pass
b	2462	Ant1	2483.5	-44.57	2	52.69	Peak	74	52.69
b	2462	Ant1	2483.5	-54.91	2	42.35	Average	54	Pass
b	2462	Ant1	2488.022	-44.01	2	53.25	Peak	74	Pass
b	2462	Ant1	2485.69	-54.32	2	42.94	Average	54	Pass
b	2462	Ant1	2500	-46.2	2	51.06	Peak	74	Pass
b	2462	Ant1	2500	-55.56	2	41.7	Average	54	Pass
g	2412	Ant1	2310	-47.13	2	50.13	Peak	74	Pass
g	2412	Ant1	2310	-54.99	2	42.27	Average	54	Pass
g	2412	Ant1	2341.824	-44.5	2	52.76	Peak	74	Pass
g	2412	Ant1	2389.56	-53.14	2	44.12	Average	54	Pass
g	2412	Ant1	2390	-45.16	2	52.71	Peak	74	Pass
g	2412	Ant1	2390	-53.31	2	43.95	Average	54	Pass
g	2462	Ant1	2483.5	-45.27	2	51.99	Peak	74	Pass
g	2462	Ant1	2483.5	-53.52	2	43.74	Average	54	Pass
g	2462	Ant1	2488.022	-43.28	2	53.98	Peak	74	Pass
g	2462	Ant1	2484.842	-53.13	2	44.13	Average	54	Pass
g	2462	Ant1	2500	-47.36	2	51.06	Peak	74	Pass
g	2462	Ant1	2500	-54.56	2	42.7	Average	54	Pass
n20	2412	Ant1	2310	-46.73	2	50.53	Peak	74	Pass
n20	2412	Ant1	2310	-55.44	2	41.82	Average	54	Pass
n20	2412	Ant1	2341.356	-43.41	2	53.85	Peak	74	Pass
n20	2412	Ant1	2389.911	-52.66	2	44.6	Average	54	Pass
n20	2412	Ant1	2390	-46.58	2	50.68	Peak	74	Pass
n20	2412	Ant1	2390	-52.35	2	44.91	Average	54	Pass
n20	2462	Ant1	2483.5	-46.66	2	50.6	Peak	74	Pass
n20	2462	Ant1	2483.5	-53.52	2	43.74	Average	54	Pass
n20	2462	Ant1	2493.11	-44.43	2	52.83	Peak	74	Pass
n20	2462	Ant1	2483.729	-53.36	2	43.9	Average	54	Pass

n20	2462	Ant1	2500	-46.97	2	50.29	Peak	74	Pass
n20	2462	Ant1	2500	-54.23	2	43.03	Average	54	Pass

