Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Pet Smart Feeders

Trade Mark: Star pack

Test Model: WSQ05

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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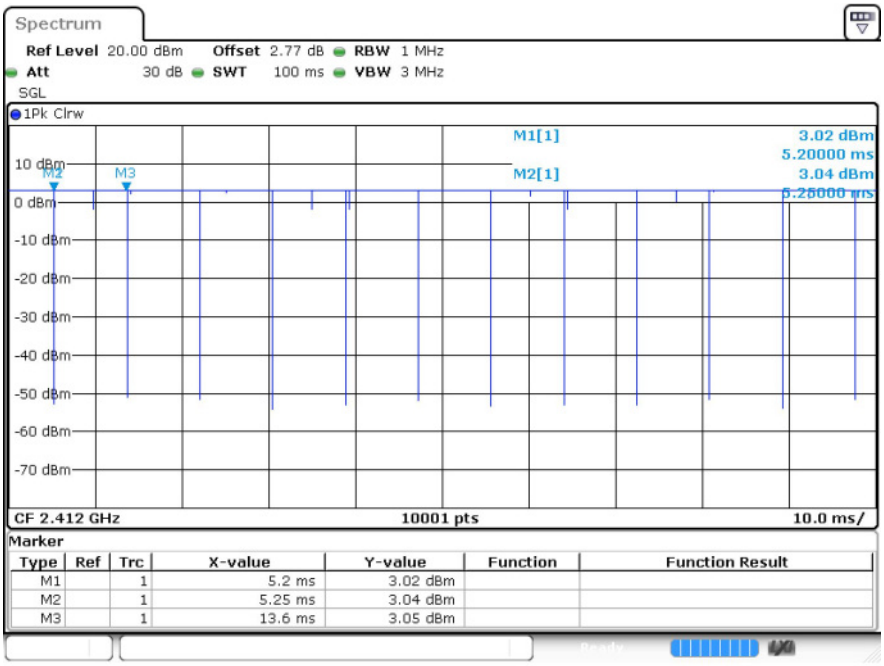
1 Duty Cycle

1.1 Test Result

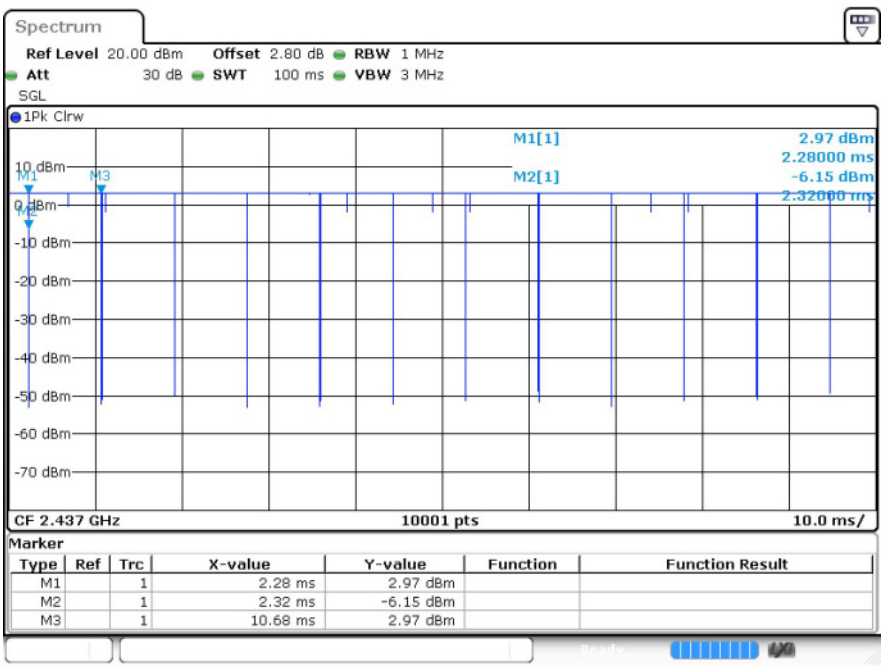
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor	1/T (kHz)
b	2412	Ant1	99.6	0.02	0.12
b	2437	Ant1	99.61	0.02	0.12
b	2462	Ant1	99.6	0.02	0.12
g	2412	Ant1	86.92	0.61	4.55
g	2437	Ant1	86.83	0.61	4.76
g	2462	Ant1	86.98	0.61	4.55
n20	2412	Ant1	87.58	0.58	4.35
n20	2437	Ant1	87.56	0.58	4.35
n20	2462	Ant1	87.59	0.58	4.35

