

APPENDIX REPORT

Project No.	SHT2011032204EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT20110322008	Model No.	AR3XAT00
Start test date	2021-02-04	Finish date	2021-02-04
Temperature	22.4°C	Humidity	35%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zheo

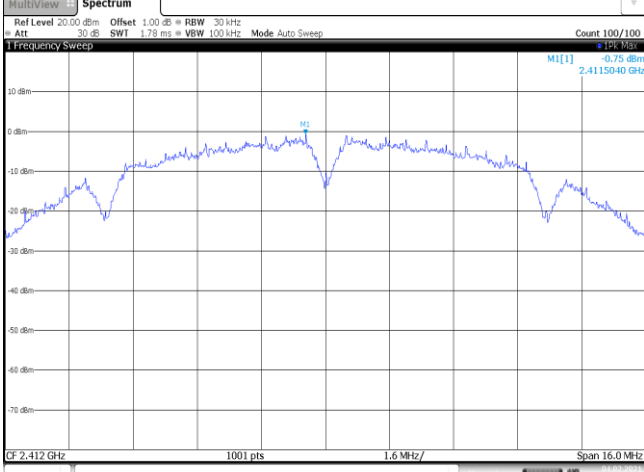
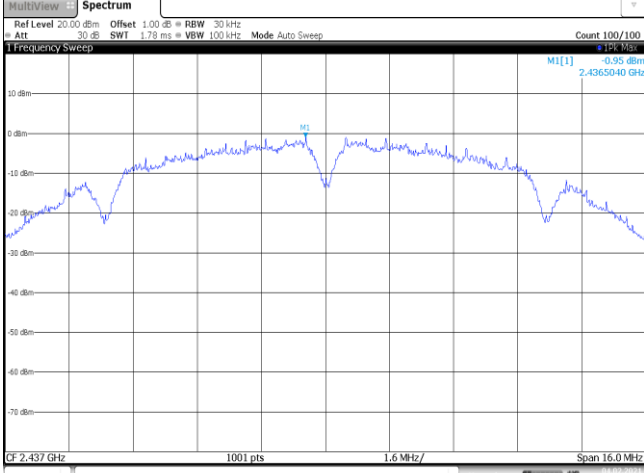
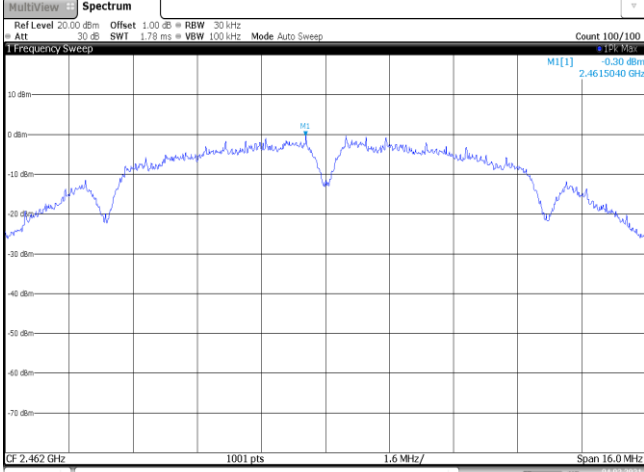
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

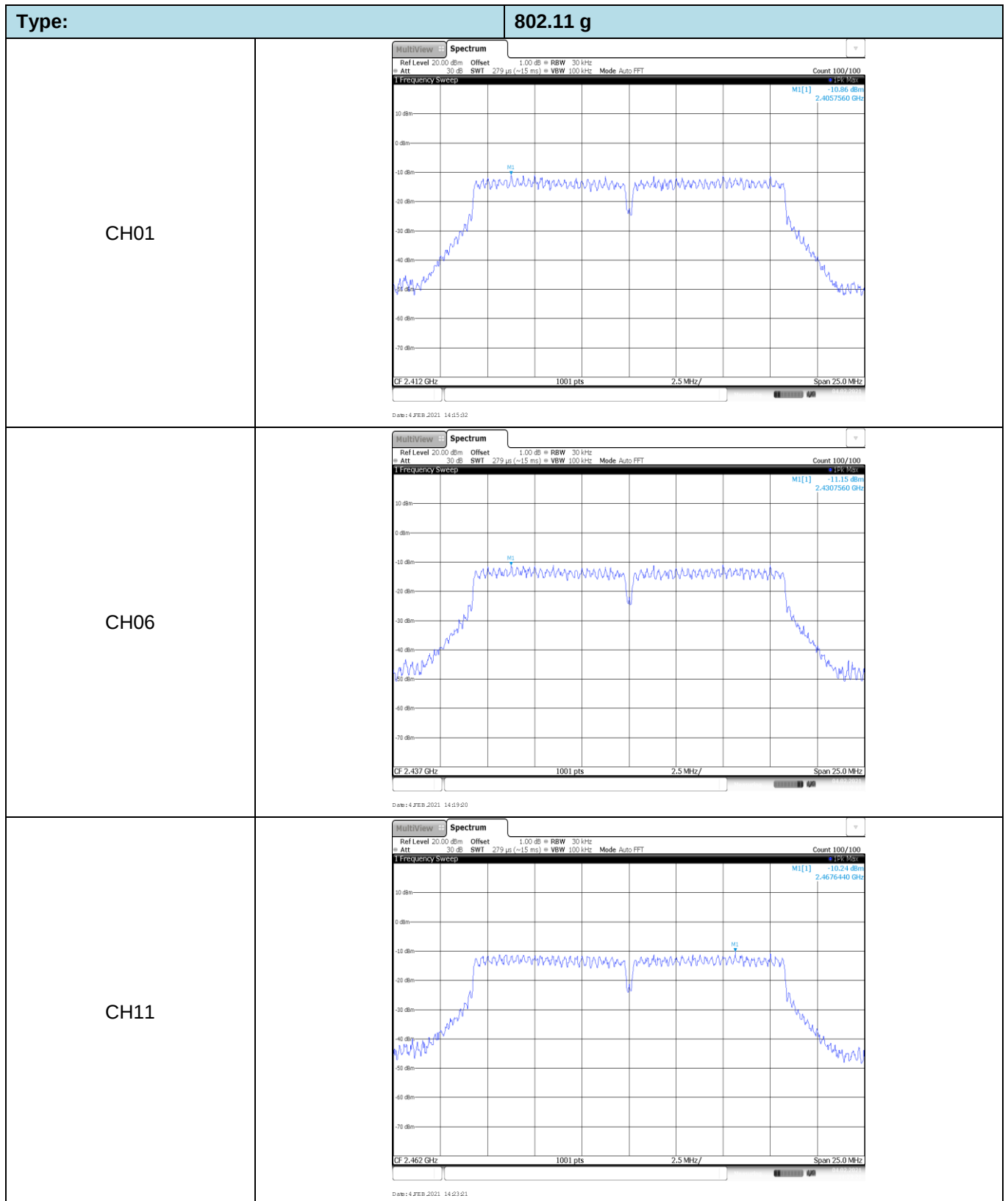
Appendix A: Conducted Peak Output Power

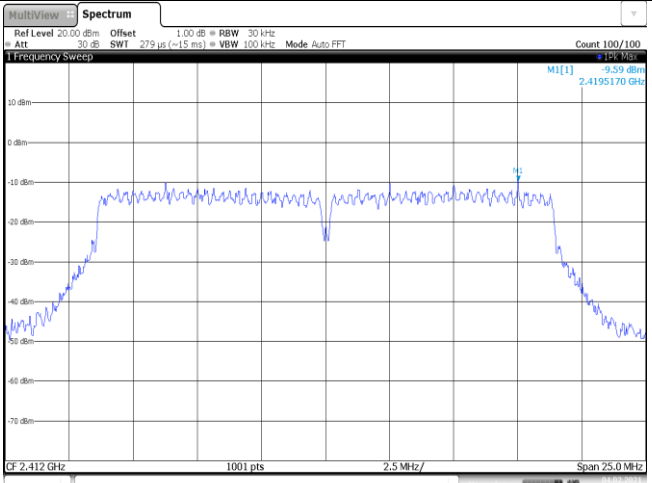
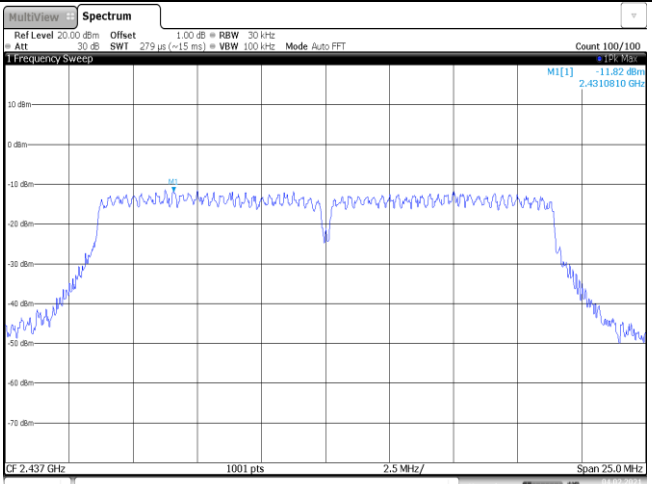
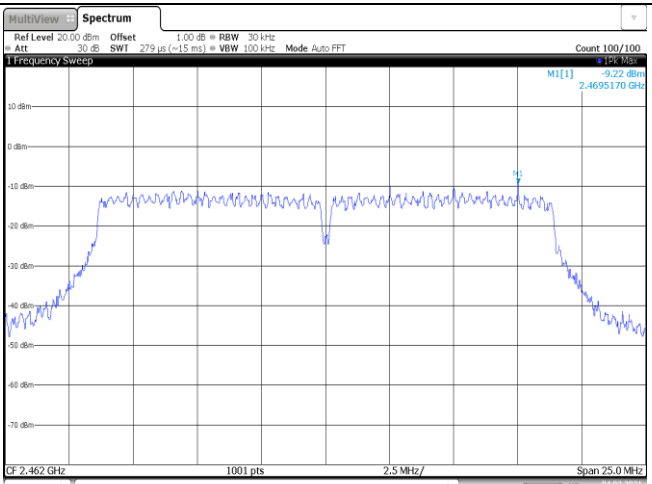
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	14.32	11.88	≤ 30.00	Pass
	06	14.44	12.01		
	11	14.93	12.49		
802.11g	01	14.15	11.53	≤ 30.00	Pass
	06	14.63	12.17		
	11	15.02	12.74		
802.11n (HT20)	01	14.32	11.99	≤ 30.00	Pass
	06	14.47	12.12		
	11	14.94	12.69		

