

APPENDIX REPORT

Project No.	SHT1911060702EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT19110607028	Model No.	TE300
Start test date	2020/1/2	Finish date	2020/1/2
Temperature	25°C	Humidity	50%
Test Engineer	Ximing.Huang	Auditor	<i>William.wang</i>

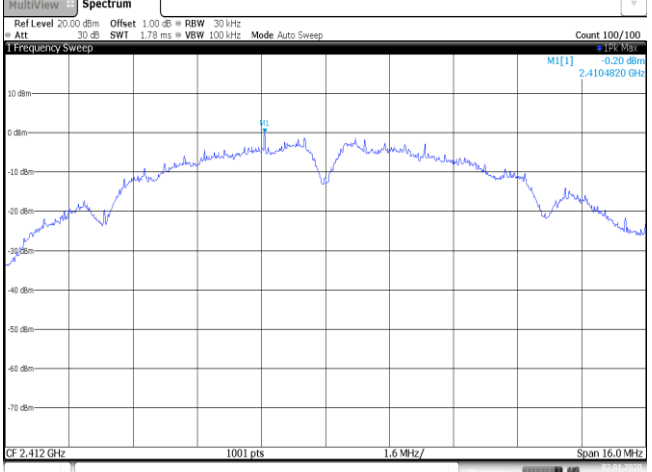
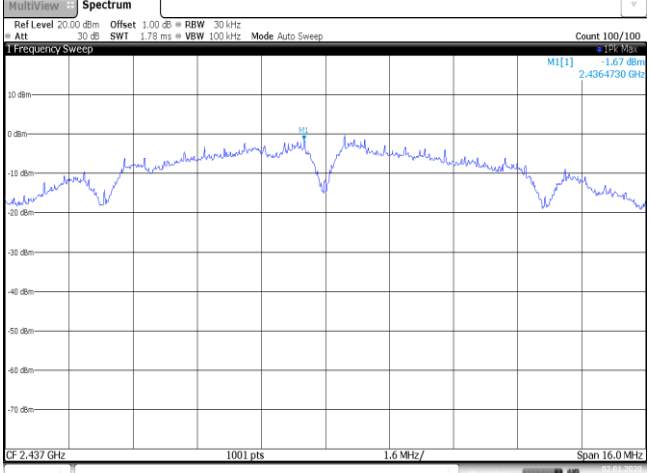
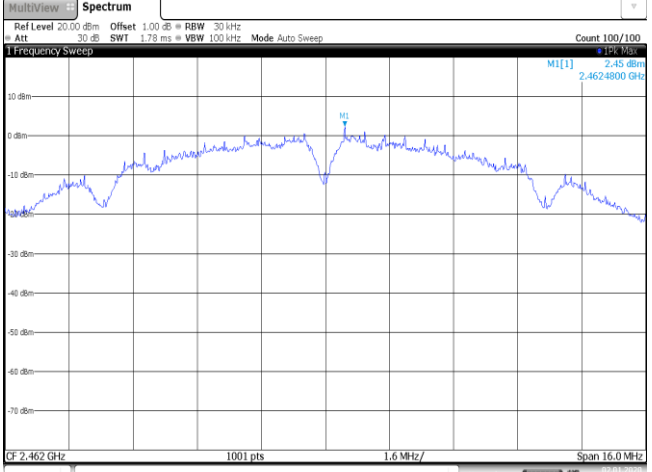
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
E	Band edge and Spurious Emissions (conducted)	PASS

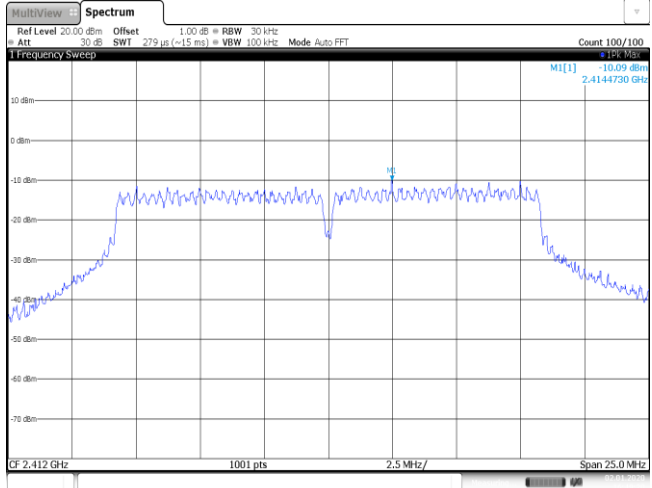
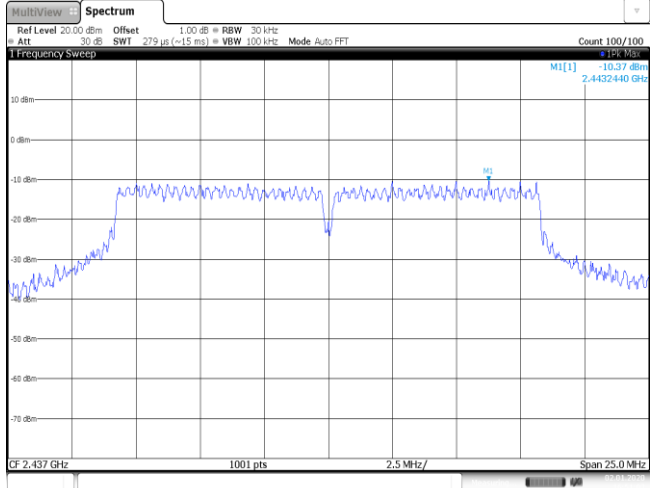
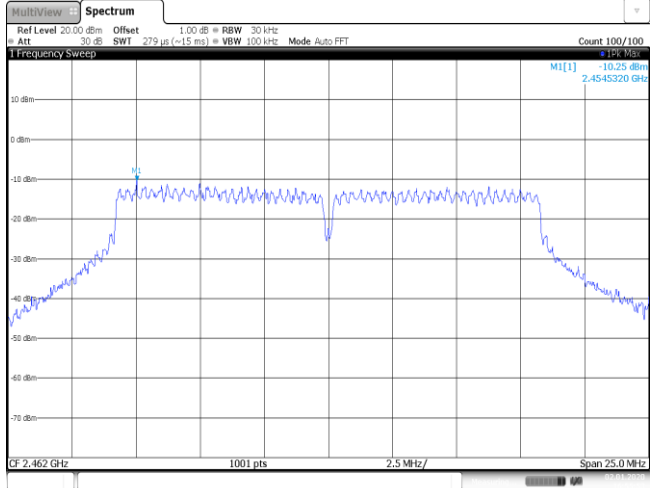
Appendix A: Conducted Peak Output Power

