Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Dash Camera

Trade Mark: N/A

Test Model: FC70

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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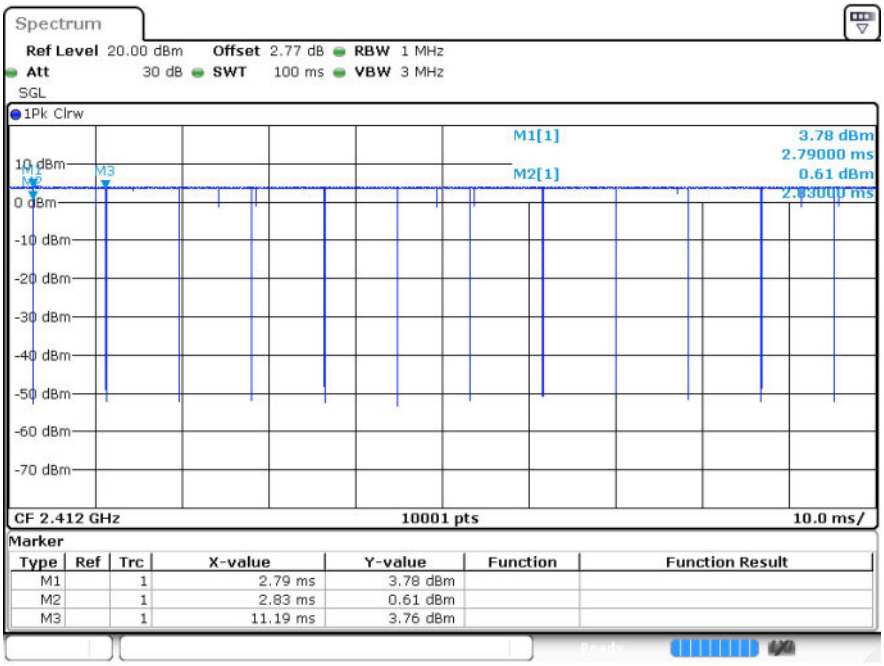
1 Duty Cycle

1.1 Test Result

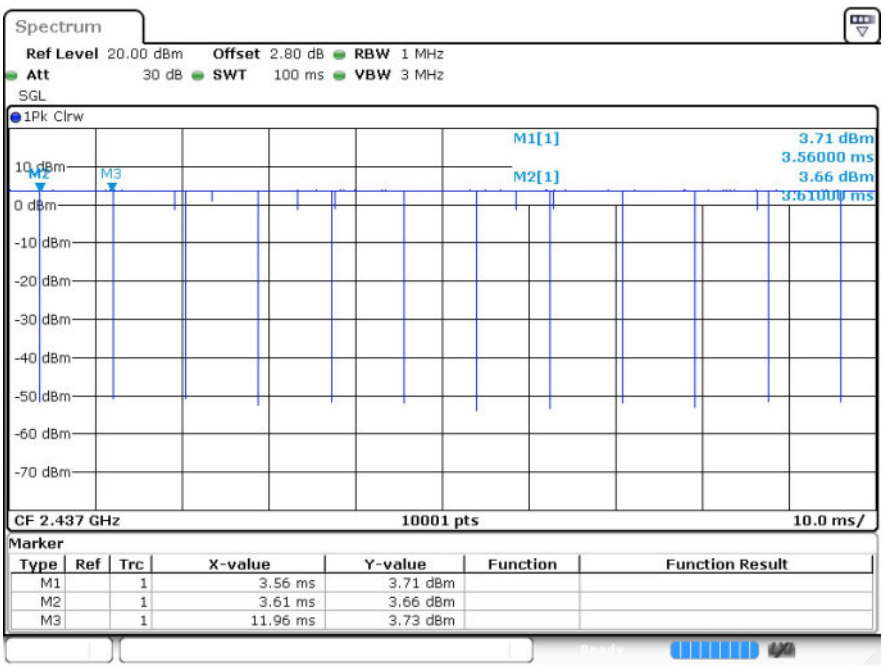
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.6	0.02	0.12
b	2437	Ant1	99.59	0.02	0.12
b	2462	Ant1	99.6	0.02	0.12
g	2412	Ant1	86.88	0.61	4.76
g	2437	Ant1	86.91	0.61	4.76
g	2462	Ant1	86.84	0.61	4.76
n20	2412	Ant1	87.57	0.58	4.35
n20	2437	Ant1	87.61	0.57	4.35
n20	2462	Ant1	87.6	0.57	4.35

1.2 Test Graphs

Test Graphs
b 2412MHz Ant1

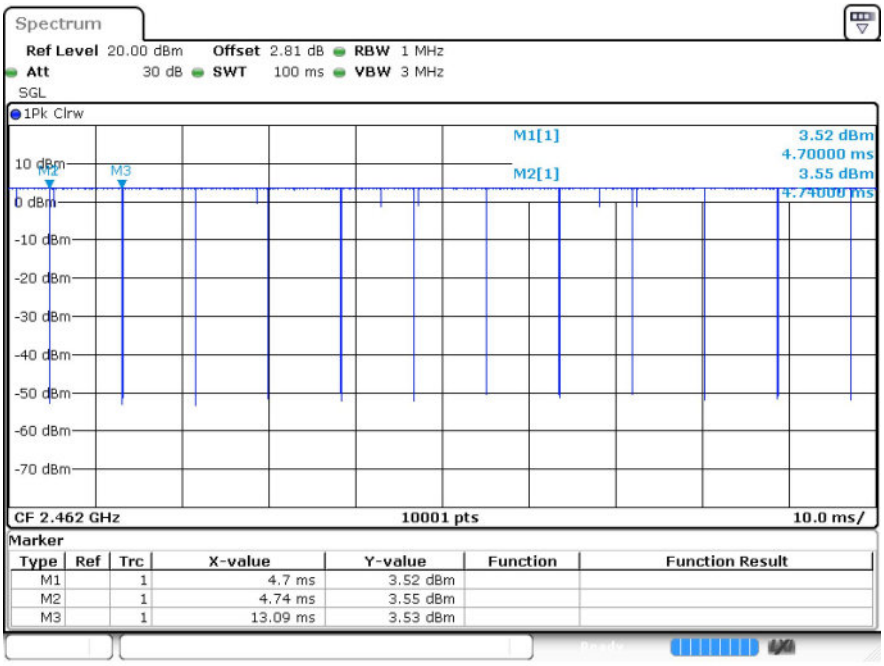


b 2437MHz Ant1

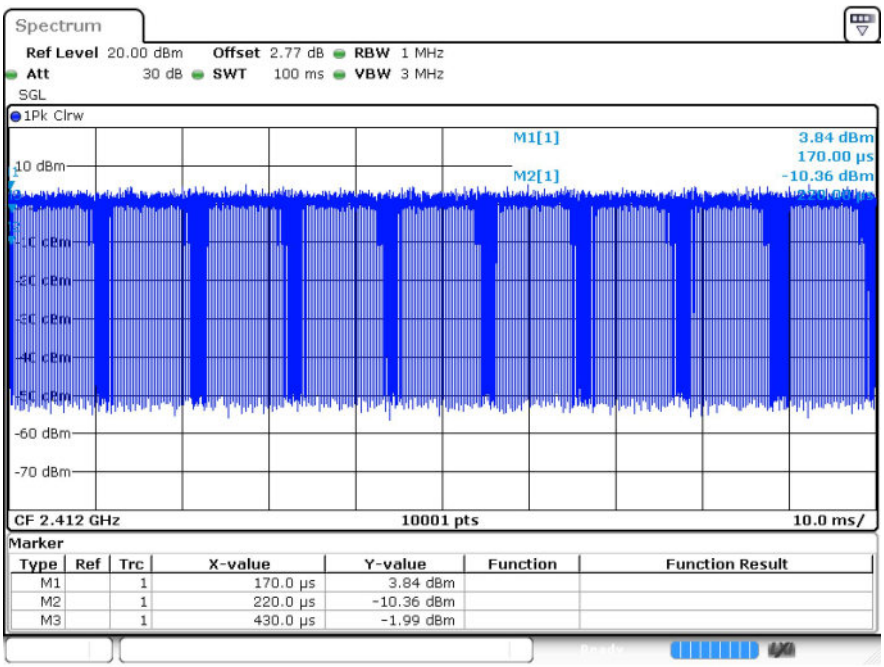


Test Graphs

b 2462MHz Ant1

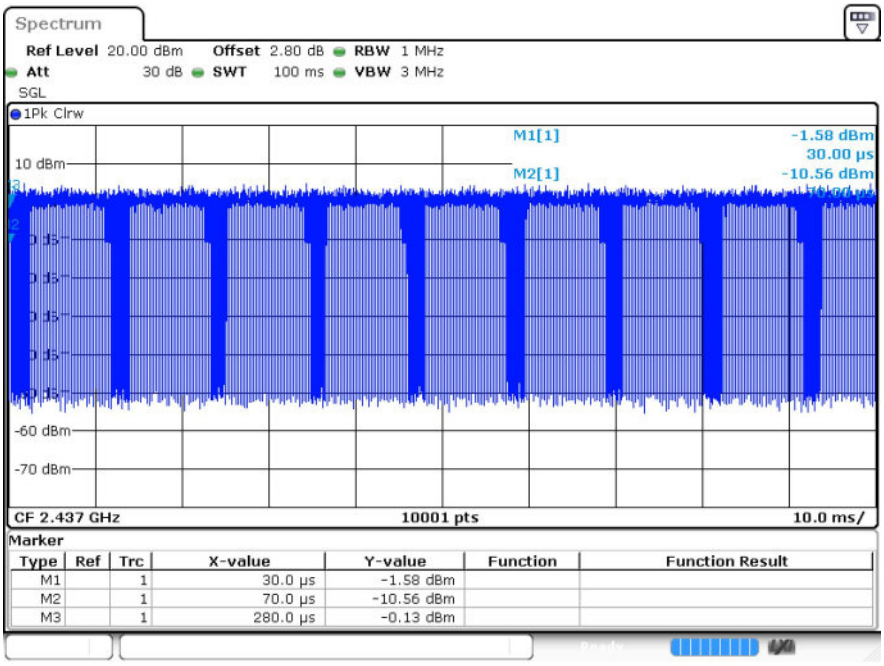


g 2412MHz Ant1

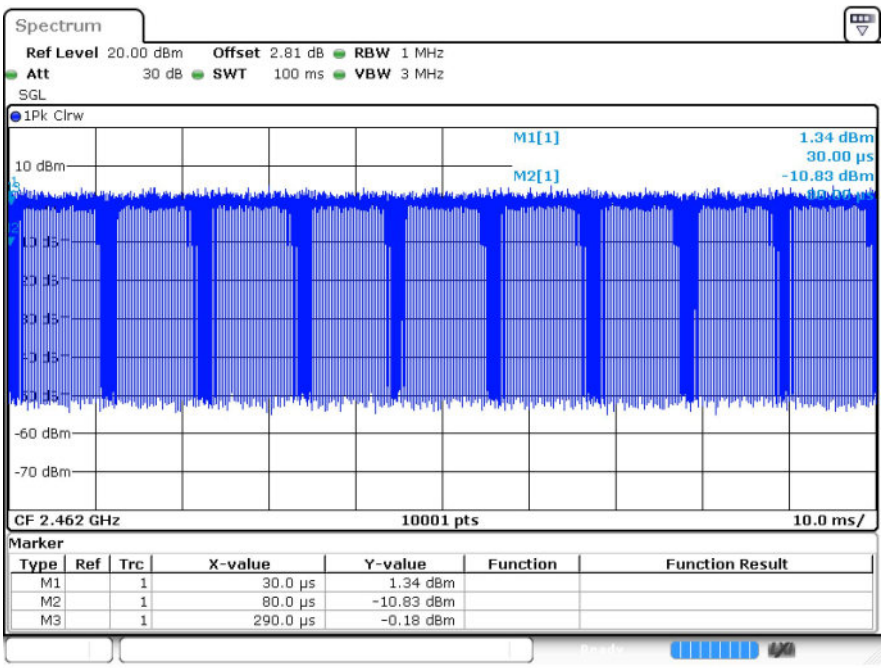


Test Graphs

g 2437MHz Ant1

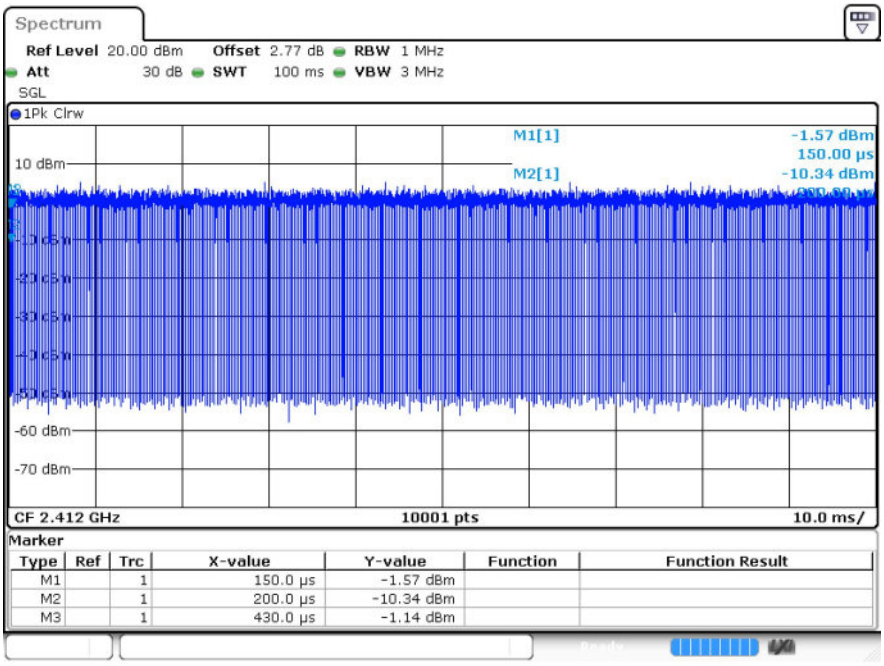


g 2462MHz Ant1

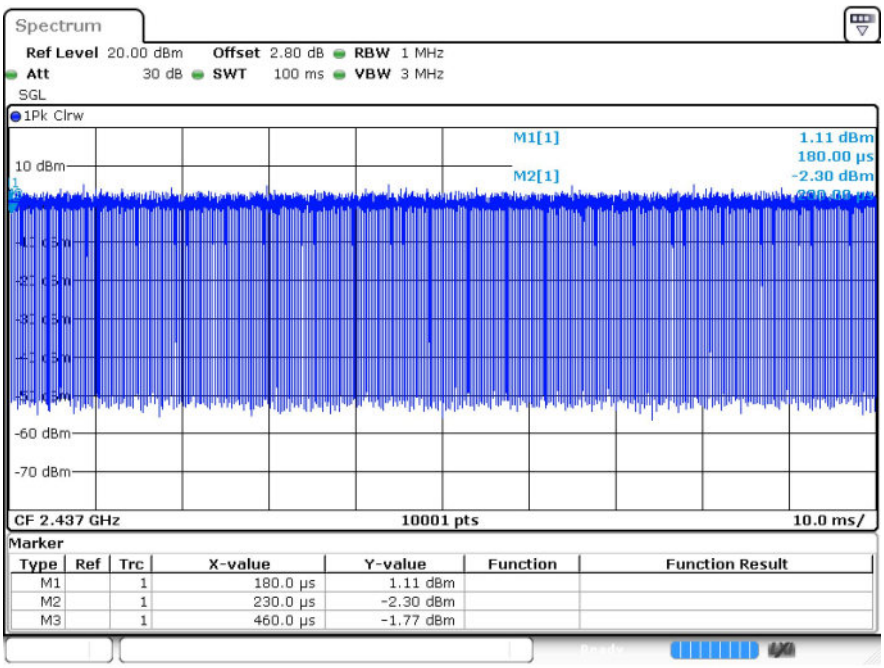


Test Graphs

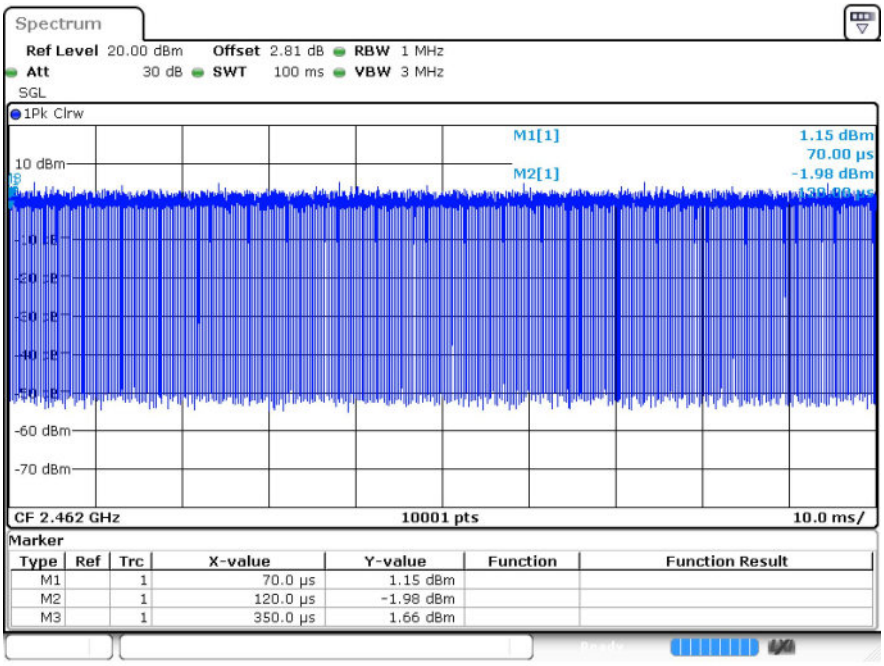
n20 2412MHz Ant1



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	14.21	30	Pass
b	2437	Ant1	14.15	30	Pass
b	2462	Ant1	14.02	30	Pass
g	2412	Ant1	14.16	30	Pass
g	2437	Ant1	14.04	30	Pass
g	2462	Ant1	13.92	30	Pass
n20	2412	Ant1	13.84	30	Pass
n20	2437	Ant1	13.9	30	Pass
n20	2462	Ant1	14	30	Pass