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	-0.95		
	11	-0.30		
802.11g	01	-10.86	≤8.00	Pass
	06	-11.15		
	11	-10.24		
802.11n(HT20)	01	-9.59	≤8.00	Pass
	06	-11.82		
	11	-9.22		

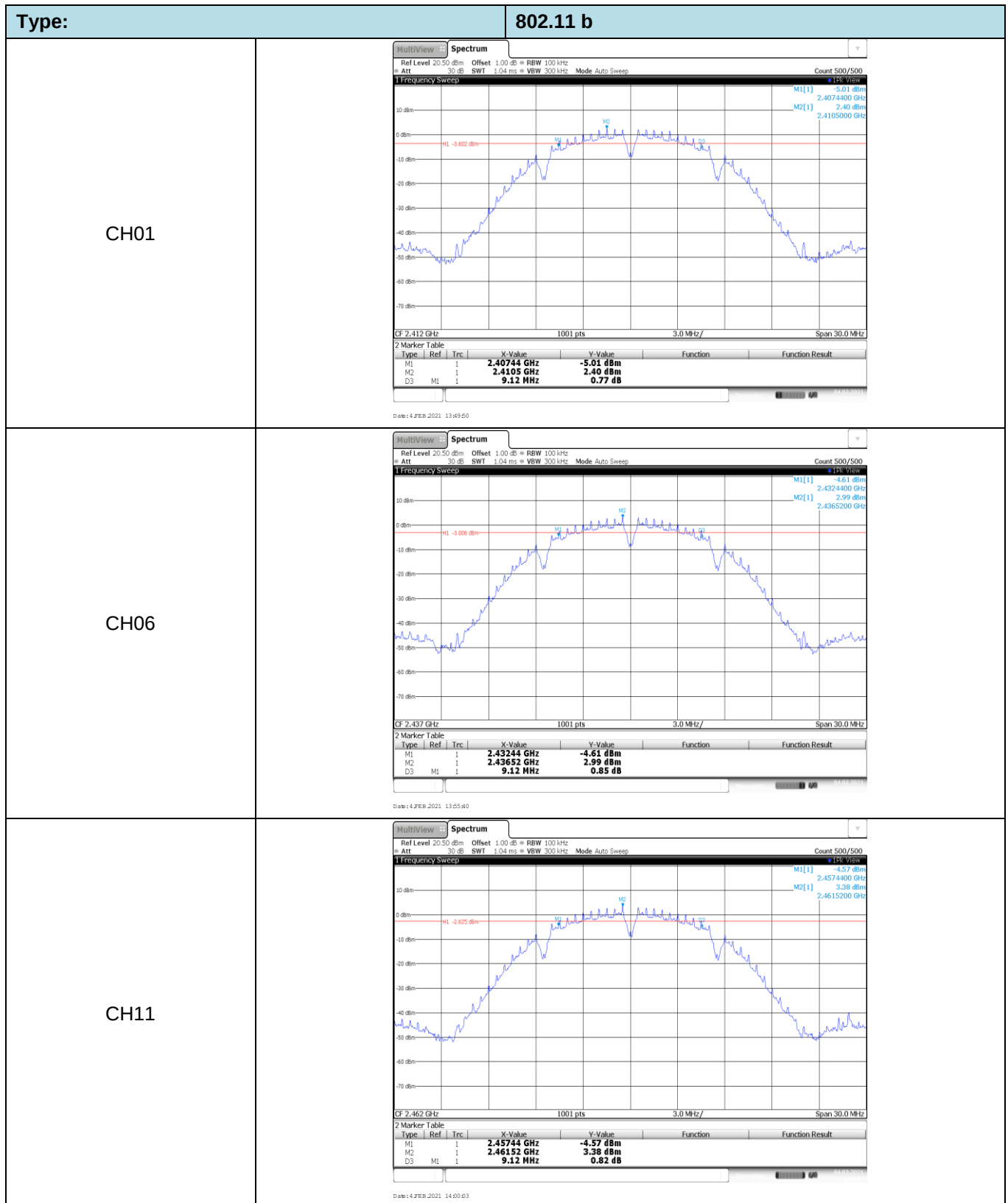
Type:	802.11 b
CH01	 Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 1.78 ms VBW 100 kHz Mode Auto Sweep Count 100/100 MI[1] 0.75 dBm 2.4115040 GHz Date: 4 FEB 2021 13:50:41
CH06	 Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWI 1.78 ms VBW 100 kHz Mode Auto Sweep Count 100/100 MI[1] -0.95 dBm 2.4365040 GHz Date: 4 FEB 2021 13:56:05
CH11	 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 MI[1] -0.30 dBm 2.4615040 GHz Date: 4 FEB 2021 14:01:03