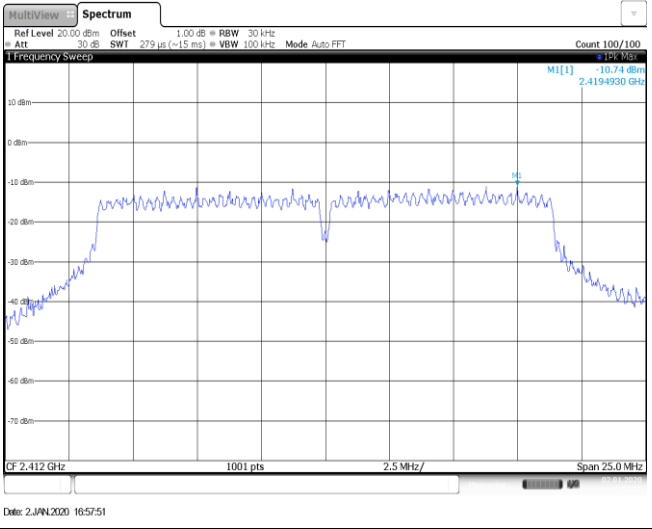
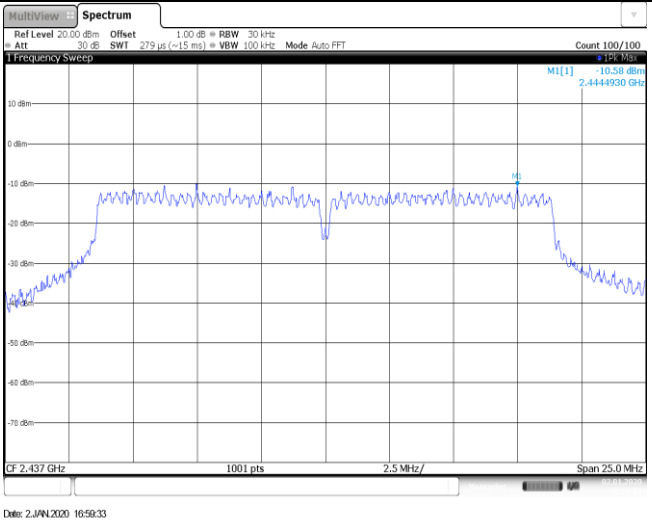
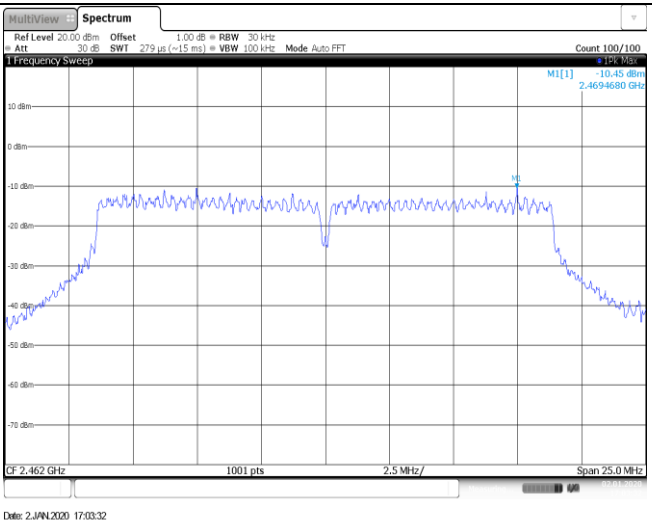
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	13.27	11.56	≤30.00	Pass
	06	13.89	11.67		
	11	15.20	13.41		
802.11g	01	14.61	12.58	≤30.00	Pass
	06	14.99	12.61		
	11	13.63	11.42		
802.11n(HT20)	01	14.26	12.75	≤30.00	Pass
	06	14.62	12.93		
	11	13.52	11.85		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-0.20	≤8.00	Pass
	06	-1.67		
	11	2.45		
802.11g	01	-10.09	≤8.00	Pass
	06	-10.37		
	11	-10.25		
802.11n(HT20)	01	-10.74	≤8.00	Pass
	06	-10.58		
	11	-10.45		