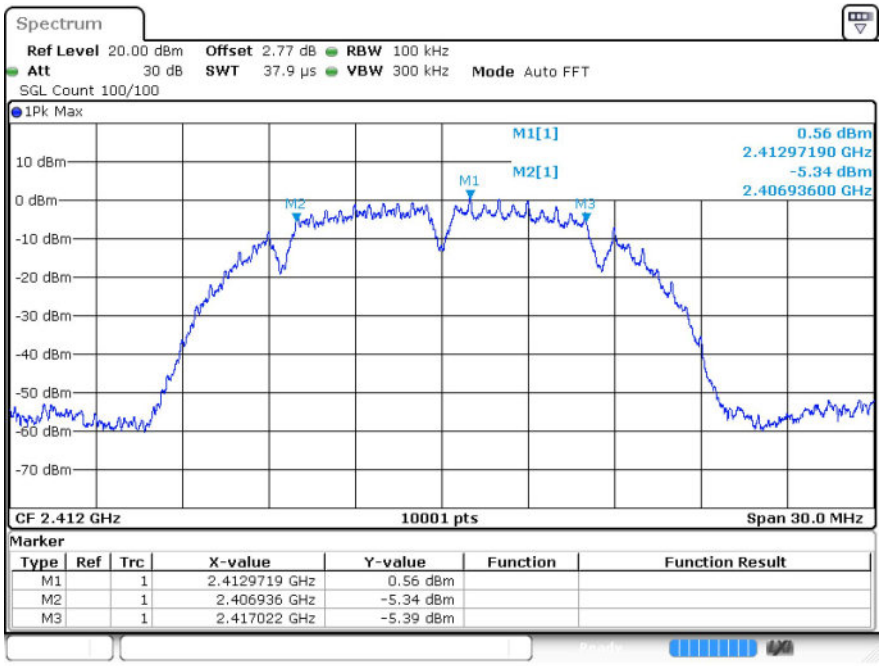
3 -6dB Bandwidth

3.1 Test Result

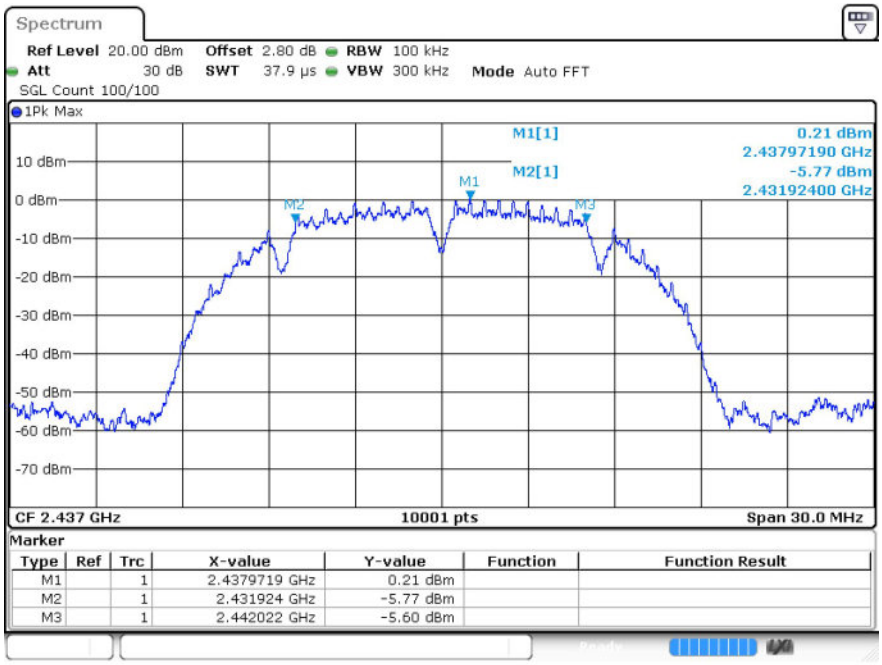
Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.086	0.5	Pass
b	2437	Ant1	10.098	0.5	Pass
b	2462	Ant1	10.077	0.5	Pass
g	2412	Ant1	15.117	0.5	Pass
g	2437	Ant1	15.111	0.5	Pass
g	2462	Ant1	15.114	0.5	Pass
n20	2412	Ant1	15.114	0.5	Pass
n20	2437	Ant1	15.075	0.5	Pass
n20	2462	Ant1	12.954	0.5	Pass

3.2 Test Graphs

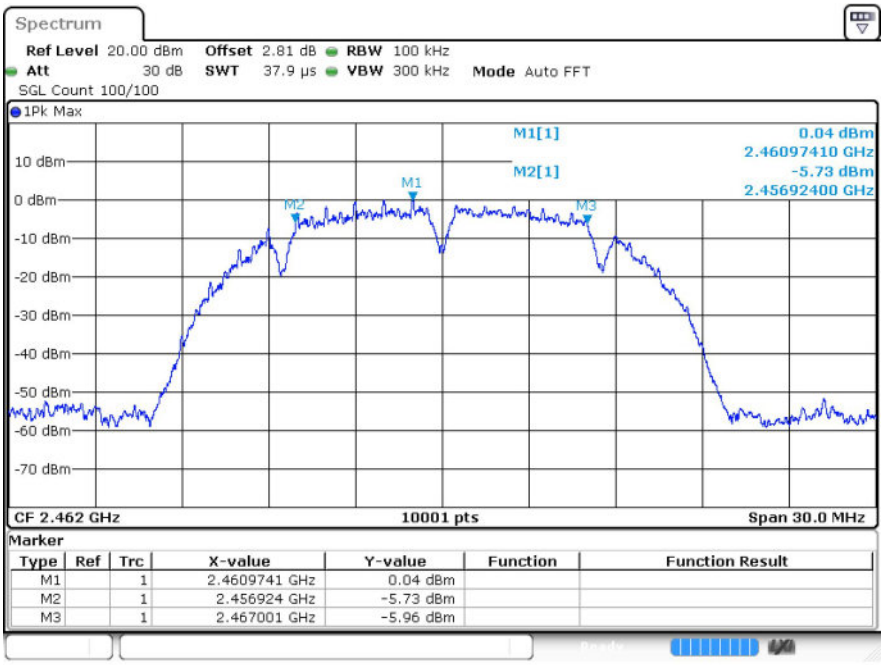
Test Graphs
b 2412MHz Ant1



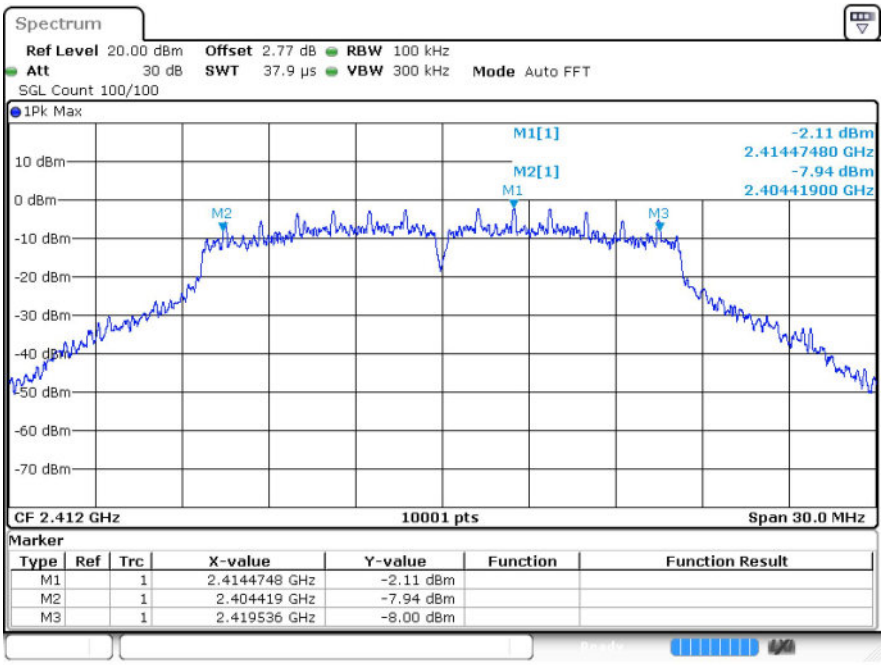
b 2437MHz Ant1



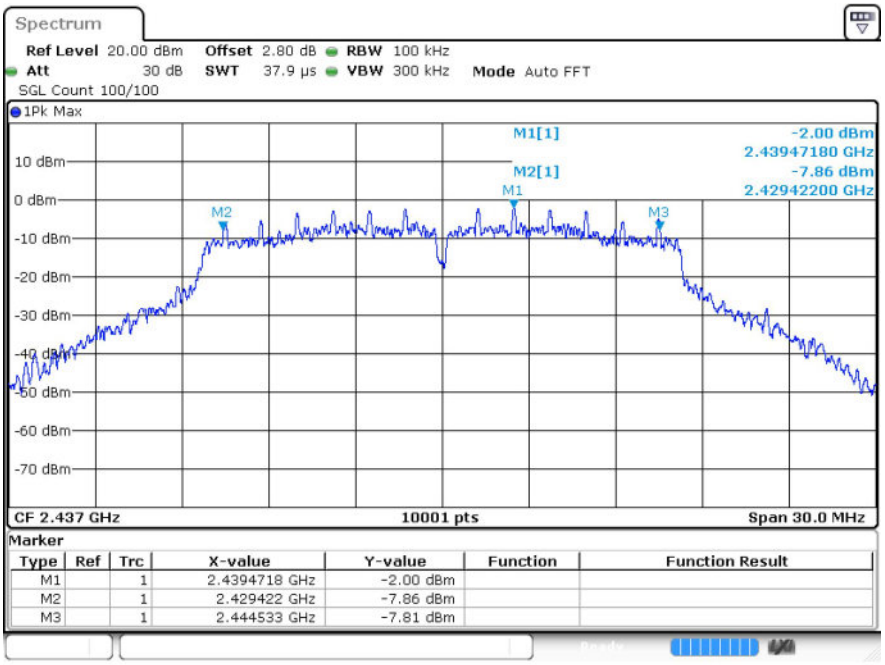
b 2462MHz Ant1



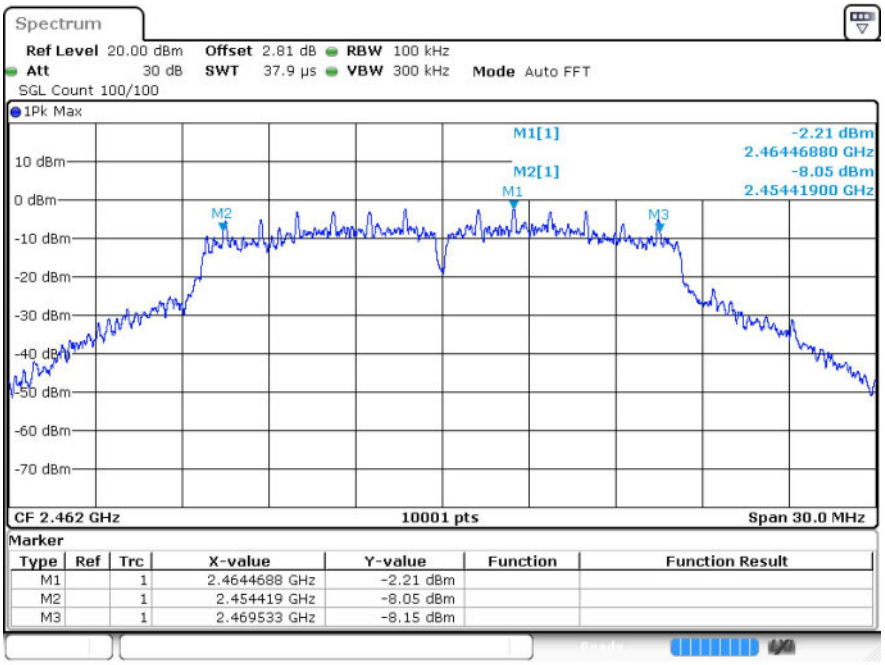
g 2412MHz Ant1



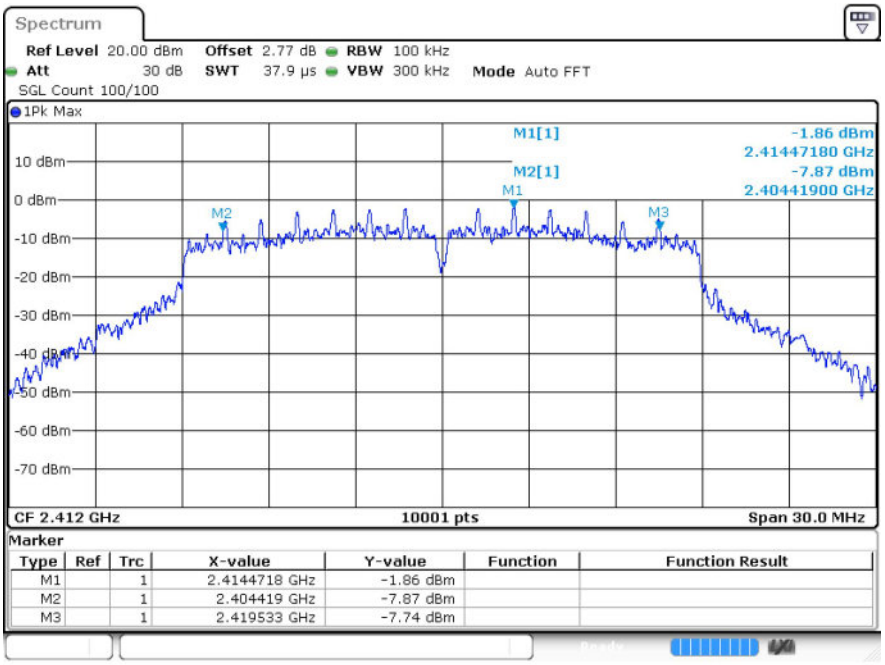
g 2437MHz Ant1



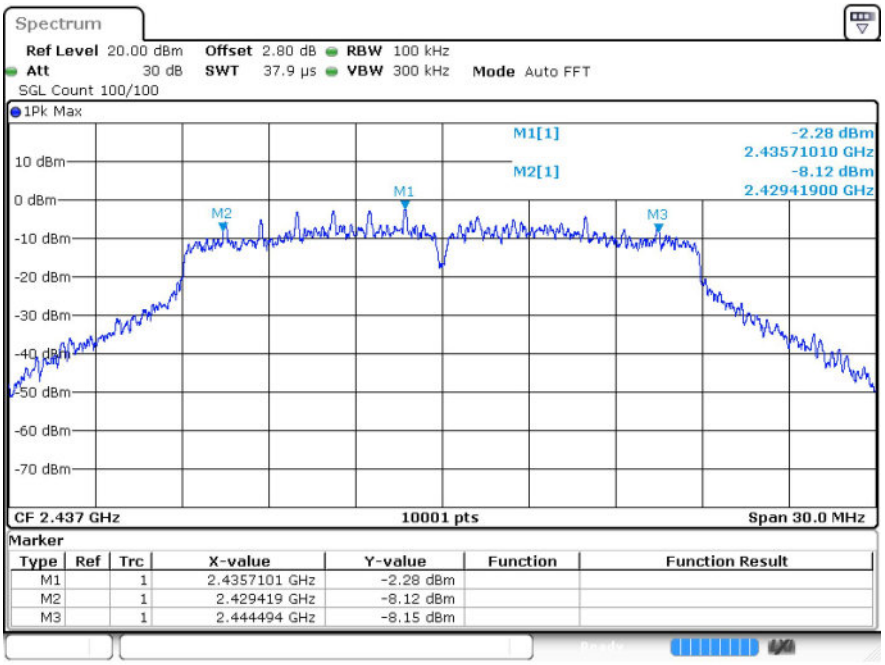
g 2462MHz Ant1



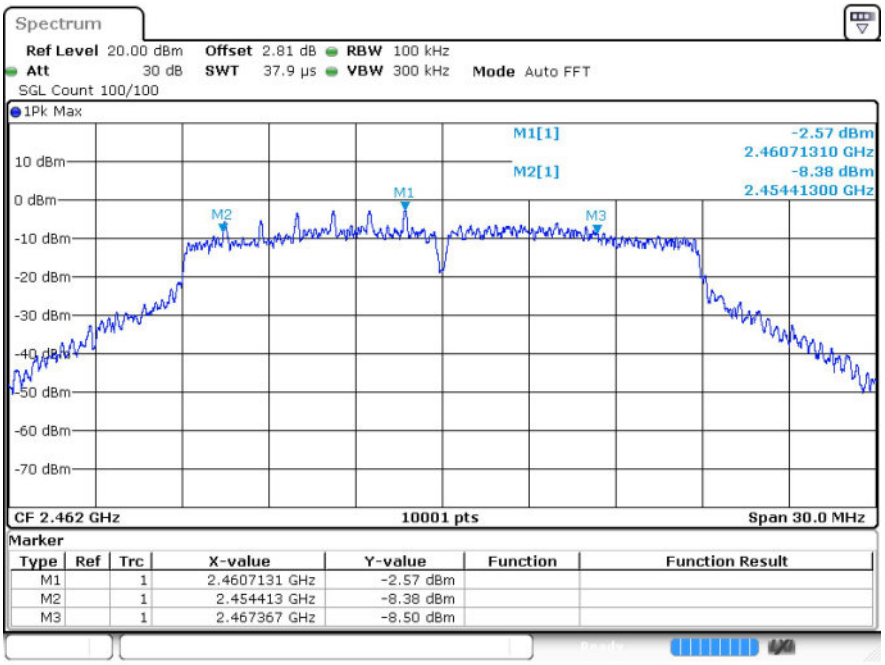
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1