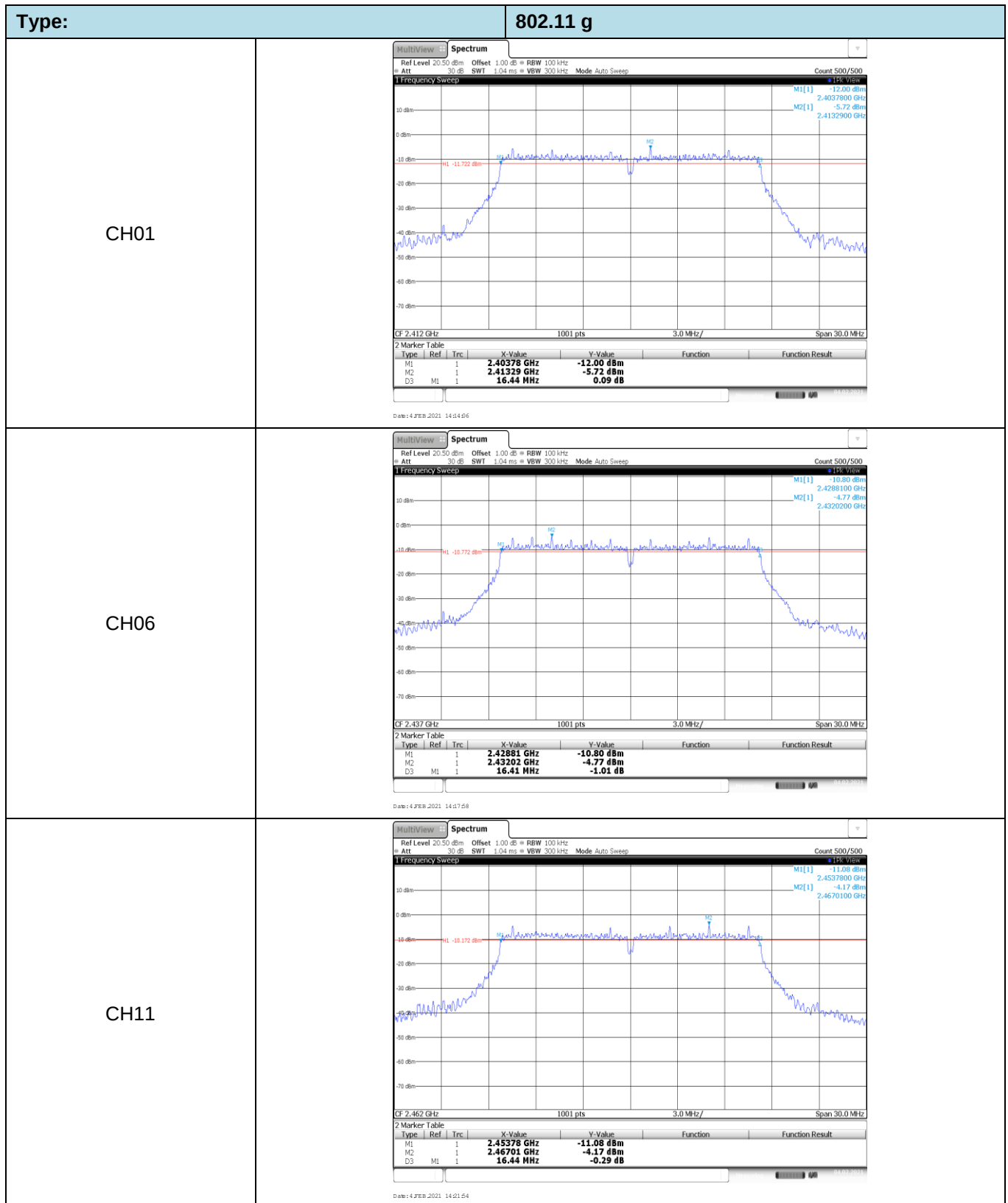


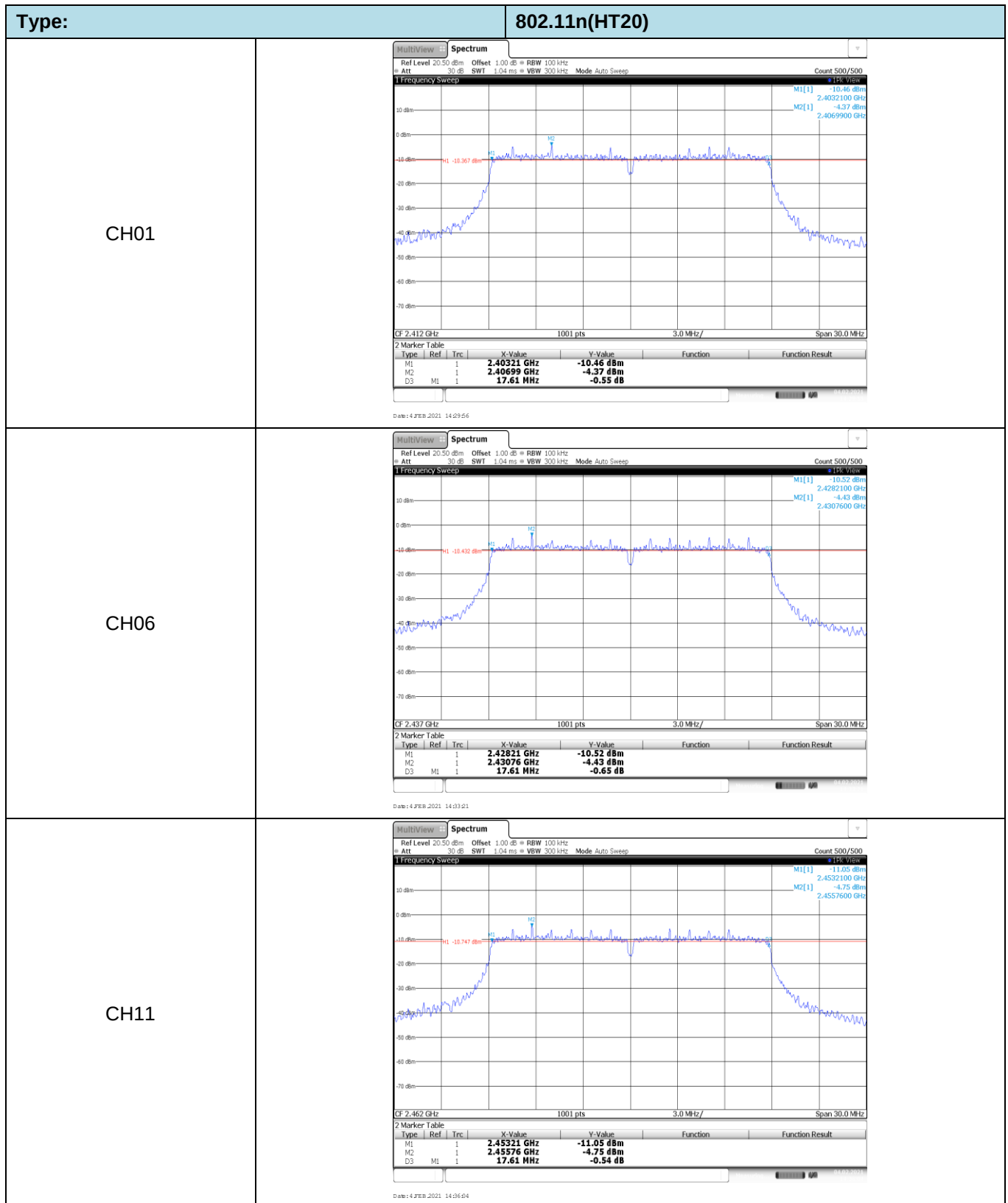
Type:	802.11n(HT20)
CH01	 Ref Level 20.00 dBm Offset 30 dB BW 1.00 MHz RBW 30 kHz SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] 9.59 dBm 2.4195170 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 4 FEB 2021 14:31:20
CH06	 Ref Level 20.00 dBm Offset 30 dB BW 1.00 MHz RBW 30 kHz SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -11.82 dBm 2.4310810 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 4 FEB 2021 14:04:02
CH11	 Ref Level 20.00 dBm Offset 30 dB BW 1.00 MHz RBW 30 kHz SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] 9.22 dBm 2.4695170 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 4 FEB 2021 14:06:26

Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	9.12	≥0.5	Pass
	06	9.12		
	11	9.12		
802.11g	01	16.44	≥0.5	Pass
	06	16.41		
	11	16.44		
802.11n(HT20)	01	17.61	≥0.5	Pass
	06	17.61		
	11	17.61		







Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	13.01	-	Pass
	06	13.01		
	11	13.04		
802.11g	01	16.93	-	Pass
	06	16.99		
	11	17.02		
802.11n(HT20)	01	17.89	-	Pass
	06	17.89		
	11	17.89		

Type:

802.11 b

CH01

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		2.411491 GHz	3.76 dBm		
T1	1		2.4054965 GHz	-9.34 dBm	Occ Bw	13.006993007 MHz
T2	1		2.4185035 GHz	-9.48 dBm		

Date: 4 FEB 2021 13:50:00

CH06

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		2.437509 GHz	3.44 dBm		
T1	1		2.4304965 GHz	-9.40 dBm	Occ Bw	13.006993007 MHz
T2	1		2.4435035 GHz	-9.78 dBm		

