

APPENDIX REPORT

Project No.	SHT2104093301EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT21040933013	Model No.	CT9F08
Start test date	2021-05-07	Finish date	2021-05-07
Temperature	25.9°C	Humidity	39%
Test Engineer	Hailey Chen	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

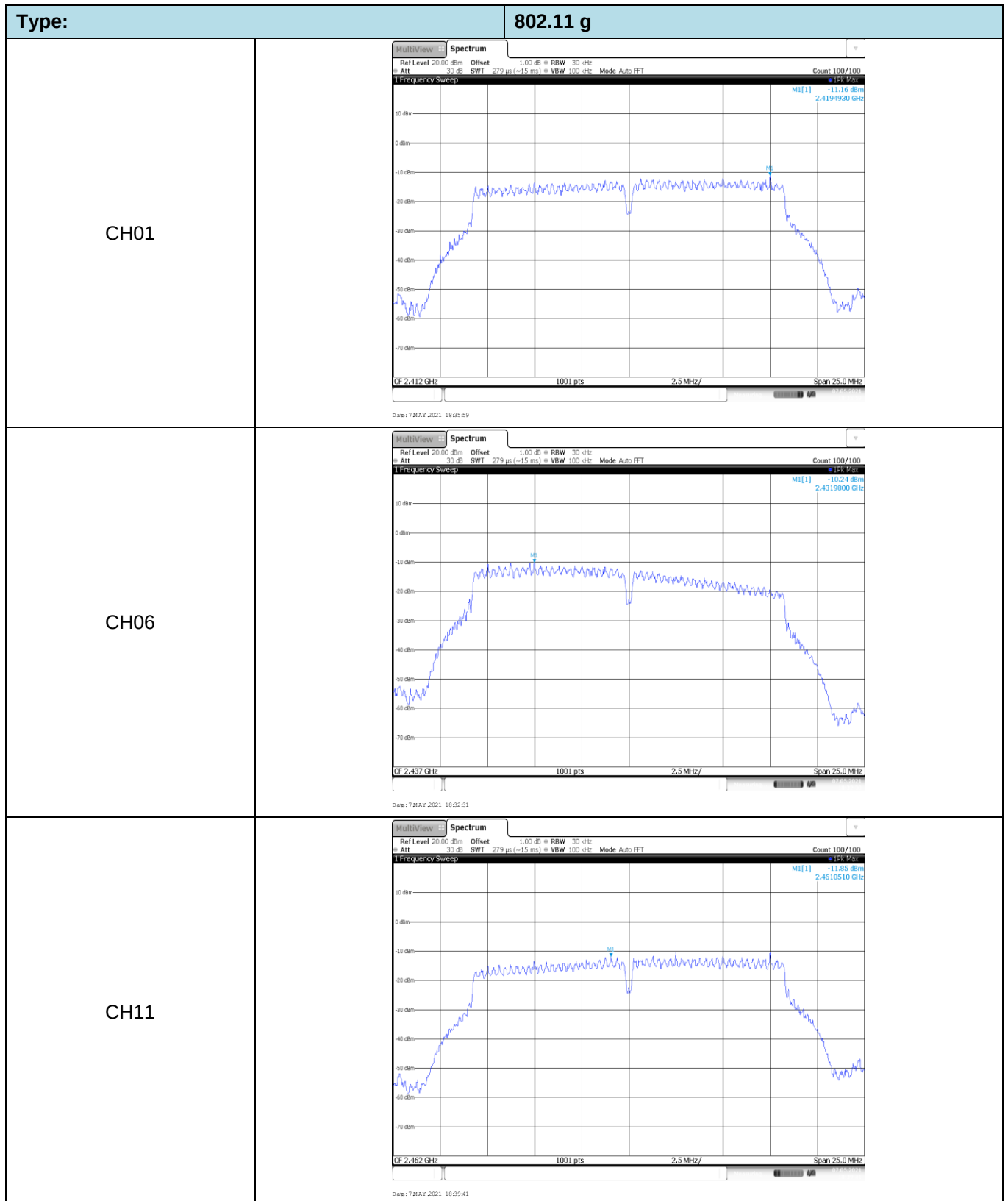
Appendix A: Conducted Peak Output Power

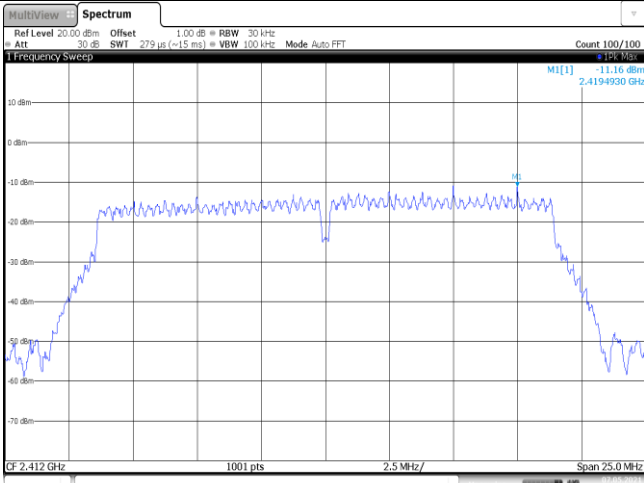
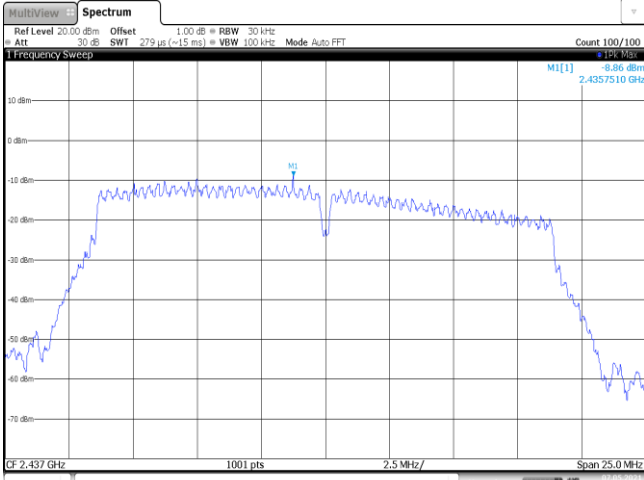
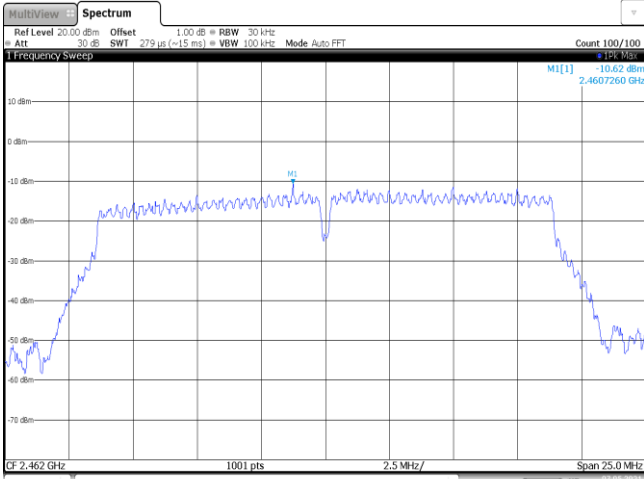
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	13.06	10.63	≤ 30.00	Pass
	06	14.00	11.56		
	11	12.90	10.47		
802.11g	01	13.12	10.50	≤ 30.00	Pass
	06	14.04	11.63		
	11	13.43	10.74		
802.11n (HT20)	01	13.27	10.68	≤ 30.00	Pass
	06	14.34	11.53		
	11	13.50	10.83		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-1.85	≤8.00	Pass
	06	0.17		
	11	-0.56		
802.11g	01	-11.16	≤8.00	Pass
	06	-10.24		
	11	-11.85		
802.11n(HT20)	01	-11.16	≤8.00	Pass
	06	-8.86		
	11	-10.62		