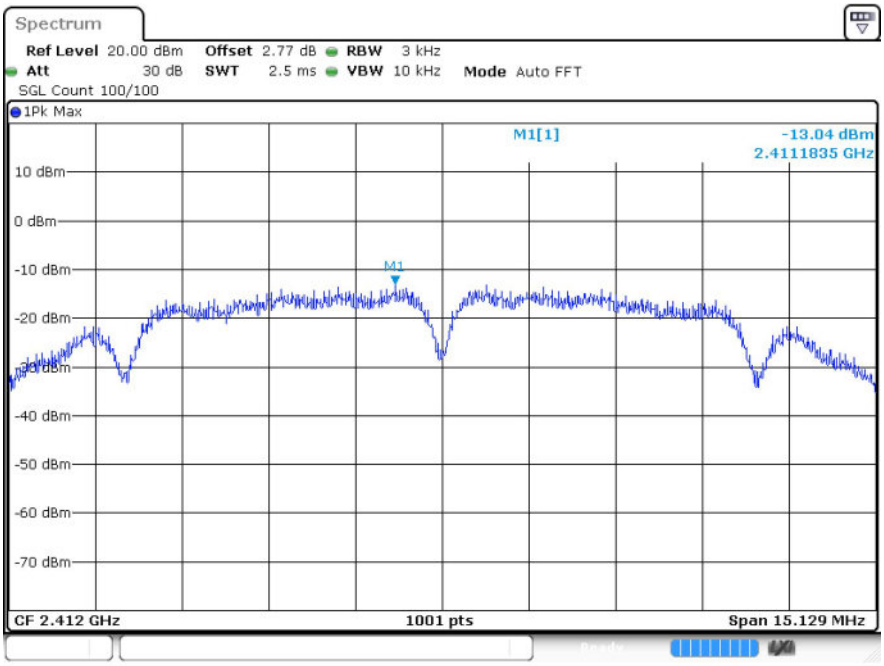
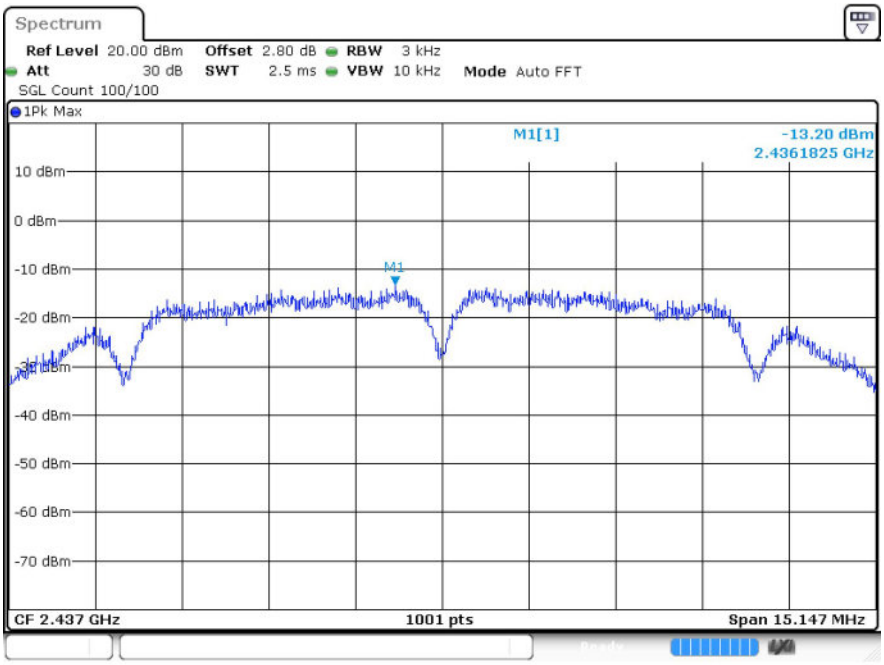


4 Maximum Power Spectral Density Level

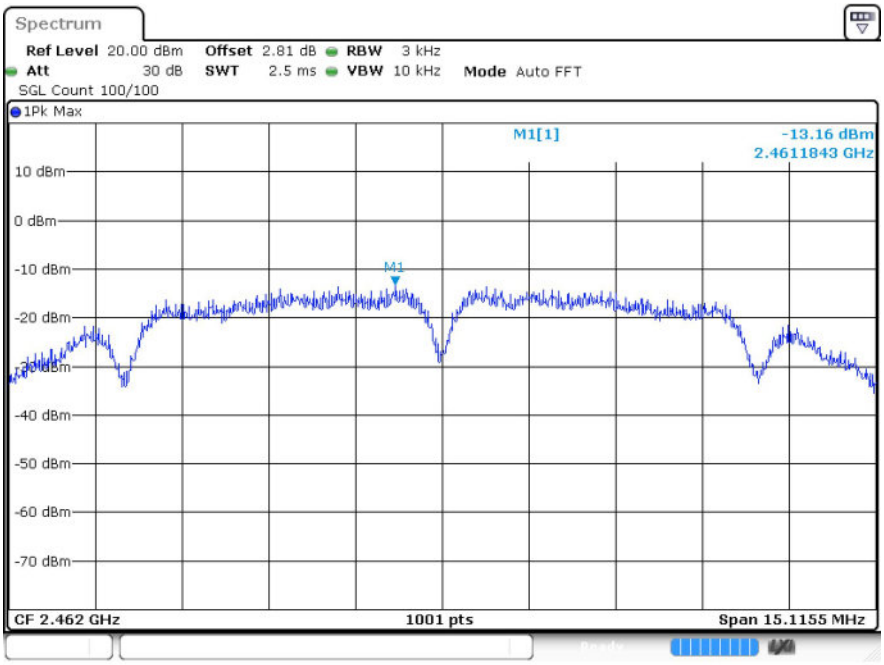
4.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-13.04	≤8	Pass
b	2437	Ant1	-13.2	≤8	Pass
b	2462	Ant1	-13.16	≤8	Pass
g	2412	Ant1	-16.39	≤8	Pass
g	2437	Ant1	-15.58	≤8	Pass
g	2462	Ant1	-16.77	≤8	Pass
n20	2412	Ant1	-15.66	≤8	Pass
n20	2437	Ant1	-16.26	≤8	Pass
n20	2462	Ant1	-16.75	≤8	Pass

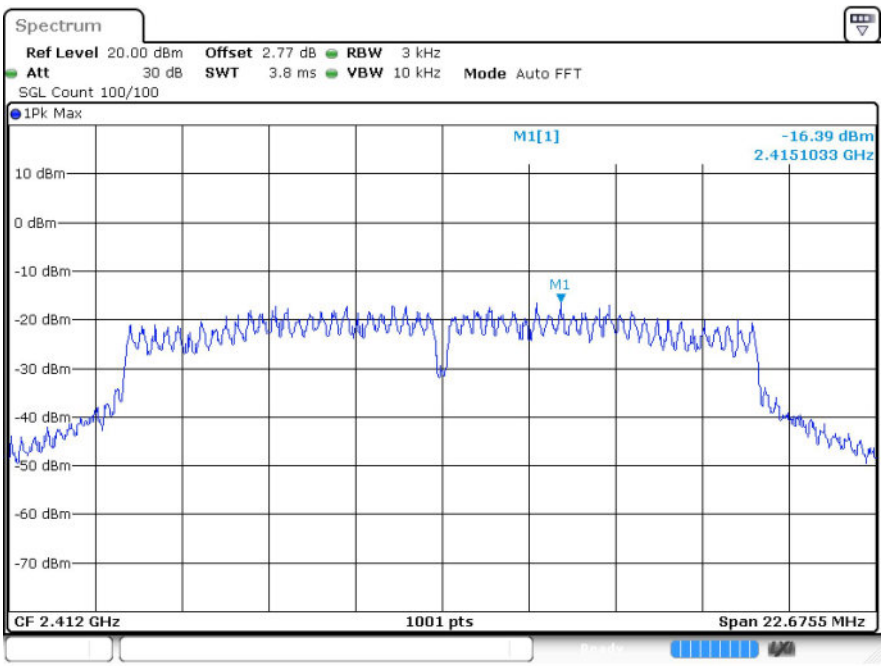
4.2 Test Graphs

Test Graphs
b 2412MHz Ant1

b 2437MHz Ant1


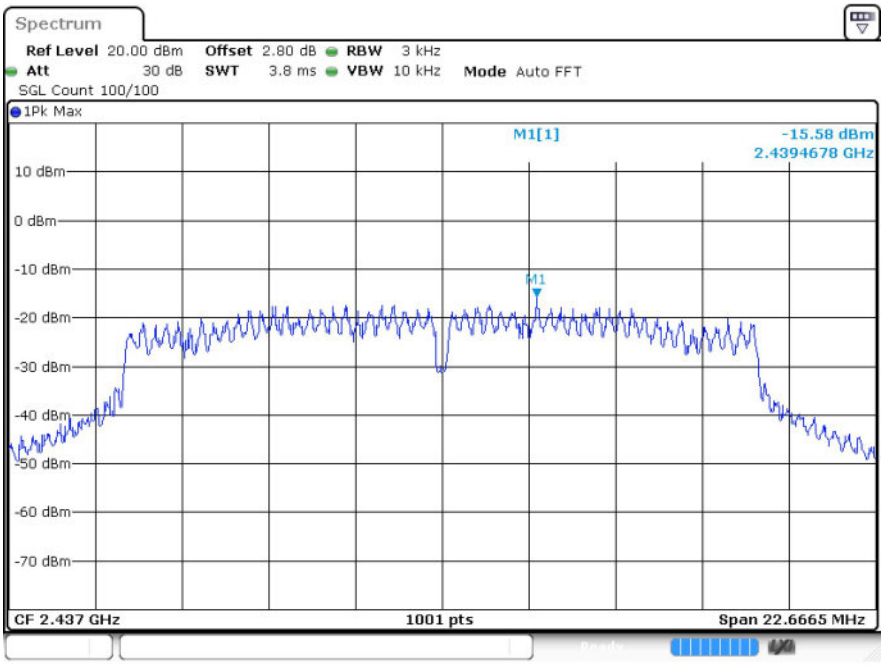
b 2462MHz Ant1



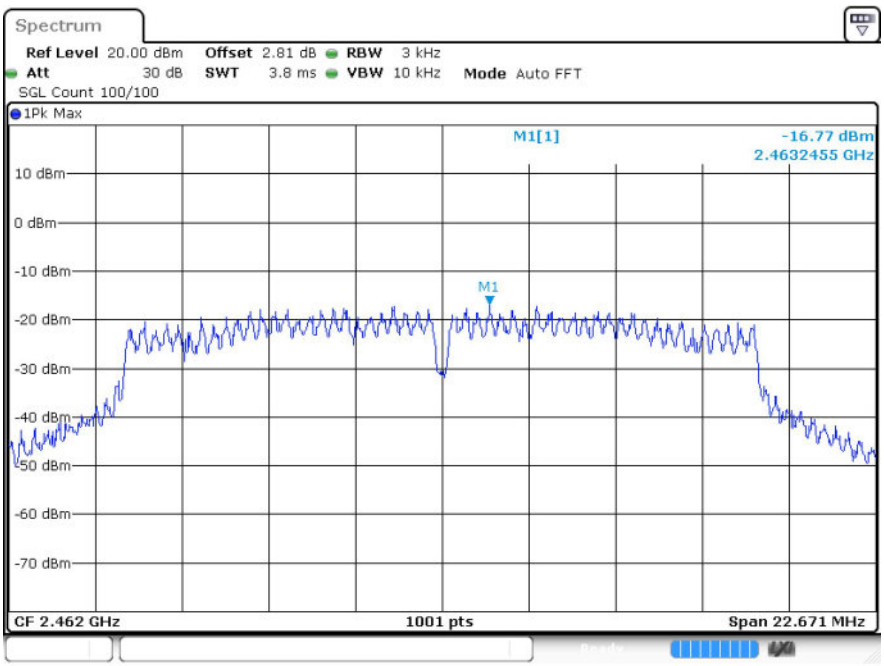
g 2412MHz Ant1



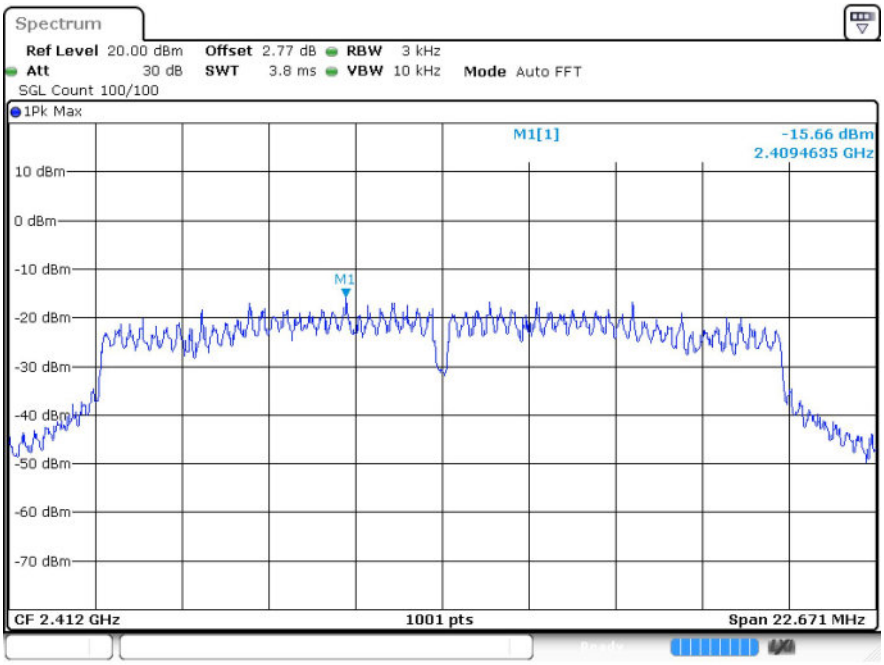
g 2437MHz Ant1



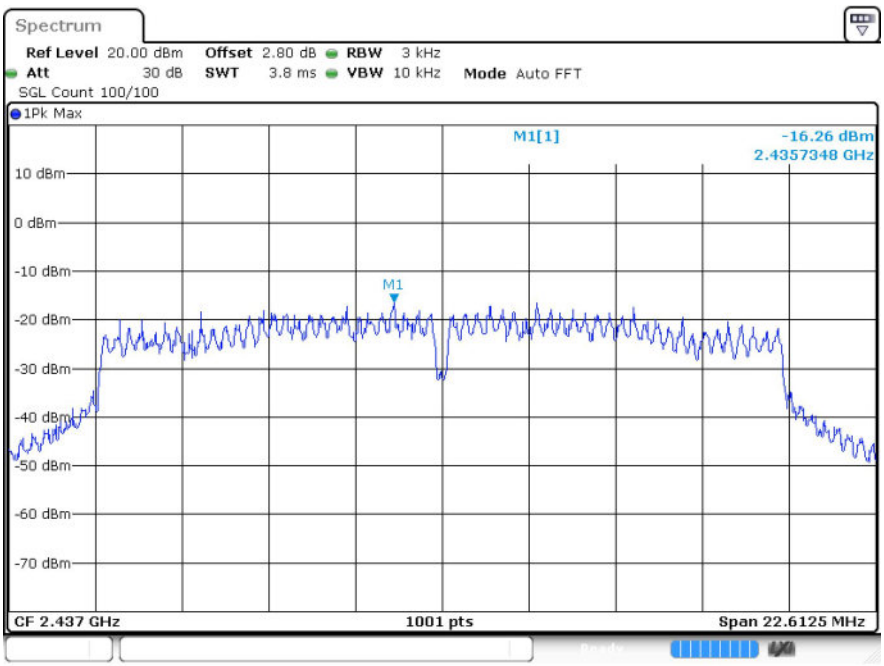
g 2462MHz Ant1



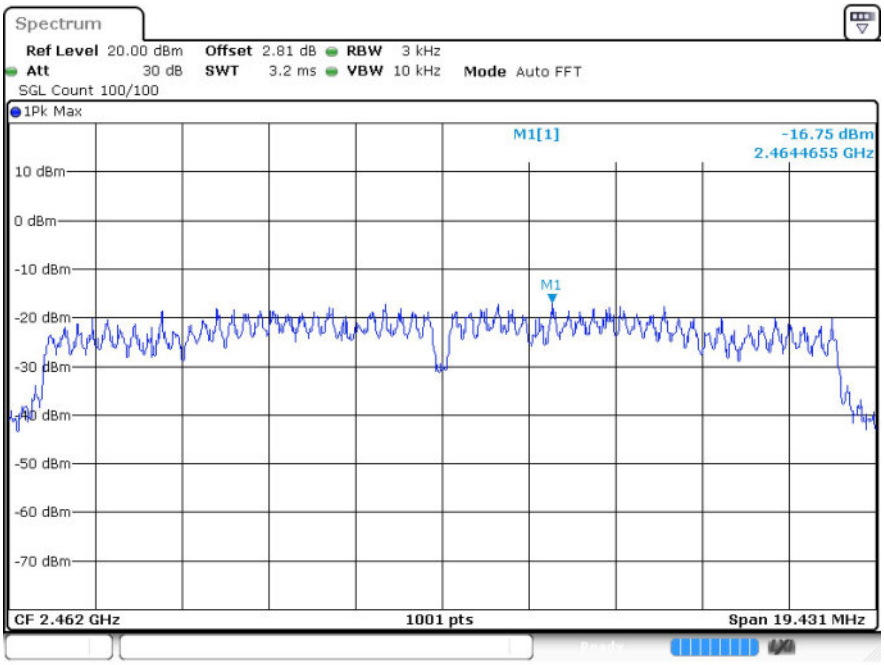
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1



