

APPENDIX REPORT

Project No.	SHT2107050401EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT21070504003	Model No.	C60 Ultra
Start test date	2021-07-22	Finish date	2021-07-22
Temperature	25.2°C	Humidity	33%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhao

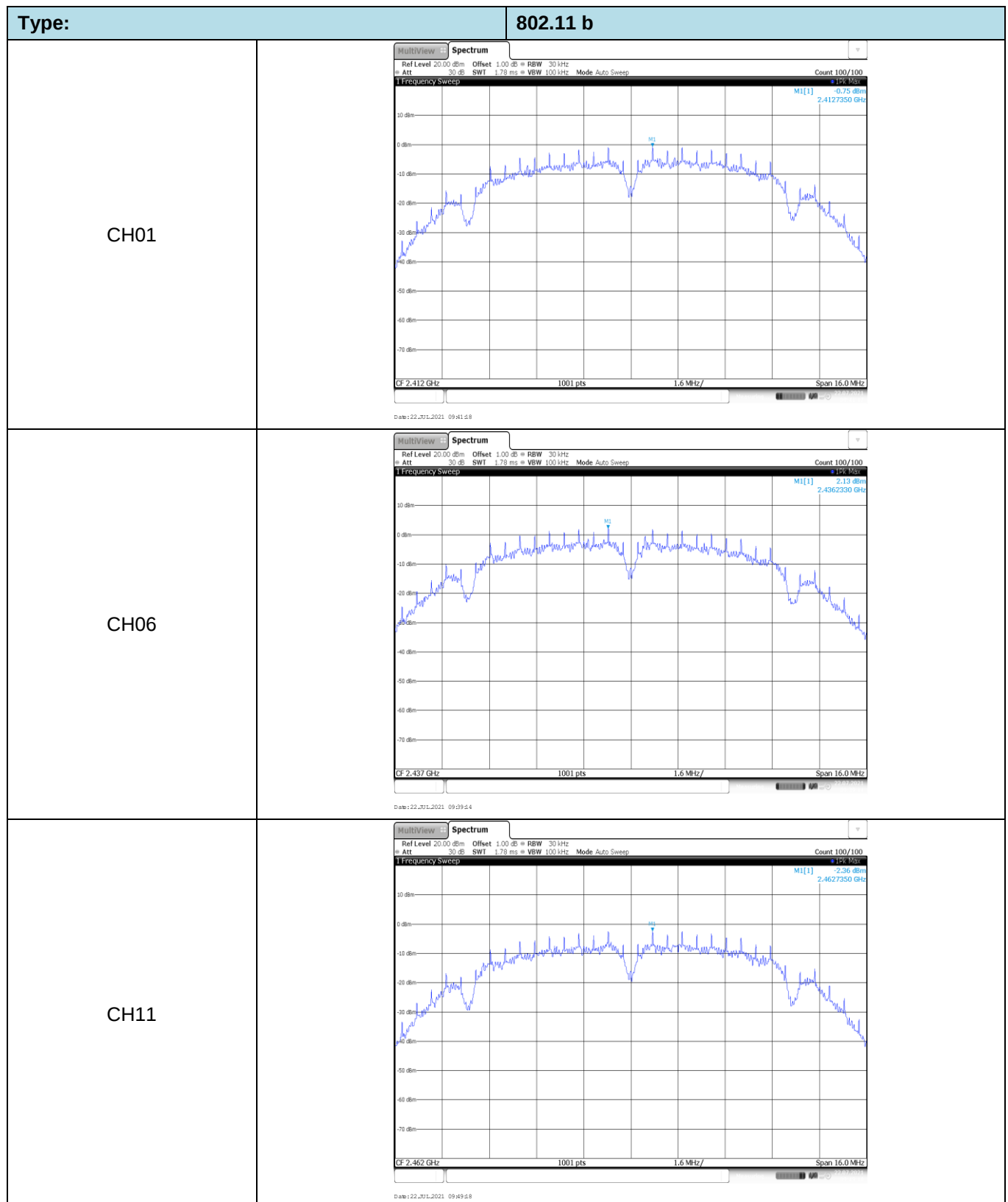
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

