

APPENDIX REPORT

Project No.	SHT2107001005EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT21070010013	Model No.	L610
Start test date	2021-07-07	Finish date	2021-07-07
Temperature	25.7°C	Humidity	35%
Test Engineer	Weiyang Xiang	Auditor	Xiaodong Zhu

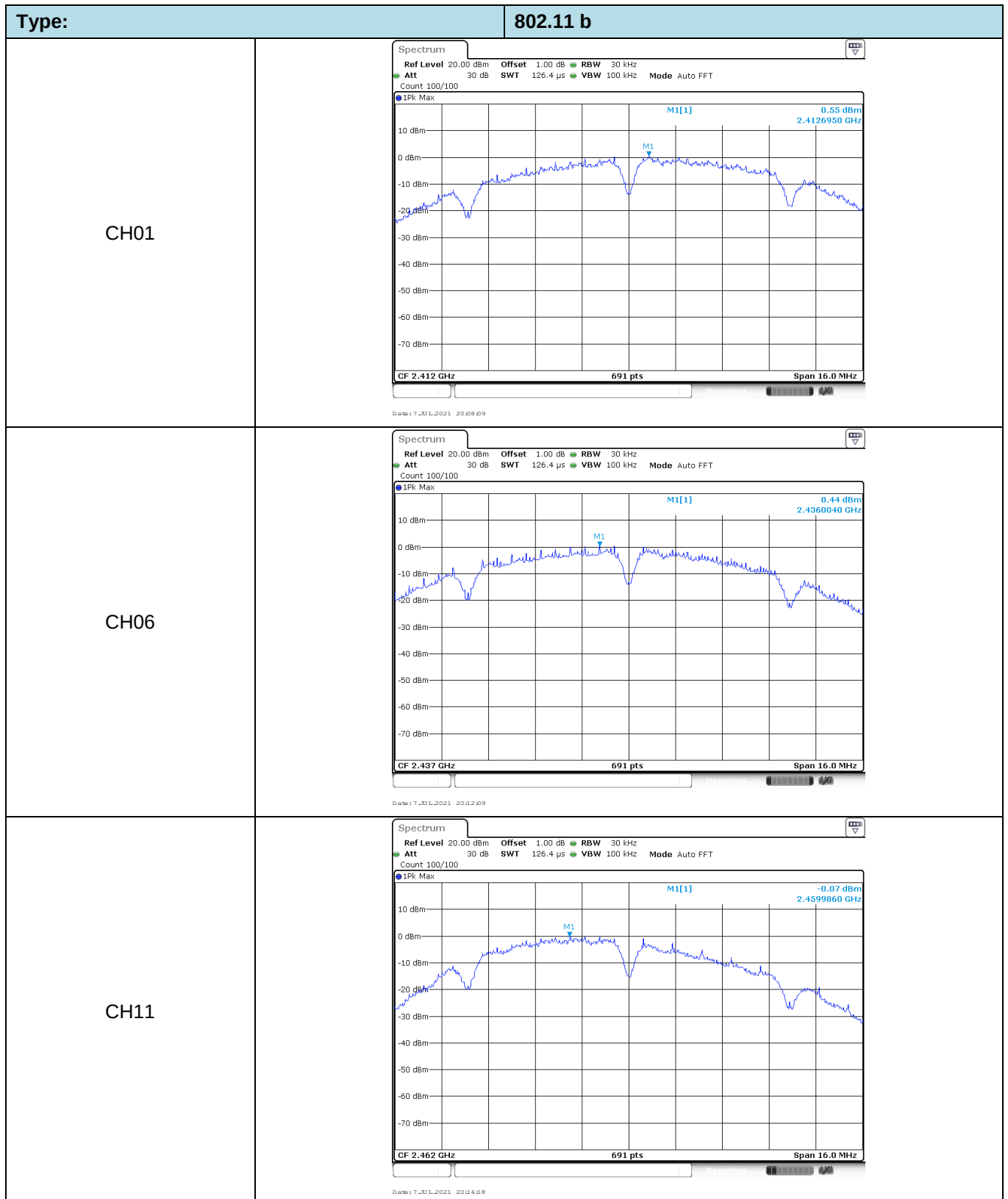
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