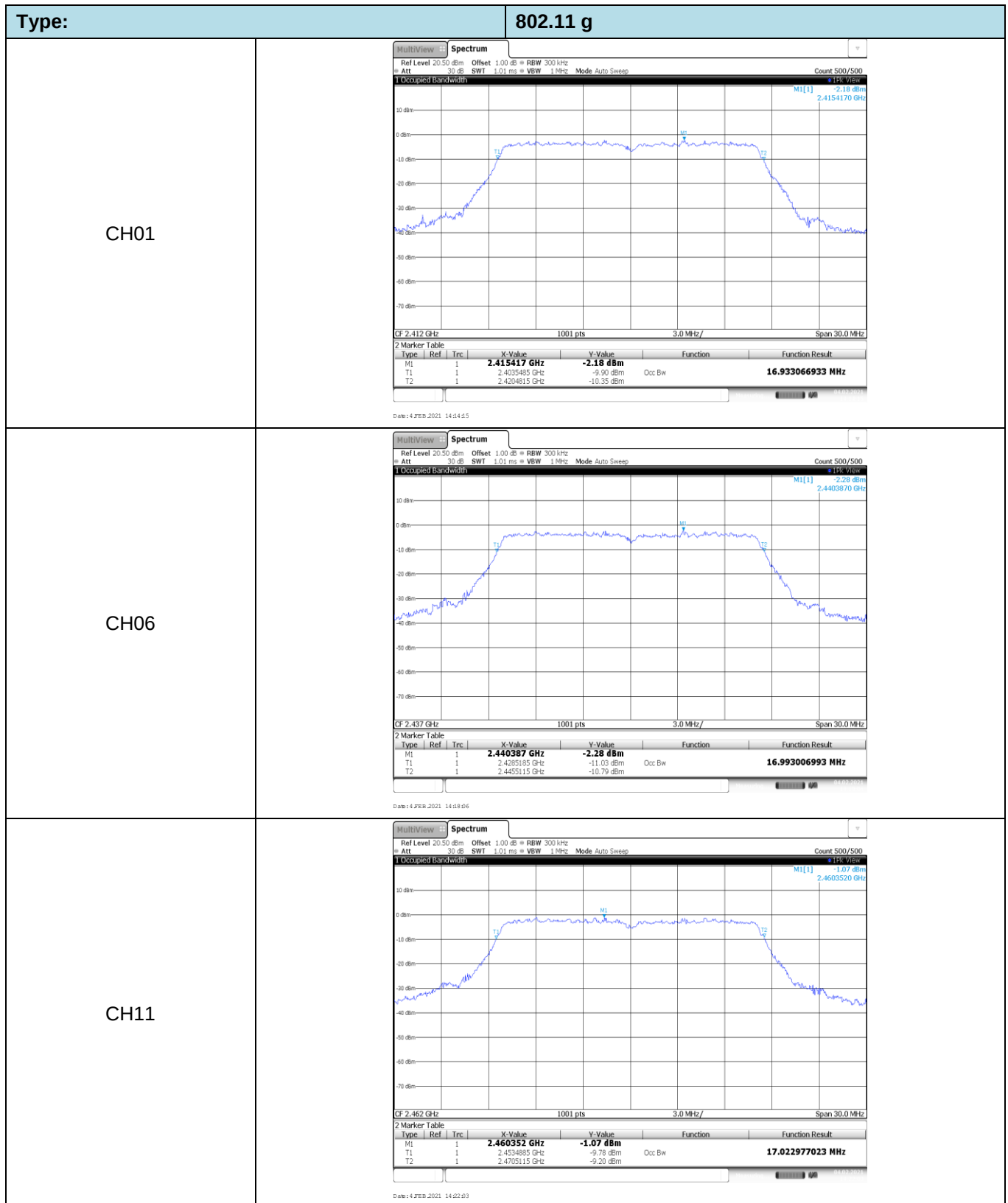
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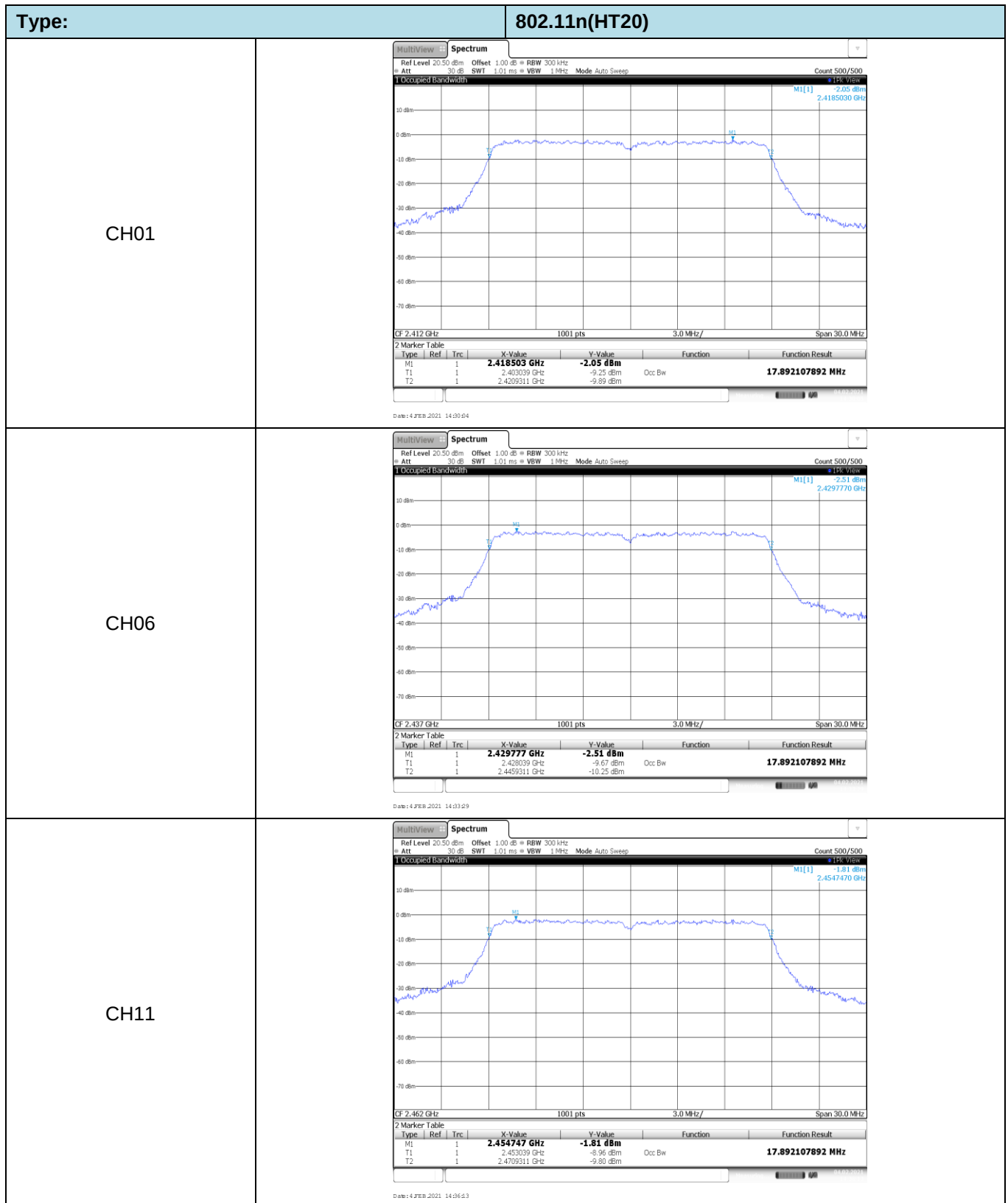
CH11

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		2.46152 GHz	3.51 dBm		
T1	1		2.4554965 GHz	-9.64 dBm	Occ Bw	13.036963037 MHz
T2	1		2.4685035 GHz	-9.78 dBm		

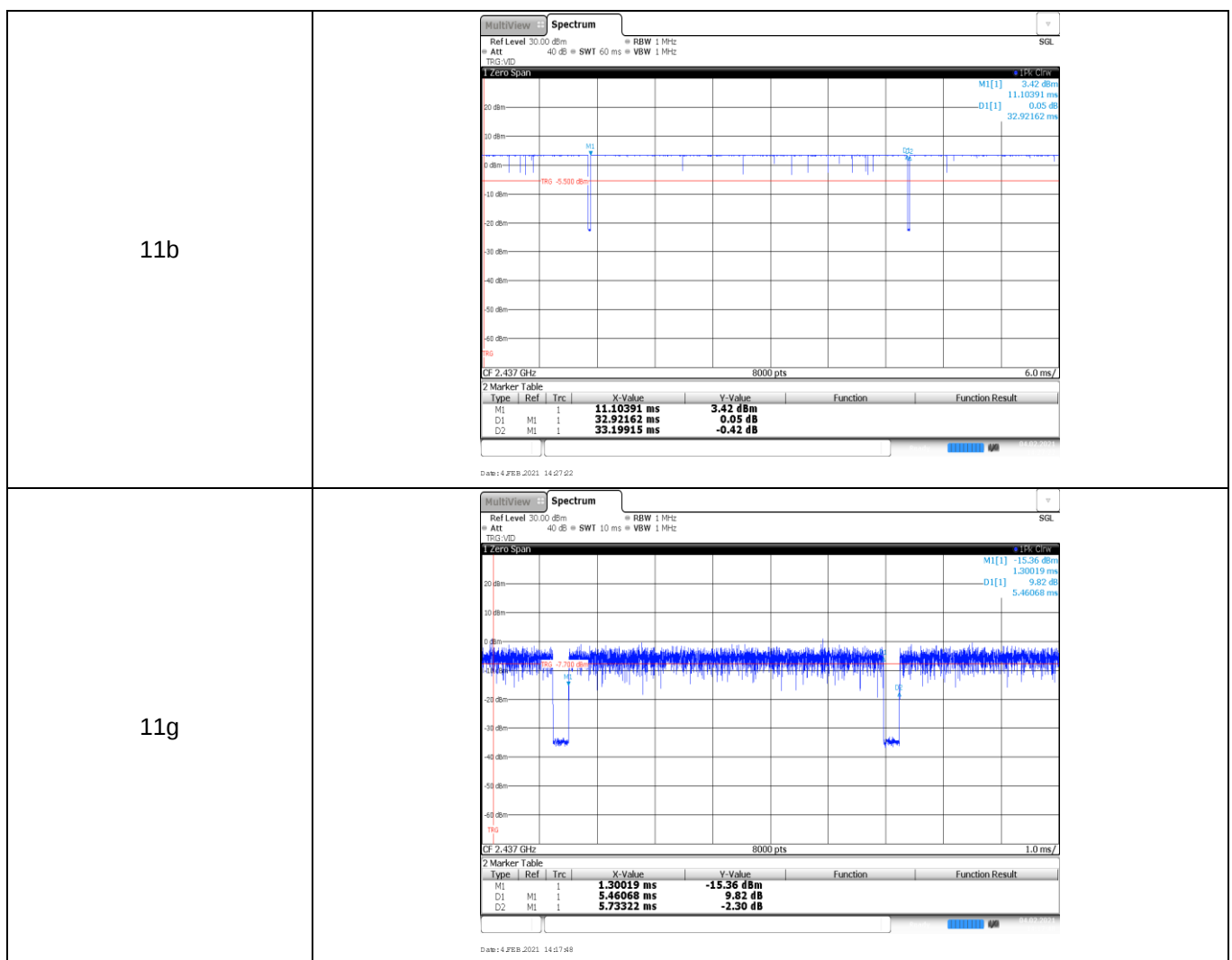
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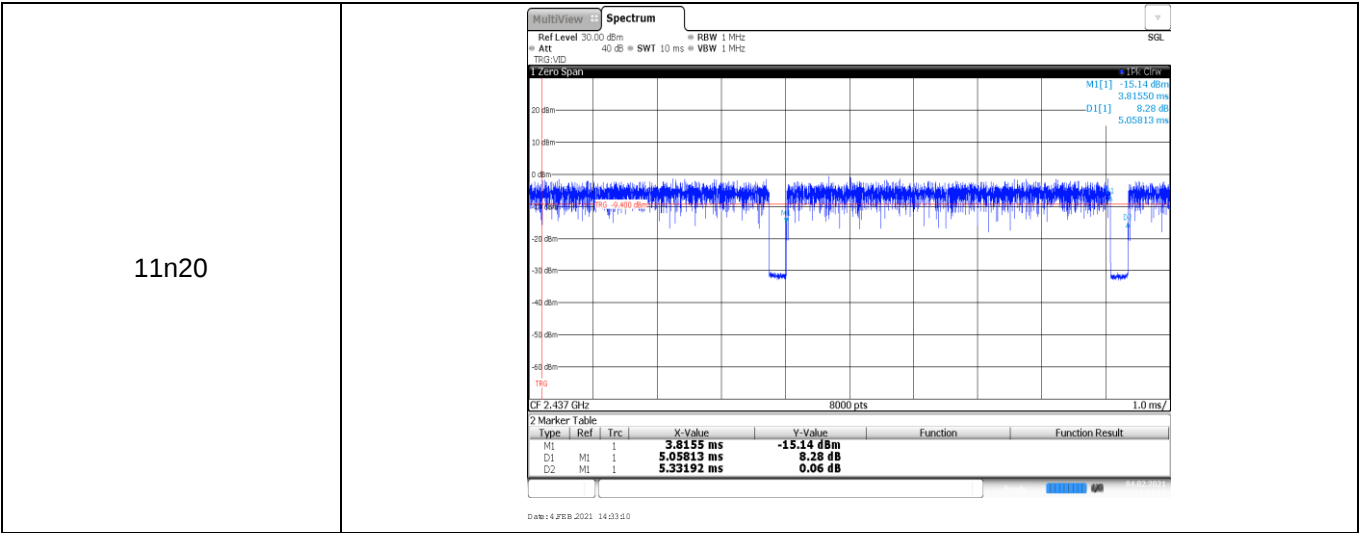




