

APPENDIX REPORT

Project No.	SHT2203104801EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22031048004	Model No.	G60
Start test date	2022-03-30	Finish date	2022-03-31
Temperature	24.5℃	Humidity	45%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zheo

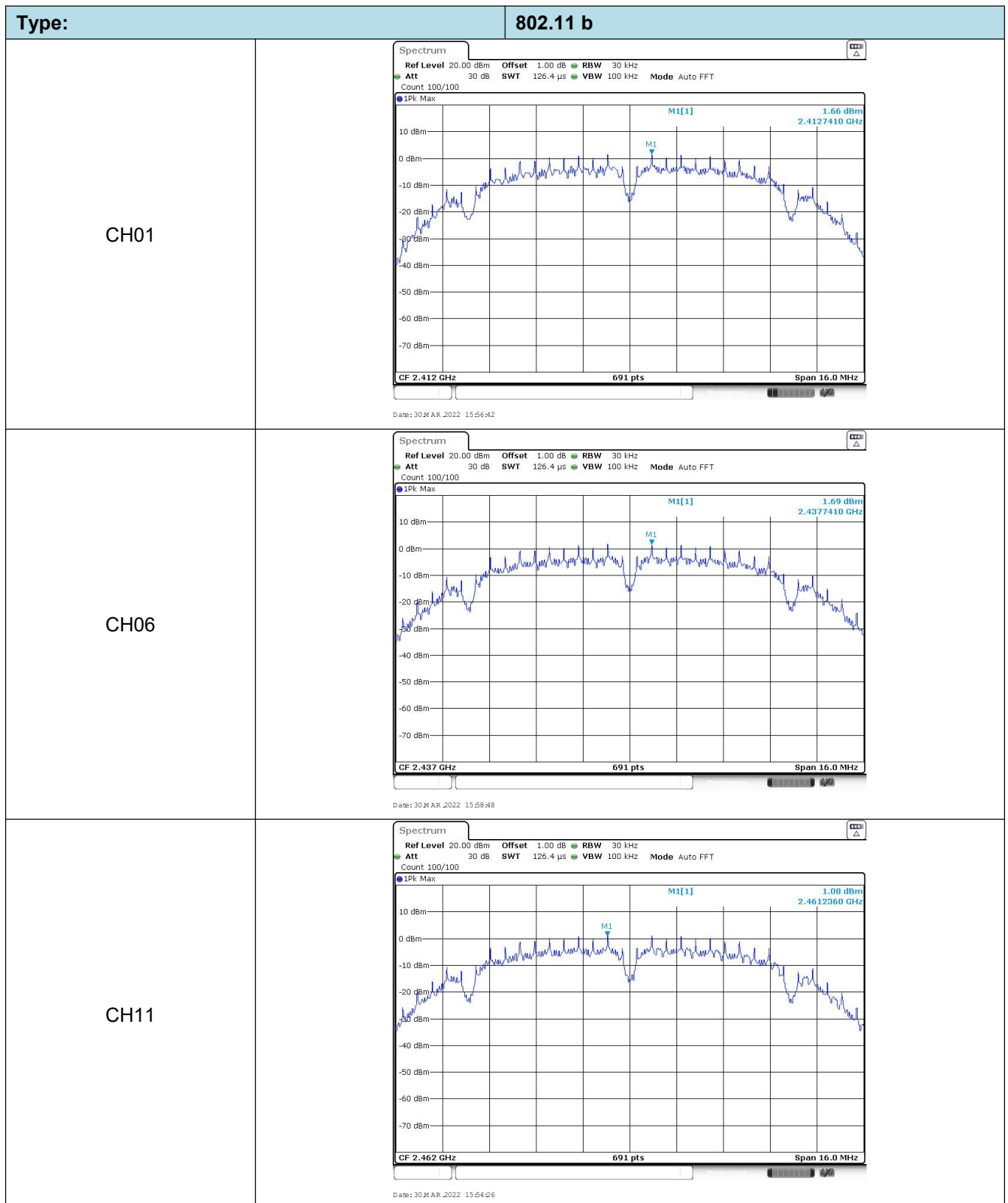
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