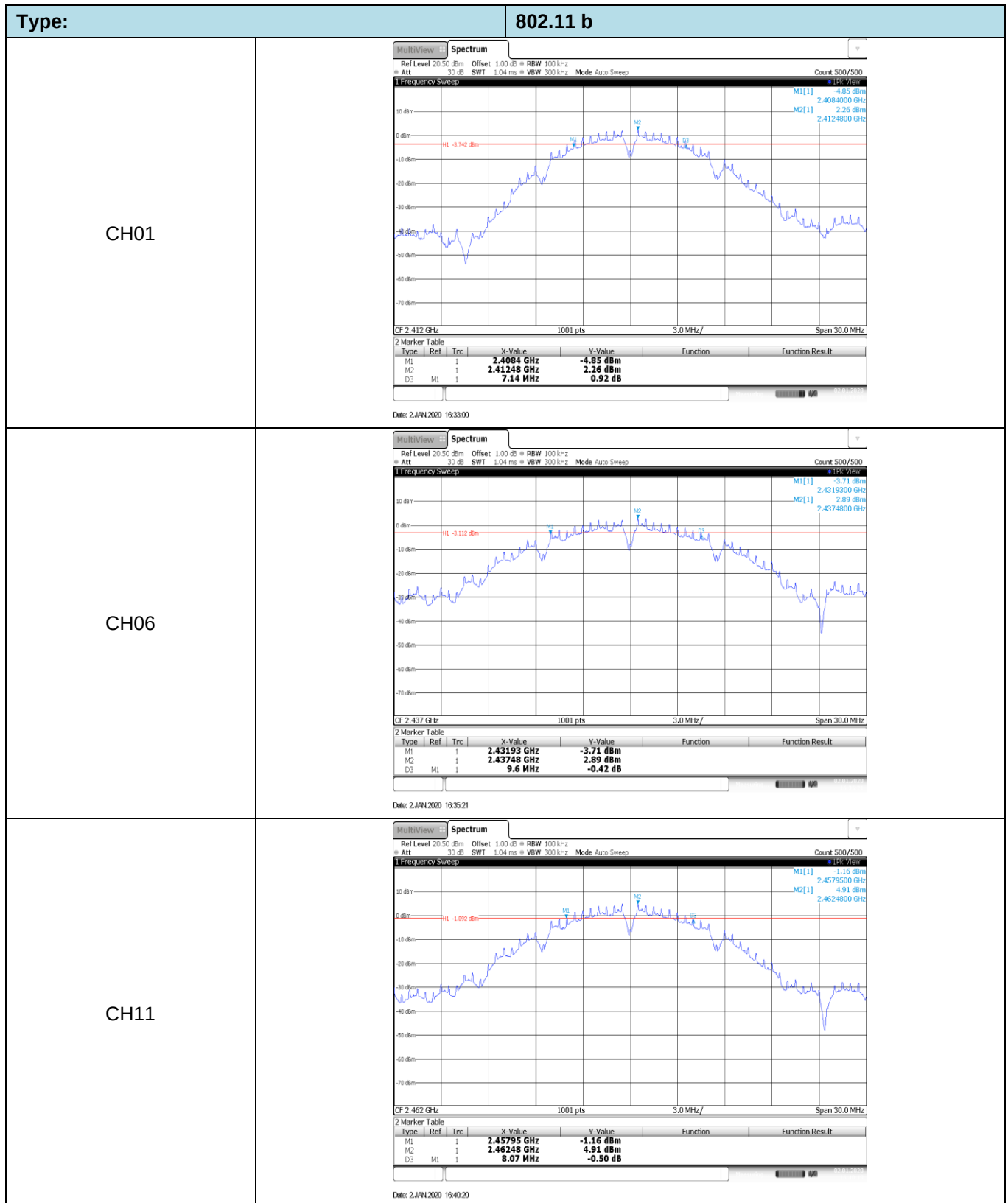
Type:	802.11 b
CH01	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 1.28 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -0.20 dBm 2.4104820 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.412 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 2/JAN/2020 16:33:24
CH06	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 1.28 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -1.67 dBm 2.4364730 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: 2/JAN/2020 16:35:42
CH11	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 30 kHz Att 30 dB SWT 1.28 ms VBW 100 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] 2.45 dBm 2.4624800 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: 2/JAN/2020 16:40:40

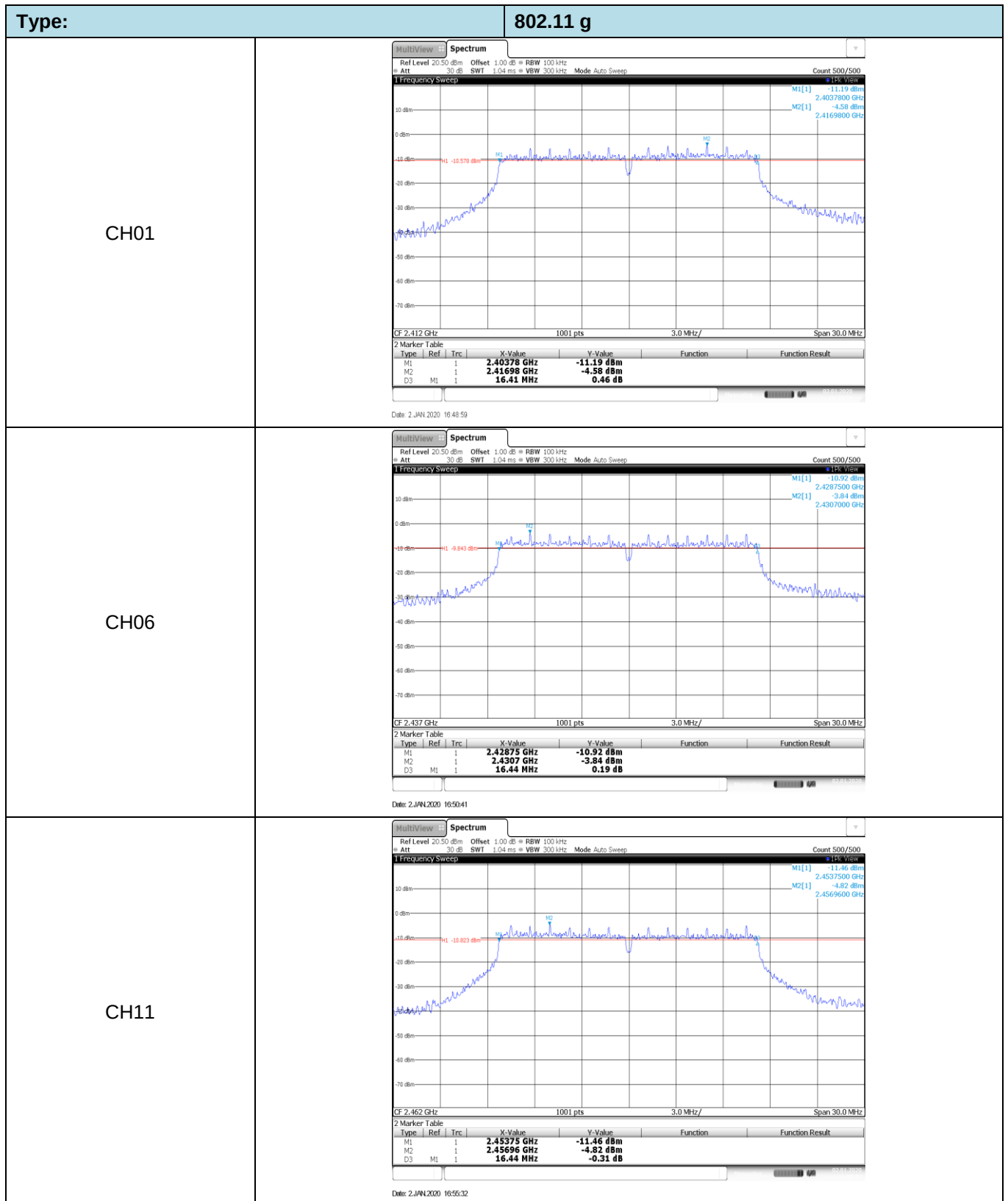
Type:	802.11 g
CH01	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.09 dBm 2.4144730 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 2 JUN 2020 16:48:19
CH06	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.37 dBm 2.4432440 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 2 JUN 2020 16:51:03
CH11	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.25 dBm 2.4543320 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 2 JUN 2020 16:55:53