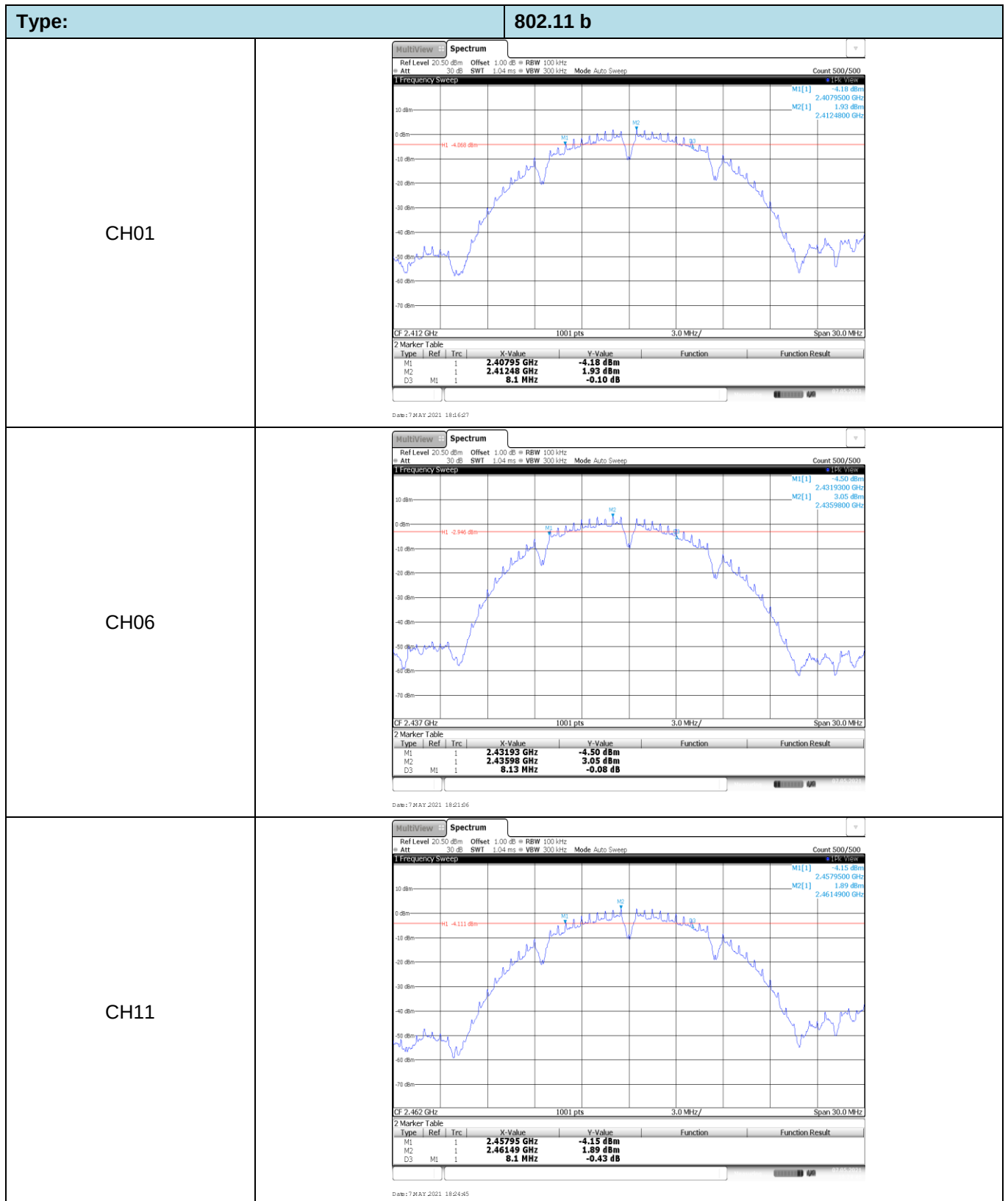
Type:		802.11 b
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 1.78 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -1.85 dBm 2.4114890 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.412 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 7 MAY 2021 18:17:26	
CH06	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 1.78 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 0.17 dBm 2.4354980 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.437 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 7 MAY 2021 18:22:29	
CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 1.78 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -0.56 dBm 2.4629910 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.462 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 7 MAY 2021 18:26:05	

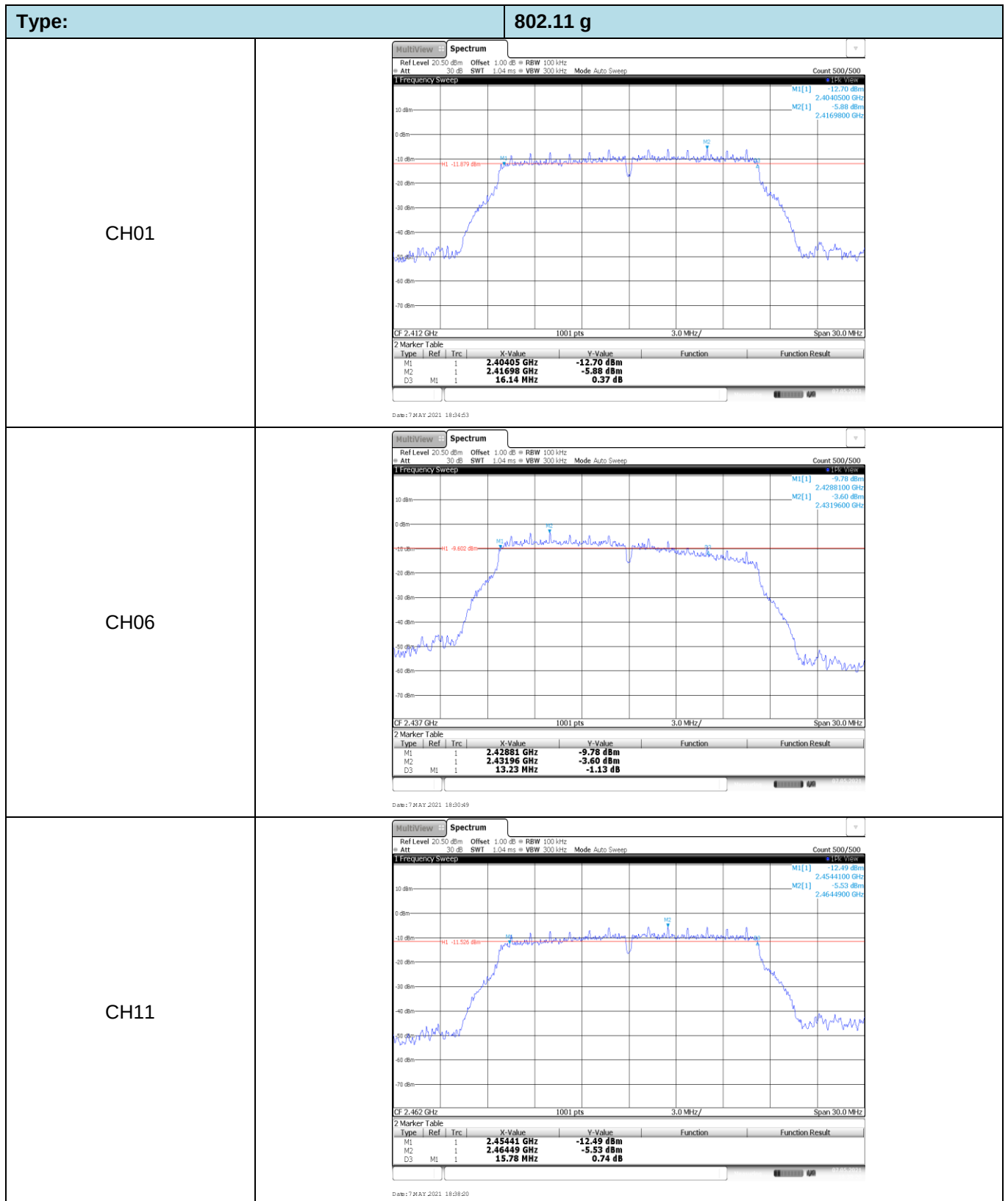


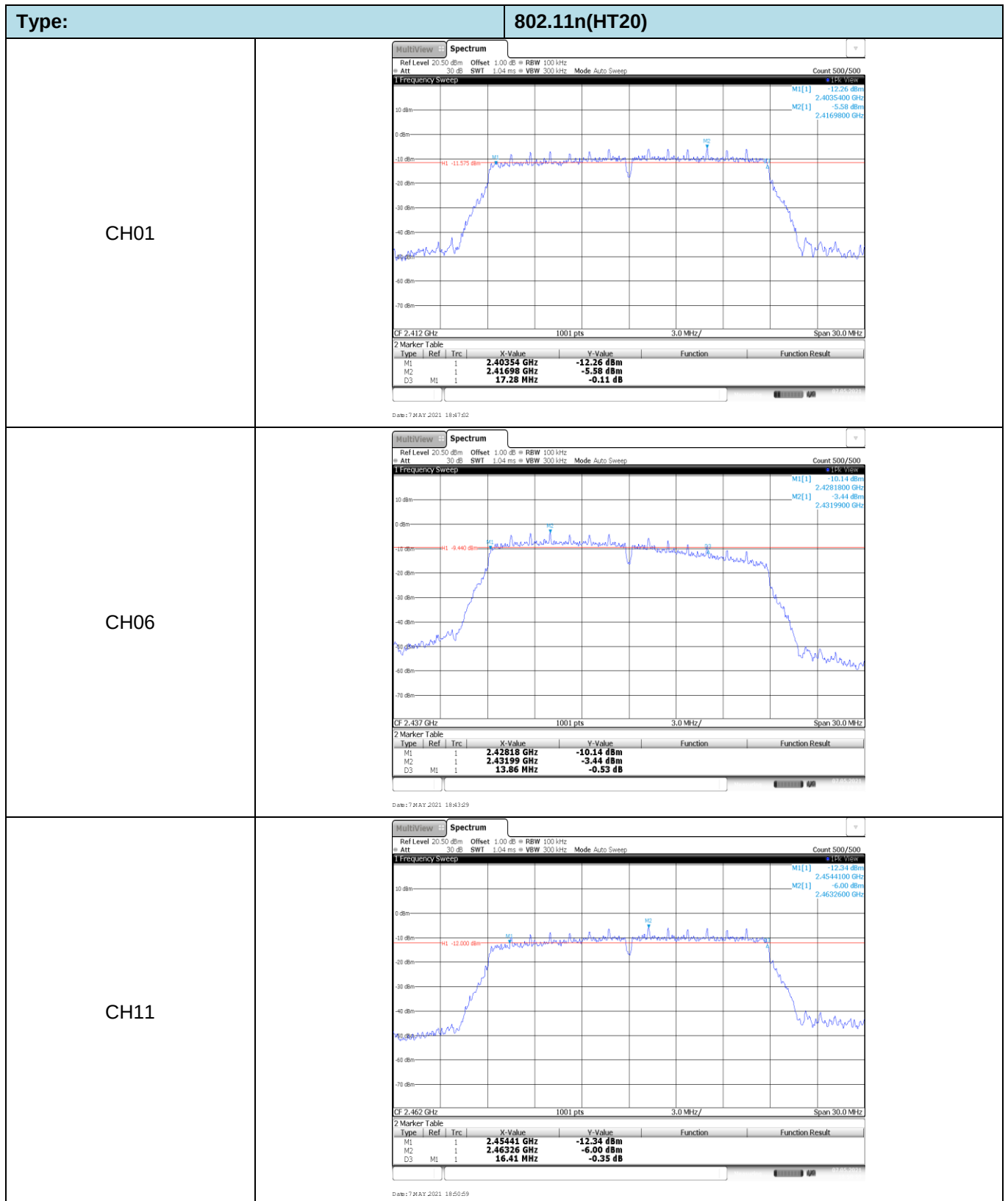
Type:	802.11n(HT20)
CH01	 7 MAY 2021 18:48:01
CH06	 7 MAY 2021 18:48:50
CH11	 7 MAY 2021 18:52:46

Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	8.10	≥0.5	Pass
	06	8.13		
	11	8.10		
802.11g	01	16.14	≥0.5	Pass
	06	13.23		
	11	15.78		
802.11n(HT20)	01	17.28	≥0.5	Pass
	06	13.86		
	11	16.41		

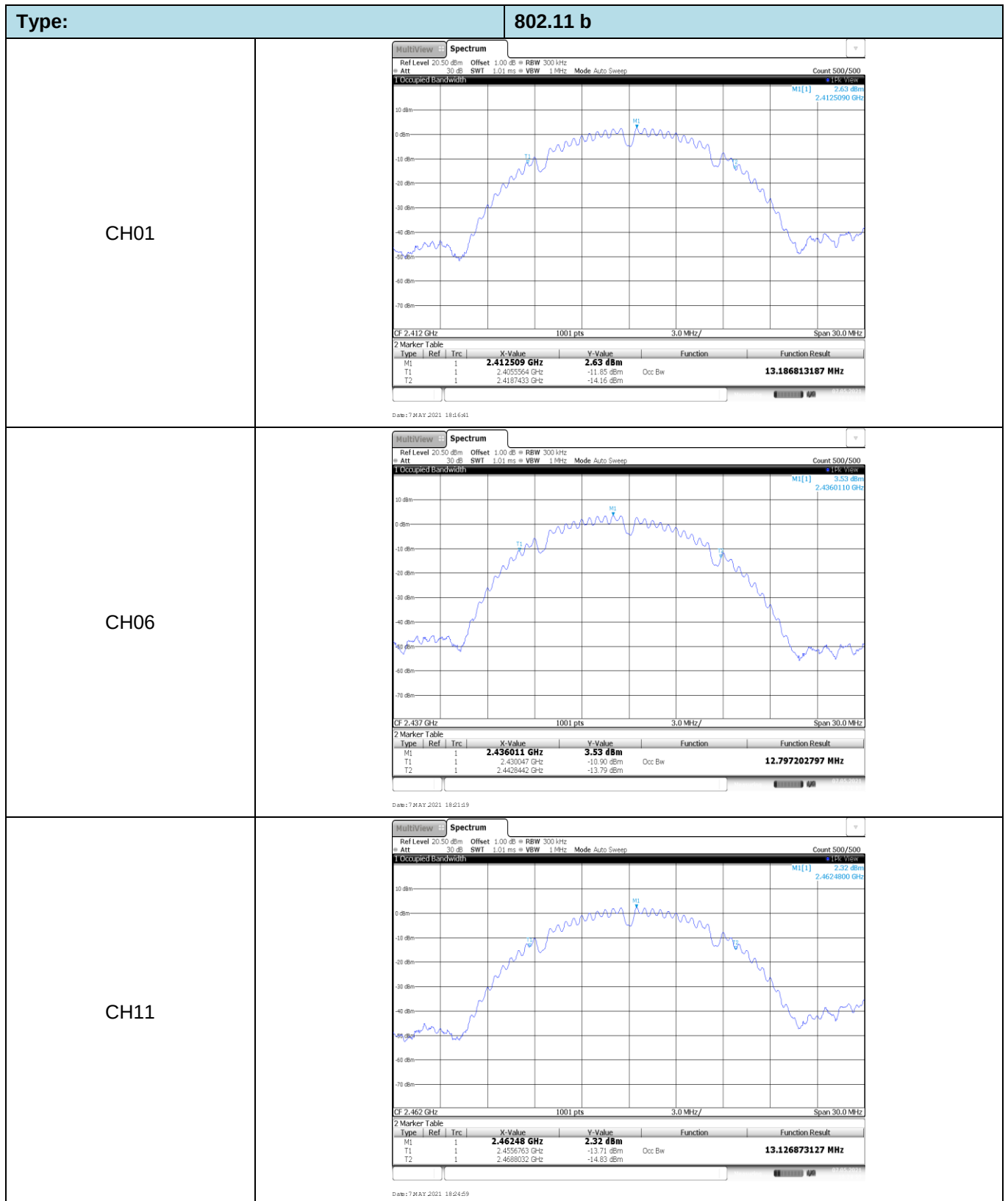


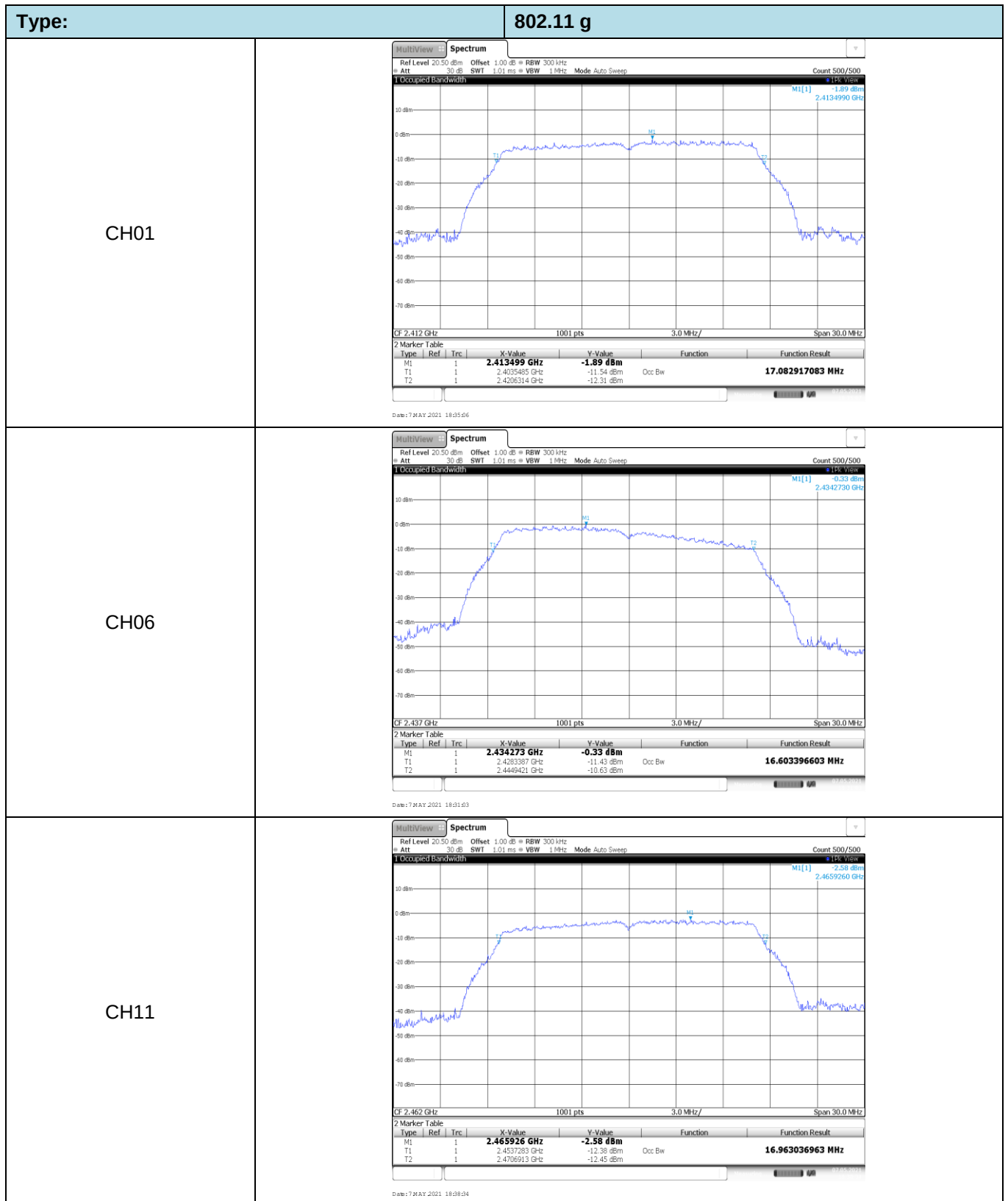


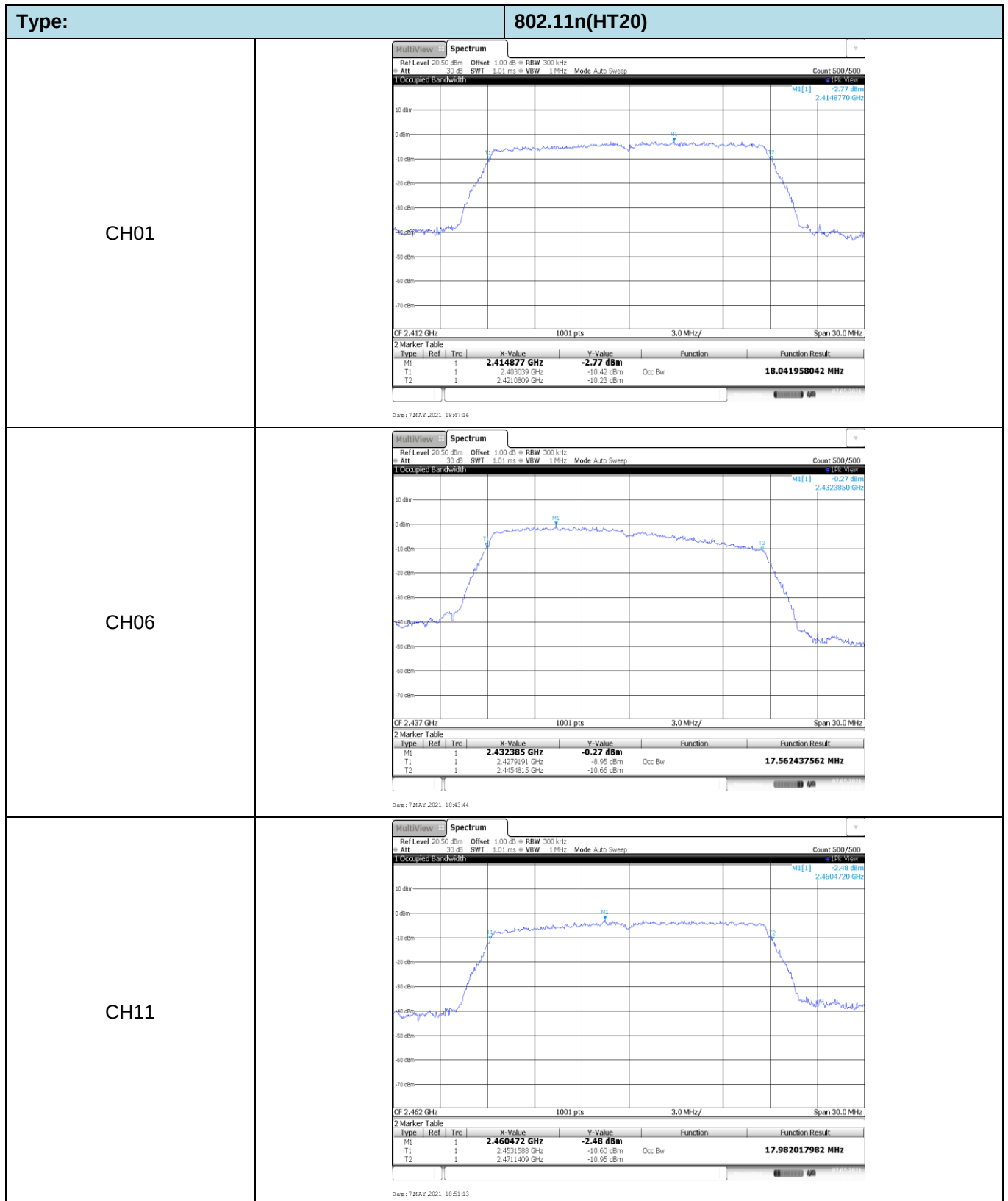


Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (kHz)	Result
802.11b	01	13.19	-	Pass
	06	12.80		
	11	13.13		
802.11g	01	17.08	-	Pass
	06	16.60		
	11	16.96		
802.11n(HT20)	01	18.04	-	Pass
	06	17.56		
	11	17.98		