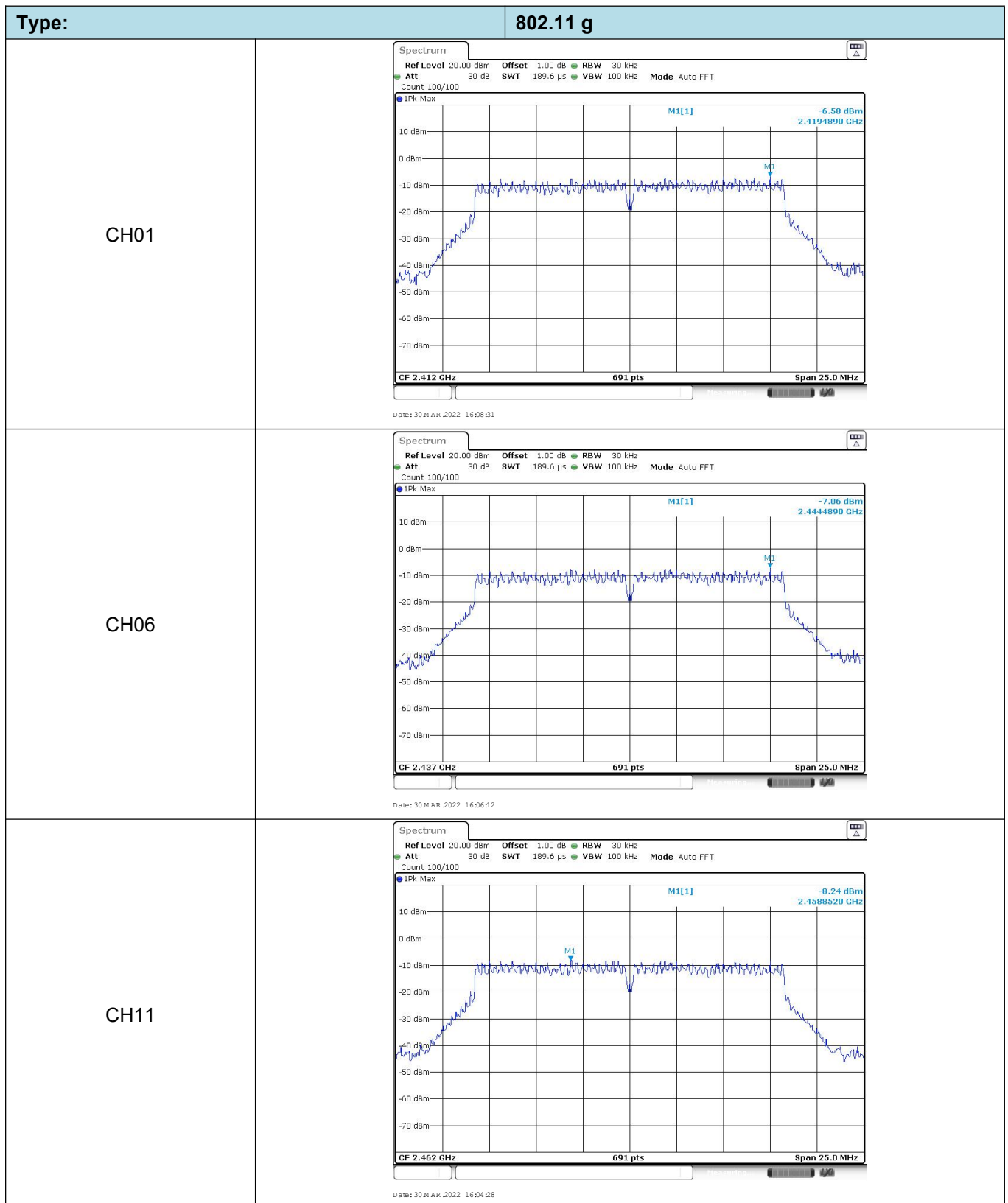
Appendix A: Conducted Peak Output Power

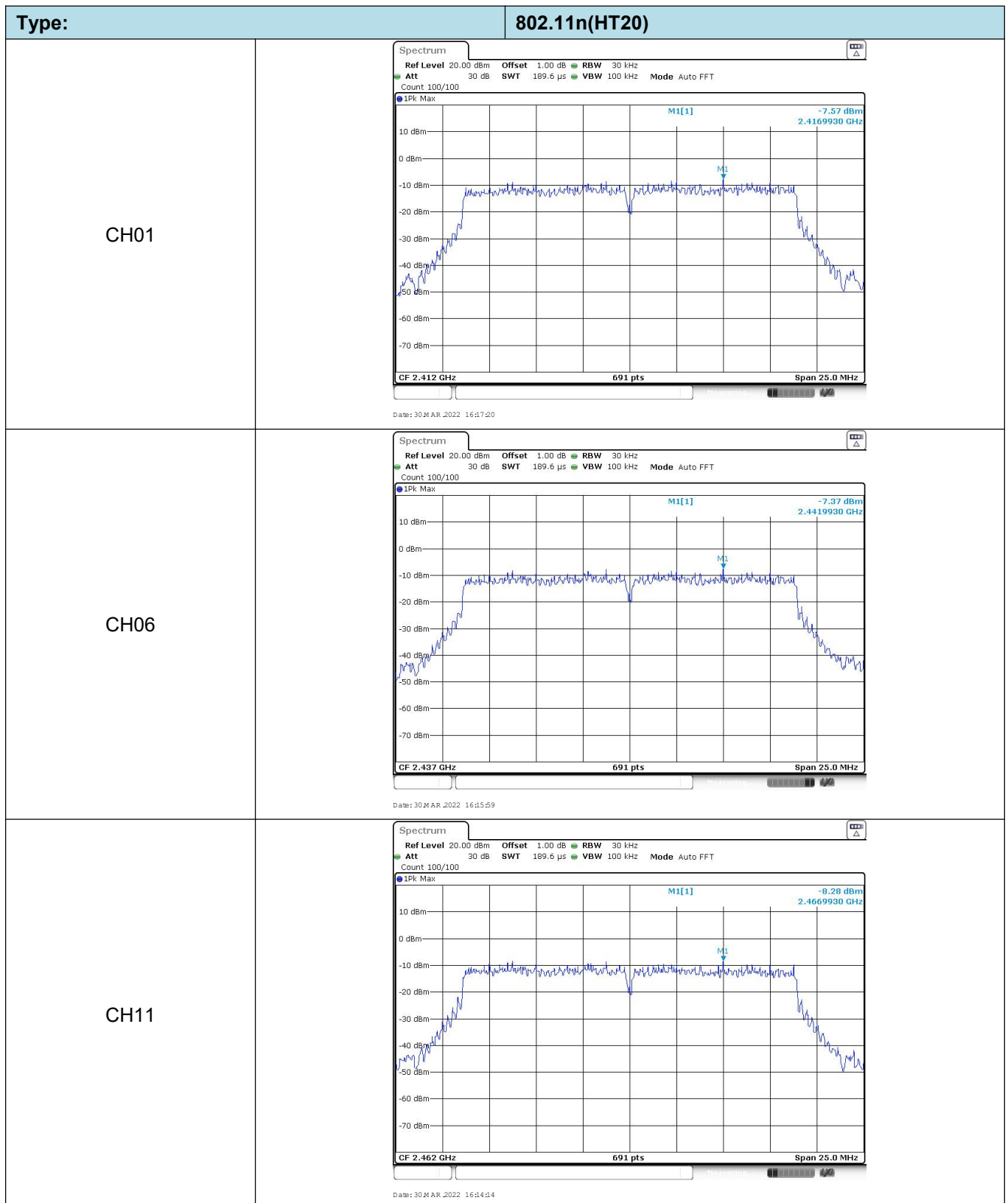
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	15.49	13.27	≤ 30.00	Pass
	06	14.77	12.62		
	11	14.15	11.88		
802.11g	01	16.39	12.52	≤ 30.00	Pass
	06	15.93	12.12		
	11	15.48	11.68		
802.11n (HT20)	01	15.95	12.60	≤ 30.00	Pass
	06	16.08	12.84		
	11	15.33	12.28		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	1.66	≤8.00	Pass
	06	1.69		
	11	1.08		
802.11g	01	-6.58	≤8.00	Pass
	06	-7.06		
	11	-8.24		
802.11n(HT20)	01	-7.57	≤8.00	Pass
	06	-7.37		
	11	-8.28		







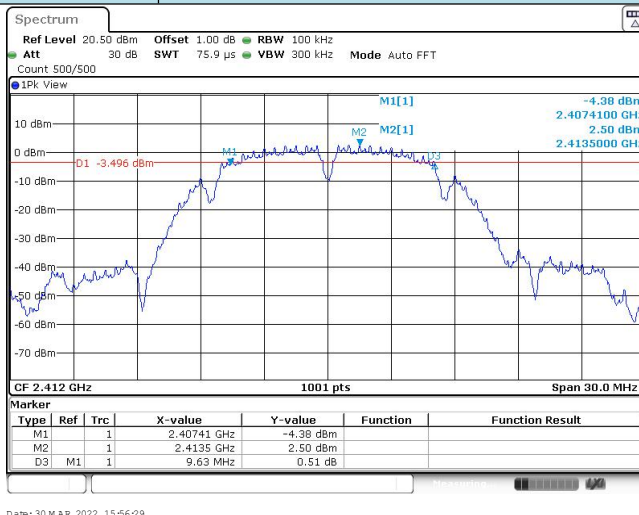
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	9.63	≥0.5	Pass
	06	9.84		
	11	9.81		
802.11g	01	16.41	≥0.5	Pass
	06	16.38		
	11	16.41		
802.11n(HT20)	01	17.67	≥0.5	Pass
	06	17.64		
	11	17.67		

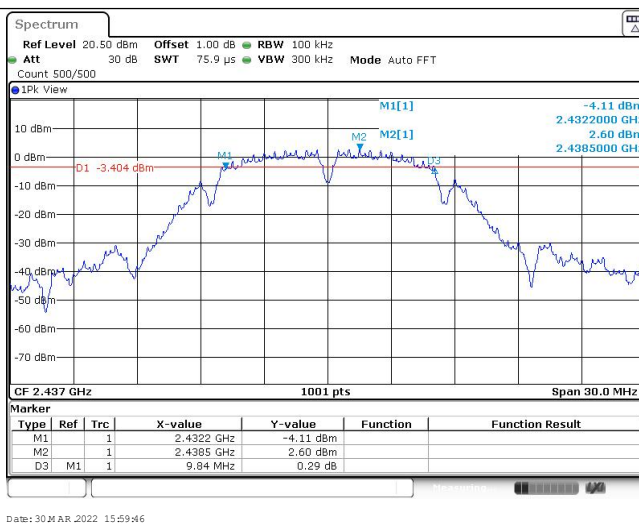
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802.11 b

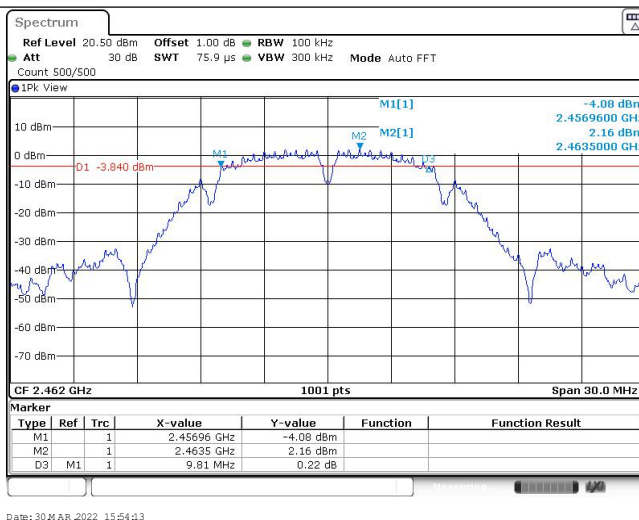
CH01



CH06



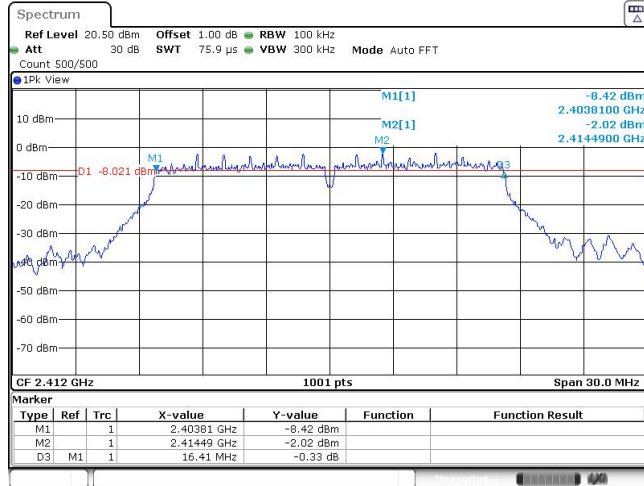
CH11



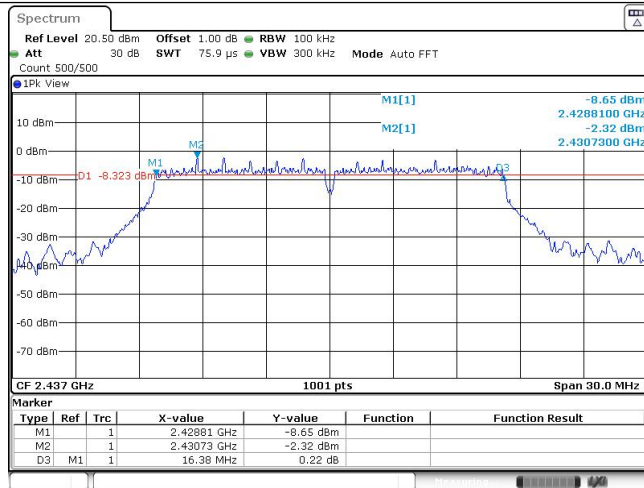
Type:

802.11 g

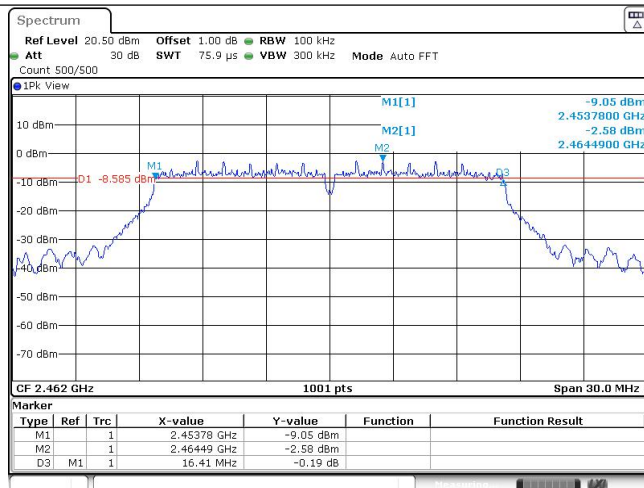
CH01



CH06



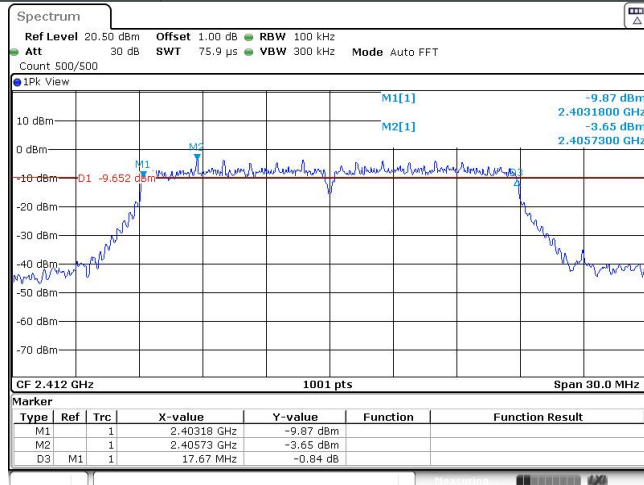
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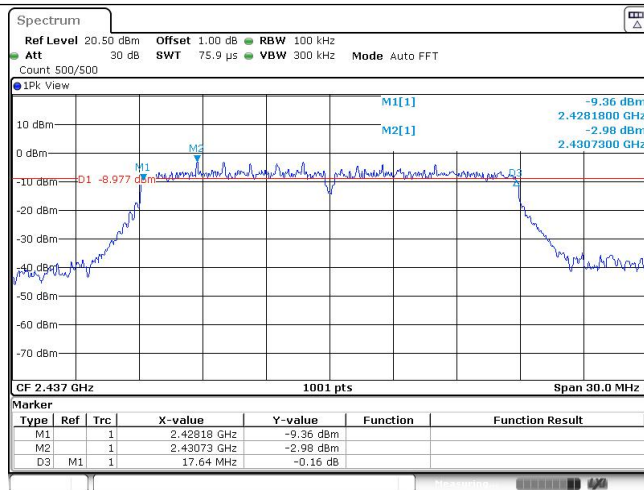
Type:

802.11n(HT20)

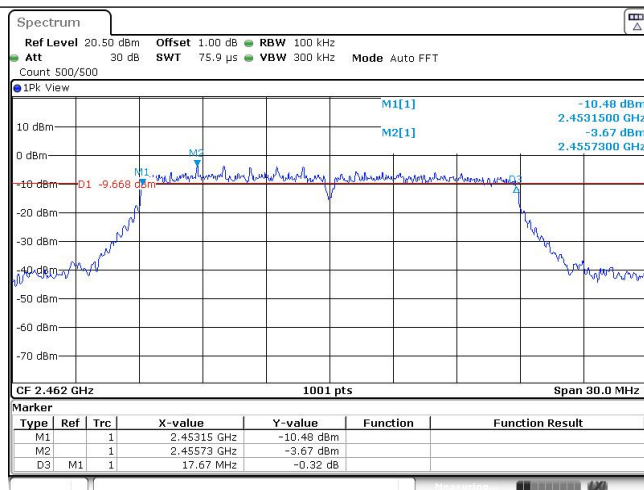
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CH06