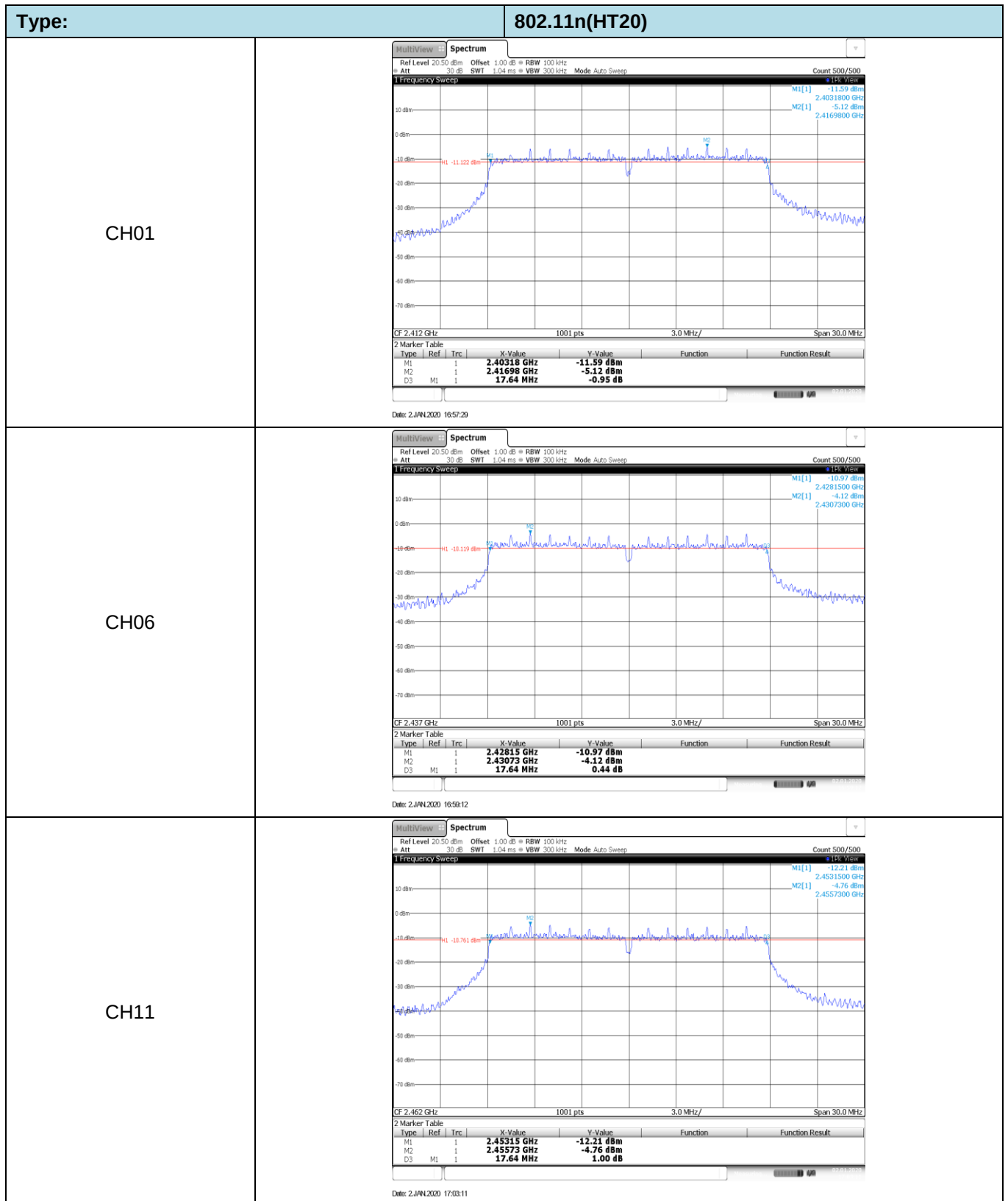
Type:	802.11n(HT20)
CH01	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.74 dBm 2.4194930 GHz Date: 2 JUN 2020 16:57:51
CH06	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.58 dBm 2.4444930 GHz Date: 2 JUN 2020 16:59:33
CH11	 Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 μs (~1.5 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -10.45 dBm 2.4694680 GHz Date: 2 JUN 2020 17:03:32

Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	7.14	≥0.5	Pass
	06	9.60		
	11	8.07		
802.11g	01	16.41	≥0.5	Pass
	06	16.44		
	11	16.44		
802.11n(HT20)	01	17.64	≥0.5	Pass
	06	17.64		
	11	17.64		

