

APPENDIX REPORT

Project No.	SHT2205032403EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22050324006	Model No.	P60
Start test date	2022-05-26	Finish date	2022-05-26
Temperature	24.5℃	Humidity	37%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

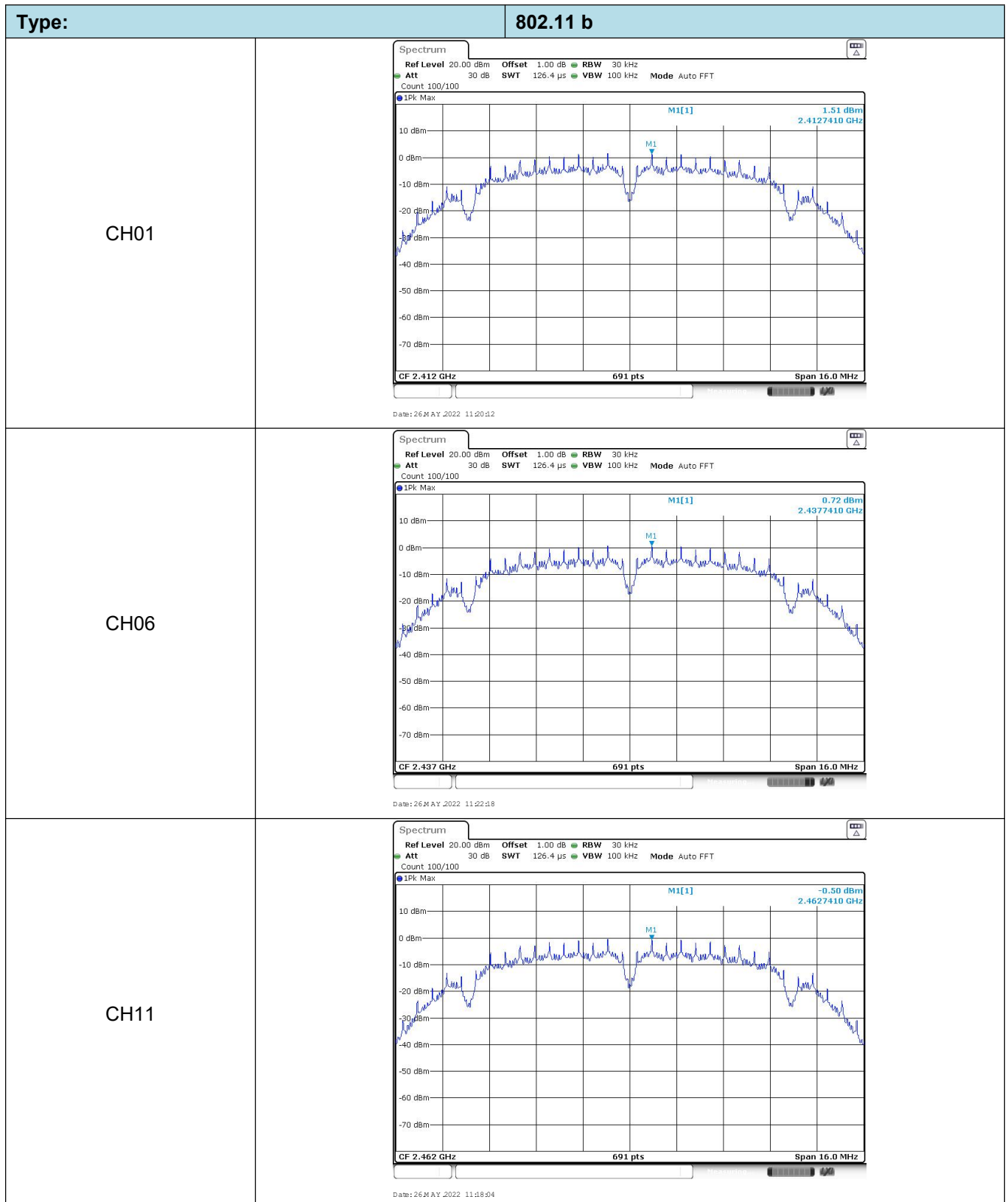
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

