

APPENDIX REPORT

Project No.	SHT2106047304EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT20110322004	Model No.	AR3X
Start test date	2021-02-01	Finish date	2021-02-01
Temperature	22.6°C	Humidity	38%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zheo

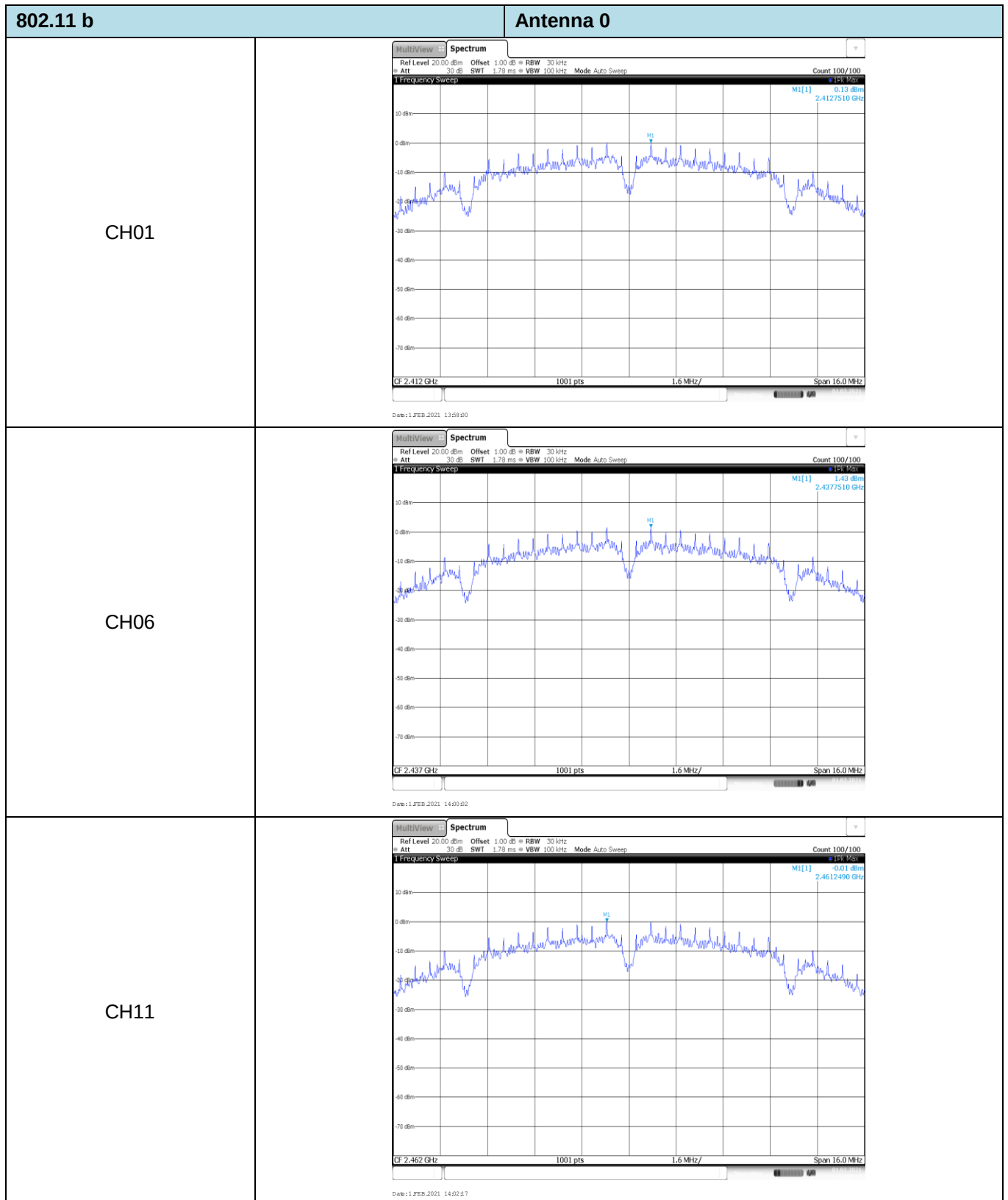
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions(coducted)	PASS

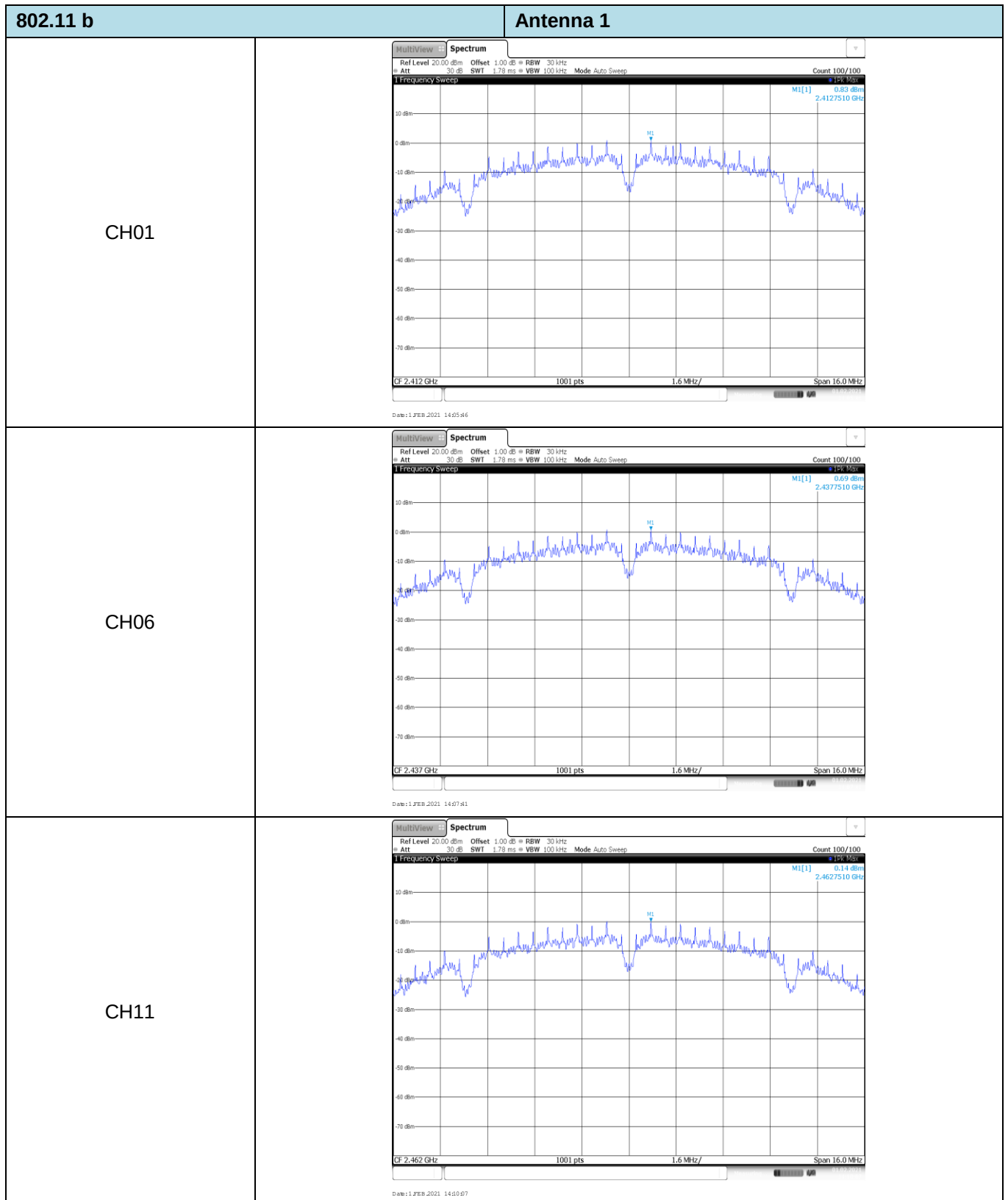
Appendix A: Conducted Peak Output Power

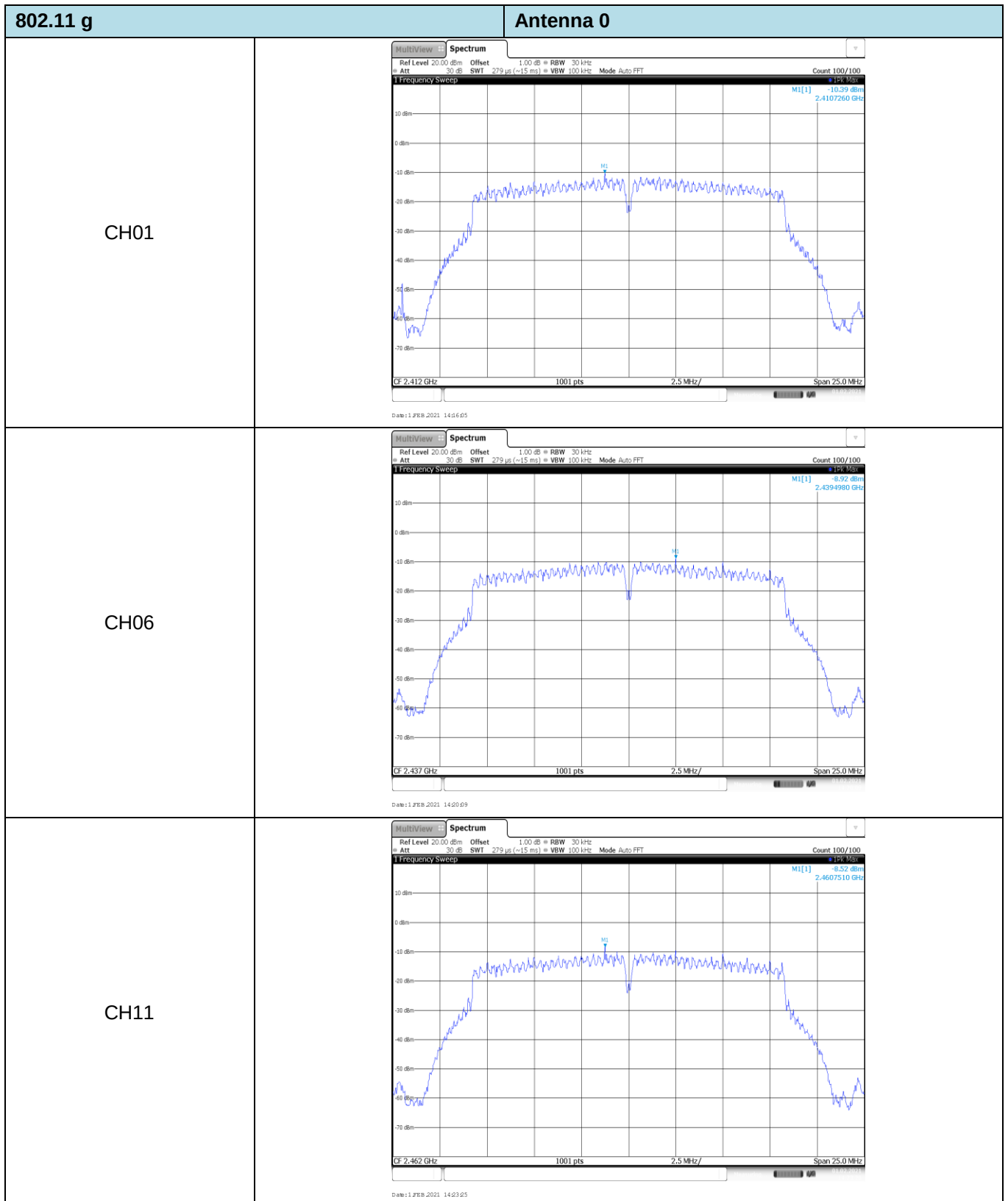
Type	Channel	Peak Output power (dBm)			Average Output power (dBm)			Limit (dBm)	Result
		Antenna 0	Antenna 1	Total	Antenna 0	Antenna 1	Total		
802.11b	01	14.35	14.58	-	11.70	12.08	-	≤30.00	Pass
	06	14.77	14.90	-	12.32	12.44	-		
	11	13.87	13.74	-	11.43	11.24	-		
802.11g	01	14.30	14.62	-	11.63	11.93	-	≤30.00	Pass
	06	15.02	15.11	-	12.35	12.61	-		
	11	14.28	13.84	-	11.51	10.97	-		
802.11n (HT20)	01	11.66	13.01	15.41	9.56	11.52	13.70	≤30.00	Pass
	06	11.92	12.54	15.22	8.85	11.18	13.18		
	11	10.92	13.52	15.40	8.13	12.17	13.61		

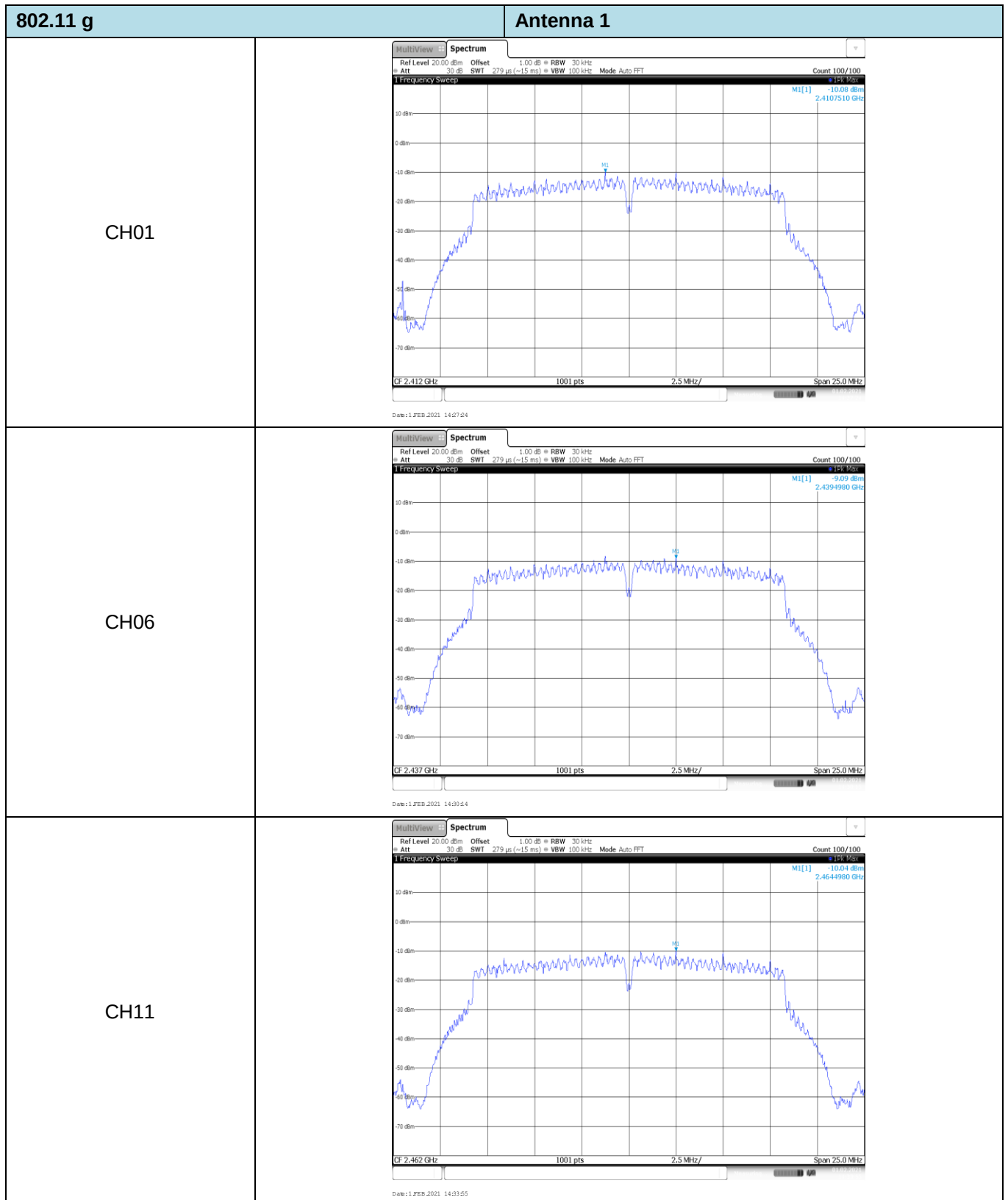
Appendix B: Power Spectral Density

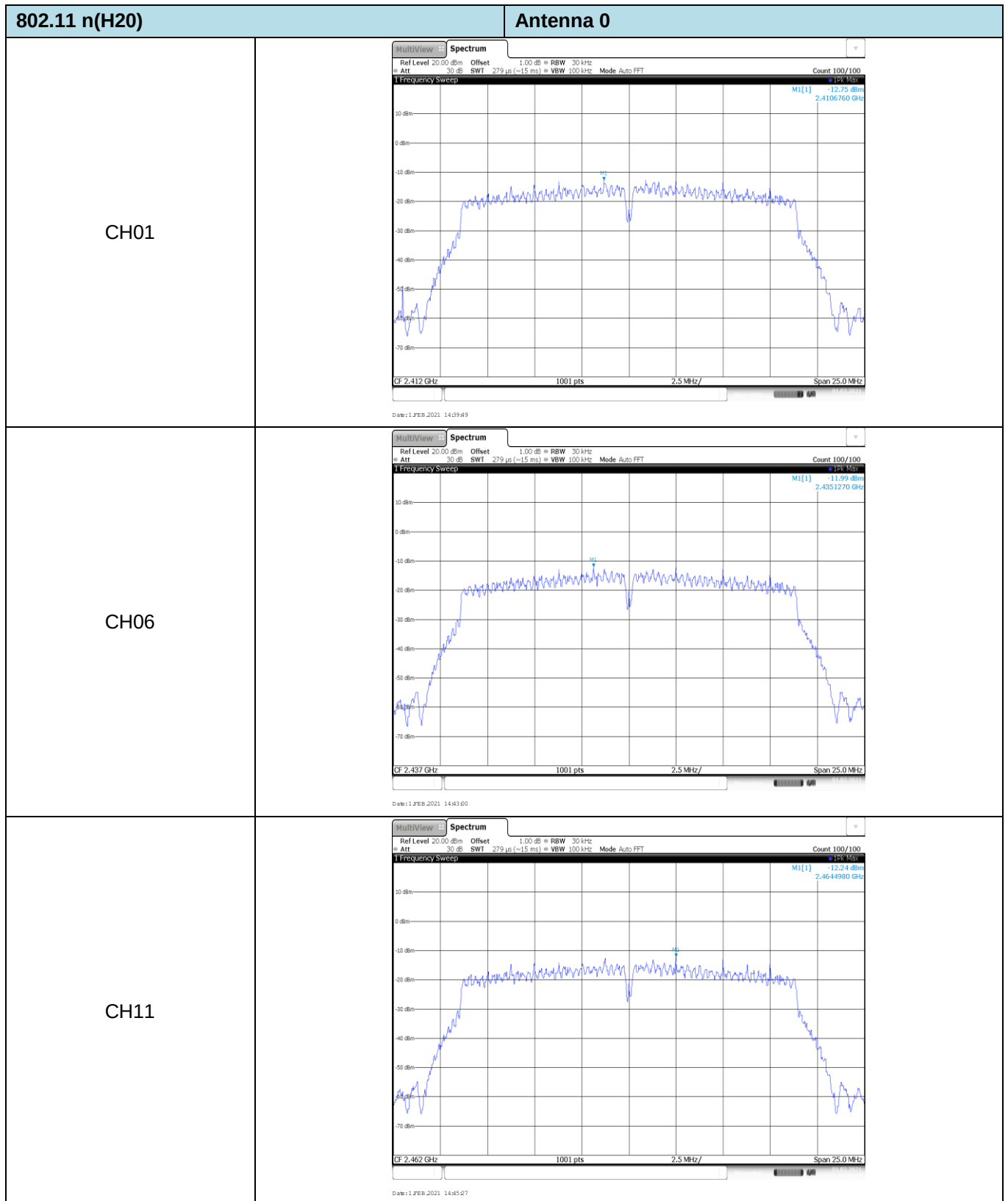
Type	Channel	Power Spectral Density (dBm/30KHz)		Total Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
		Antenna 0	Antenna 1			
802.11b	01	0.13	0.83	-	≤8.00	Pass
	06	1.43	0.69	-		
	11	-0.01	0.14	-		
802.11g	01	-10.39	-10.08	-	≤8.00	Pass
	06	-8.92	-9.09	-		
	11	-8.52	-10.04	-		
802.11n(HT20)	01	-12.75	-12.26	-9.49	≤8.00	Pass
	06	-11.99	-11.61	-8.79		
	11	-12.24	-10.77	-8.43		