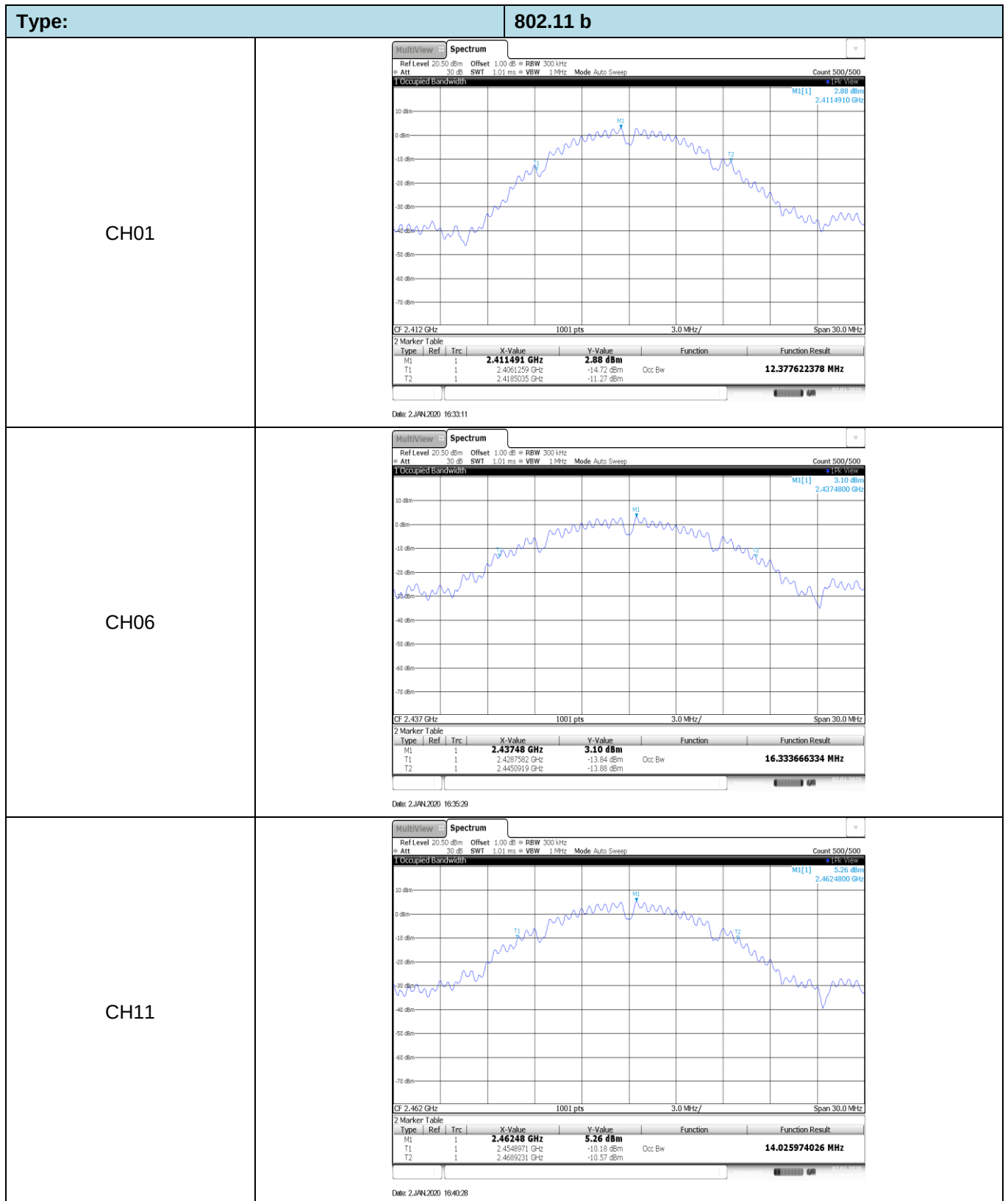


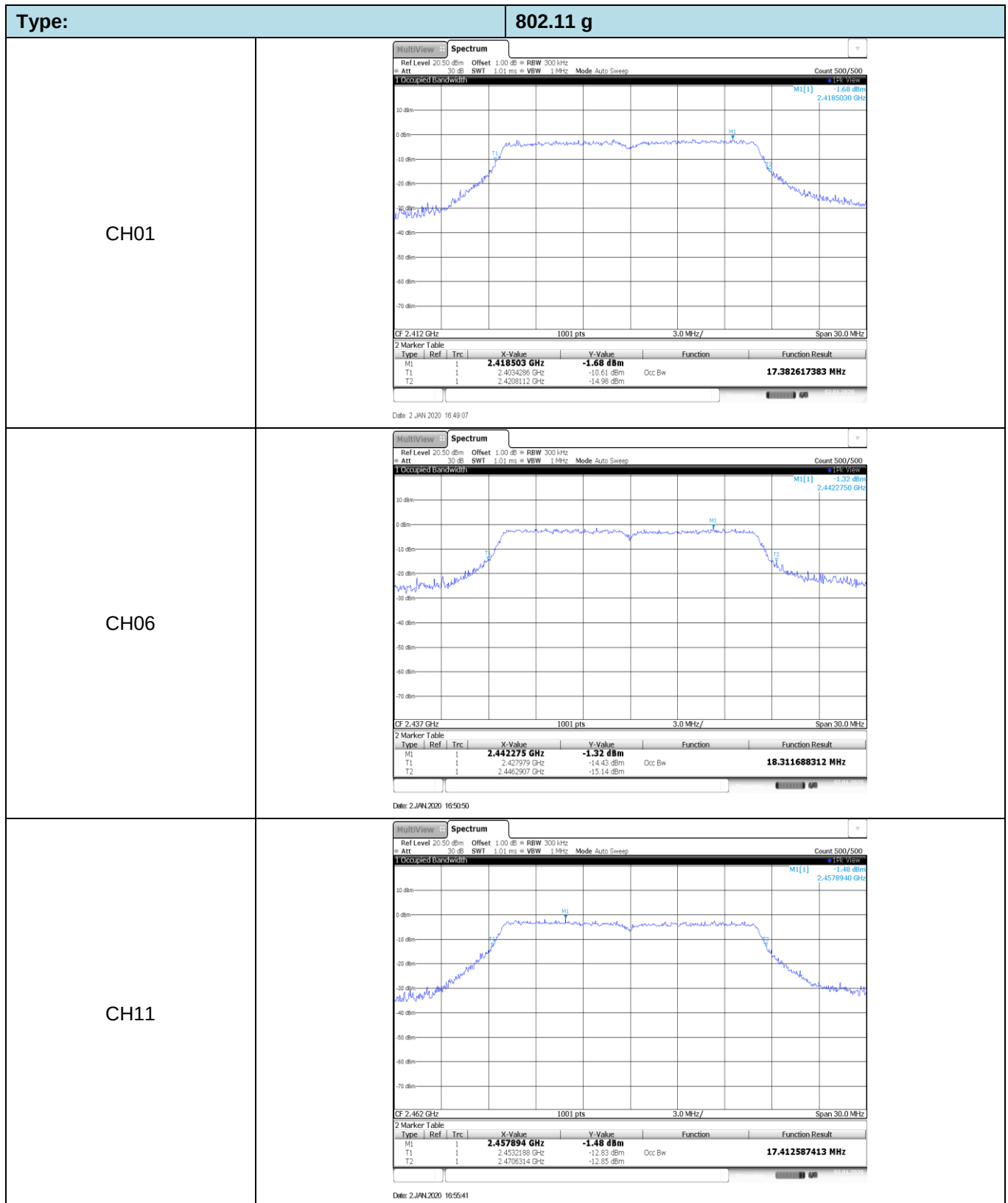


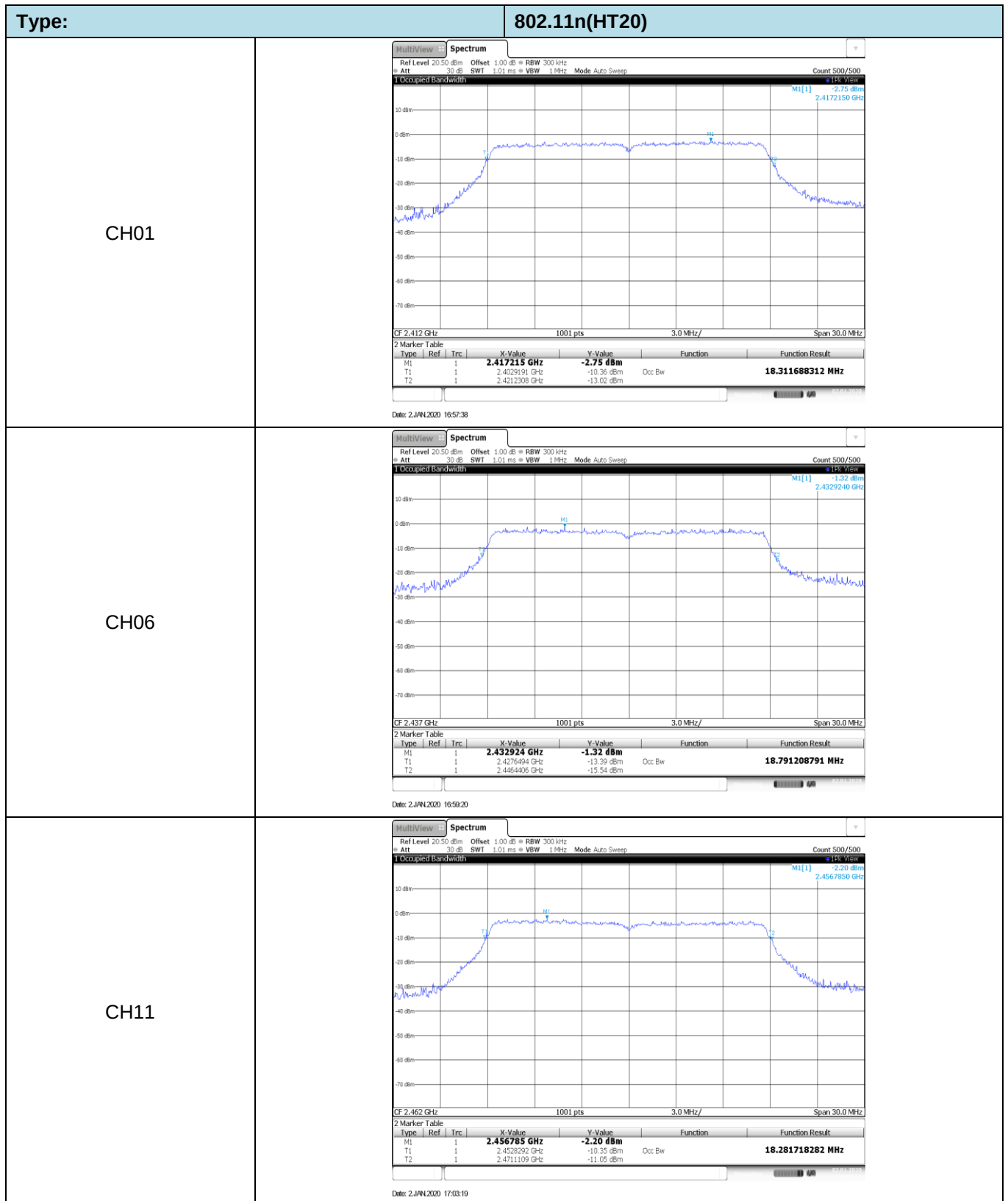


Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (kHz)	Result
802.11b	01	12.38	-	Pass
	06	16.33		
	11	14.03		
802.11g	01	17.38	-	Pass
	06	18.31		
	11	17.41		
802.11n(HT20)	01	18.31	-	Pass
	06	18.79		
	11	18.28		