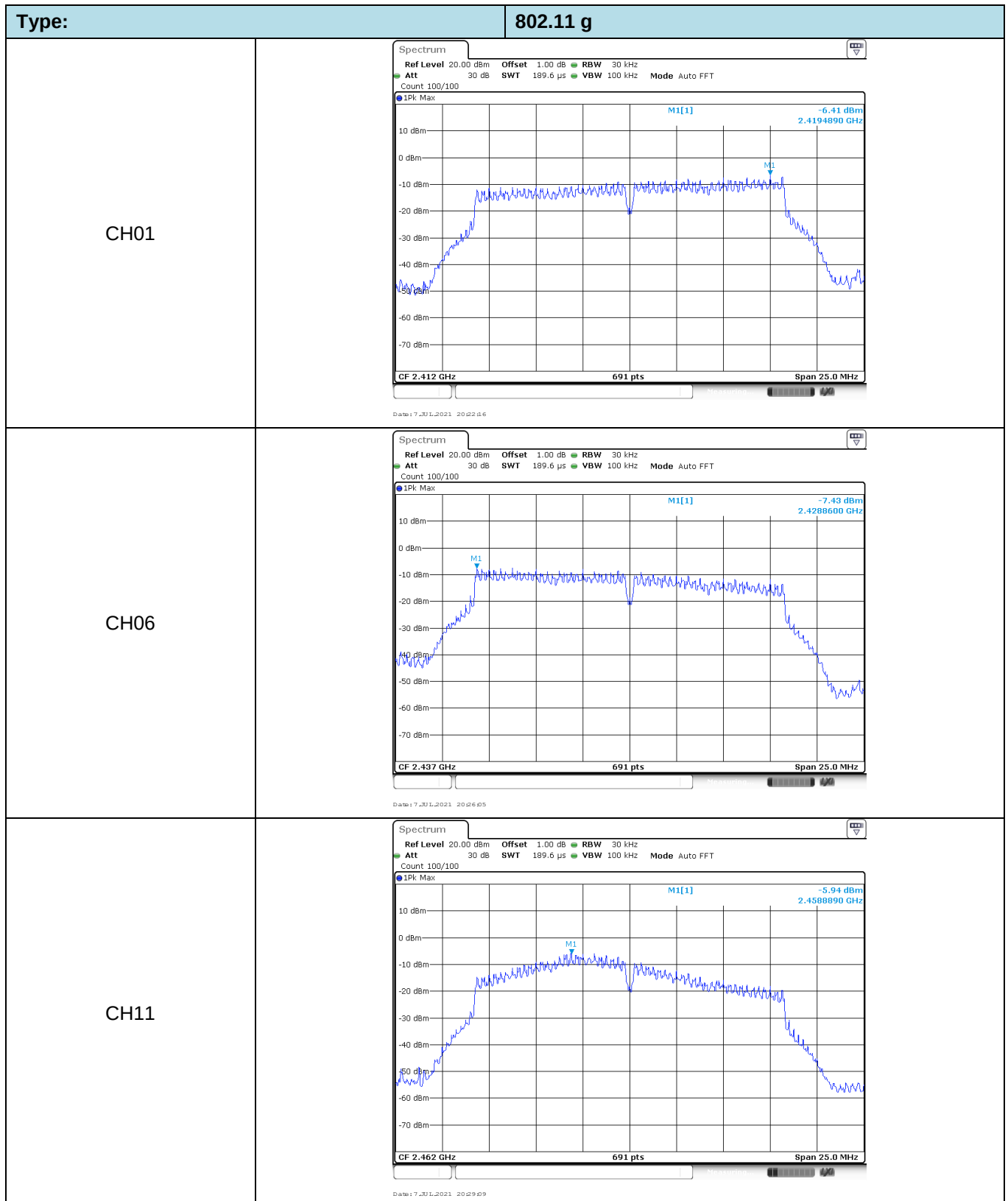
Appendix A: Conducted Peak Output Power

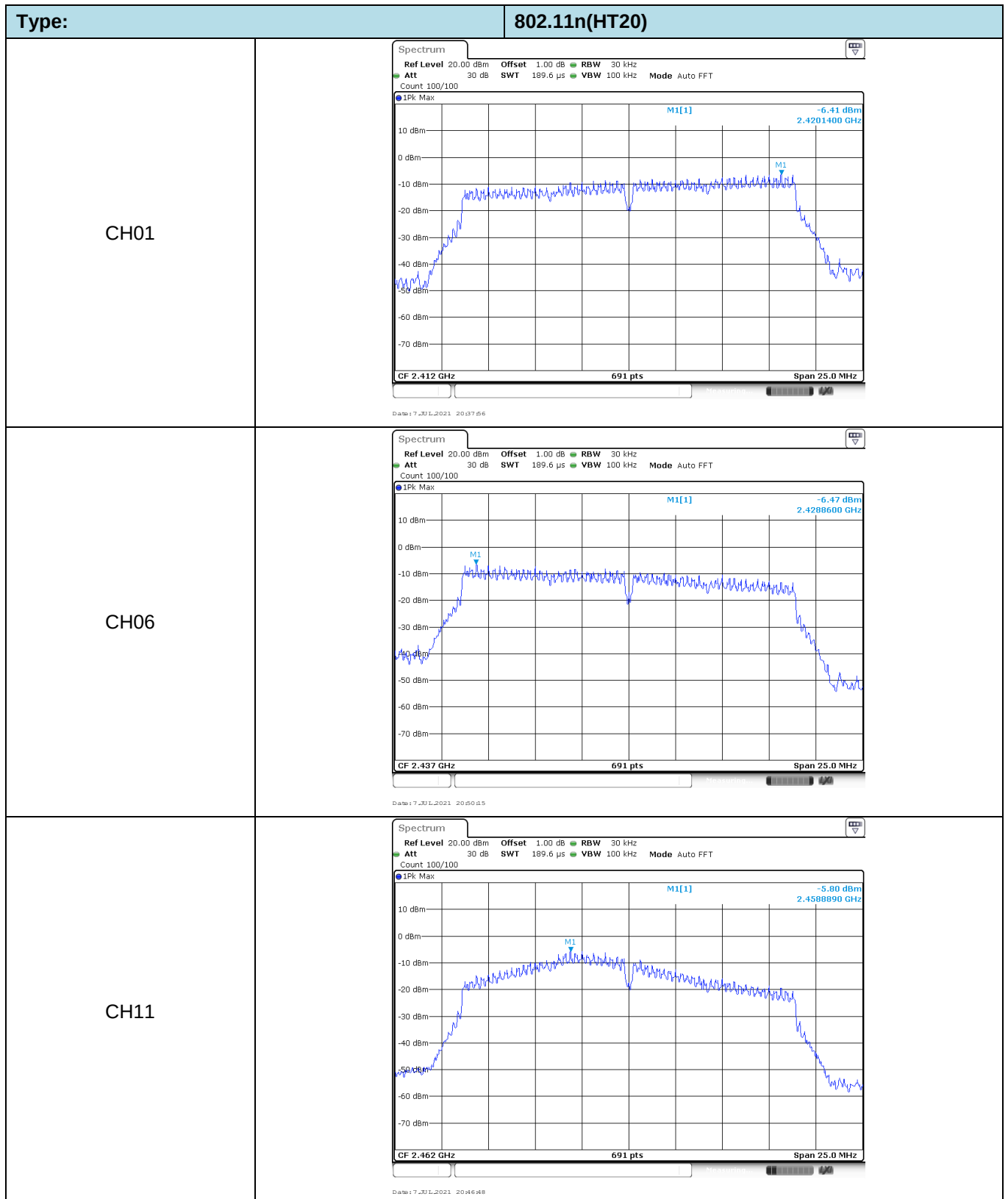
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	16.31	14.17	≤ 30.00	Pass
	06	15.86	13.68		
	11	15.05	12.67		
802.11g	01	16.10	13.07	≤ 30.00	Pass
	06	15.79	12.77		
	11	14.82	11.82		
802.11n (HT20)	01	16.18	13.17	≤ 30.00	Pass
	06	16.06	12.92		
	11	14.80	12.78		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	0.55	≤8.00	Pass
	06	0.44		
	11	-0.07		
802.11g	01	-6.41	≤8.00	Pass
	06	-7.43		
	11	-5.94		
802.11n(HT20)	01	-6.41	≤8.00	Pass
	06	-6.47		
	11	-5.80		