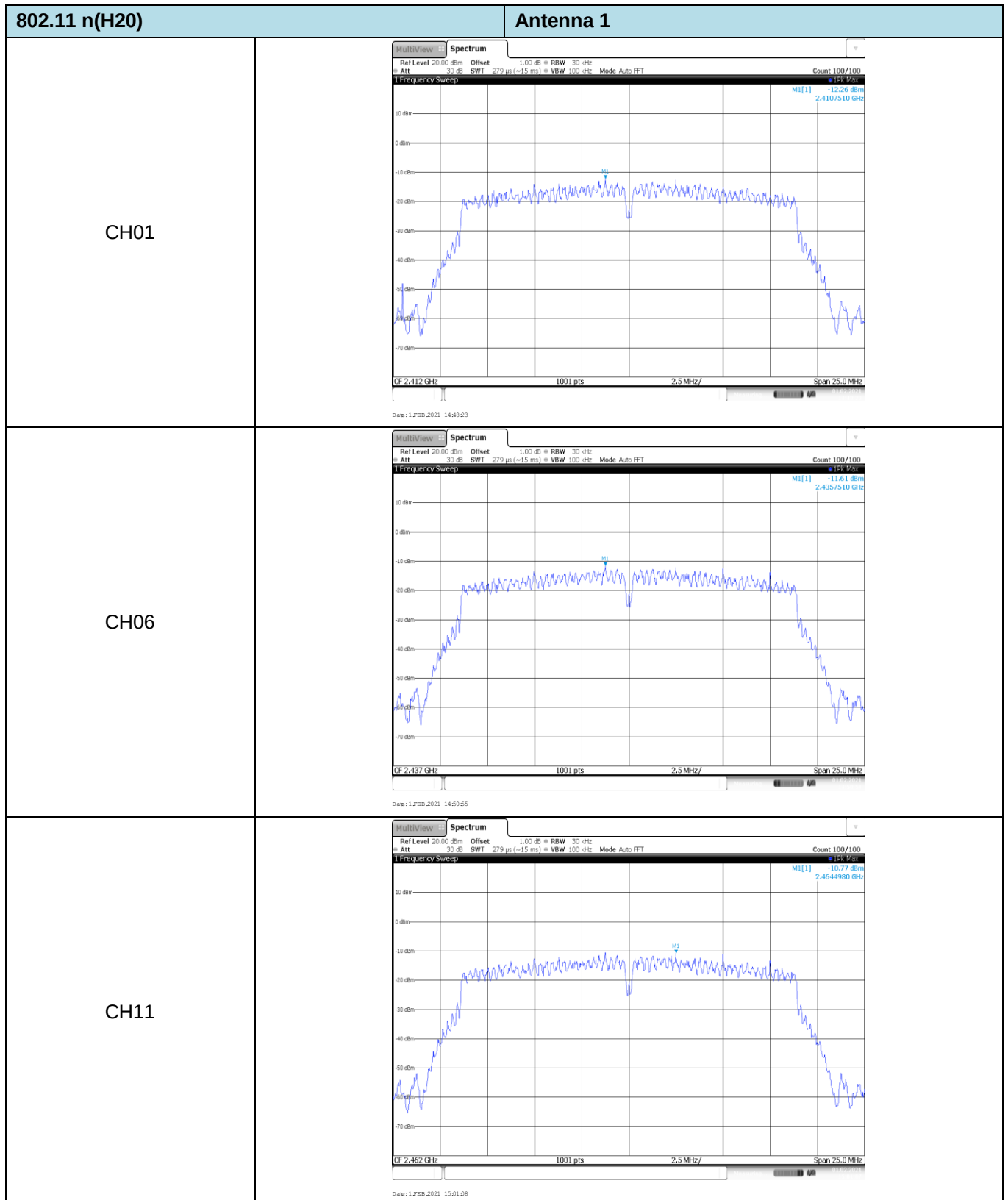






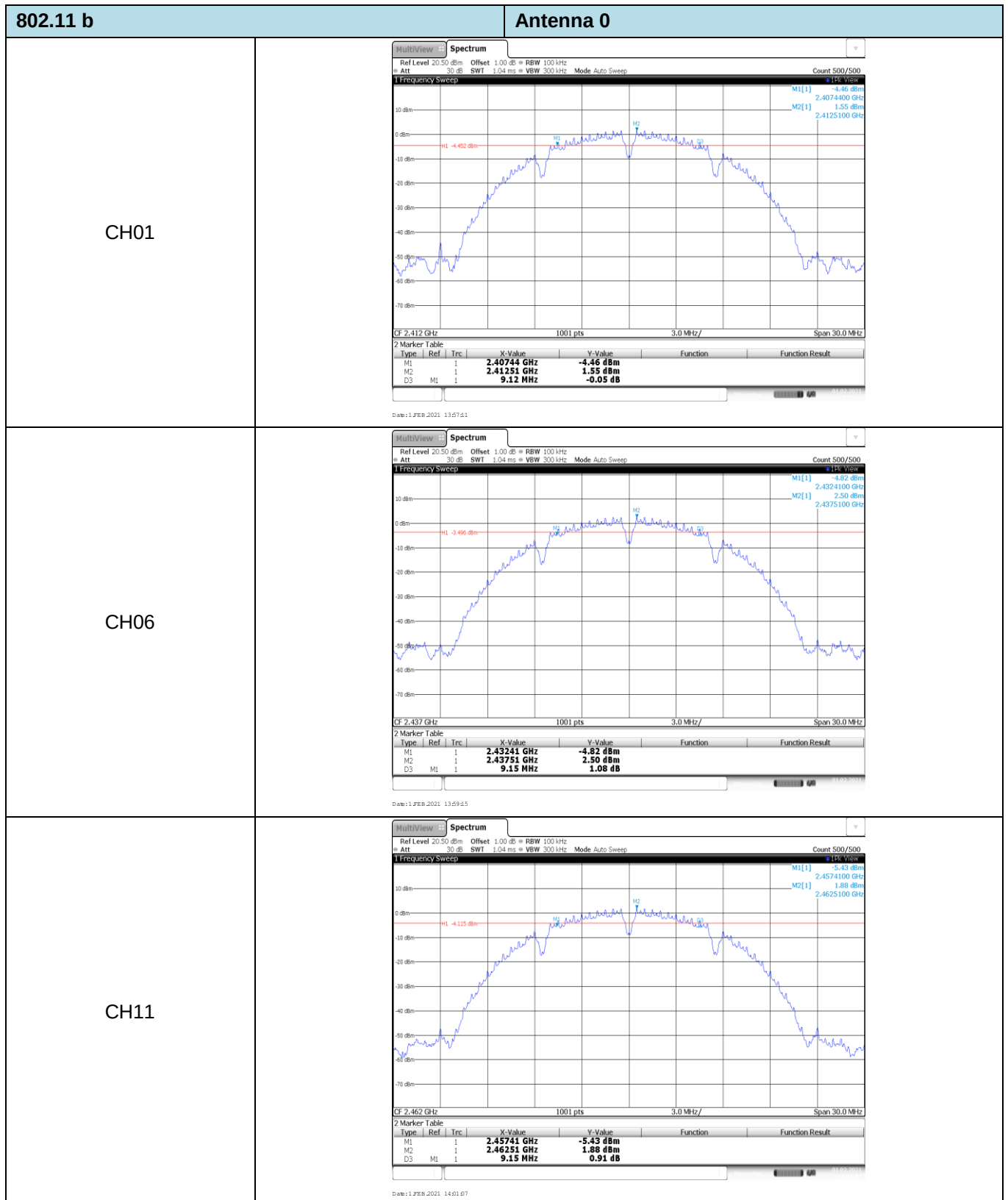


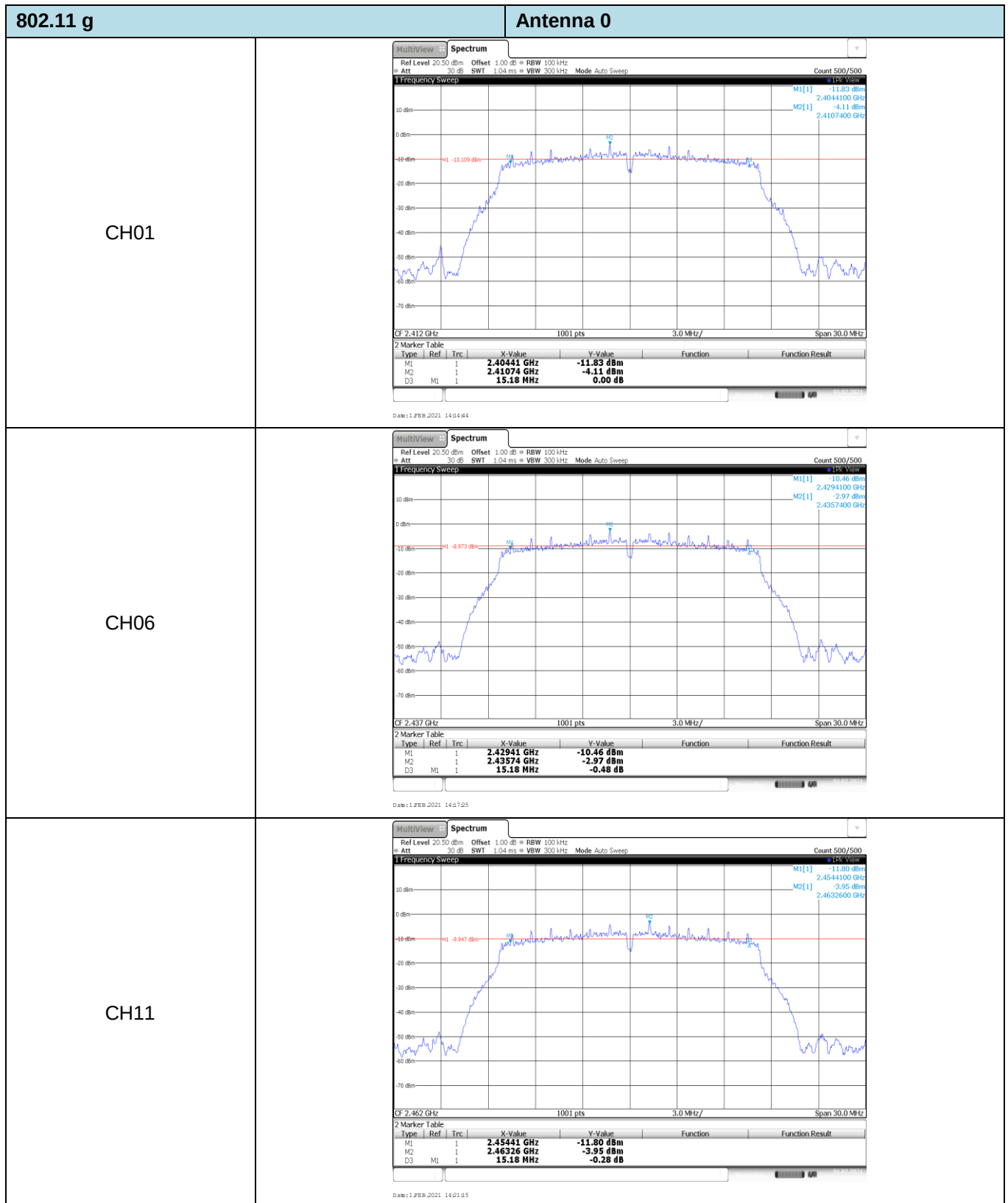


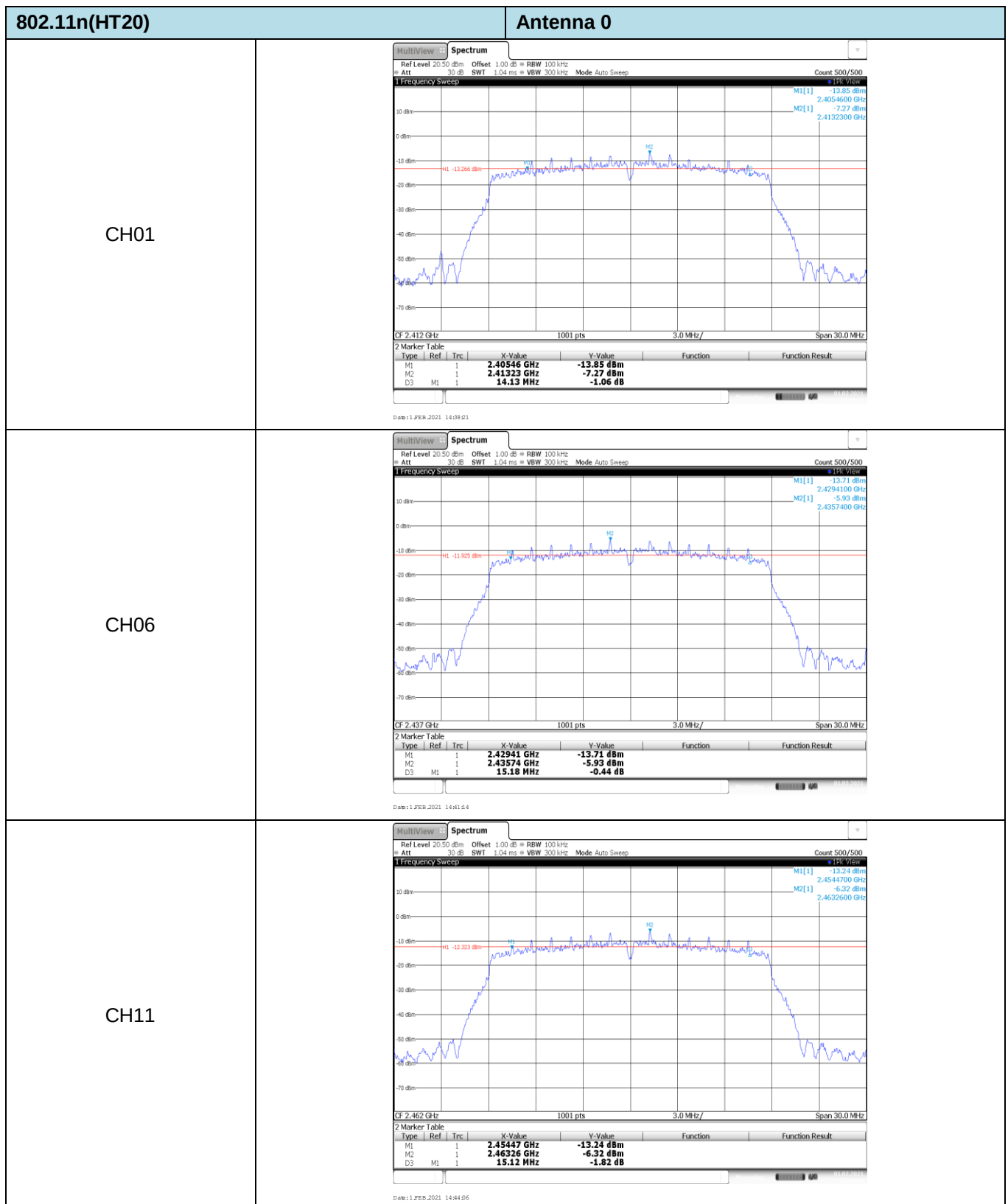


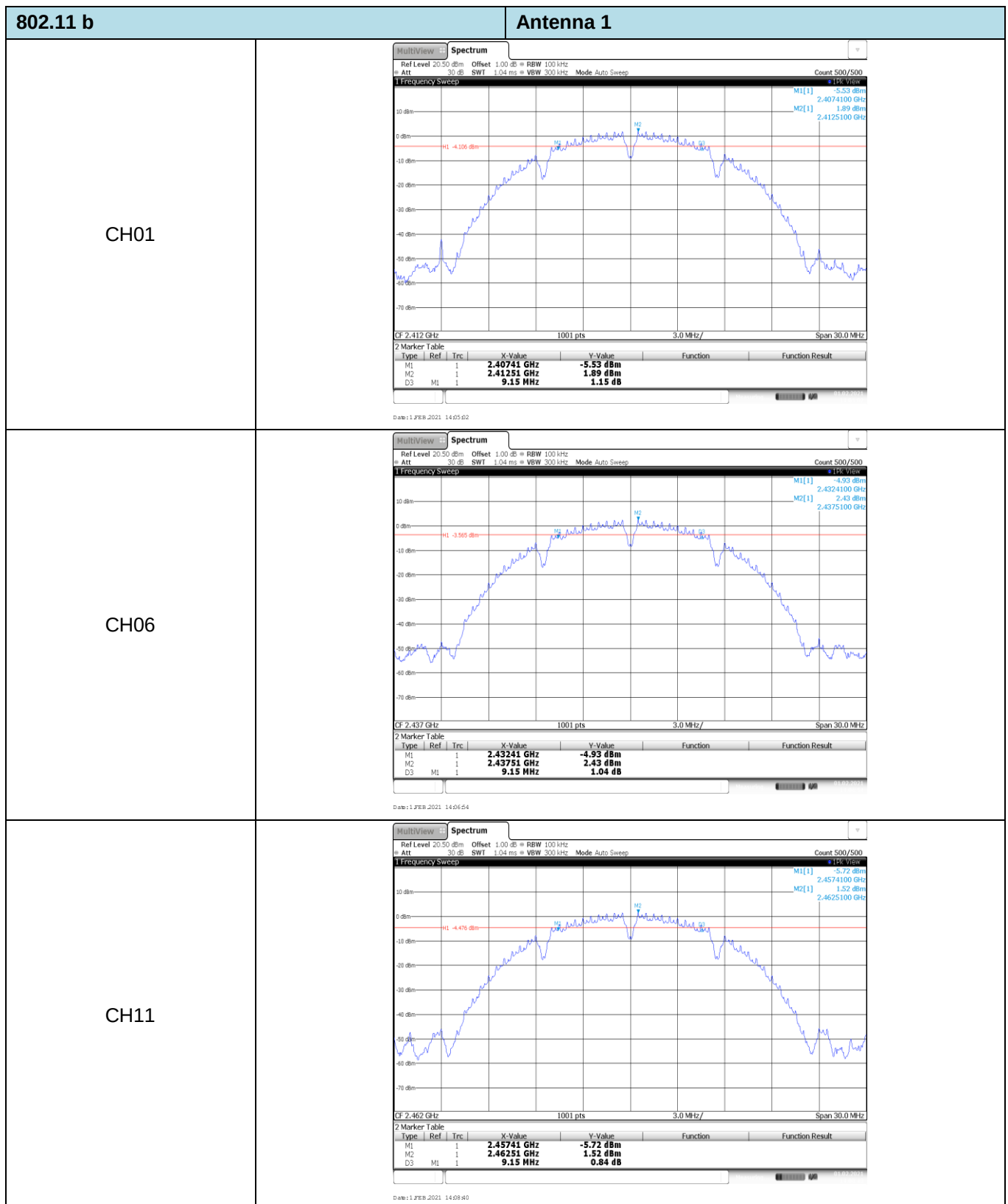
Appendix C: 6dB Bandwidth

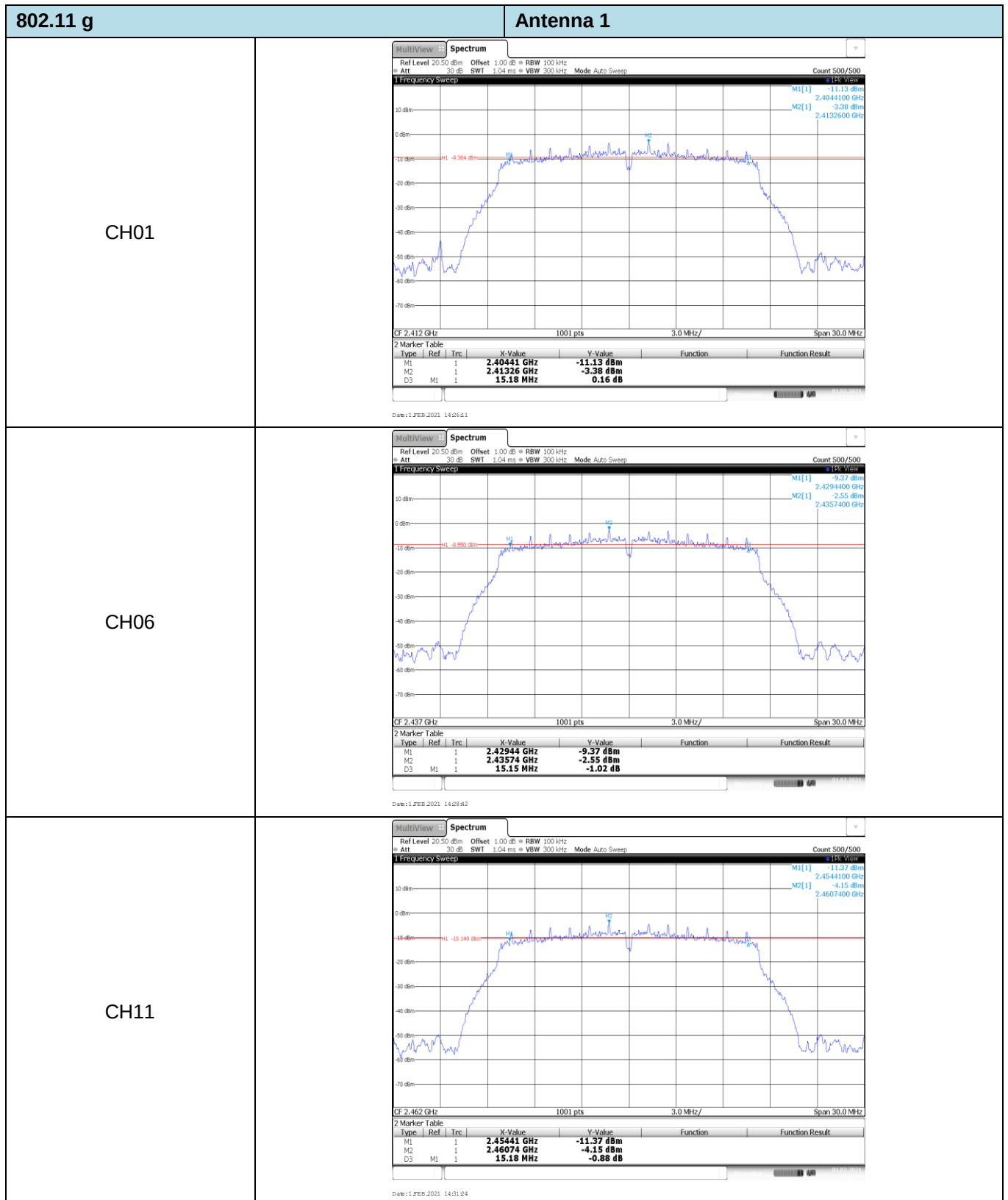
Type	Channel	6dB Bandwidth (MHz)		Limit (kHz)	Result
		Antenna 0	Antenna 1		
802.11b	01	9.12	9.15	≥500	Pass
	06	9.15	9.15		
	11	9.15	9.15		
802.11g	01	15.18	15.18	≥500	Pass
	06	15.18	15.15		
	11	15.18	15.18		
802.11n(HT20)	01	14.13	16.35	≥500	Pass
	06	15.18	15.15		
	11	15.12	15.15		