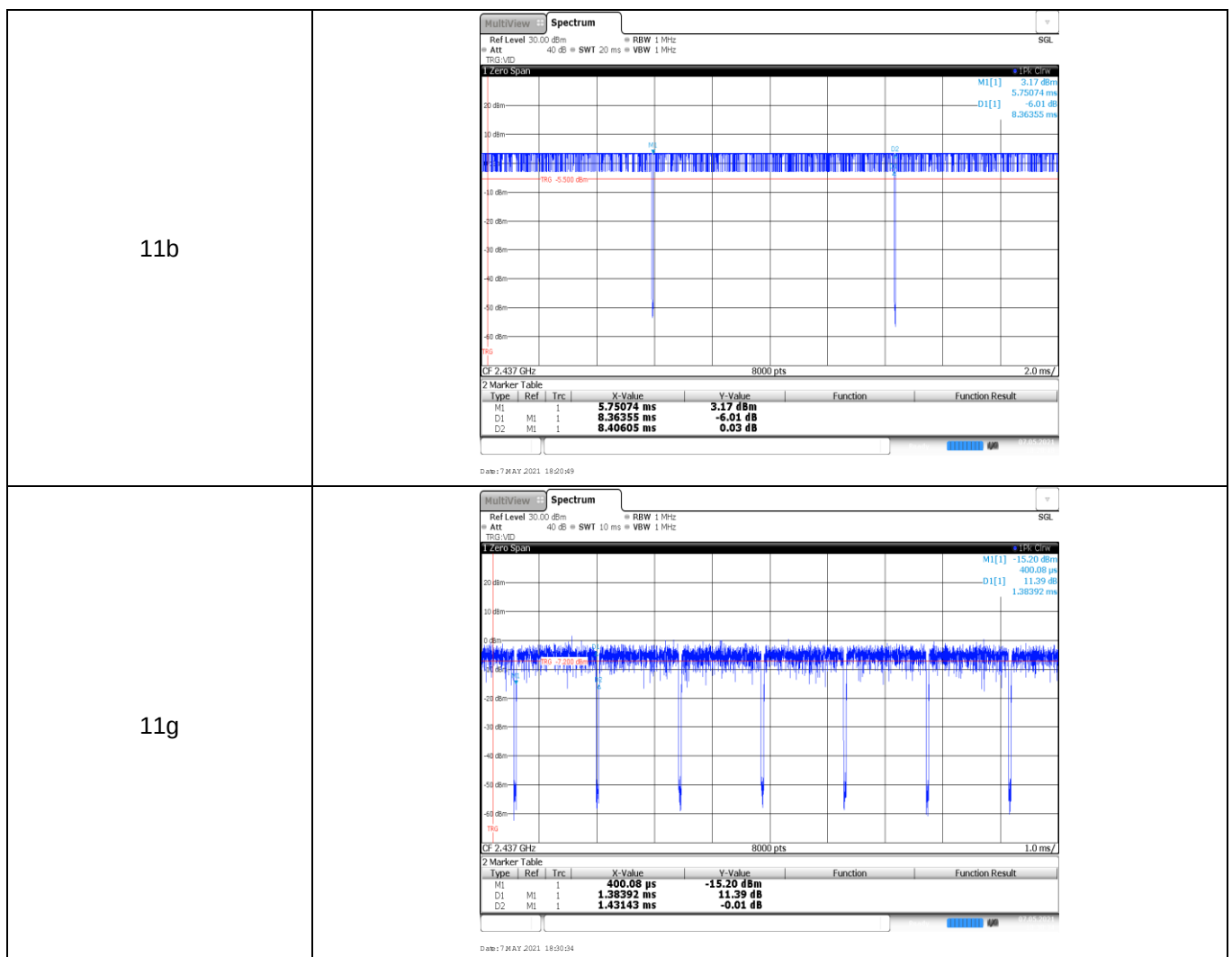


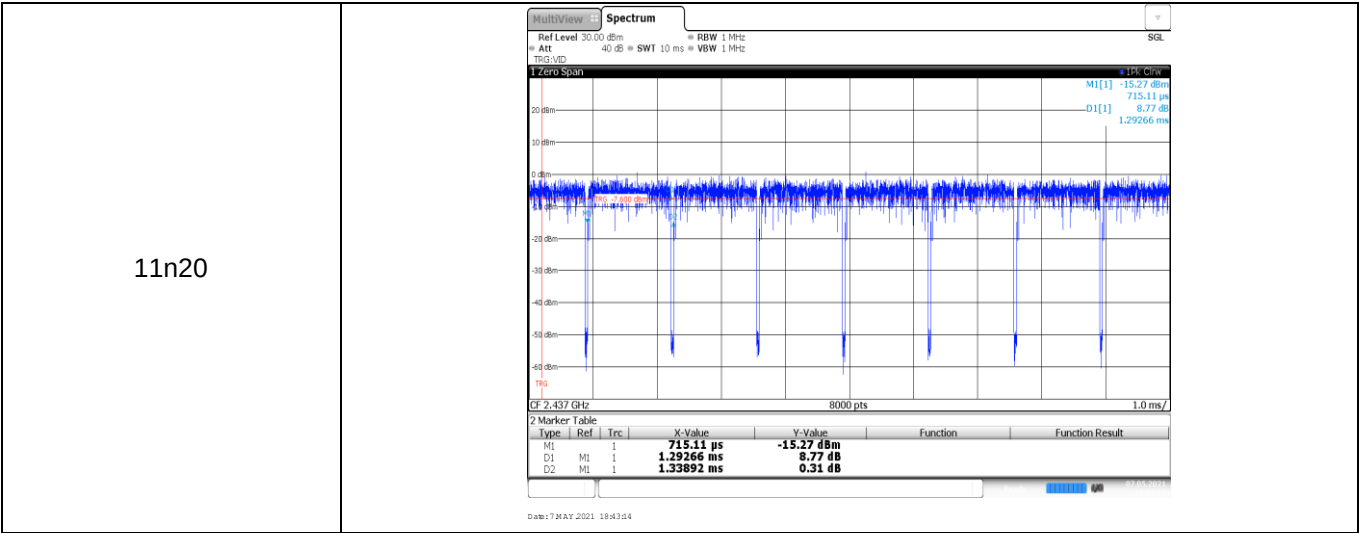




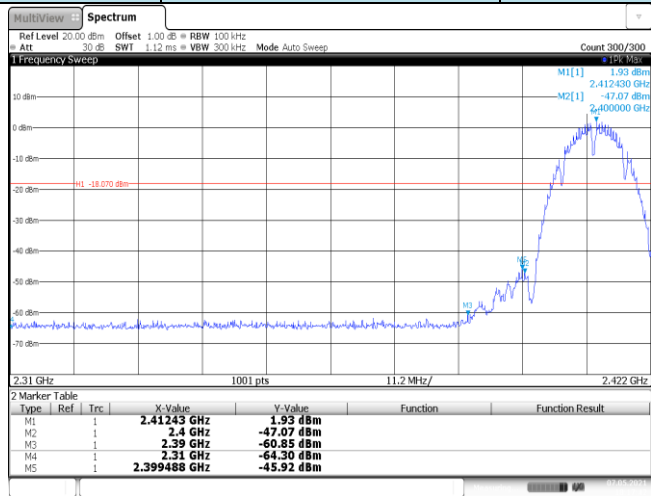
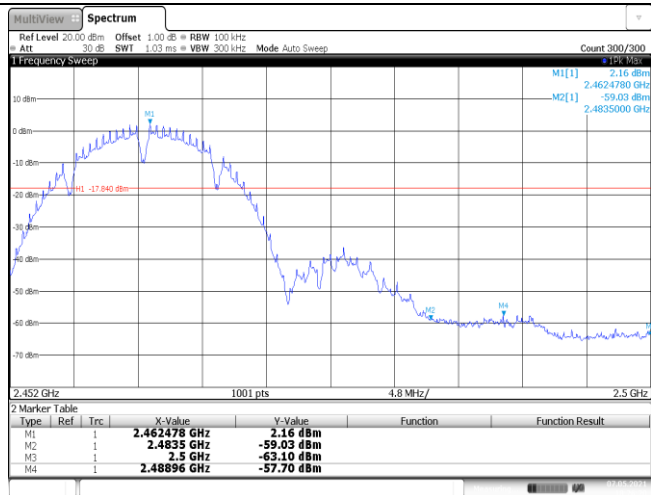
Appendix E: Duty Cycle

Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	8.36	8.41	99.4%	0.1
11g	2437	1.38	1.43	96.5%	0.7
11n20	2437	1.29	1.34	96.3%	0.8

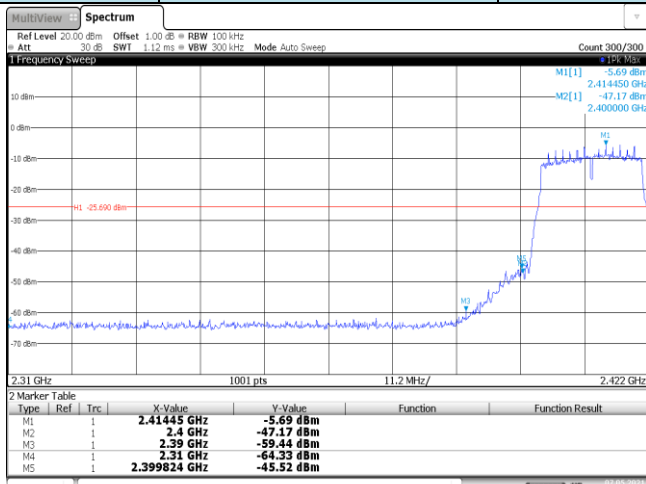
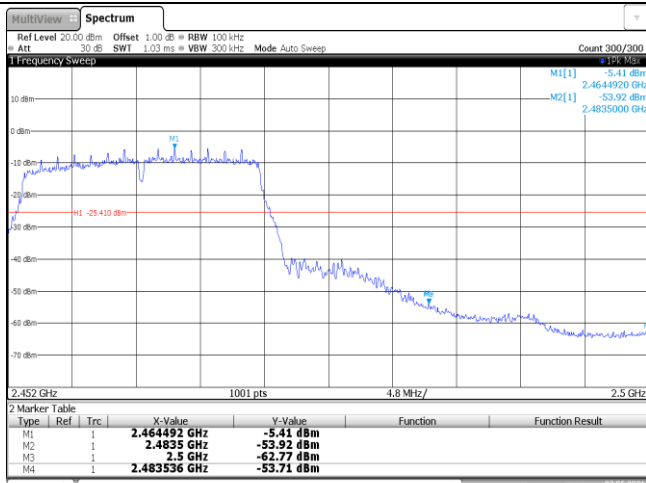


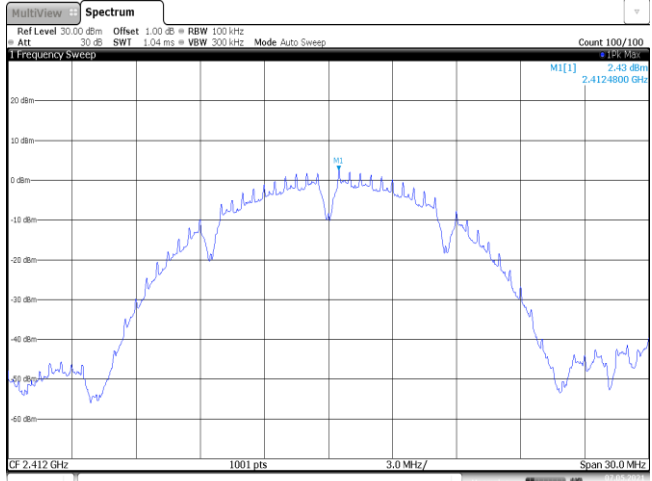
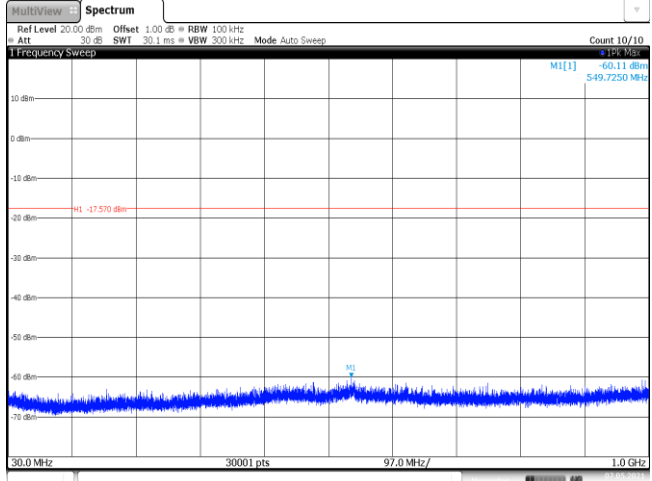
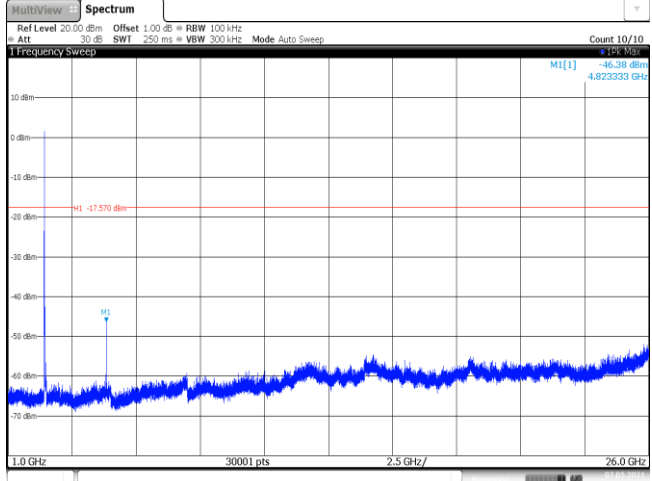


Appendix F: Band edge and Spurious Emissions (conducted)

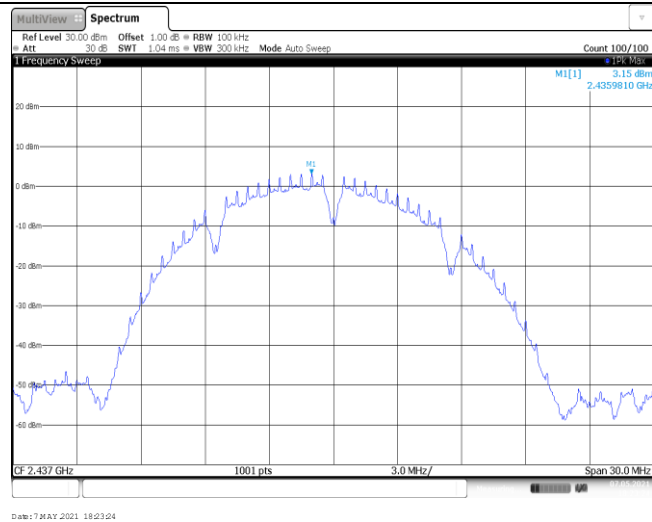
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CH01	MultiviewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep  2 Marker Table <table><thead><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr></thead><tbody><tr><td>M1</td><td>1</td><td></td><td>2.41243 GHz</td><td>1.93 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-47.07 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-60.85 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.30 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399488 GHz</td><td>-45.92 dBm</td><td></td><td></td></tr></tbody></table> Date: 7 MAY 2021 18:17:42			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41243 GHz	1.93 dBm			M2	1		2.4 GHz	-47.07 dBm			M3	1		2.39 GHz	-60.85 dBm			M4	1		2.31 GHz	-64.30 dBm			M5	1		2.399488 GHz	-45.92 dBm		
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Appendix report page: 18 of 28