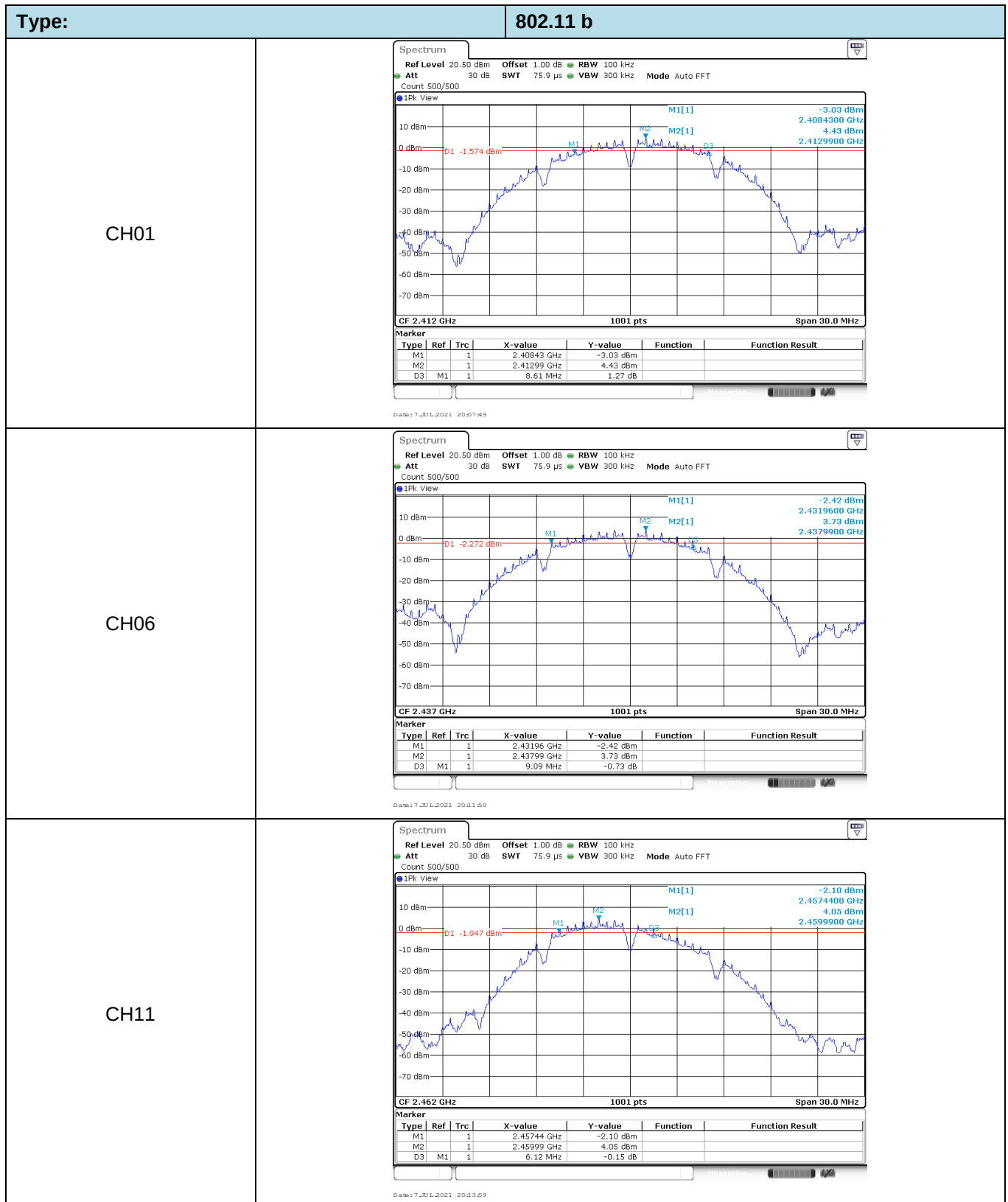


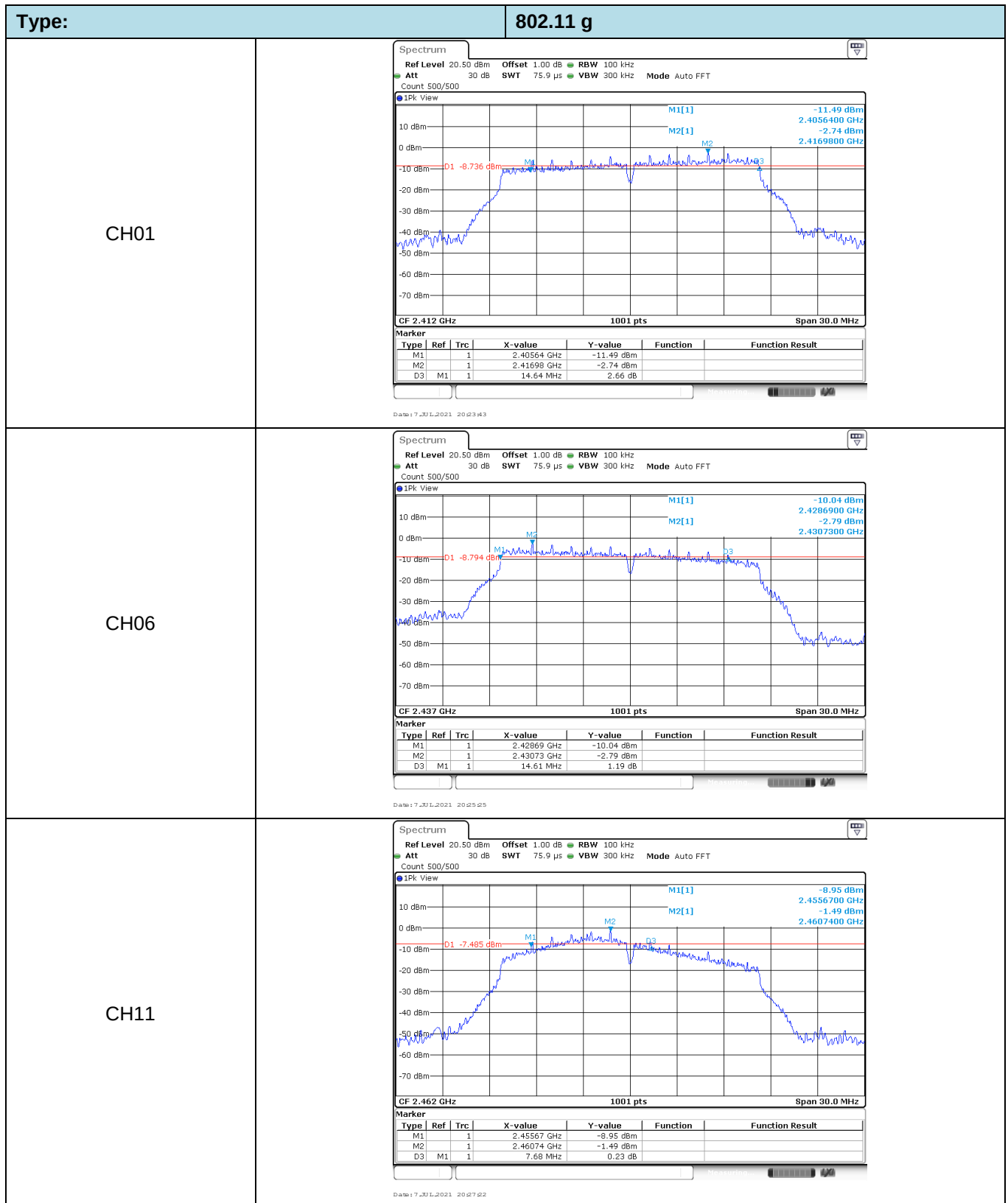




Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	8.61	≥0.5	Pass
	06	9.09		
	11	6.12		
802.11g	01	14.64	≥0.5	Pass
	06	14.61		
	11	7.68		
802.11n(HT20)	01	16.50	≥0.5	Pass
	06	15.21		
	11	7.98		

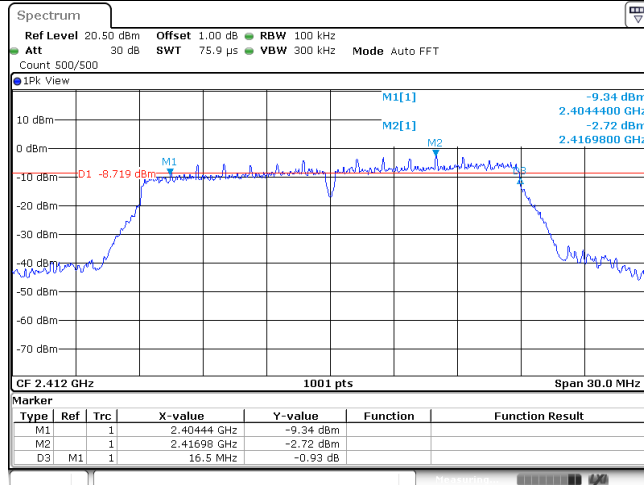




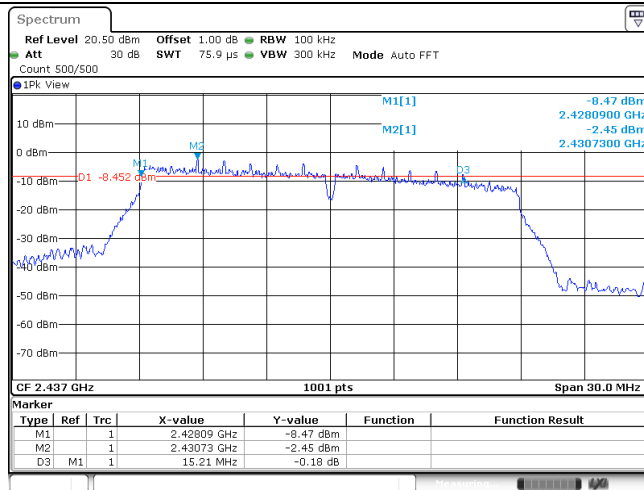
Type:

802.11n(HT20)