5 Band Edge

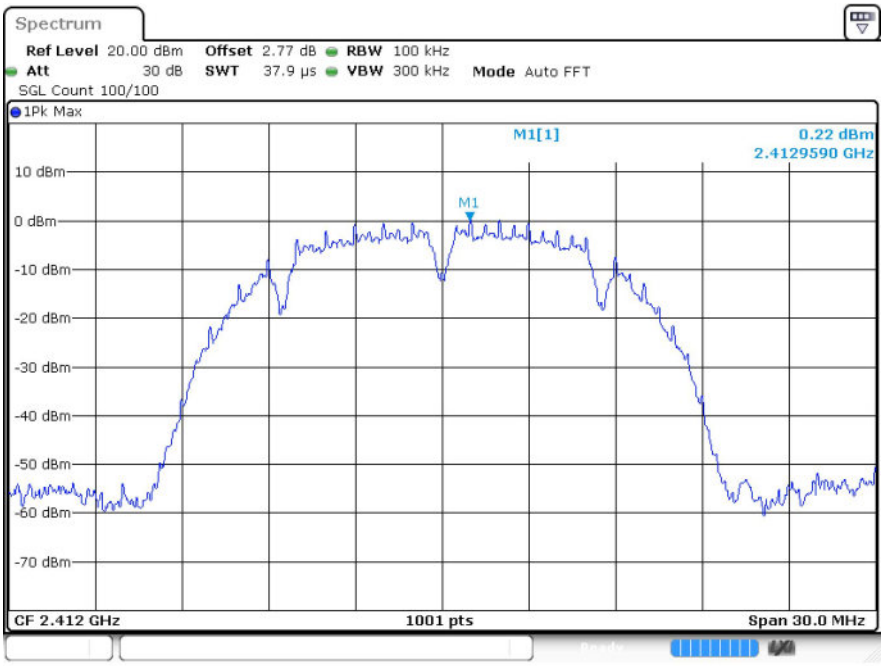
5.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-54.41	-20	Pass
b	2462	Ant1	-54.79	-20	Pass
g	2412	Ant1	-53.21	-20	Pass
g	2462	Ant1	-54.4	-20	Pass
n20	2412	Ant1	-52.4	-20	Pass
n20	2462	Ant1	-53.46	-20	Pass

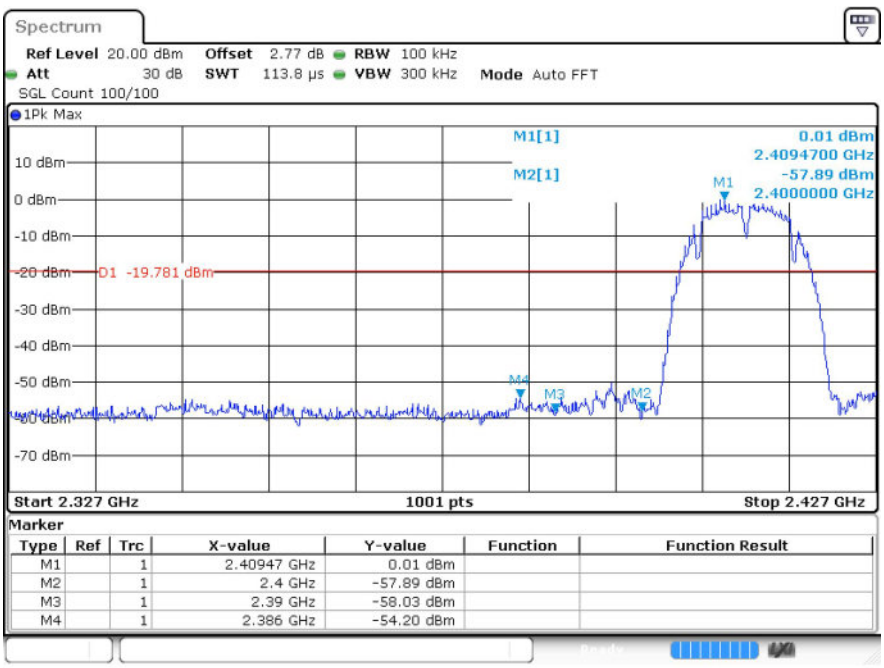
5.2 Test Graphs

Test Graphs

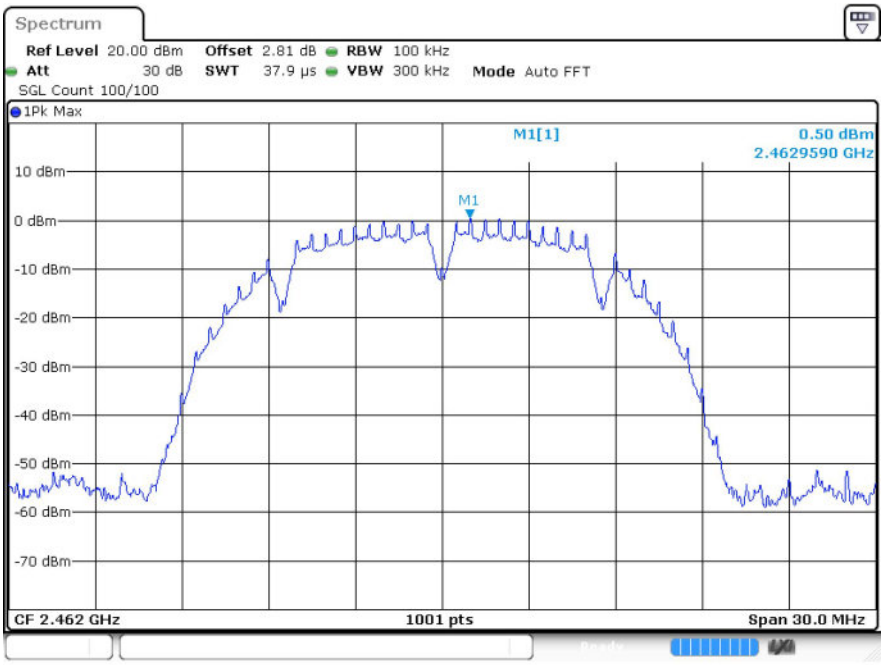
b 2412MHz Ant1 Ref



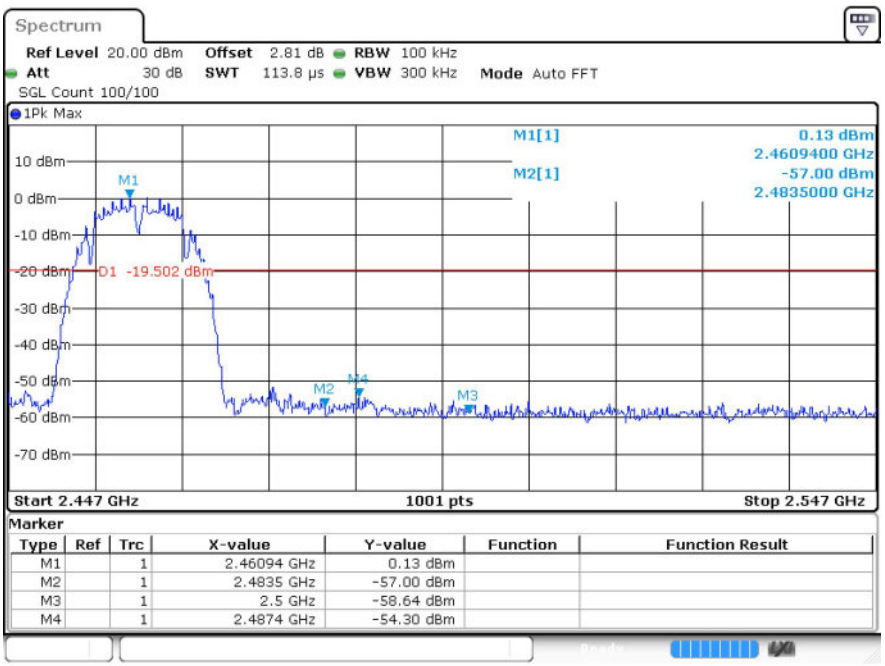
b 2412MHz Ant1 Emission



b 2462MHz Ant1 Ref

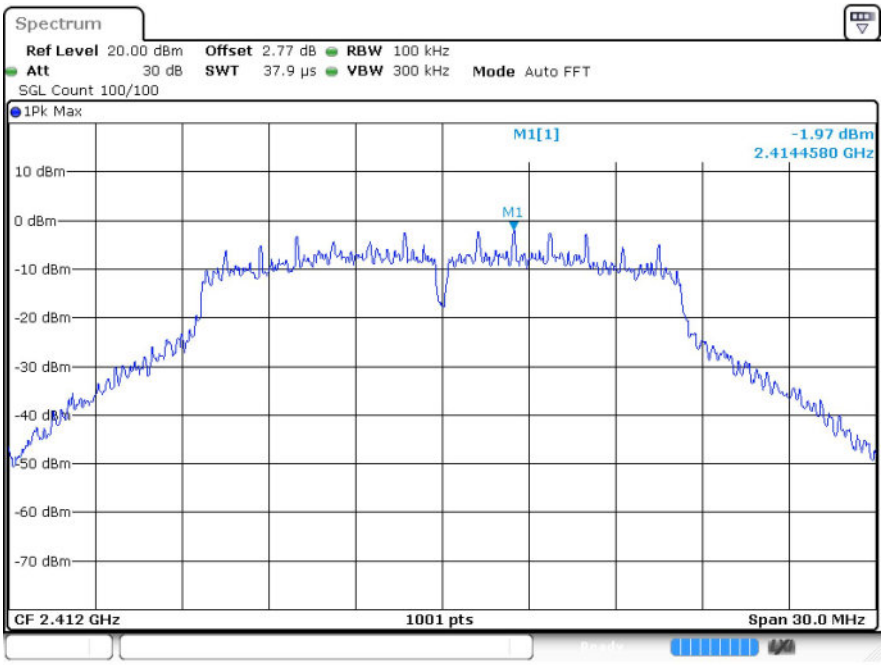


b 2462MHz Ant1 Emission

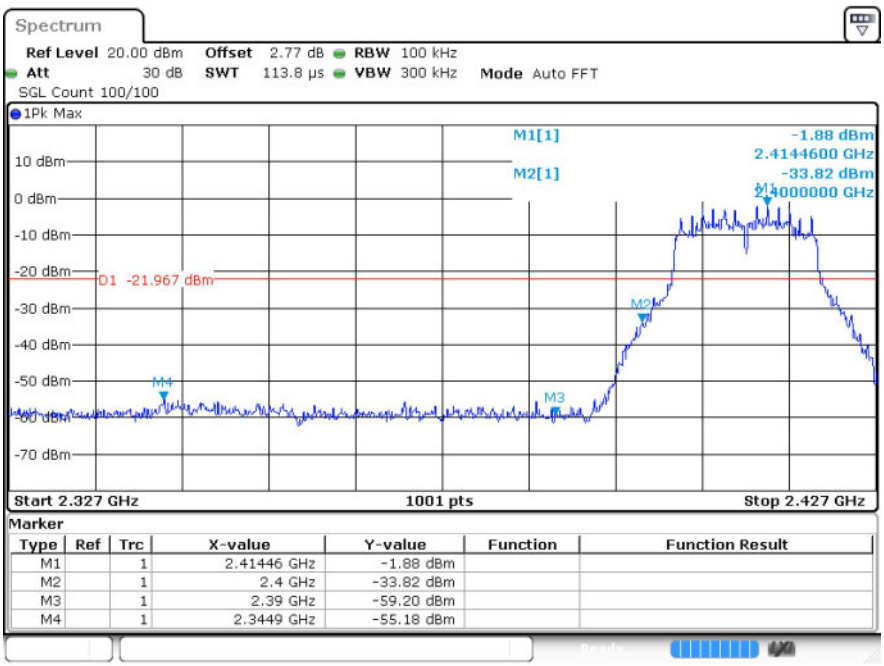


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46094 GHz	0.13 dBm		
M2		1	2.4835 GHz	-57.00 dBm		
M3		1	2.5 GHz	-58.64 dBm		
M4		1	2.4874 GHz	-54.30 dBm		

g 2412MHz Ant1 Ref



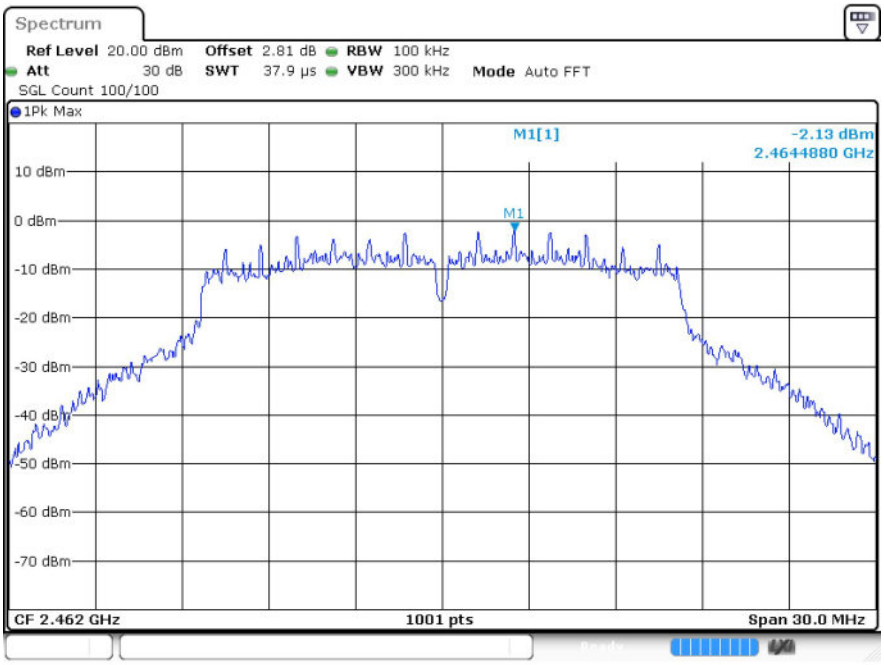
g 2412MHz Ant1 Emission



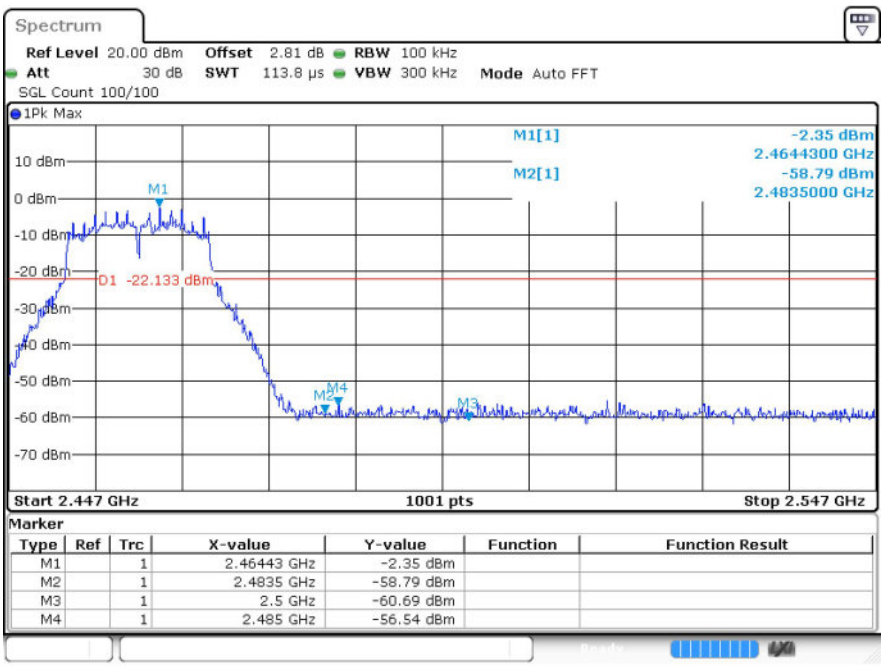
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41446 GHz	-1.88 dBm		
M2		1	2.4 GHz	-33.82 dBm		
M3		1	2.39 GHz	-59.20 dBm		
M4		1	2.3449 GHz	-55.18 dBm		