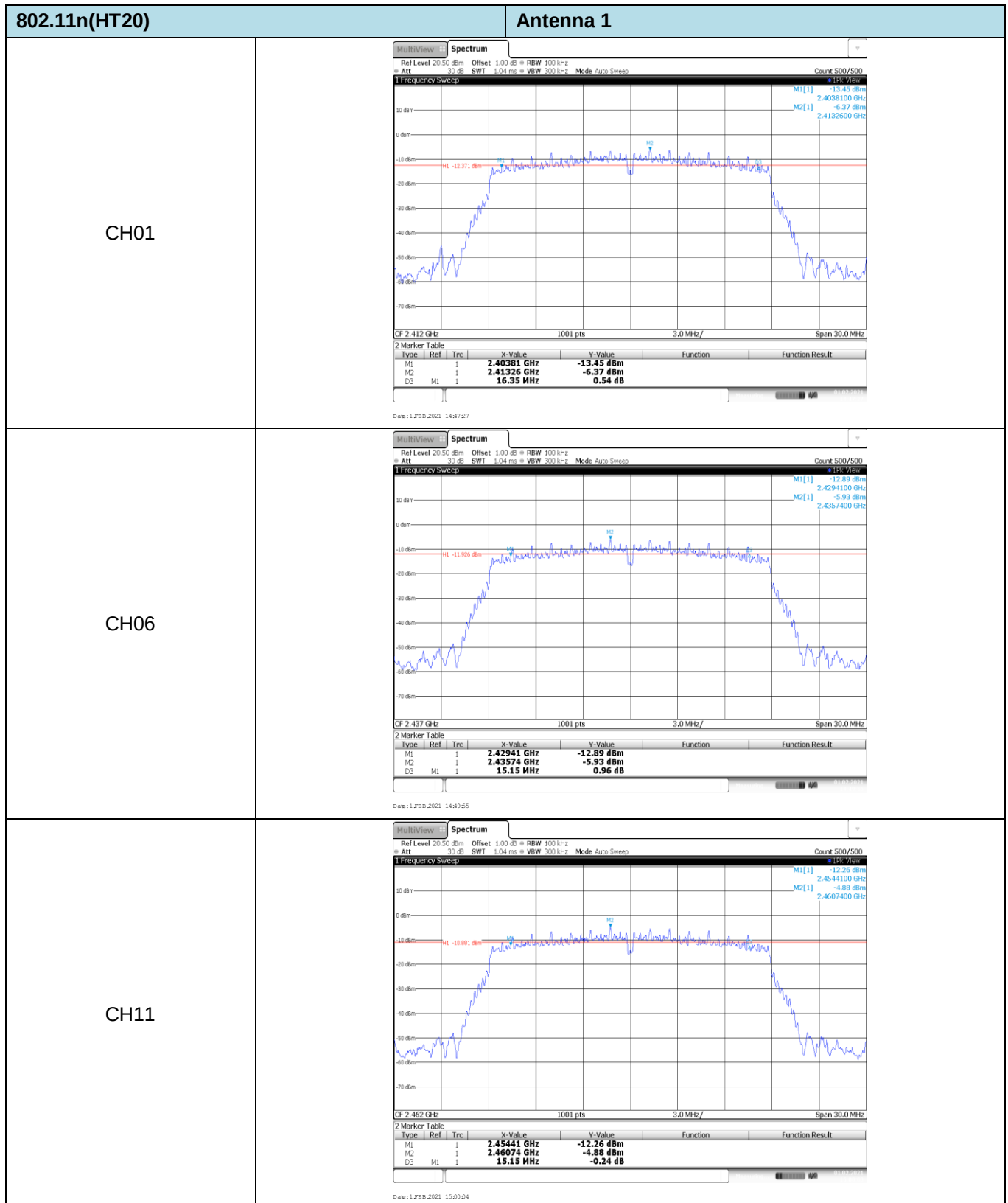






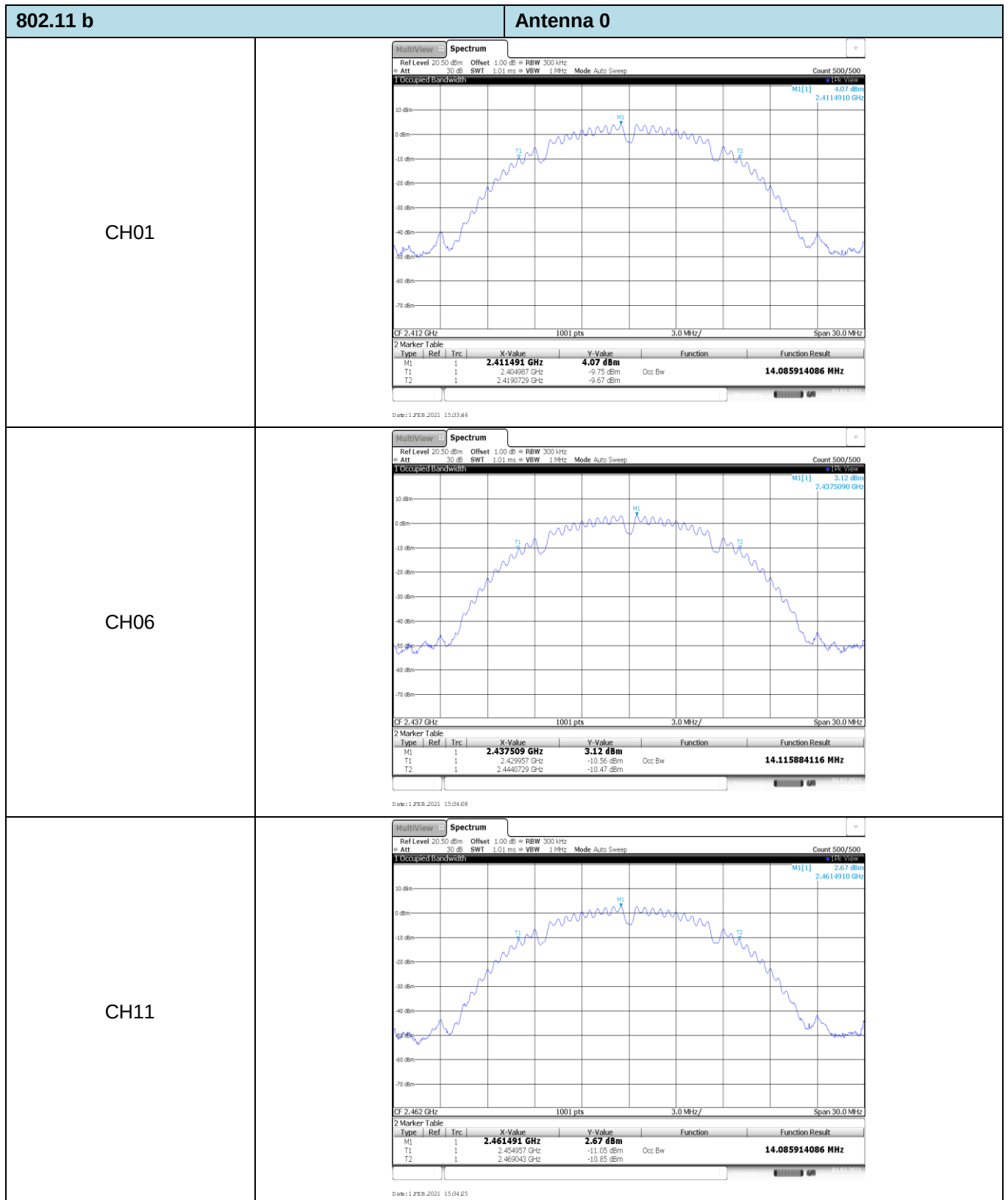


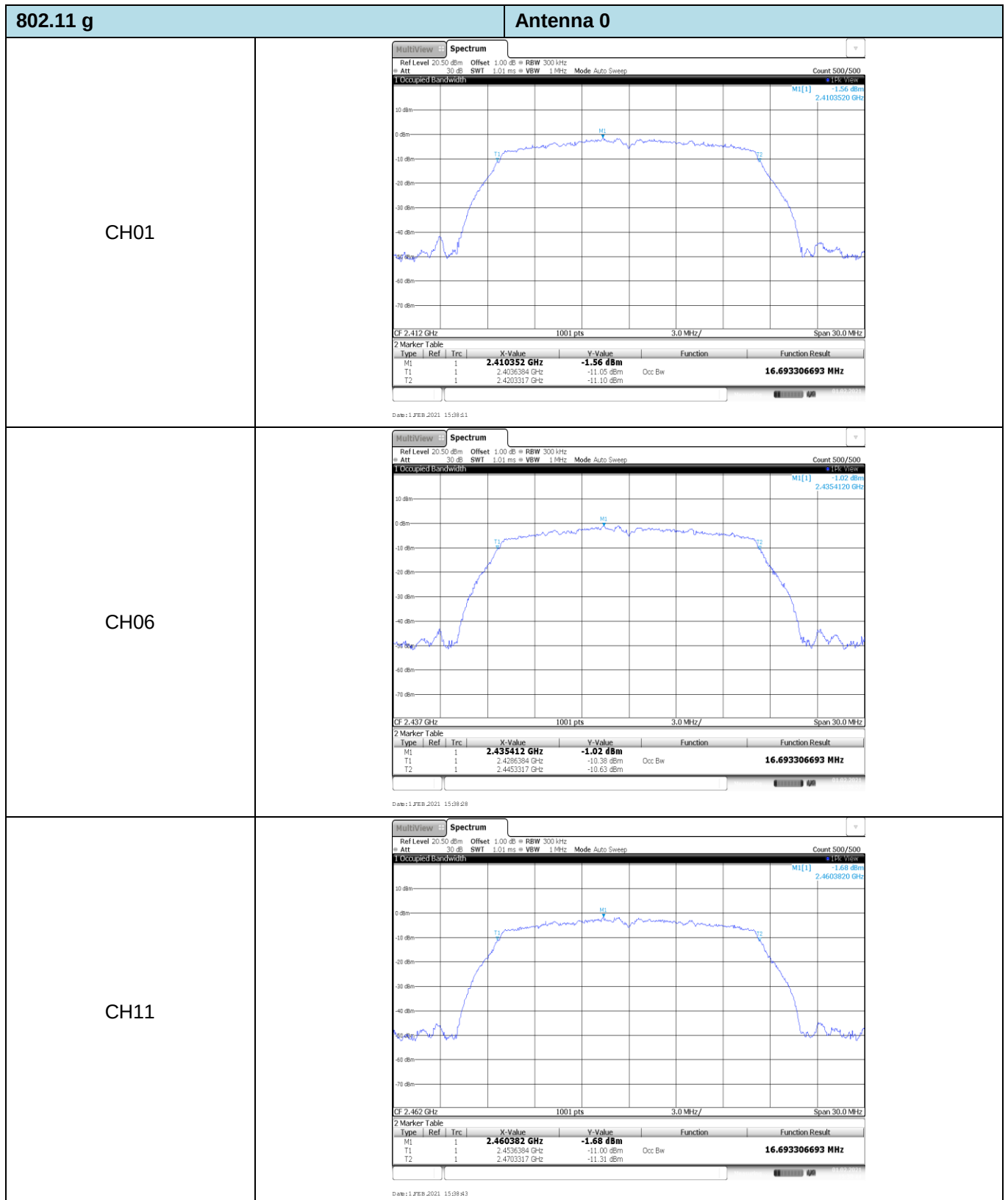


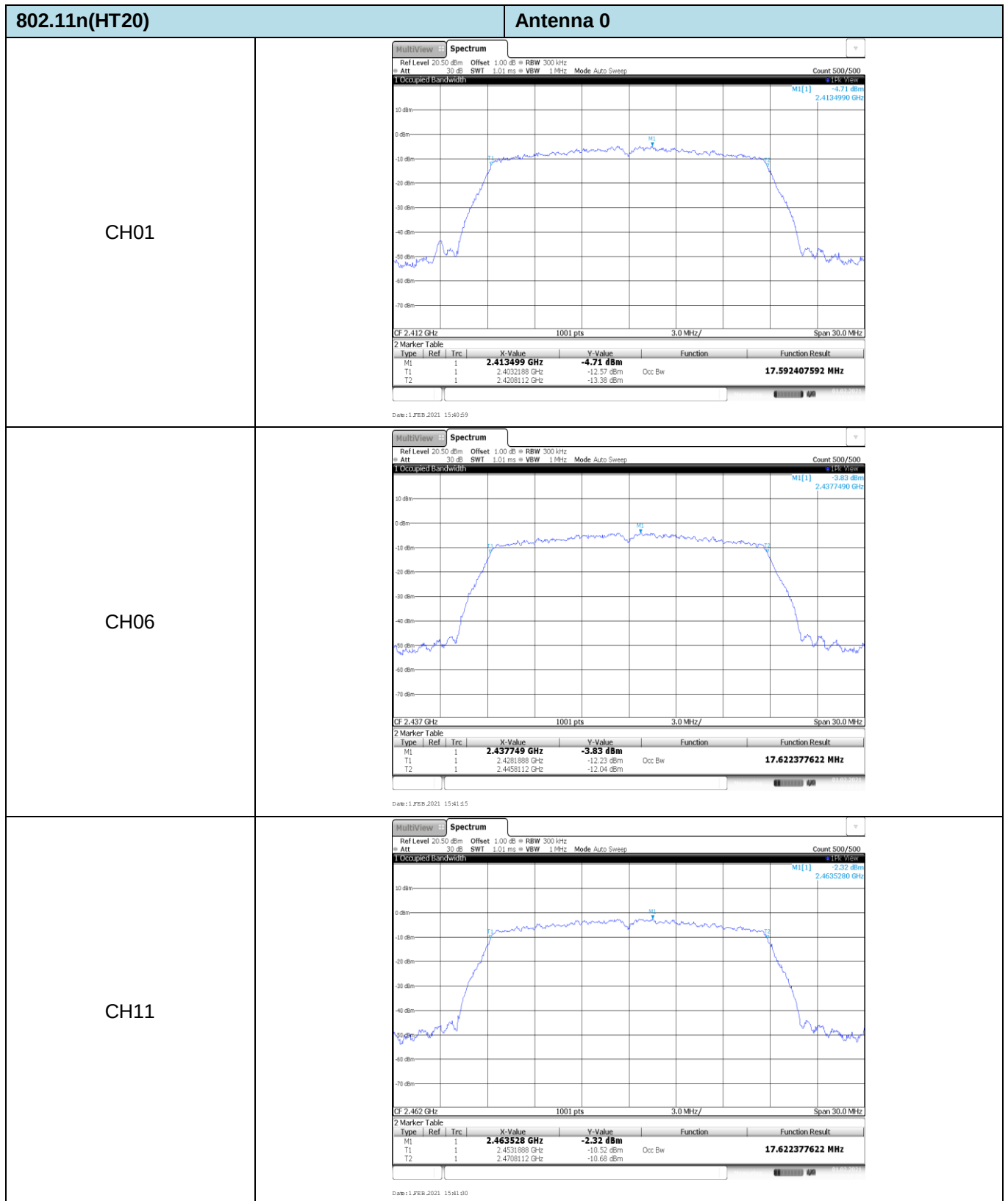


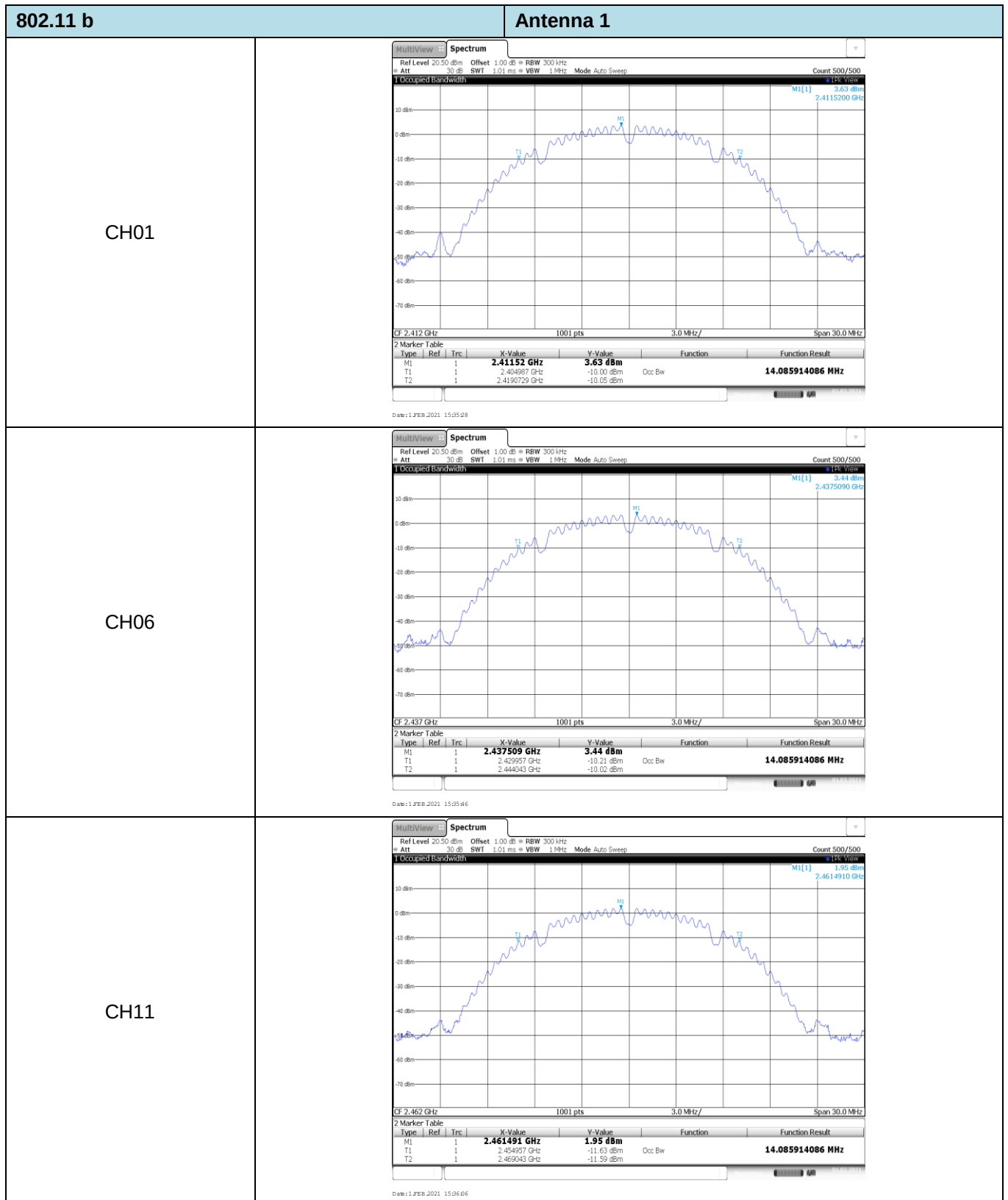
Appendix D: 99% Occupied Bandwidth

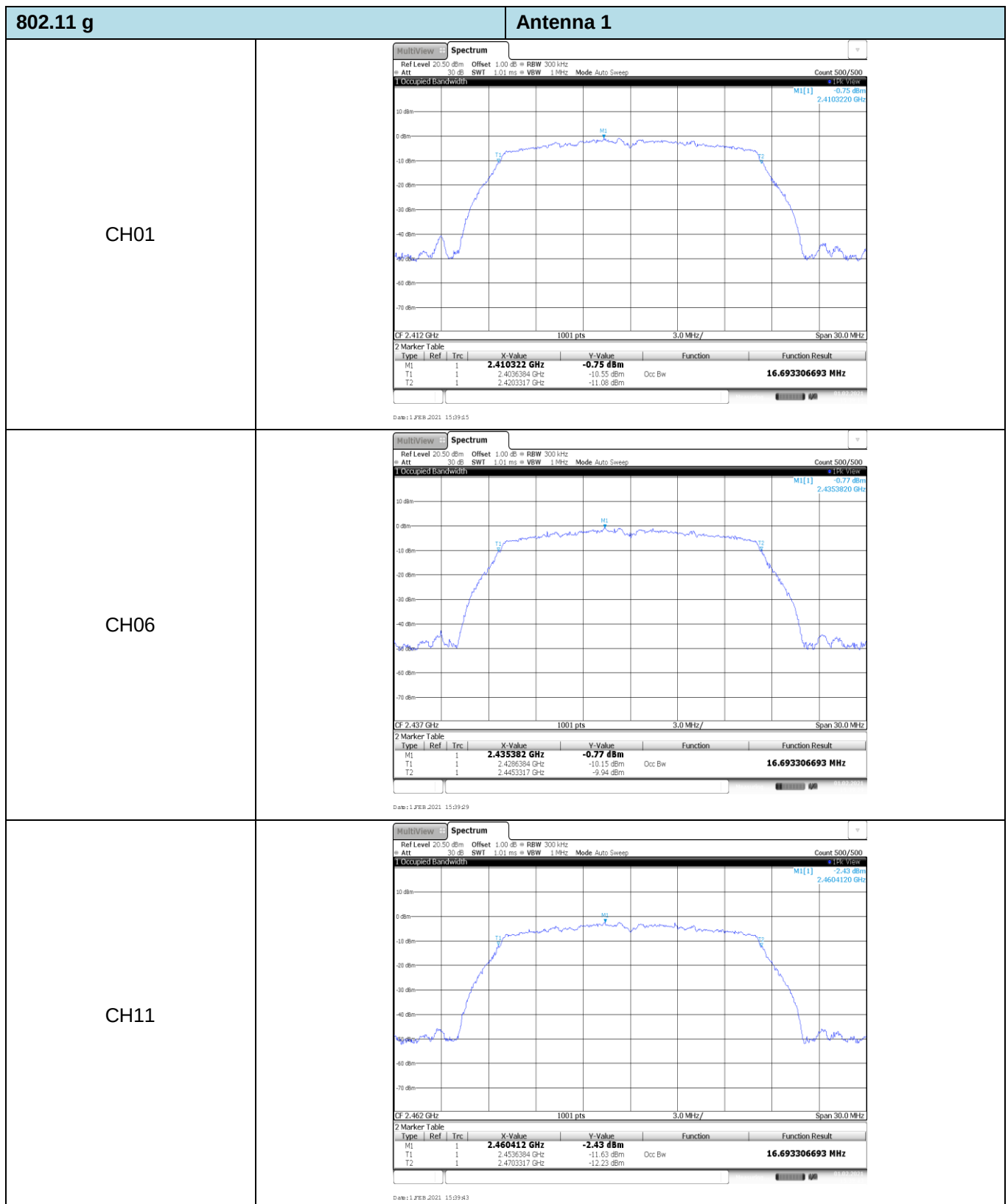
Type	Channel	99% Bandwidth (MHz)		Limit (kHz)	Result
		Antenna 0	Antenna 1		
802.11b	01	14.09	14.09	-	Pass
	06	14.12	14.09		
	11	14.09	14.09		
802.11g	01	16.69	16.69	-	Pass