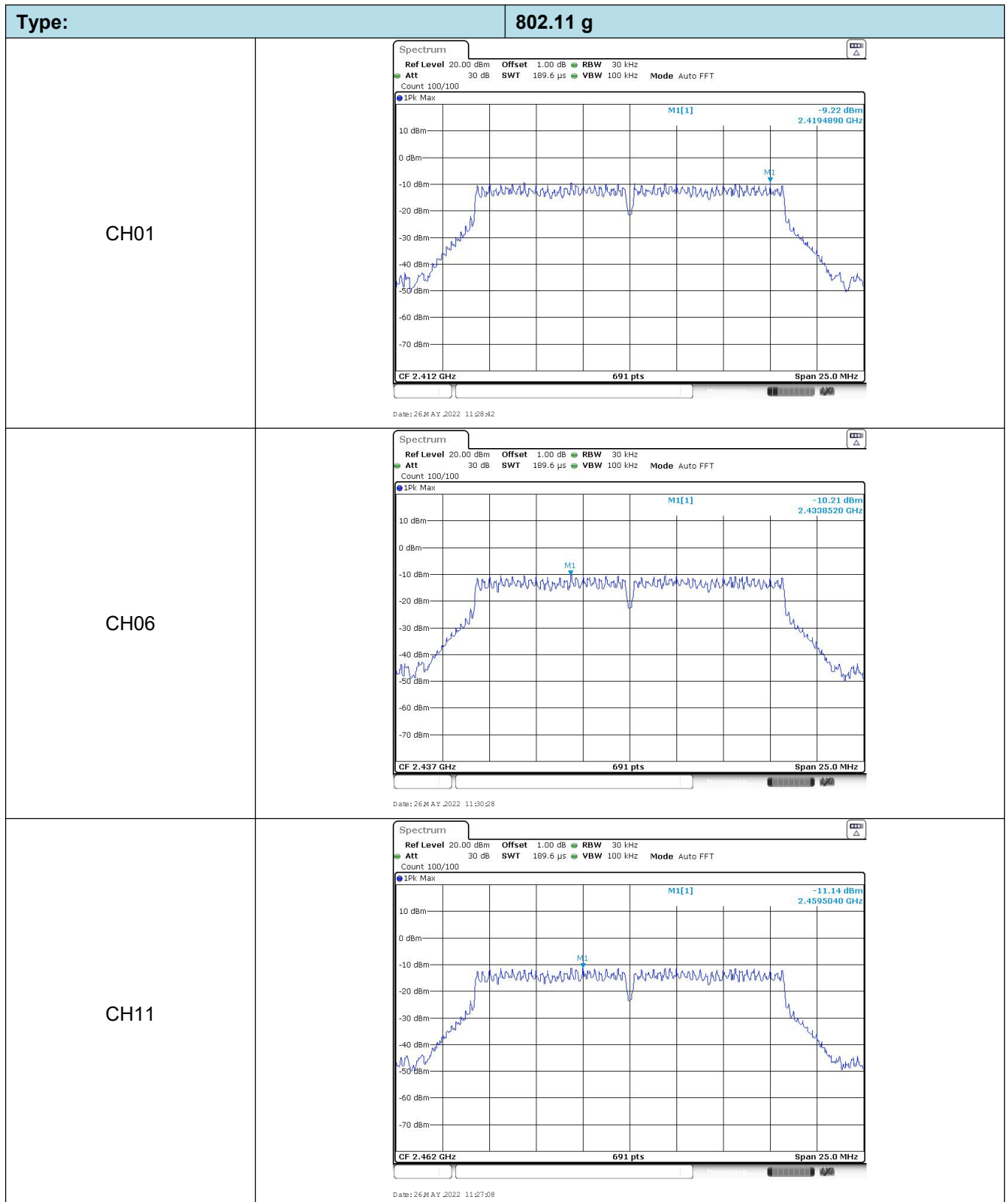
Appendix A: Conducted Peak Output Power

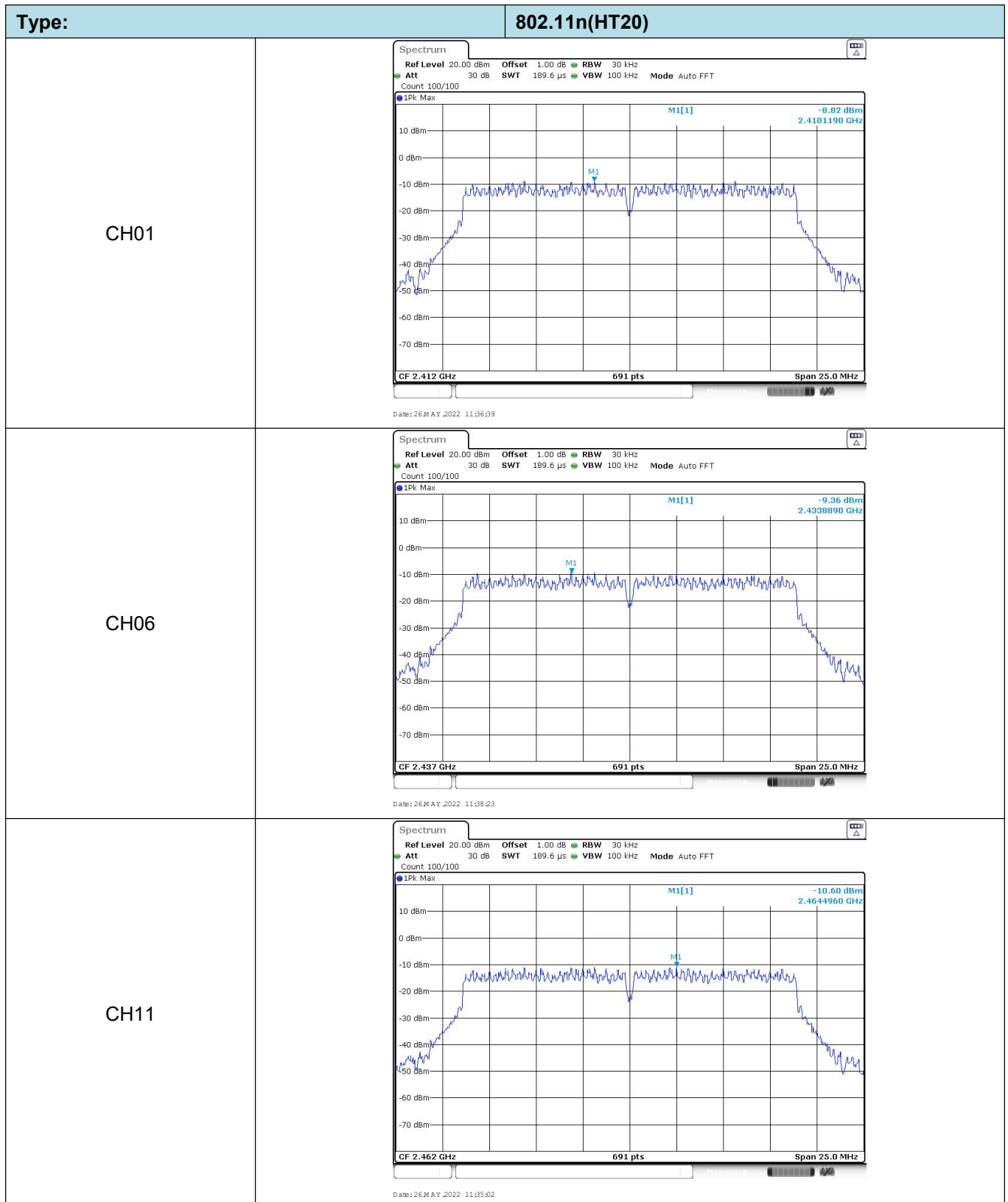
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	15.17	13.02	≤ 30.00	Pass
	06	14.53	12.34		
	11	13.13	11.15		
802.11g	01	15.11	11.32	≤ 30.00	Pass
	06	14.40	10.66		
	11	13.51	9.82		
802.11n (HT20)	01	15.63	12.23	≤ 30.00	Pass
	06	15.02	11.60		
	11	13.75	10.34		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	1.51	≤8.00	Pass
	06	0.72		
	11	-0.50		
802.11g	01	-9.22	≤8.00	Pass
	06	-10.21		
	11	-11.14		
802.11n(HT20)	01	-8.82	≤8.00	Pass
	06	-9.36		
	11	-10.60		







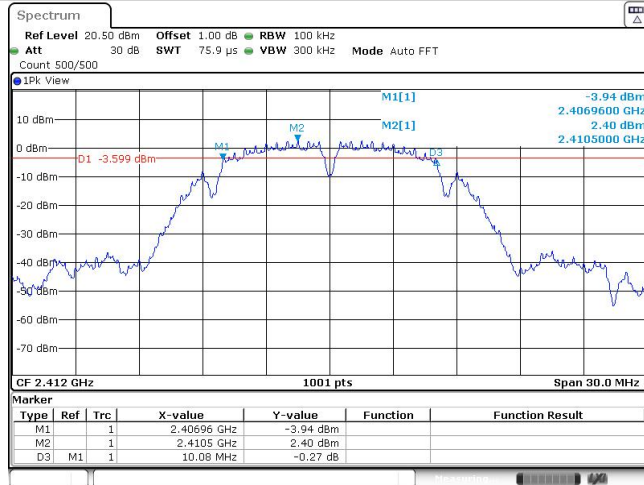
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	10.08	≥0.5	Pass
	06	10.08		
	11	10.08		
802.11g	01	16.41	≥0.5	Pass
	06	16.41		
	11	16.44		
802.11n(HT20)	01	17.64	≥0.5	Pass
	06	17.64		
	11	17.64		

Type:

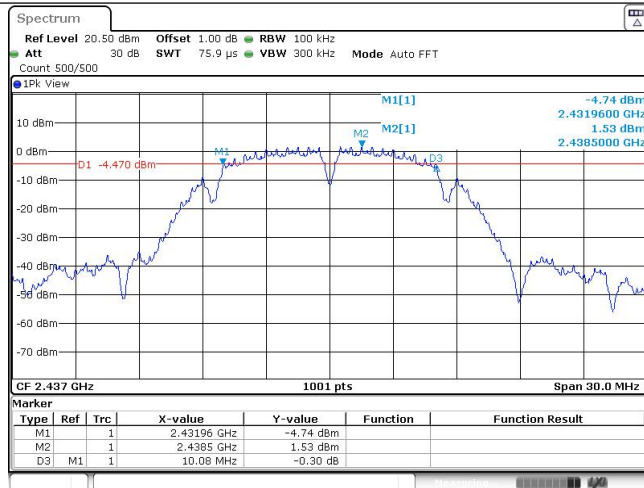
802.11 b

CH01



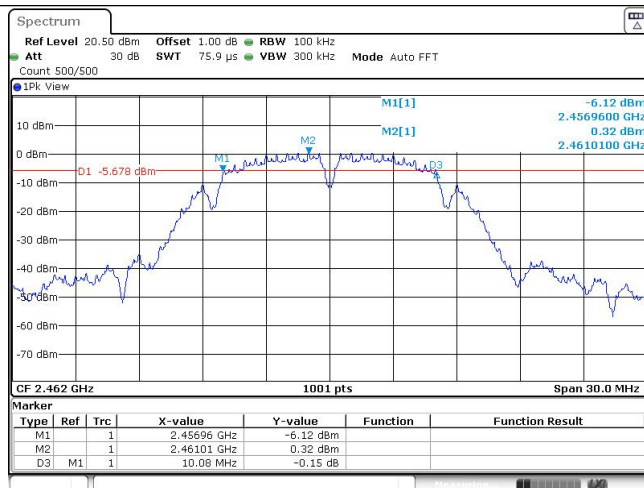
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CH06



Date: 26 MAY 2022 11:22:05

CH11

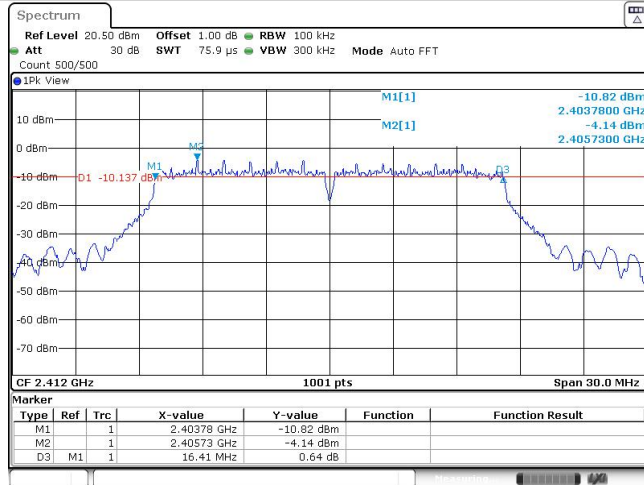


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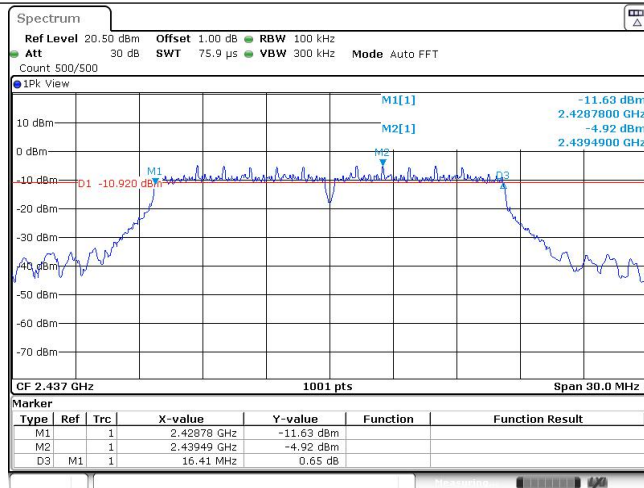
802.11 g

CH01



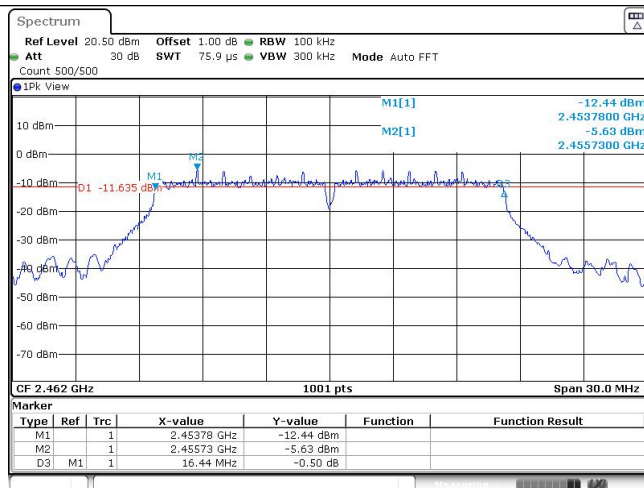
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CH06