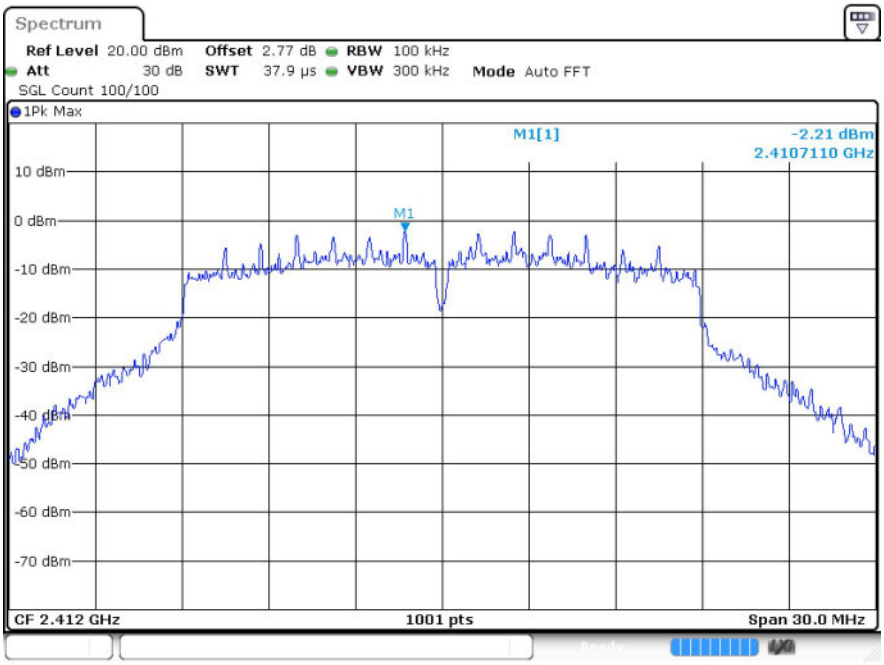
g 2462MHz Ant1 Ref



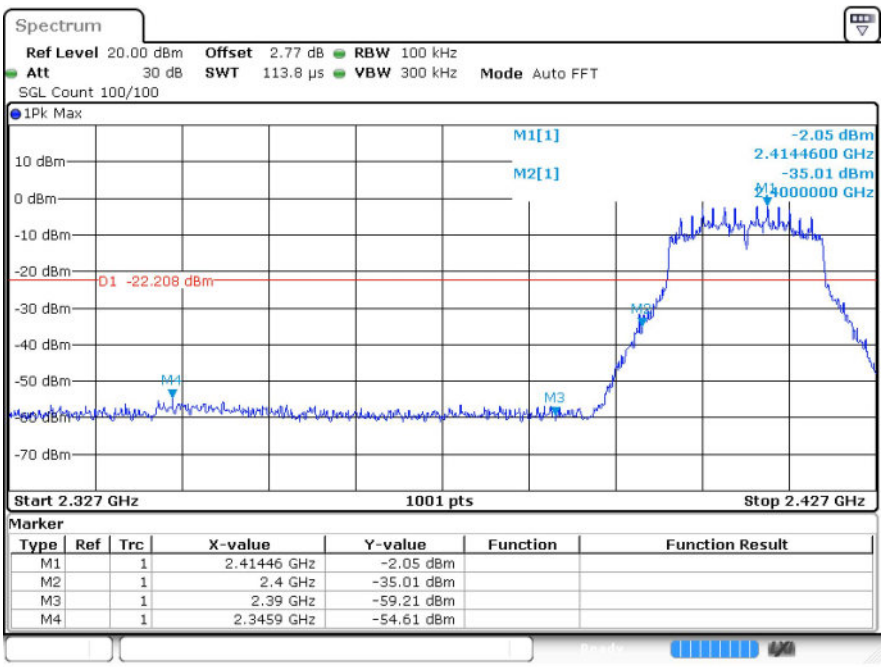
g 2462MHz Ant1 Emission



n20 2412MHz Ant1 Ref



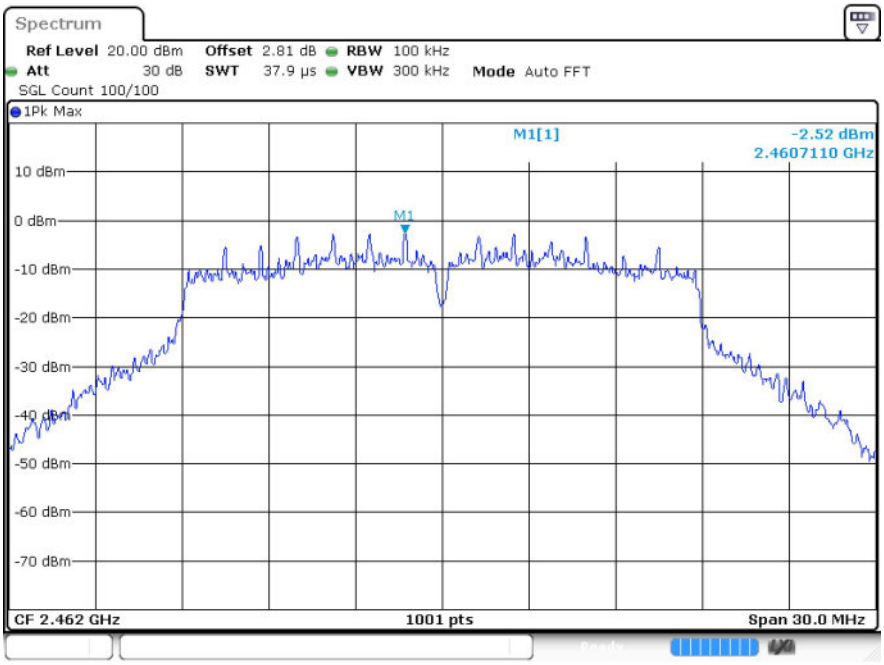
n20 2412MHz Ant1 Emission



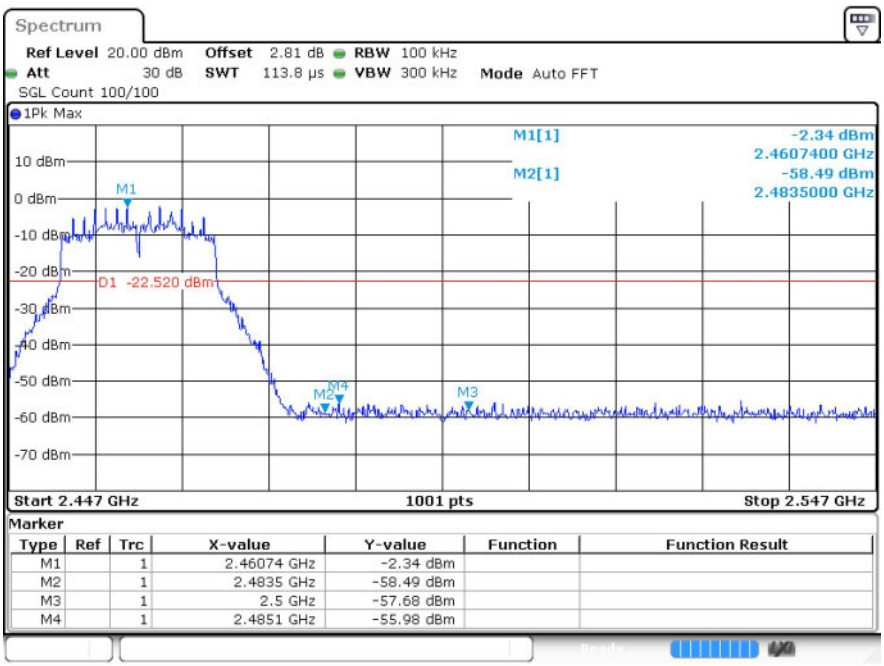
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41446 GHz	-2.05 dBm		
M2		1	2.4 GHz	-35.01 dBm		
M3		1	2.39 GHz	-59.21 dBm		
M4		1	2.3459 GHz	-54.61 dBm		

n20 2462MHz Ant1 Ref



n20 2462MHz Ant1 Emission



6 Conducted RF Spurious Emission

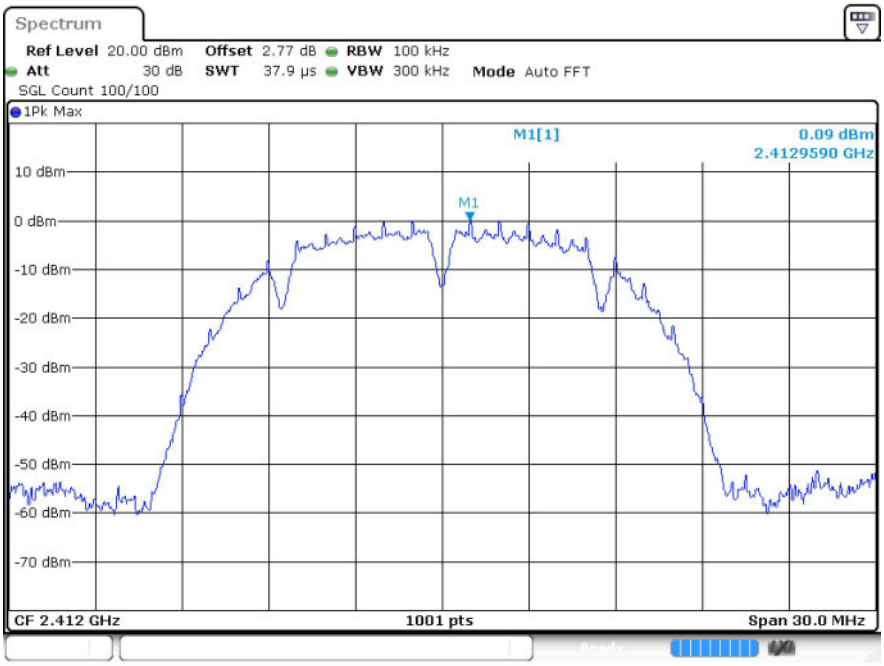
6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-43.72	-20	Pass
b	2437	Ant1	-43.08	-20	Pass
b	2462	Ant1	-42.56	-20	Pass
g	2412	Ant1	-40.08	-20	Pass
g	2437	Ant1	-41.35	-20	Pass
g	2462	Ant1	-39.54	-20	Pass
n20	2412	Ant1	-40.93	-20	Pass
n20	2437	Ant1	-40.51	-20	Pass
n20	2462	Ant1	-41.2	-20	Pass

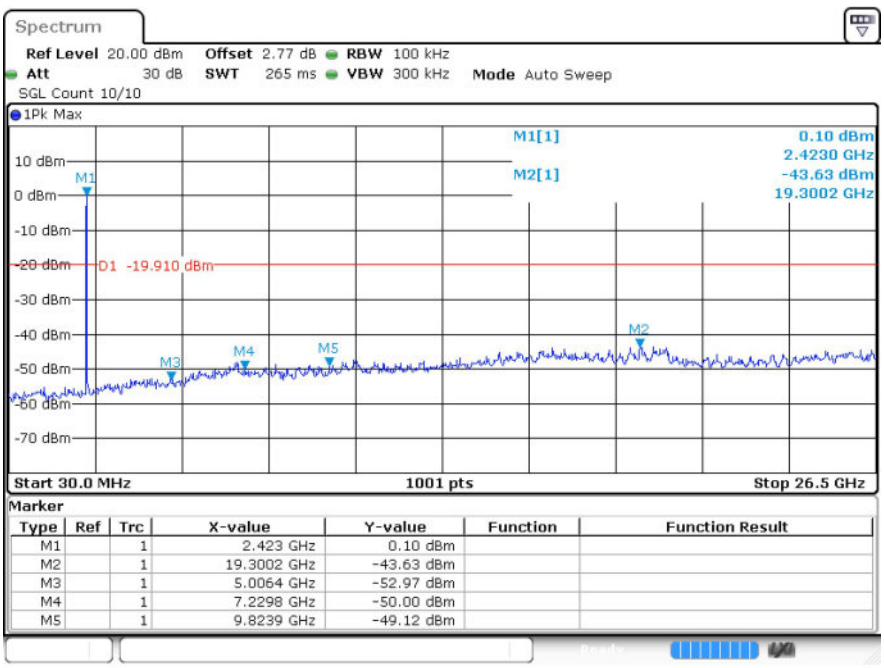
6.2 Test Graphs

Test Graphs

b 2412MHz Ant1 Ref

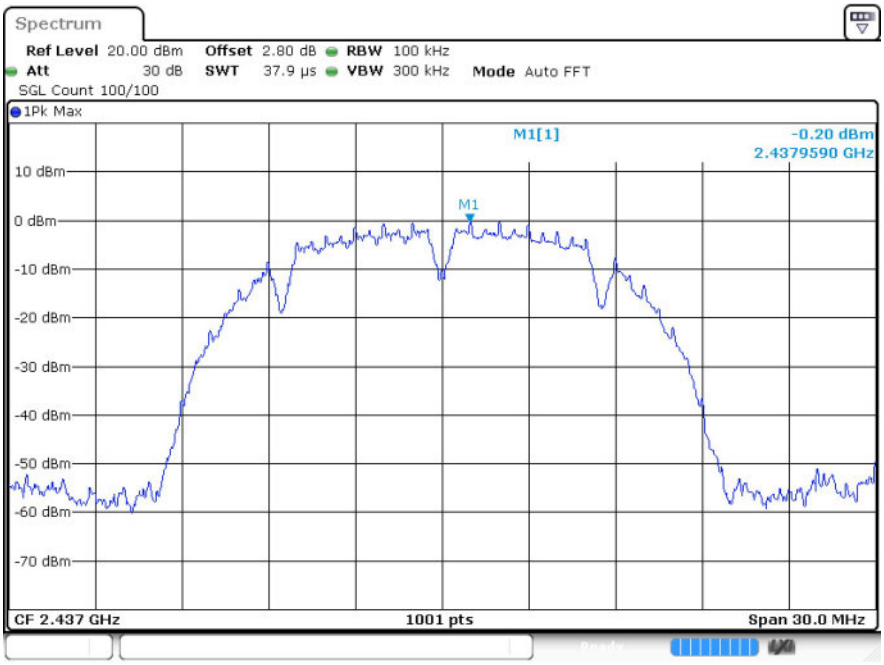


b 2412MHz Ant1 Emission

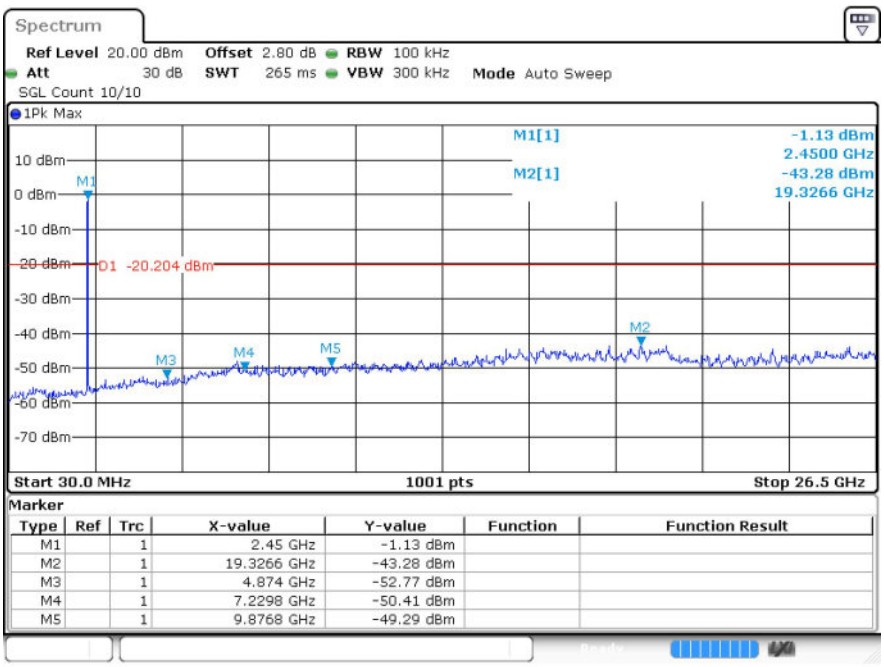


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	0.10 dBm		
M2		1	19.3002 GHz	-43.63 dBm		
M3		1	5.0064 GHz	-52.97 dBm		
M4		1	7.2298 GHz	-50.00 dBm		
M5		1	9.8239 GHz	-49.12 dBm		

b 2437MHz Ant1 Ref

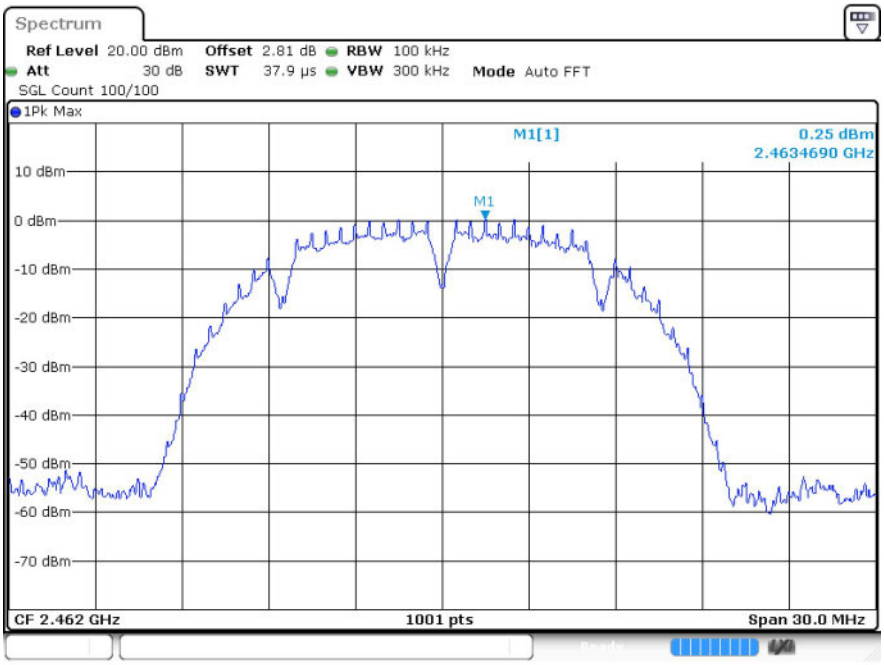


b 2437MHz Ant1 Emission

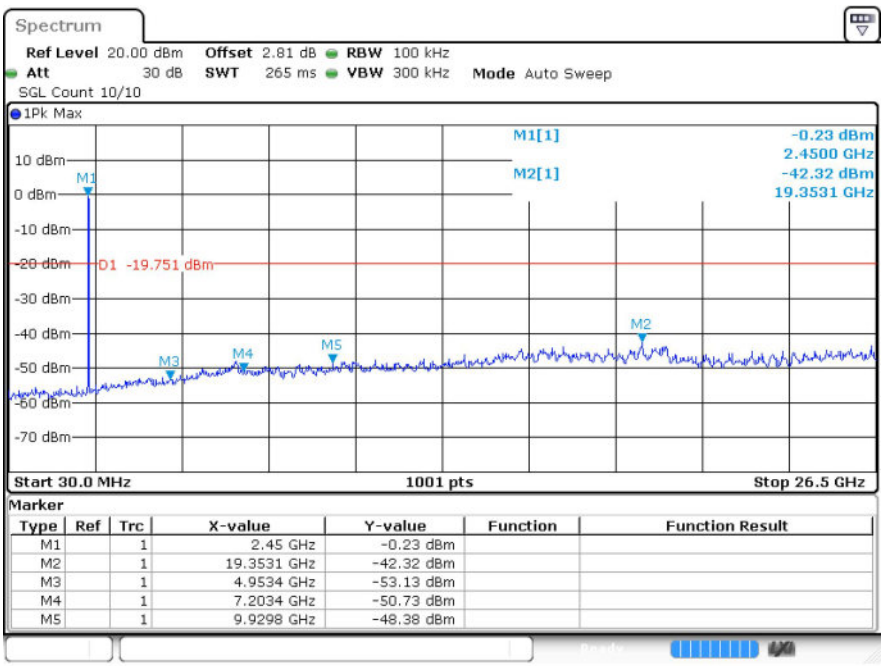


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45 GHz	-1.13 dBm		
M2		1	19.3266 GHz	-43.28 dBm		
M3		1	4.874 GHz	-52.77 dBm		
M4		1	7.2298 GHz	-50.41 dBm		
M5		1	9.8768 GHz	-49.29 dBm		