	06	16.69	16.69		
	11	16.69	16.69		
802.11n(HT20)	01	17.59	17.50	-	Pass
	06	17.62	17.53		
	11	17.62	17.53		

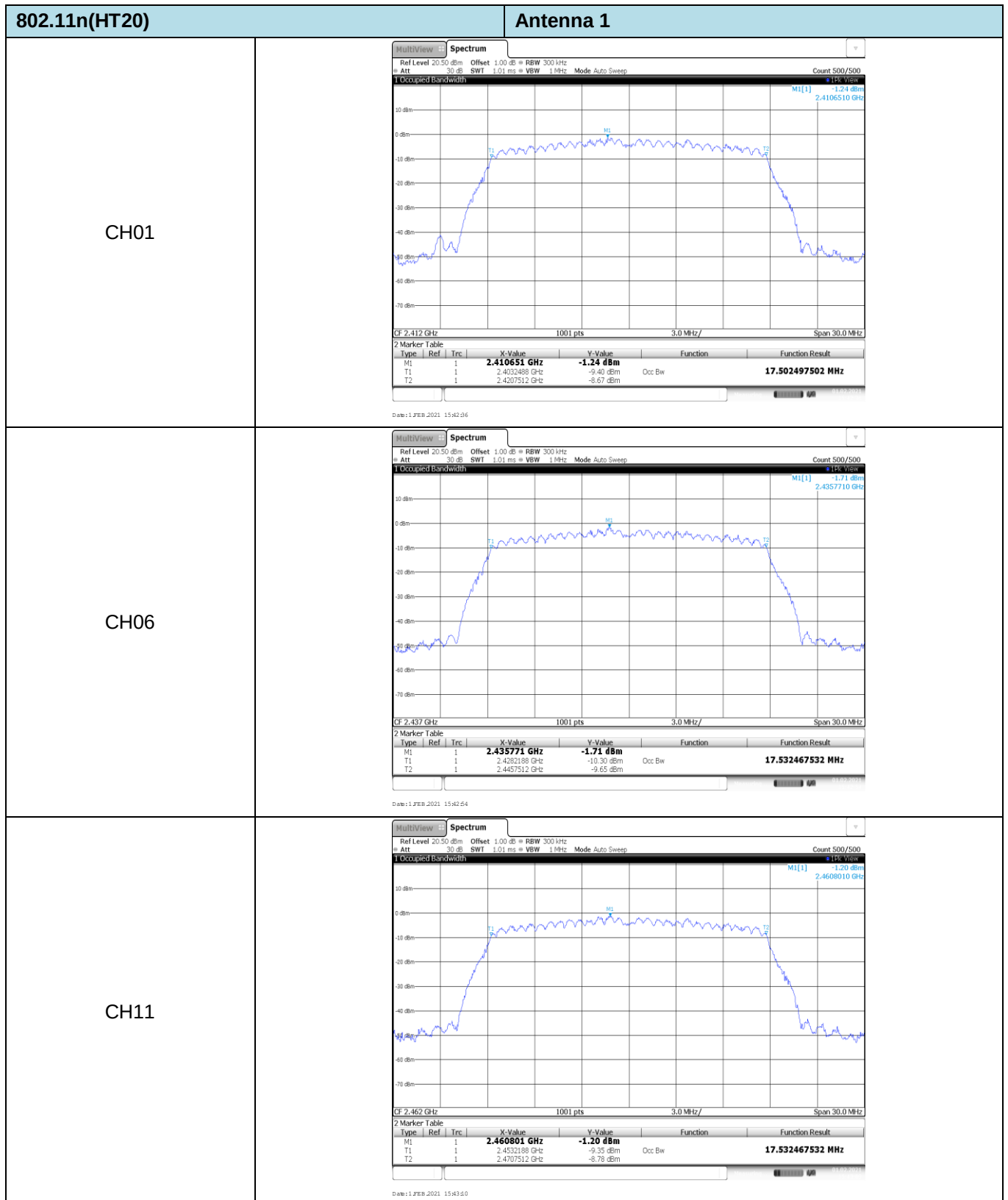








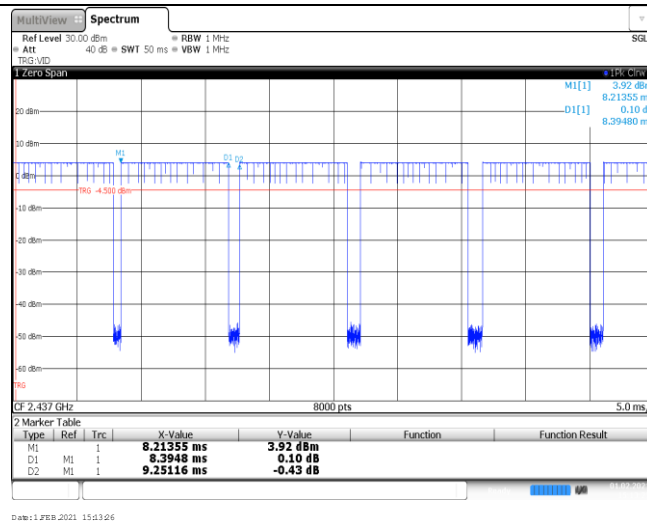




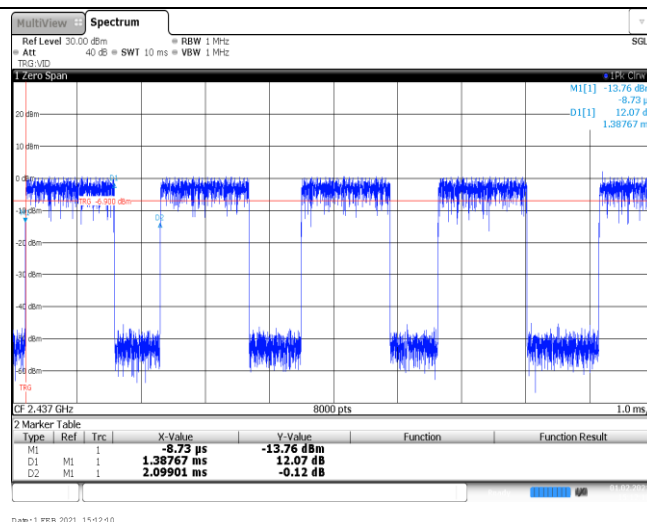
Appendix E: Duty Cycle

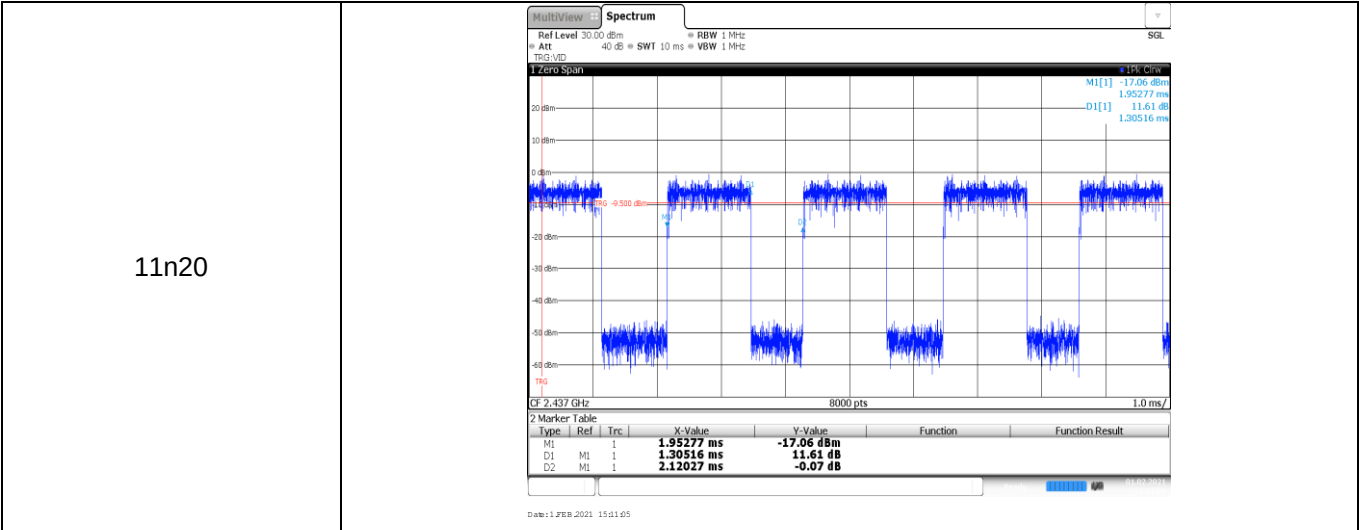
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	8.39	9.25	90.7%	0.1
11g	2437	1.39	2.10	66.2%	0.7
11n20	2437	1.31	2.12	61.8%	0.8