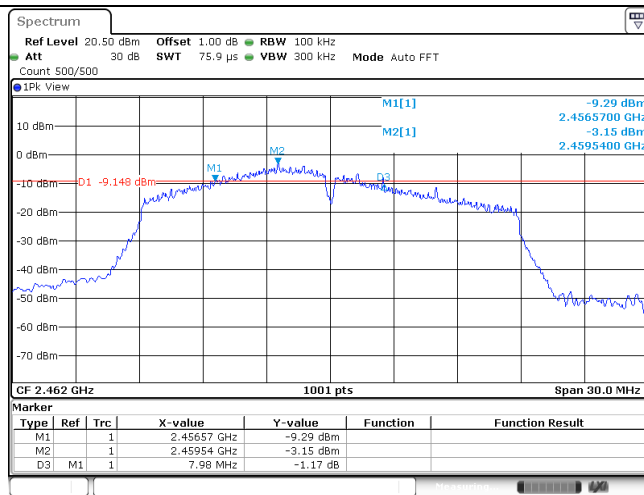
CH01



CH06

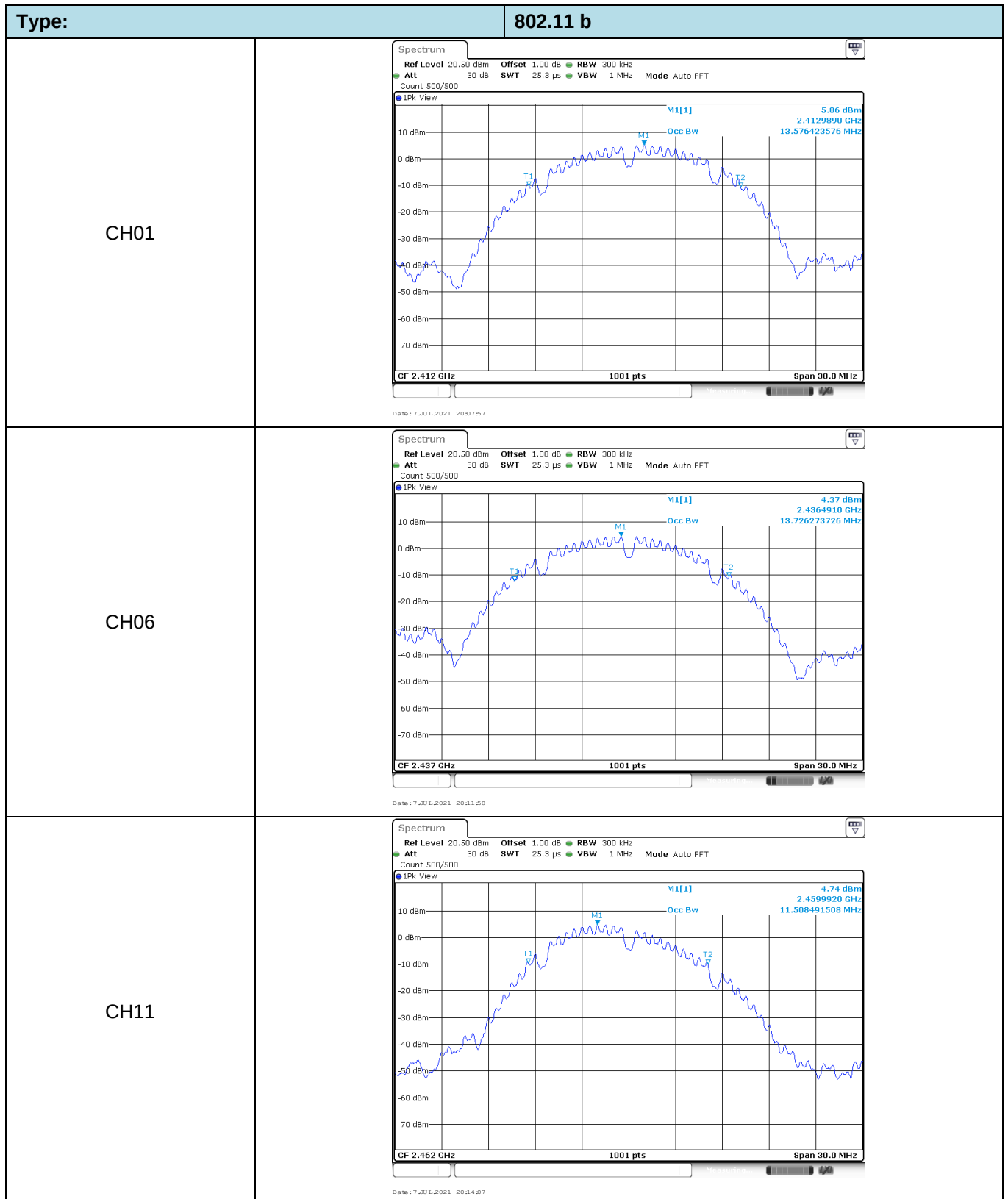


CH11

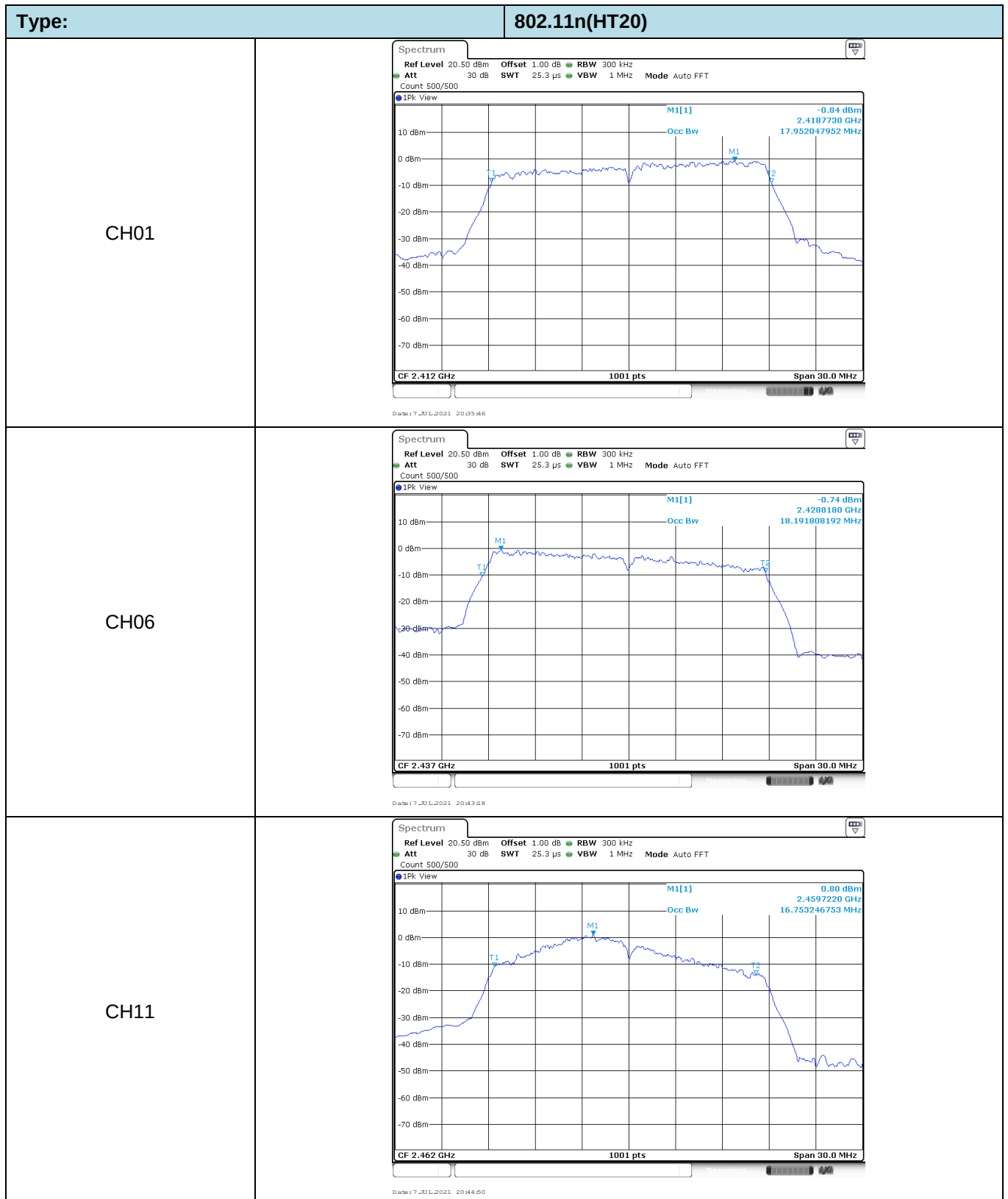


Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	13.58	-	Pass
	06	13.73		
	11	11.51		
802.11g	01	17.23	-	Pass
	06	17.17		
	11	15.58		
802.11n(HT20)	01	17.95	-	Pass
	06	18.19		
	11	16.75		