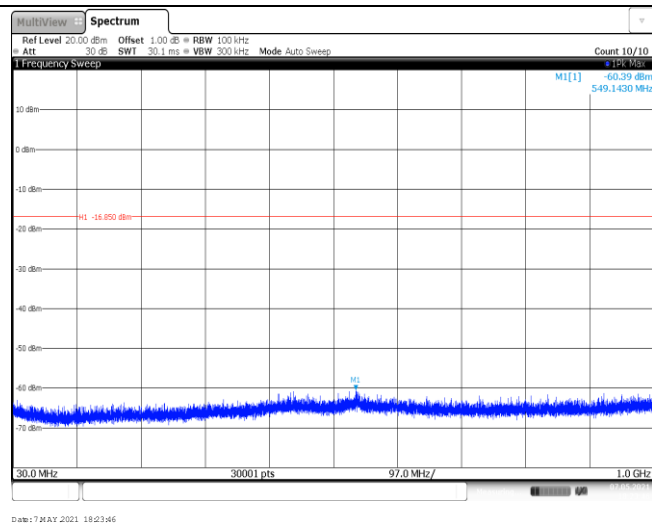
Test Item:	Bandedge	Type:	802.11 n(HT20)																																										
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CH11	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep  2 Marker Table <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>2.464492 GHz</td><td>-5.41 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-53.92 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-62.77 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483536 GHz</td><td>-53.71 dBm</td><td></td><td></td></tr></table> 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz Date: 7 MAY 2021 18:53:04	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.464492 GHz	-5.41 dBm			M2	1		2.4835 GHz	-53.92 dBm			M3	1		2.5 GHz	-62.77 dBm			M4	1		2.483536 GHz	-53.71 dBm											
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M3	1		2.5 GHz	-62.77 dBm																																									
M4	1		2.483536 GHz	-53.71 dBm																																									

Test Item:	SE	Type:	802.11b
CH01 Reference level		 Count 100/100 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep 1 Frequency Sweep MI[1] 2.43 dBm 2.4124800 GHz 20 dBm 0 dBm -20 dBm -40 dBm -60 dBm 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 7 MAY 2021 18:28:22	
CH01 30MHz~1000MHz		 Count 10/10 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep 1 Frequency Sweep MI[1] -60.11 dBm 549.7250 MHz 20 dBm 0 dBm -20 dBm -40 dBm -60 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 7 MAY 2021 18:28:54	
CH01 1GHz~26GHz		 Count 10/10 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep 1 Frequency Sweep MI[1] -46.38 dBm 4.825533 GHz 20 dBm 0 dBm -20 dBm -40 dBm -60 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 7 MAY 2021 18:29:16	

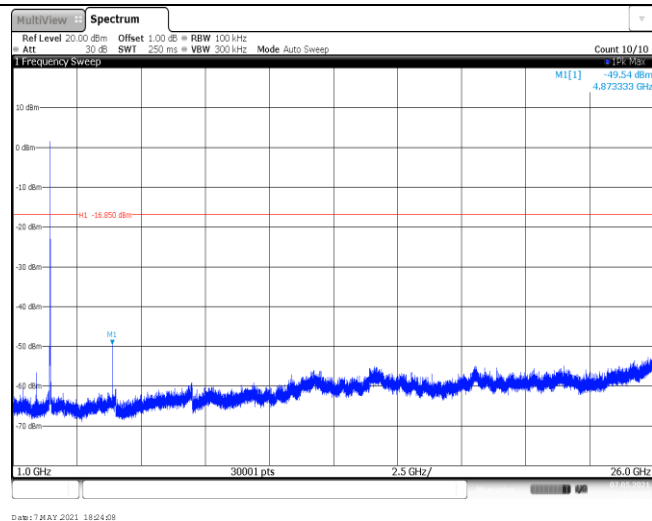
CH06
Reference level



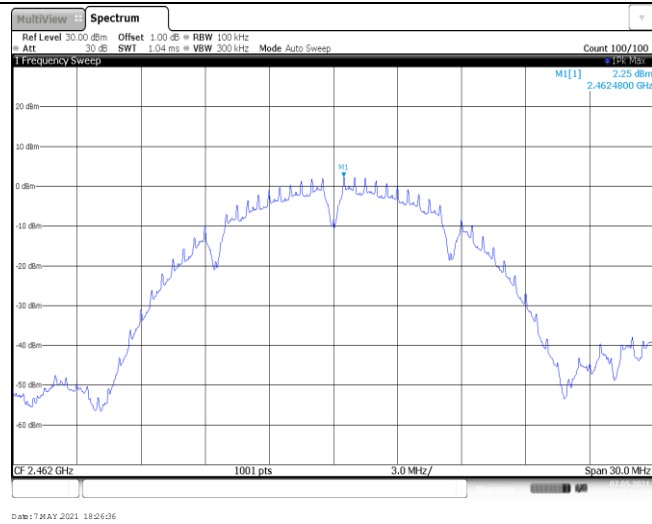
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30MHz~1000MHz



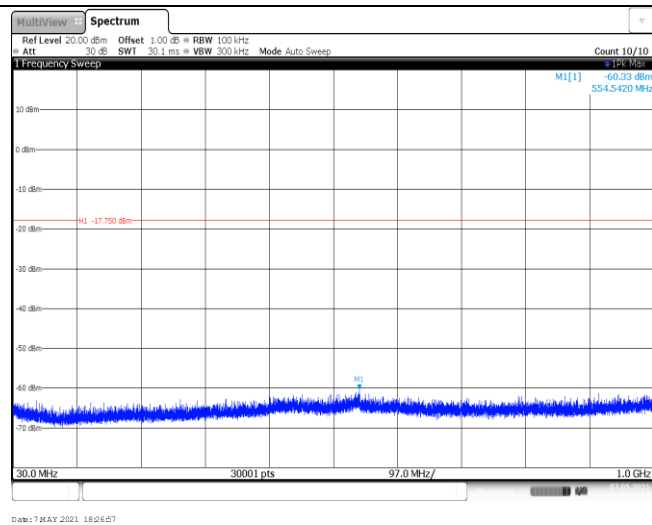
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1GHz~26GHz



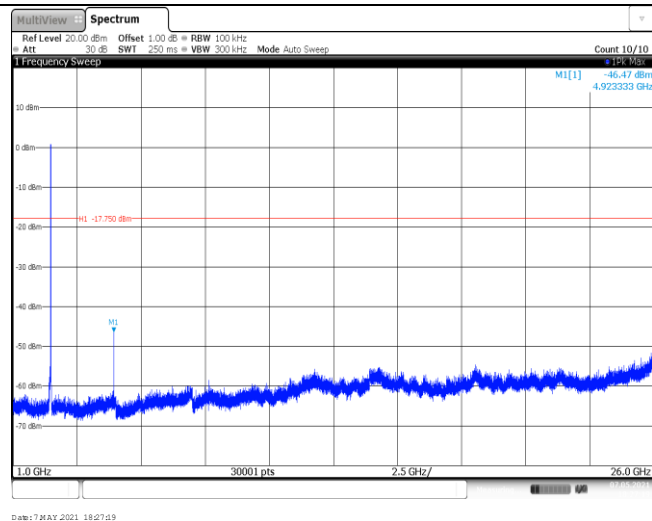
CH11
Reference level

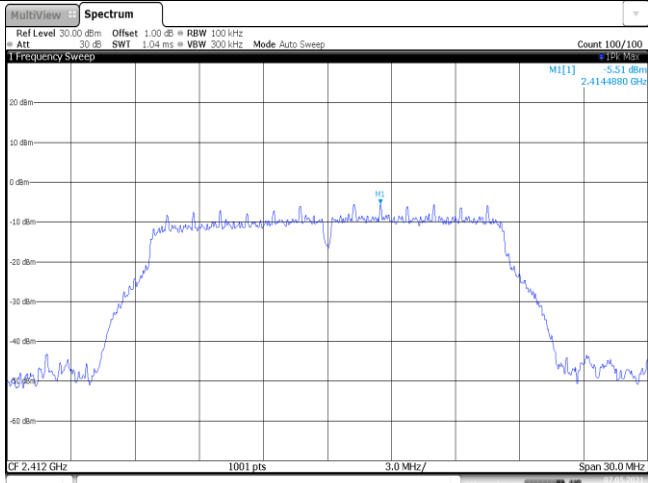
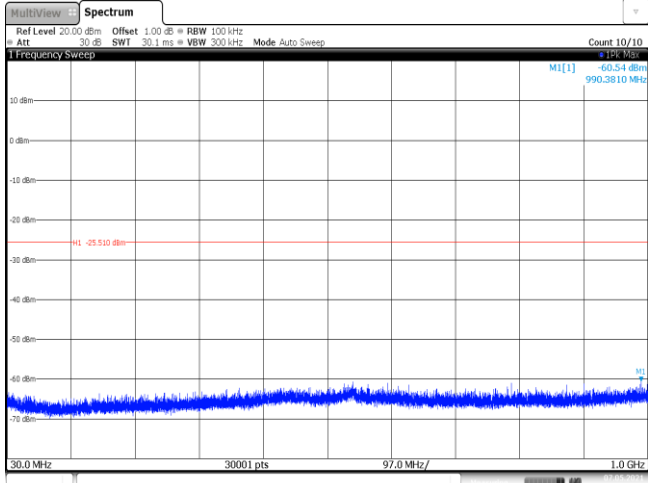
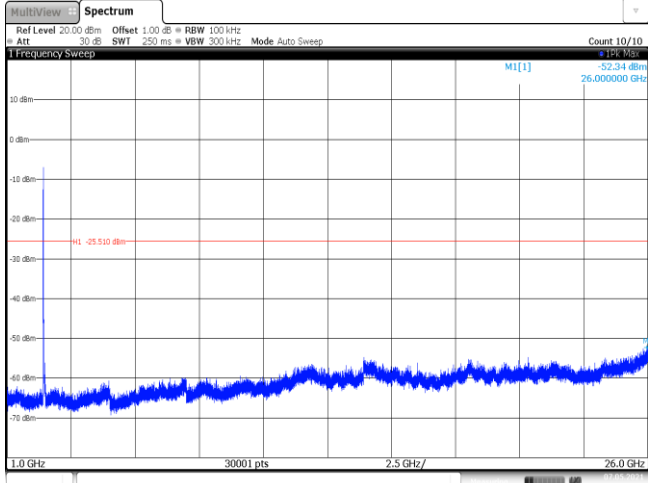