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CH11

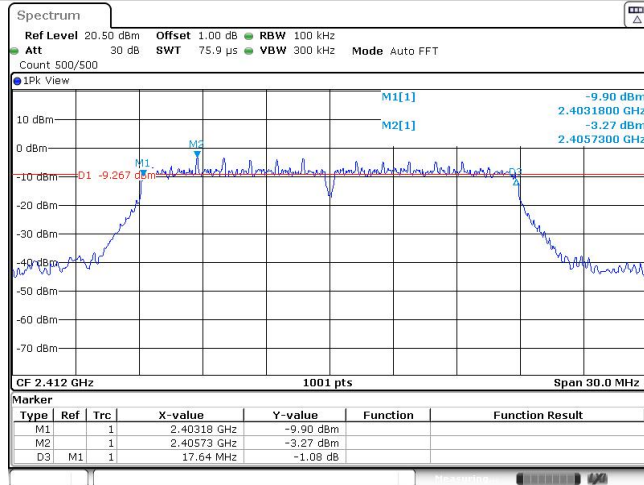


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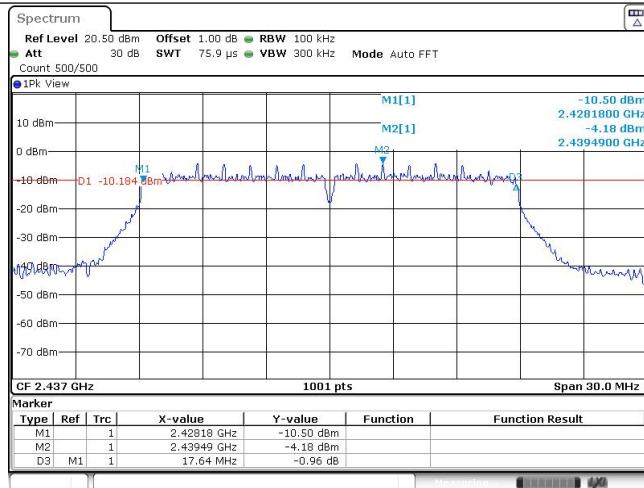
802.11n(HT20)

CH01



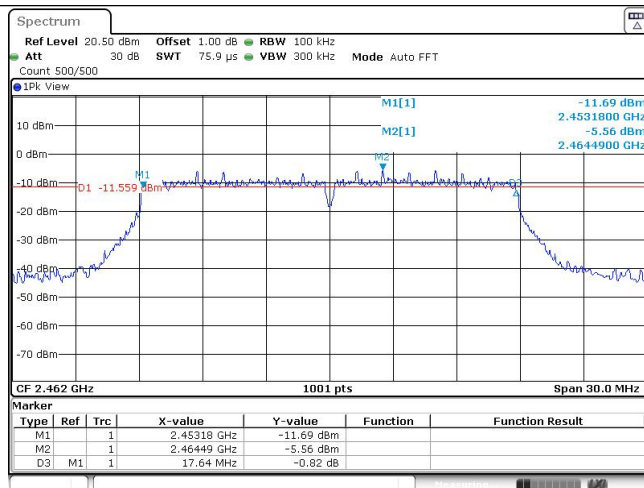
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CH06



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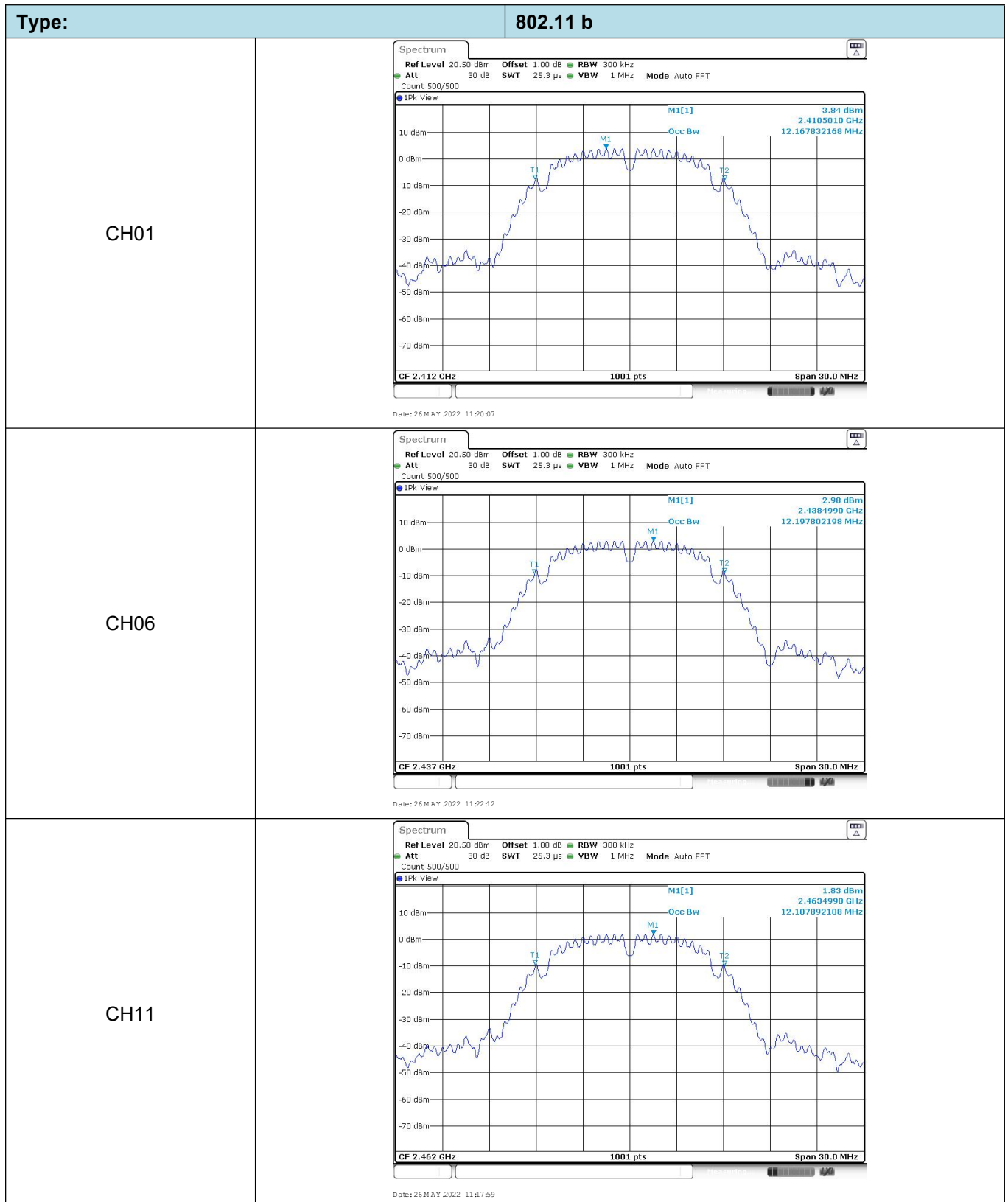
CH11

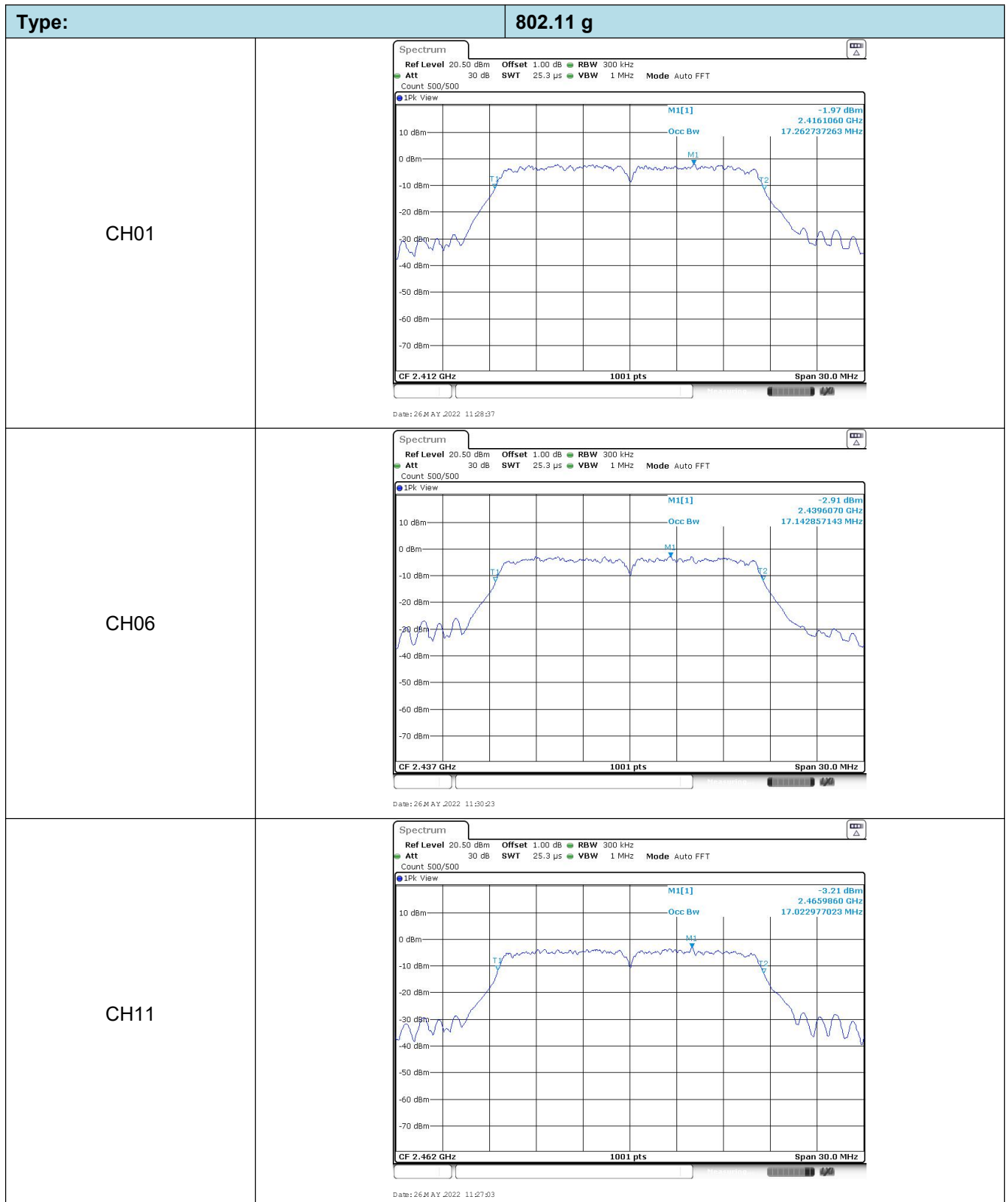


Date: 26 MAY 2022 11:34:49

Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	12.17	-	Pass
	06	12.20		
	11	12.11		
802.11g	01	17.26	-	Pass
	06	17.14		
	11	17.02		
802.11n(HT20)	01	17.83	-	Pass
	06	17.98		
	11	18.01		