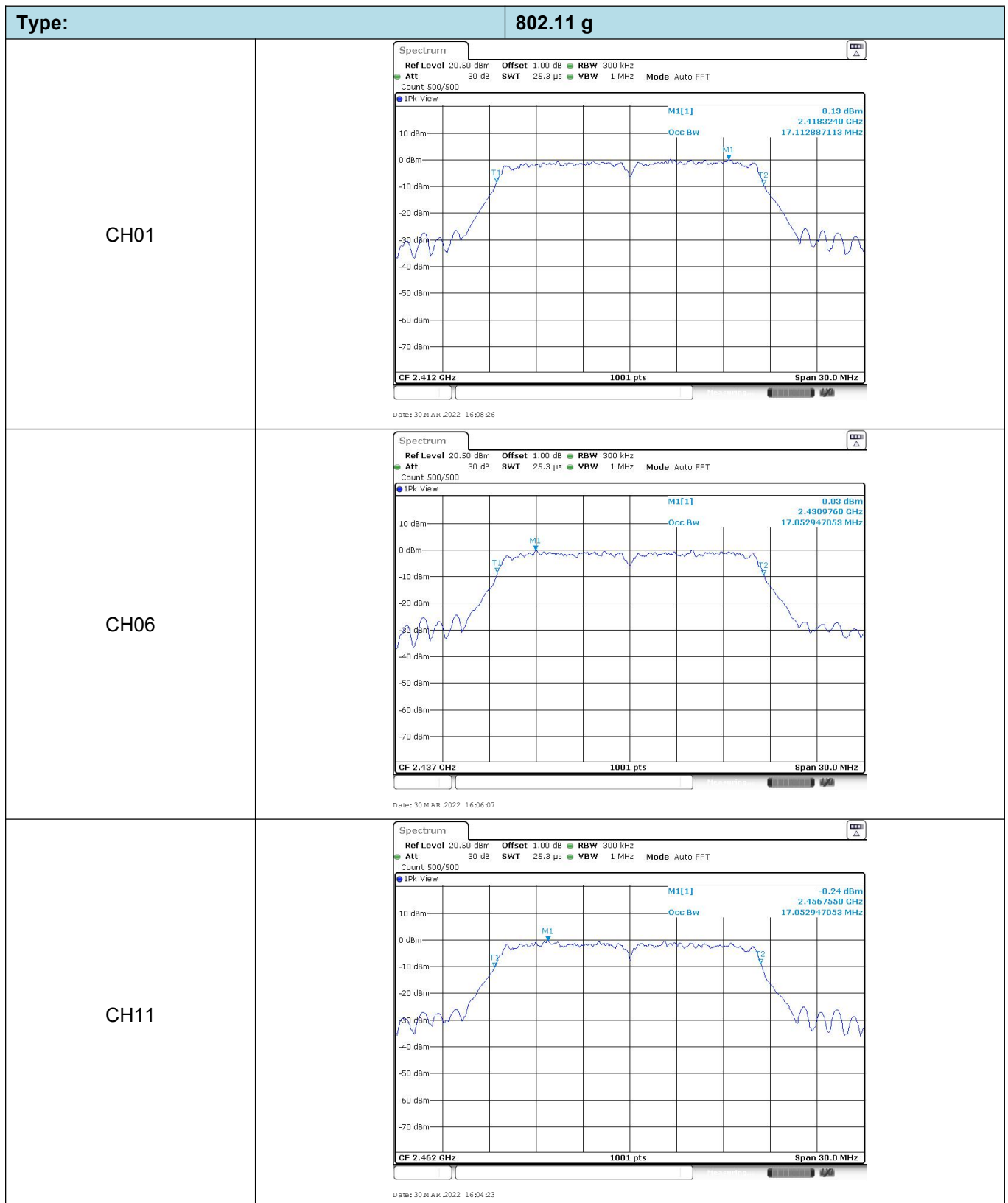
CH11

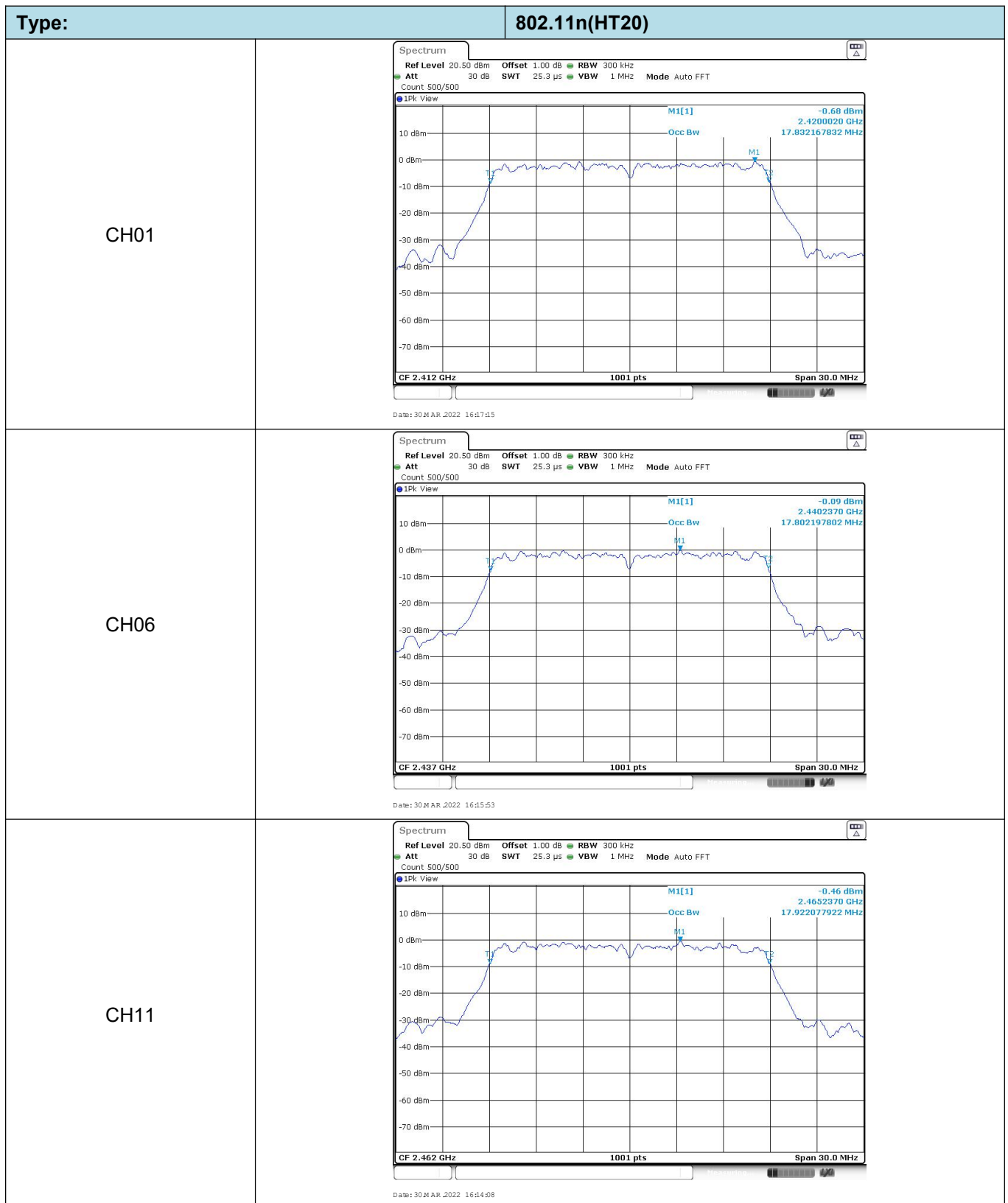


Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	12.14	-	Pass
	06	12.32		
	11	12.29		
802.11g	01	17.11	-	Pass
	06	17.05		
	11	17.05		
802.11n(HT20)	01	17.83	-	Pass
	06	17.80		
	11	17.92		

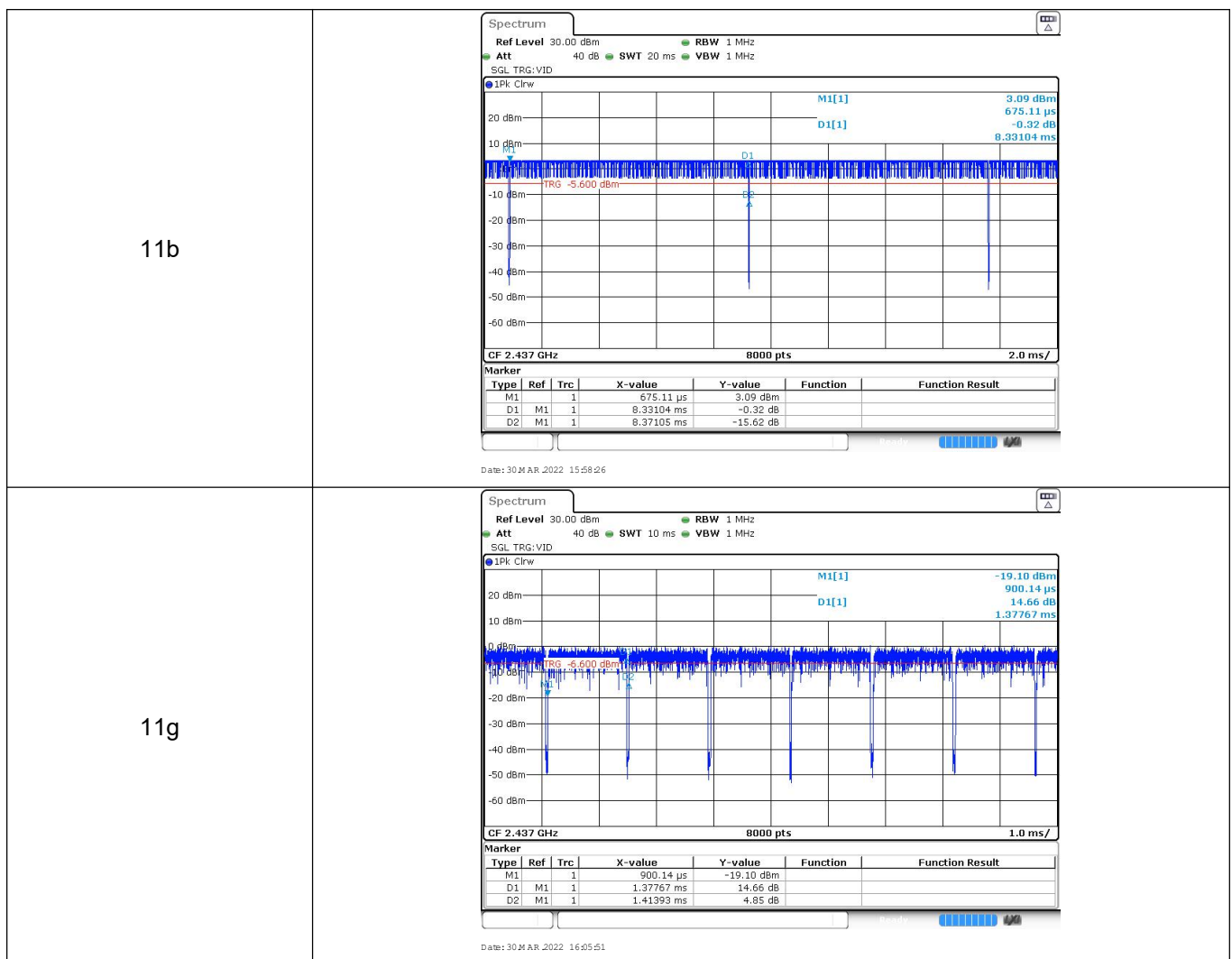
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CH06	Spectrum Ref Level 20.50 dBm Att 30 dB Count 500/500 Offset 1.00 dB SWT 25.3 μs RBW 300 kHz VBW 1 MHz Mode Auto FFT IPk View 4.06 dBm 2.4384900 GHz 12.317682318 MHz M1[1] M1 Occ Bw T1 T2 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.437 GHz 1001 pts Span 30.0 MHz Date: 30 MAR 2022 15:58:42	
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 IPk View 3.53 dBm 2.4605010 GHz 12.287712288 MHz M1[1] M1 Occ Bw T1 T2 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: 30 MAR 2022 15:54:20	