1.2 Test Graphs

Test Graphs
b 2412MHz Ant1

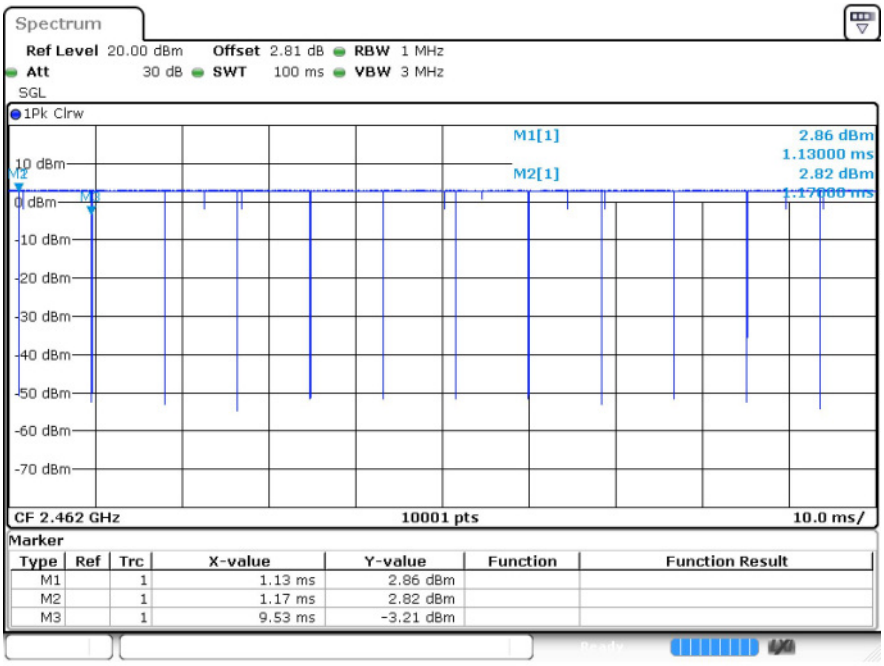


b 2437MHz Ant1

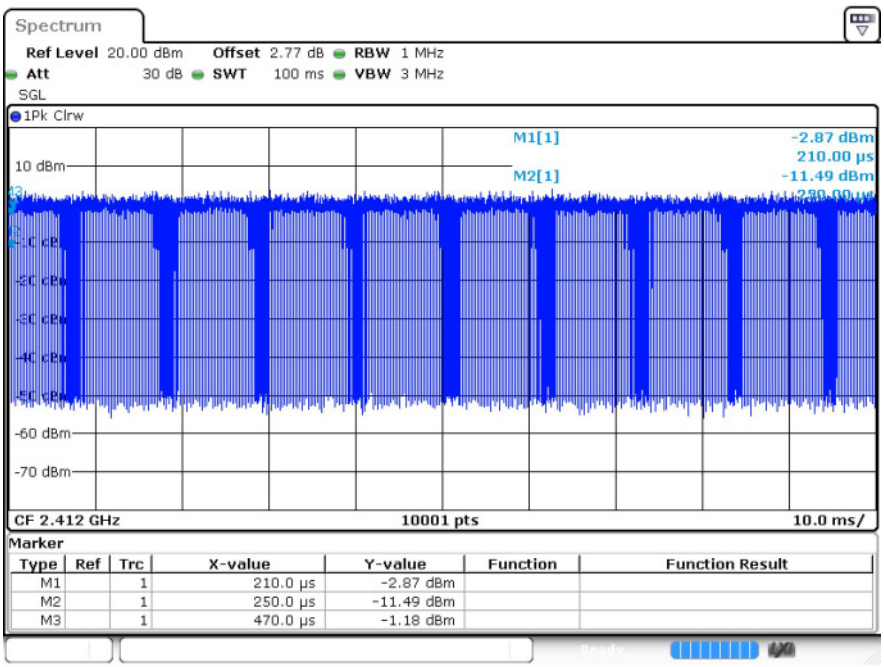


Test Graphs

b 2462MHz Ant1

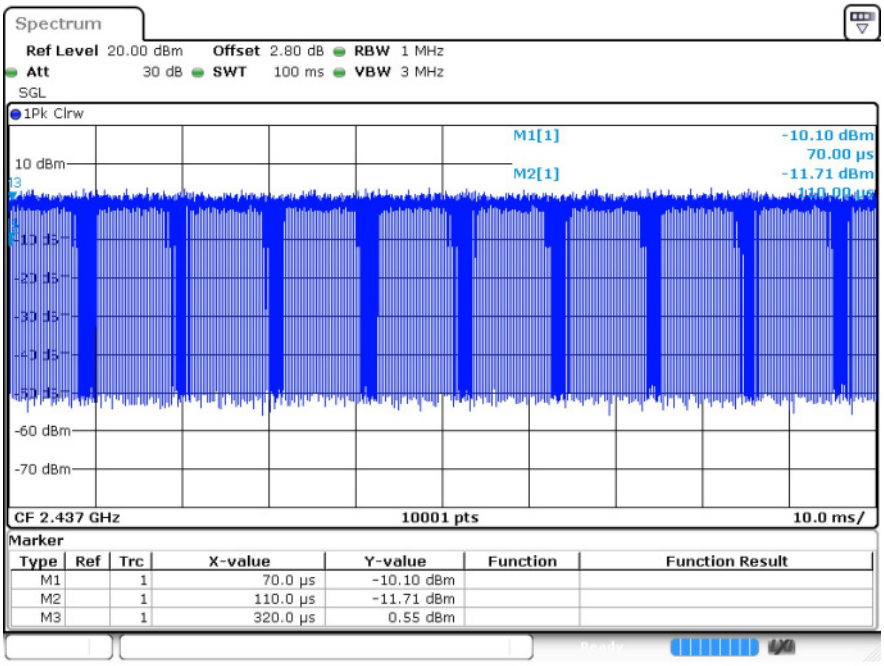


g 2412MHz Ant1

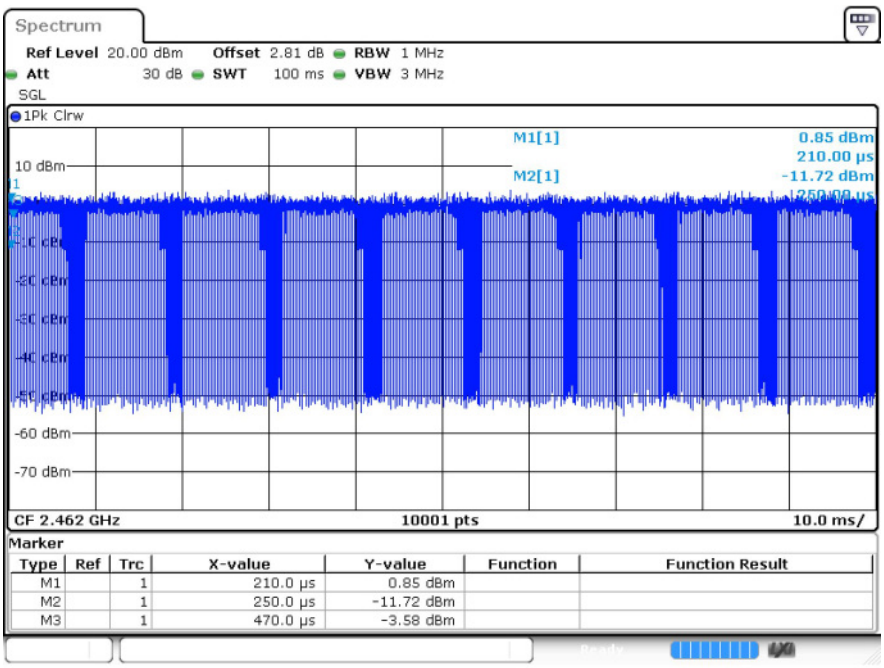


Test Graphs

g 2437MHz Ant1

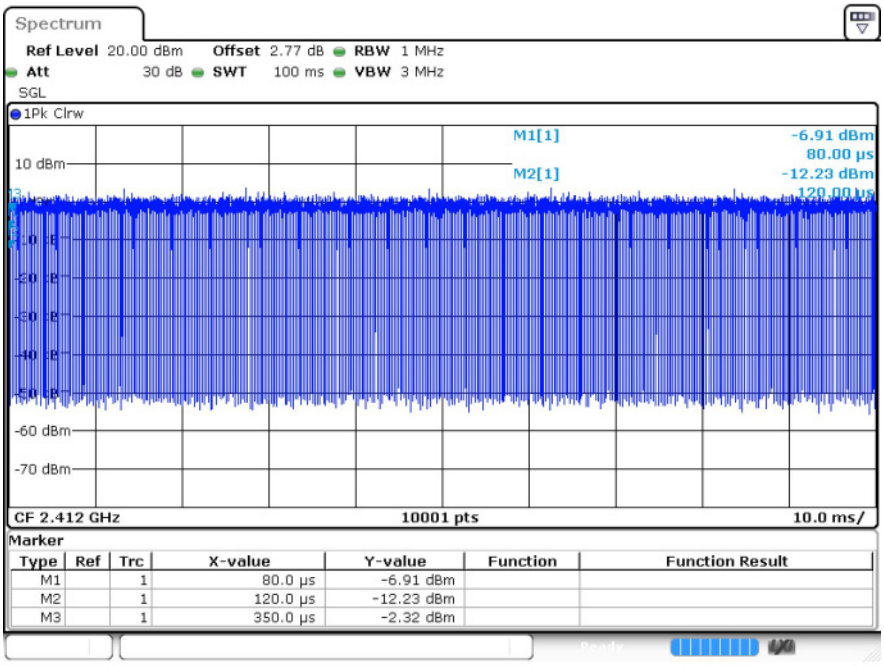


g 2462MHz Ant1

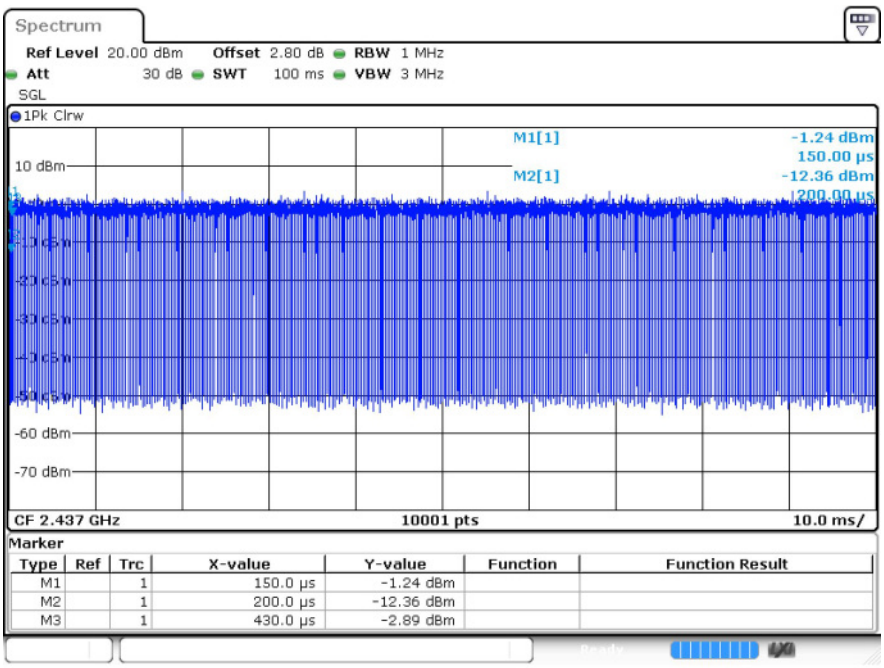


Test Graphs

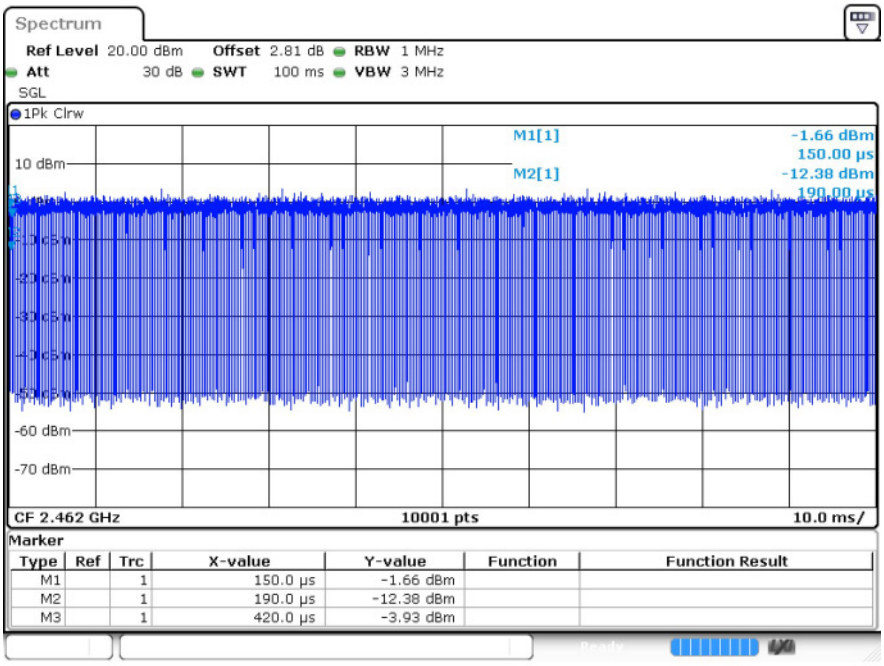
n20 2412MHz Ant1



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	13.56	30	Pass
b	2437	Ant1	13.47	30	Pass
b	2462	Ant1	13.4	30	Pass
g	2412	Ant1	13.01	30	Pass
g	2437	Ant1	12.94	30	Pass
g	2462	Ant1	12.79	30	Pass
n20	2412	Ant1	12.42	30	Pass
n20	2437	Ant1	12.35	30	Pass
n20	2462	Ant1	12.32	30	Pass

3 -6dB Bandwidth

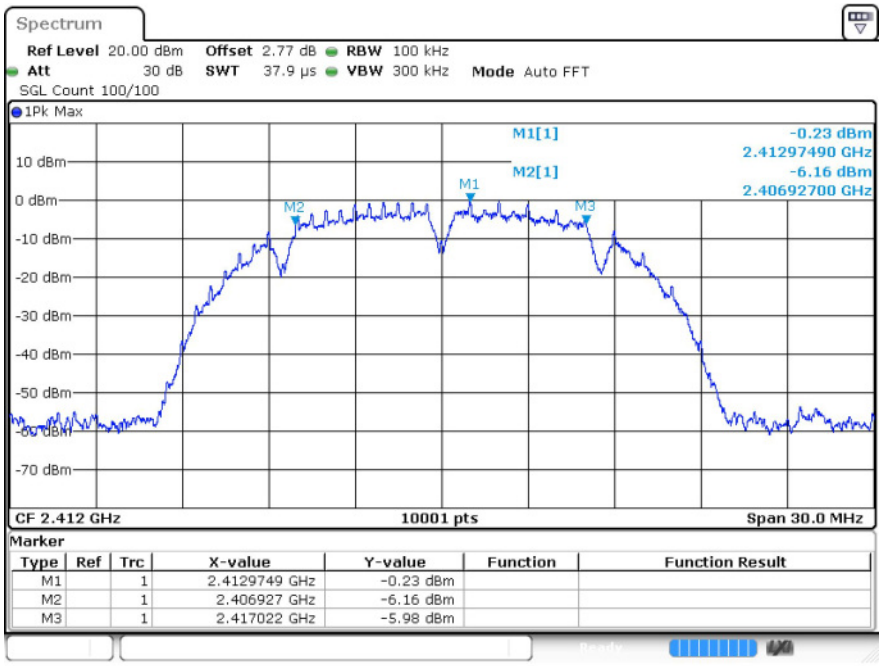
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	Ant1	10.095	0.5	Pass
b	2437	Ant1	10.086	0.5	Pass
b	2462	Ant1	10.11	0.5	Pass
g	2412	Ant1	15.108	0.5	Pass
g	2437	Ant1	15.096	0.5	Pass
g	2462	Ant1	15.087	0.5	Pass
n20	2412	Ant1	15.069	0.5	Pass
n20	2437	Ant1	15.075	0.5	Pass
n20	2462	Ant1	15.114	0.5	Pass