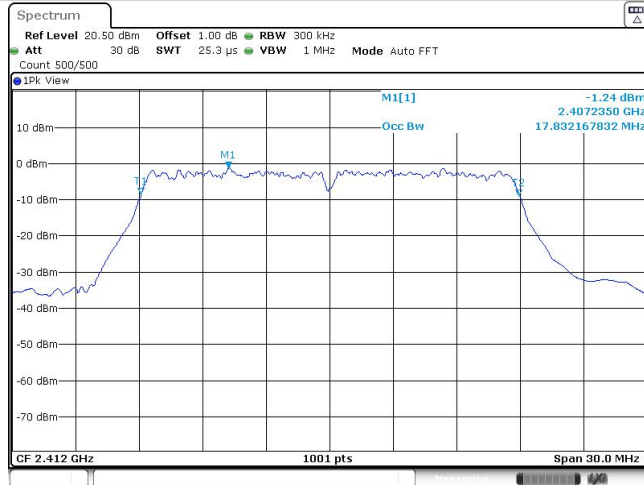




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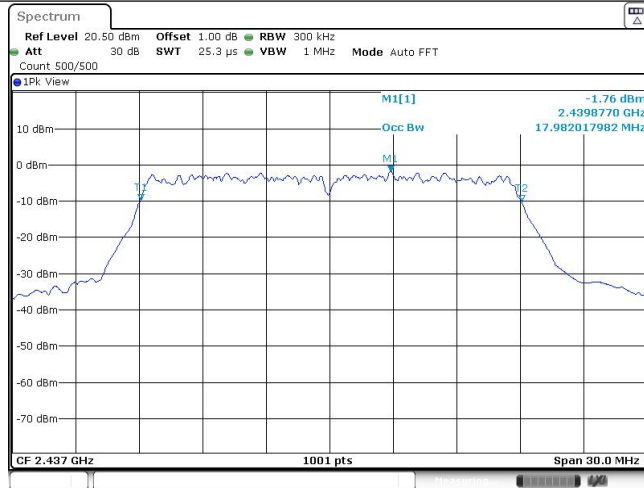
802.11n(HT20)

CH01



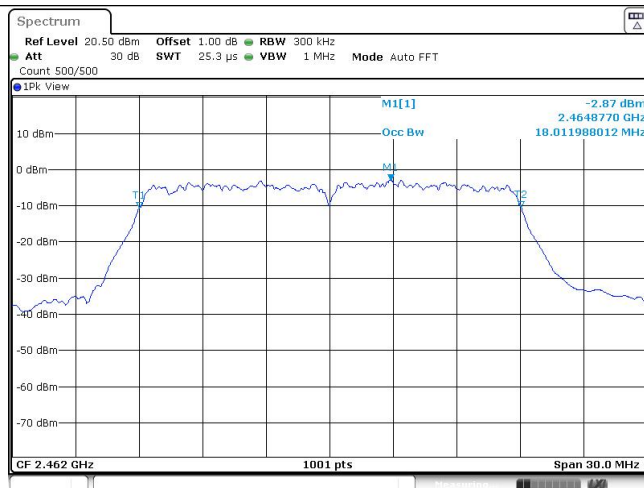
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CH06



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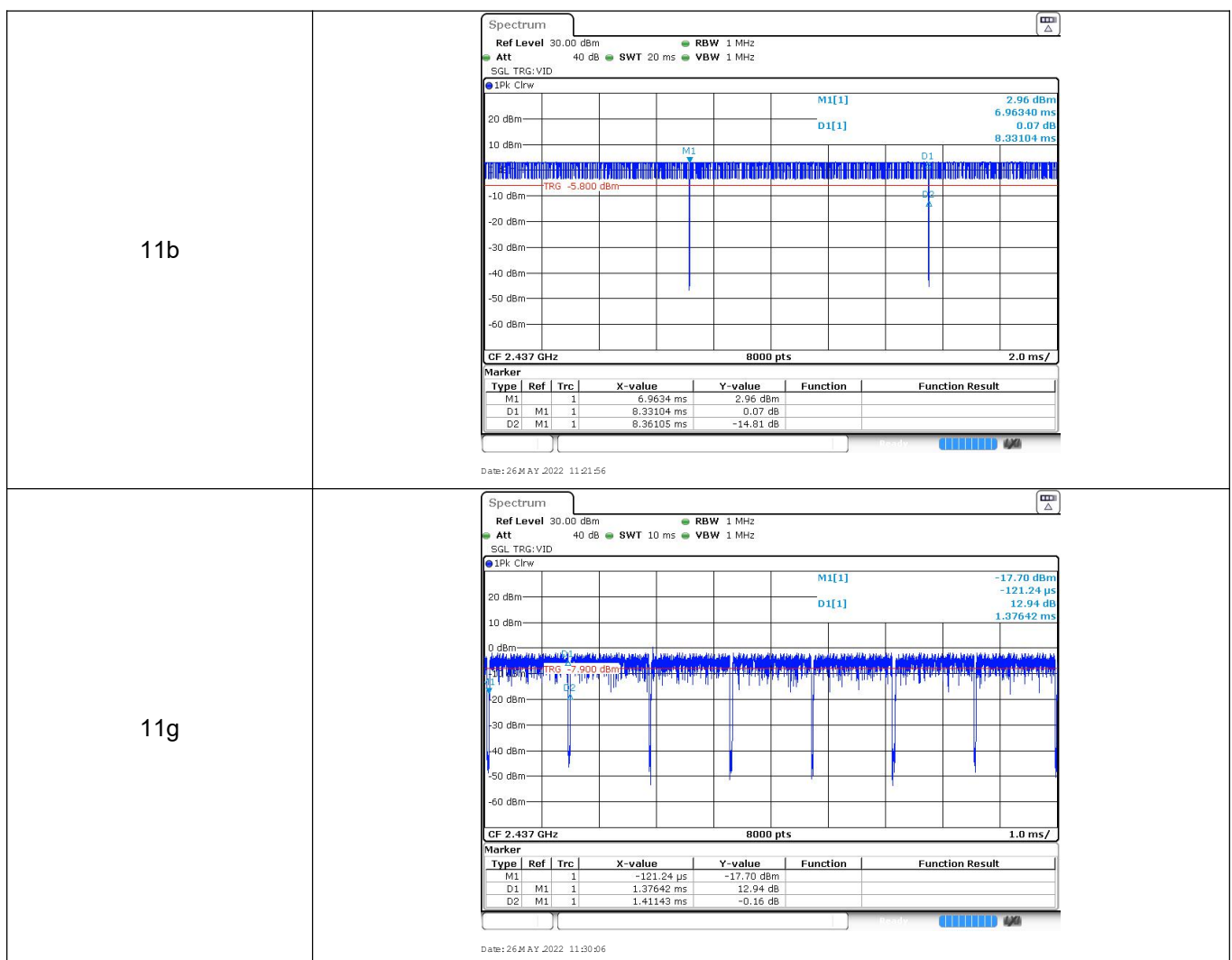
CH11