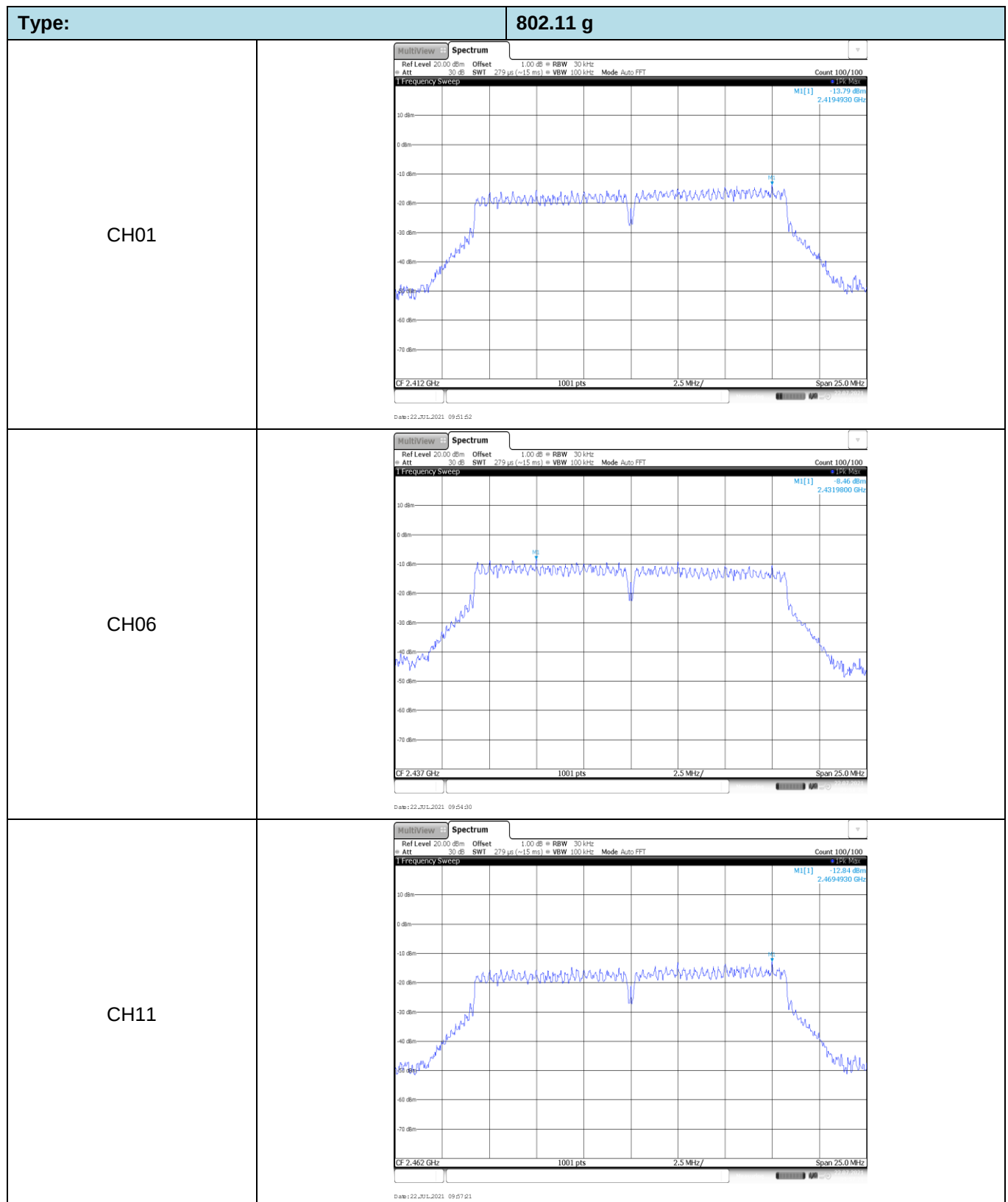
Appendix A: Conducted Peak Output Power

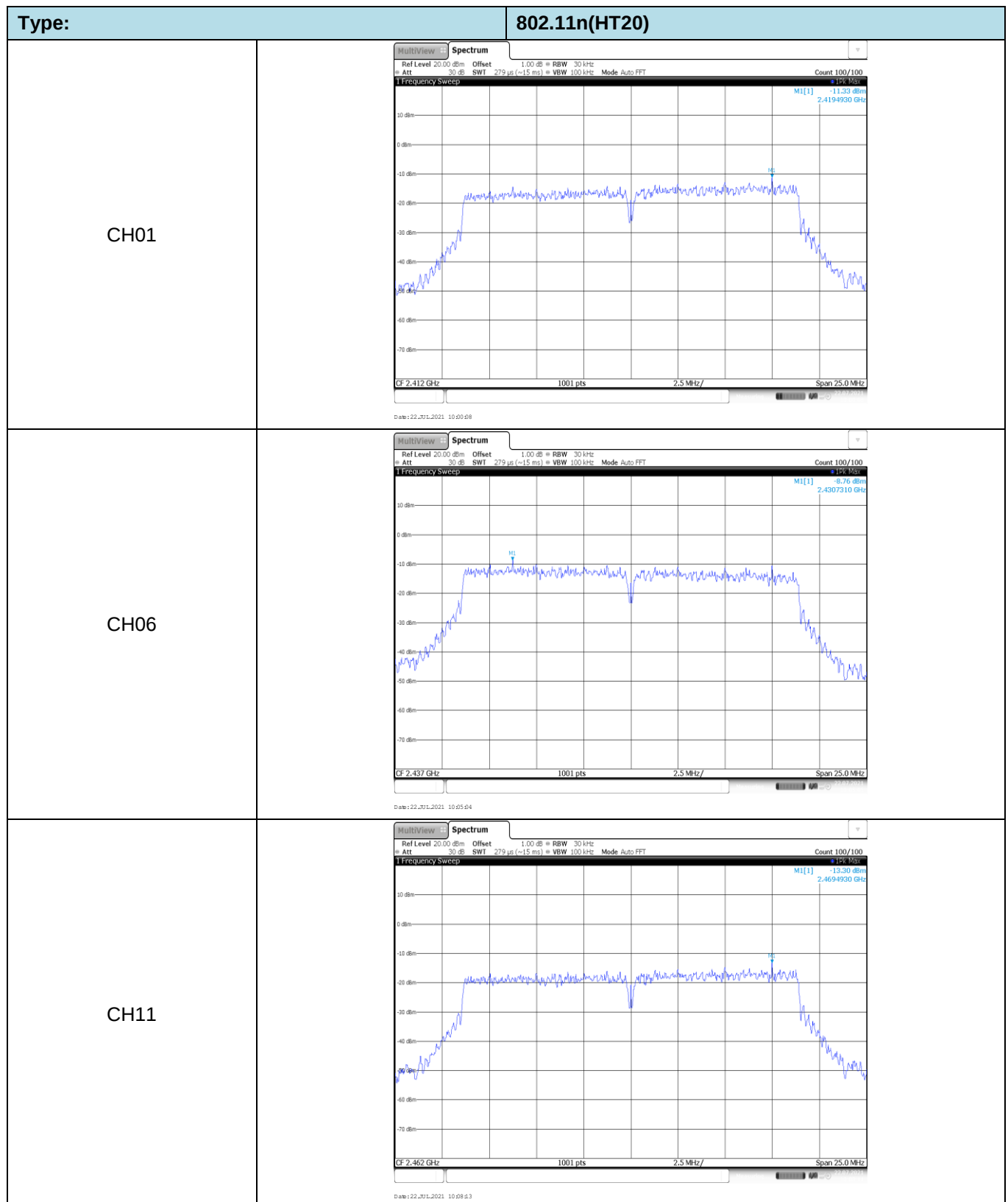
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	12.34	9.91	≤ 30.00	Pass
	06	15.75	13.29		
	11	11.58	9.15		
802.11g	01	10.31	7.55	≤ 30.00	Pass
	06	16.12	13.37		
	11	11.51	8.67		
802.11n (HT20)	01	12.27	10.50	≤ 30.00	Pass
	06	15.74	14.07		
	11	11.08	9.31		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-0.75	≤8.00	Pass
	06	2.13		
	11	-2.36		
802.11g	01	-13.79	≤8.00	Pass
	06	-8.46		
	11	-12.84		
802.11n(HT20)	01	-11.33	≤8.00	Pass
	06	-8.76		
	11	-13.30		