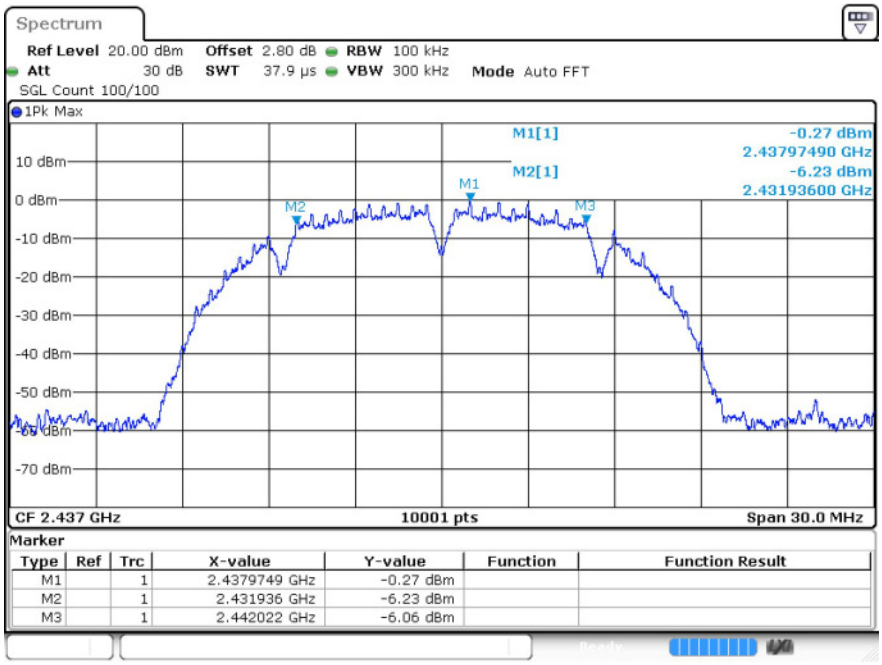
3.2 Test Graphs

Test Graphs

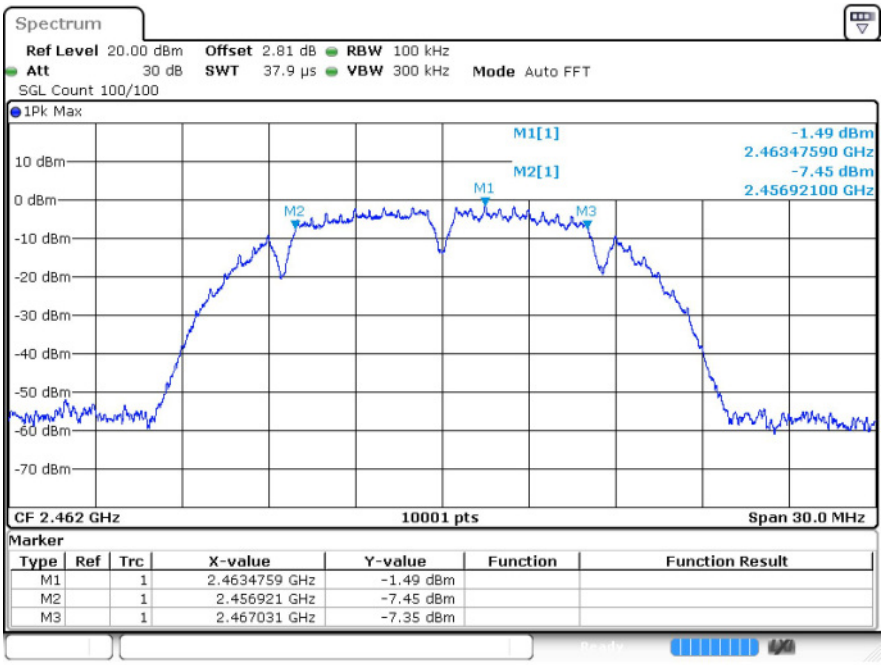
b 2412MHz Ant1



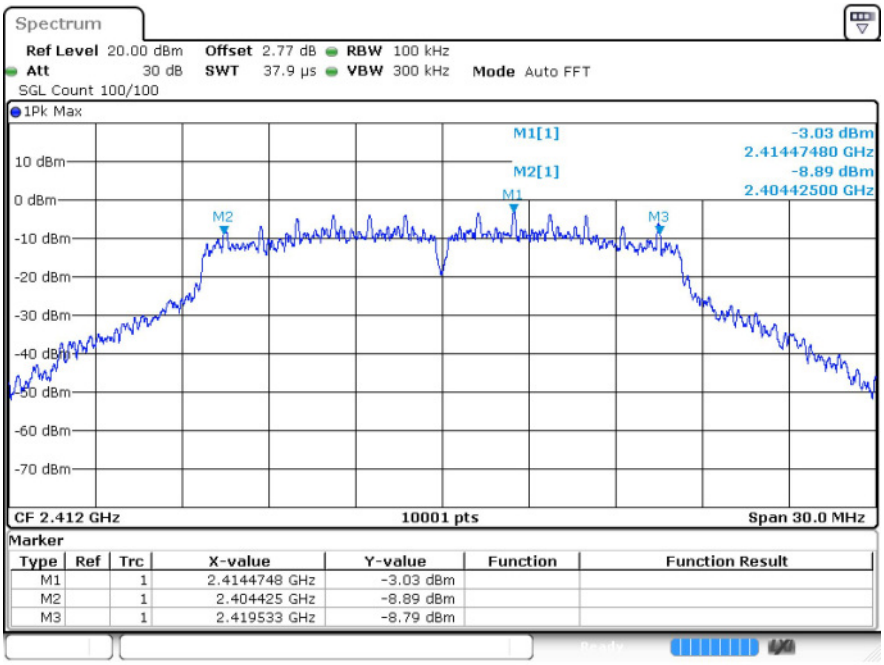
b 2437MHz Ant1



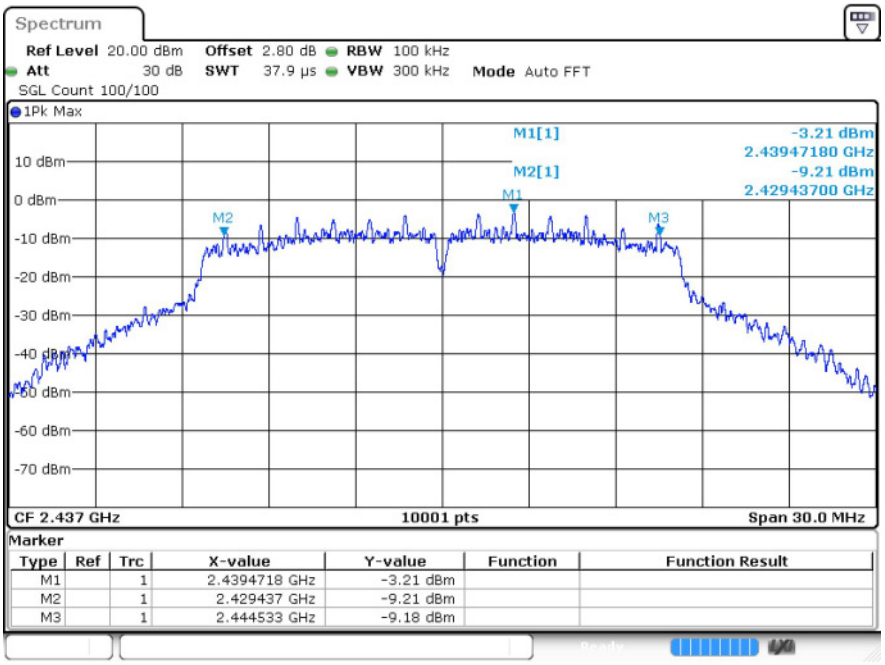
b 2462MHz Ant1



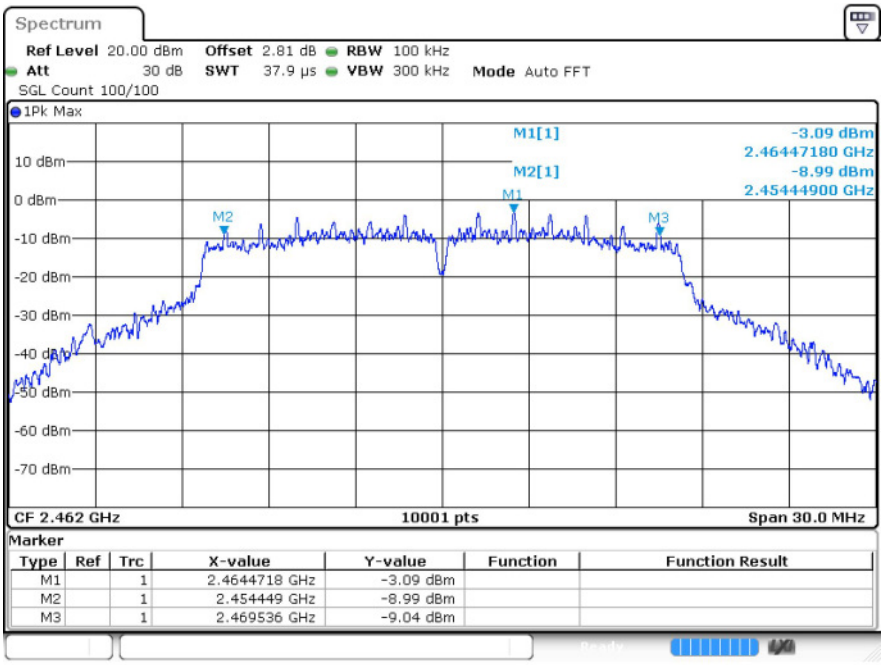
g 2412MHz Ant1



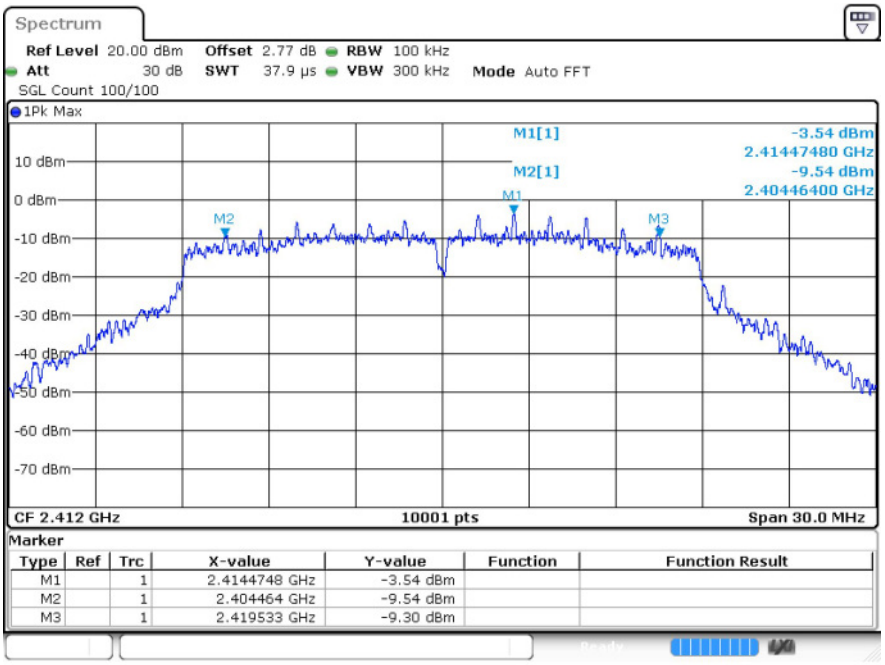
g 2437MHz Ant1



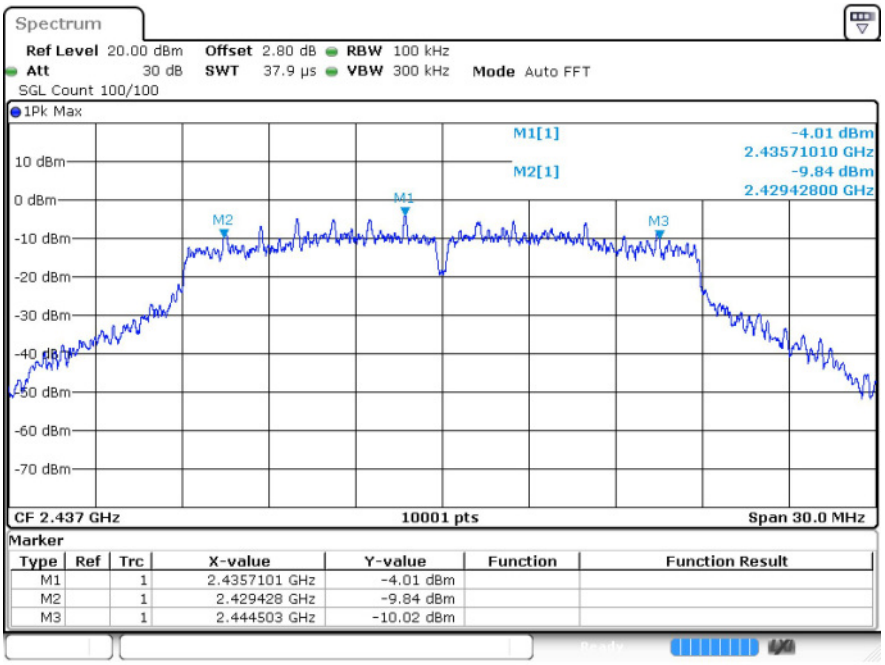
g 2462MHz Ant1



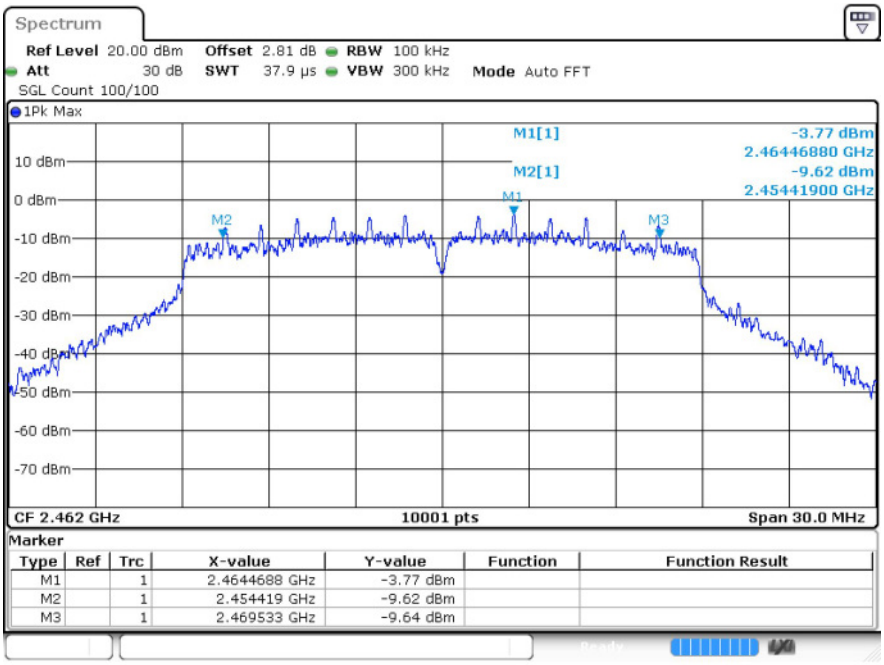
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1