11b



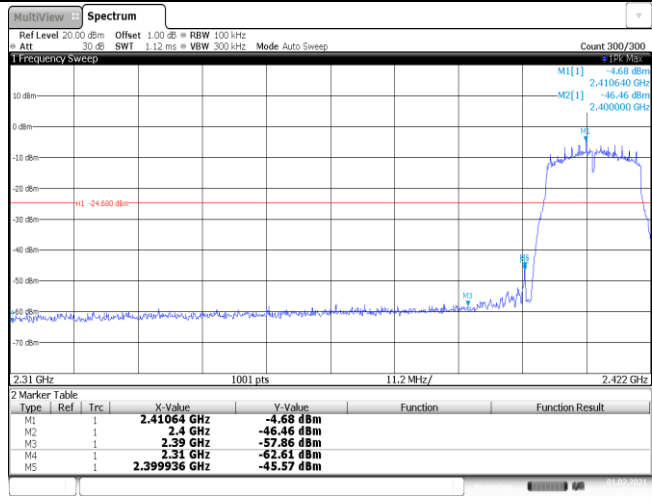
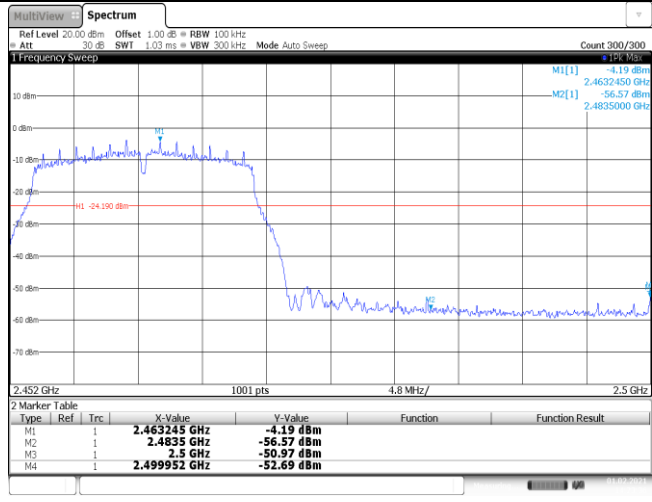
11g

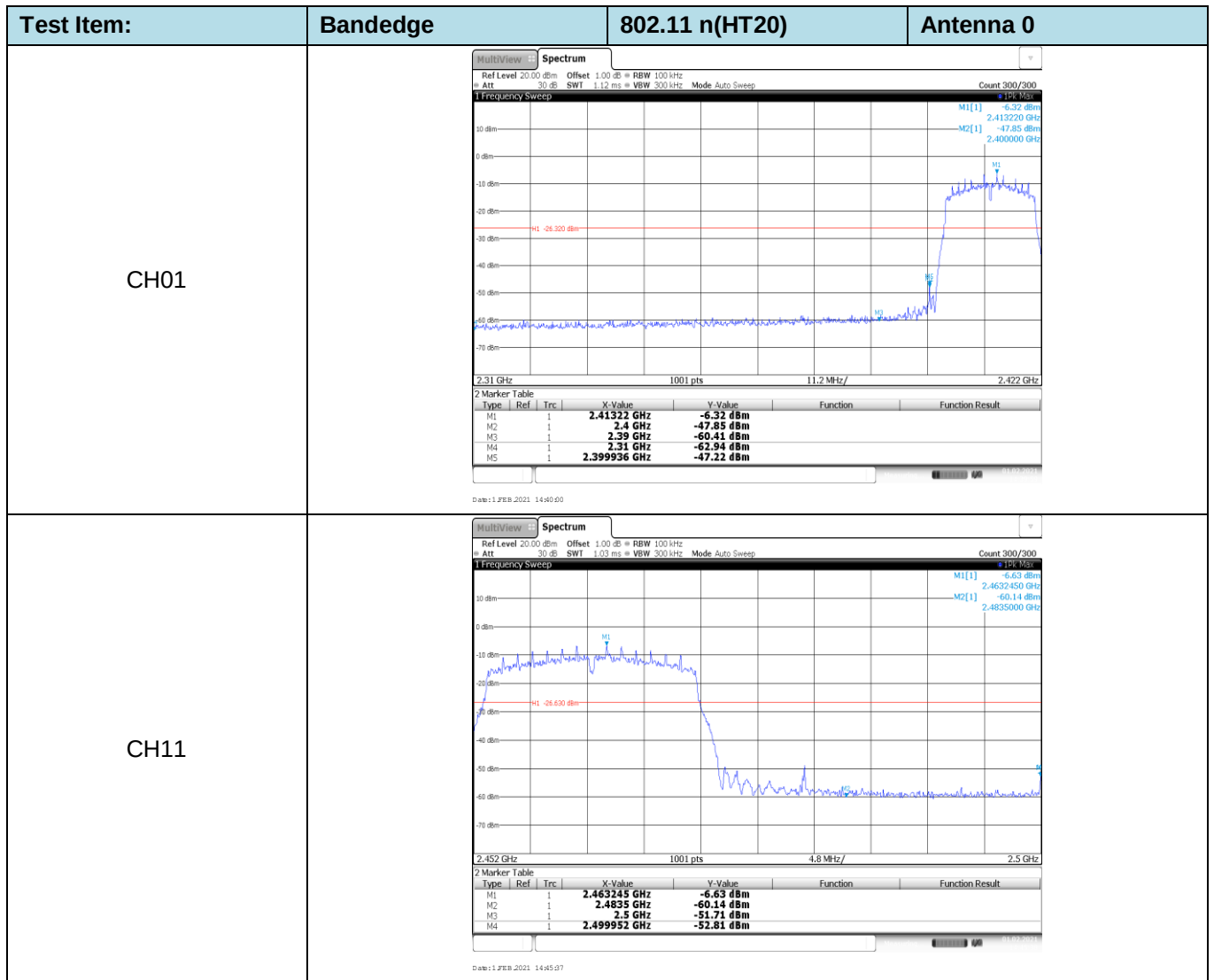




Appendix F: Band Edge and Spurious Emissions (Conducted)

Test Item:	Bandedge	802.11 b	Antenna 0
CH01	</		

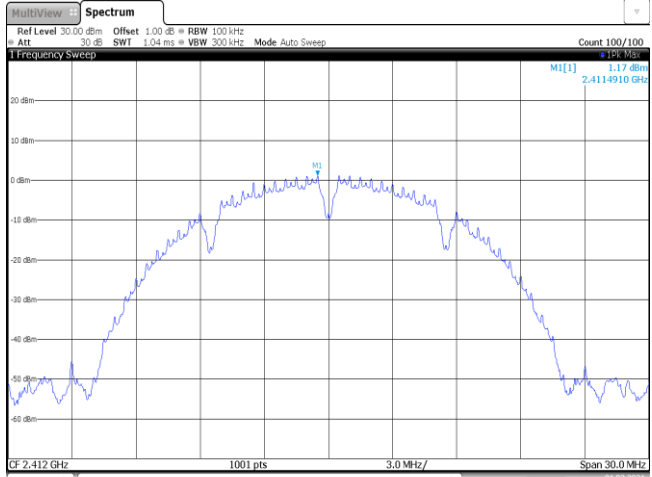
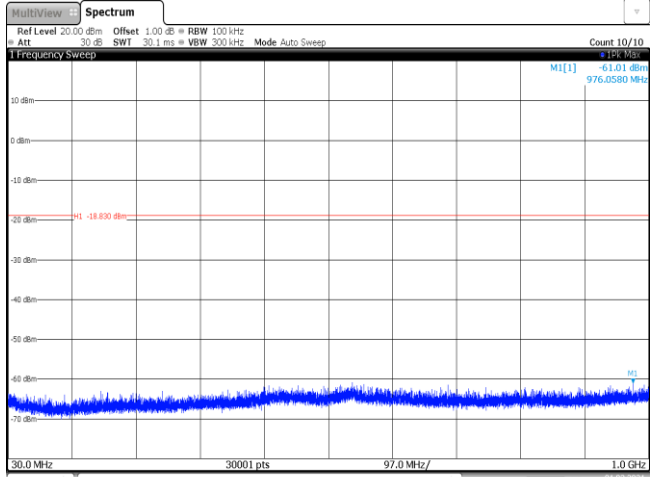
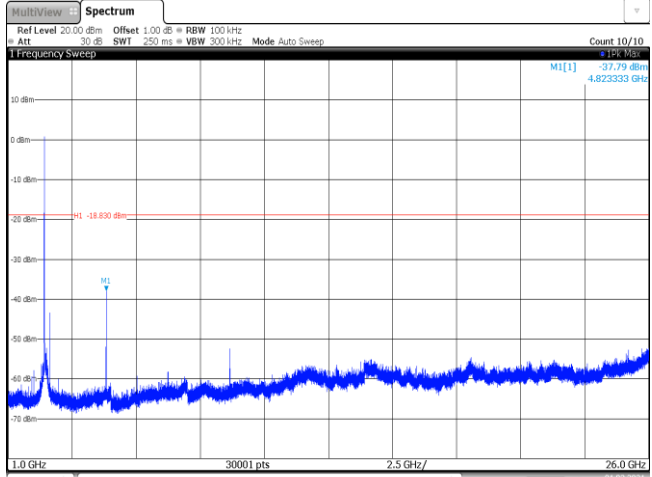
Test Item:	Bandedge	802.11 g	Antenna 0																																										
CH01	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 200/300 1 Frequency Sweep  2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz 2 Marker Table <table><thead><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>2.41064 GHz</td><td>-4.68 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-46.46 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-57.86 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.61 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399936 GHz</td><td>-45.57 dBm</td><td></td><td></td></tr></tbody></table> Date: 1.FEB.2021 14:46:05			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41064 GHz	-4.68 dBm			M2	1		2.4 GHz	-46.46 dBm			M3	1		2.39 GHz	-57.86 dBm			M4	1		2.31 GHz	-62.61 dBm			M5	1		2.399936 GHz	-45.57 dBm		
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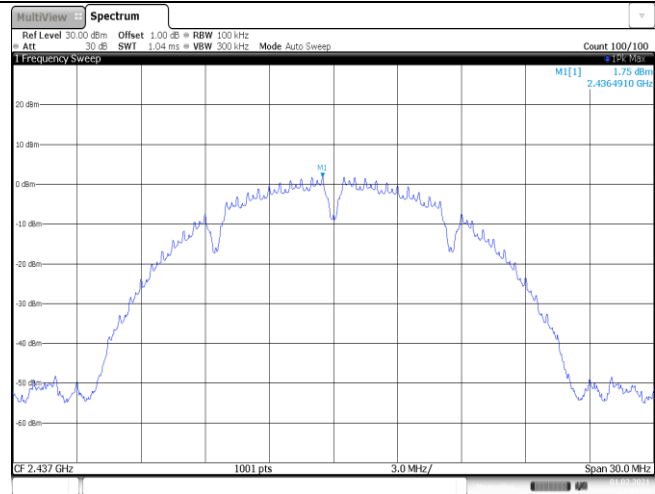
Test Item:	Bandedge	802.11 b	Antenna 1																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.31 GHz 1001 pts 11.2 MHz/ 2.472 GHz M1[1] 1.55 dBm M2[1] 2.412430 GHz -42.61 dBm M3[1] 2.400000 GHz 2.31 GHz 1001 pts 11.2 MHz/ 2.472 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>2.41243 GHz</td><td>1.55 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-42.61 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-55.14 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-61.64 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399936 GHz</td><td>-42.00 dBm</td><td></td><td></td></tr></table> Date: 1.FEB.2021 14:05:57			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41243 GHz	1.55 dBm			M2	1		2.4 GHz	-42.61 dBm			M3	1		2.39 GHz	-55.14 dBm			M4	1		2.31 GHz	-61.64 dBm			M5	1		2.399936 GHz	-42.00 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.41243 GHz	1.55 dBm																																									
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CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.452 GHz 1001 pts 4.8 MHz/ 2.5 GHz M1[1] 1.70 dBm M2[1] 2.4614710 GHz -56.16 dBm M3[1] 2.4835000 GHz 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>2.461471 GHz</td><td>1.70 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-56.16 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-47.52 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.499952 GHz</td><td>-49.49 dBm</td><td></td><td></td></tr></table> Date: 1.FEB.2021 14:02:40			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.461471 GHz	1.70 dBm			M2	1		2.4835 GHz	-56.16 dBm			M3	1		2.5 GHz	-47.52 dBm			M4	1		2.499952 GHz	-49.49 dBm									
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M4	1		2.499952 GHz	-49.49 dBm																																									

Test Item:	Bandedge	802.11 g	Antenna 1
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		

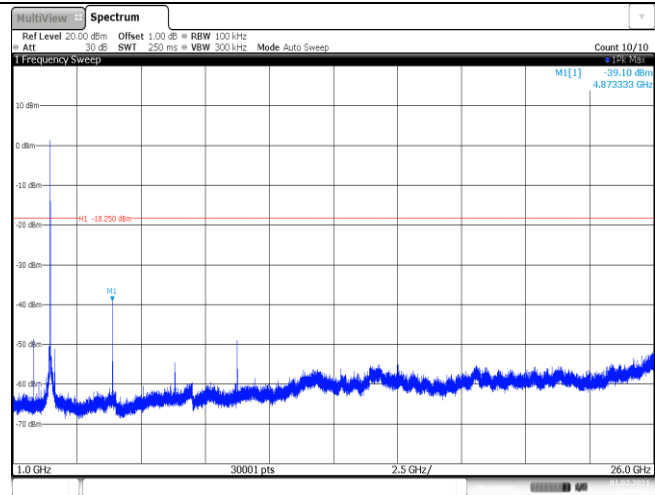
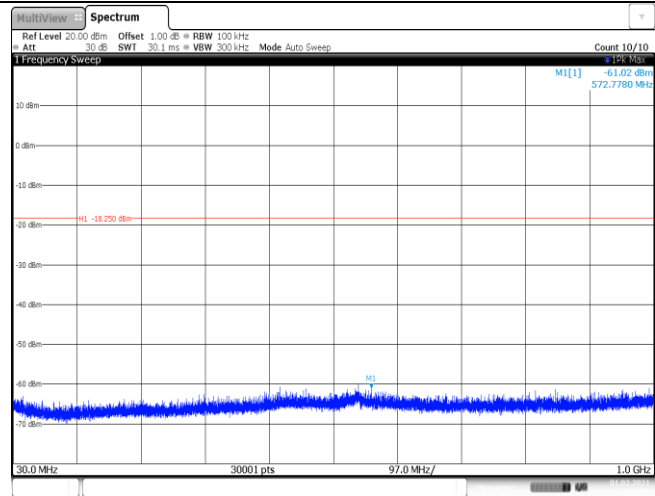
Test Item:	Bandedge	802.11 n(HT20)	Antenna 1																																										
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CH11	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz ATT 30 dB SWF 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] -3.34 dBm M2[1] -56.45 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>2.460751 GHz</td><td>-3.34 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-56.45 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-47.38 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.499952 GHz</td><td>-50.06 dBm</td><td></td><td></td></tr></tbody></table> Date: 1.FEB.2021 15:51:00			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.460751 GHz	-3.34 dBm			M2	1		2.4835 GHz	-56.45 dBm			M3	1		2.5 GHz	-47.38 dBm			M4	1		2.499952 GHz	-50.06 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M3	1		2.5 GHz	-47.38 dBm																																									
M4	1		2.499952 GHz	-50.06 dBm																																									

Test Item:	SE	802.11 b	Antenna 0
Reference level CH01	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWF 1.04 ms VSW 300 kHz Mode Auto Sweep Count 100/100 M1 1.17 dBm 2.4114910 GHz CF 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 1 FEB 2021 13:58:19		
CH01	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWF 30.1 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1 1 -61.01 dBm 976.0580 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 1 FEB 2021 13:58:05		
	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWF 250 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1 1 -37.79 dBm 4.823333 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 1 FEB 2021 13:58:52		