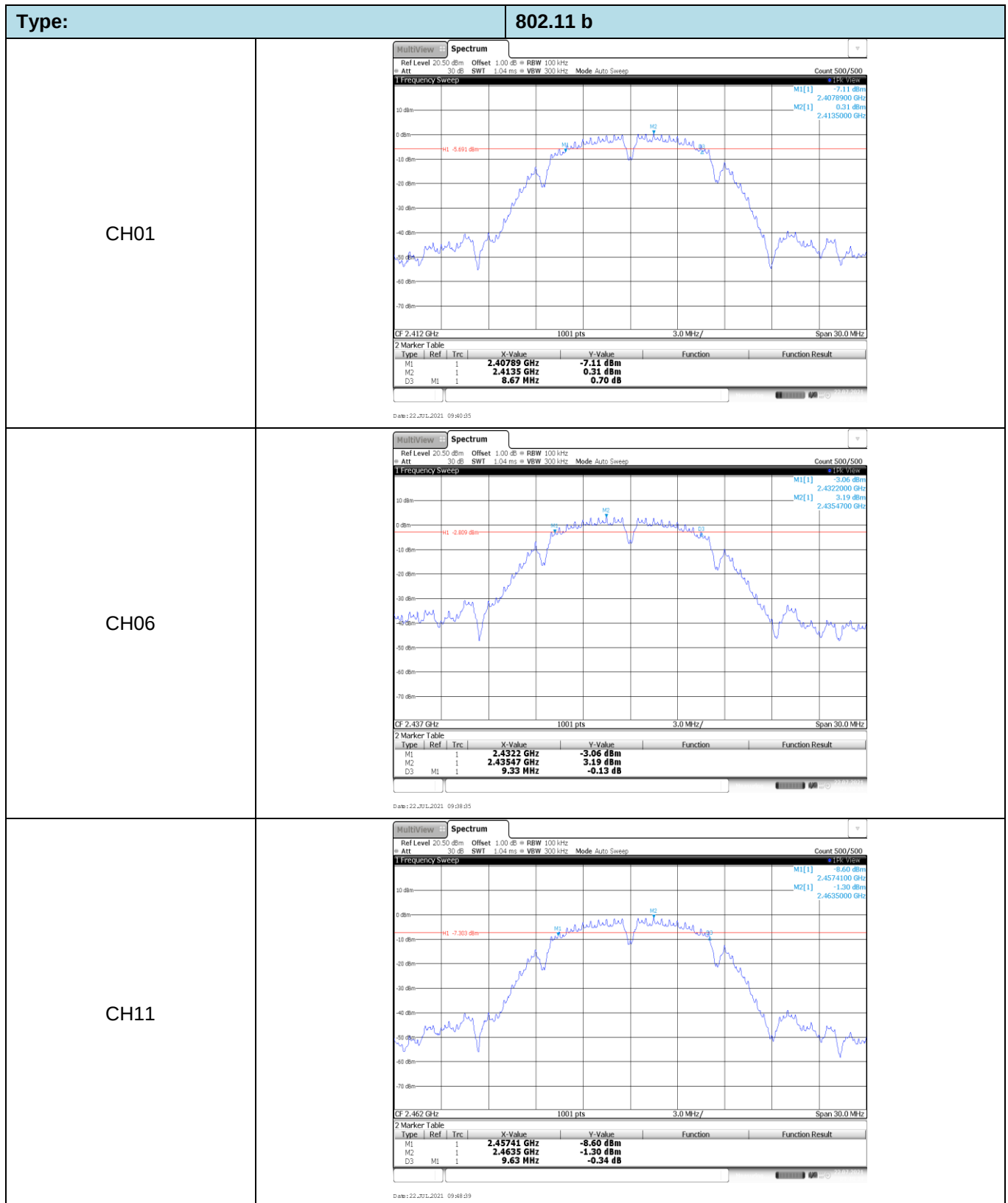


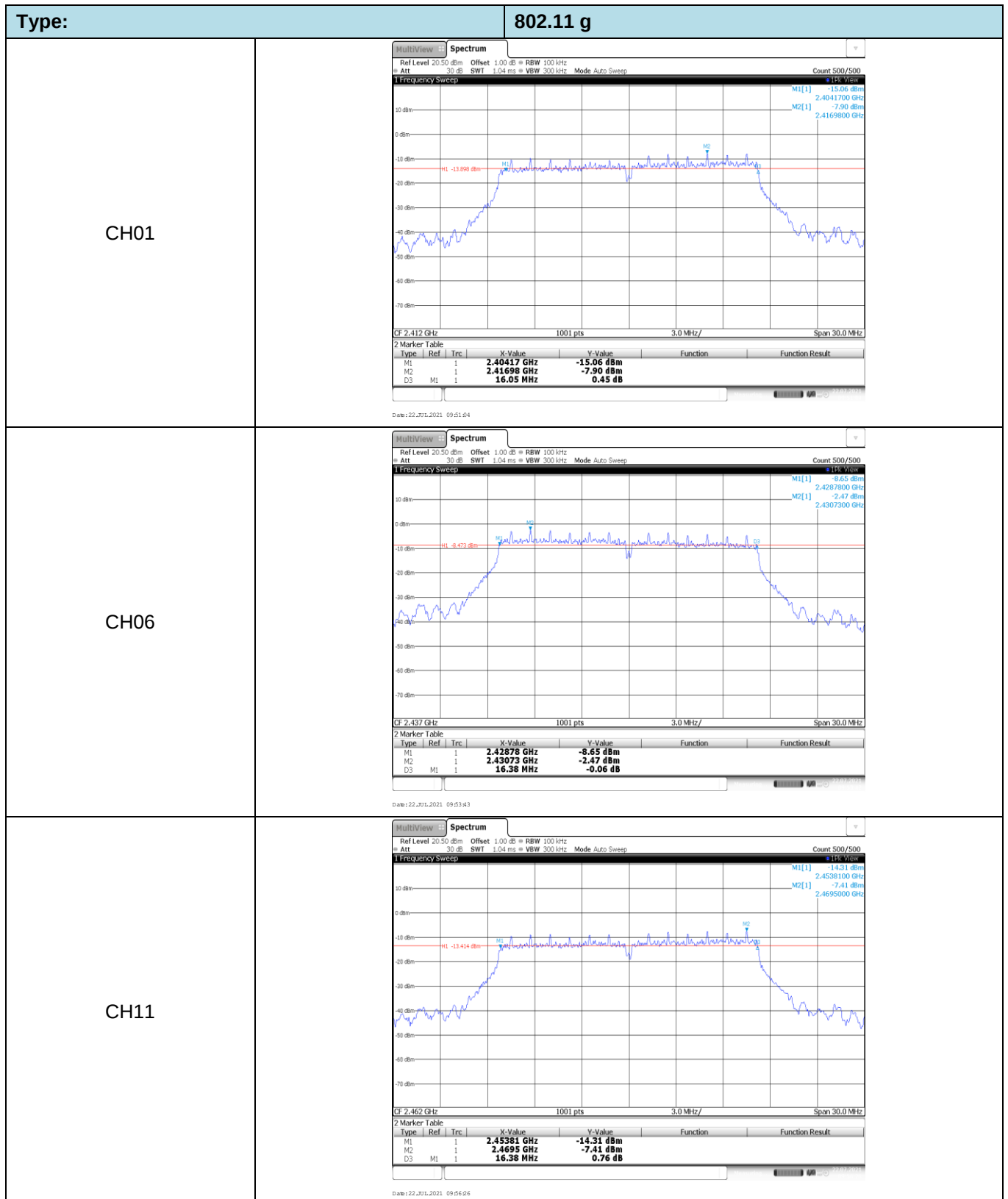


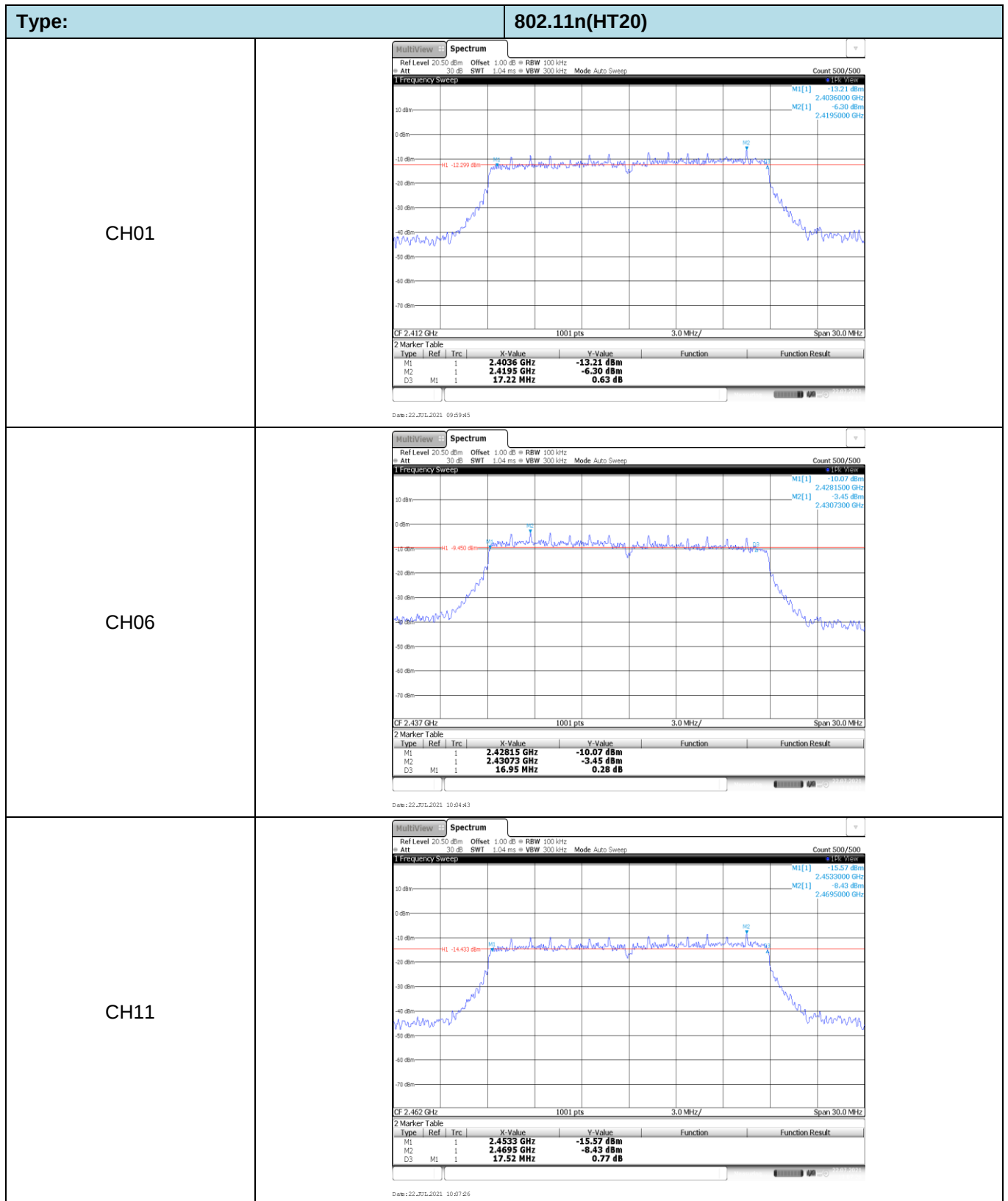


Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	8.67	≥0.5	Pass
	06	9.33		
	11	9.63		
802.11g	01	16.05	≥0.5	Pass
	06	16.38		
	11	16.38		
802.11n(HT20)	01	17.22	≥0.5	Pass
	06	16.95		
	11	17.52		







Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	11.84	-	Pass
	06	12.08		
	11	11.96		
802.11g	01	17.35	-	Pass
	06	17.29		
	11	17.38		
802.11n(HT20)	01	17.92	-	Pass
	06	17.86		
	11	17.92		

Type:

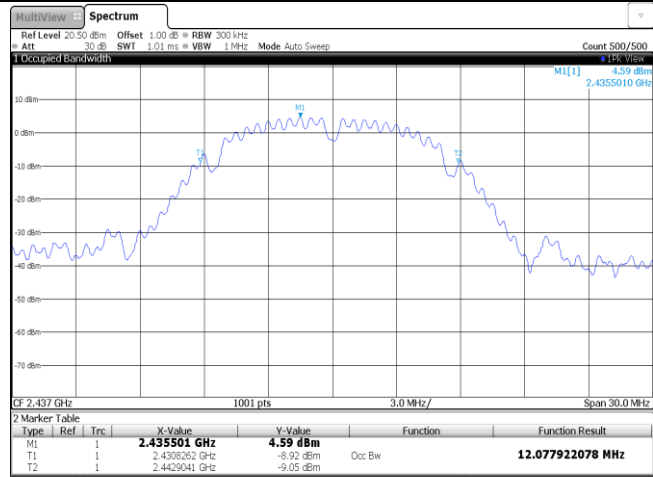
802.11 b

CH01



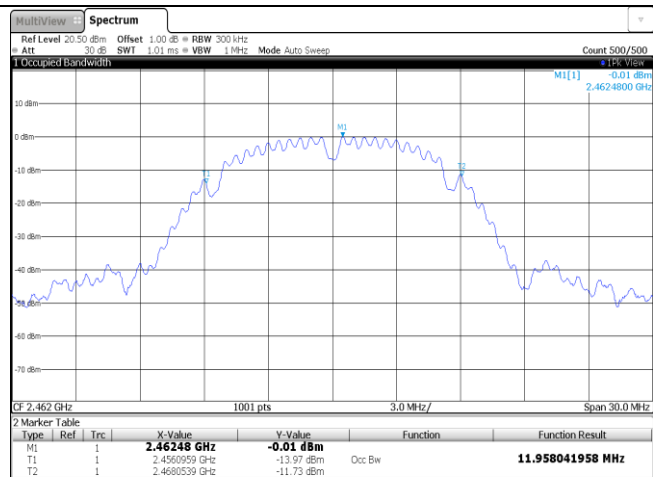
Date: 22-Jul-2021 09:40:44

CH06

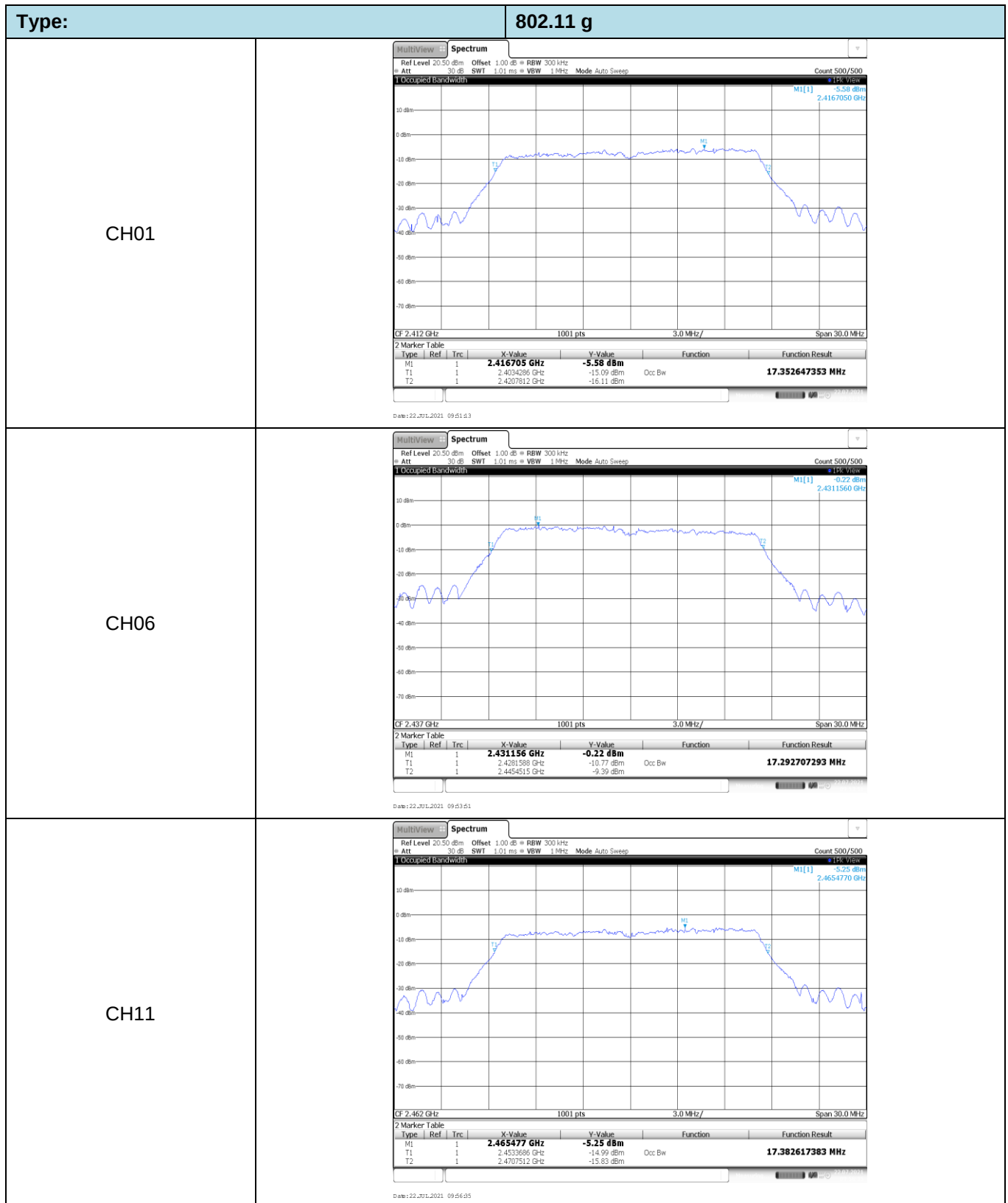


Date: 22-Jul-2021 09:38:44

CH11



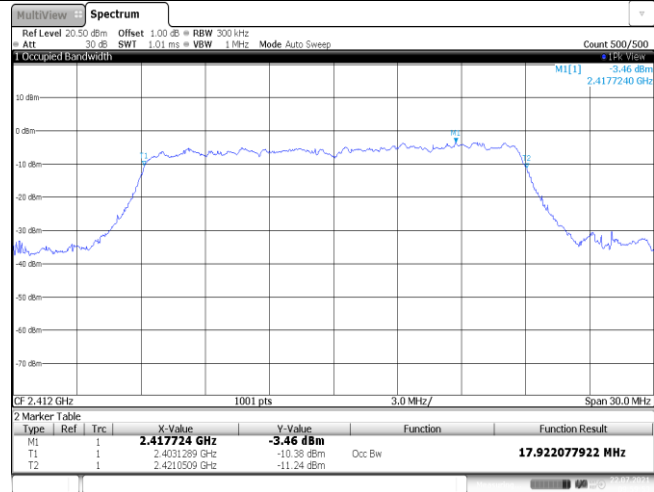
Date: 22-Jul-2021 09:48:48



Type:

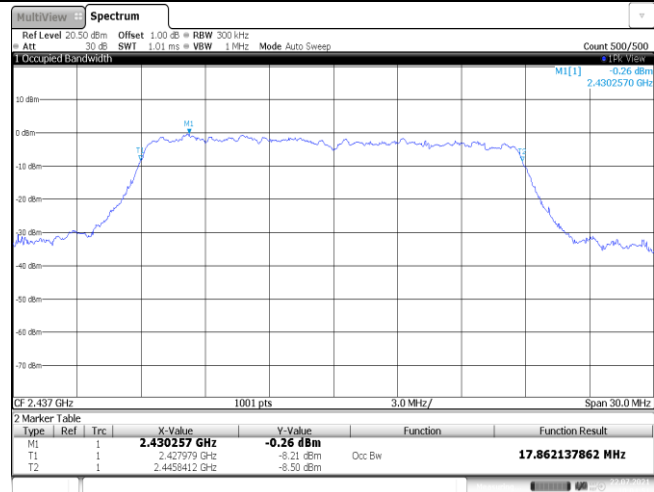
802.11n(HT20)