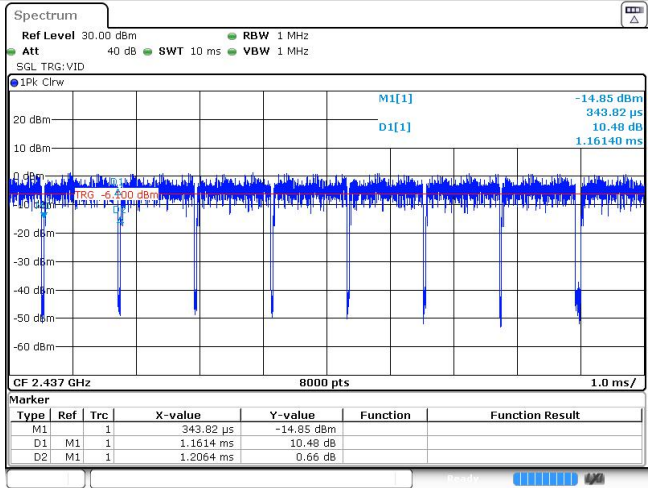


Appendix E: Duty Cycle

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	8.37	99.5%	0.1
11g	2437	1.38	1.41	97.9%	0.7
11n20	2437	1.16	1.21	95.9%	0.9



11n20



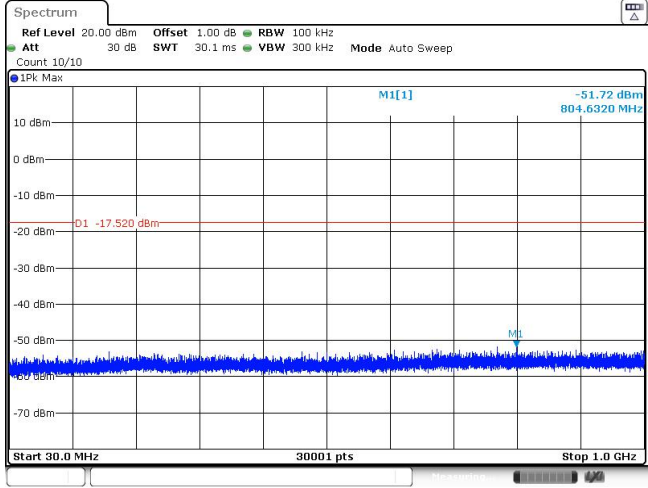
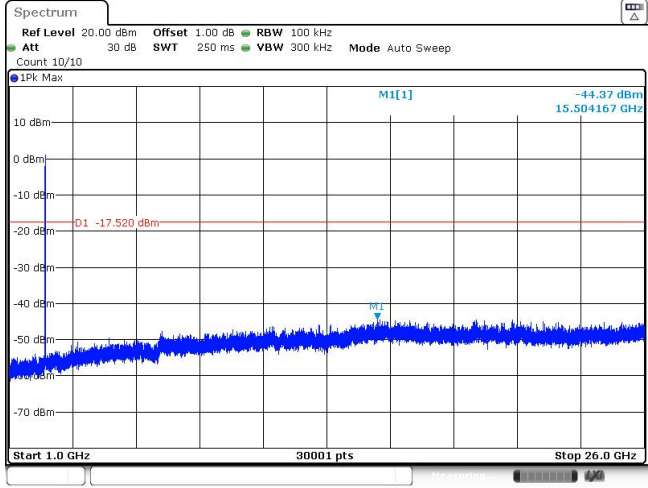
Date: 30 MAR 2022 16:15:37

Appendix F: Band edge and Spurious Emissions (conducted)

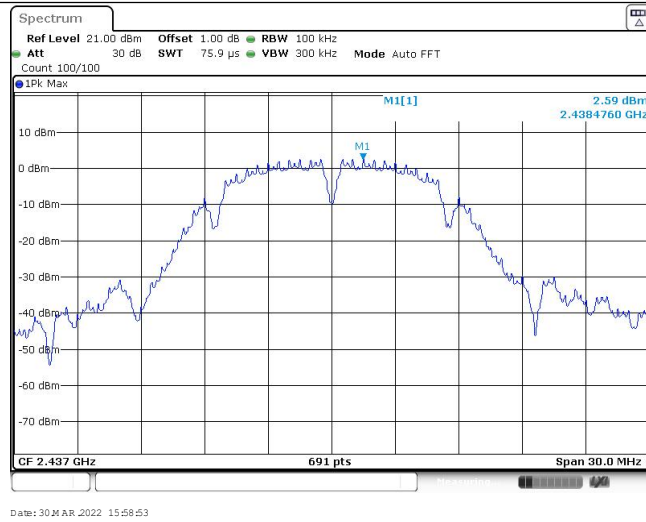
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] M2[1] M3 M4 M5 2.42 dBm 2.413980 GHz -46.44 dBm 2.406000 GHz -17.580 dBm Start 2.31 GHz 691 pts Stop 2.422 GHz Marker <table><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><tr><td>M1</td><td>1</td><td></td><td>2.41398 GHz</td><td>2.42 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-46.44 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-54.95 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-60.00 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399113 GHz</td><td>-41.39 dBm</td><td></td><td></td></tr></table> Date: 30 MAR 2022 15:56:51			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.41398 GHz	2.42 dBm			M2	1		2.4 GHz	-46.44 dBm			M3	1		2.39 GHz	-54.95 dBm			M4	1		2.31 GHz	-60.00 dBm			M5	1		2.399113 GHz	-41.39 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 M2[1] M3 M4 2.08 dBm 2.4605090 GHz -54.39 dBm 2.4835000 GHz -17.920 dBm Start 2.452 GHz 691 pts Stop 2.5 GHz Marker <table><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><tr><td>M1</td><td>1</td><td></td><td>2.460509 GHz</td><td>2.08 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-54.39 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-59.17 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4880348 GHz</td><td>-53.70 dBm</td><td></td><td></td></tr></table> Date: 30 MAR 2022 15:54:35			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.460509 GHz	2.08 dBm			M2	1		2.4835 GHz	-54.39 dBm			M3	1		2.5 GHz	-59.17 dBm			M4	1		2.4880348 GHz	-53.70 dBm									
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CH11	Spectrum Ref Level 20.00 dBm Att 30 dB Offset 1.00 dB RBW 100 kHz 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 M2[1] M3 M4 -2.60 dBm 2.4644690 GHz -49.86 dBm 2.4835000 GHz D1 -22.600 dBm Start 2.452 GHz 691 pts Stop 2.5 GHz Marker <table><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><tr><td>M1</td><td>1</td><td></td><td>2.464469 GHz</td><td>-2.60 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-49.86 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-58.45 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4844174 GHz</td><td>-47.67 dBm</td><td></td><td></td></tr></table> Date: 30 MAR 2022 16:04:37			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.464469 GHz	-2.60 dBm			M2	1		2.4835 GHz	-49.86 dBm			M3	1		2.5 GHz	-58.45 dBm			M4	1		2.4844174 GHz	-47.67 dBm									
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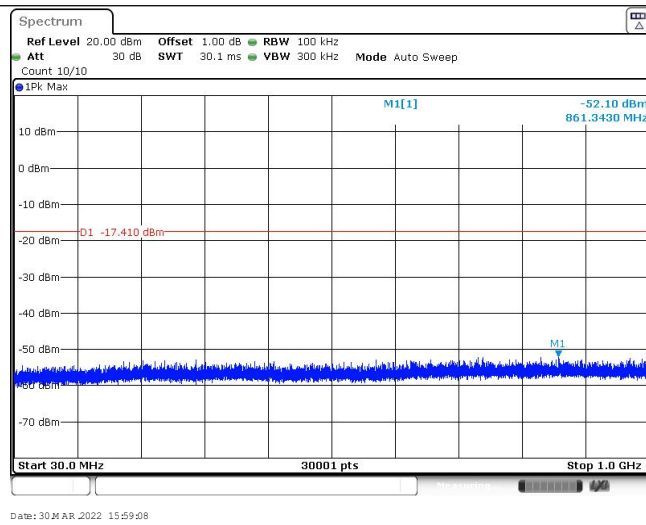
Appendix report page: 19 of 28

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] 2.48 dBm 2.4134760 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 30 MAR 2022 15:57:16		
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] -51.72 dBm 804.6320 MHz -17.520 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 30 MAR 2022 15:57:31		
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] -44.37 dBm 15.504167 GHz -17.520 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 30 MAR 2022 15:57:46		