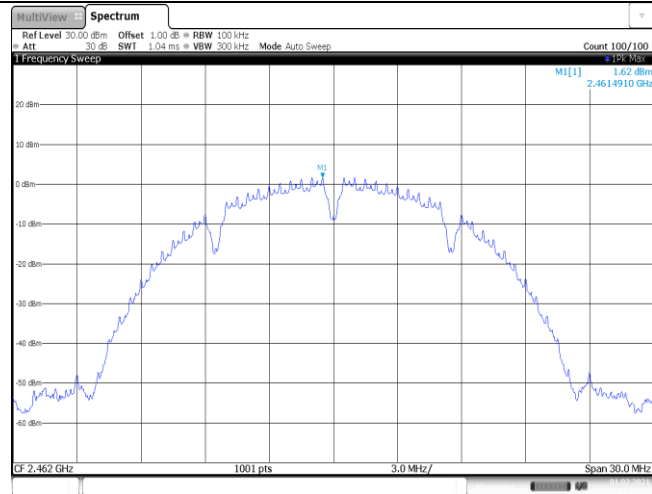
Reference level CH06



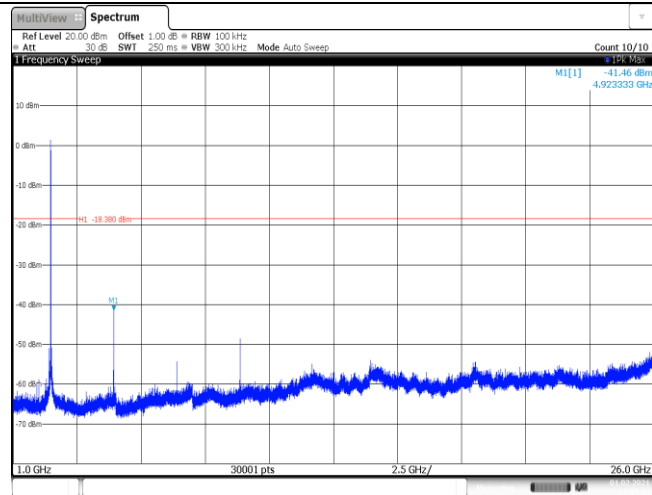
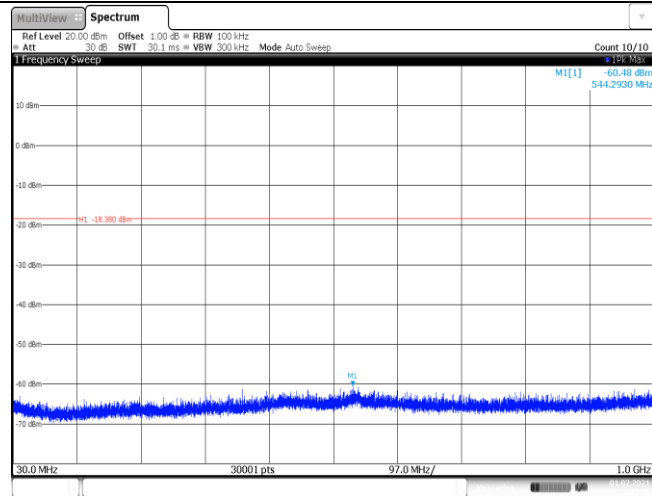
CH06

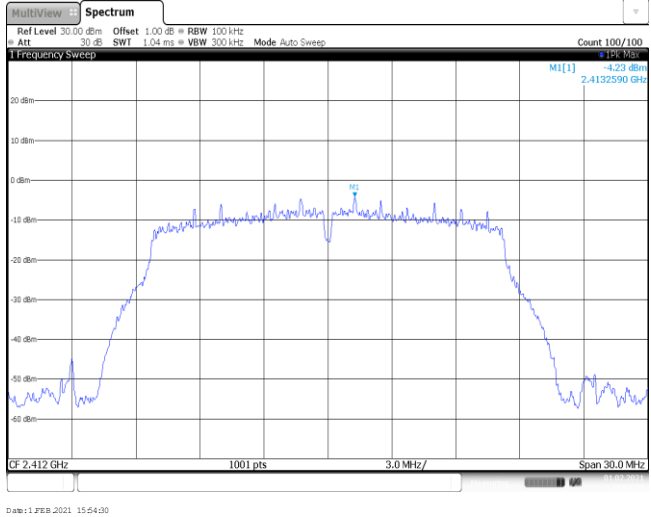
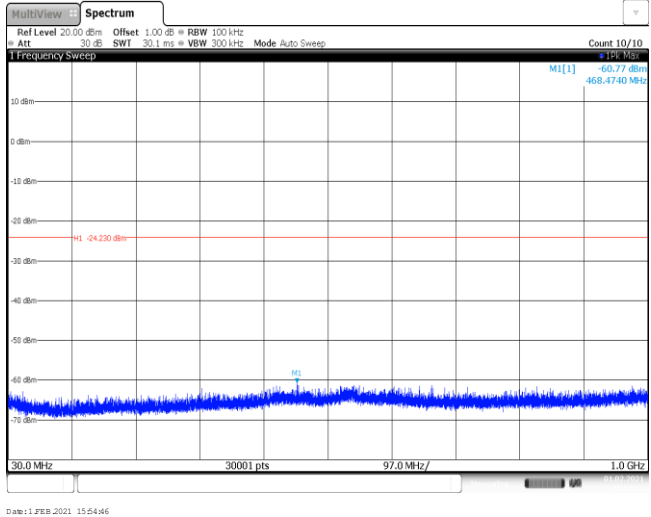
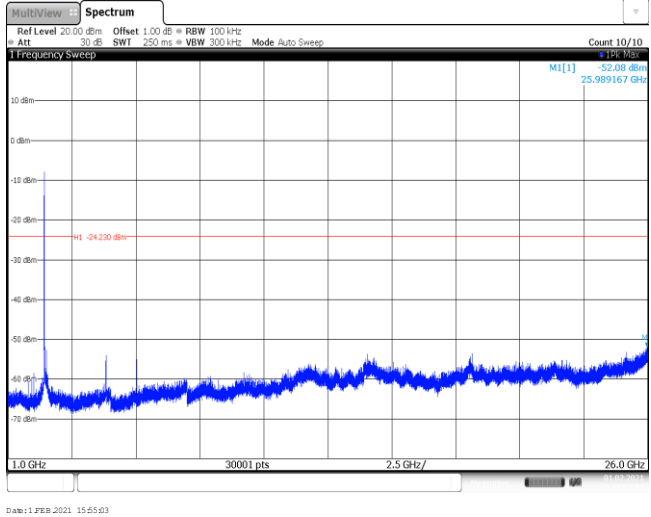


Reference level CH11

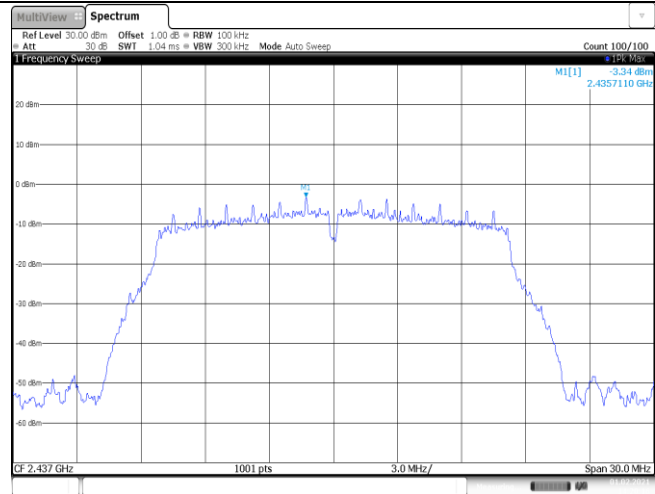


CH11

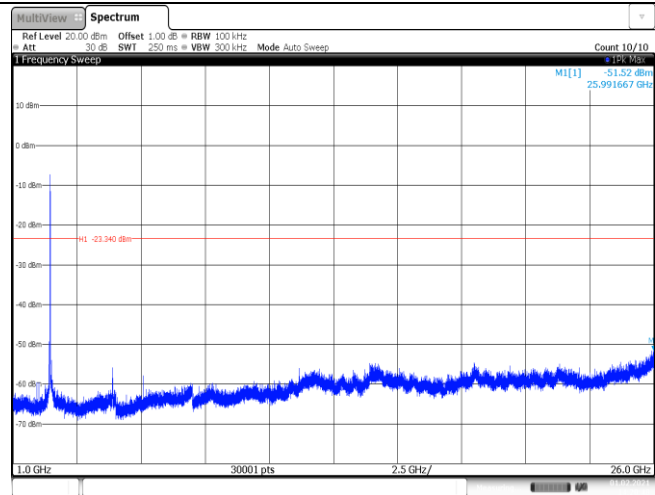
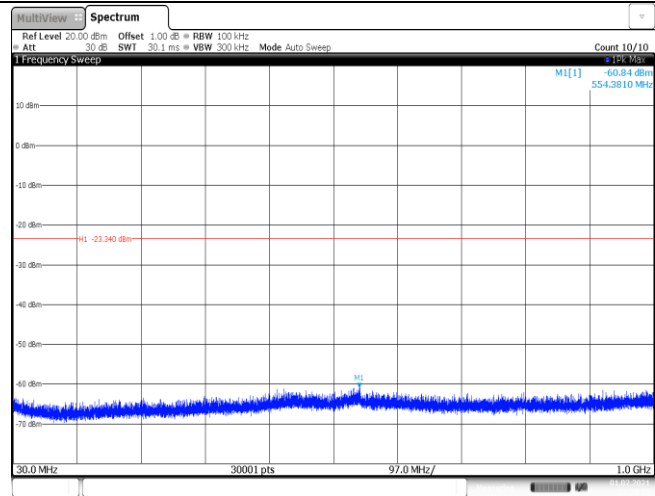


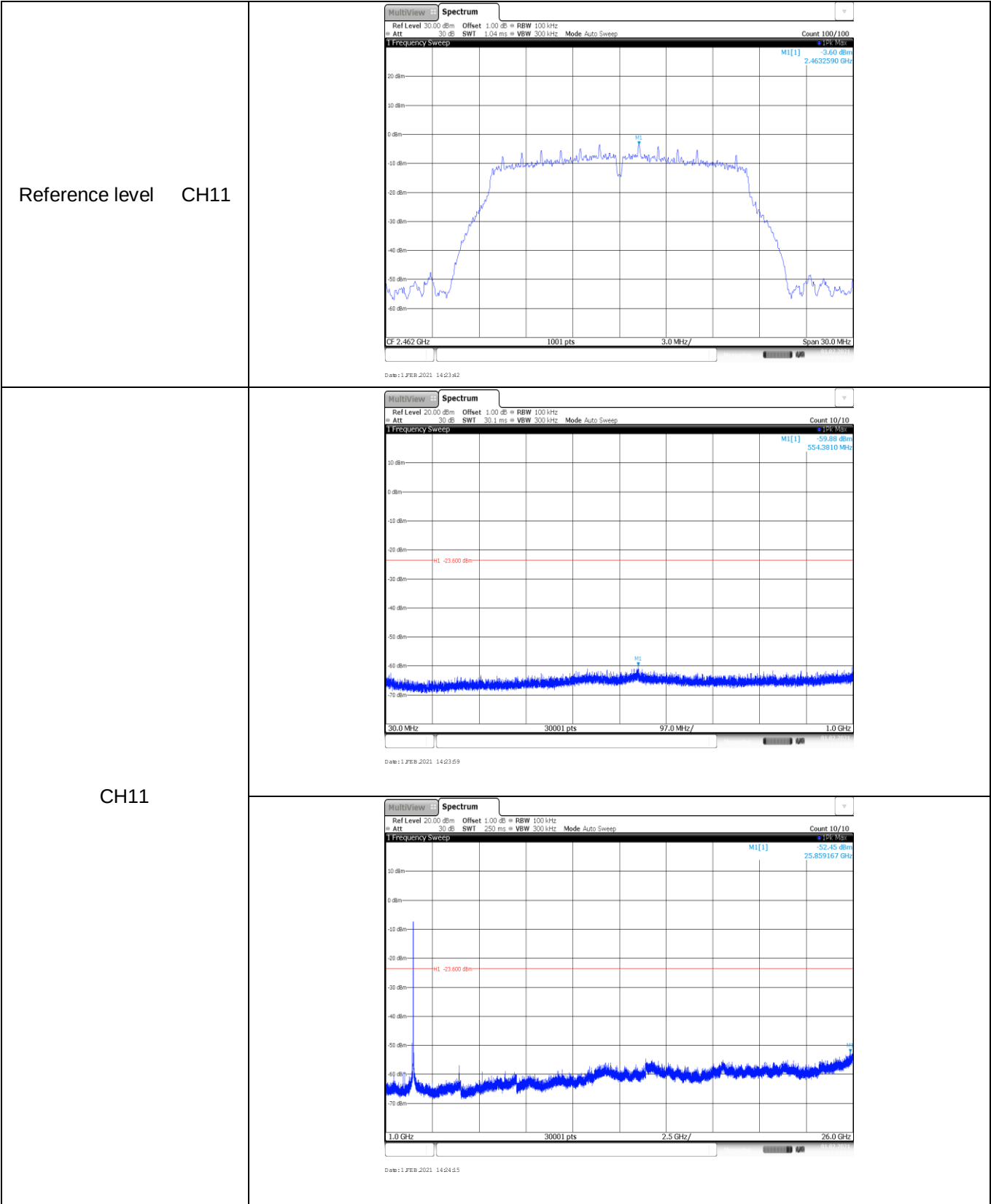
Test Item:	SE	802.11 g	Antenna 0
Reference level CH01			
CH01			
			

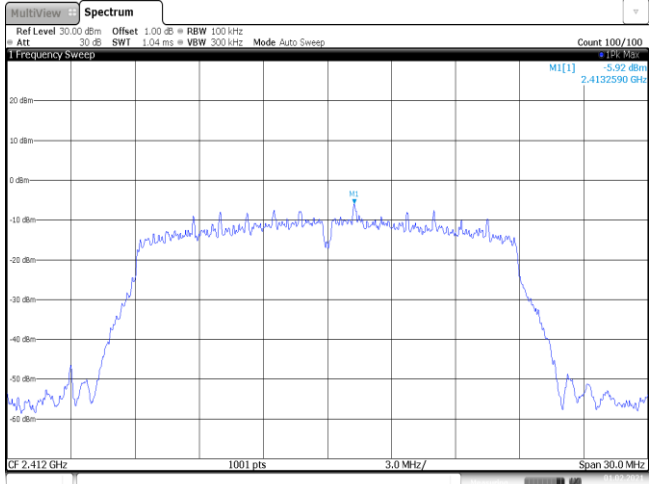
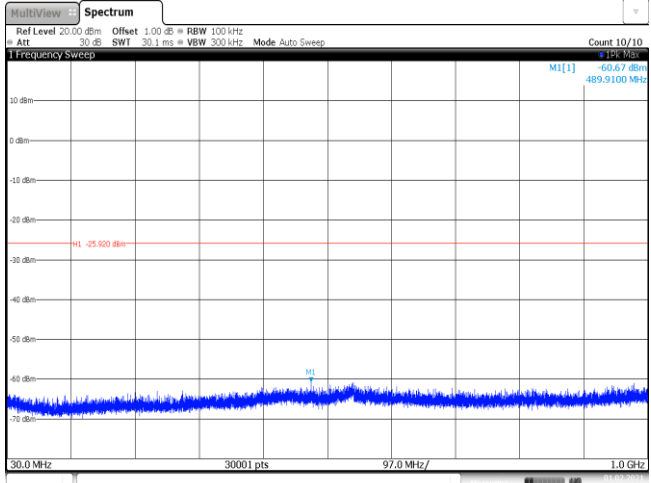
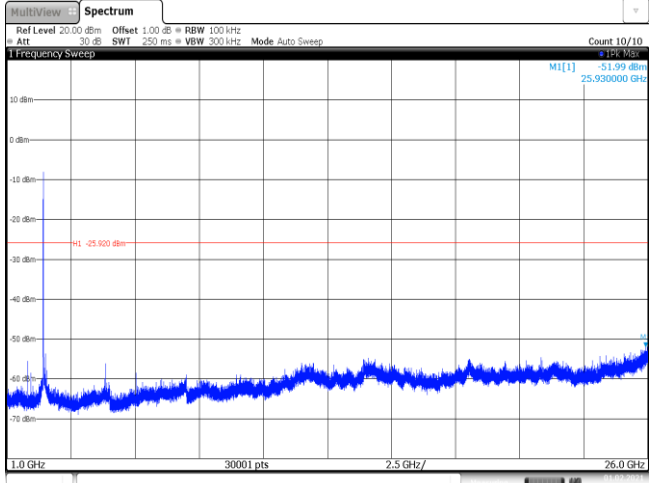
Reference level CH06