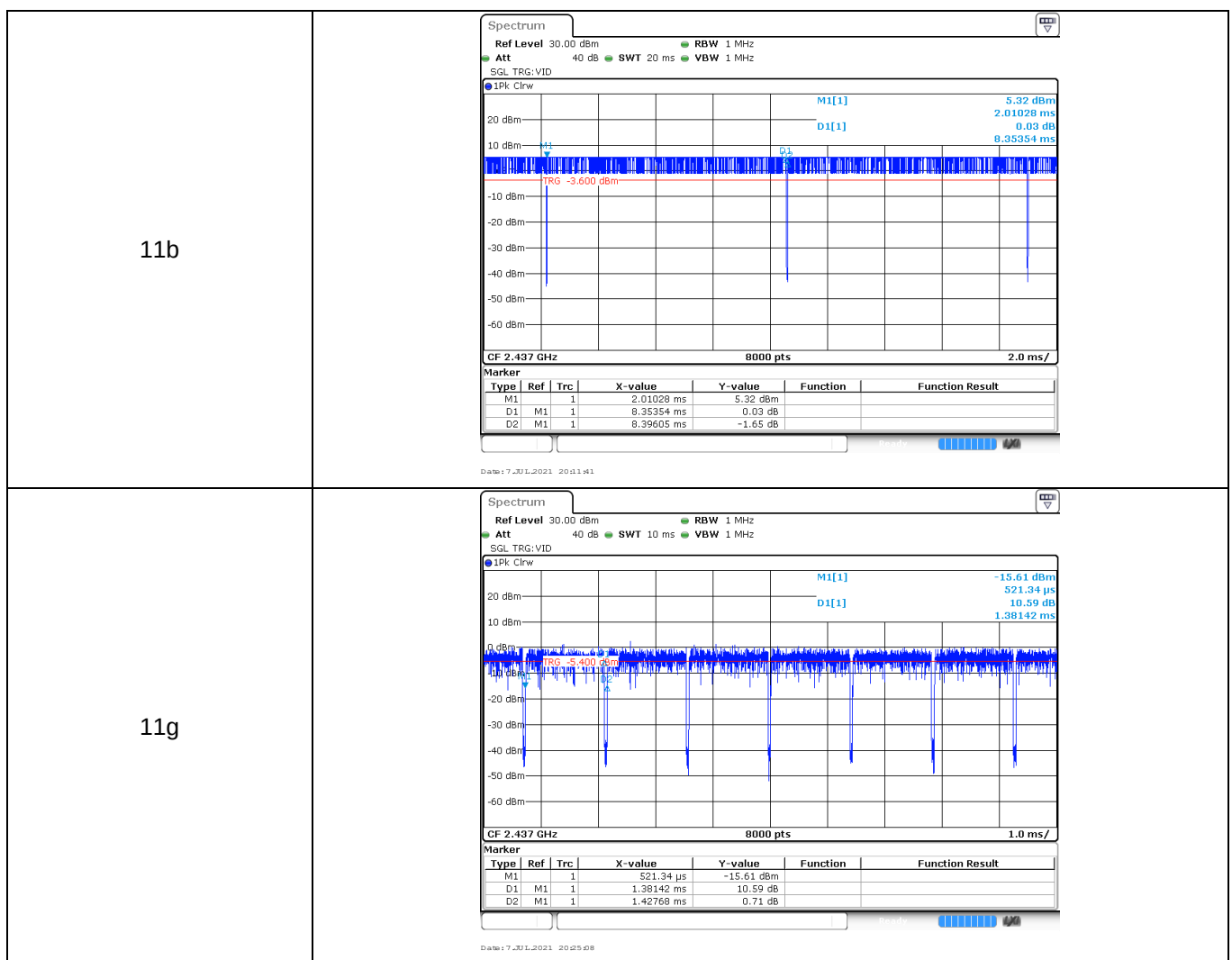


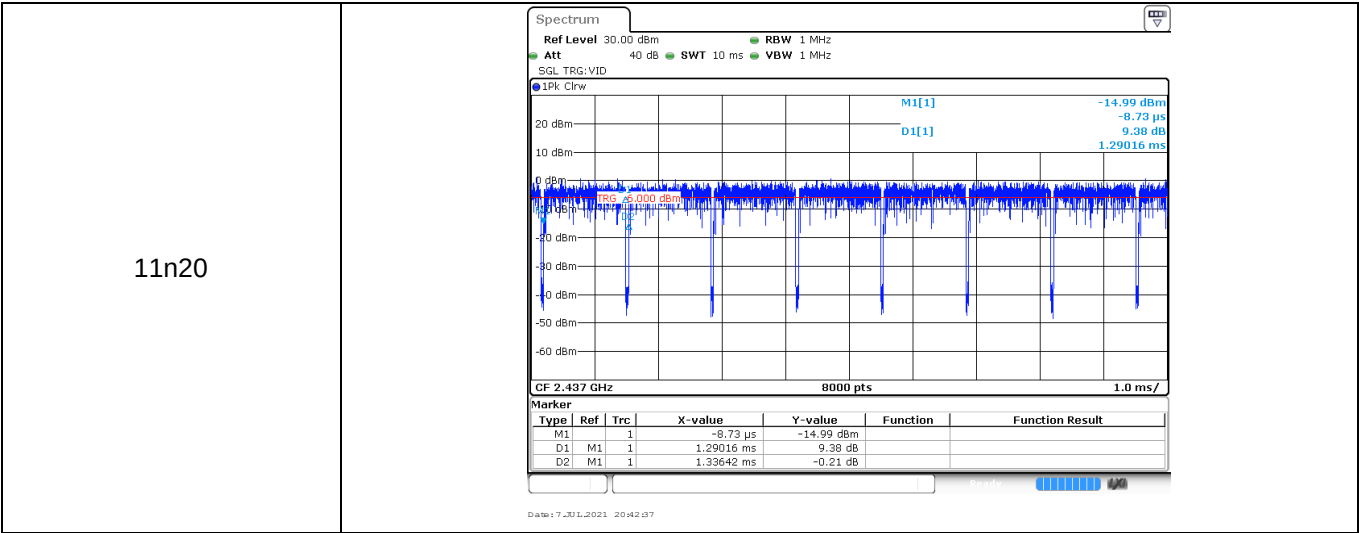
Type:		802.11 g
CH01	Spectrum Ref Level 20.50 dBm Att 30 dB Count 500/500 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] Occ Bw M1 0.27 dBm 2.4191030 GHz 17.232767233 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.412 GHz 1001 pts Span 30.0 MHz Date: 7 JUL 2021 20:24:04	
CH06	Spectrum Ref Level 20.50 dBm Att 30 dB Count 500/500 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] Occ Bw M1 -0.07 dBm 2.4303770 GHz 17.172827173 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.437 GHz 1001 pts Span 30.0 MHz Date: 7 JUL 2021 20:25:54	
CH11	Spectrum Ref Level 20.50 dBm Att 30 dB Count 500/500 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT 1Pk View M1[1] Occ Bw M1 0.61 dBm 2.4584640 GHz 15.584415584 MHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.462 GHz 1001 pts Span 30.0 MHz Date: 7 JUL 2021 20:27:34	



Appendix E: Duty Cycle

Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	8.35	8.40	99.4%	0.1
11g	2437	1.38	1.43	96.5%	0.7
11n20	2437	1.29	1.34	96.3%	0.8



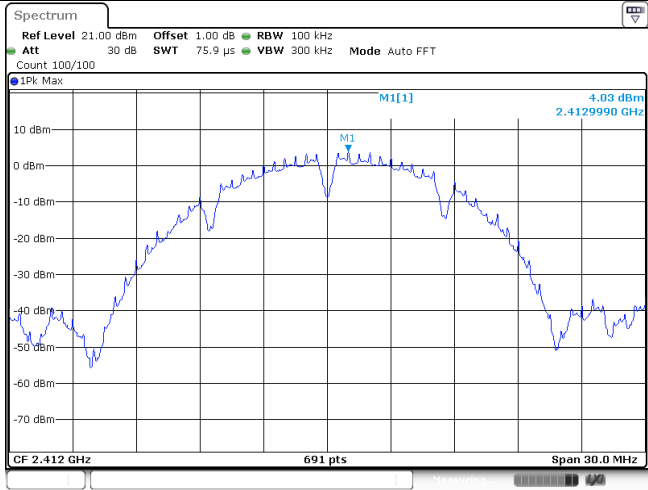
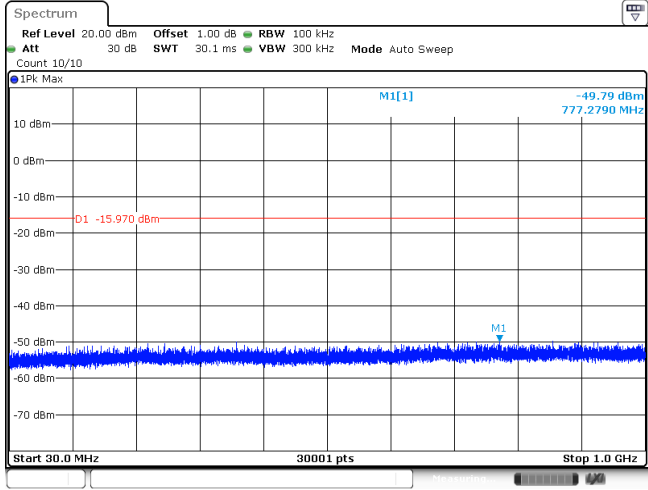
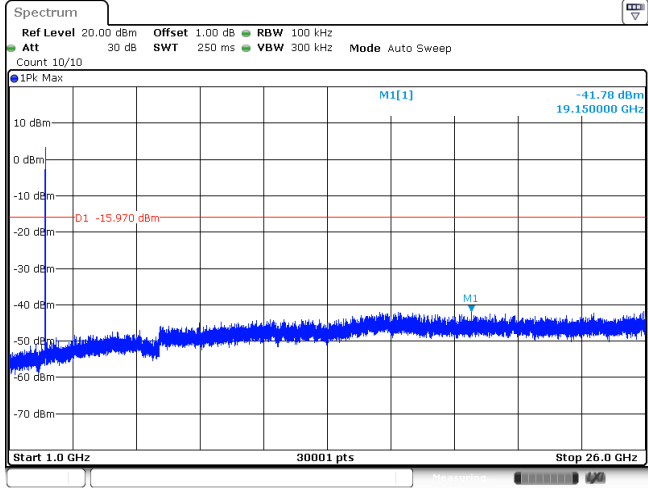


Appendix F: Band edge and Spurious Emissions (conducted)

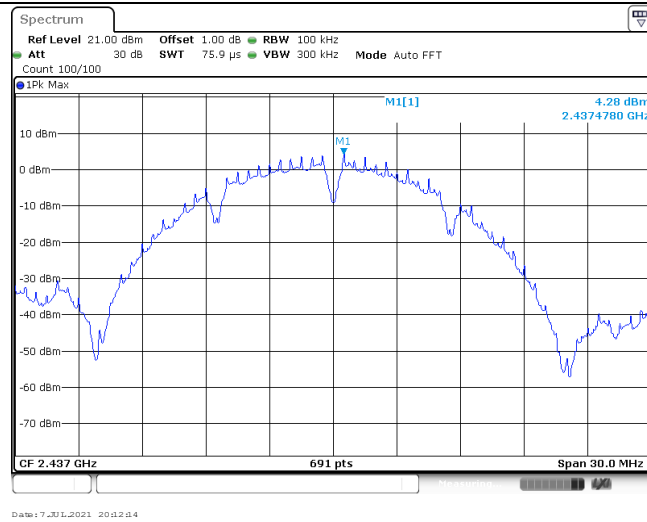
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] 4.07 dBm M2[1] -45.47 dBm M3 -56.60 dBm M4 -59.14 dBm M5 -39.99 dBm D1 -15.930 dBm Start 2.31 GHz 691 pts Stop 2.422 GHz Marker <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.41252 GHz</td><td>4.07 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-45.47 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-56.60 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-59.14 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.3996 GHz</td><td>-39.99 dBm</td><td></td><td></td></tr></tbody></table> Date: 7 JUL 2021 20:08:18			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.41252 GHz	4.07 dBm			M2	1		2.4 GHz	-45.47 dBm			M3	1		2.39 GHz	-56.60 dBm			M4	1		2.31 GHz	-59.14 dBm			M5	1		2.3996 GHz	-39.99 dBm		
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CH11	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] 4.42 dBm M2[1] -58.13 dBm M3 -60.05 dBm M4 -56.48 dBm D1 -15.580 dBm Start 2.452 GHz 691 pts Stop 2.5 GHz Marker <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.460509 GHz</td><td>4.42 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-58.13 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-60.05 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.499513 GHz</td><td>-56.48 dBm</td><td></td><td></td></tr></tbody></table> Date: 7 JUL 2021 20:14:27			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.460509 GHz	4.42 dBm			M2	1		2.4835 GHz	-58.13 dBm			M3	1		2.5 GHz	-60.05 dBm			M4	1		2.499513 GHz	-56.48 dBm									
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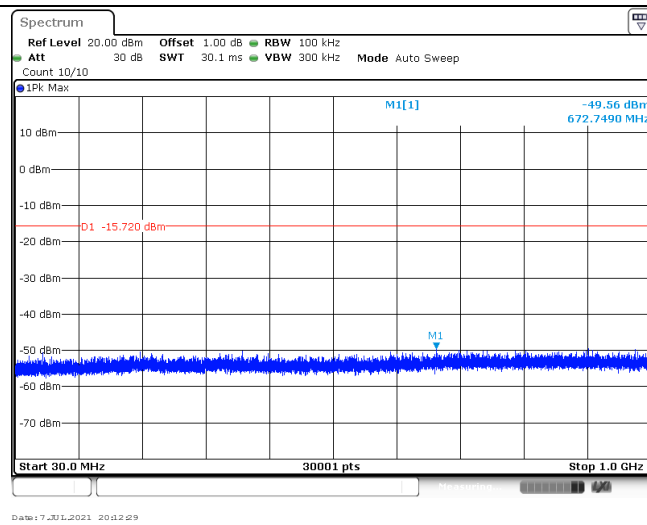
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Test Item:	SE	Type:	802.11 b
CH01 Reference level		 4.03 dBm 2.4129990 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 7 JUL 2021 20:08:24	
CH01 30MHz~1000MHz		 -49.79 dBm 777.2790 MHz D1 -15.970 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 7 JUL 2021 20:08:39	
CH01 1GHz~26GHz		 -41.78 dBm 19.150000 GHz D1 -15.970 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 7 JUL 2021 20:08:54	