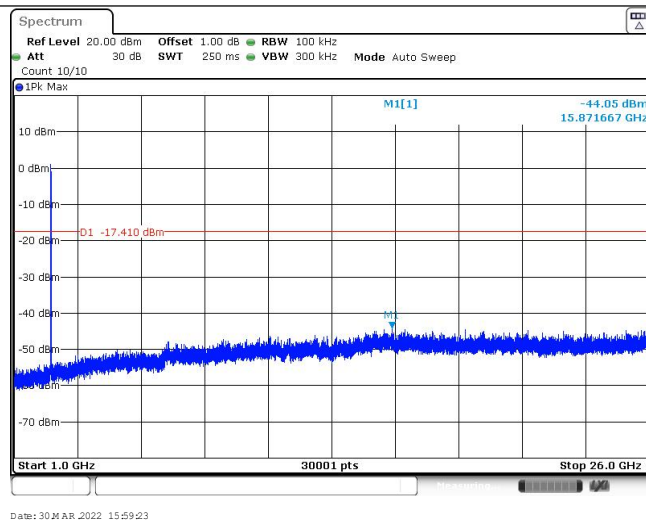
CH06
Reference level



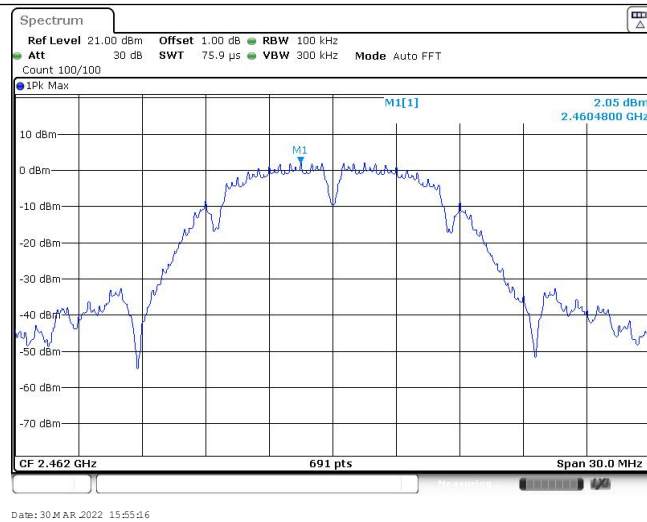
CH06
30MHz~1000MHz



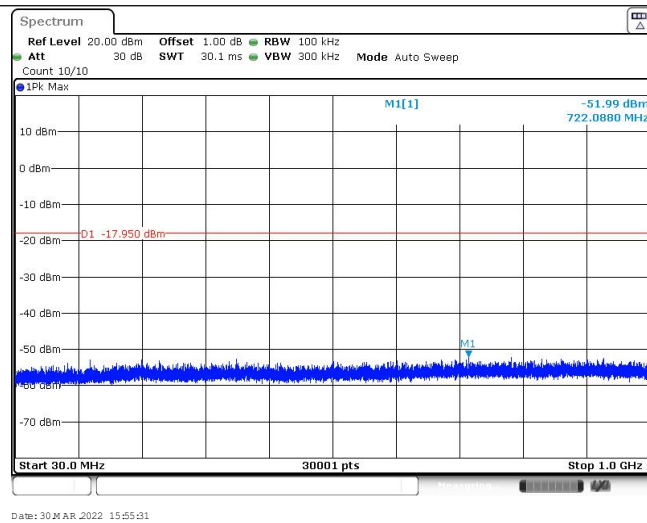
CH06
1GHz~26GHz



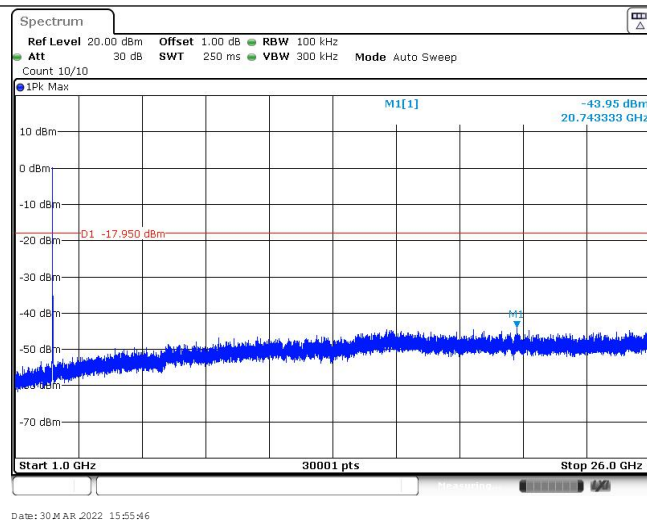
CH11
Reference level

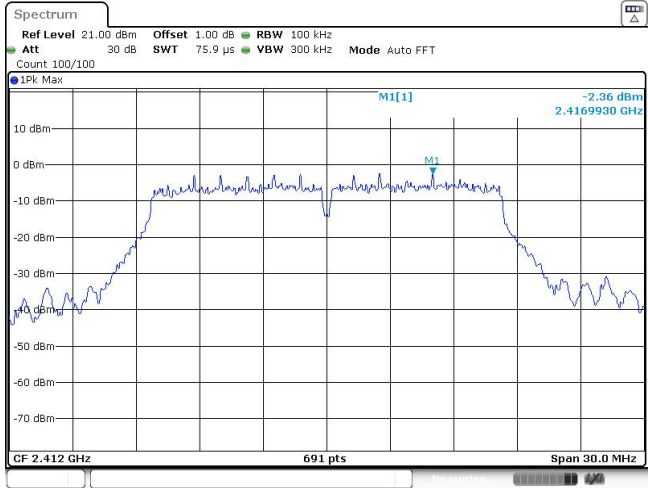
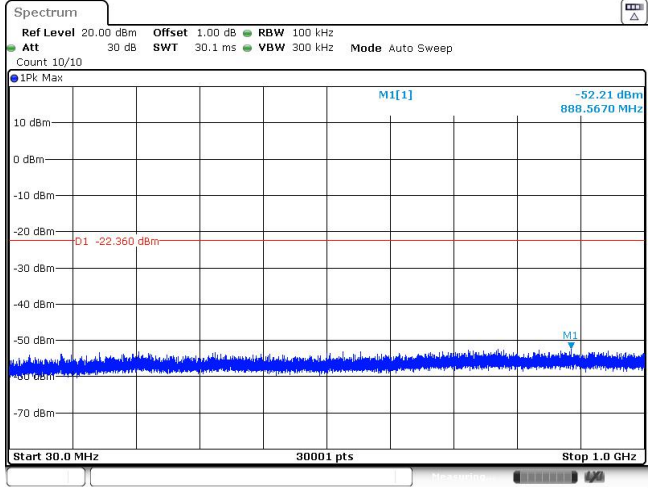
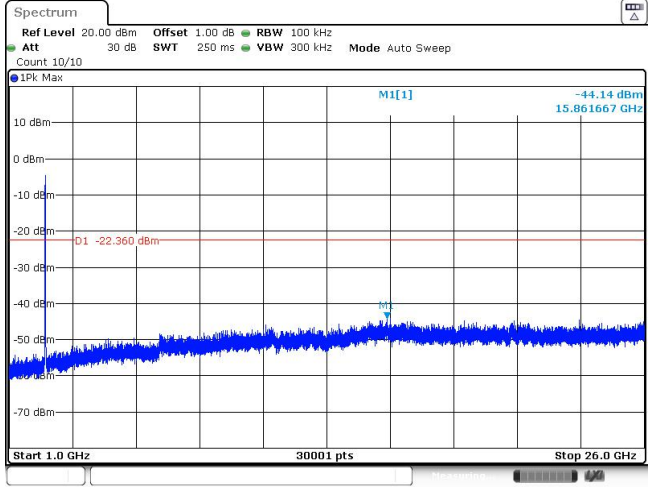