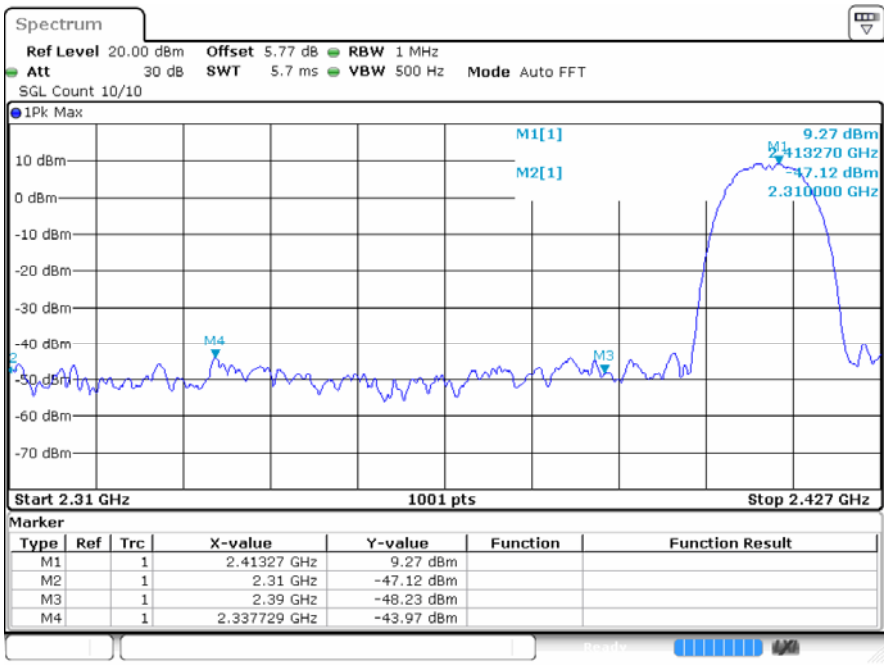
7.2 Test Graphs

Test Graphs

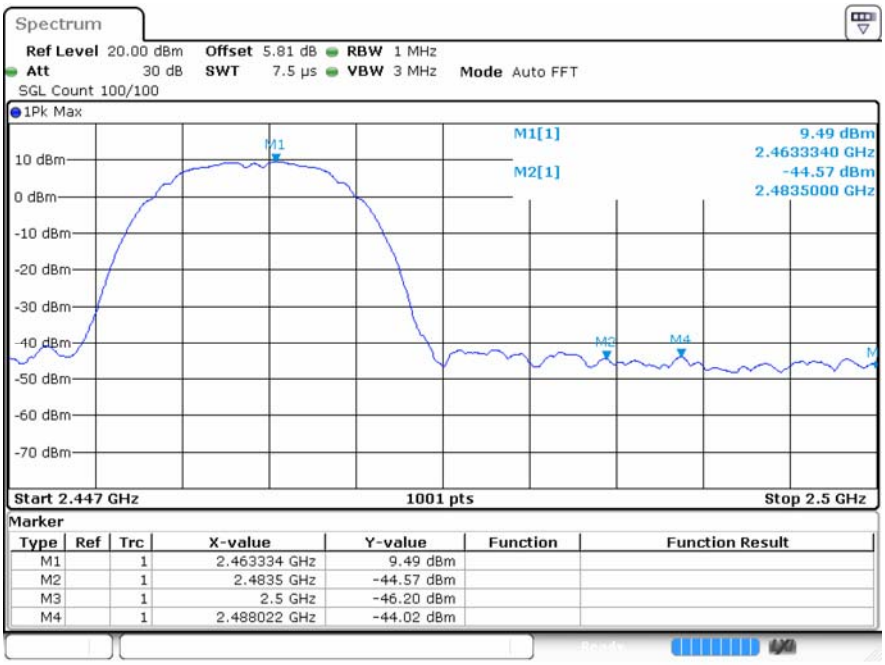
b 2412MHz Ant1 Peak



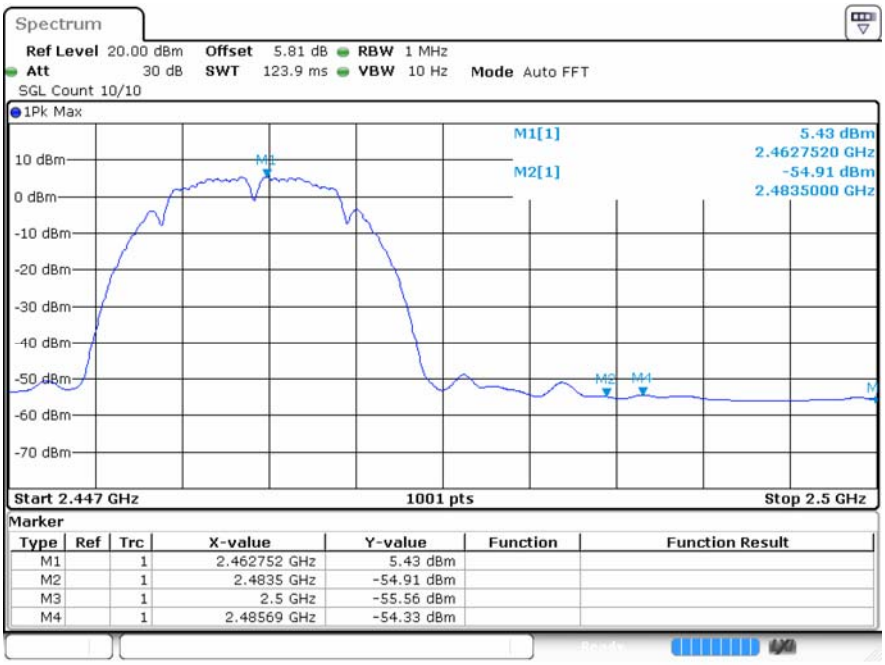
b 2412MHz Ant1 Average