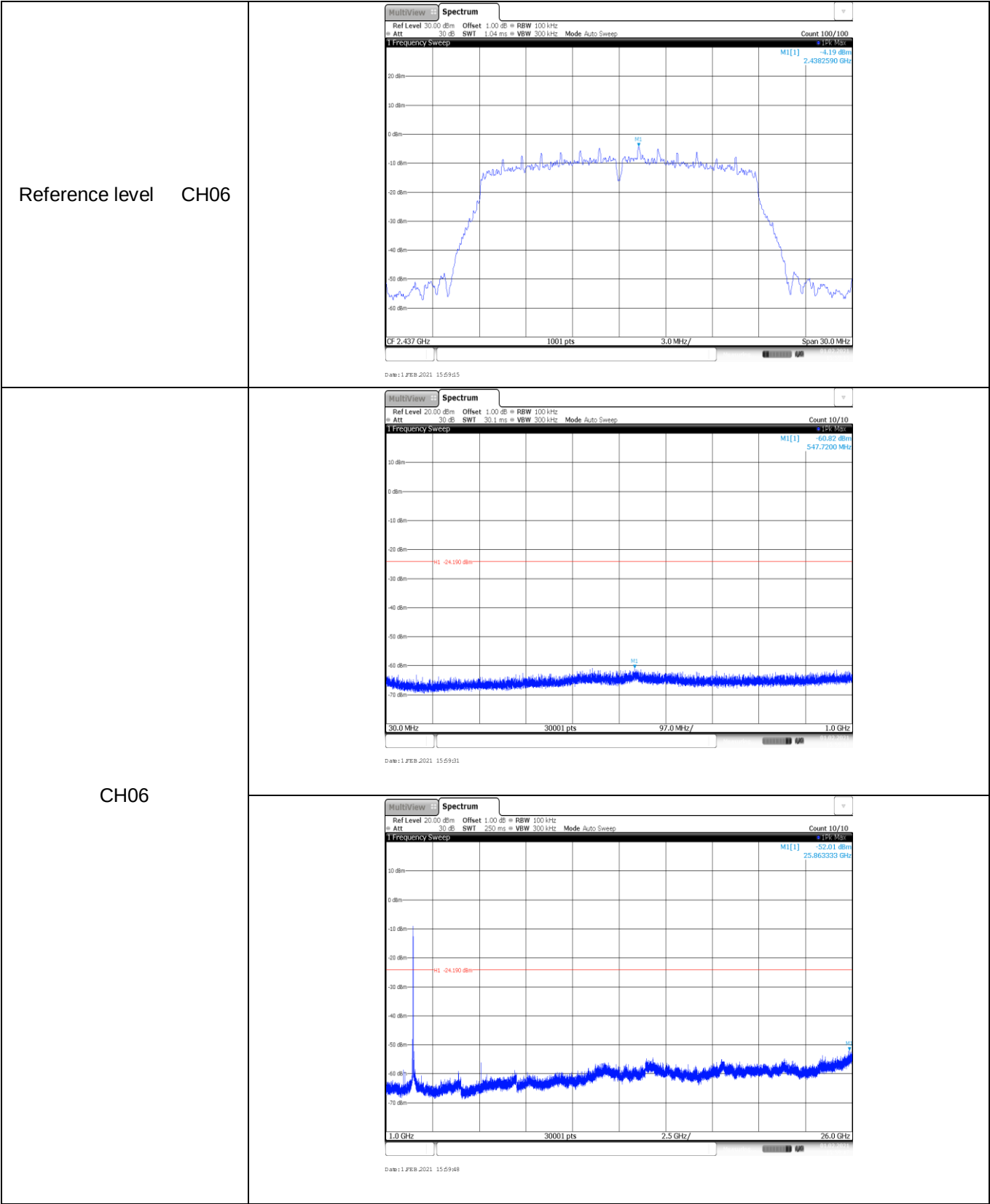


CH06

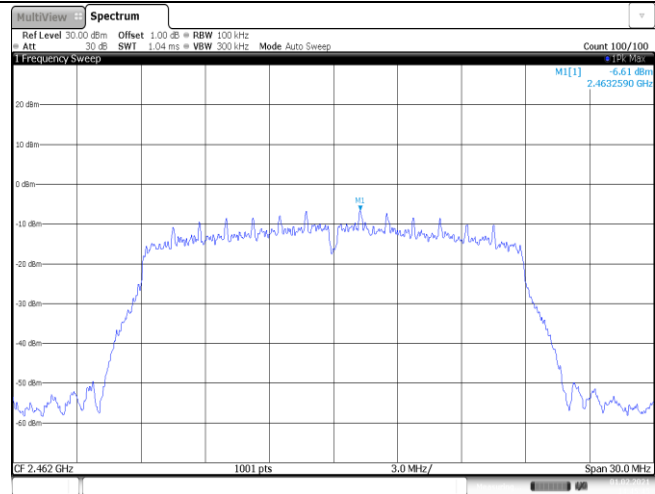




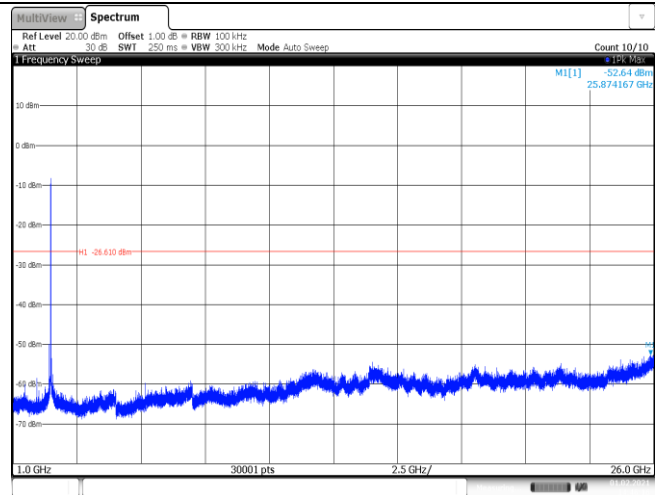
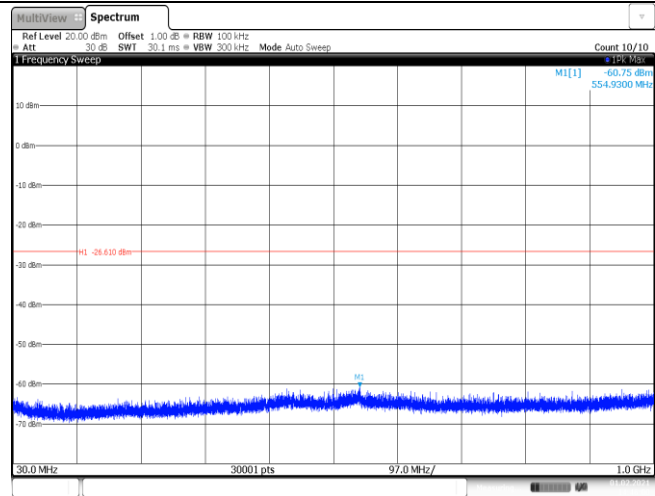
Test Item:	SE	802.11 n(HT20)	Antenna 0
Reference level CH01	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -5.92 dBm 2.4132590 GHz CF 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 1 FEB 2021 14:40:07		
CH01	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.67 dBm 489.9100 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 1 FEB 2021 14:40:23		
	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -51.99 dBm 25.930000 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 1 FEB 2021 14:40:09		

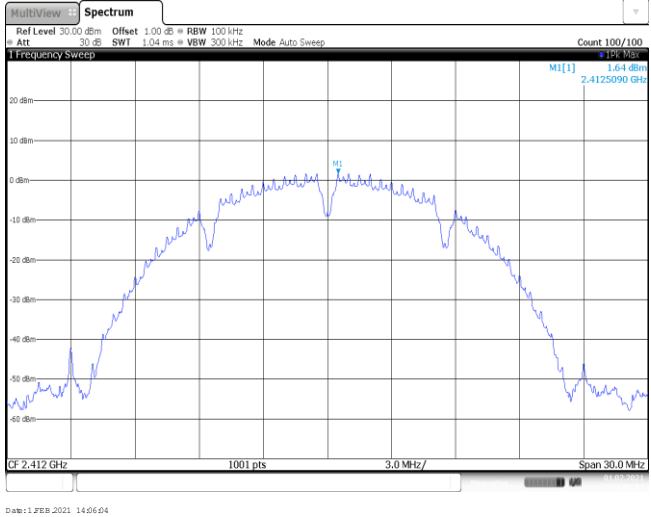
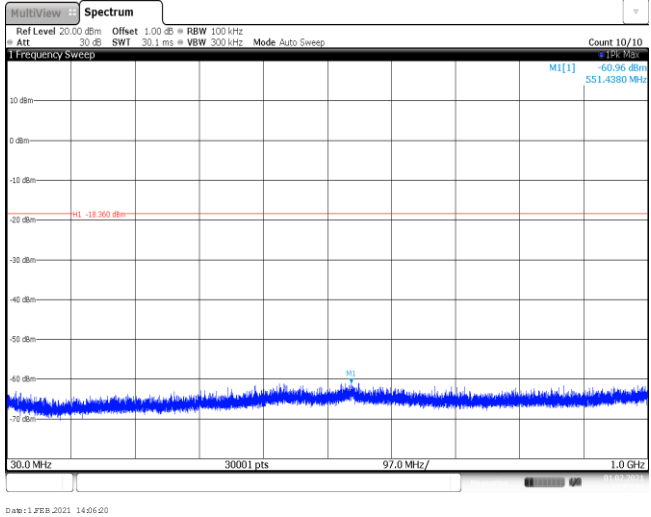
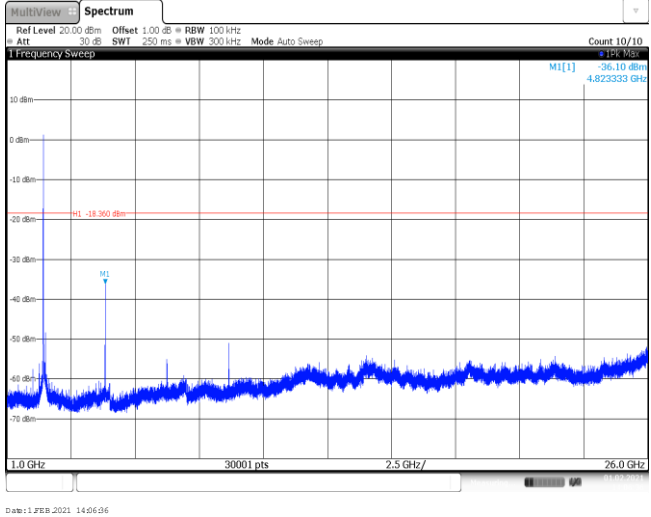


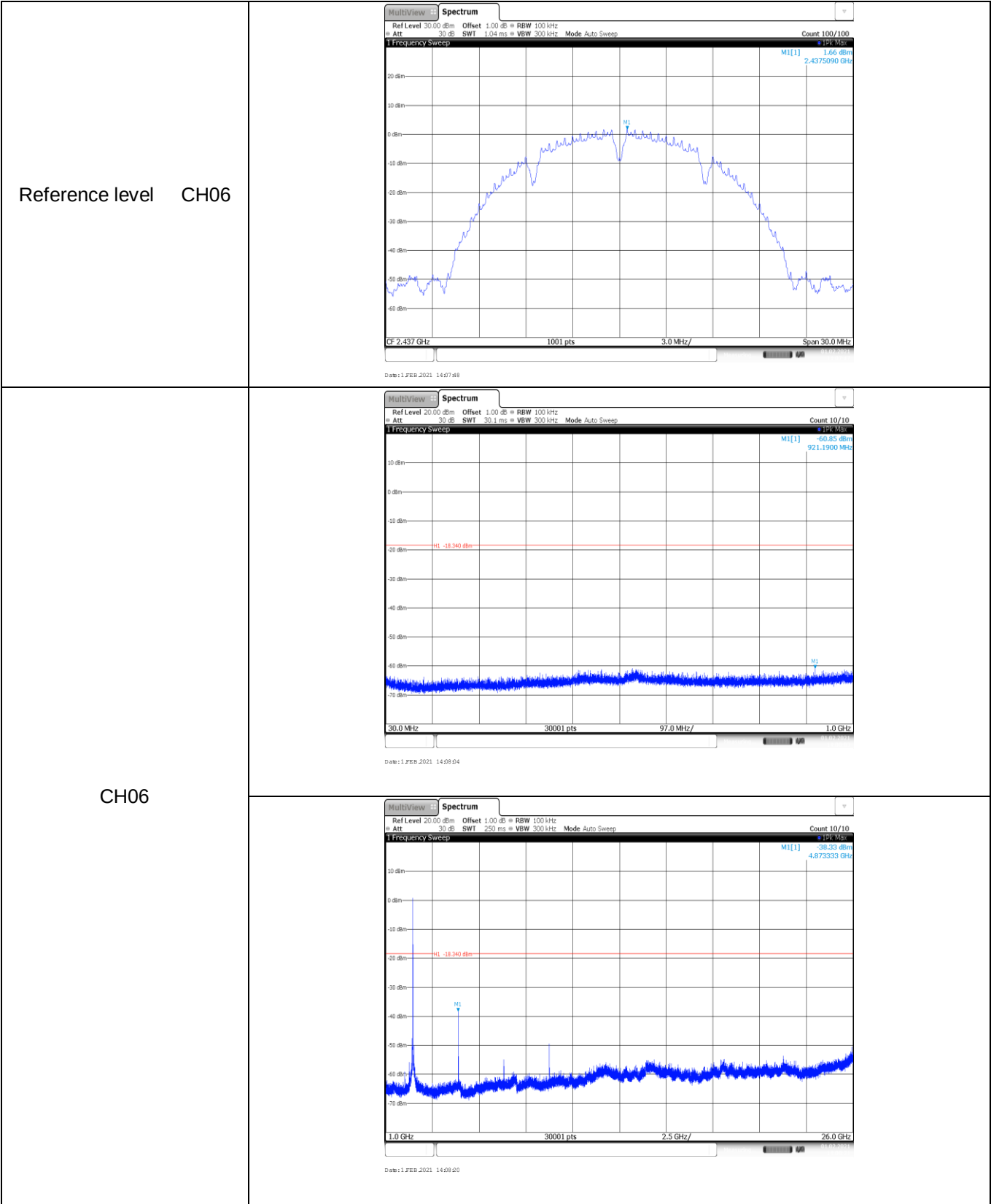
Reference level CH11



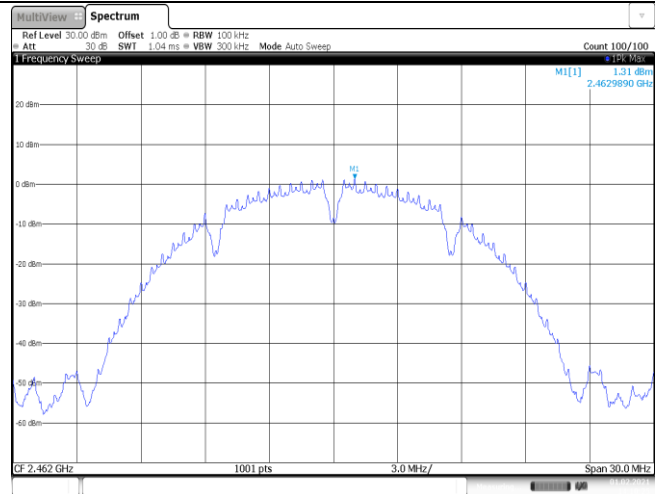
CH11



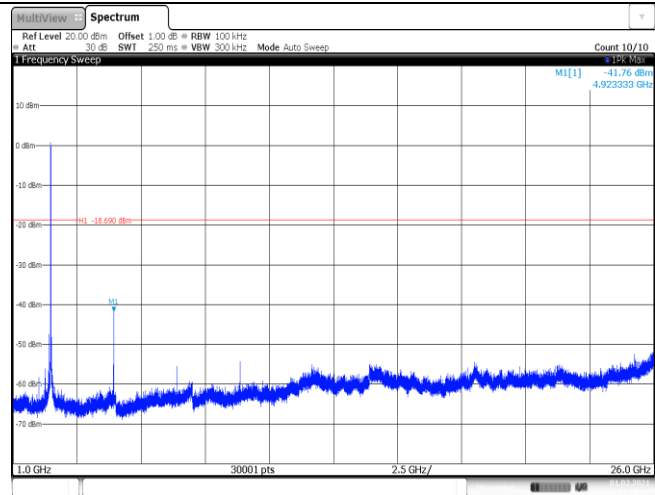
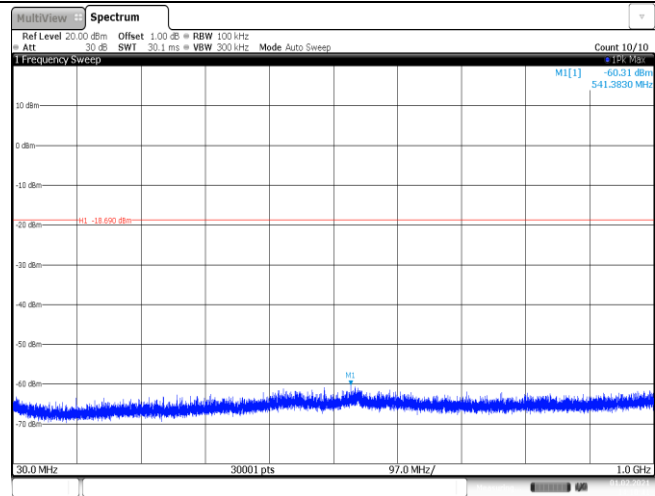
Test Item:	SE	802.11 b	Antenna 1
Reference level CH01			
CH01			
			

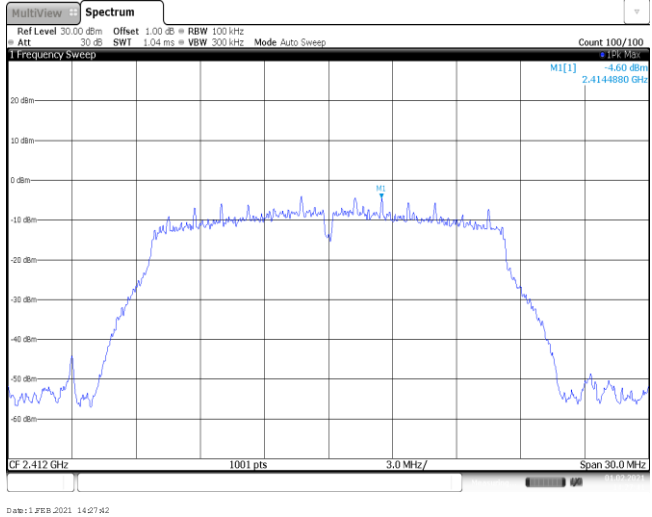
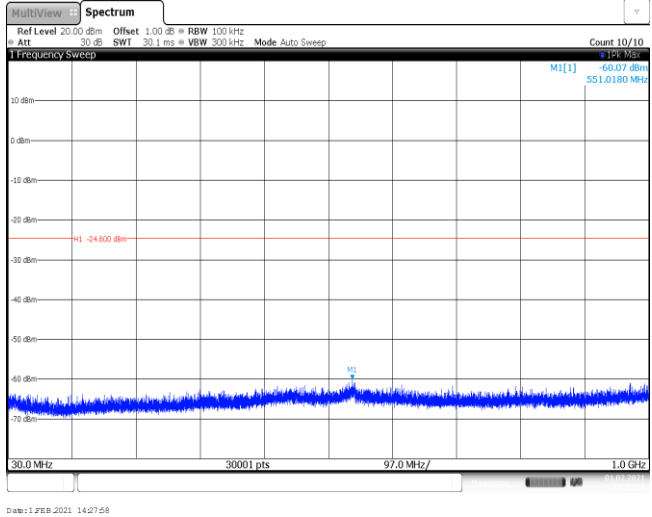
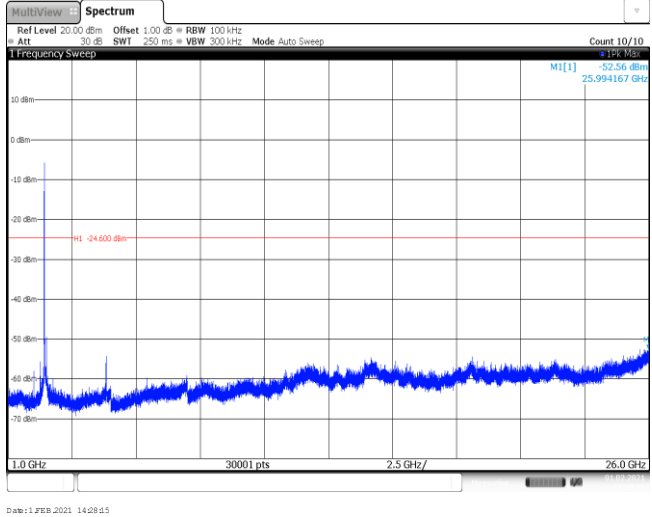