CH11
30MHz~1000MHz

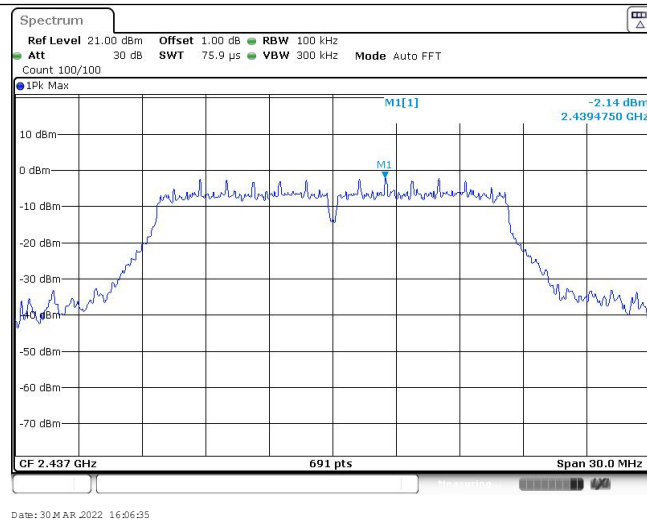


CH11
1GHz~26GHz

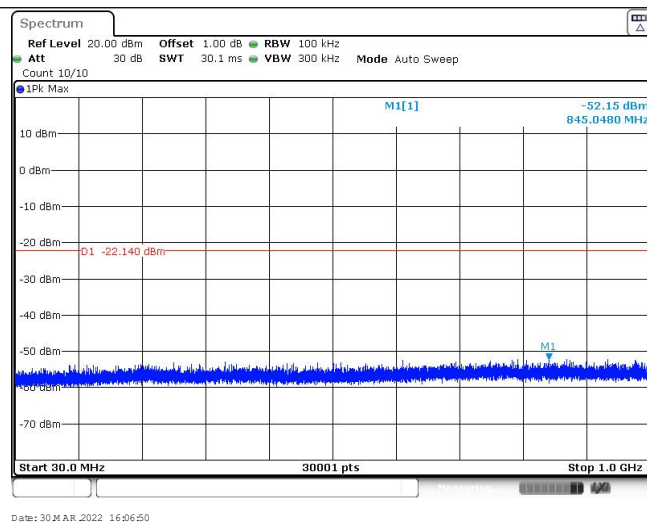


Test Item:	Spurious Emissions	Type:	802.11 g
CH01 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -2.36 dBm 2.4169930 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 30 Mar 2022 16:08:46		
CH01 30MHz~1000MHz	 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] -52.21 dBm 888.5670 MHz D1 -22.360 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 30 Mar 2022 16:09:01		
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] -44.14 dBm 15.861667 GHz D1 -22.360 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 30 Mar 2022 16:09:16		

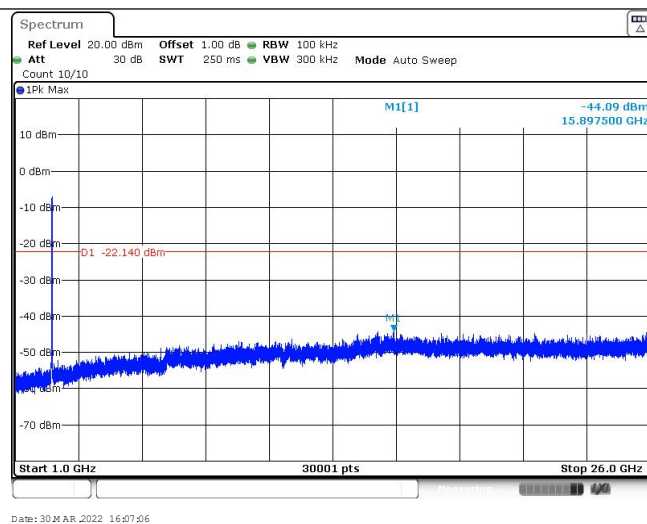
CH06
Reference level



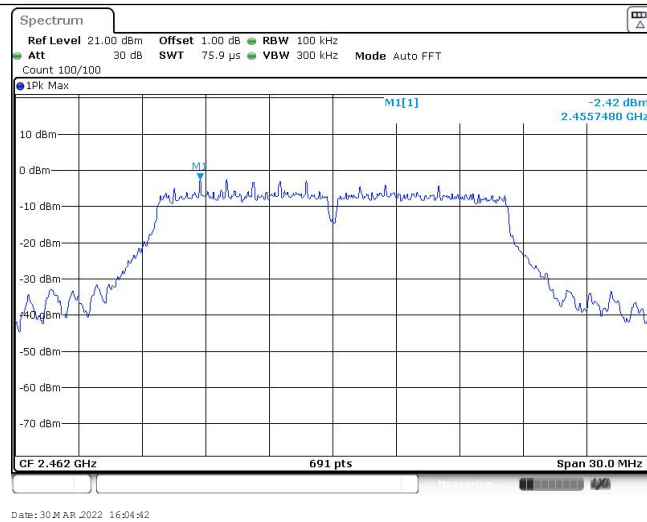
CH06
30MHz~1000MHz



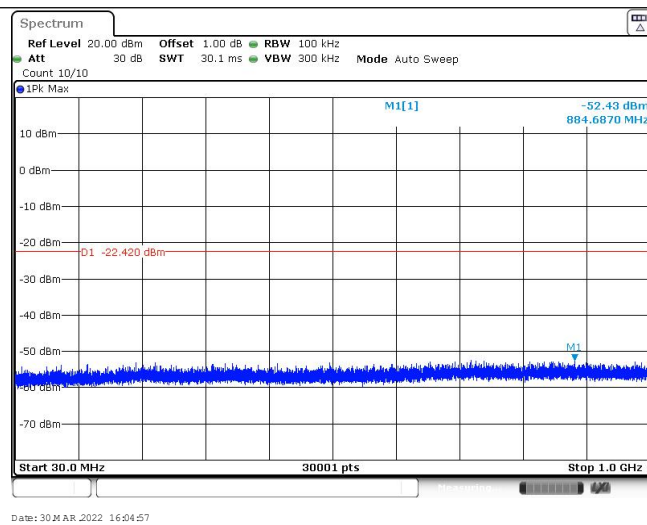
CH06
1GHz~26GHz



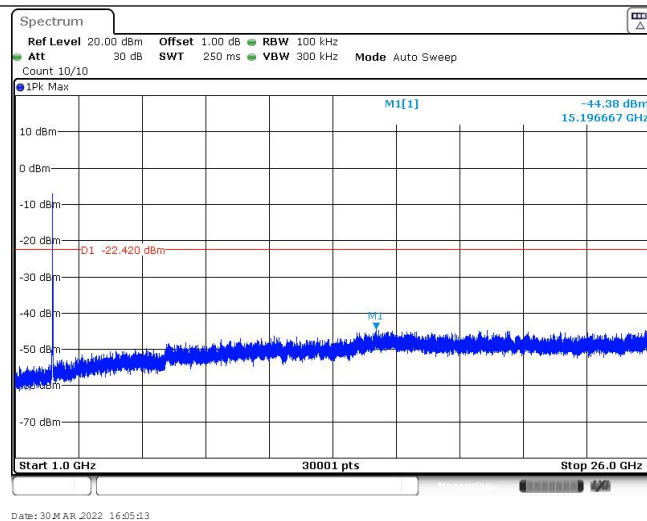
CH11
Reference level

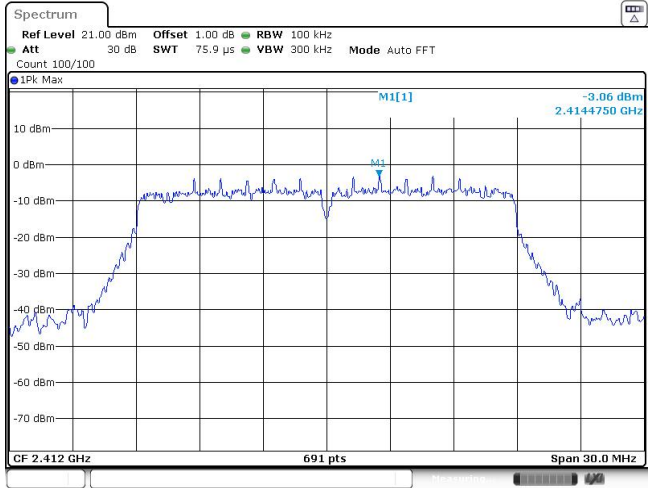
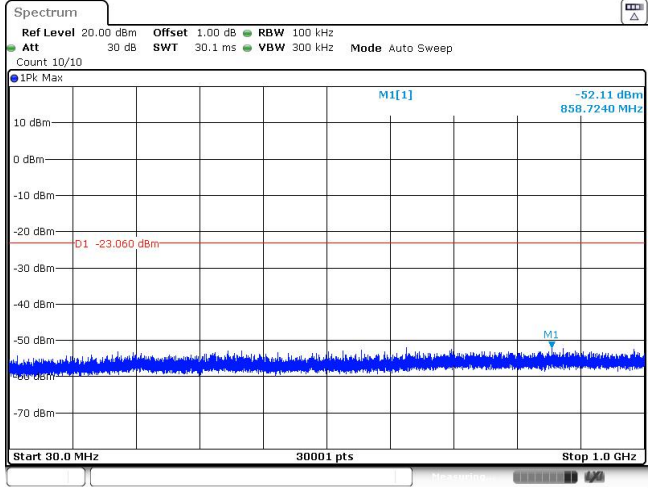
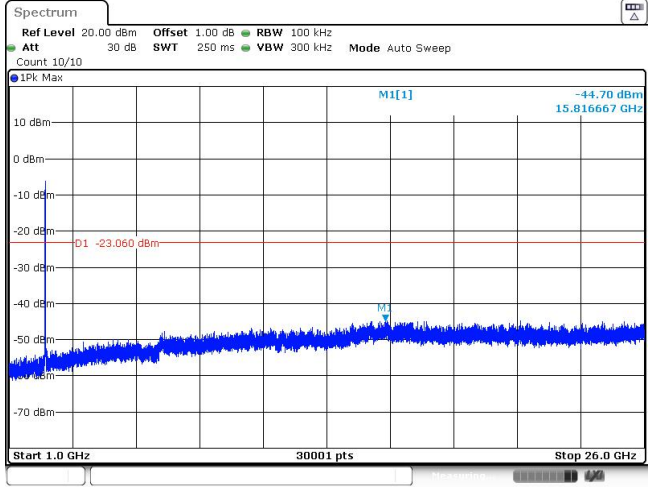