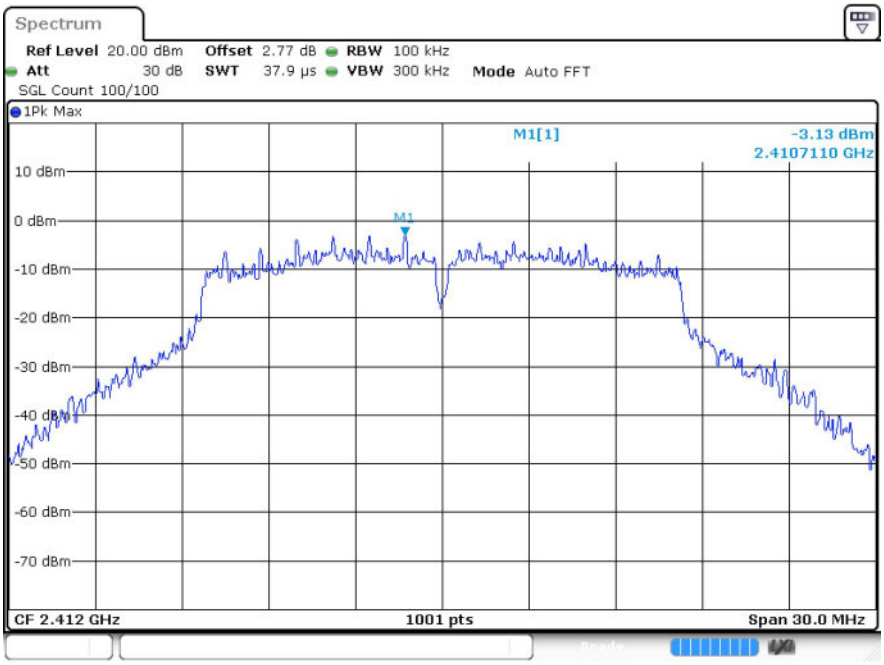
b 2462MHz Ant1 Ref



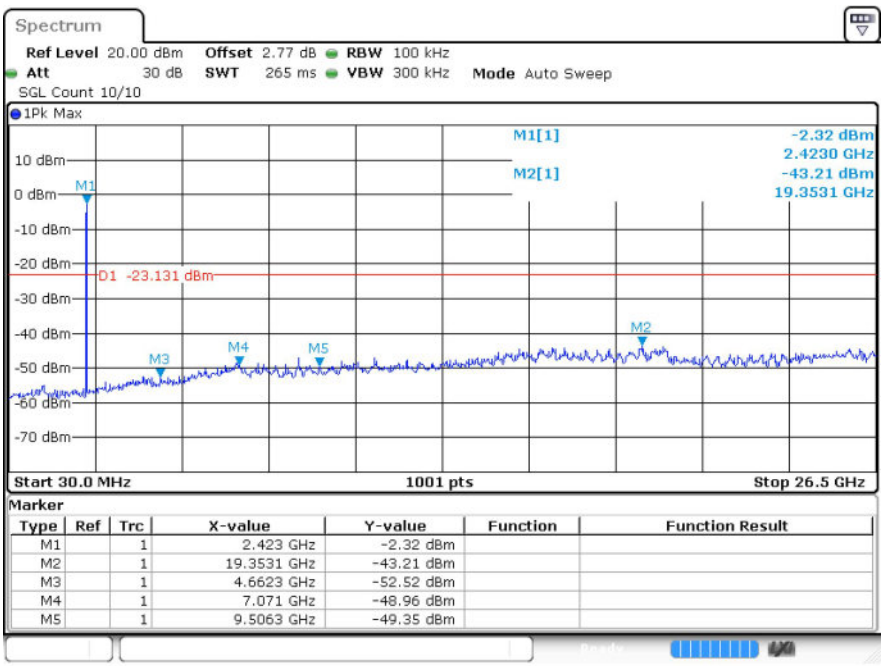
b 2462MHz Ant1 Emission



g 2412MHz Ant1 Ref



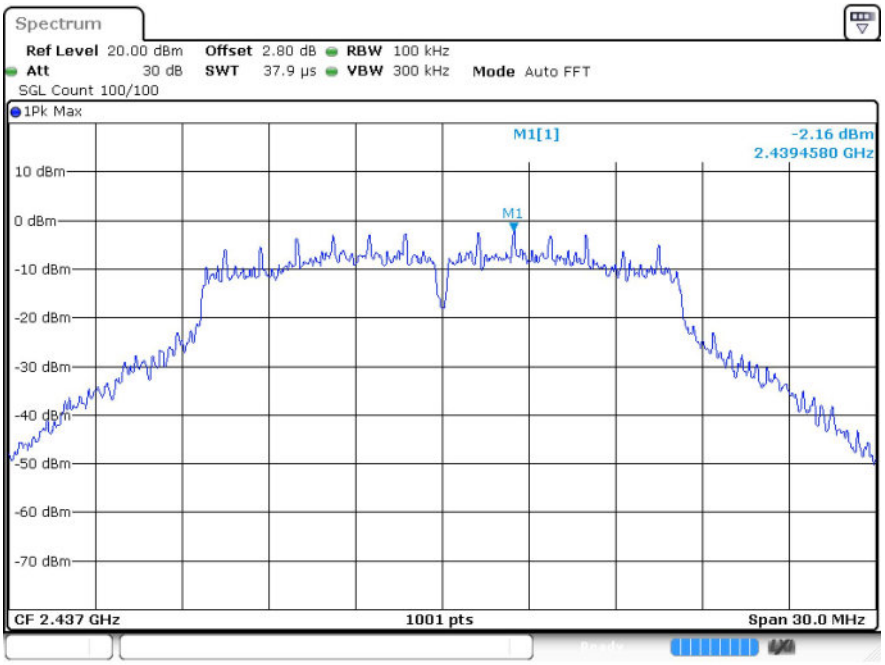
g 2412MHz Ant1 Emission



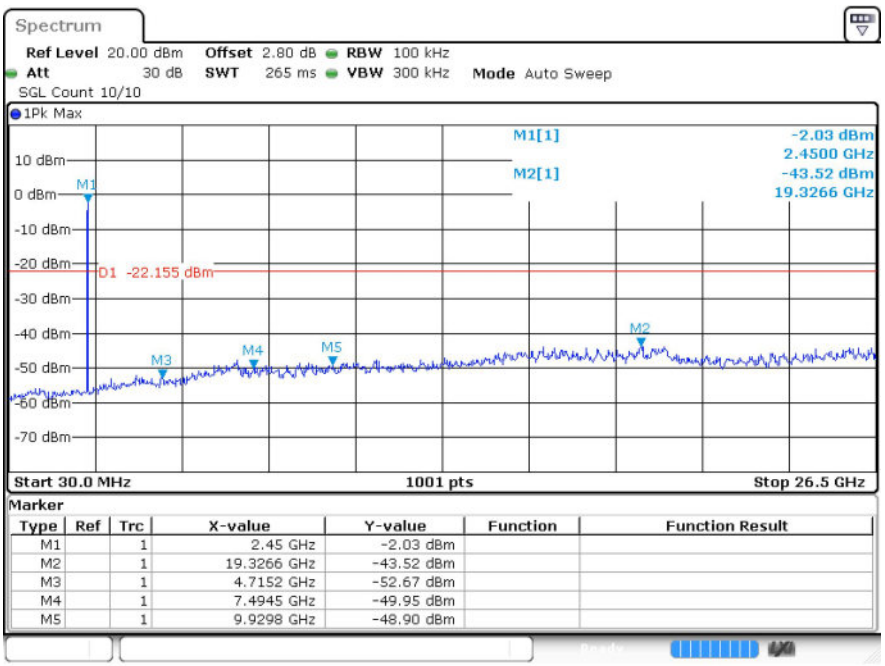
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	-2.32 dBm		
M2		1	19.3531 GHz	-43.21 dBm		
M3		1	4.6623 GHz	-52.52 dBm		
M4		1	7.071 GHz	-48.96 dBm		
M5		1	9.5063 GHz	-49.35 dBm		

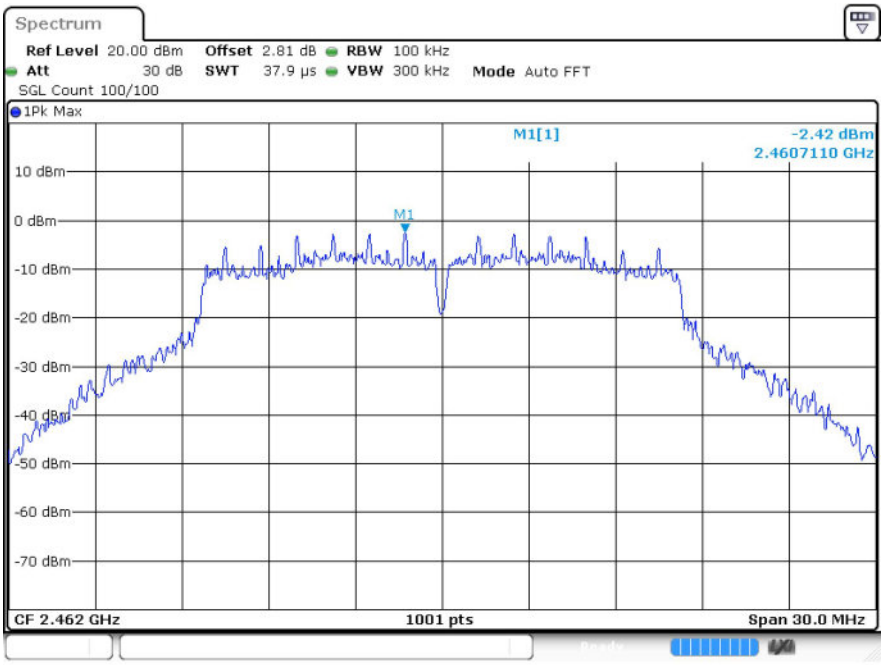
g 2437MHz Ant1 Ref



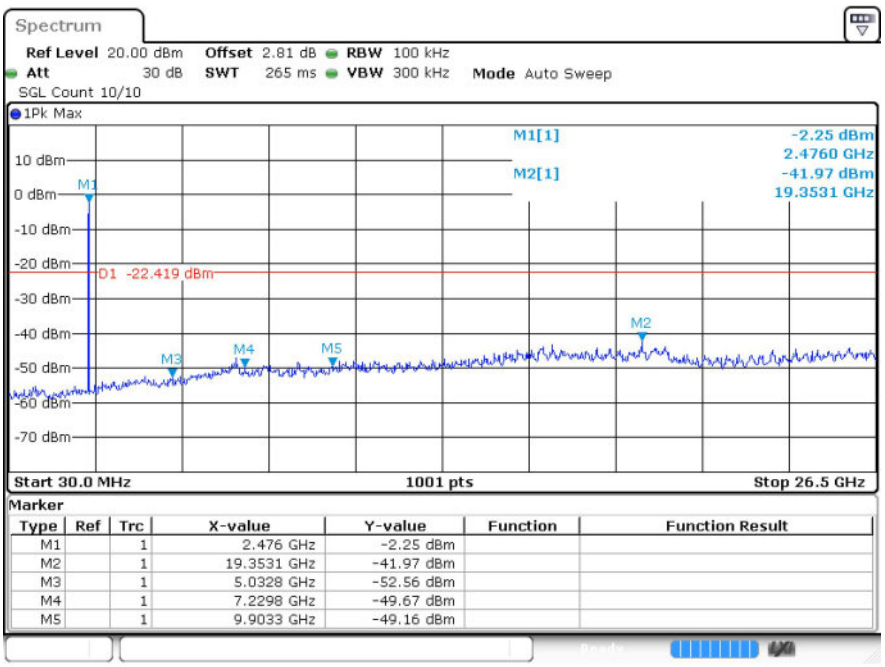
g 2437MHz Ant1 Emission



g 2462MHz Ant1 Ref



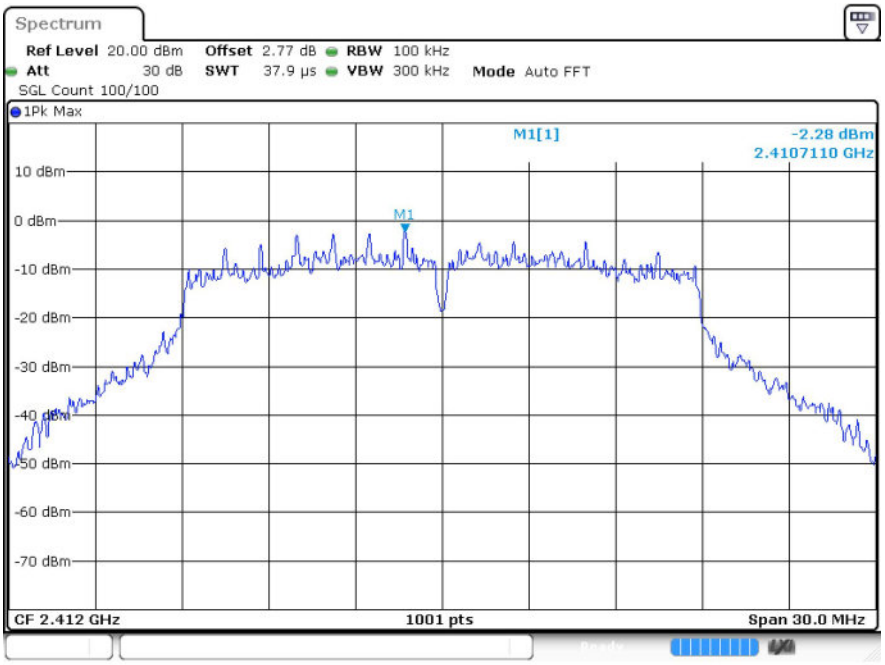
g 2462MHz Ant1 Emission



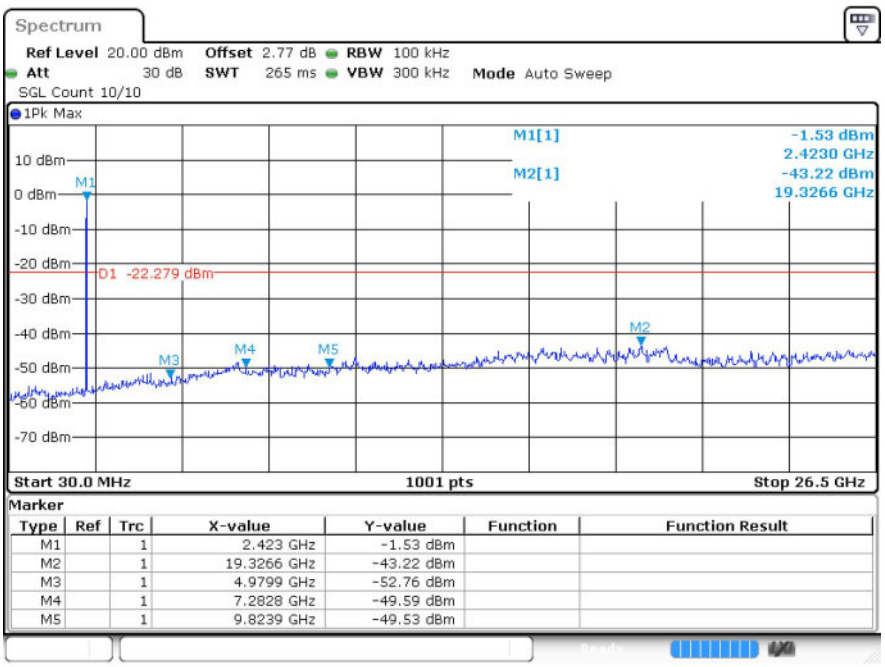
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.476 GHz	-2.25 dBm		
M2		1	19.3531 GHz	-41.97 dBm		
M3		1	5.0328 GHz	-52.56 dBm		
M4		1	7.2298 GHz	-49.67 dBm		
M5		1	9.9033 GHz	-49.16 dBm		