Appendix E: Duty Cycle

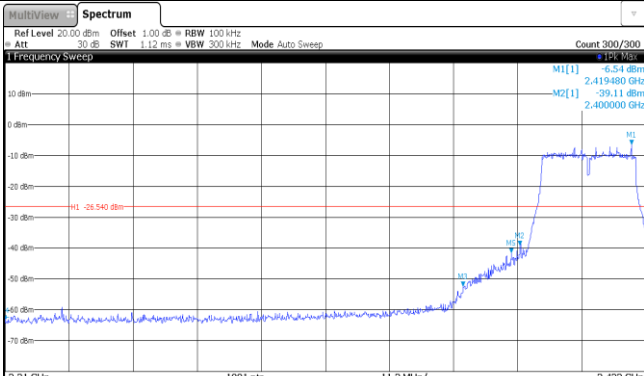
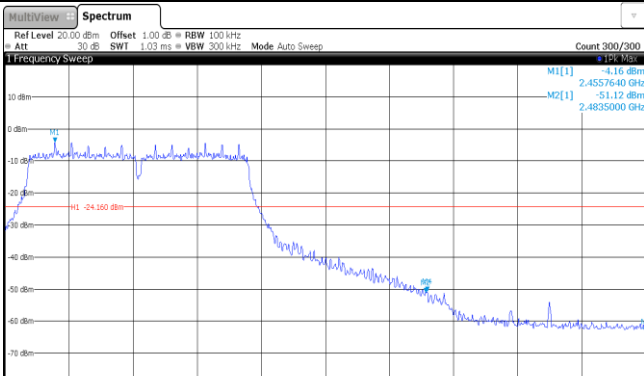
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	32.92	33.20	99.2%	0
11g	2437	5.46	5.73	95.3%	0.2
11n20	2437	5.06	5.33	94.9%	0.2



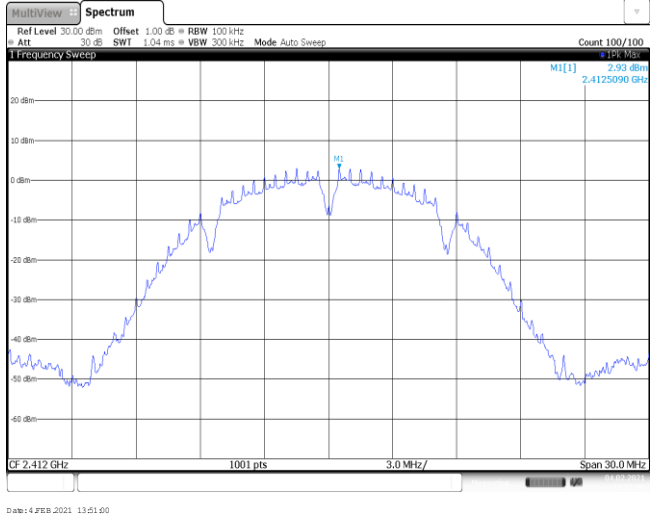
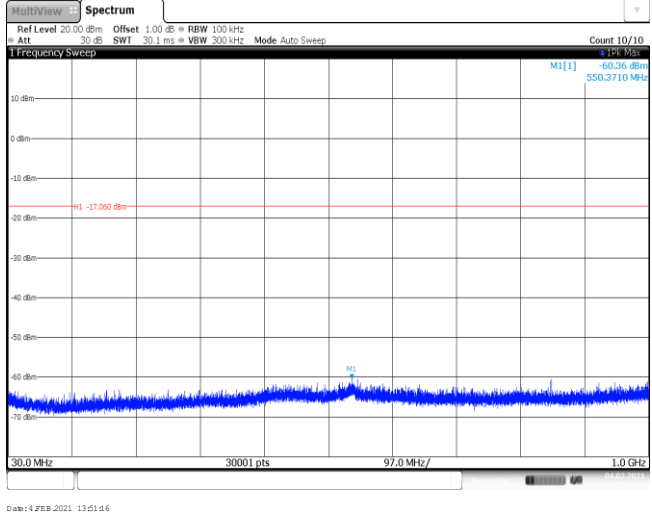
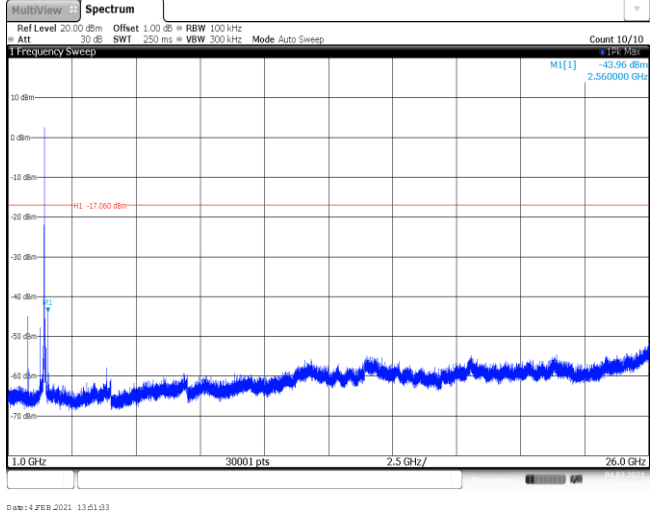


Appendix F: Band edge and Spurious Emissions (conducted)

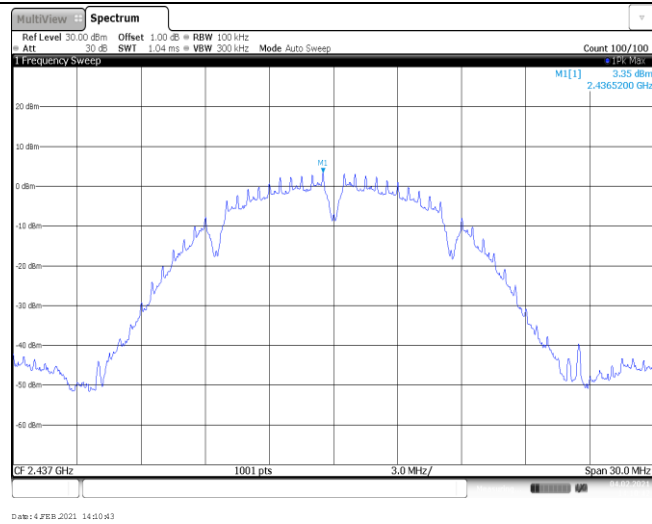
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CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep <		

Test Item:	Bandedge	Type:	802.11 g																																										
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><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>2.41948 GHz</td><td>-6.54 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-39.11 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-52.25 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.34 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39648 GHz</td><td>-41.59 dBm</td><td></td><td></td></tr></table> Date: 4 FEB 2021 14:05:43			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41948 GHz	-6.54 dBm			M2	1		2.4 GHz	-39.11 dBm			M3	1		2.39 GHz	-52.25 dBm			M4	1		2.31 GHz	-62.34 dBm			M5	1		2.39648 GHz	-41.59 dBm		
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CH11	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 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>2.455764 GHz</td><td>-4.16 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-51.12 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-62.26 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483632 GHz</td><td>-50.67 dBm</td><td></td><td></td></tr></table> Date: 4 FEB 2021 14:23:01			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.455764 GHz	-4.16 dBm			M2	1		2.4835 GHz	-51.12 dBm			M3	1		2.5 GHz	-62.26 dBm			M4	1		2.483632 GHz	-50.67 dBm									
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M4	1		2.483632 GHz	-50.67 dBm																																									