CH11
30MHz~1000MHz

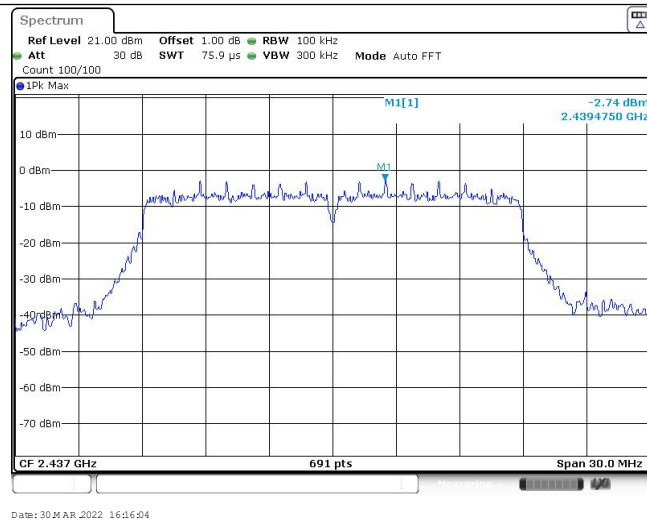


CH11
1GHz~26GHz

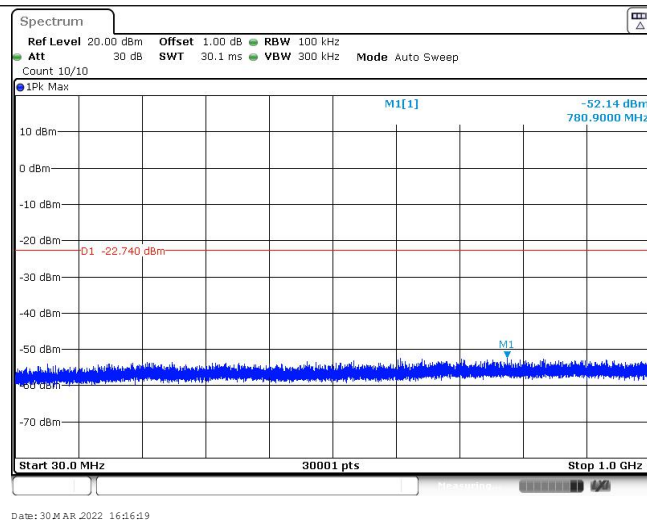


Test Item:	Spurious Emissions	Type:	802.11 n(HT20)
CH01 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -3.06 dBm 2.4144750 GHz CF 2.412 GHz 691 pts Span 30.0 MHz Date: 30 MAR 2022 16:17:35		
CH01 30MHz~1000MHz	 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] -52.11 dBm 858.7240 MHz D1 -23.060 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 30 MAR 2022 16:17:50		
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] -44.70 dBm 15.816667 GHz D1 -23.060 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 30 MAR 2022 16:18:05		

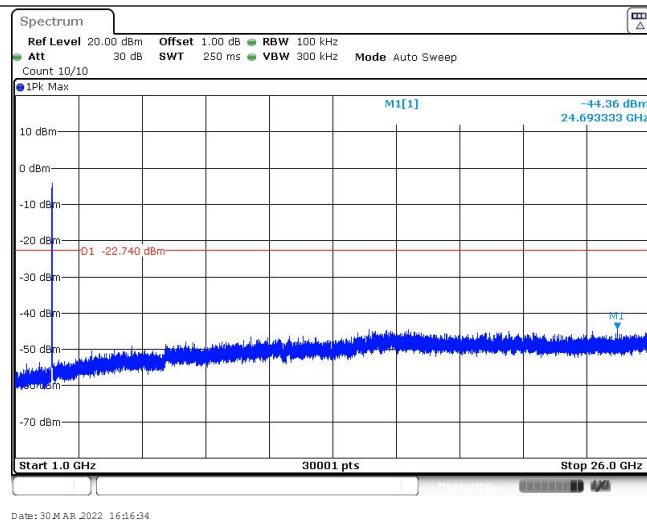
CH06
Reference level



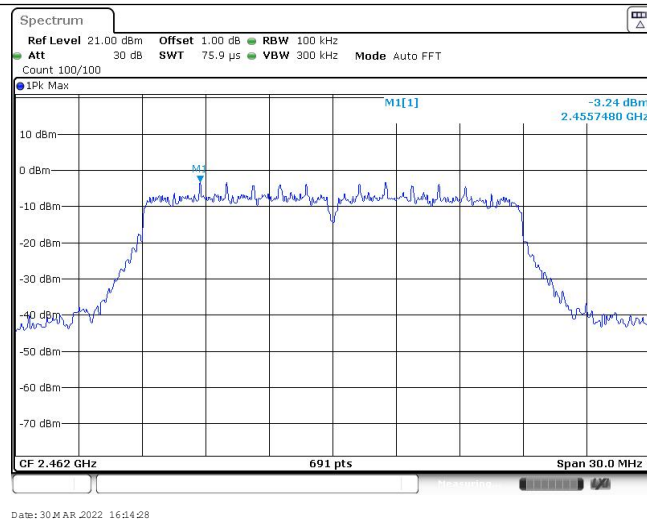
CH06
30MHz~1000MHz



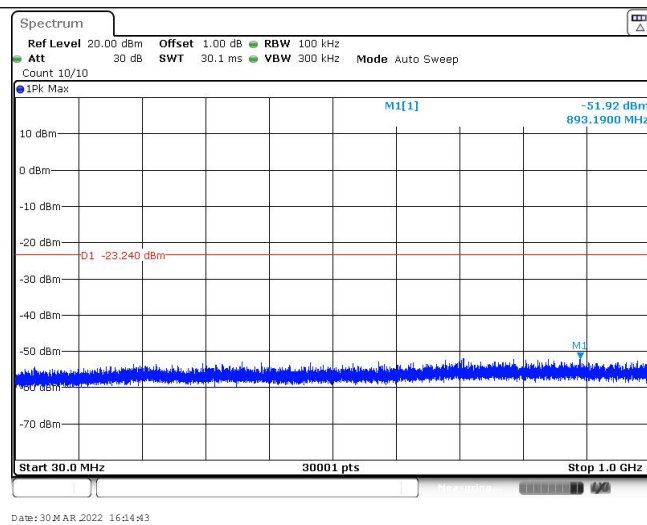
CH06
1GHz~26GHz



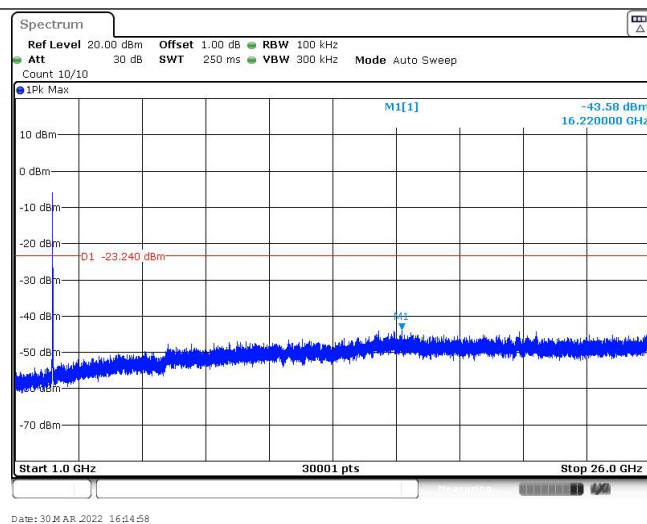
CH11
Reference level



CH11
30MHz~1000MHz



CH11
1GHz~26GHz



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