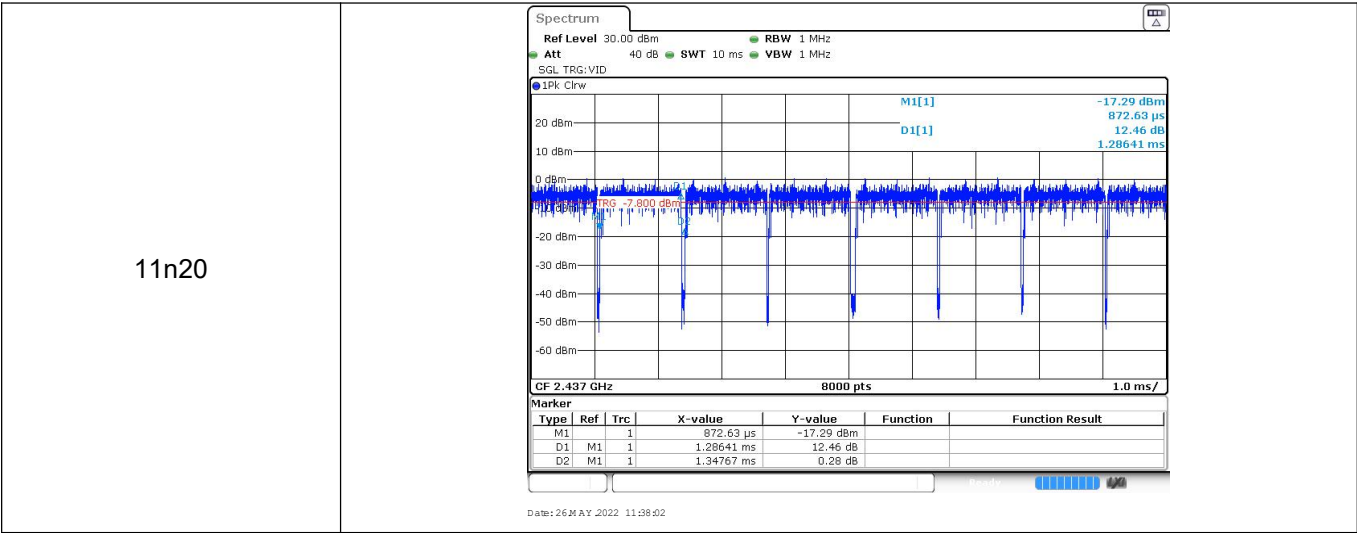


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Appendix E: Duty Cycle

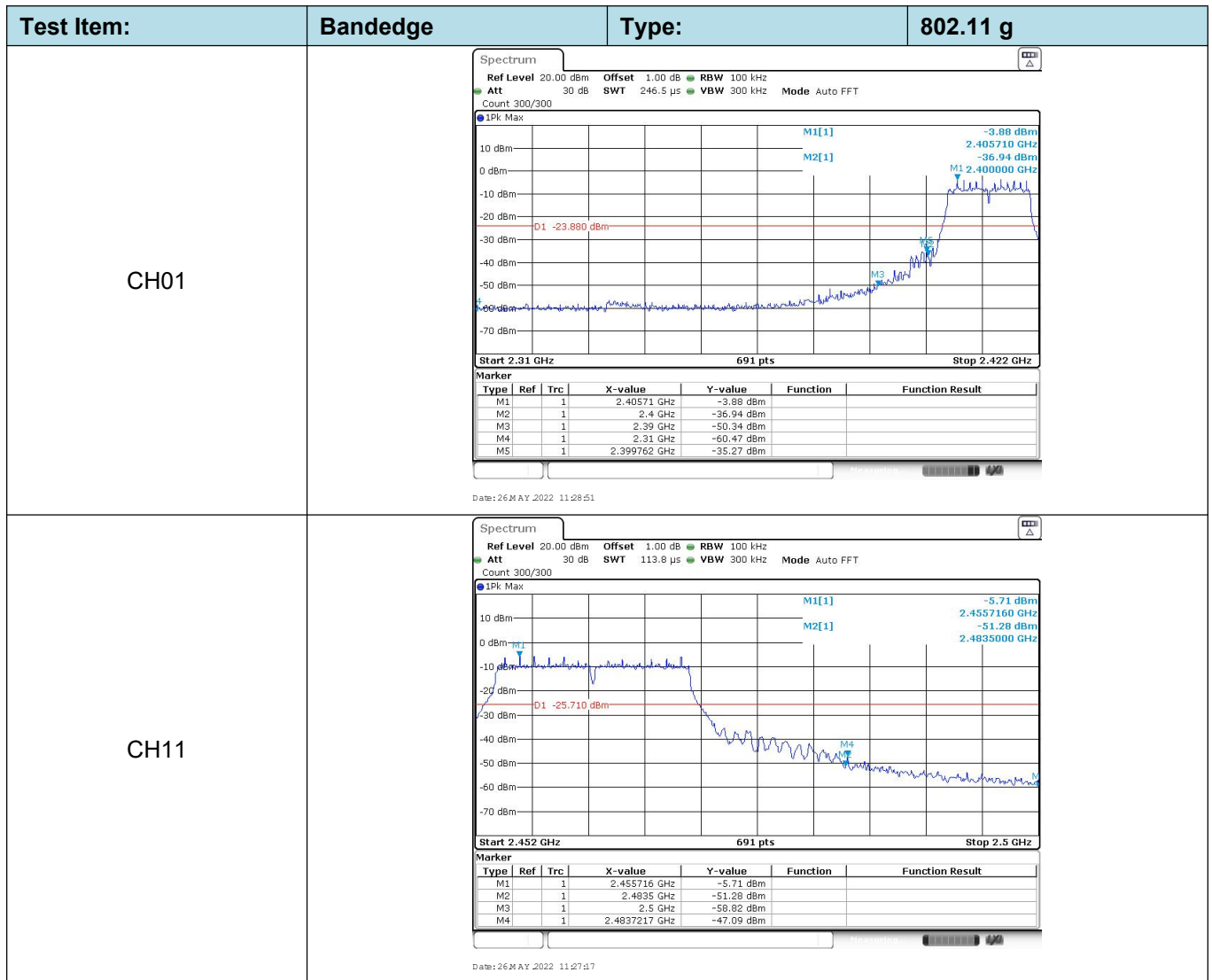
Modulation Type	Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
11b	2437	8.33	8.36	99.6%	0.1
11g	2437	1.38	1.41	97.9%	0.7
11n20	2437	1.29	1.35	95.6%	0.8



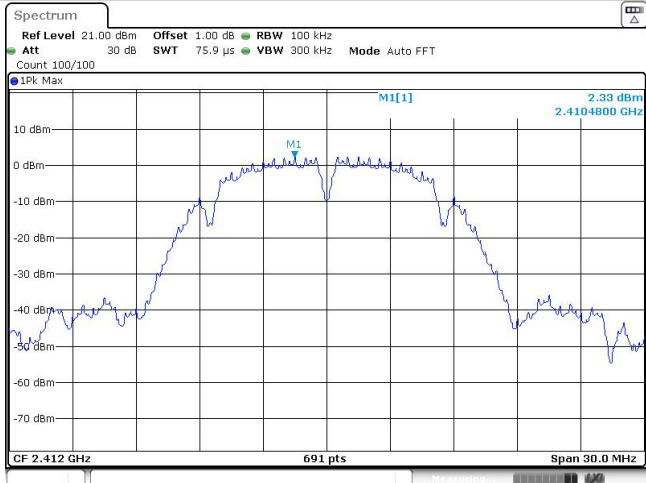
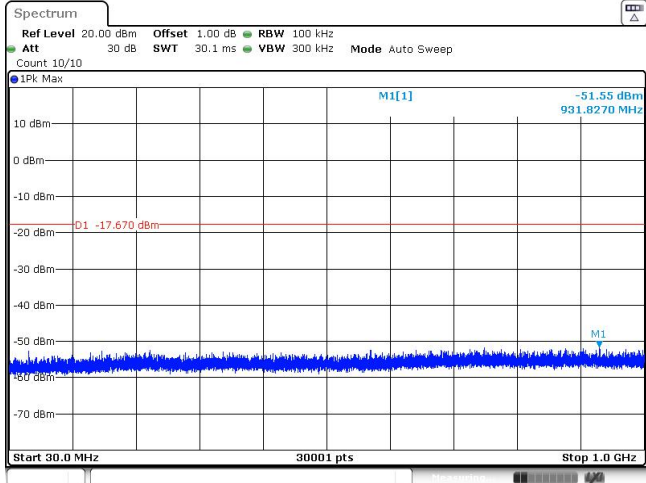
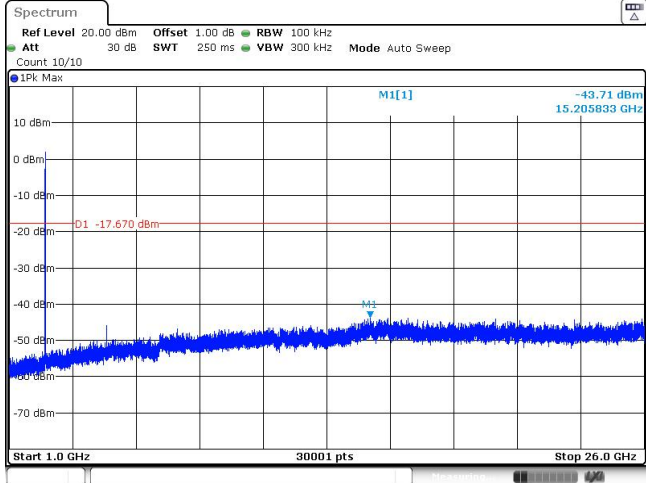


Appendix F: Band edge and Spurious Emissions (conducted)