CH01



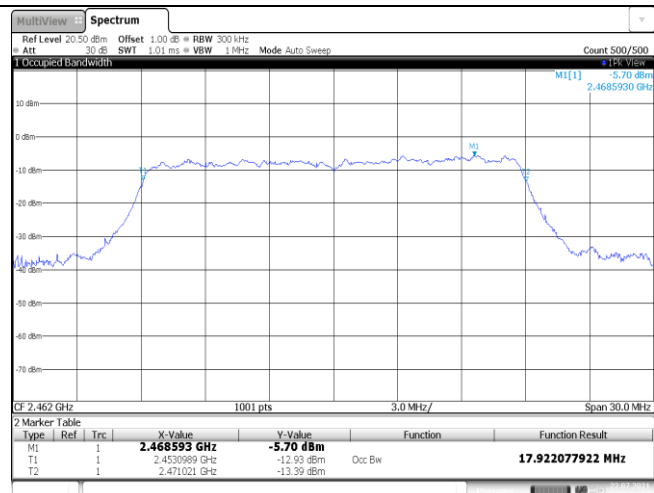
Date: 22-Jul-2021 09:59:53

CH06



Date: 22-Jul-2021 10:04:51

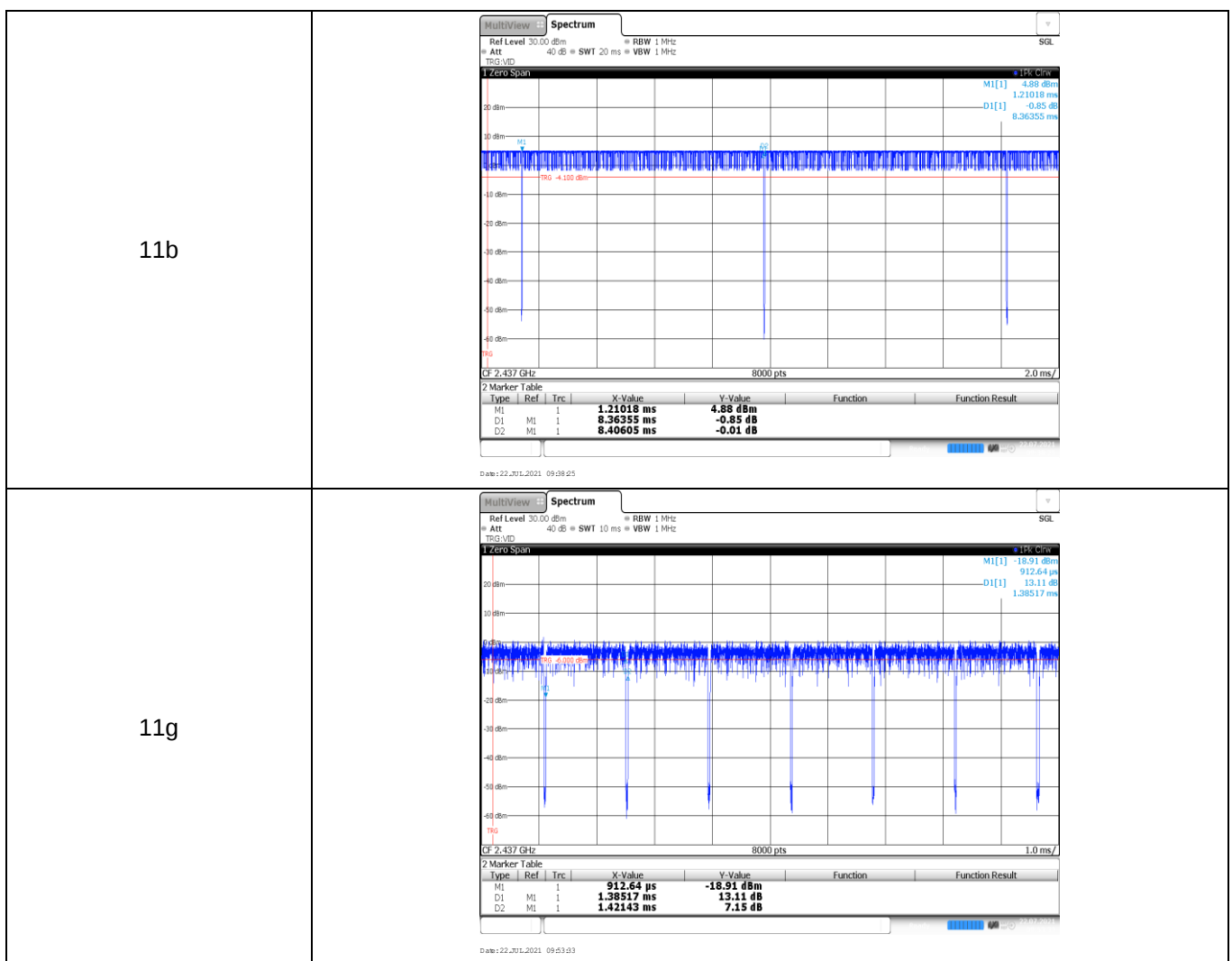
CH11

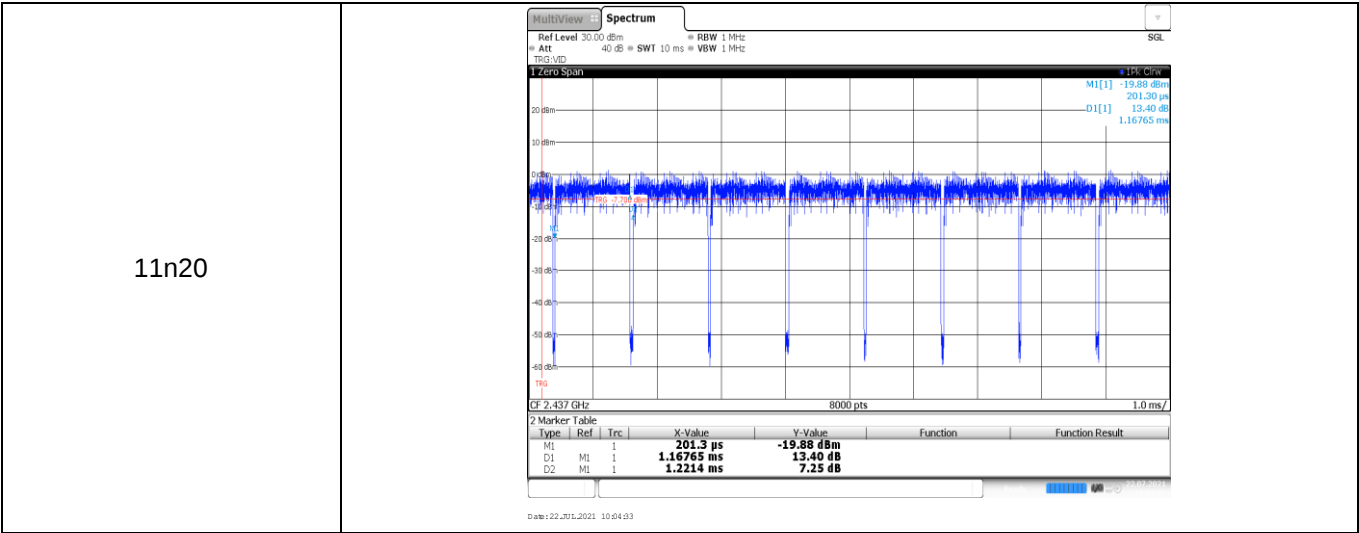


Date: 22-Jul-2021 10:07:04

Appendix E: Duty Cycle

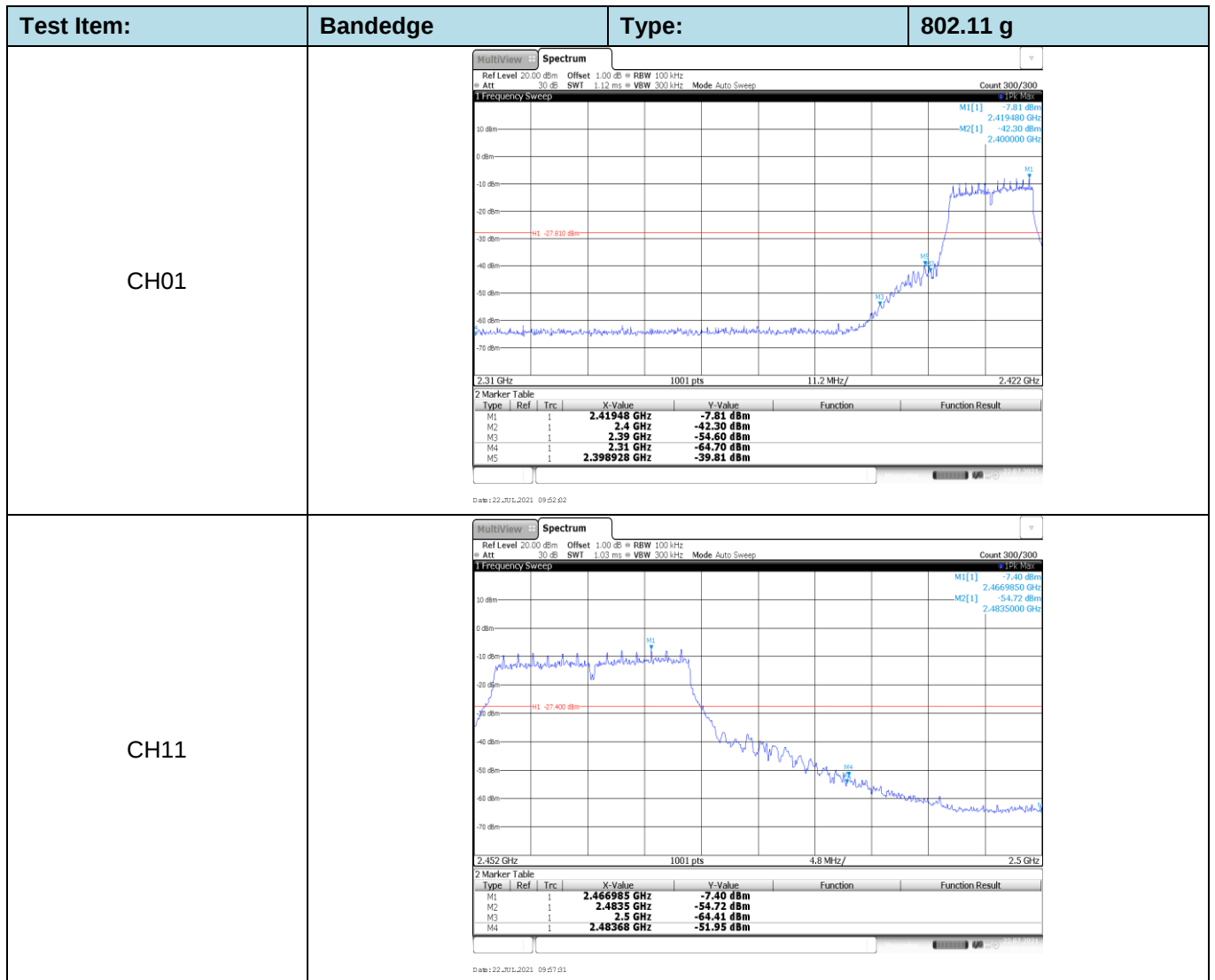
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	8.36	8.41	99.4%	0.1
11g	2437	1.39	1.42	97.9%	0.7
11n20	2437	1.17	1.22	95.9%	0.9



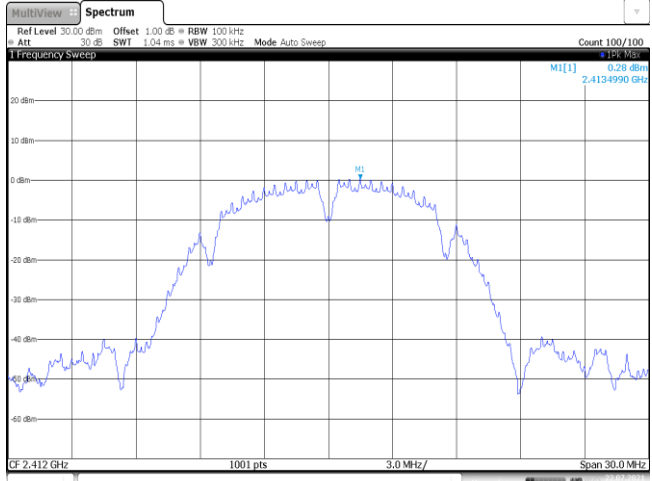
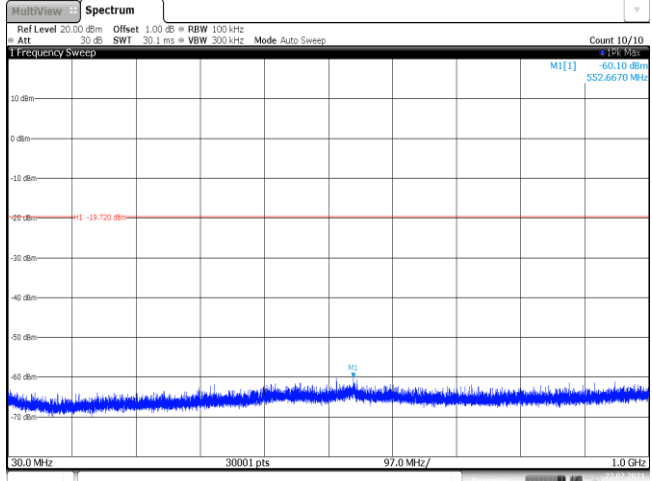
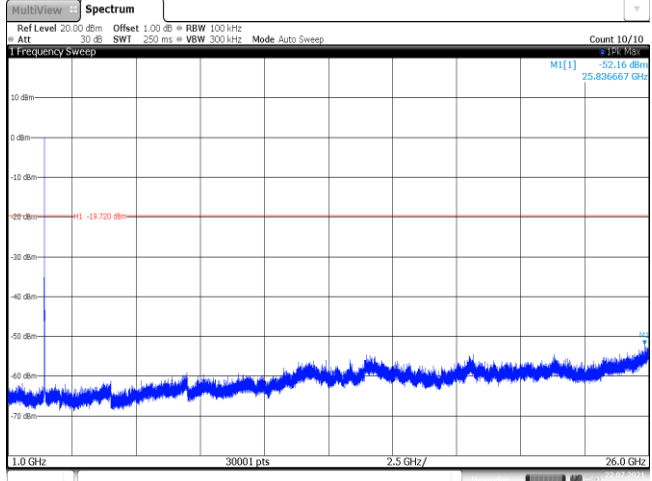


Appendix F: Band edge and Spurious Emissions (conducted)

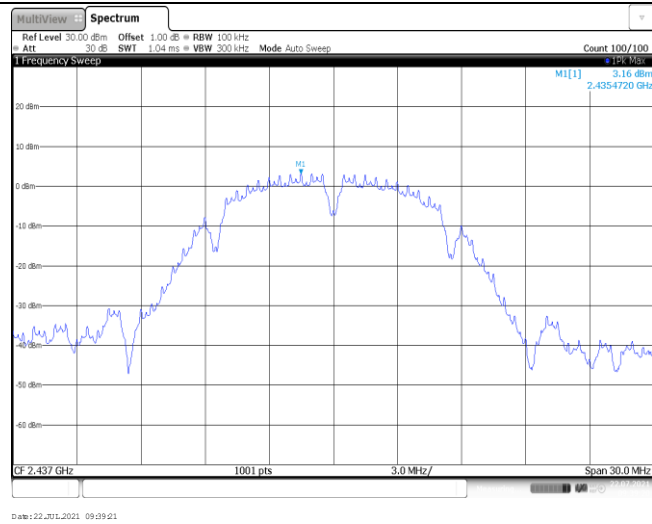
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att -30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz M1[1] 0.26 dBm M2[1] 2.414000 GHz M2 45.46 dBm M2 2.400000 GHz M1 -19.740 dBm 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>2.414 GHz</td><td>0.26 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-45.46 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-63.32 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.99 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399488 GHz</td><td>-44.39 dBm</td><td></td><td></td></tr></table> Date: 22 JUL 2021 09:41:28			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.414 GHz	0.26 dBm			M2	1		2.4 GHz	-45.46 dBm			M3	1		2.39 GHz	-63.32 dBm			M4	1		2.31 GHz	-63.99 dBm			M5	1		2.399488 GHz	-44.39 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.414 GHz	0.26 dBm																																									
M2	1		2.4 GHz	-45.46 dBm																																									
M3	1		2.39 GHz	-63.32 dBm																																									
M4	1		2.31 GHz	-63.99 dBm																																									
M5	1		2.399488 GHz	-44.39 dBm																																									
CH11	MultiView Spectrum 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 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz M1[1] -1.00 dBm M2[1] 2.4649710 GHz M2 -62.22 dBm M2 2.4835000 GHz M1 -21.000 dBm 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>2.464971 GHz</td><td>-1.00 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.46355 GHz</td><td>-62.22 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-63.75 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.484352 GHz</td><td>-61.45 dBm</td><td></td><td></td></tr></table> Date: 22 JUL 2021 09:49:28			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.464971 GHz	-1.00 dBm			M2	1		2.46355 GHz	-62.22 dBm			M3	1		2.5 GHz	-63.75 dBm			M4	1		2.484352 GHz	-61.45 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.464971 GHz	-1.00 dBm																																									
M2	1		2.46355 GHz	-62.22 dBm																																									
M3	1		2.5 GHz	-63.75 dBm																																									
M4	1		2.484352 GHz	-61.45 dBm																																									