Reference level CH11

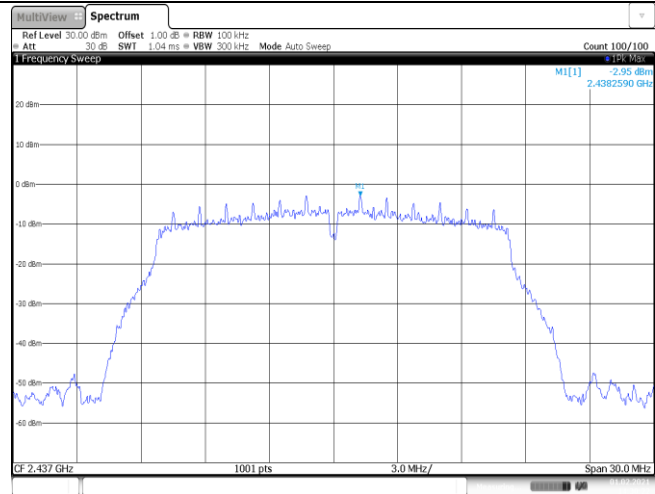


CH11

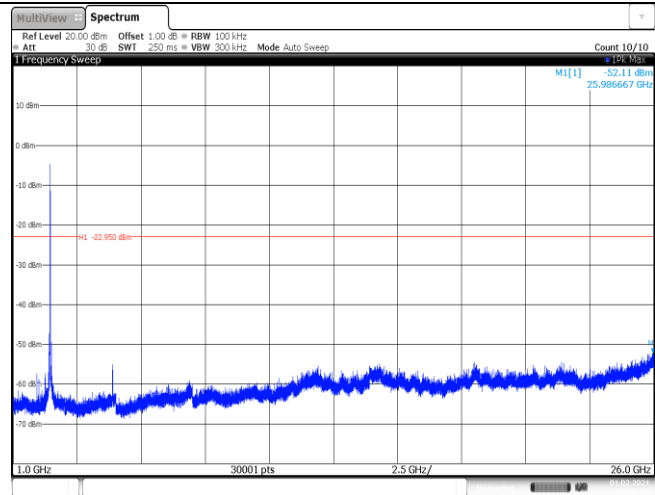
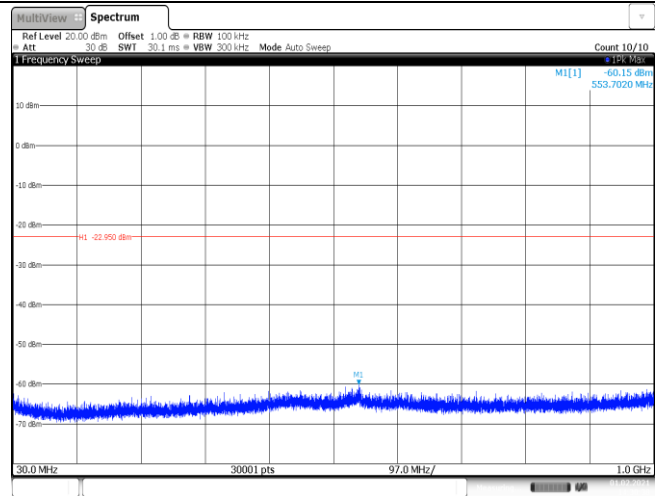


Test Item:	SE	802.11 g	Antenna 1
Reference level CH01			
CH01			
			

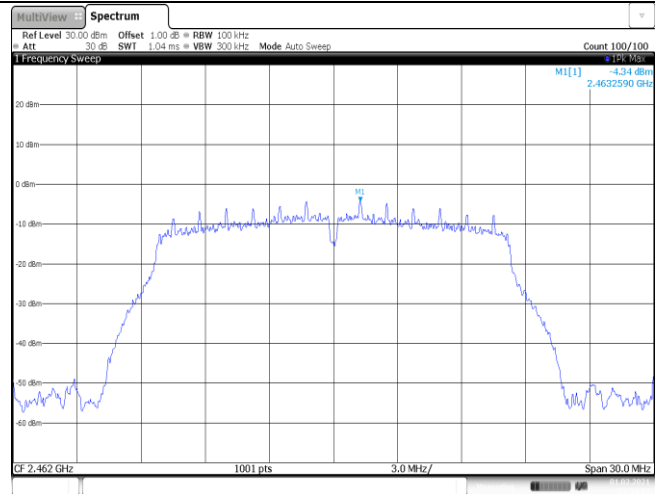
Reference level CH06



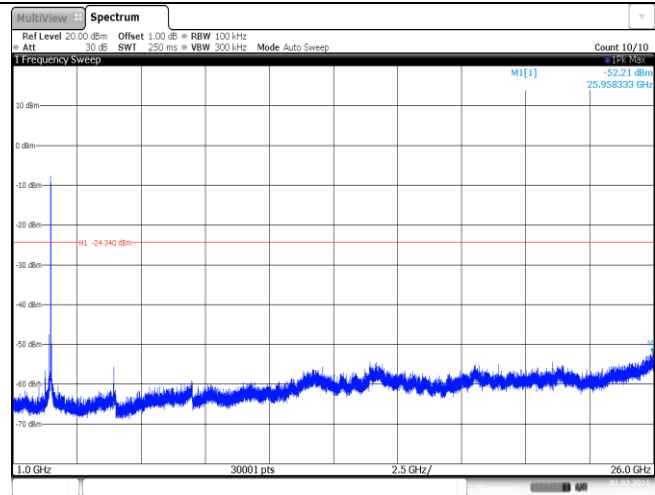
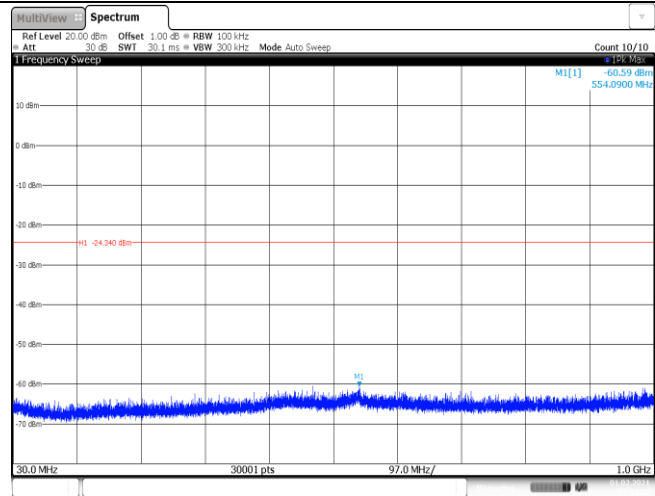
CH06

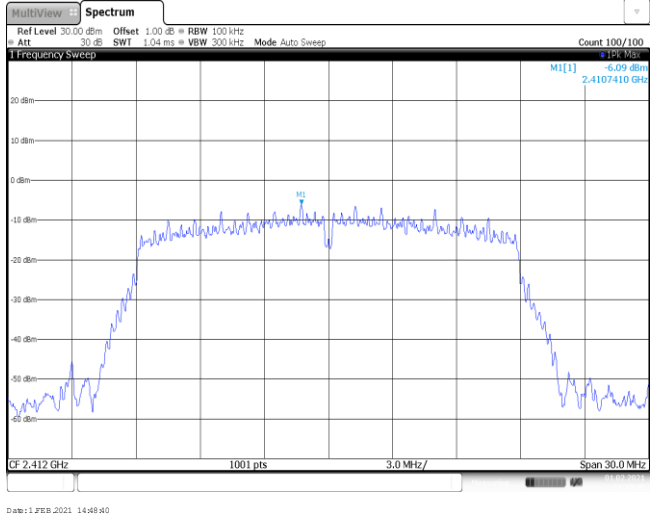
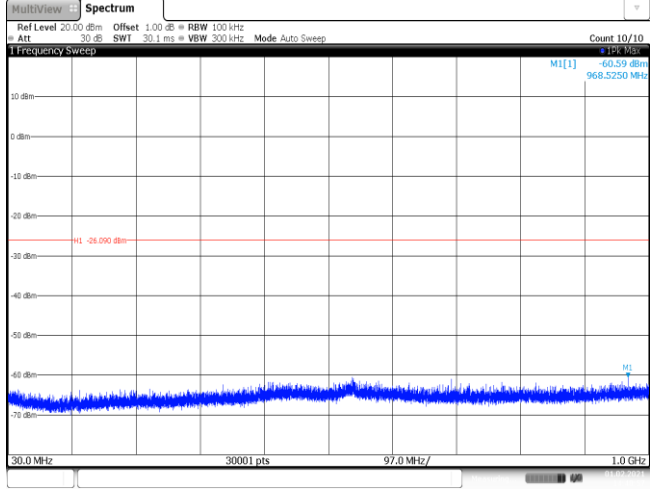
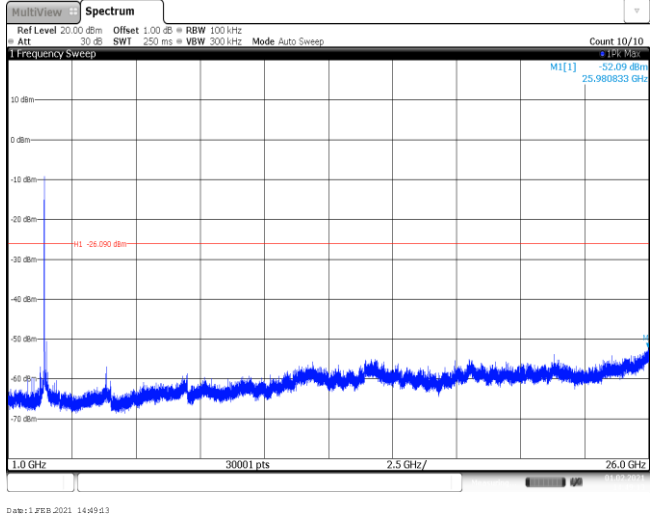


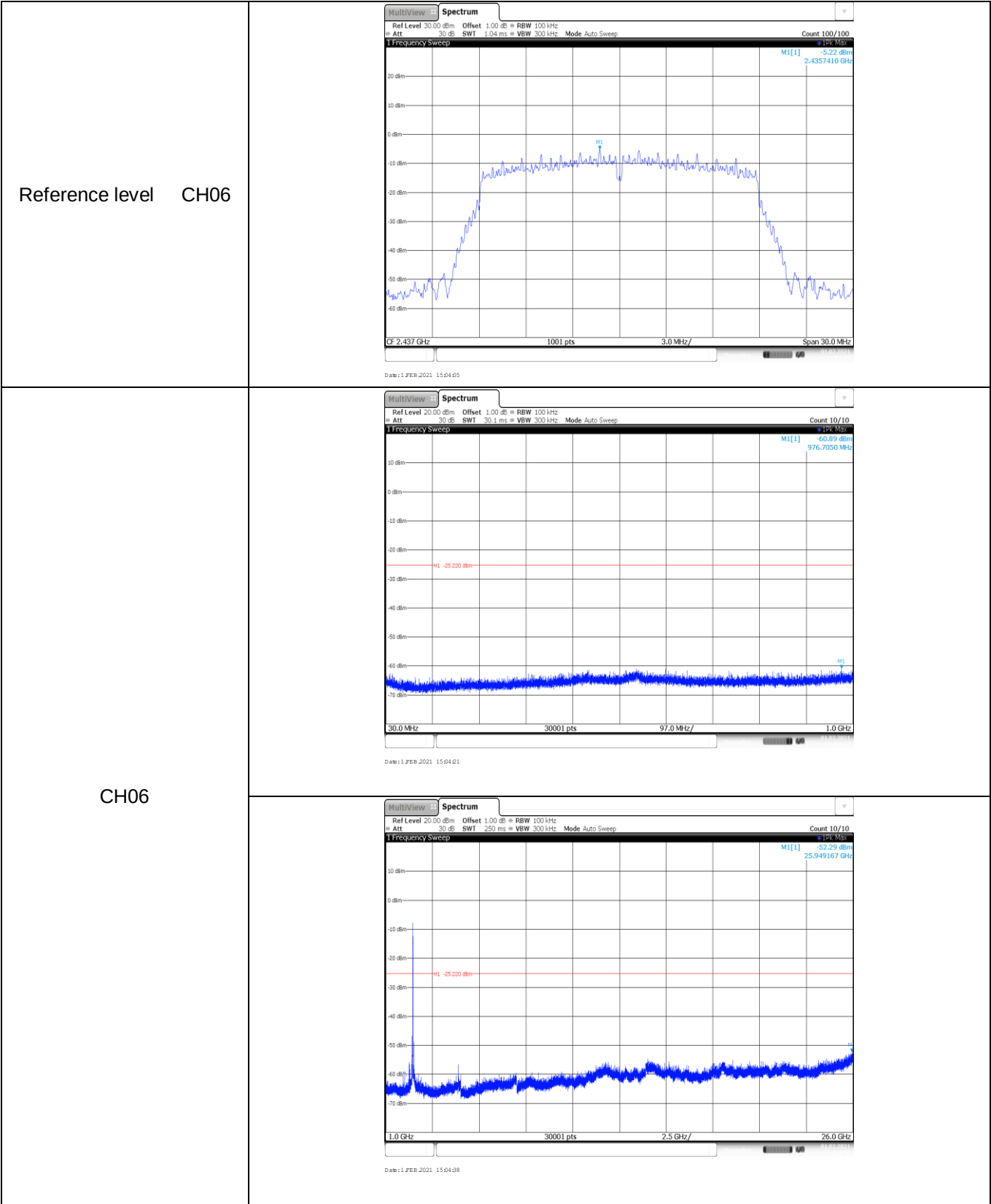
Reference level CH11



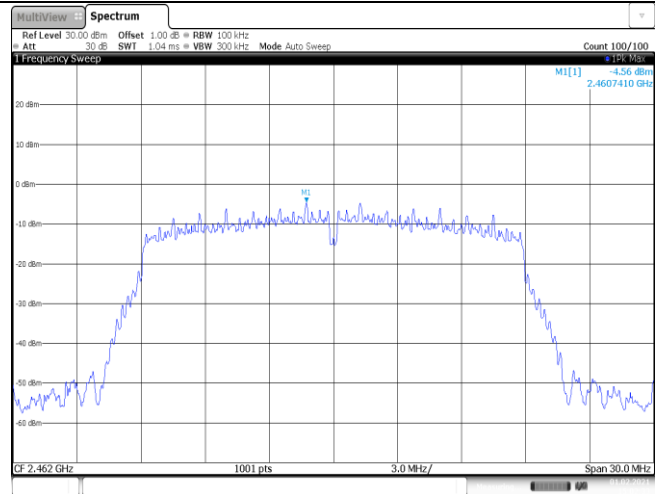
CH11



Test Item:	SE	802.11 n(HT20)	Antenna 1
Reference level CH01			
CH01			
			

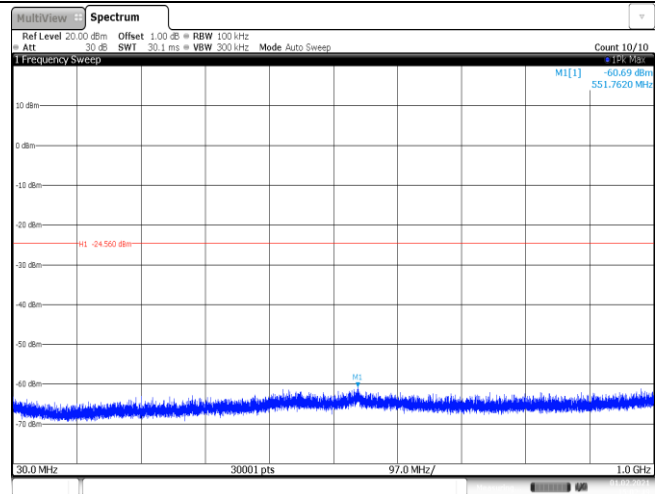


Reference level CH11

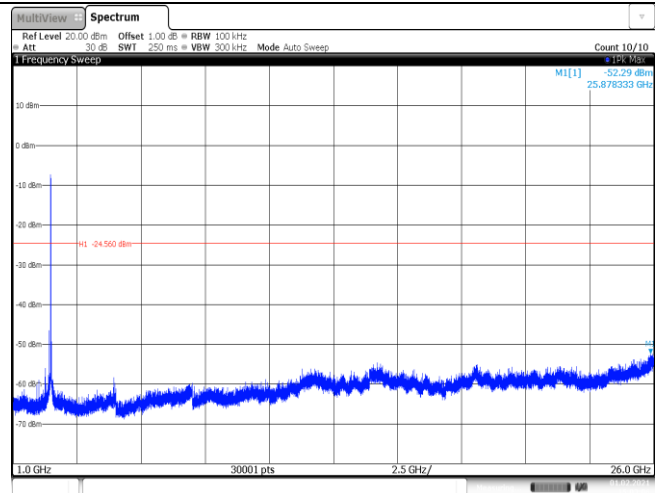


Date: 1.FEB.2021 15:02:33

CH11



Date: 1.FEB.2021 15:02:49



Date: 1.FEB.2021 15:03:05

.....End of Report.....