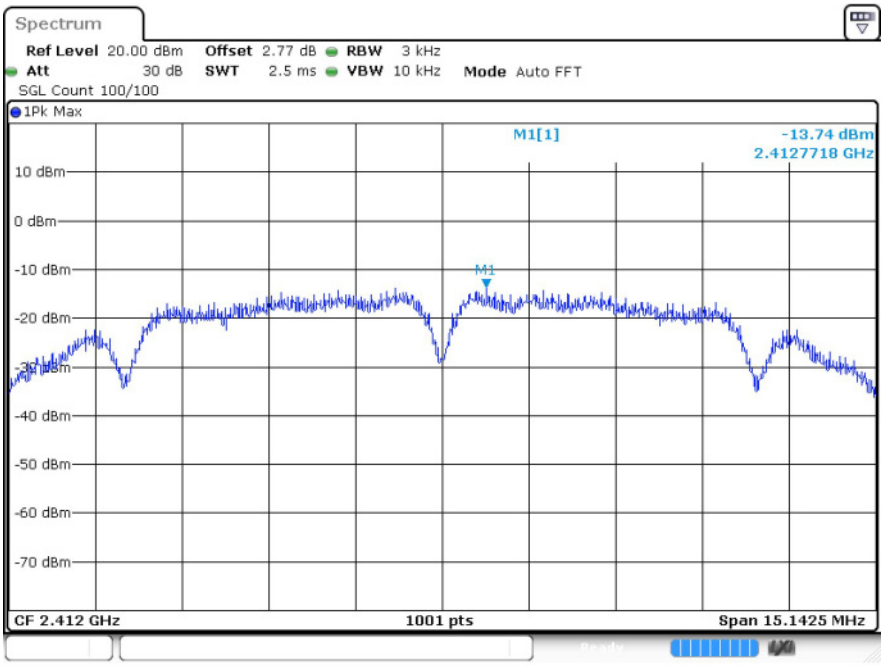
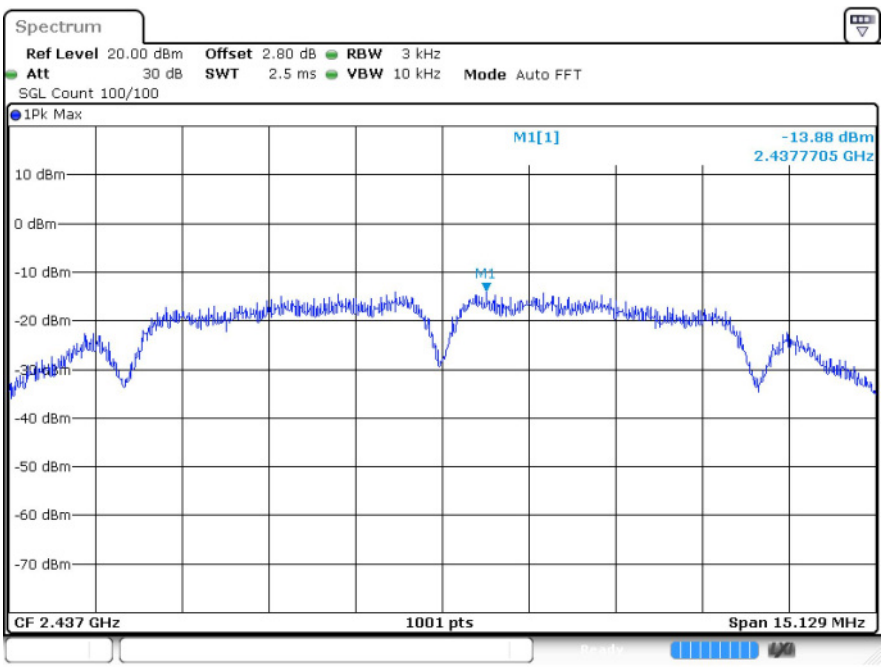


4 Maximum Power Spectral Density Level

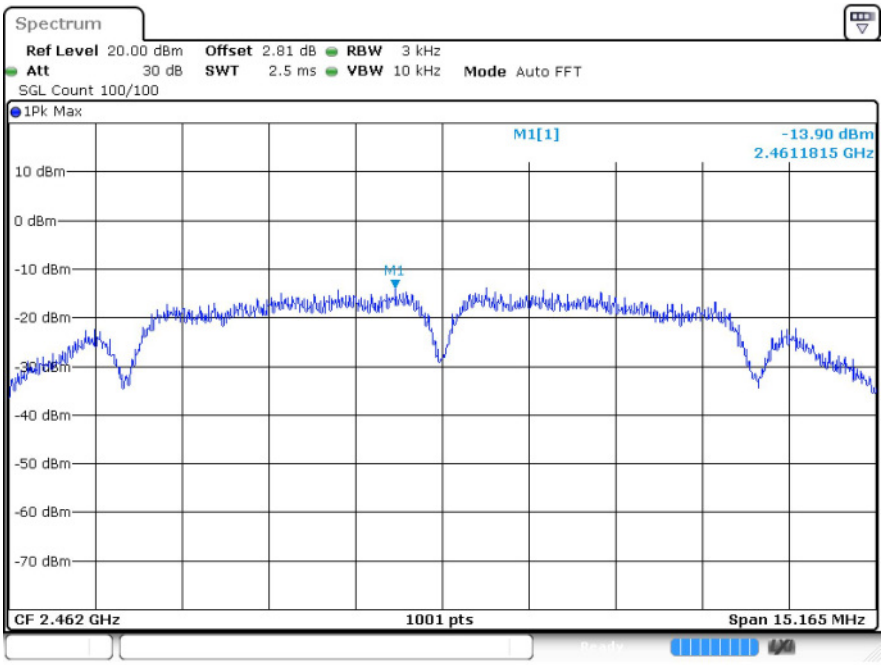
4.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
b	2412	Ant1	-13.74	≤8	Pass
b	2437	Ant1	-13.88	≤8	Pass
b	2462	Ant1	-13.9	≤8	Pass
g	2412	Ant1	-17.69	≤8	Pass
g	2437	Ant1	-18.05	≤8	Pass
g	2462	Ant1	-17.79	≤8	Pass
n20	2412	Ant1	-17.83	≤8	Pass
n20	2437	Ant1	-18.61	≤8	Pass
n20	2462	Ant1	-17.99	≤8	Pass