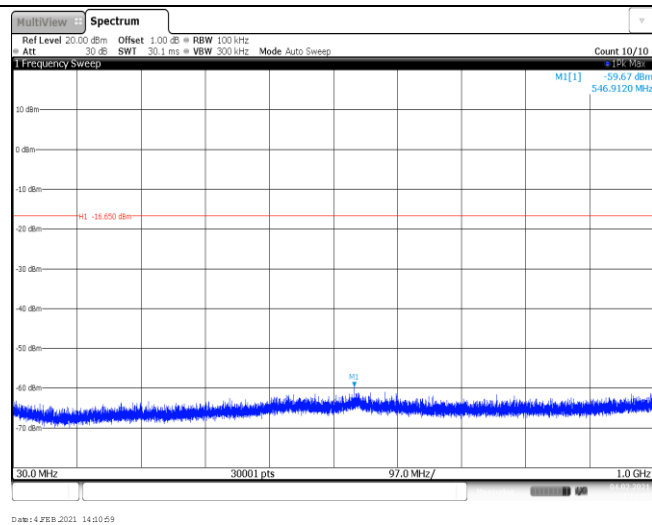
Test Item:	Bandedge	Type:	802.11 n(HT20)																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 M2 M3 M4 M5 M1[1] M2[1] -4.56 dBm -39.32 dBm 2.416910 GHz 2.400000 GHz H1 -24.560 dBm 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz 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>2.41691 GHz</td><td>-4.56 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-39.32 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-48.64 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.59 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399152 GHz</td><td>-39.69 dBm</td><td></td><td></td></tr></table> Date: 4 FEB 2021 14:31:31			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41691 GHz	-4.56 dBm			M2	1		2.4 GHz	-39.32 dBm			M3	1		2.39 GHz	-48.64 dBm			M4	1		2.31 GHz	-62.59 dBm			M5	1		2.399152 GHz	-39.69 dBm		
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CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SW 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] M2[1] -4.07 dBm -49.72 dBm 2.4557640 GHz 2.4835000 GHz H1 -24.070 dBm 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz 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>2.455764 GHz</td><td>-4.07 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-49.72 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-61.37 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.484256 GHz</td><td>-49.01 dBm</td><td></td><td></td></tr></table> Date: 4 FEB 2021 14:36:06			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.455764 GHz	-4.07 dBm			M2	1		2.4835 GHz	-49.72 dBm			M3	1		2.5 GHz	-61.37 dBm			M4	1		2.484256 GHz	-49.01 dBm									
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M2	1		2.4835 GHz	-49.72 dBm																																									
M3	1		2.5 GHz	-61.37 dBm																																									
M4	1		2.484256 GHz	-49.01 dBm																																									

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

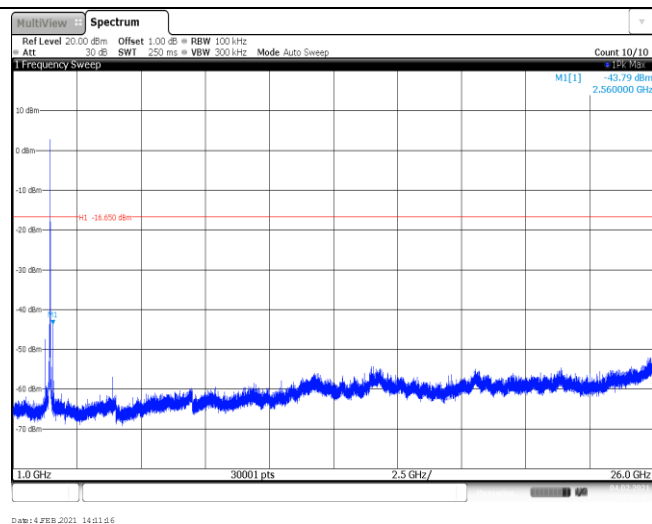
CH06
Reference level



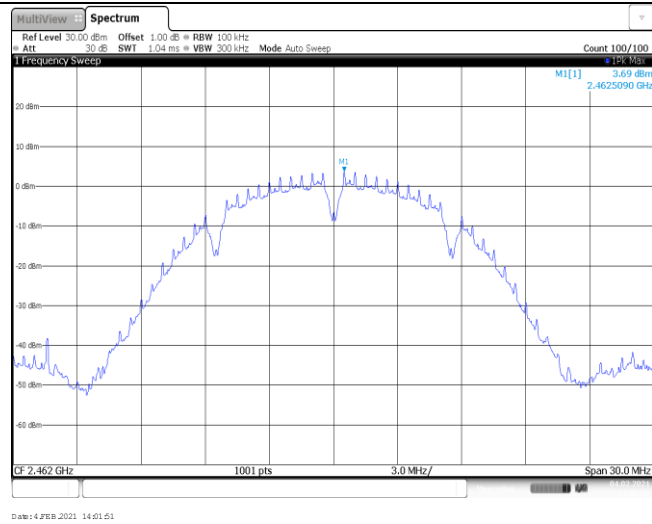
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30MHz~1000MHz



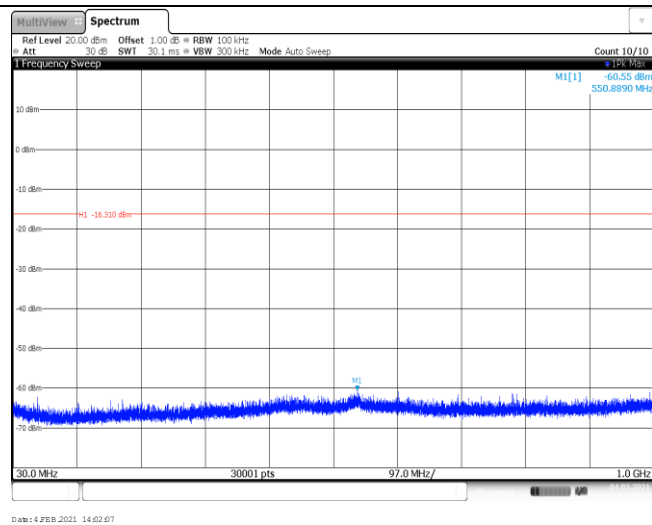
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1GHz~26GHz



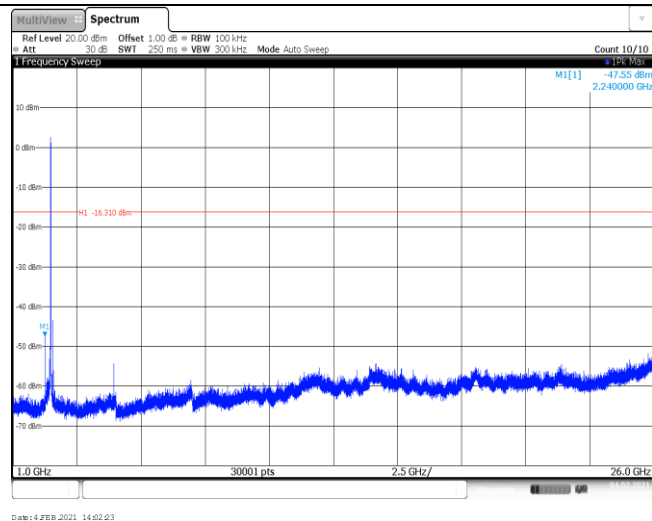
CH11
Reference level

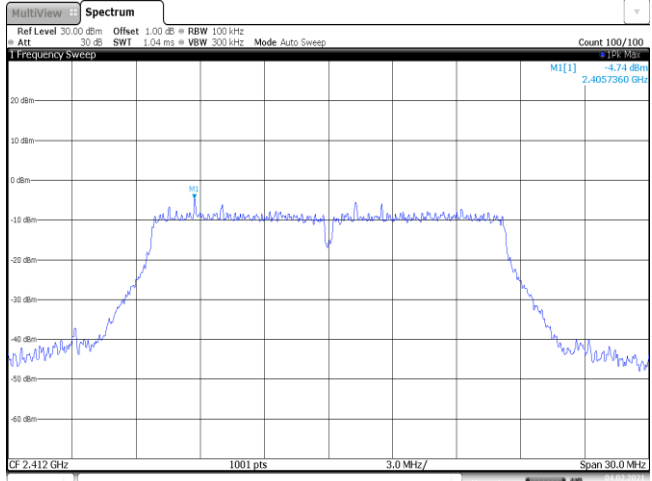
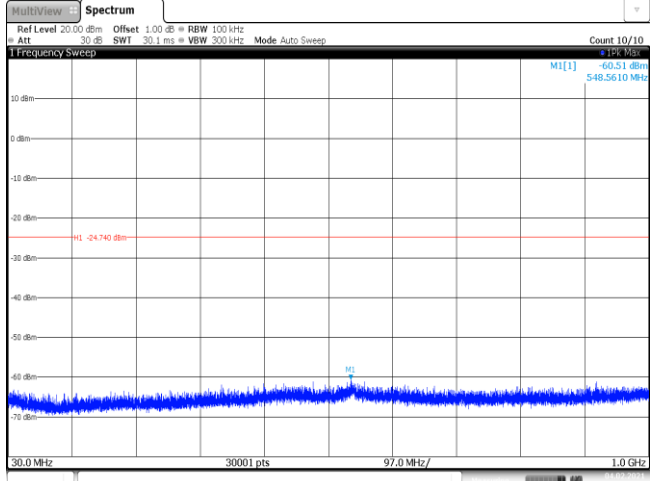
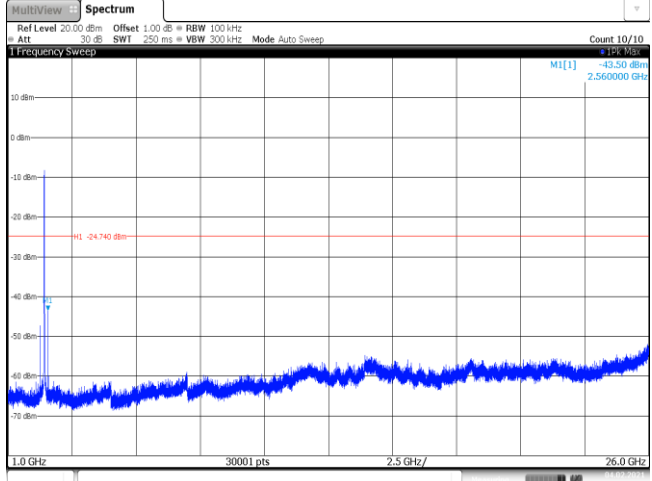