n20 2412MHz Ant1 Ref



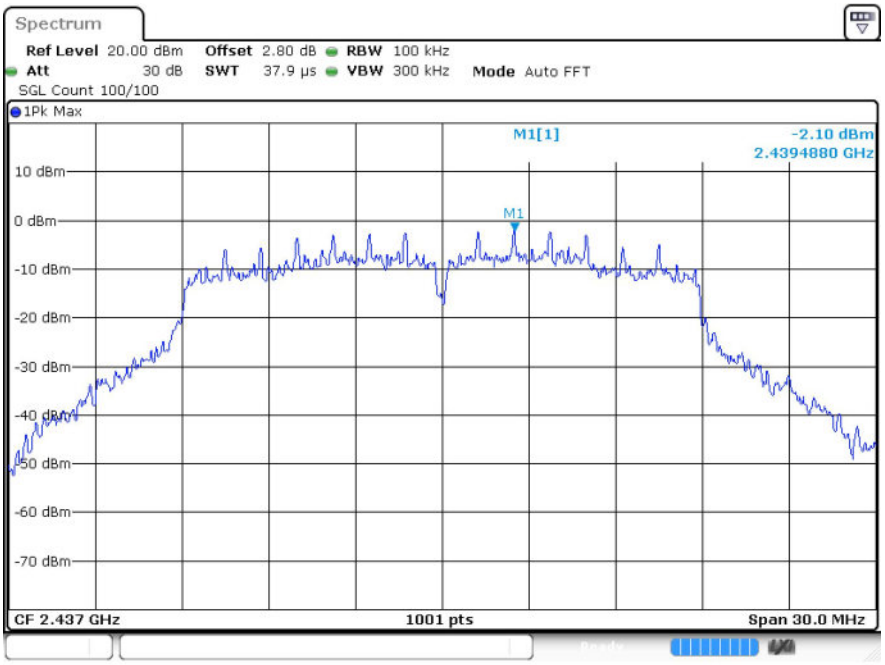
n20 2412MHz Ant1 Emission



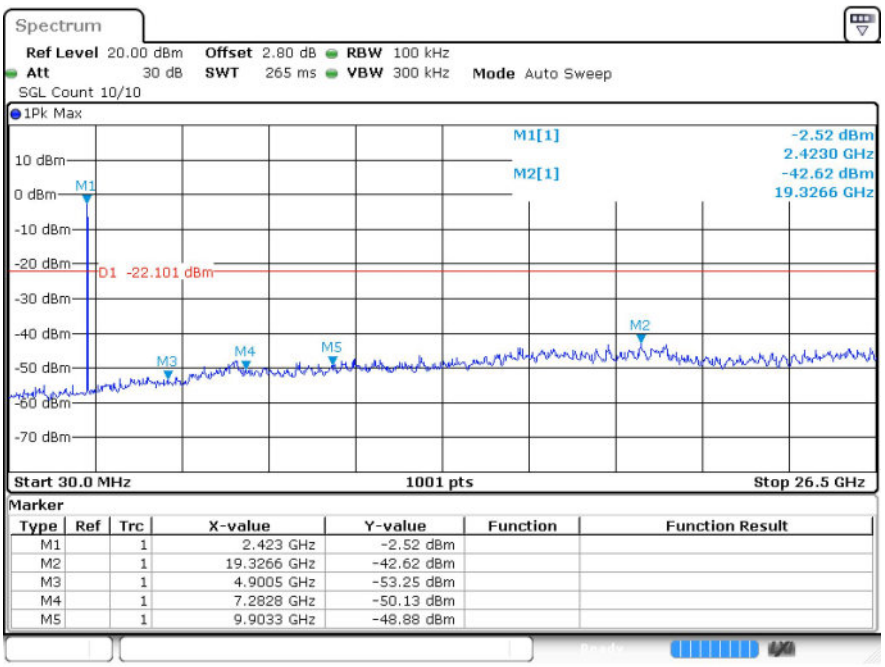
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.423 GHz	-1.53 dBm		
M2		1	19.3266 GHz	-43.22 dBm		
M3		1	4.9799 GHz	-52.76 dBm		
M4		1	7.2828 GHz	-49.59 dBm		
M5		1	9.8239 GHz	-49.53 dBm		

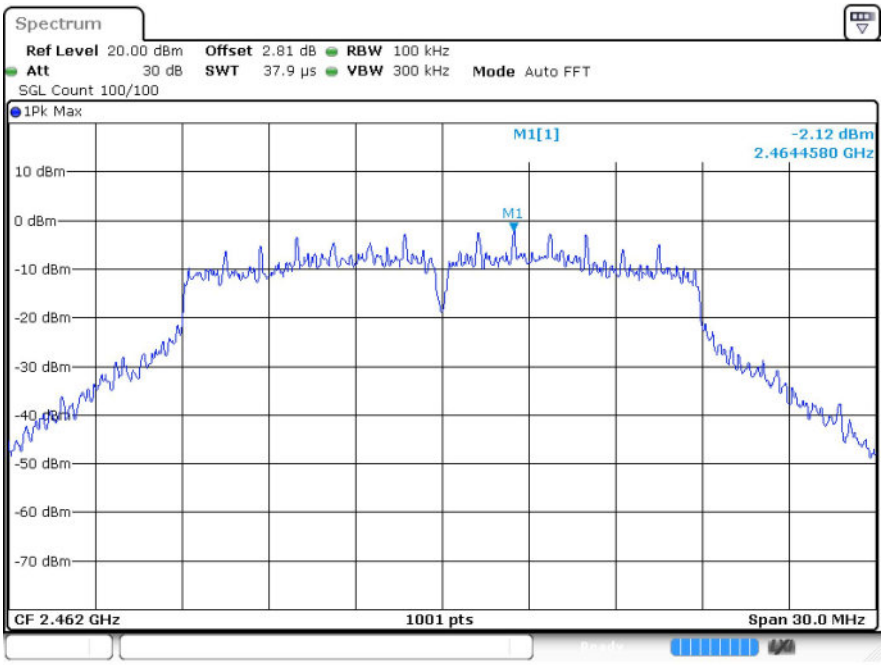
n20 2437MHz Ant1 Ref



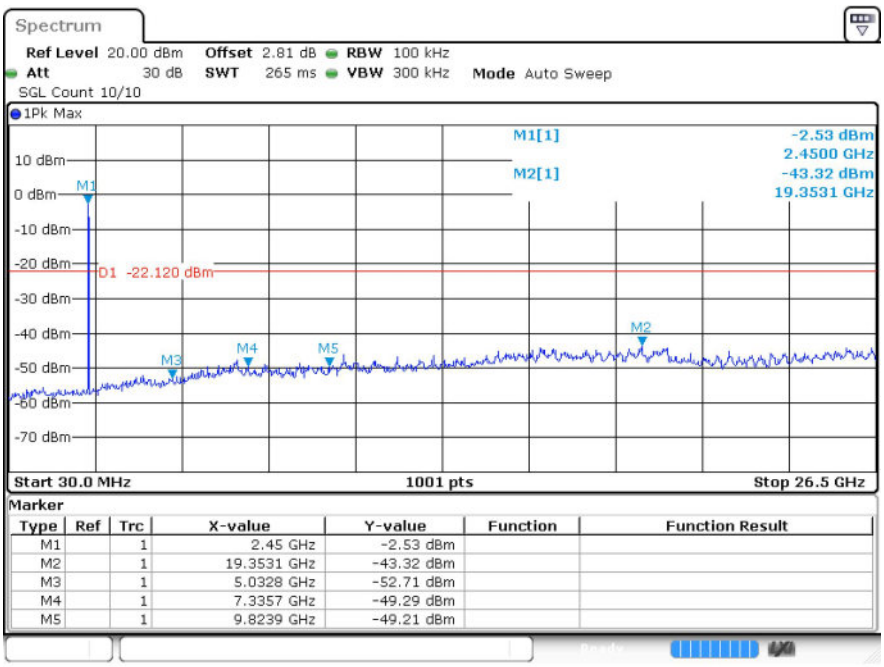
n20 2437MHz Ant1 Emission



n20 2462MHz Ant1 Ref



n20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45 GHz	-2.53 dBm		
M2		1	19.3531 GHz	-43.32 dBm		
M3		1	5.0328 GHz	-52.71 dBm		
M4		1	7.3357 GHz	-49.29 dBm		
M5		1	9.8239 GHz	-49.21 dBm		

7 Restrict Band

7.1 Test Result

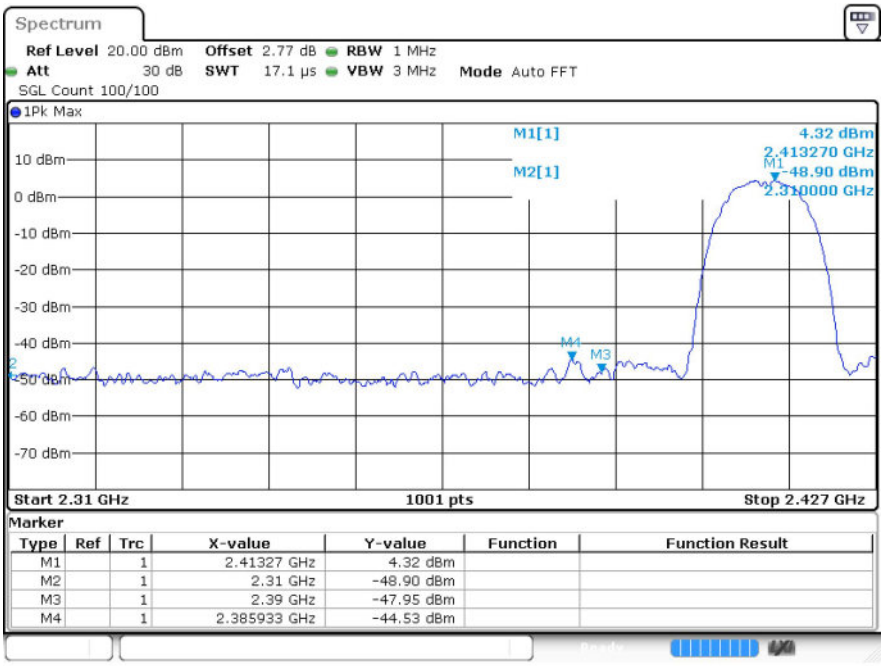
Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
b	2412	Ant1	2310	-48.9	2.0	-	48.33	Peak	74	Pass
b	2412	Ant1	2310	-56.03	2.0	0	41.20	Average	54	Pass
b	2412	Ant1	2385.933	-44.52	2.0	-	52.71	Peak	74	Pass
b	2412	Ant1	2386.167	-53.71	2.0	0	43.52	Average	54	Pass
b	2412	Ant1	2390	-47.95	2.0	-	49.28	Peak	74	Pass
b	2412	Ant1	2390	-54.6	2.0	0	42.63	Average	54	Pass
b	2462	Ant1	2483.5	-49.64	2.0	-	47.59	Peak	74	Pass
b	2462	Ant1	2483.5	-54.76	2.0	0	42.47	Average	54	Pass
b	2462	Ant1	2484.153	-46.11	2.0	-	51.12	Peak	74	Pass
b	2462	Ant1	2487.863	-54.29	2.0	0	42.94	Average	54	Pass
b	2462	Ant1	2500	-48.8	2.0	-	48.43	Peak	74	Pass
b	2462	Ant1	2500	-56.11	2.0	0	41.12	Average	54	Pass
g	2412	Ant1	2310	-49.57	2.0	-	47.66	Peak	74	Pass
g	2412	Ant1	2310	-56.96	2.0	0.61	40.88	Average	54	Pass
g	2412	Ant1	2379.966	-46.21	2.0	-	51.02	Peak	74	Pass
g	2412	Ant1	2336.559	-54.49	2.0	0.61	43.35	Average	54	Pass
g	2412	Ant1	2390	-50.75	2.0	-	46.48	Peak	74	Pass
g	2412	Ant1	2390	-56.8	2.0	0.61	41.04	Average	54	Pass
g	2462	Ant1	2483.5	-49.07	2.0	-	48.16	Peak	74	Pass
g	2462	Ant1	2483.5	-56.21	2.0	0.61	41.63	Average	54	Pass
g	2462	Ant1	2484.153	-46.57	2.0	-	50.66	Peak	74	Pass
g	2462	Ant1	2486.114	-55.57	2.0	0.61	42.27	Average	54	Pass
g	2462	Ant1	2500	-49.65	2.0	-	47.58	Peak	74	Pass
g	2462	Ant1	2500	-56.97	2.0	0.61	40.87	Average	54	Pass
n20	2412	Ant1	2310	-48.53	2.0	-	48.70	Peak	74	Pass
n20	2412	Ant1	2310	-56.71	2.0	0.58	41.10	Average	54	Pass
n20	2412	Ant1	2338.431	-45.21	2.0	-	52.02	Peak	74	Pass
n20	2412	Ant1	2337.261	-54.02	2.0	0.58	43.79	Average	54	Pass
n20	2412	Ant1	2390	-48.94	2.0	-	48.29	Peak	74	Pass
n20	2412	Ant1	2390	-57.33	2.0	0.58	40.48	Average	54	Pass
n20	2462	Ant1	2483.5	-49.06	2.0	-	48.17	Peak	74	Pass
n20	2462	Ant1	2483.5	-55.67	2.0	0.57	42.13	Average	54	Pass
n20	2462	Ant1	2491.414	-45.59	2.0	-	51.64	Peak	74	Pass
n20	2462	Ant1	2483.888	-55.46	2.0	0.57	42.34	Average	54	Pass

n20	2462	Ant1	2500	-49.28	2.0	-	47.95	Peak	74	Pass
n20	2462	Ant1	2500	-56.2	2.0	0.57	41.60	Average	54	Pass