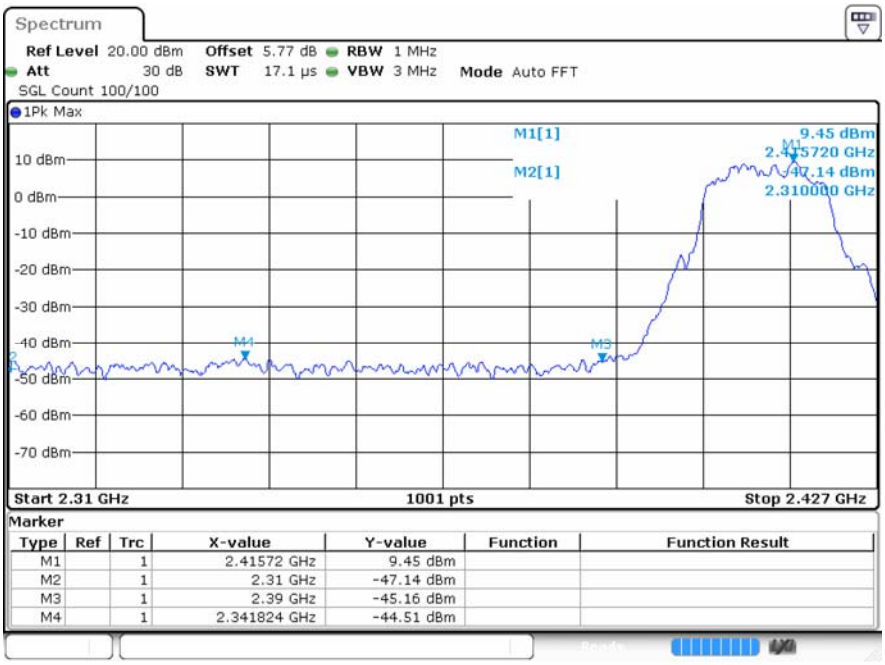
b 2462MHz Ant1 Peak



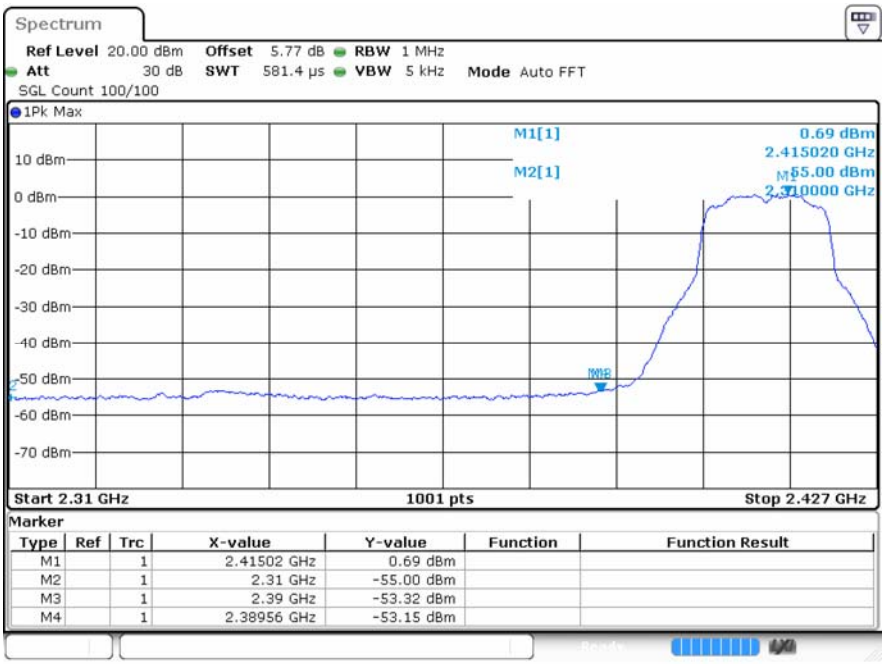
b 2462MHz Ant1 Average



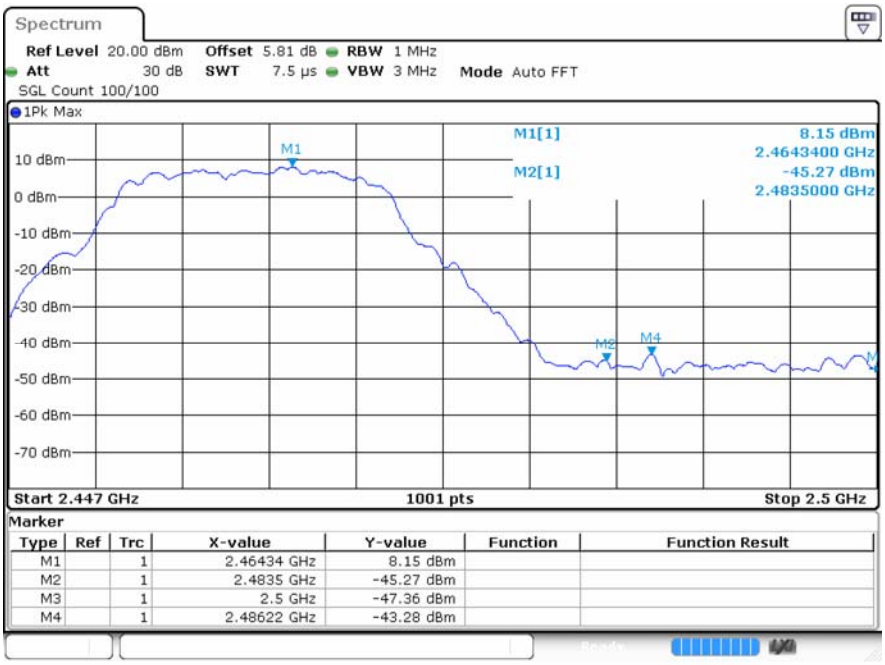
g 2412MHz Ant1 Peak