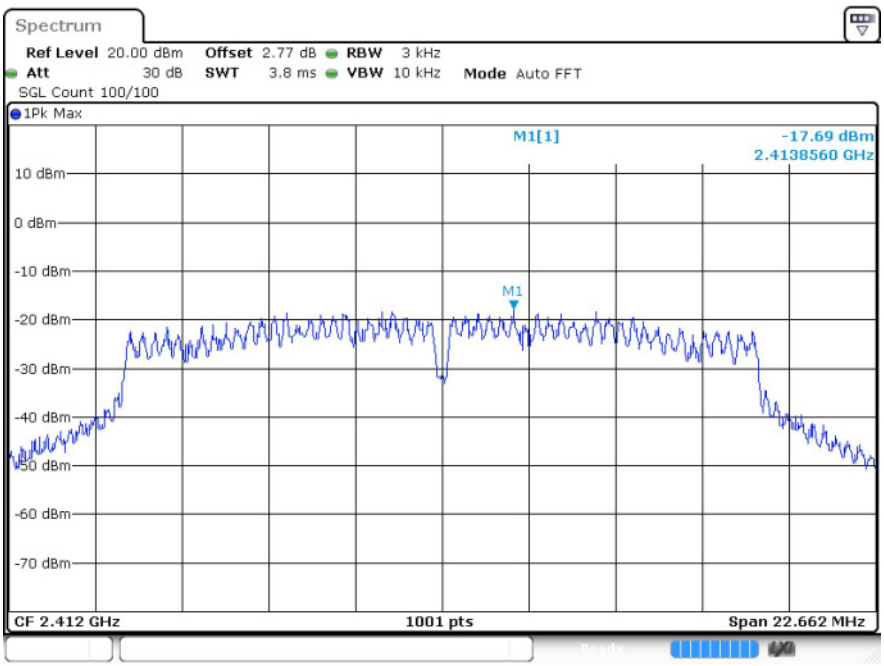
4.2 Test Graphs

Test Graphs
b 2412MHz Ant1

b 2437MHz Ant1


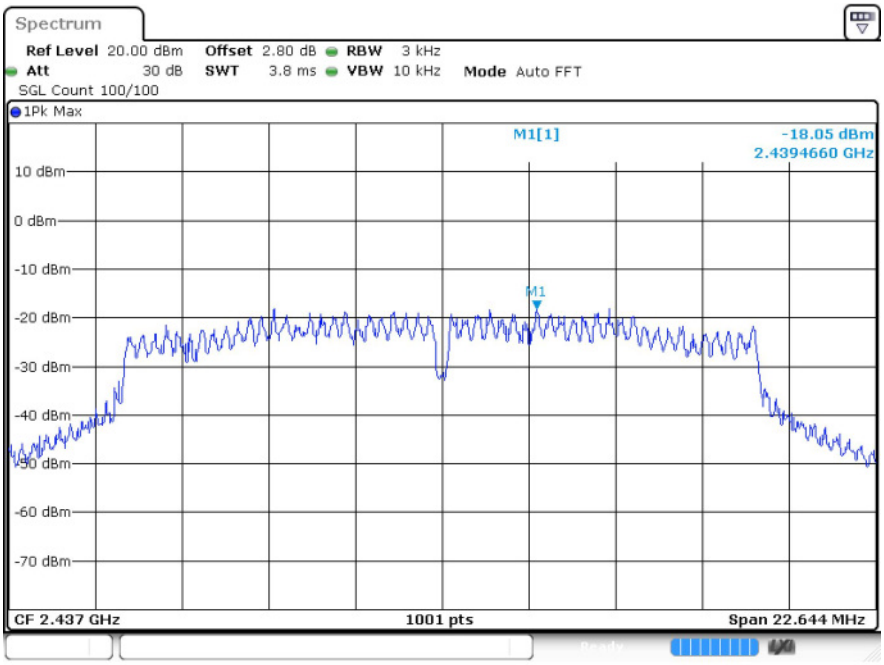
b 2462MHz Ant1



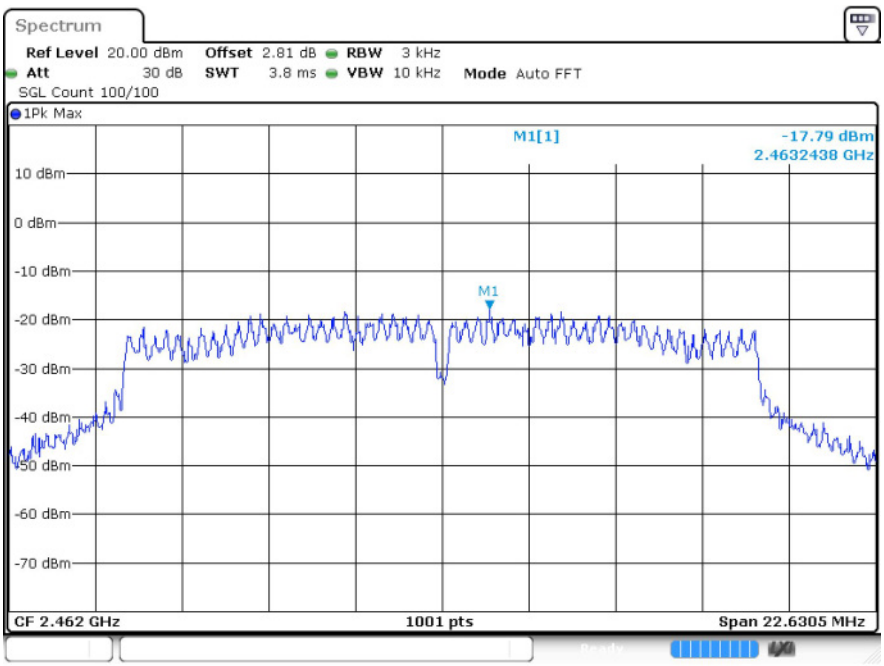
g 2412MHz Ant1



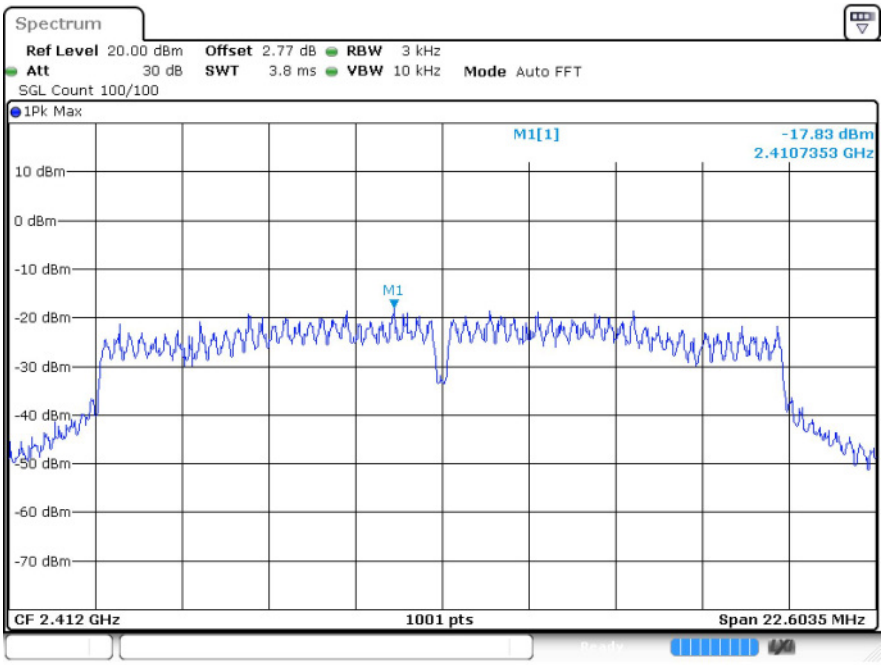
g 2437MHz Ant1



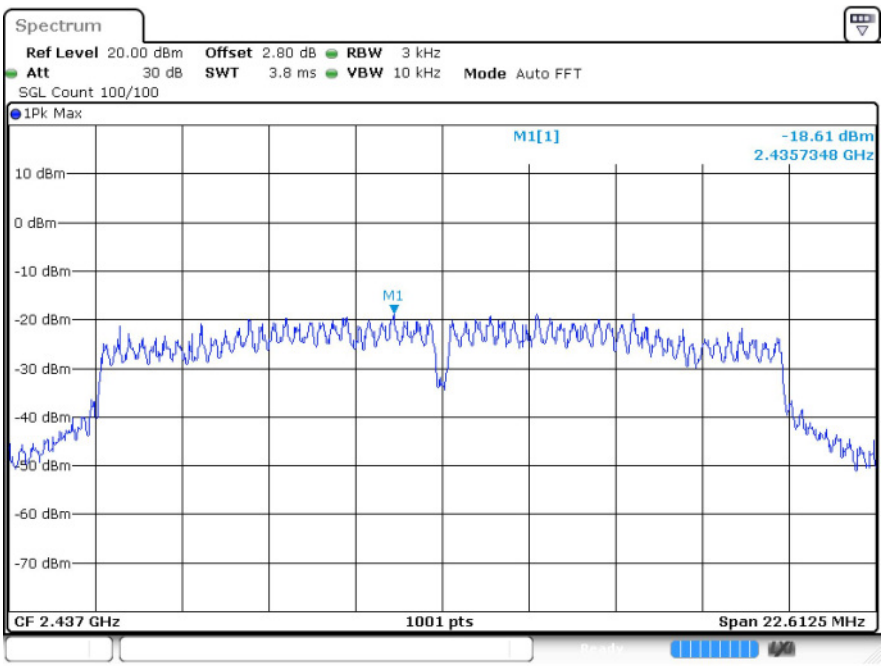
g 2462MHz Ant1



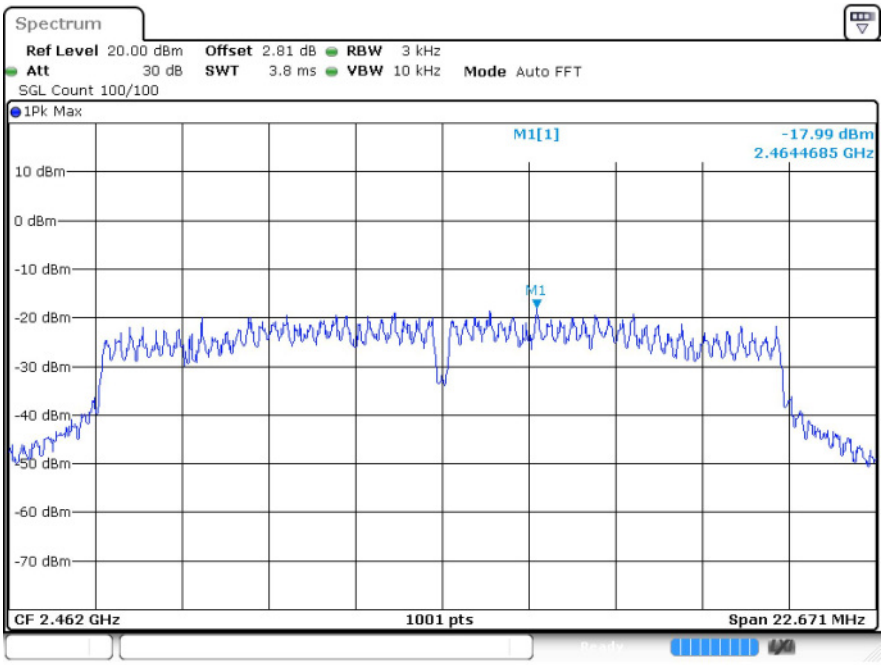
n20 2412MHz Ant1



n20 2437MHz Ant1



n20 2462MHz Ant1



5 Band Edge

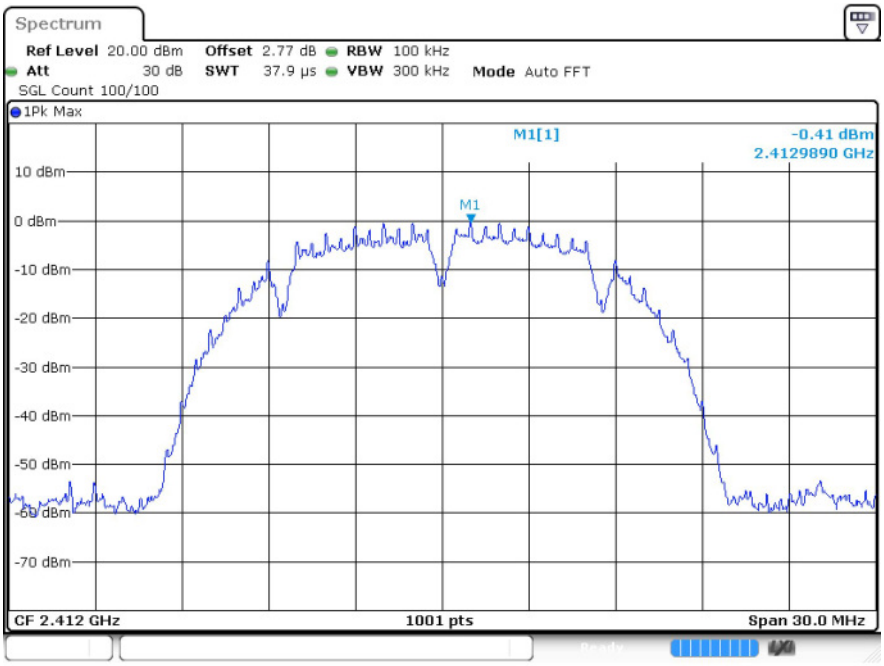
5.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-54.35	-20	Pass
b	2462	Ant1	-54.23	-20	Pass
g	2412	Ant1	-51.24	-20	Pass
g	2462	Ant1	-52.43	-20	Pass
n20	2412	Ant1	-51.11	-20	Pass
n20	2462	Ant1	-51.52	-20	Pass