CH11
30MHz~1000MHz

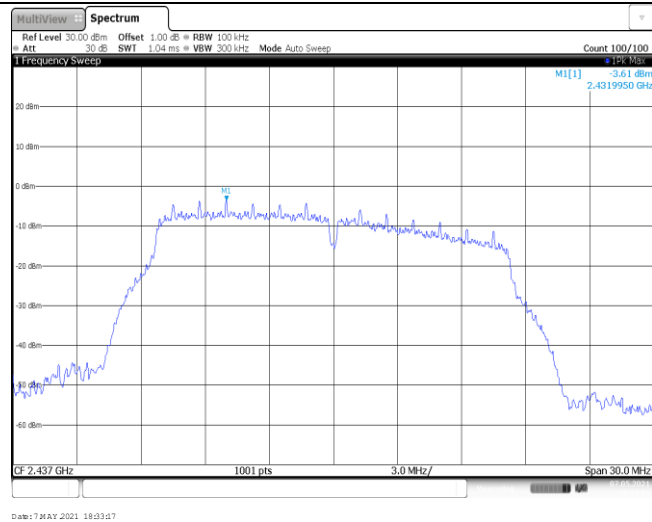


CH11
1GHz~26GHz

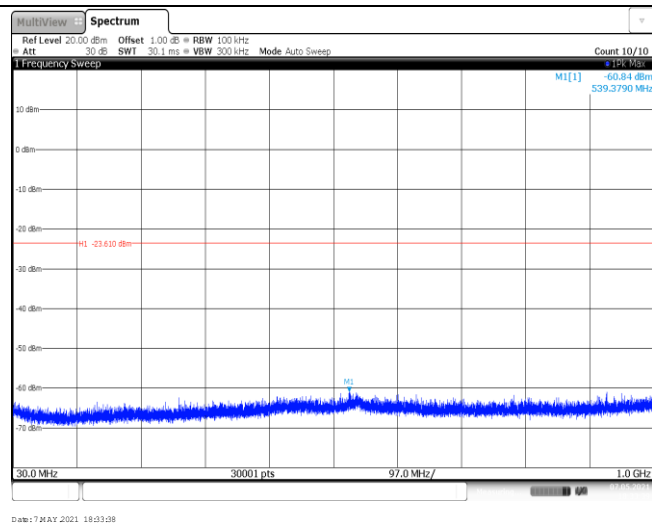


Test Item:	SE	Type:	802.11g
CH01 Reference level		 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -55.1 dBm 2.4144880 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 7 MAY 2021 18:26:33	
CH01 30MHz~1000MHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.54 dBm 990.3810 MHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 7 MAY 2021 18:26:54	
CH01 1GHz~26GHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -52.34 dBm 26.000000 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 7 MAY 2021 18:27:17	

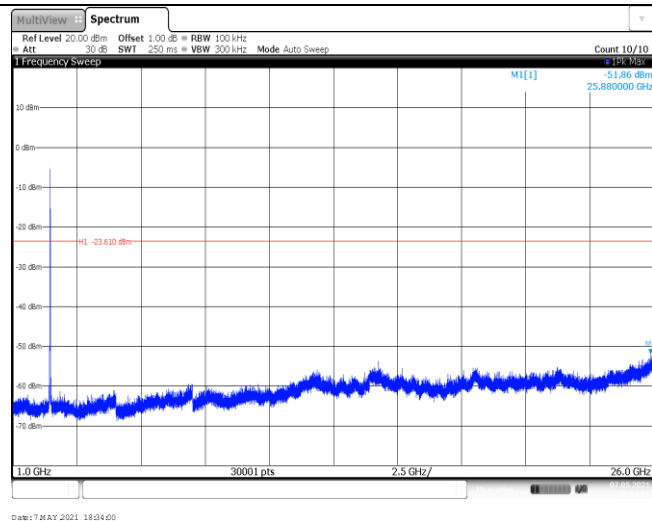
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Reference level



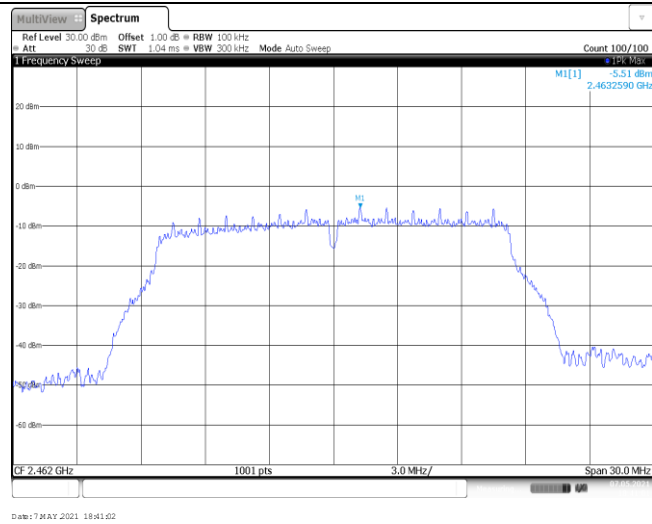
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30MHz~1000MHz