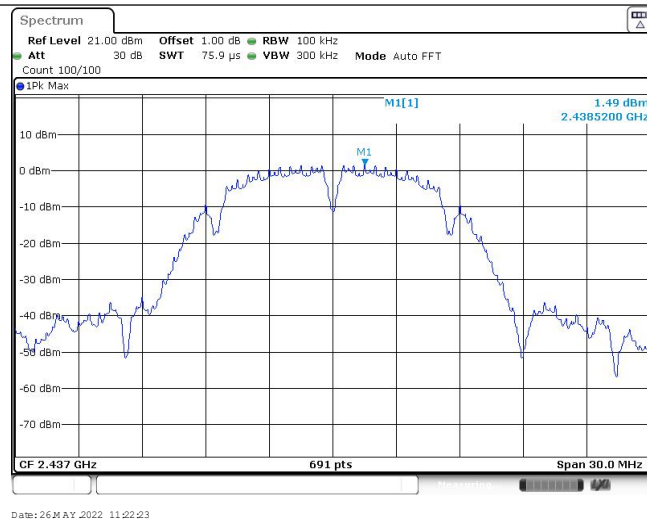
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] 2.26 dBm 2.410410 GHz M2[1] -42.58 dBm 2.4 GHz M3 -55.60 dBm 2.39 GHz M4 -58.60 dBm 2.31 GHz M5 -38.88 dBm 2.399113 GHz D1 -17.740 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>2.41041 GHz</td><td>2.26 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-42.58 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-55.60 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-58.60 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399113 GHz</td><td>-38.88 dBm</td><td></td><td></td></tr></tbody></table> Date: 26 MAY 2022 11:20:21			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.41041 GHz	2.26 dBm			M2	1		2.4 GHz	-42.58 dBm			M3	1		2.39 GHz	-55.60 dBm			M4	1		2.31 GHz	-58.60 dBm			M5	1		2.399113 GHz	-38.88 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] 0.32 dBm 2.460509 GHz M2[1] -55.83 dBm 2.4835000 GHz M3 -59.40 dBm 2.5 GHz M4 -55.83 dBm 2.483513 GHz D1 -19.680 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>0.32 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-55.83 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-59.40 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483513 GHz</td><td>-55.83 dBm</td><td></td><td></td></tr></tbody></table> Date: 26 MAY 2022 11:18:13			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.460509 GHz	0.32 dBm			M2	1		2.4835 GHz	-55.83 dBm			M3	1		2.5 GHz	-59.40 dBm			M4	1		2.483513 GHz	-55.83 dBm									
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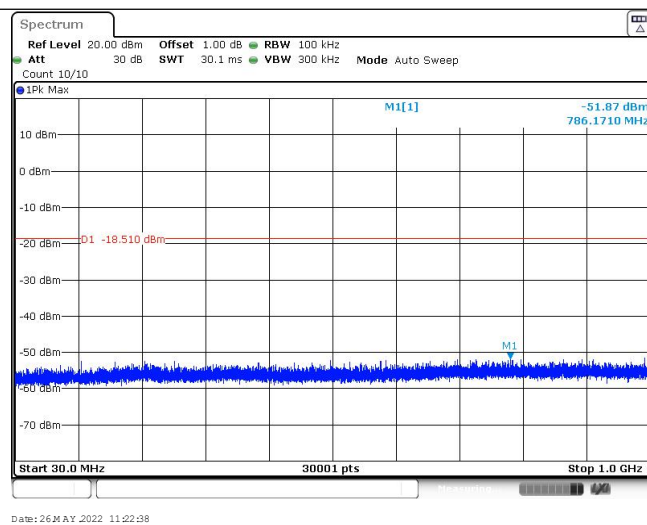
Test Item:	Bandedge	Type:	802.11 n(HT20)																																										
CH01	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] M2[1] M3 M4 M5 D1 M1 2.400000 GHz M2 2.400000 GHz M3 2.399925 GHz M4 2.31 GHz M5 2.399925 GHz D1 -24.020 dBm -4.02 dBm -39.14 dBm -46.74 dBm -60.91 dBm -39.56 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>2.40571 GHz</td><td>-4.02 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-39.14 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-46.74 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-60.91 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399925 GHz</td><td>-39.56 dBm</td><td></td><td></td></tr></tbody></table> Date: 26 MAY 2022 11:36:48			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40571 GHz	-4.02 dBm			M2	1		2.4 GHz	-39.14 dBm			M3	1		2.39 GHz	-46.74 dBm			M4	1		2.31 GHz	-60.91 dBm			M5	1		2.399925 GHz	-39.56 dBm		
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M3	1		2.5 GHz	-58.91 dBm																																									
M4	1		2.4856696 GHz	-48.55 dBm																																									

Test Item:	Spurious Emissions	Type:	802.11 b
CH01 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] 2.33 dBm 2.4104800 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 26 MAY 2022 11:20:27		
CH01 30MHz~1000MHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 1Pk Max M1[1] -51.55 dBm 931.8270 MHz Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 26 MAY 2022 11:20:42		
CH01 1GHz~26GHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 1Pk Max M1[1] -43.71 dBm 15.205833 GHz Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 26 MAY 2022 11:20:57		

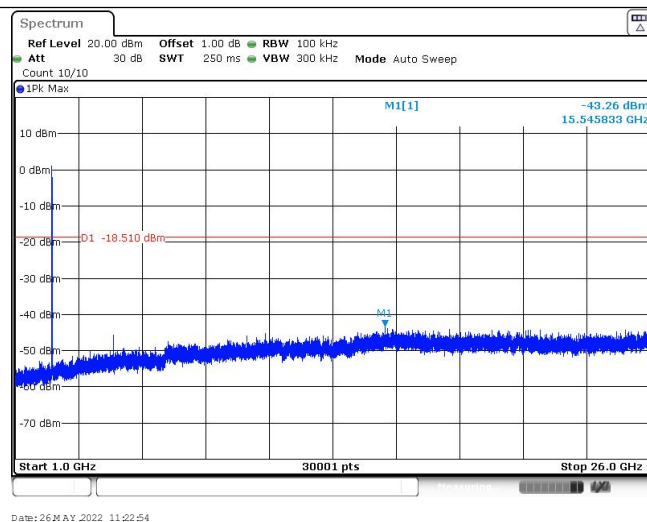
CH06
Reference level



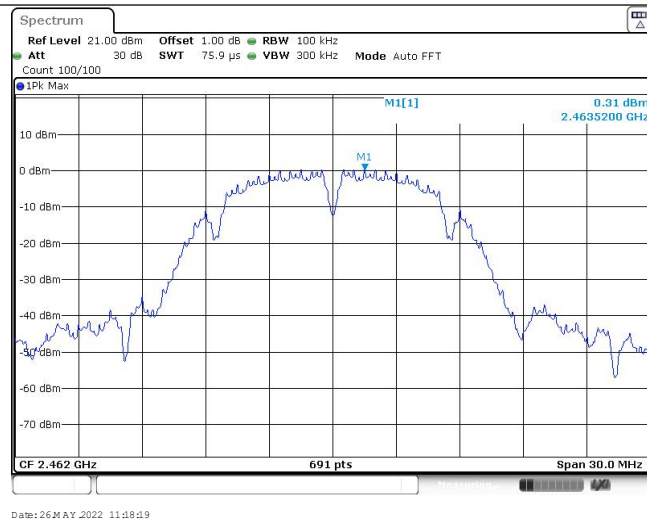
CH06
30MHz~1000MHz



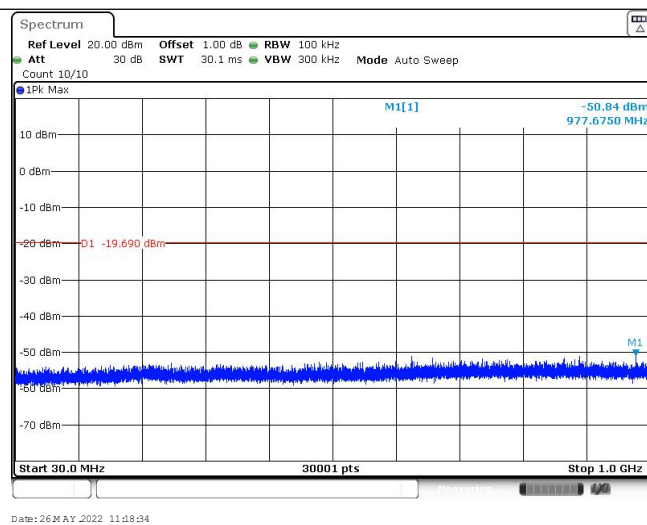
CH06
1GHz~26GHz



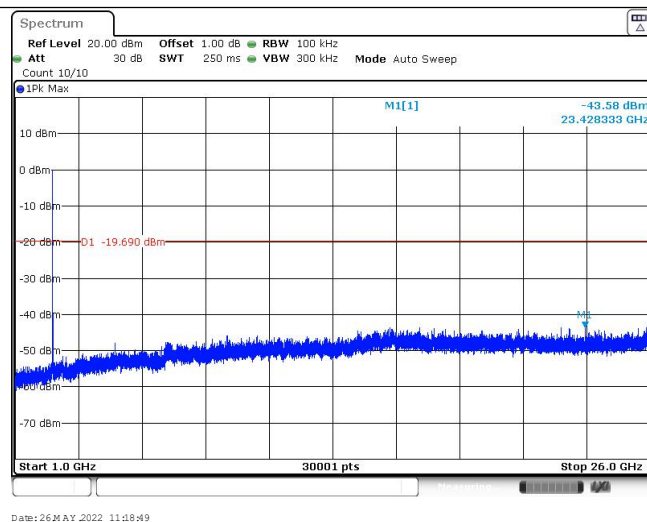
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Reference level

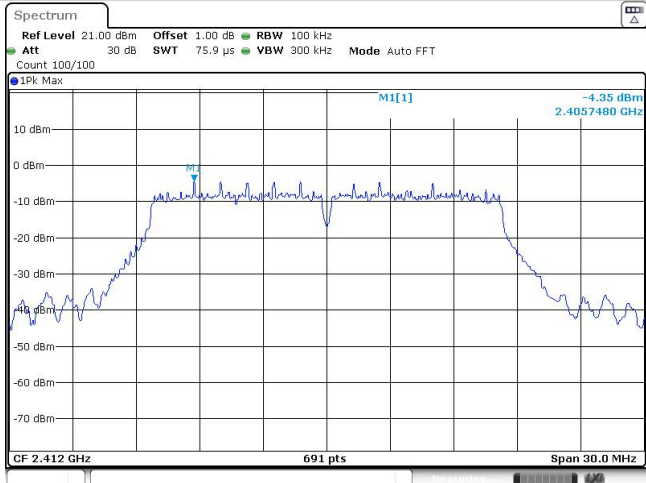
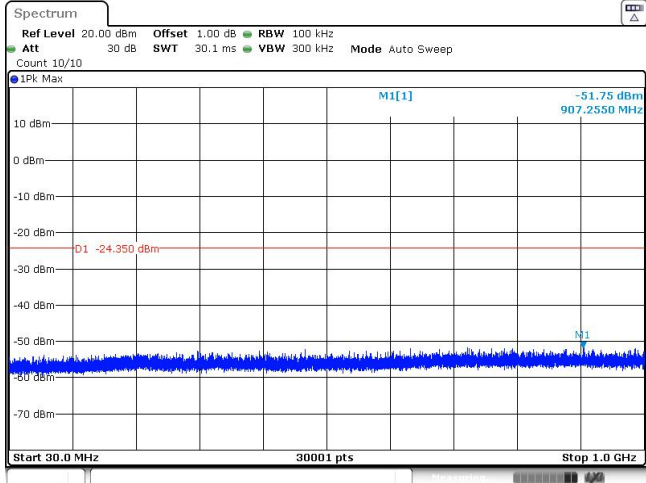
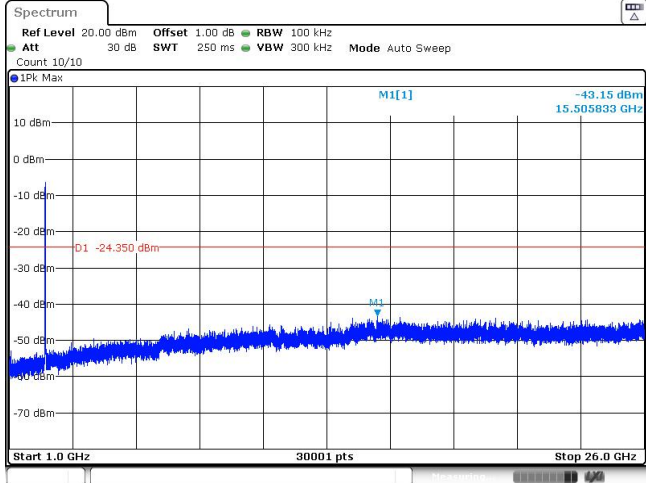