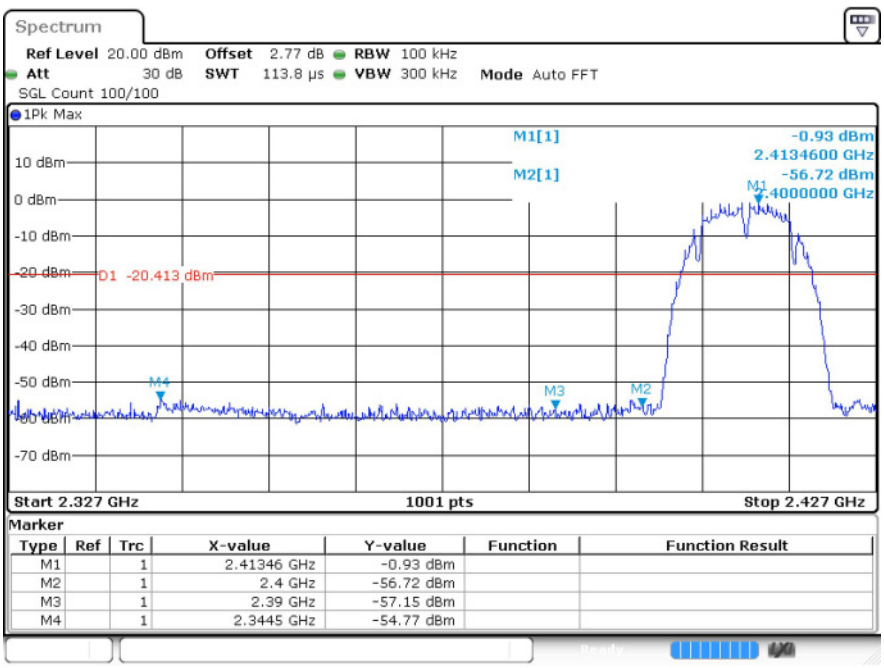
5.2 Test Graphs

Test Graphs

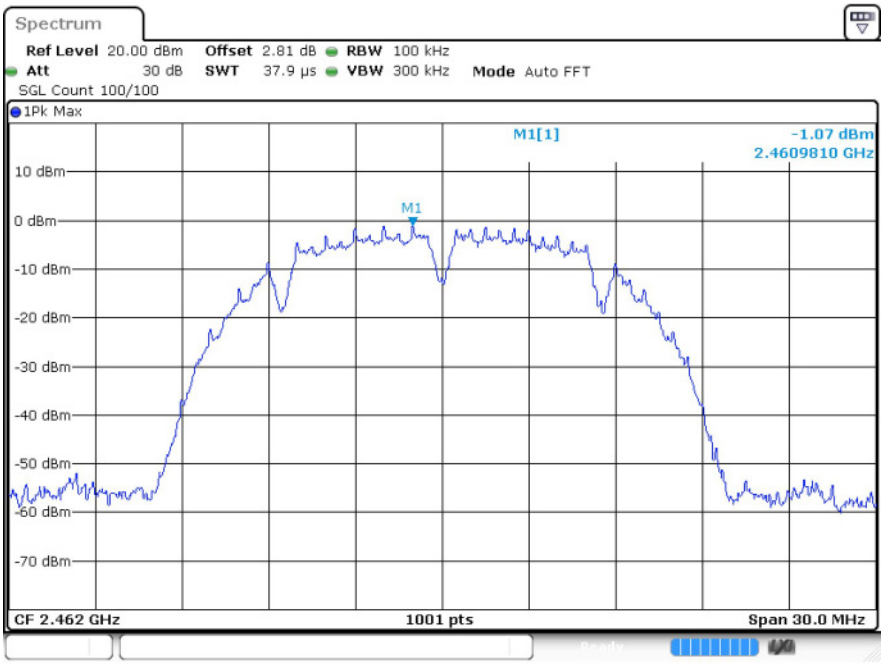
b 2412MHz Ant1 Ref



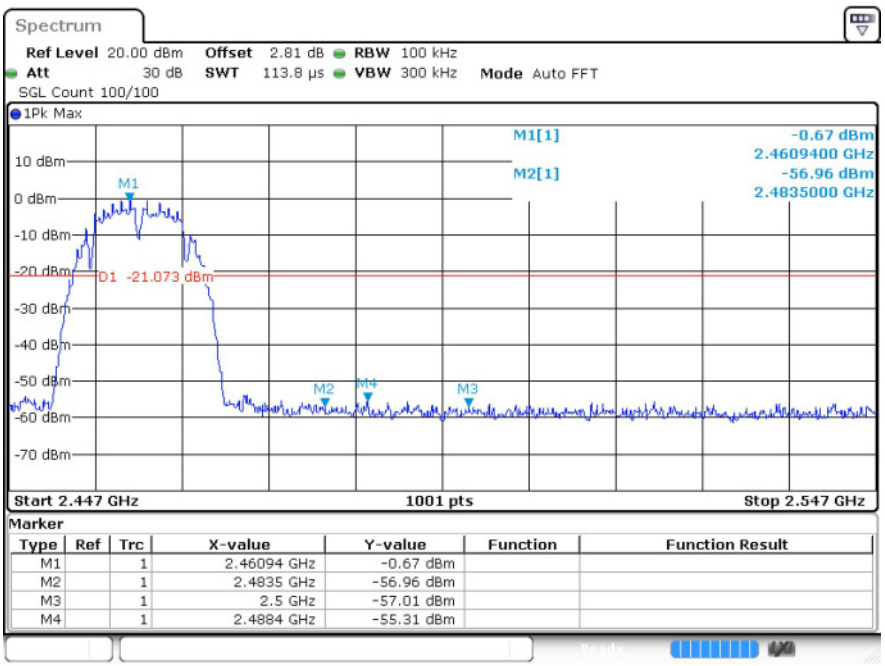
b 2412MHz Ant1 Emission



b 2462MHz Ant1 Ref



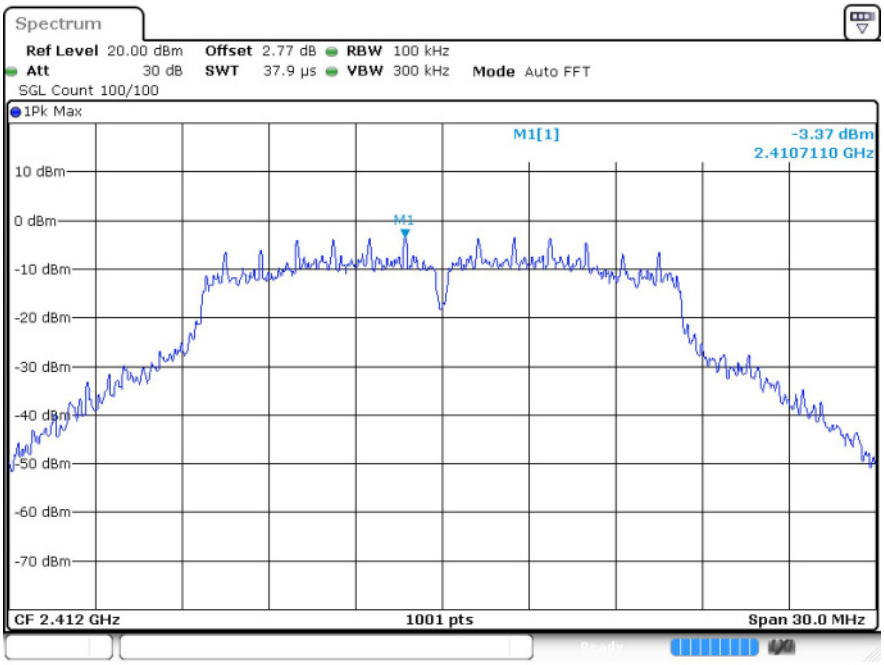
b 2462MHz Ant1 Emission



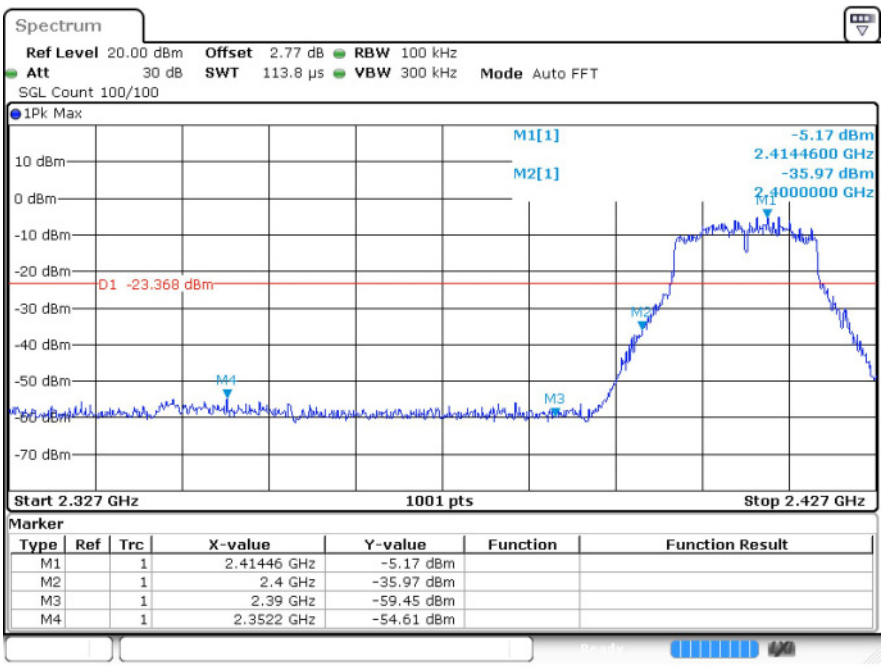
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46094 GHz	-0.67 dBm		
M2		1	2.4835 GHz	-56.96 dBm		
M3		1	2.5 GHz	-57.01 dBm		
M4		1	2.4884 GHz	-55.31 dBm		