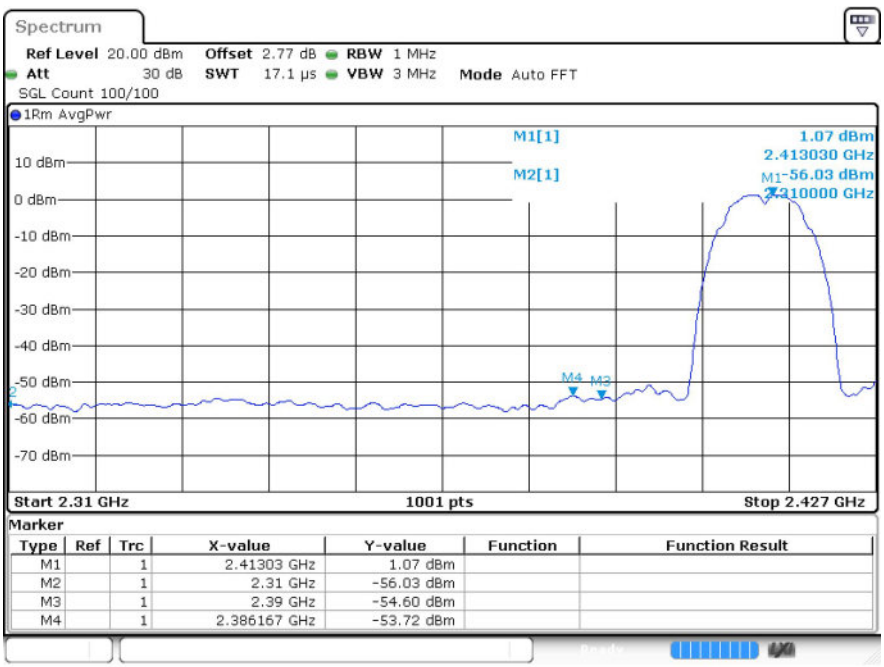
7.2 Test Graphs

Test Graphs

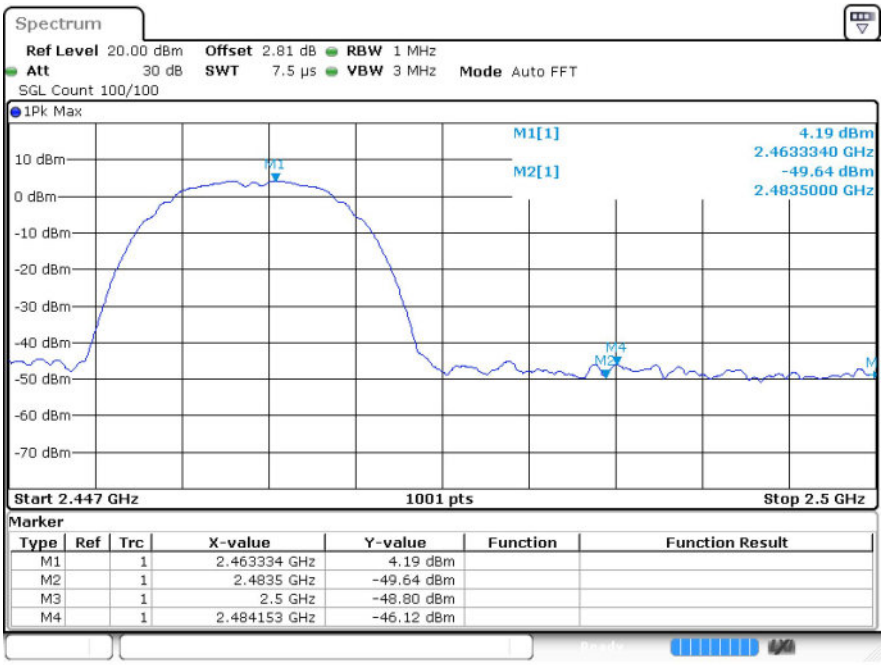
b 2412MHz Ant1 Peak



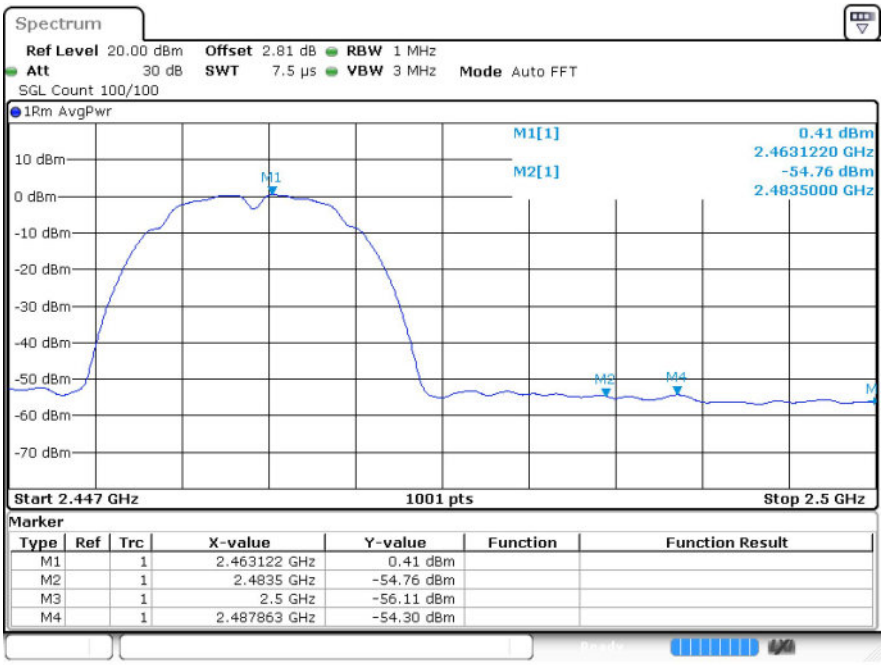
b 2412MHz Ant1 Average



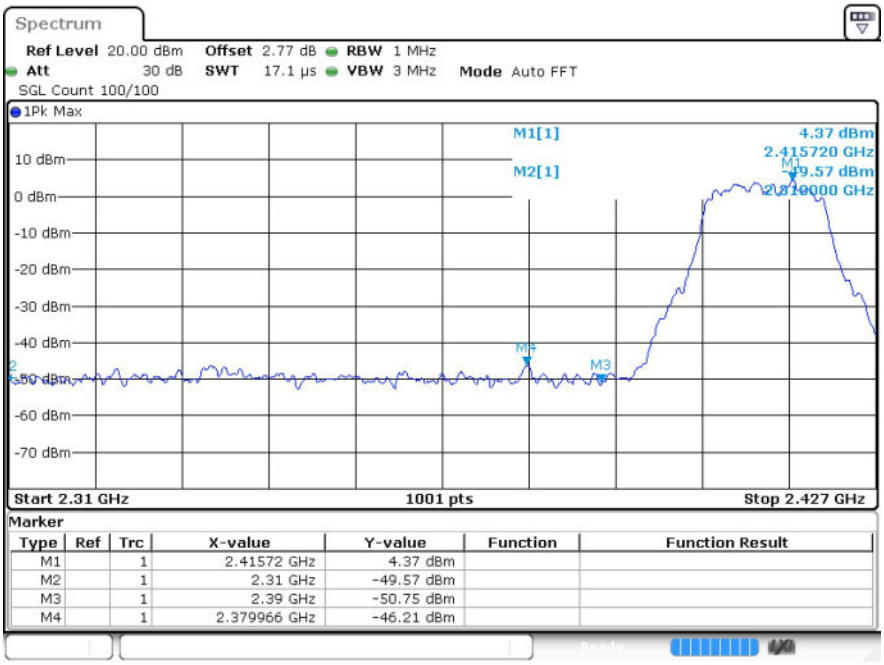
b 2462MHz Ant1 Peak



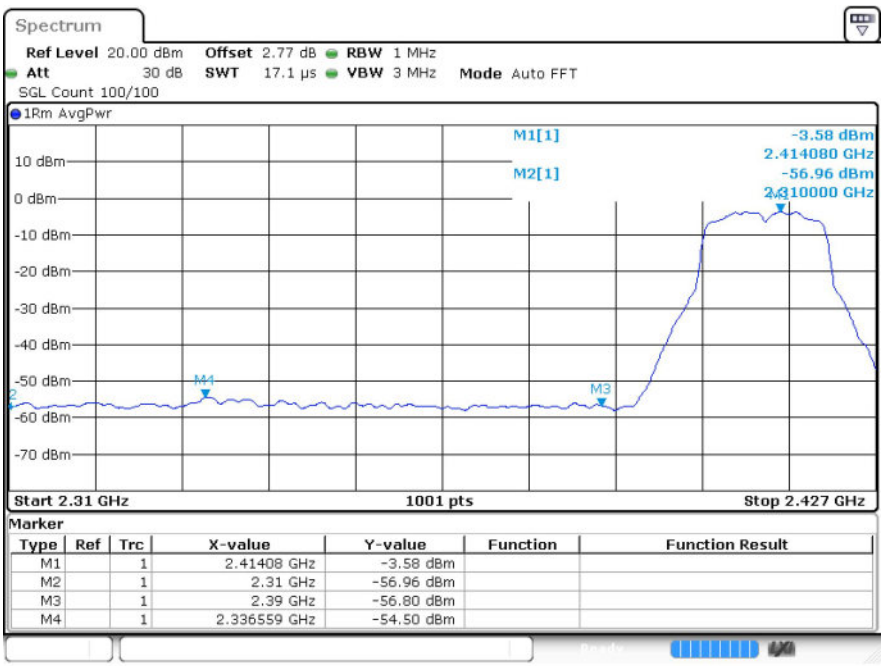
b 2462MHz Ant1 Average



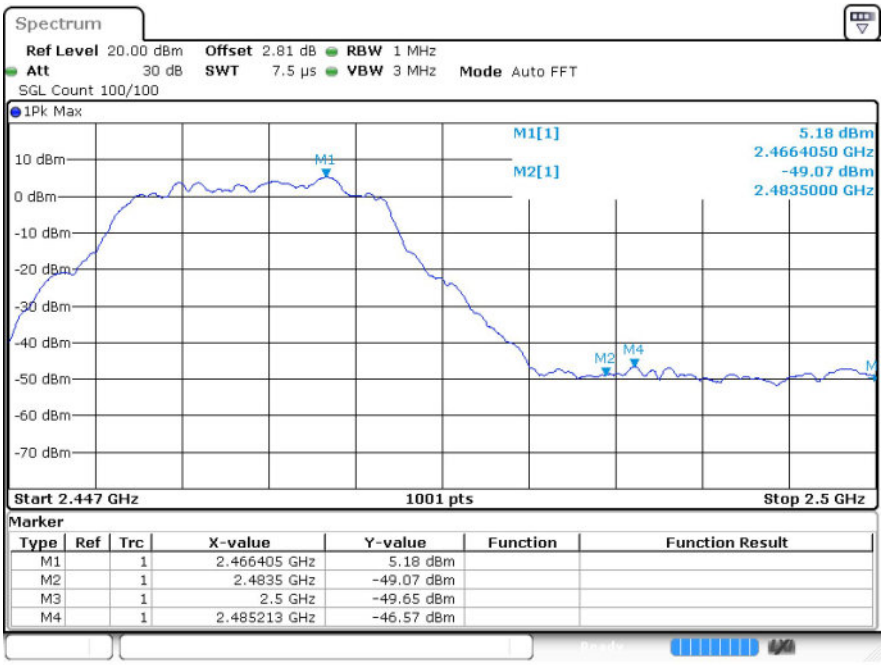
g 2412MHz Ant1 Peak



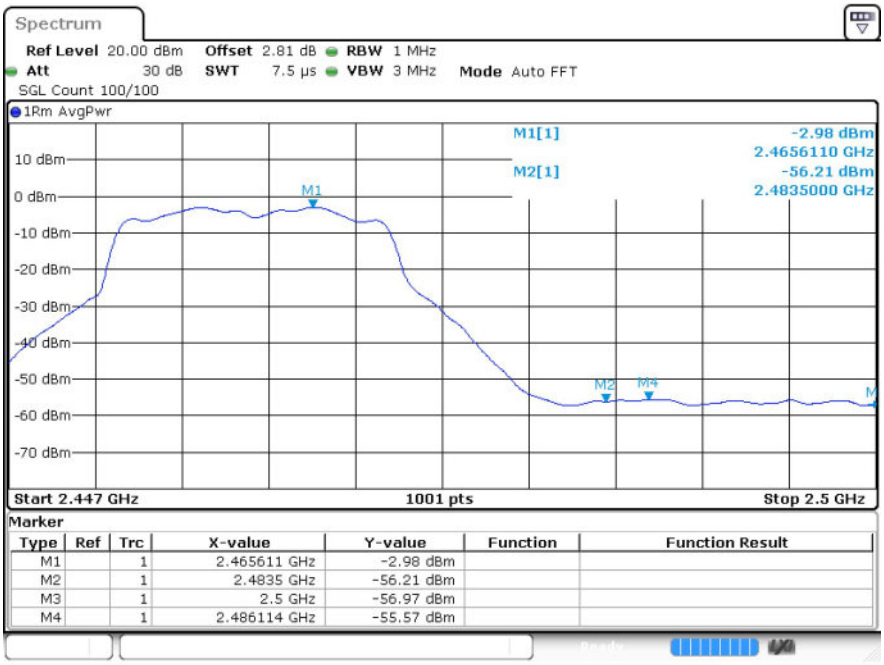
g 2412MHz Ant1 Average



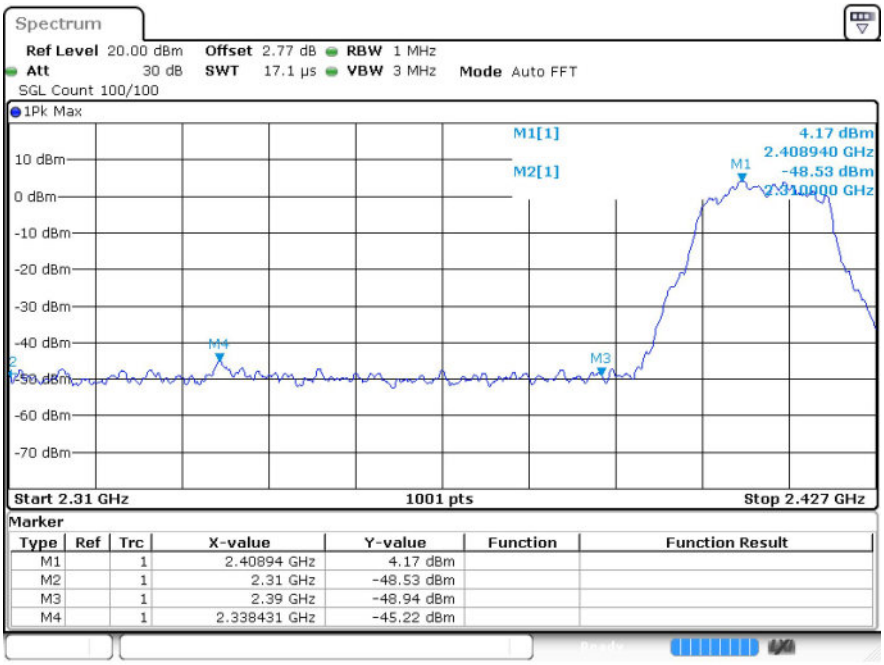
g 2462MHz Ant1 Peak



g 2462MHz Ant1 Average



n20 2412MHz Ant1 Peak



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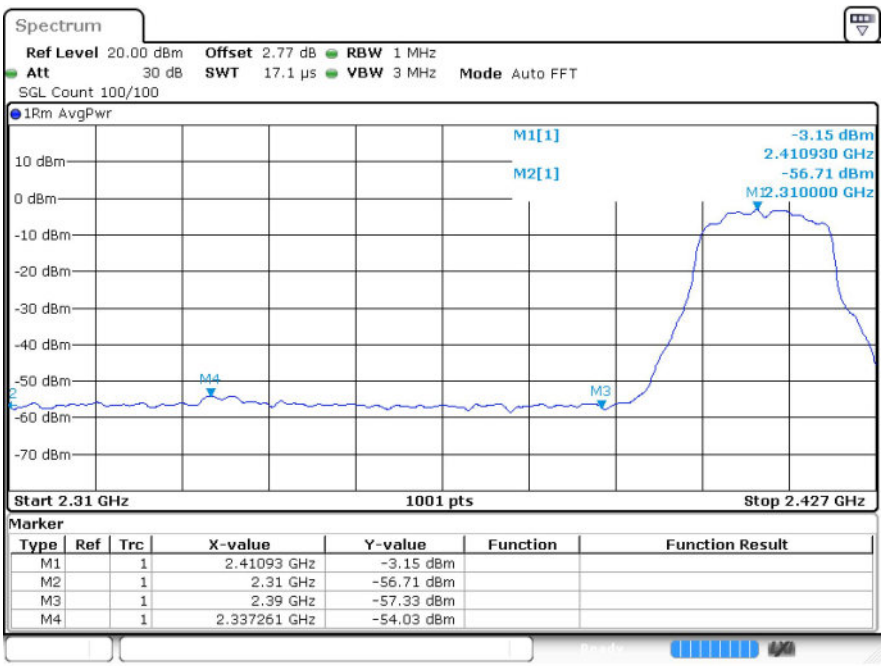
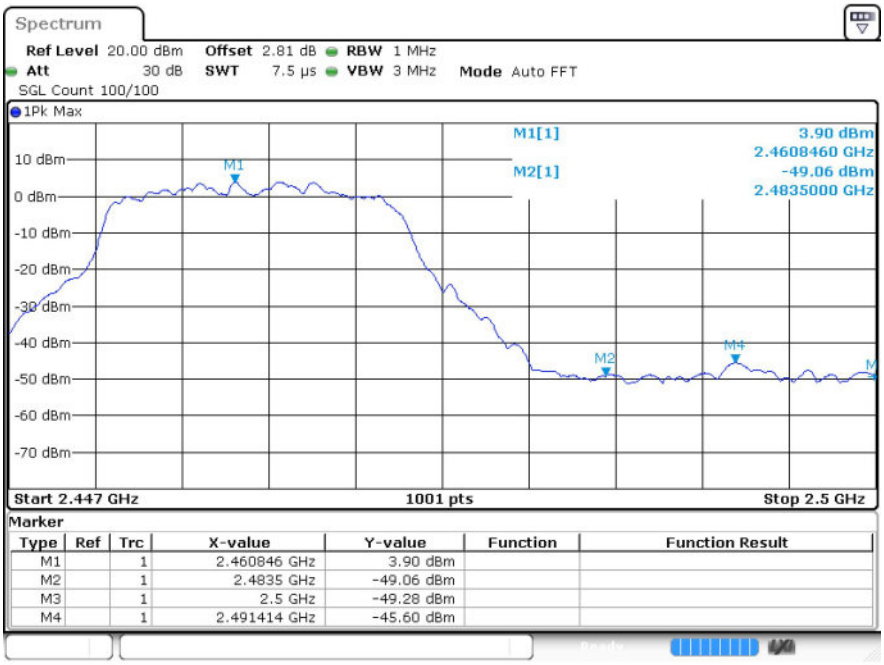


n20 2462MHz Ant1 Peak



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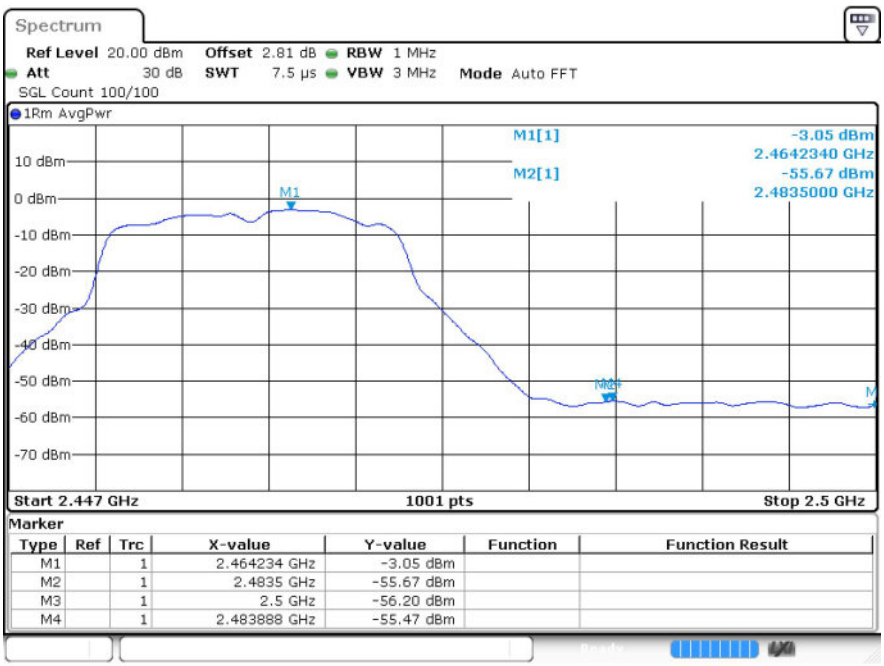

---The End---