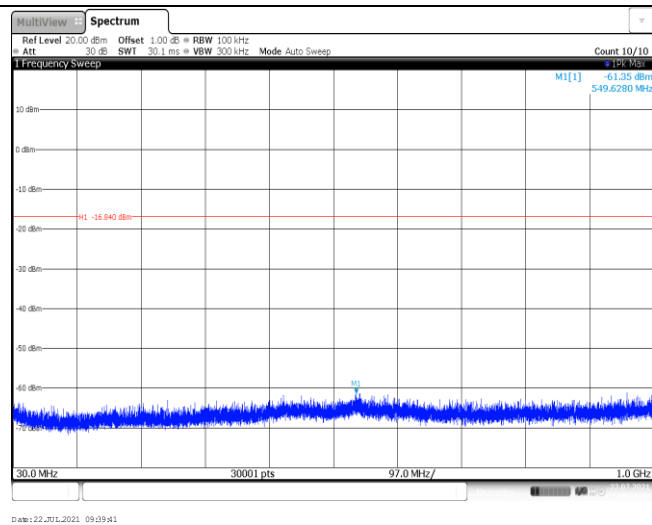
Test Item:	Bandedge	Type:	802.11 n(HT20)																																										
CH01	MultViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M3 M4 M5 M1[1] -6.66 dBm 2.416910 GHz M2[1] -41.79 dBm 2.400000 GHz M1 M2 M3 M4 M5 M1 -26.60 dBm 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz 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>2.41691 GHz</td><td>-6.66 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-41.79 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-49.84 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.40 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.397696 GHz</td><td>-41.43 dBm</td><td></td><td></td></tr></tbody></table> Date: 22-Jul-2021 10:00:18			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41691 GHz	-6.66 dBm			M2	1		2.4 GHz	-41.79 dBm			M3	1		2.39 GHz	-49.84 dBm			M4	1		2.31 GHz	-64.40 dBm			M5	1		2.397696 GHz	-41.43 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.41691 GHz	-6.66 dBm																																									
M2	1		2.4 GHz	-41.79 dBm																																									
M3	1		2.39 GHz	-49.84 dBm																																									
M4	1		2.31 GHz	-64.40 dBm																																									
M5	1		2.397696 GHz	-41.43 dBm																																									
CH11	MultViewSpectrum 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 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M3 M4 M1[1] -8.38 dBm 2.4694790 GHz M2[1] -55.18 dBm 2.4835000 GHz M1 M2 M3 M4 M1 -28.00 dBm 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz 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>2.469479 GHz</td><td>-8.38 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-55.18 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-62.68 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483872 GHz</td><td>-52.12 dBm</td><td></td><td></td></tr></tbody></table> Date: 22-Jul-2021 10:08:23			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.469479 GHz	-8.38 dBm			M2	1		2.4835 GHz	-55.18 dBm			M3	1		2.5 GHz	-62.68 dBm			M4	1		2.483872 GHz	-52.12 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.469479 GHz	-8.38 dBm																																									
M2	1		2.4835 GHz	-55.18 dBm																																									
M3	1		2.5 GHz	-62.68 dBm																																									
M4	1		2.483872 GHz	-52.12 dBm																																									

Test Item:	SE	Type:	802.11 b
CH01 Reference level		 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] 0.28 dBm 2.4134990 GHz 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22-Jul-2021 09:41:35	
CH01 30MHz~1000MHz		 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 Count 10/10 M1[1] -60.10 dBm 552.6670 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 22-Jul-2021 09:41:51	
CH01 1GHz~26GHz		 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -52.15 dBm 25.836667 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 22-Jul-2021 09:42:08	

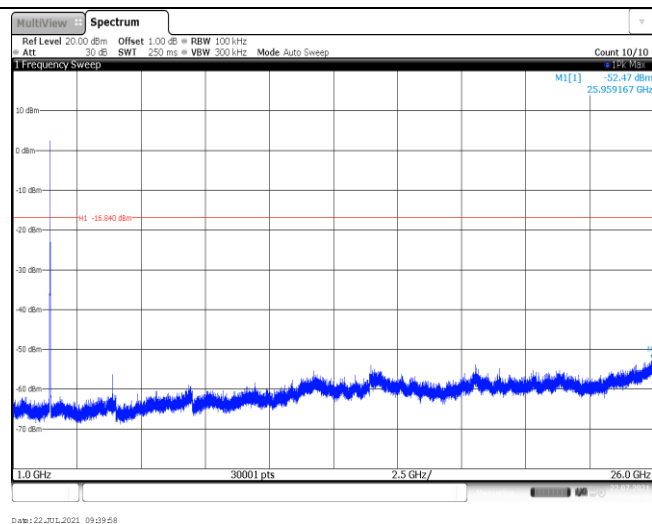
CH06
Reference level

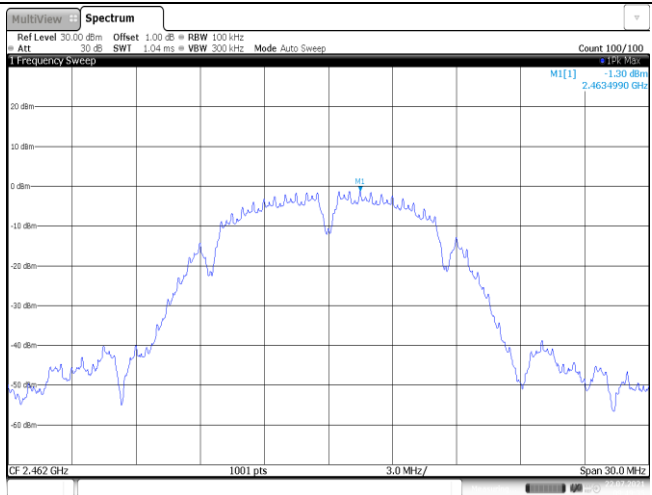
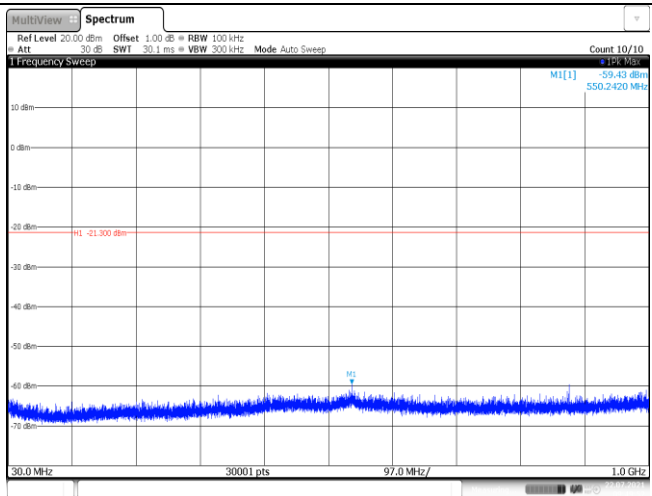
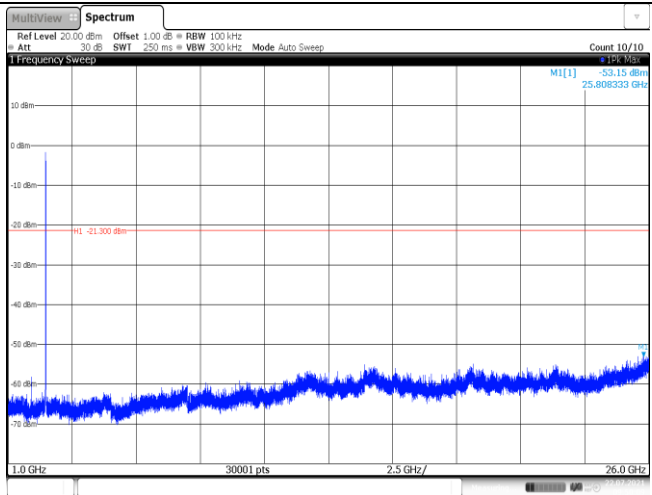


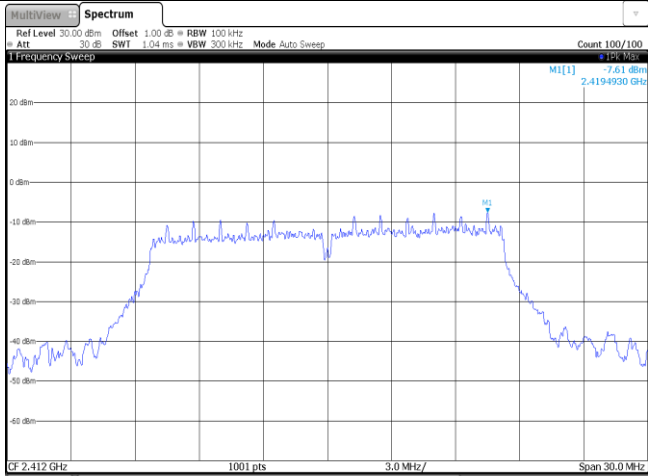
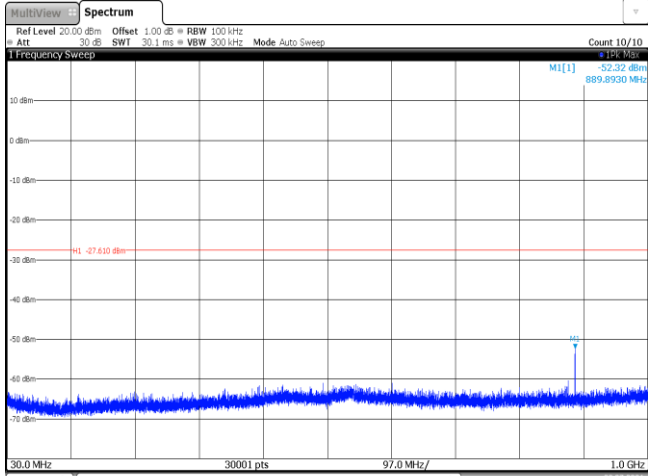
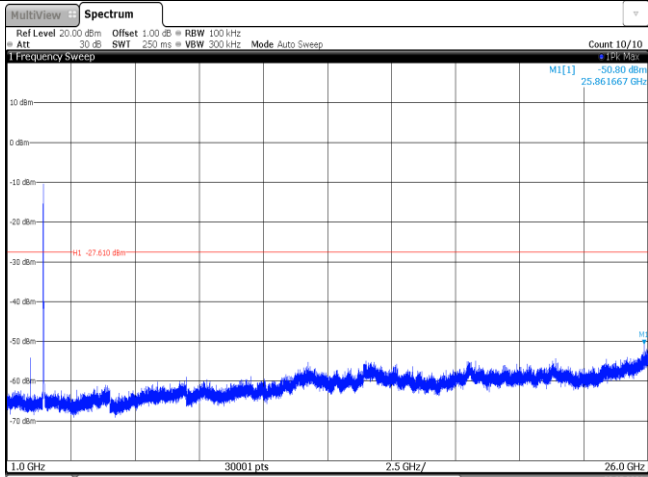
CH06
30MHz~1000MHz