g 2412MHz Ant1 Ref



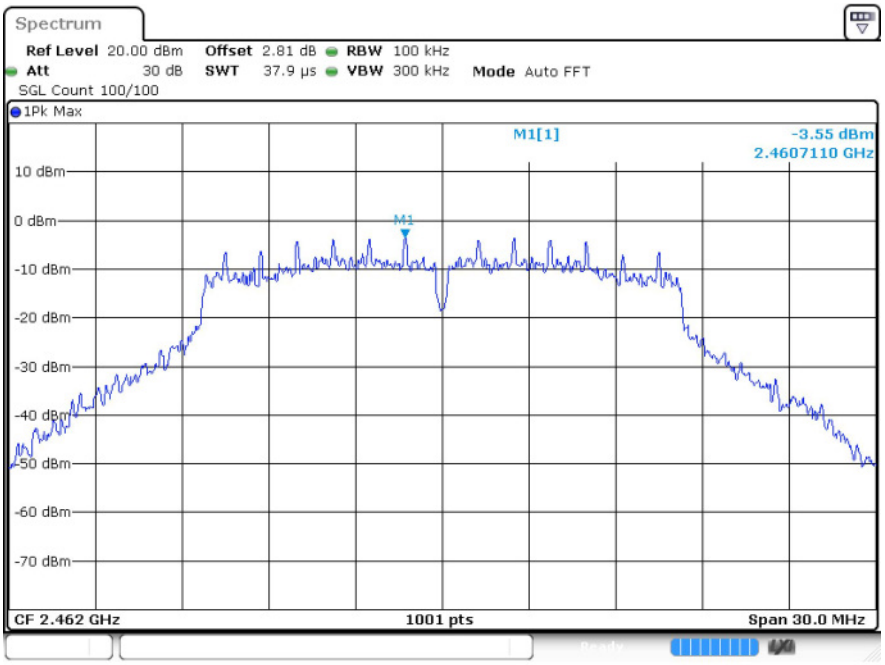
g 2412MHz Ant1 Emission



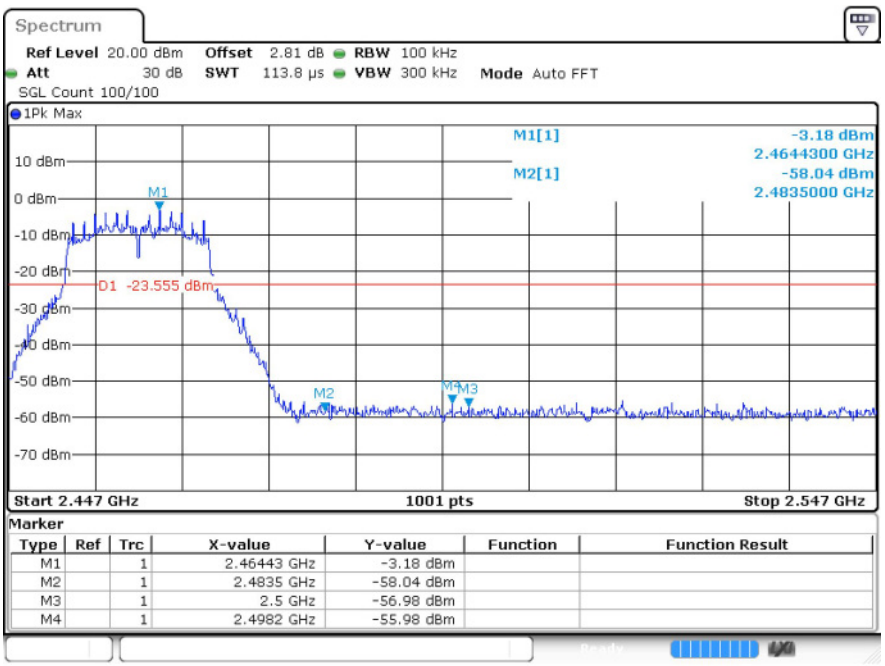
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41446 GHz	-5.17 dBm		
M2		1	2.4 GHz	-35.97 dBm		
M3		1	2.39 GHz	-59.45 dBm		
M4		1	2.3522 GHz	-54.61 dBm		

g 2462MHz Ant1 Ref

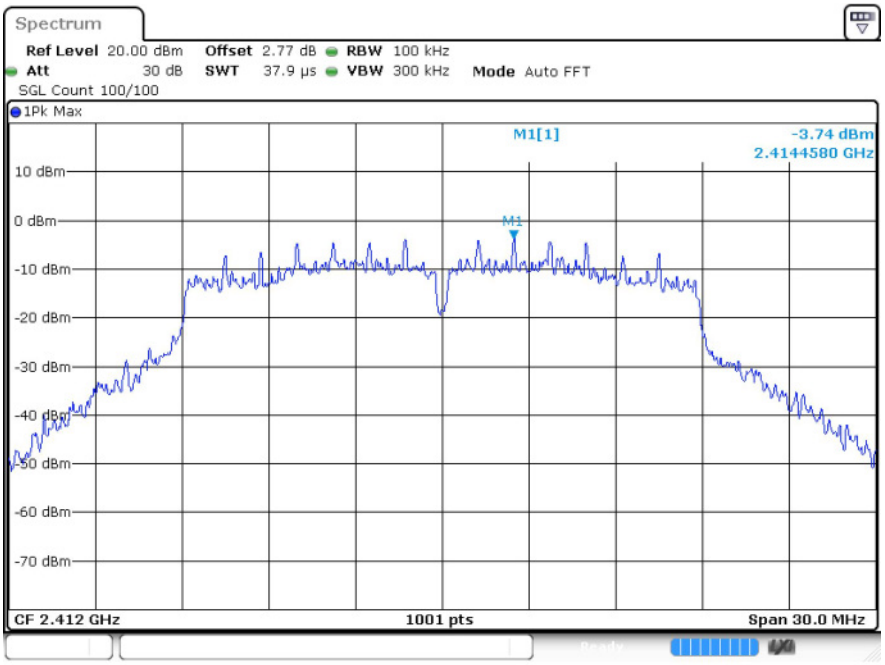


g 2462MHz Ant1 Emission

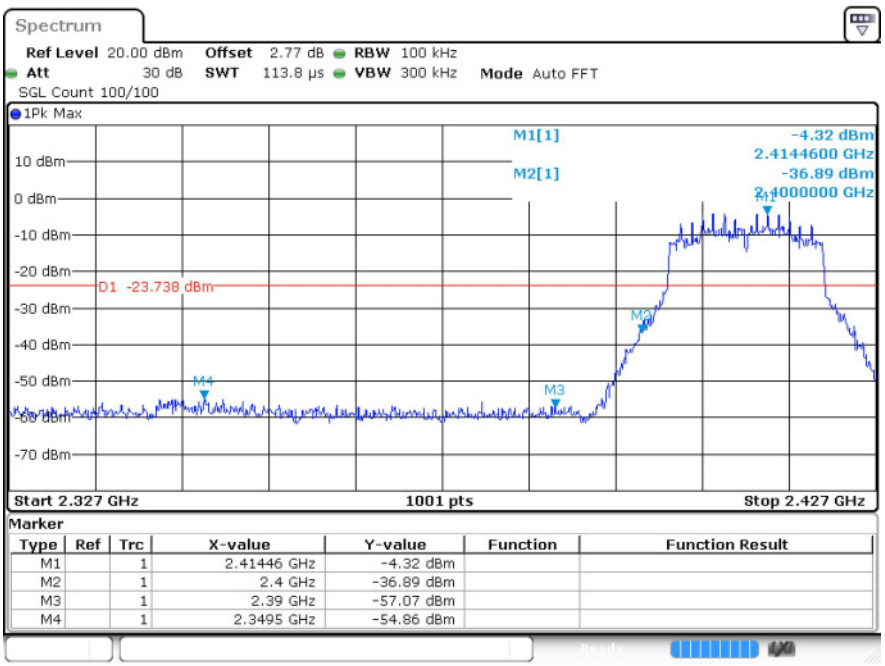


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46443 GHz	-3.18 dBm		
M2		1	2.4835 GHz	-58.04 dBm		
M3		1	2.5 GHz	-56.98 dBm		
M4		1	2.4982 GHz	-55.98 dBm		

n20 2412MHz Ant1 Ref



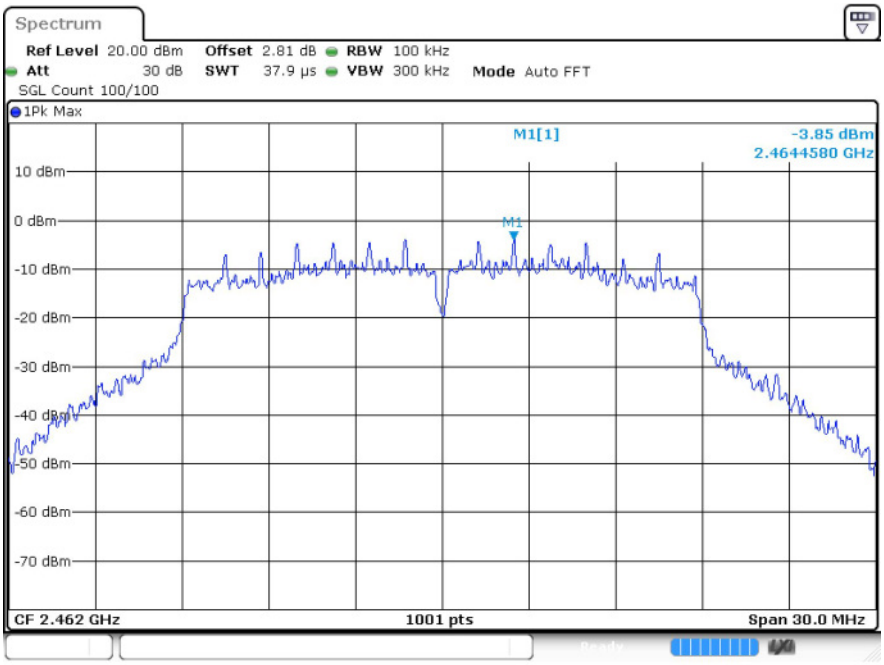
n20 2412MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41446 GHz	-4.32 dBm		
M2		1	2.4 GHz	-36.89 dBm		
M3		1	2.39 GHz	-57.07 dBm		
M4		1	2.3495 GHz	-54.86 dBm		

n20 2462MHz Ant1 Ref



n20 2462MHz Ant1 Emission

6 Conducted RF Spurious Emission

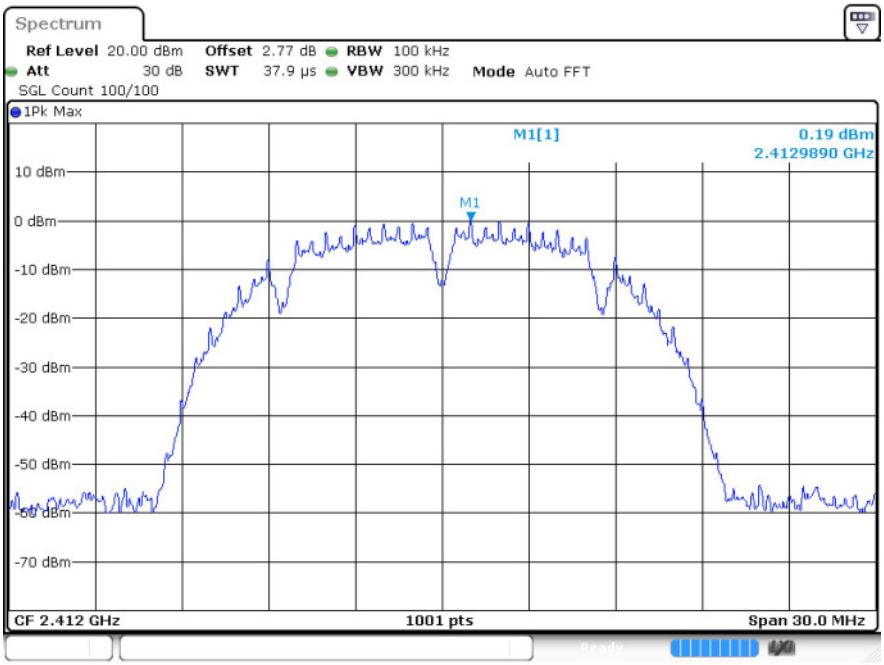
6.1 Test Result

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	Ant1	-42.99	-20	Pass
b	2437	Ant1	-42.38	-20	Pass
b	2462	Ant1	-42.99	-20	Pass
g	2412	Ant1	-39.68	-20	Pass
g	2437	Ant1	-39.29	-20	Pass
g	2462	Ant1	-39.93	-20	Pass
n20	2412	Ant1	-39.23	-20	Pass
n20	2437	Ant1	-39.06	-20	Pass
n20	2462	Ant1	-37.44	-20	Pass