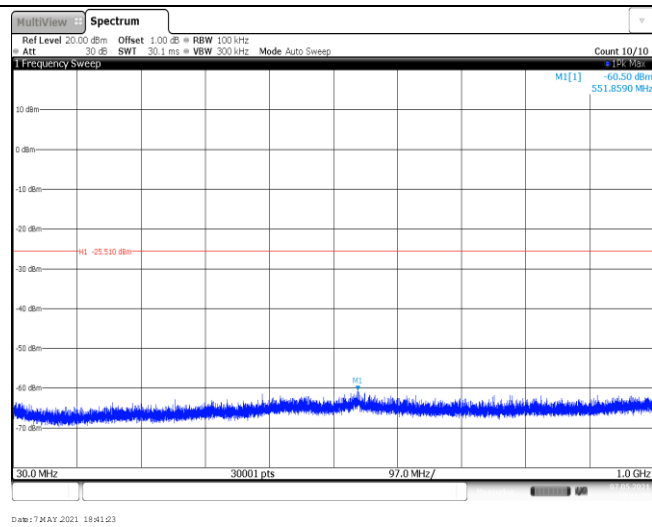
CH06
1GHz~26GHz



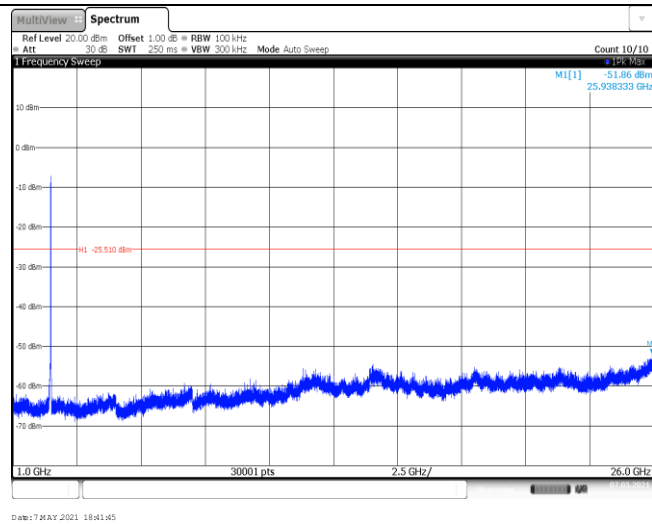
CH11
Reference level

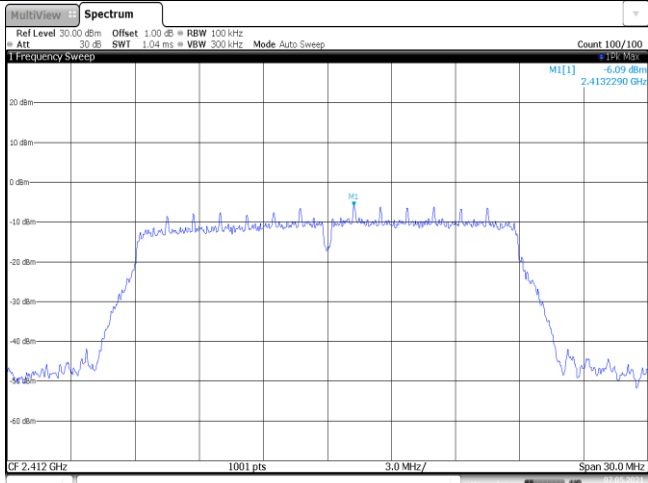
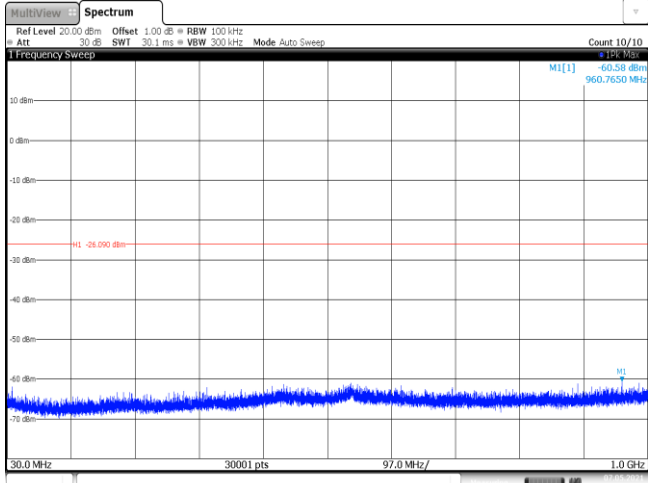
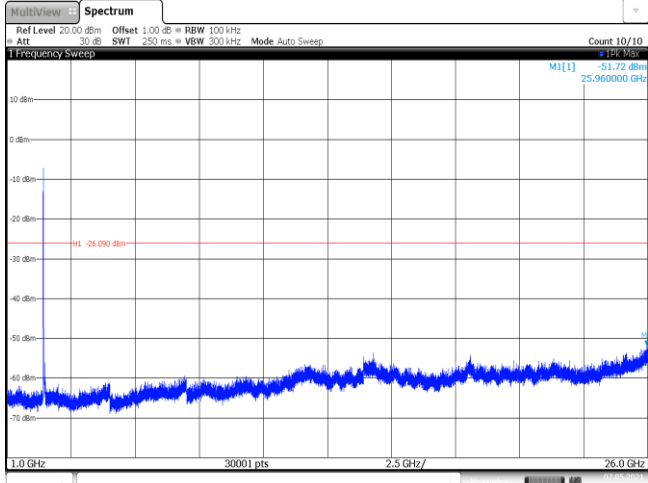


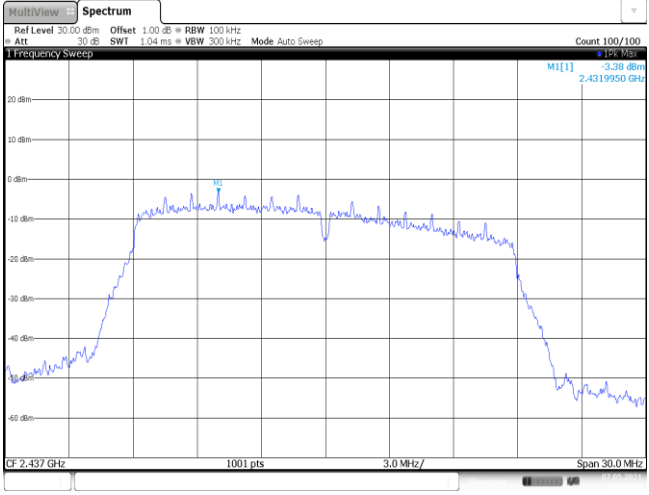
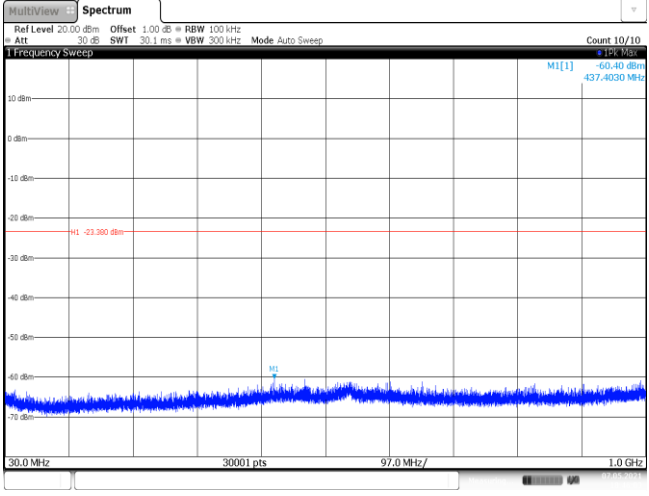
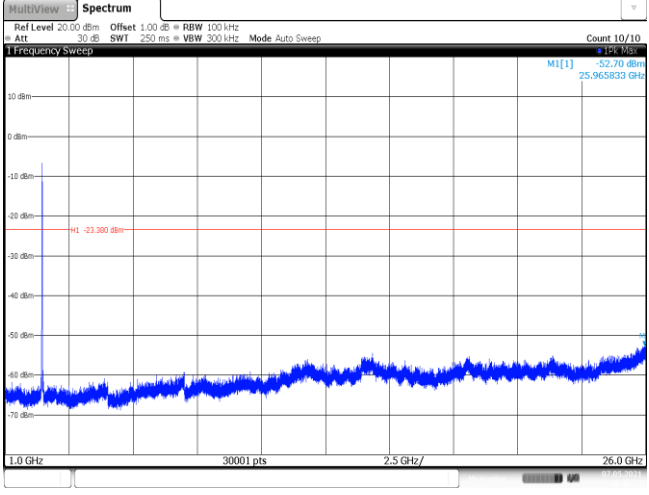
CH11
30MHz~1000MHz



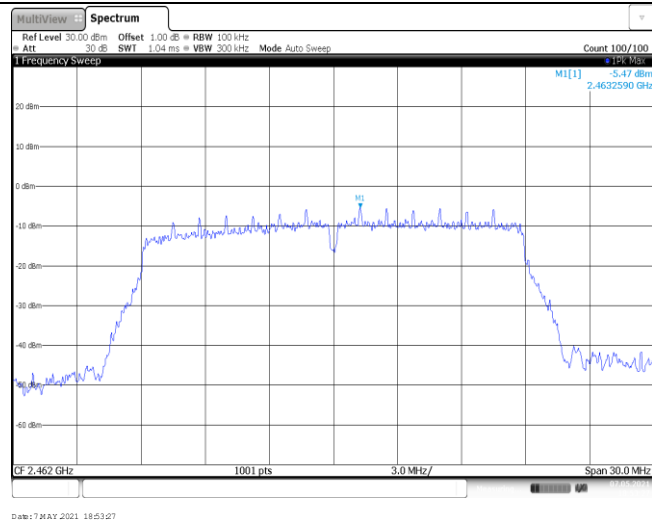
CH11
1GHz~26GHz



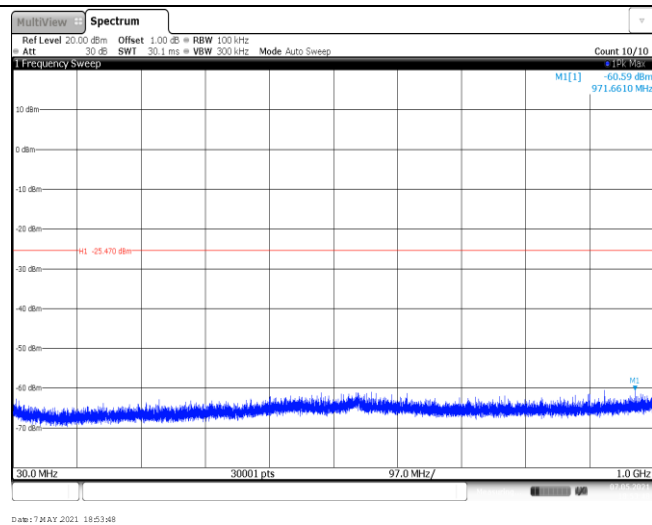
Test Item:	SE	Type:	802.11n(HT20)
CH01 Reference level		 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] 6.09 dBm 2.4122290 GHz Span 30.0 MHz Date: 7 MAY 2021 18:45:07	
CH01 30MHz~1000MHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.58 dBm 960.7630 MHz Span 97.0 MHz Date: 7 MAY 2021 18:49:28	
CH01 1GHz~26GHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -51.72 dBm 25.960000 GHz Span 25.0 GHz Date: 7 MAY 2021 18:49:50	

CH06 Reference level	
CH06 30MHz~1000MHz	
CH06 1GHz~26GHz	

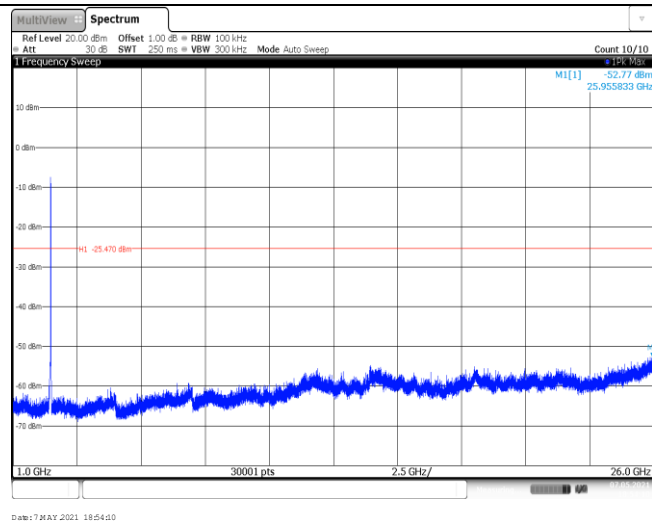
CH11
Reference level



CH11
30MHz~1000MHz



CH11
1GHz~26GHz



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