CH11
30MHz~1000MHz

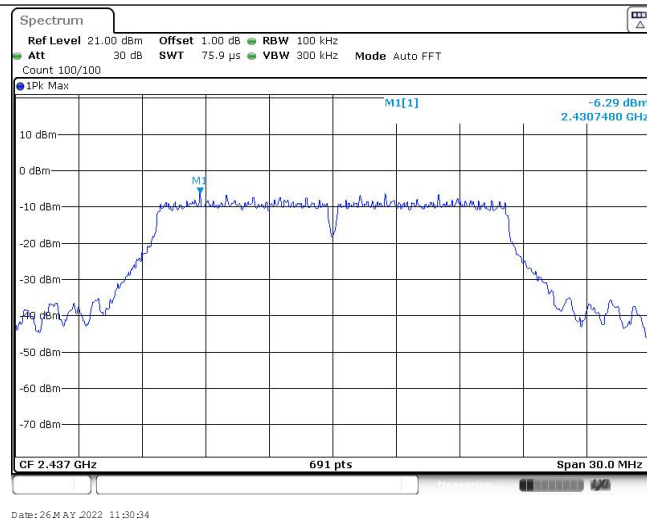


CH11
1GHz~26GHz

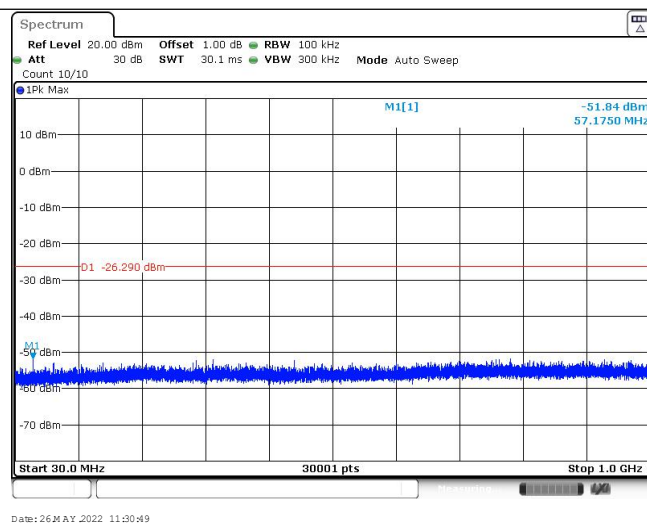


Test Item:	Spurious Emissions	Type:	802.11 g
CH01 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -4.35 dBm 2.4057480 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 26 MAY 2022 11:28:57		
CH01 30MHz~1000MHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 1Pk Max M1[1] -51.75 dBm 907.2550 MHz D1 -24.350 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 26 MAY 2022 11:29:12		
CH01 1GHz~26GHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 1Pk Max M1[1] -43.15 dBm 15.505833 GHz D1 -24.350 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 26 MAY 2022 11:29:27		