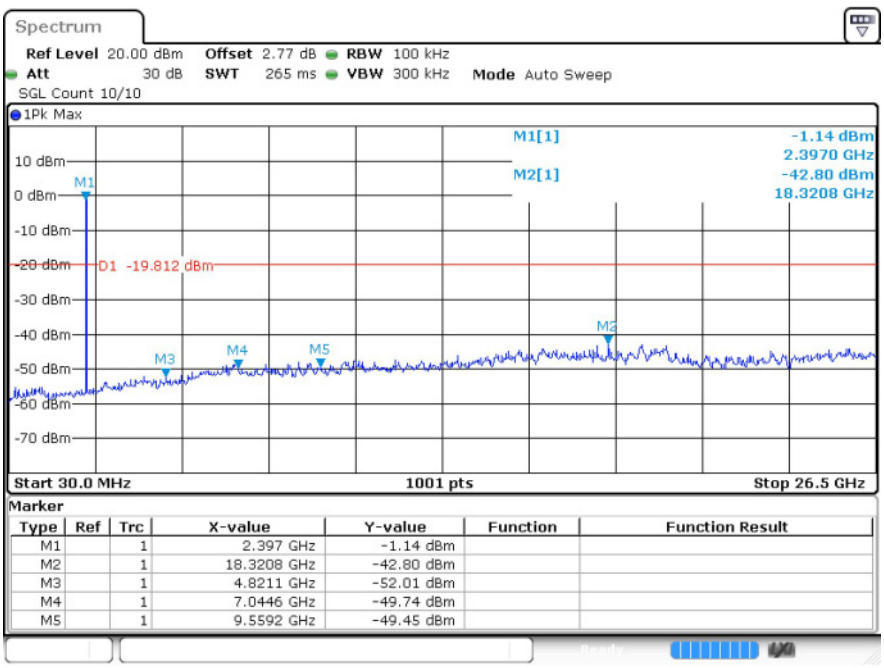
6.2 Test Graphs

Test Graphs

b 2412MHz Ant1 Ref

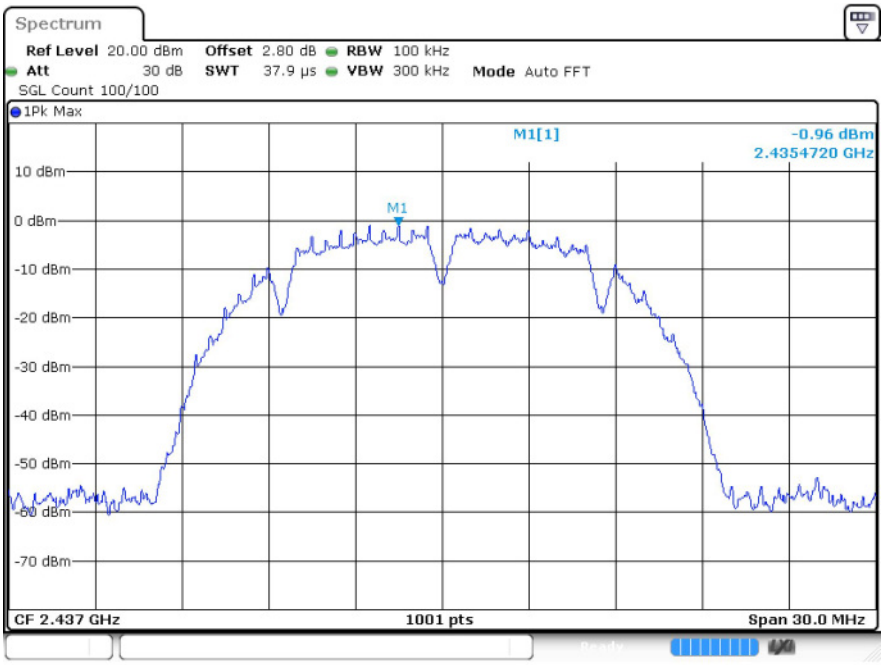


b 2412MHz Ant1 Emission

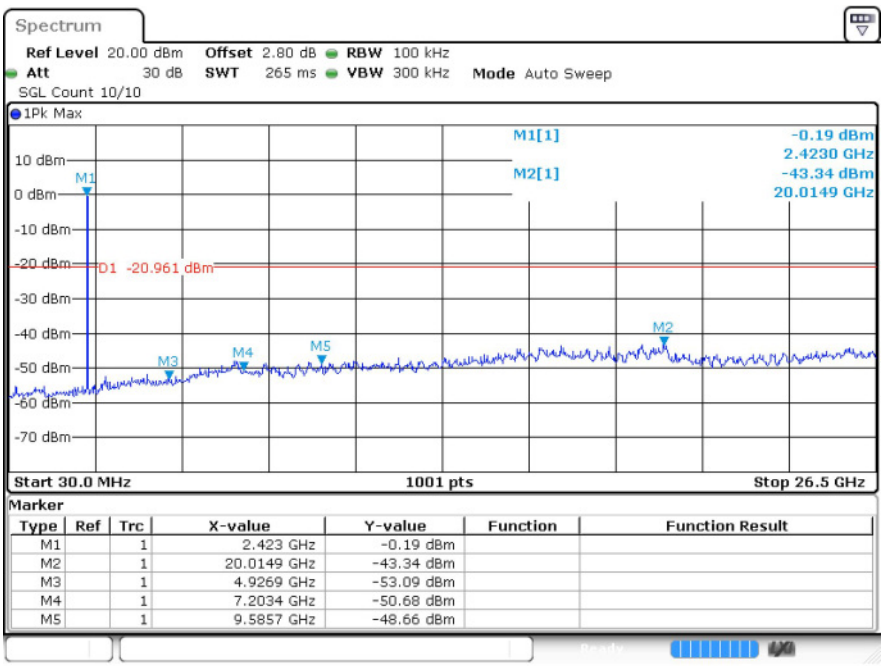


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.397 GHz	-1.14 dBm		
M2		1	18.3208 GHz	-42.80 dBm		
M3		1	4.8211 GHz	-52.01 dBm		
M4		1	7.0446 GHz	-49.74 dBm		
M5		1	9.5592 GHz	-49.45 dBm		

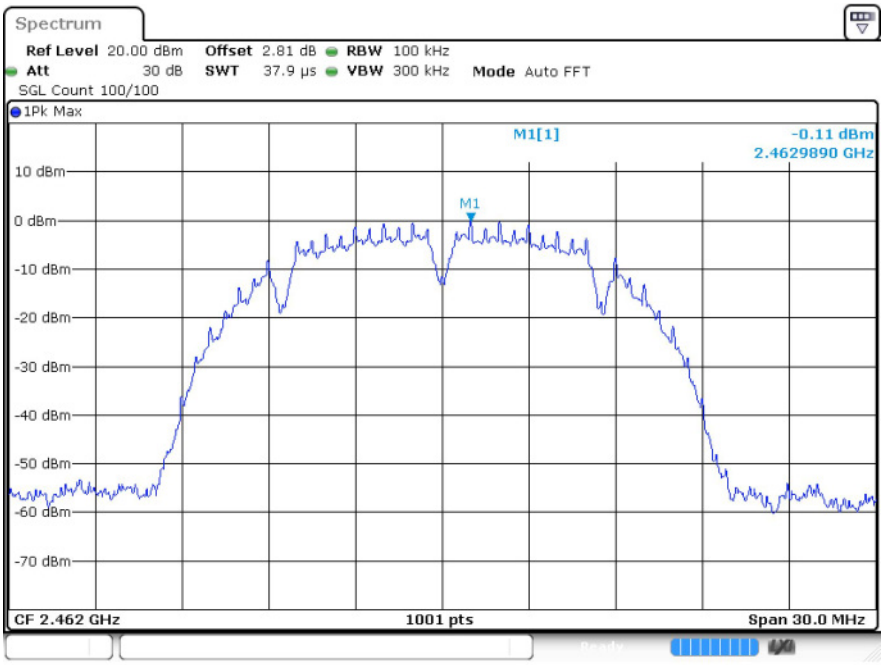
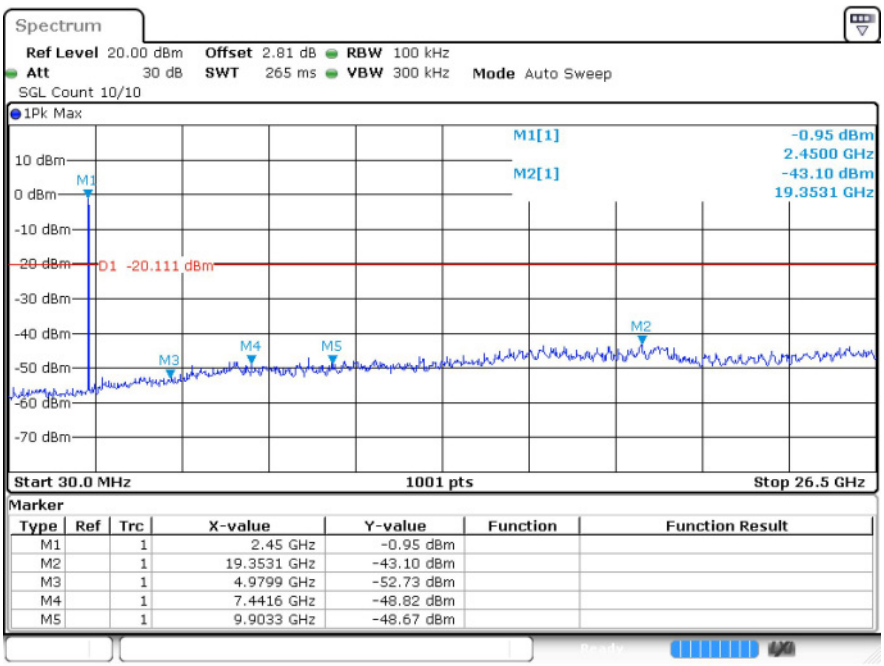
b 2437MHz Ant1 Ref



b 2437MHz Ant1 Emission



b 2462MHz Ant1 Ref



b 2462MHz Ant1 Emission