CH11
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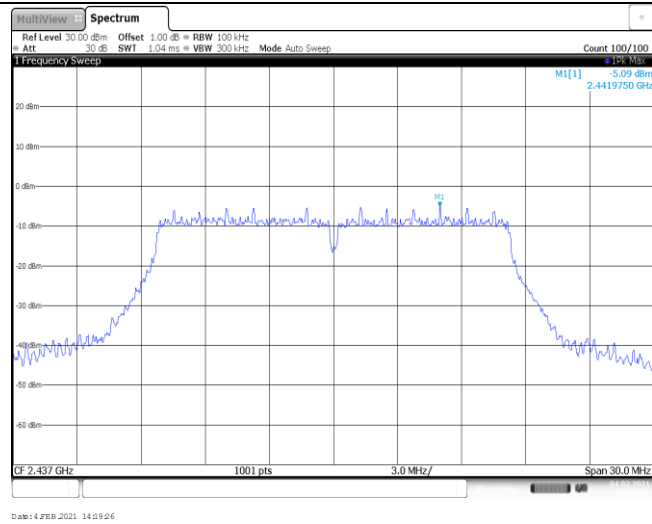


CH11
1GHz~26GHz

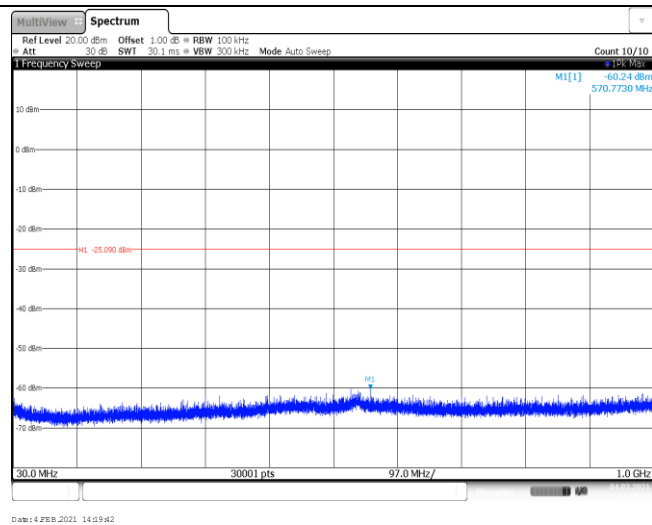


Test Item:	SE	Type:	802.11 g
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

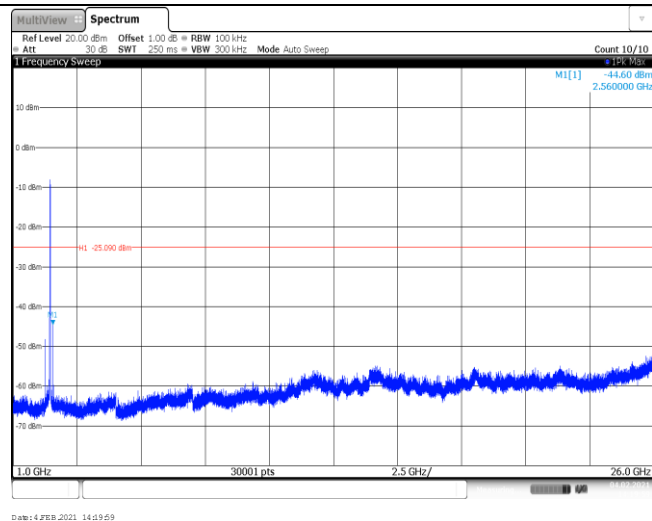
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Reference level



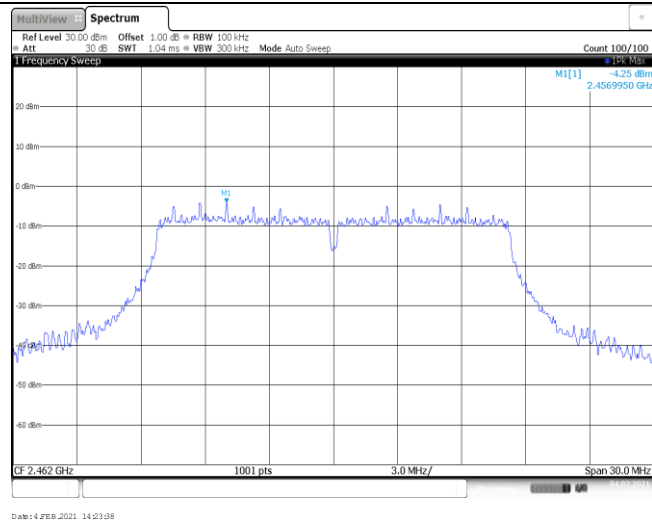
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30MHz~1000MHz



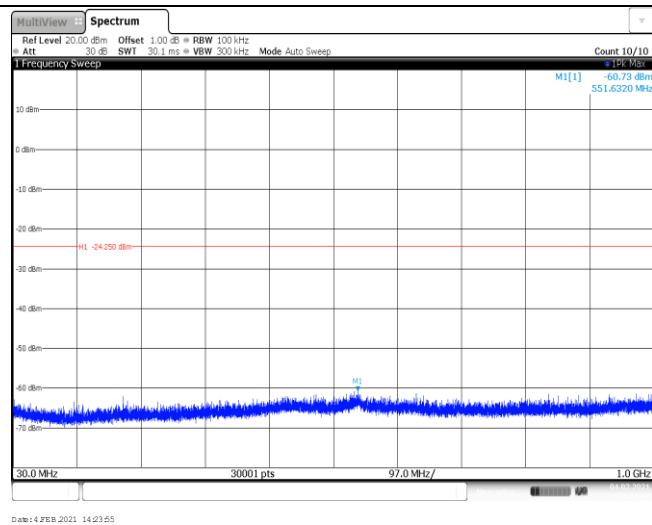
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1GHz~26GHz



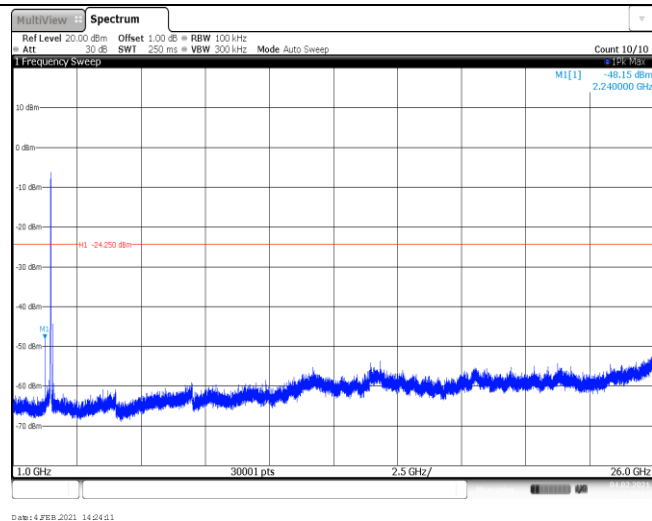
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Reference level