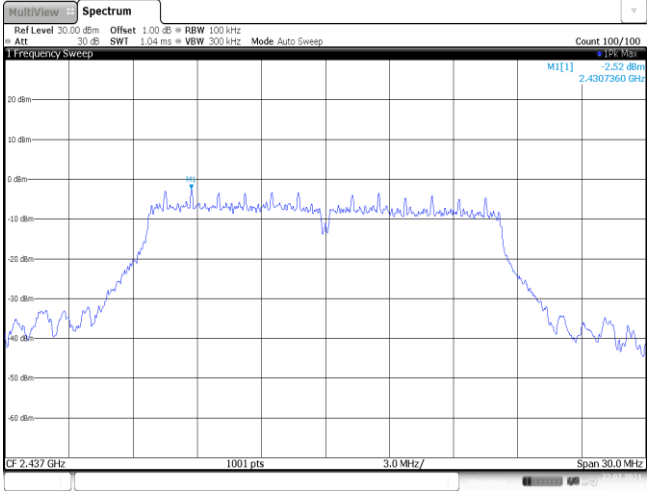
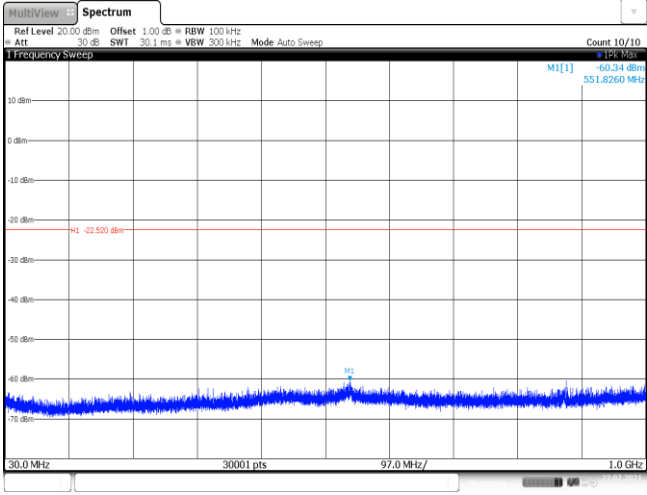
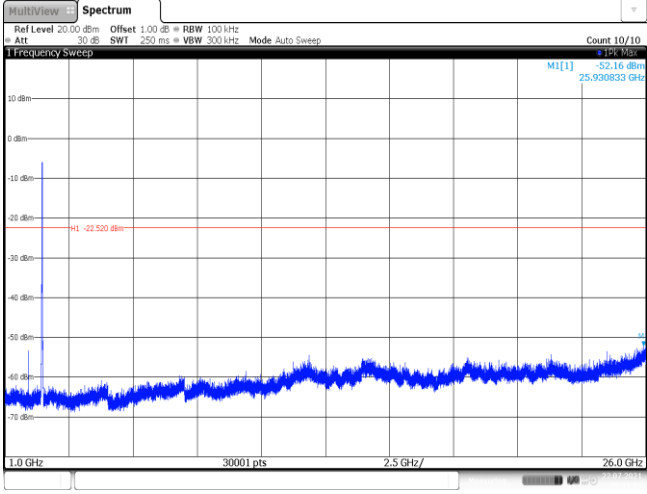


CH06
1GHz~26GHz

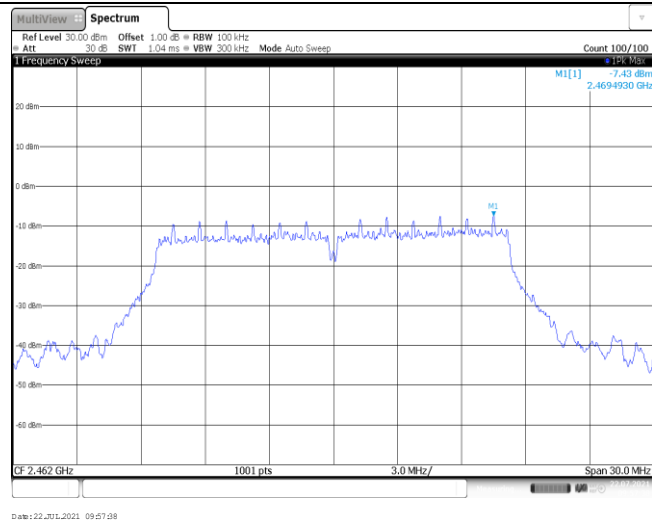


CH11 Reference level	 Date: 22 JUL 2021 09:49:05
CH11 30MHz~1000MHz	 Date: 22 JUL 2021 09:49:51
CH11 1GHz~26GHz	 Date: 22 JUL 2021 09:50:08

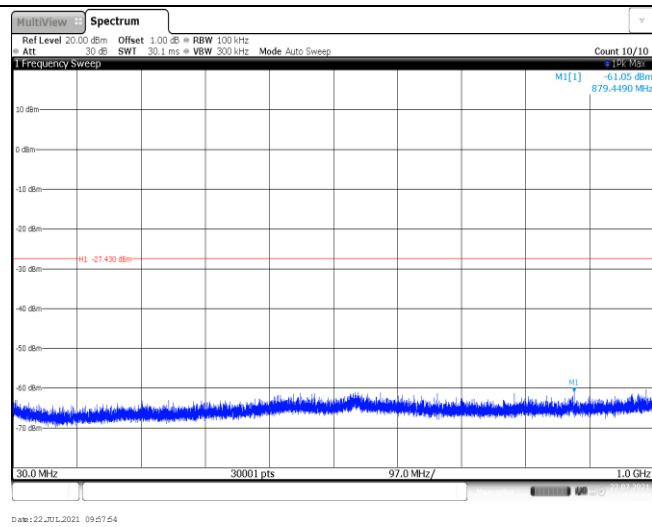
Test Item:	SE	Type:	802.11 g
CH01 Reference level		 Count 100/100 M1[1] 7.61 dBm 2.4194930 GHz Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22-Jul-2021 09:52:09	
CH01 30MHz~1000MHz		 Count 10/10 M1[1] -52.32 dBm 889.8930 MHz 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 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 22-Jul-2021 09:52:25	
CH01 1GHz~26GHz		 Count 10/10 M1[1] -50.80 dBm 25.861667 GHz Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 22-Jul-2021 09:52:41	

CH06 Reference level	 The spectrum plot shows a frequency sweep from 2.437 GHz to 2.437360 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The plot shows a signal level around -25.52 dBm. The x-axis is labeled with 1001 pts and 3.0 MHz. The date is 22 JUL 2021 09:55:18.
CH06 30MHz~1000MHz	 The spectrum plot shows a frequency sweep from 30.0 MHz to 1.0 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The plot shows a signal level around -60.34 dBm. The x-axis is labeled with 30001 pts and 97.0 MHz. The date is 22 JUL 2021 09:55:05.
CH06 1GHz~26GHz	 The spectrum plot shows a frequency sweep from 1.0 GHz to 26.0 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The plot shows a signal level around -52.16 dBm. The x-axis is labeled with 30001 pts and 2.5 GHz. The date is 22 JUL 2021 09:55:51.