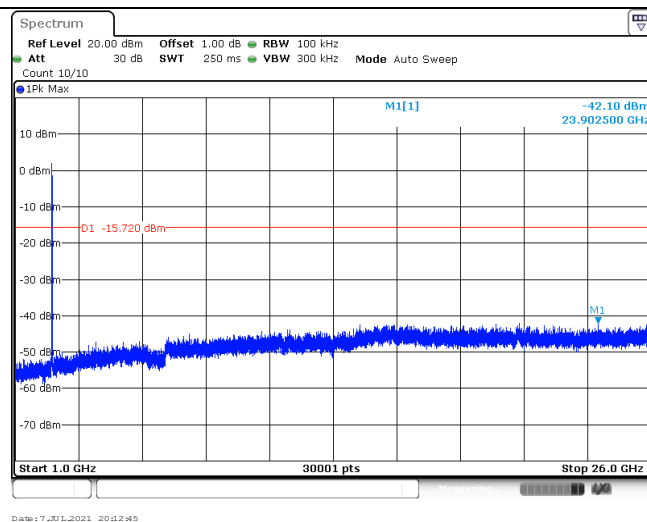
CH06
Reference level



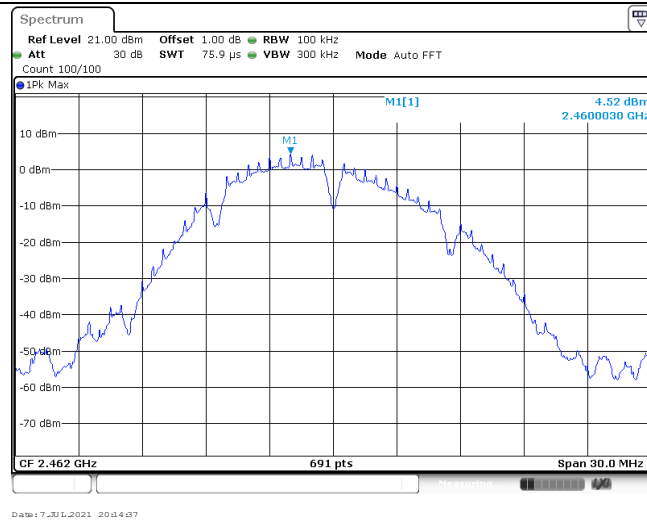
CH06
30MHz~1000MHz



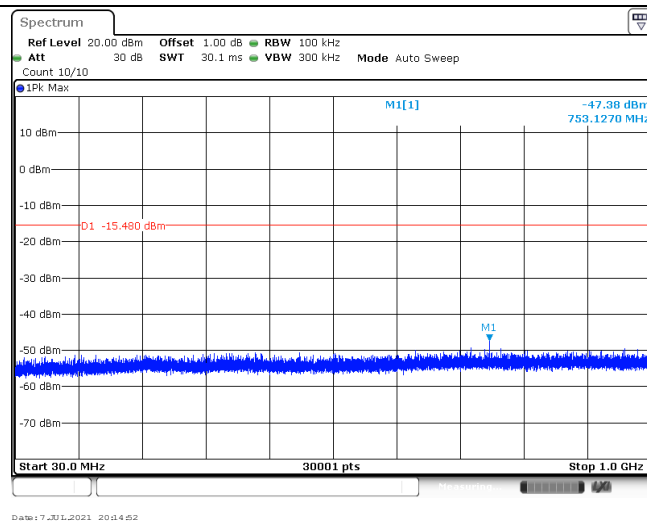
CH06
1GHz~26GHz



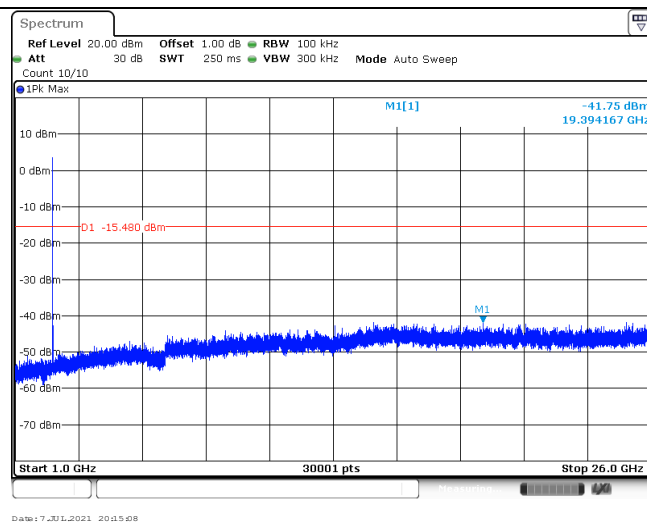
CH11
Reference level

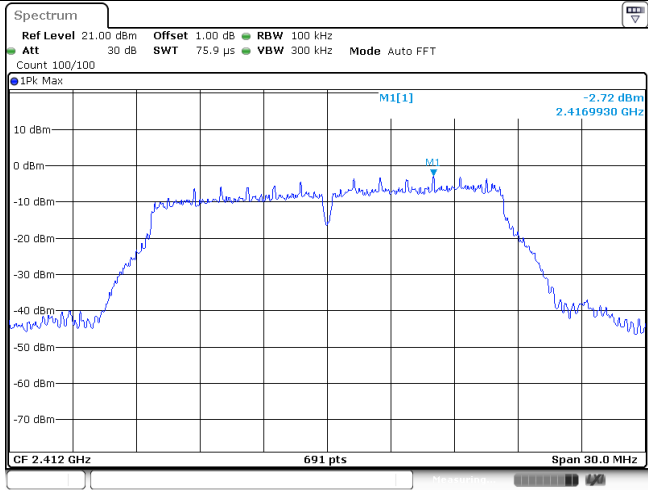
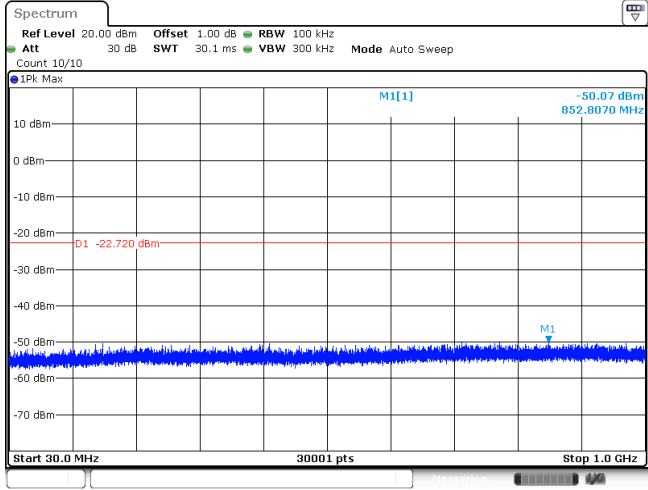
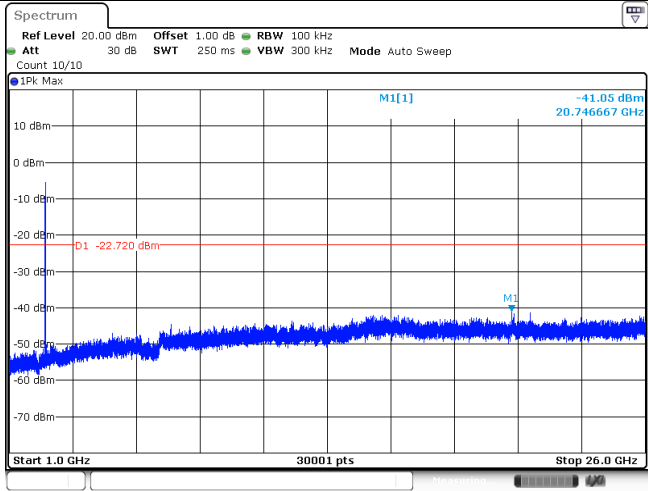