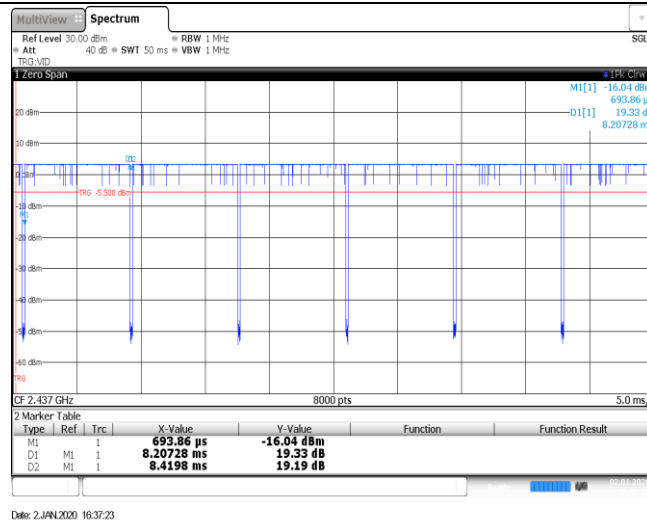




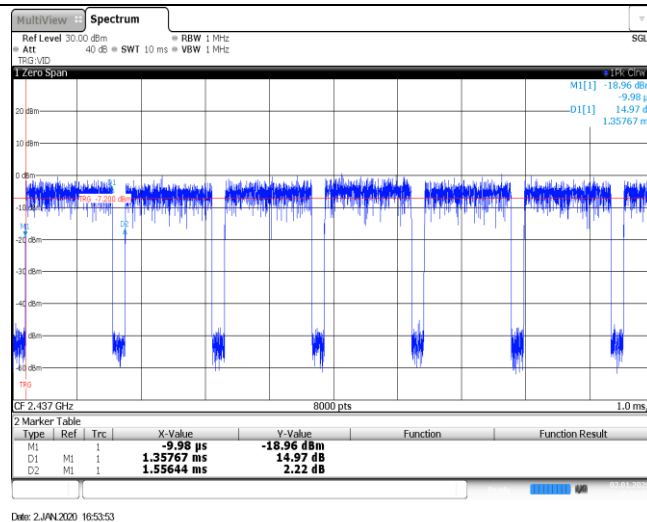
Appendix E: Duty Cycle

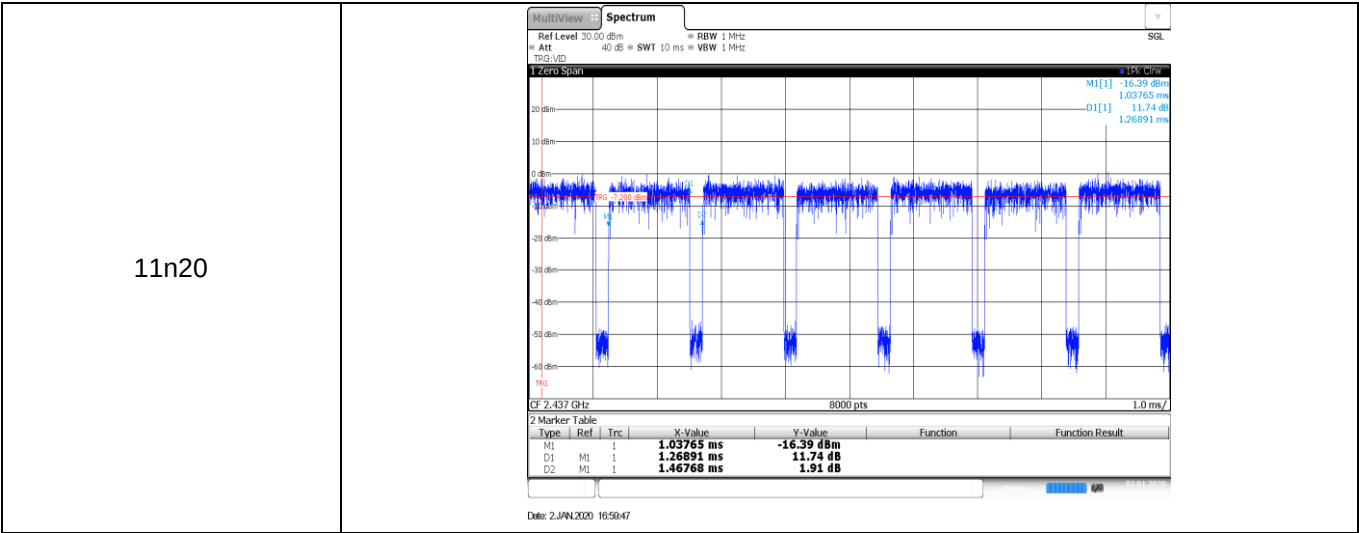
Modulation Type	Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
11b	2437	8.21	8.42	97.5%	0.1
11g	2437	1.36	1.56	87.2%	0.7
11n20	2437	1.27	1.47	86.4%	0.8

11b



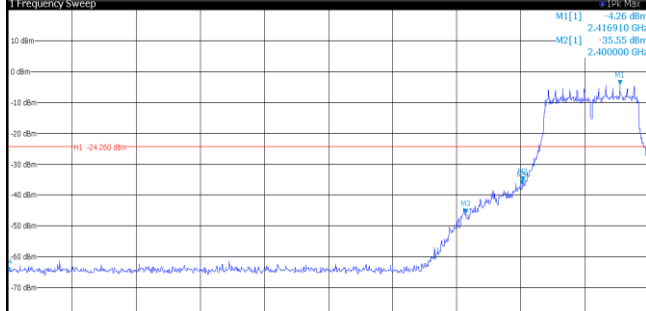
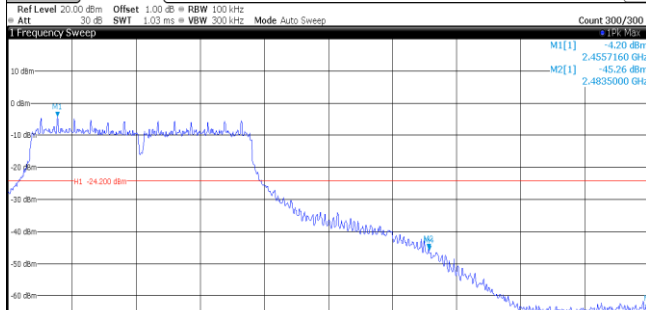
11g