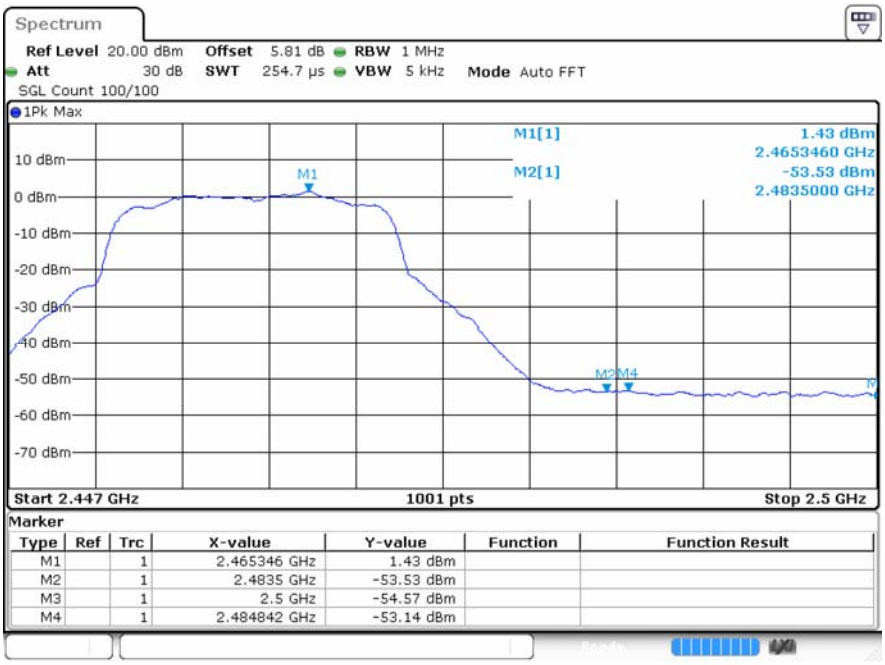
g 2412MHz Ant1 Average



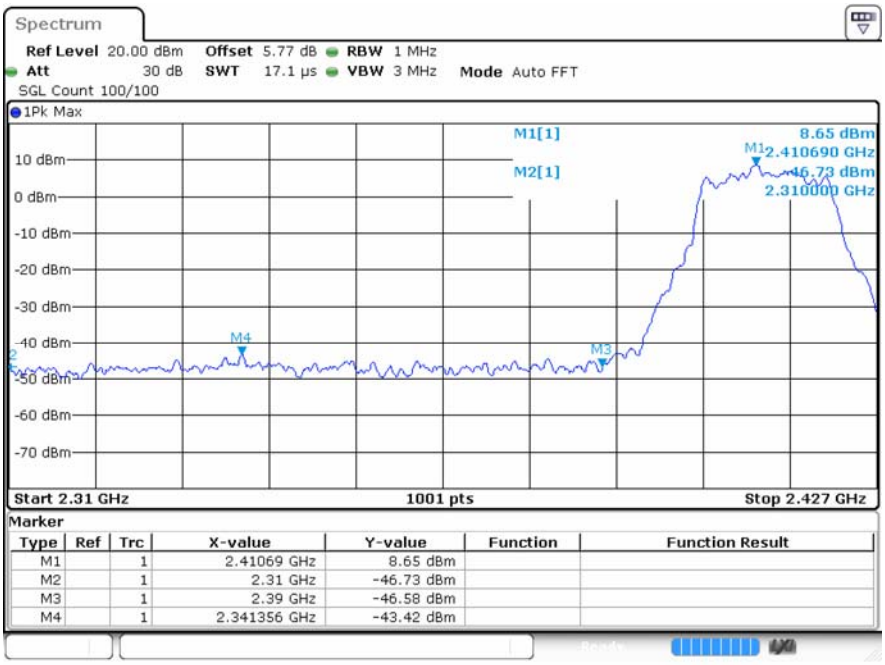
g 2462MHz Ant1 Peak



g 2462MHz Ant1 Average



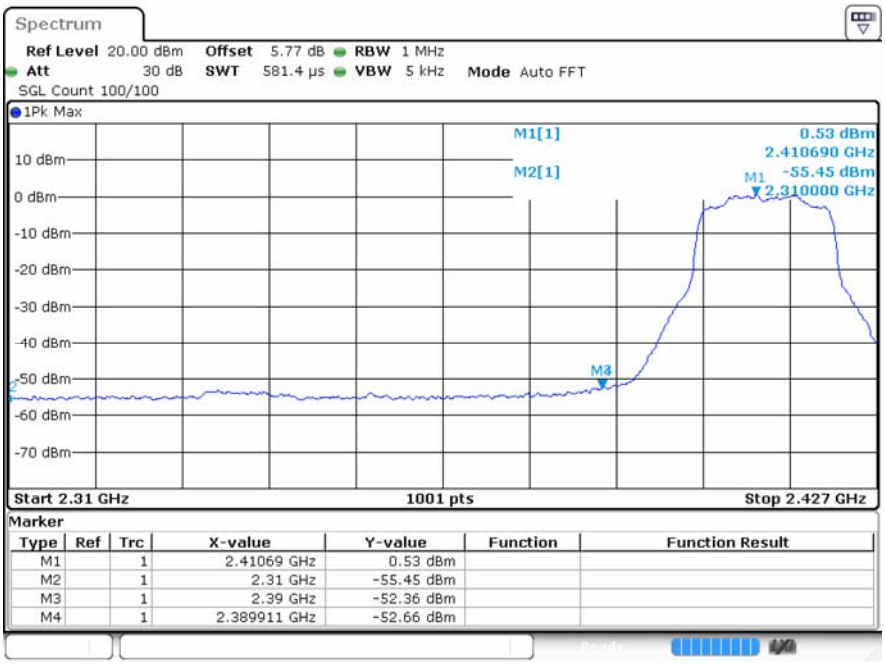
n20 2412MHz Ant1 Peak



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41069 GHz	8.65 dBm		
M2		1	2.31 GHz	-46.73 dBm		
M3		1	2.39 GHz	-46.58 dBm		
M4		1	2.341356 GHz	-43.42 dBm		