CH11
30MHz~1000MHz

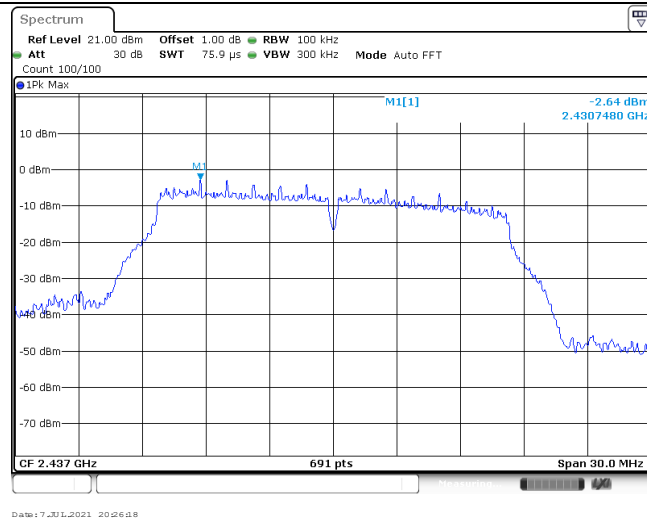


CH11
1GHz~26GHz

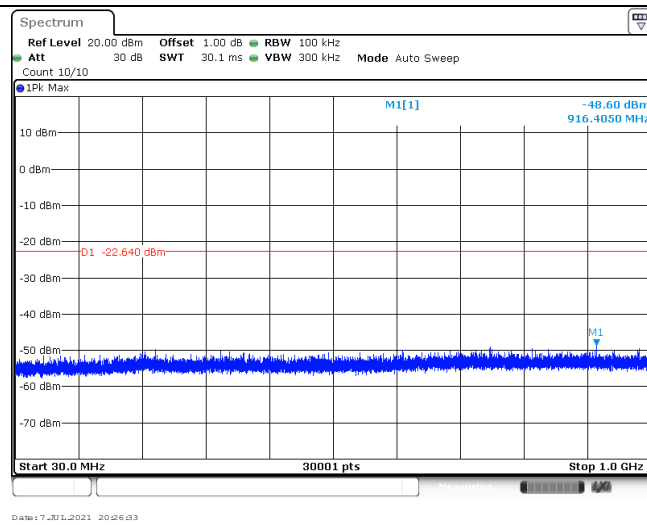


Test Item:	SE	Type:	802.11 g
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

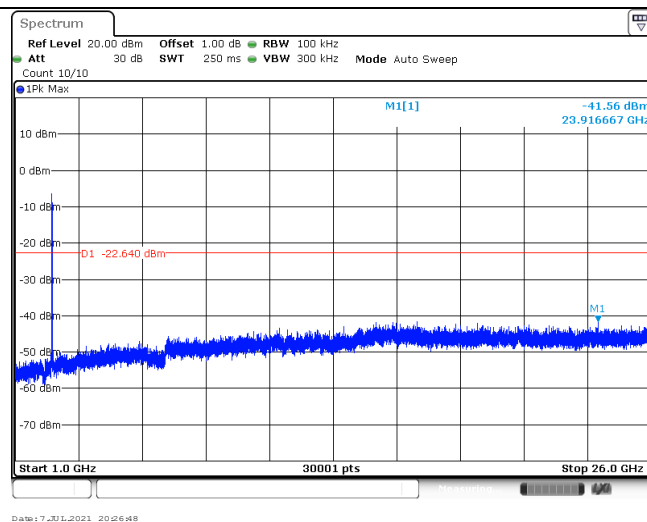
CH06
Reference level

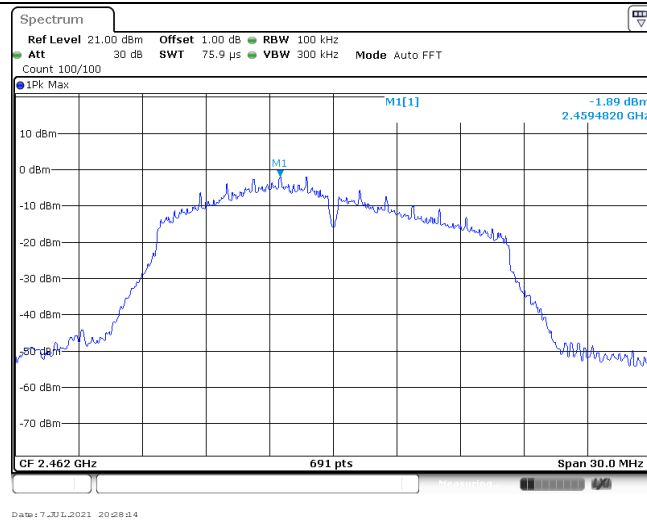
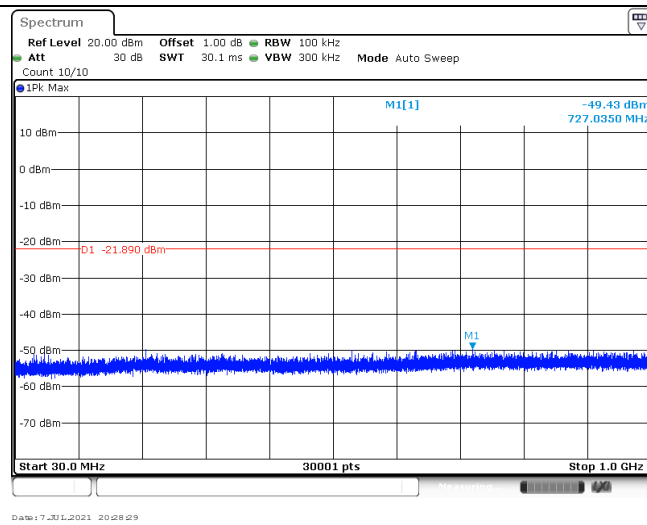
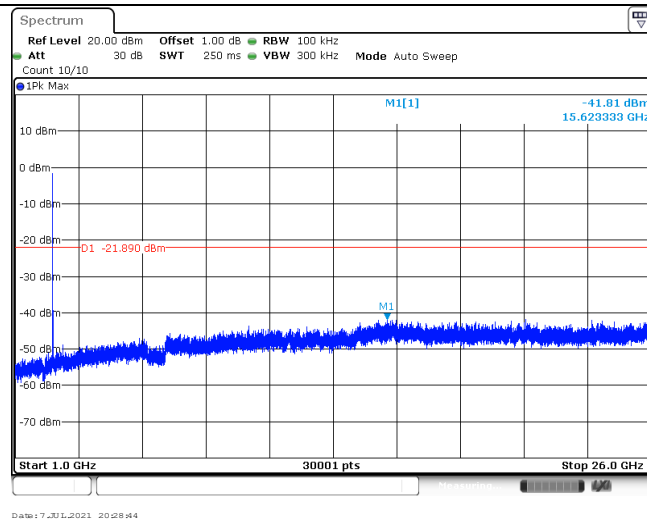