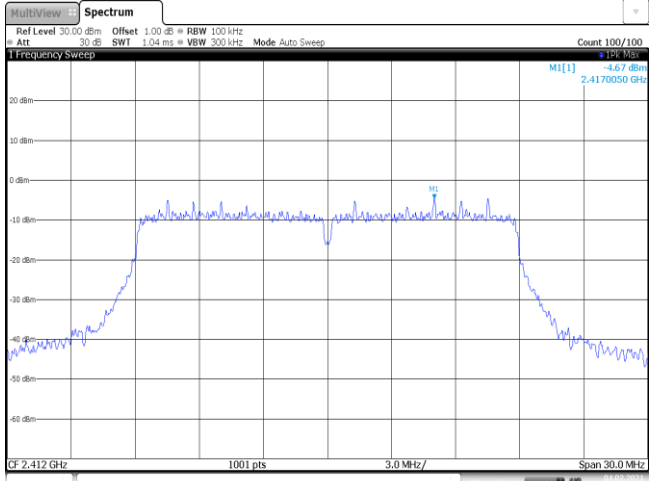
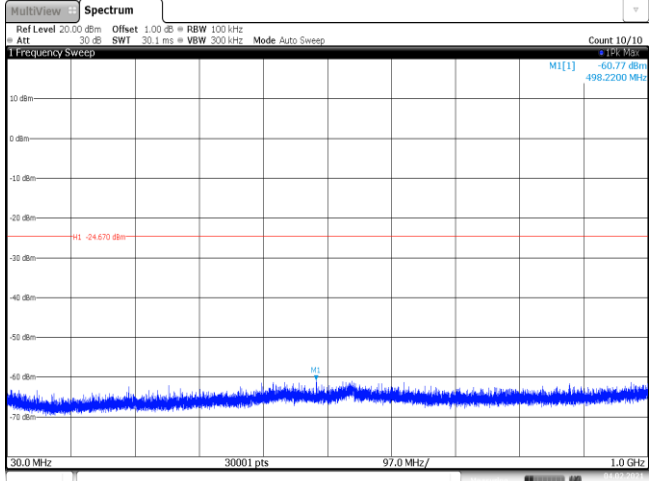
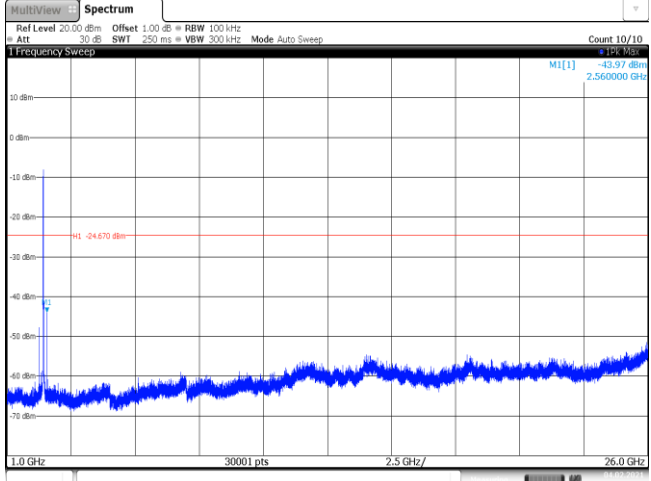


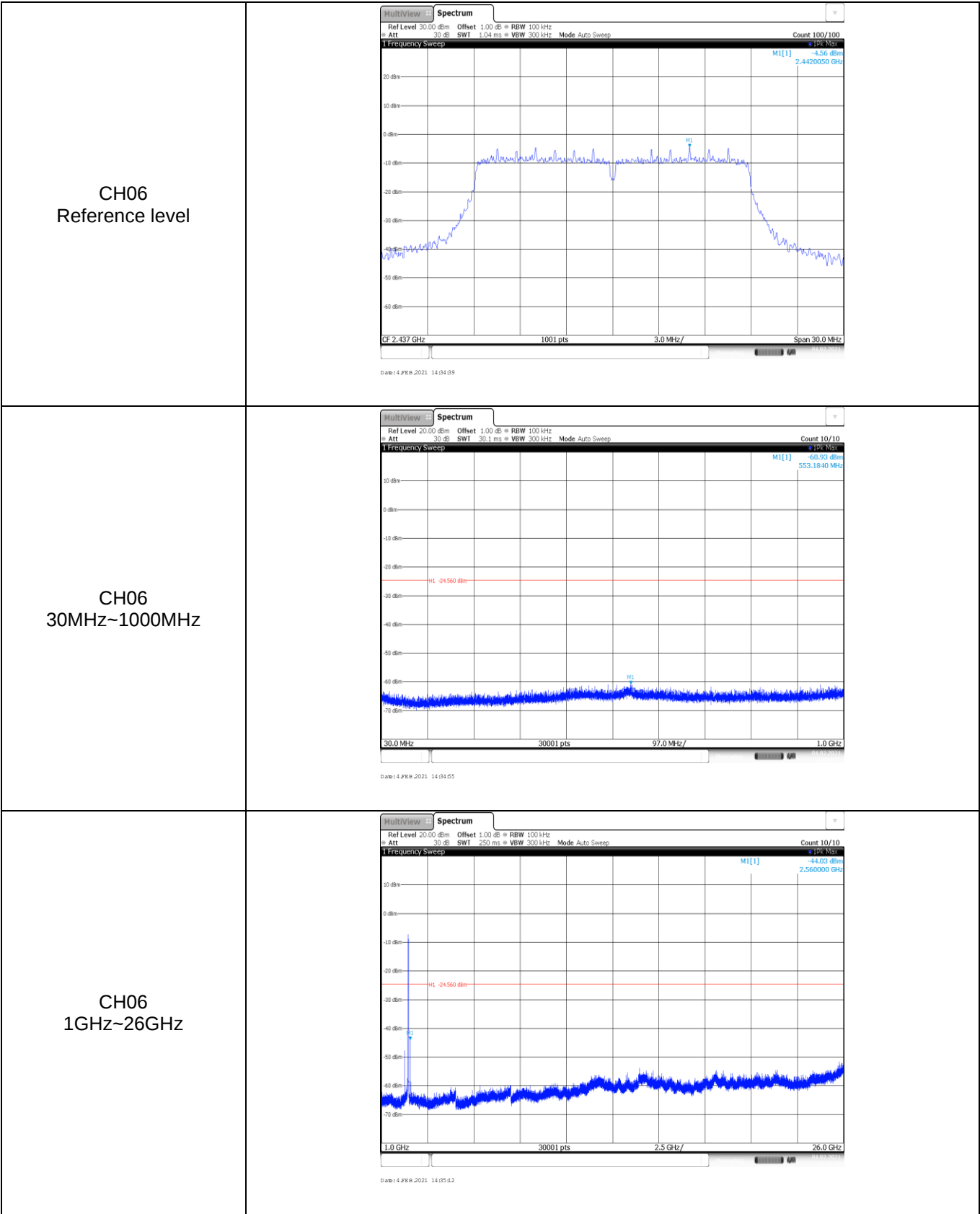
CH11
30MHz~1000MHz

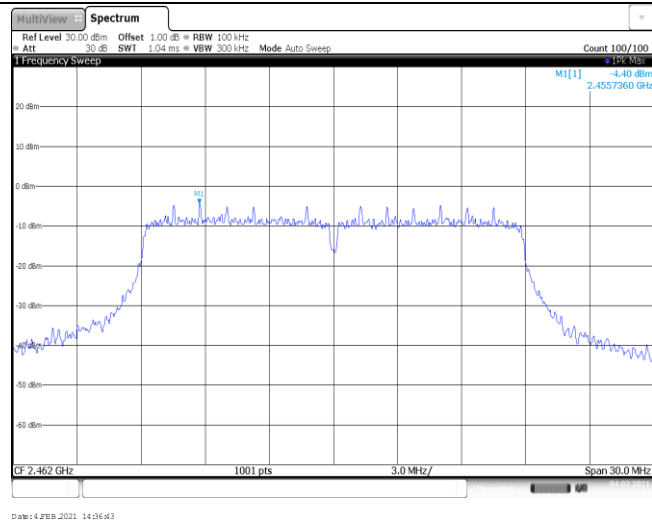
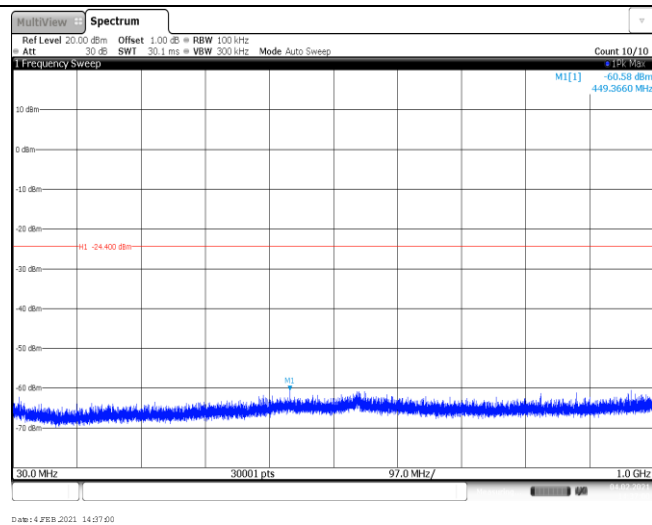
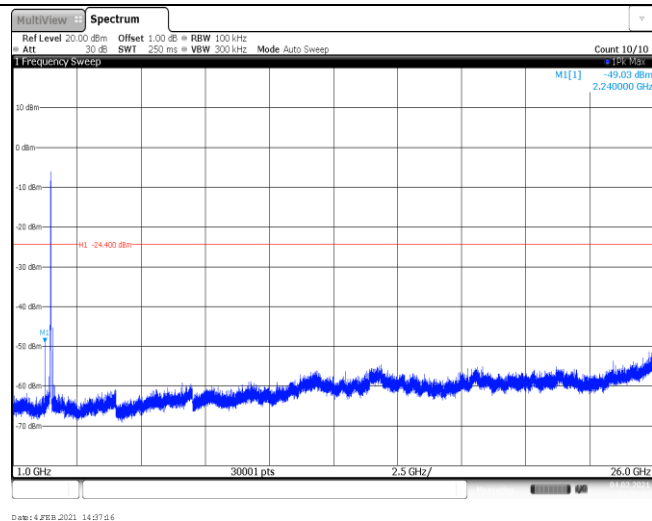


CH11
1GHz~26GHz



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 M1[1] -46.7 dBm 2.4170050 GHz 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 4 FEB 2021 14:31:38	
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] -60.77 dBm 498.2200 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 4 FEB 2021 14:31:54	
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] -43.97 dBm 2.560000 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 4 FEB 2021 14:32:10	



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

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