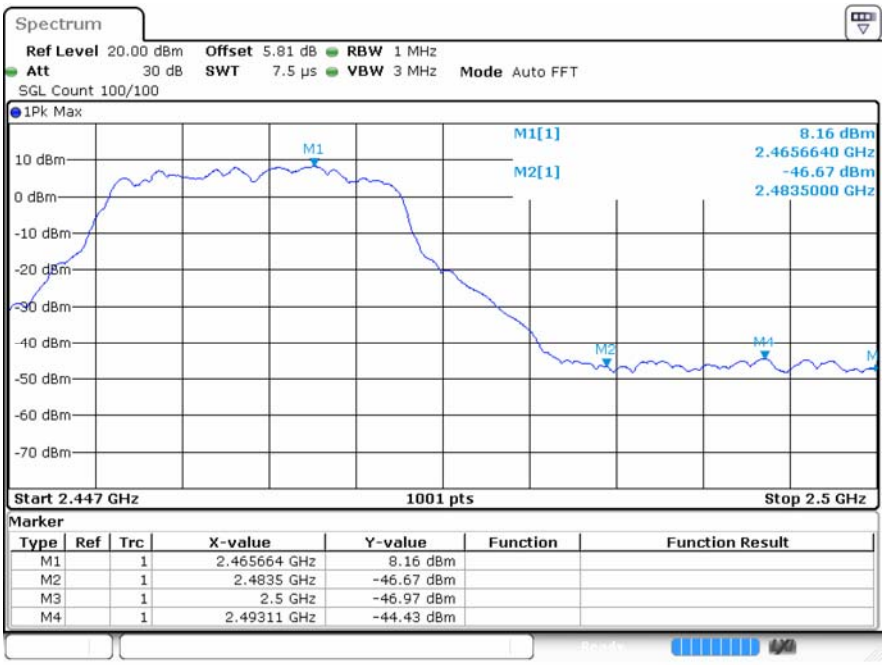
n20 2412MHz Ant1 Average



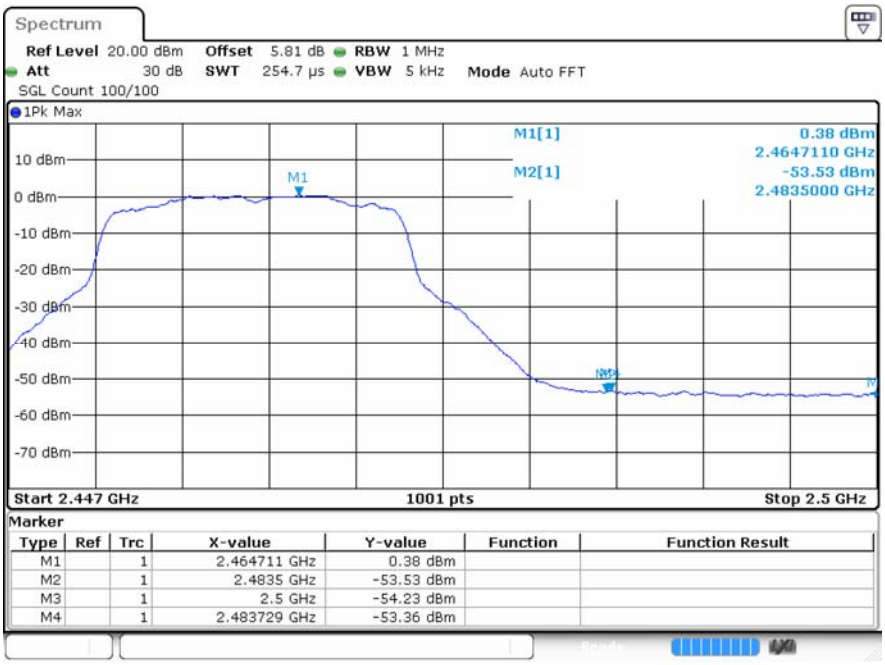
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41069 GHz	0.53 dBm		
M2		1	2.31 GHz	-55.45 dBm		
M3		1	2.39 GHz	-52.36 dBm		
M4		1	2.389911 GHz	-52.66 dBm		

n20 2462MHz Ant1 Peak



n20 2462MHz Ant1 Average



---The End---