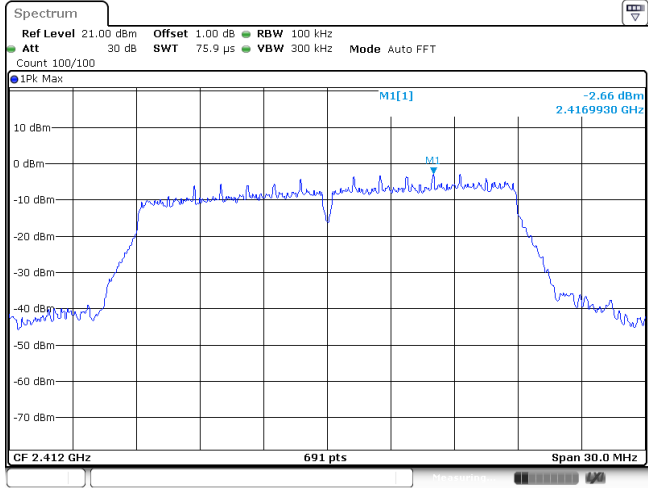
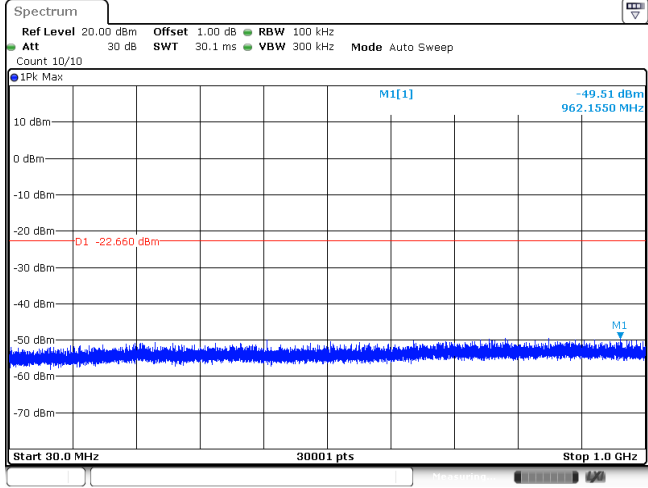
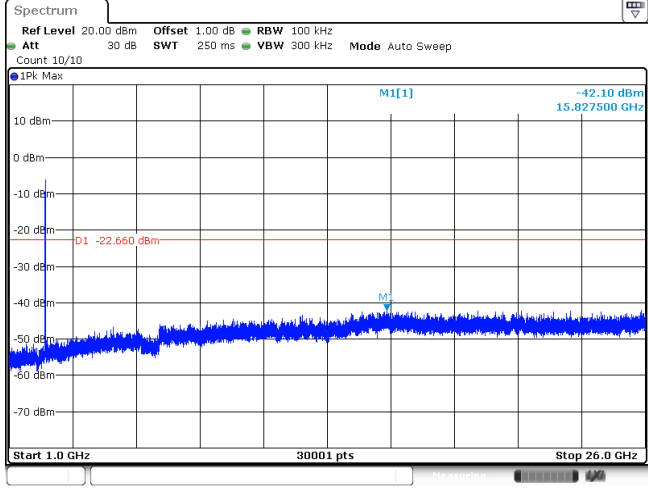
CH06
30MHz~1000MHz



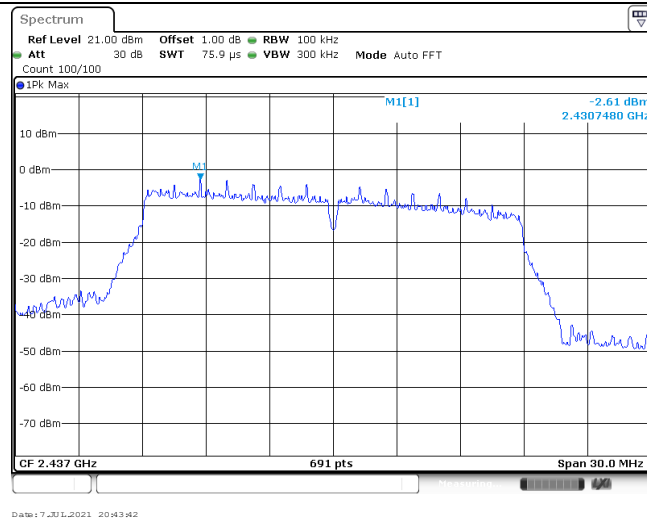
CH06
1GHz~26GHz



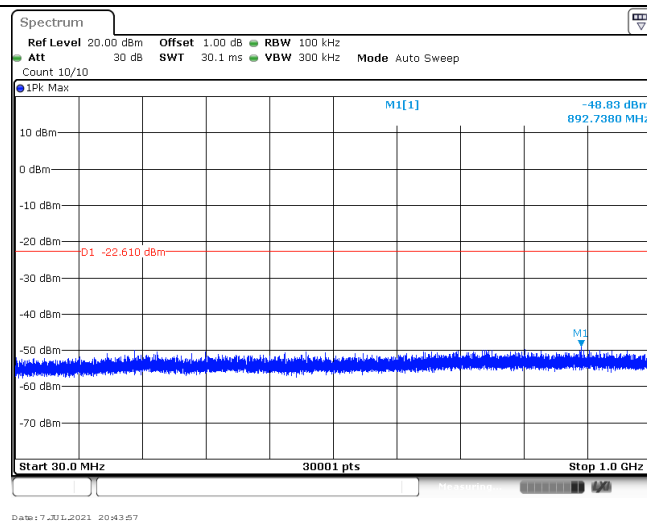
CH11
Reference levelCH11
30MHz~1000MHzCH11
1GHz~26GHz

Test Item:	SE	Type:	802.11 n(HT20)
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

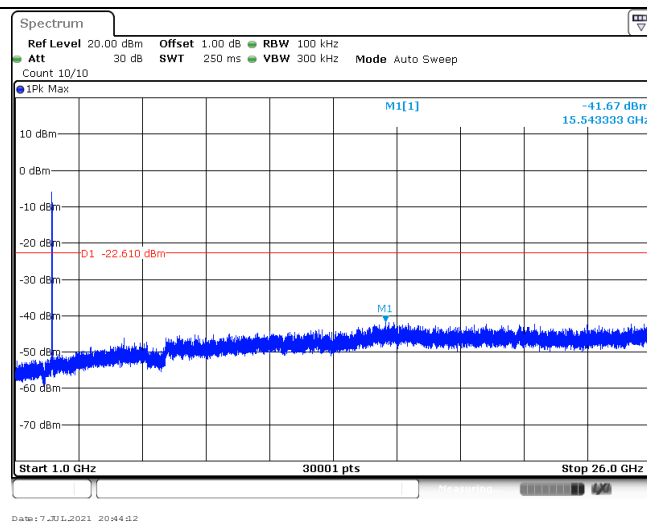
CH06
Reference level



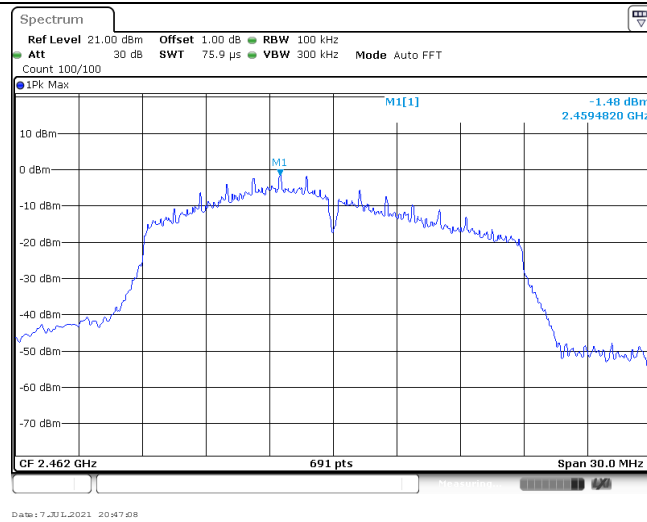
CH06
30MHz~1000MHz



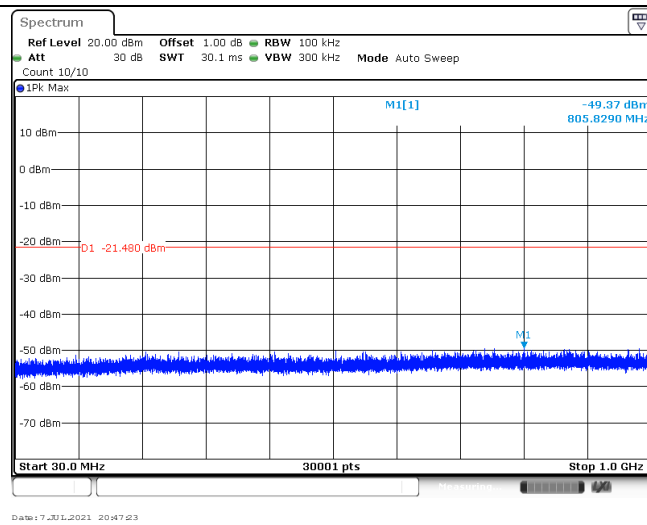
CH06
1GHz~26GHz



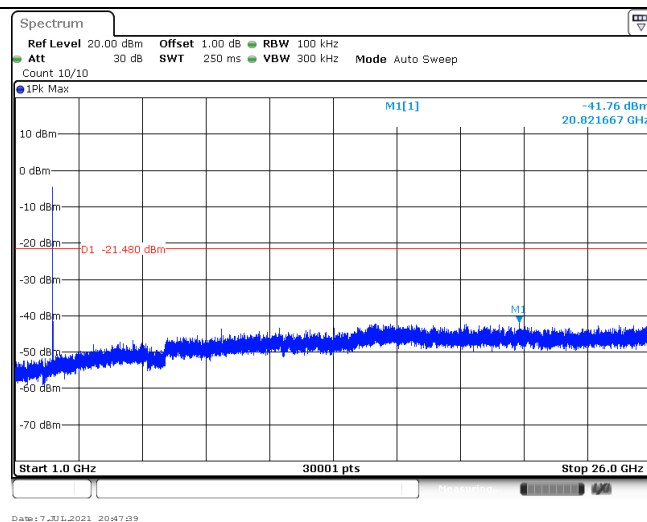
CH11
Reference level



CH11
30MHz~1000MHz



CH11
1GHz~26GHz



-----End of Report-----