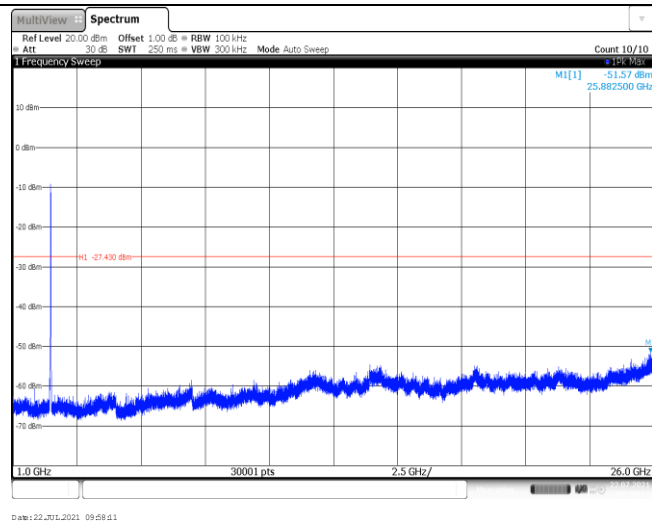
CH11
Reference level

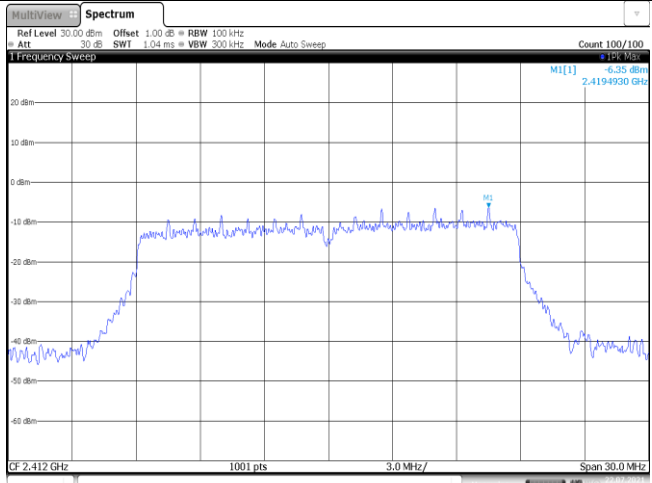
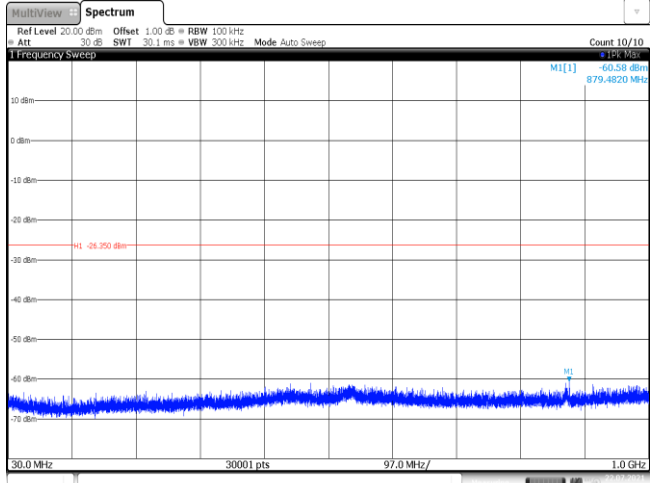
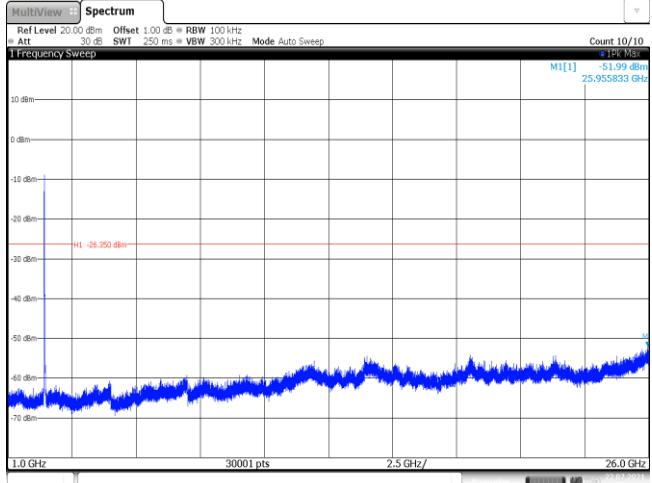


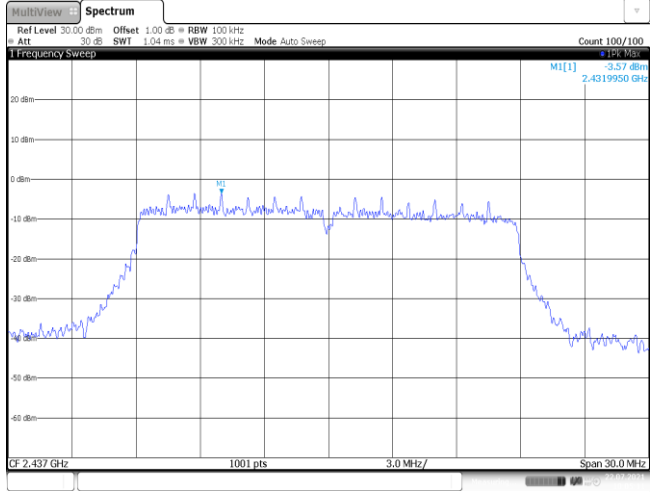
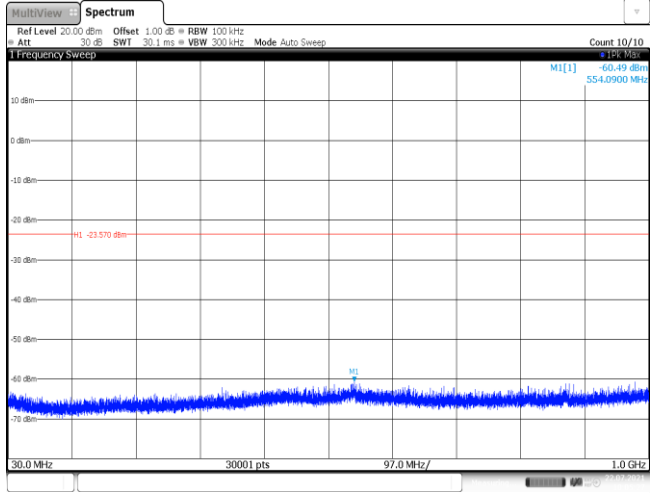
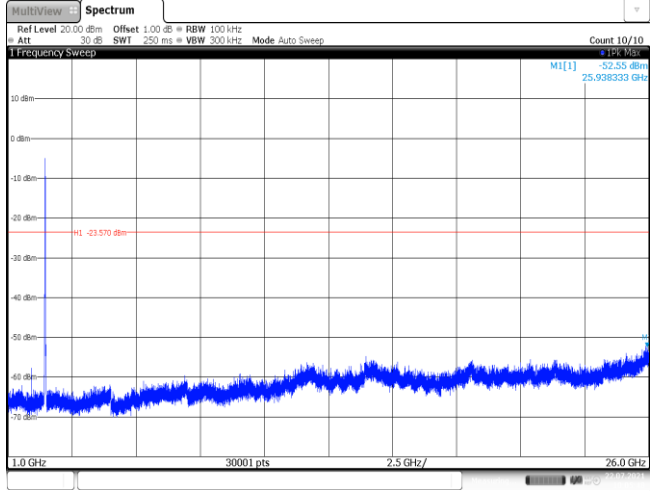
CH11
30MHz~1000MHz

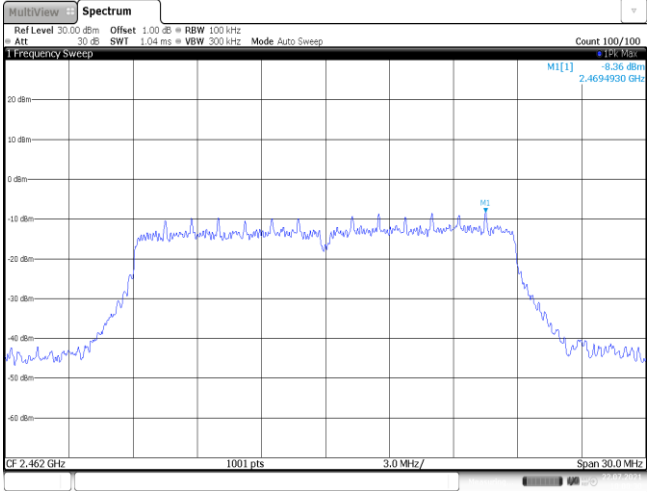
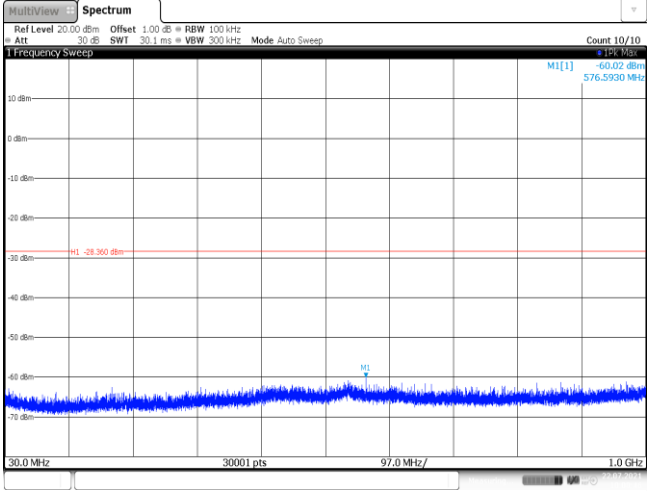
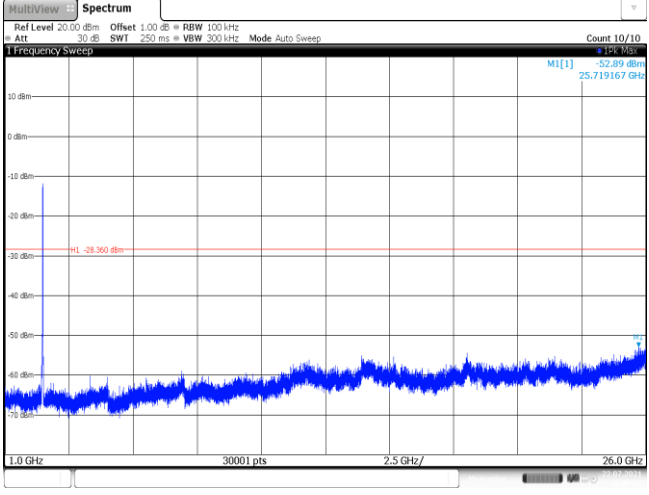


CH11
1GHz~26GHz



Test Item:	SE	Type:	802.11 n(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 MI[1] 6.35 dBm 2.4194930 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22-Jul-2021 10:20:25	
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 MI[1] -60.58 dBm 879.4820 MHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 22-Jul-2021 10:20:41	
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 MI[1] -51.99 dBm 25.955633 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 22-Jul-2021 10:20:57	

CH06 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30.0 dB SW 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 MI[1] -3.57 dBm 2.4319950 GHz CF 2.437 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 22_JUL_2021 10:05:11
CH06 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30.0 dB SW 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -60.49 dBm 554.0900 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 22_JUL_2021 10:05:27
CH06 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30.0 dB SW 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -52.55 dBm 25.938333 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 22_JUL_2021 10:05:48

CH11 Reference level	
CH11 30MHz~1000MHz	
CH11 1GHz~26GHz	

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