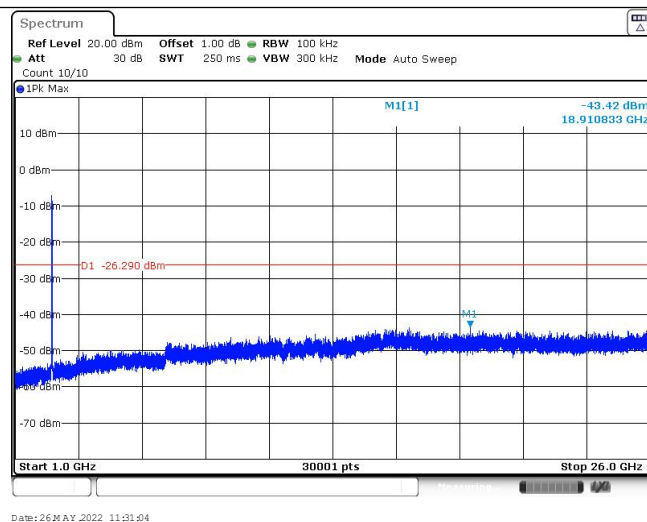
CH06
Reference level



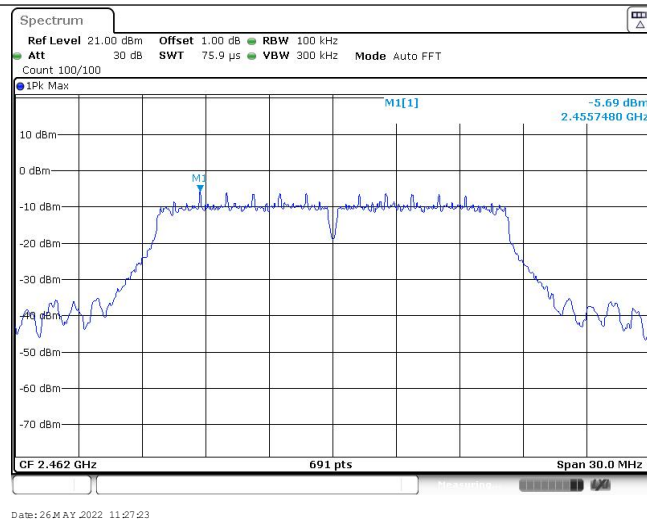
CH06
30MHz~1000MHz



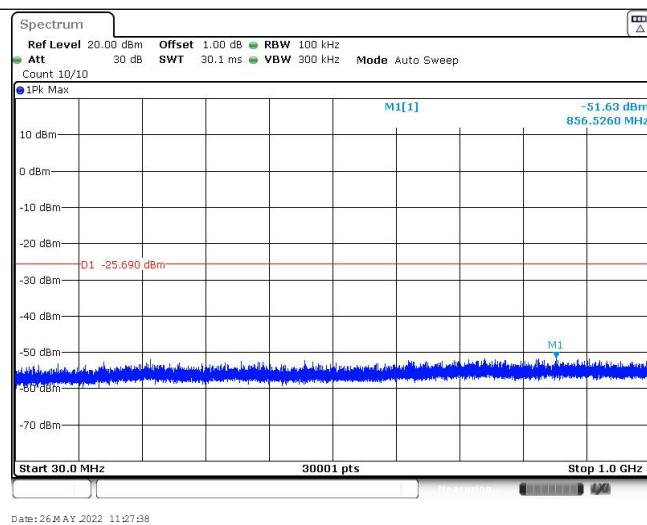
CH06
1GHz~26GHz



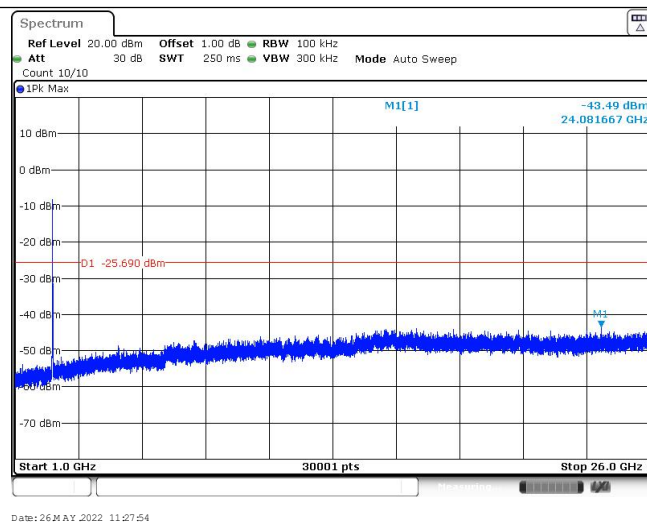
CH11
Reference level

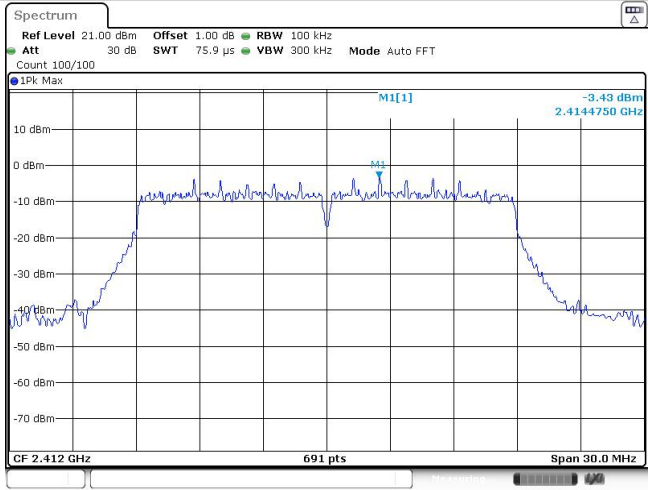
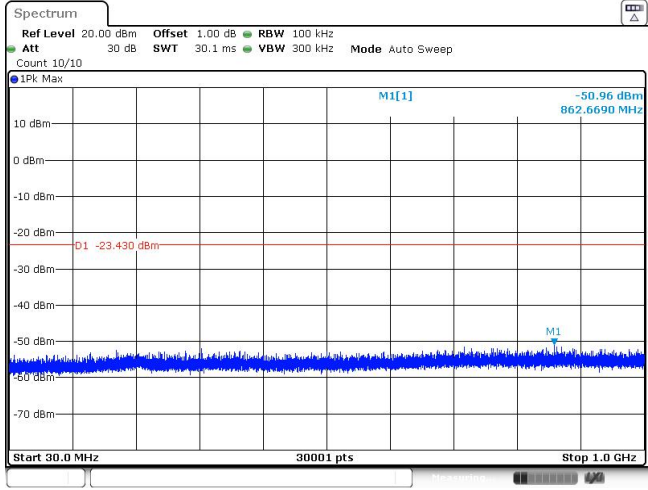
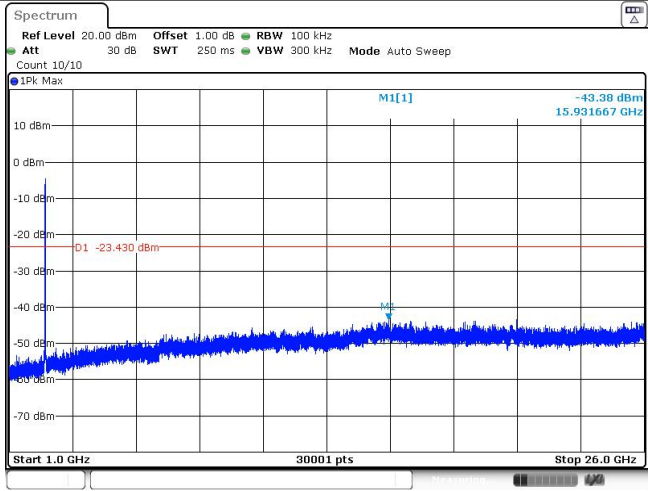


CH11
30MHz~1000MHz

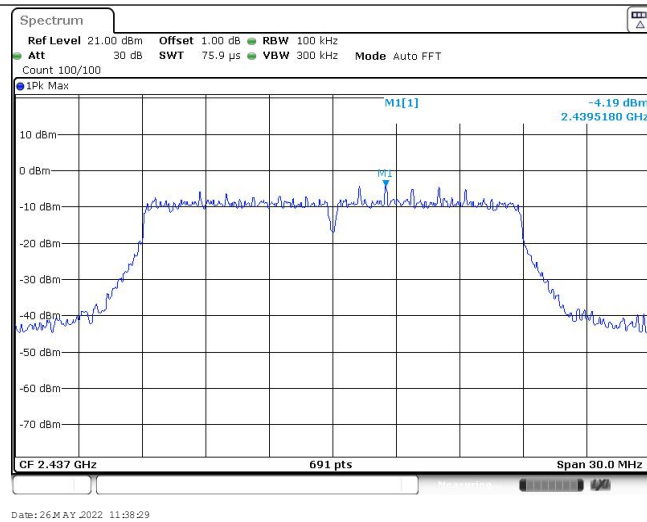


CH11
1GHz~26GHz

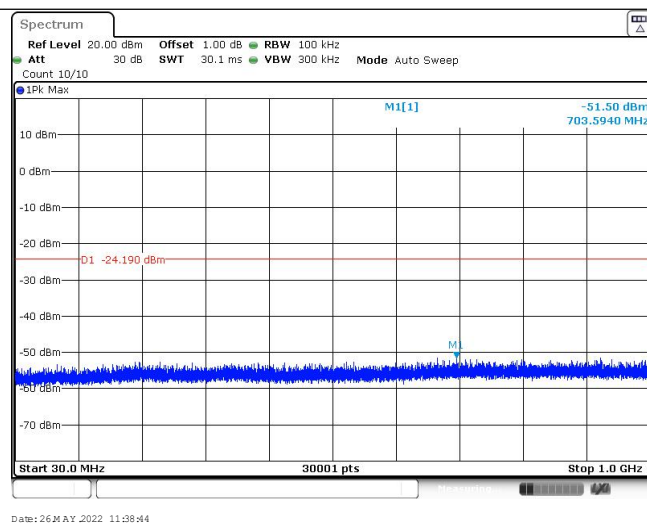


Test Item:	Spurious Emissions	Type:	802.11 n(HT20)
CH01 Reference level	 CF 2.412 GHz 691 pts Span 30.0 MHz Date: 26 MAY 2022 11:36:54		
CH01 30MHz~1000MHz	 Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 26 MAY 2022 11:37:09		
CH01 1GHz~26GHz	 Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 26 MAY 2022 11:37:24		

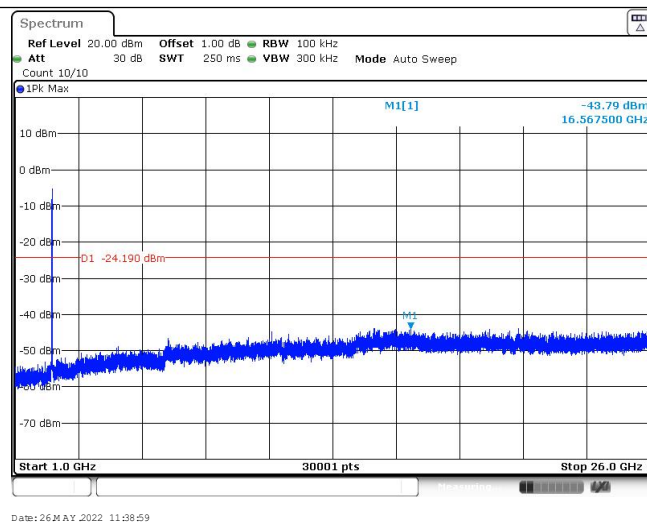
CH06
Reference level



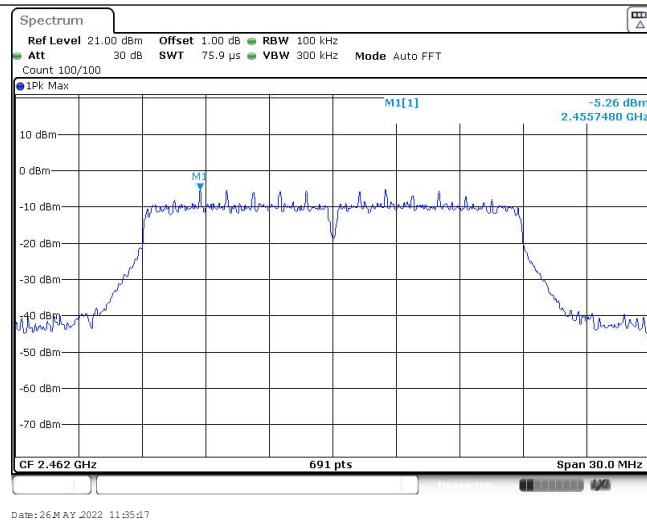
CH06
30MHz~1000MHz



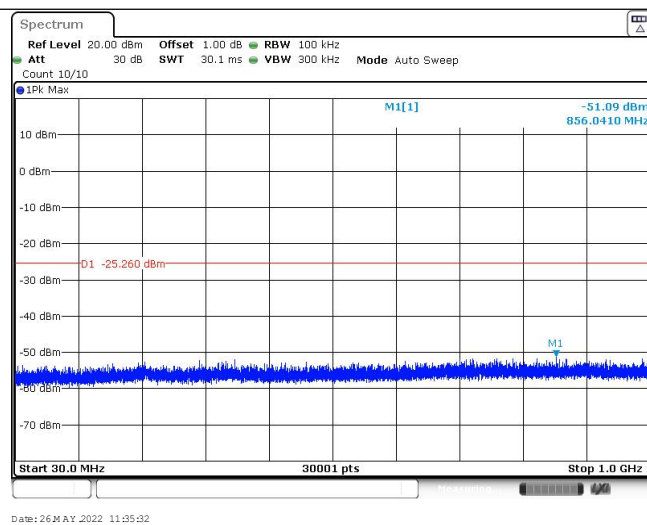
CH06
1GHz~26GHz



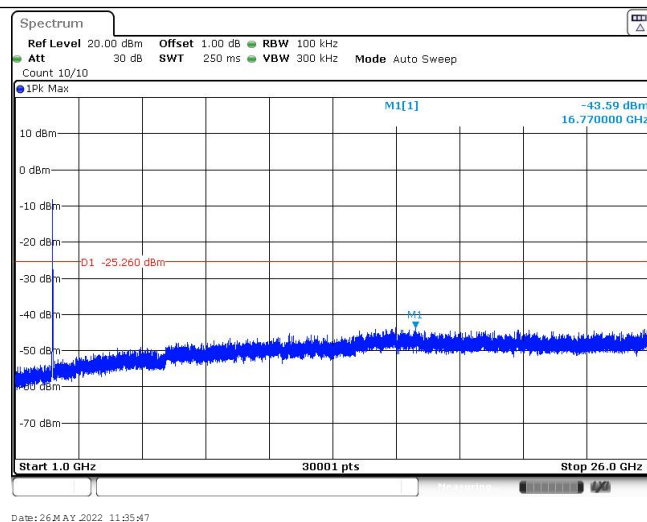
CH11
Reference level



CH11
30MHz~1000MHz



CH11
1GHz~26GHz



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