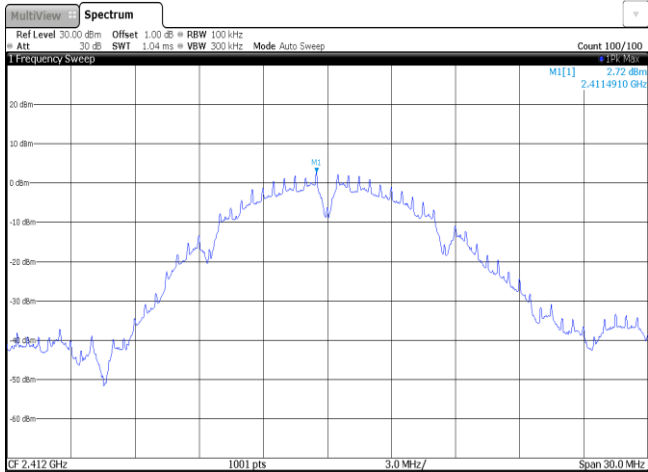
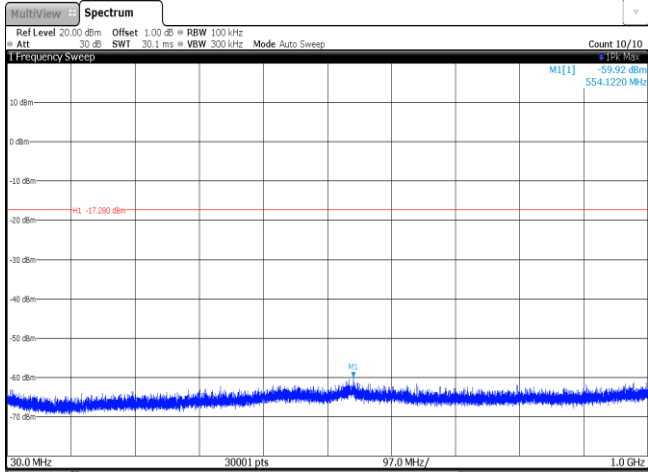
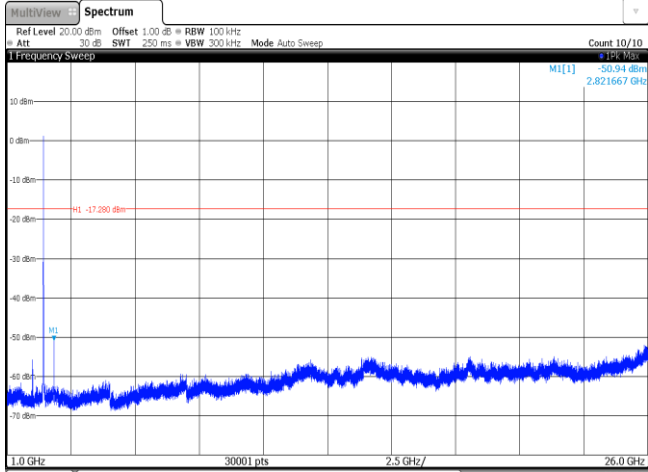


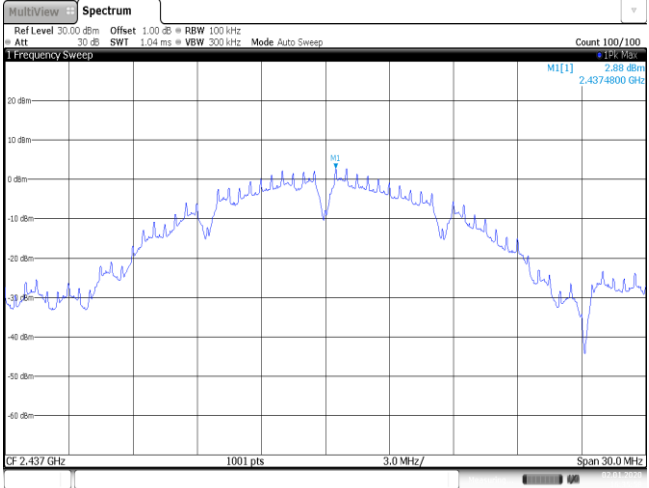
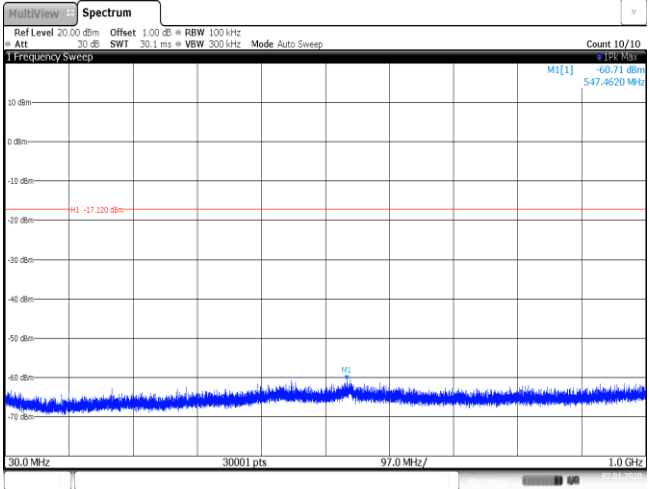
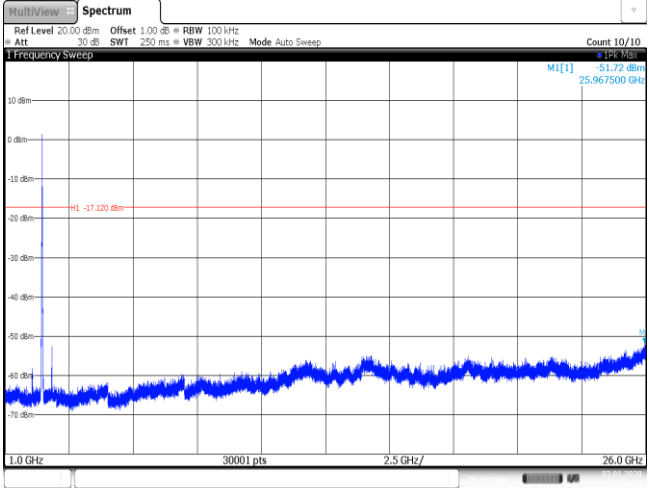
Appendix F: Band edge and Spurious Emissions (conducted)

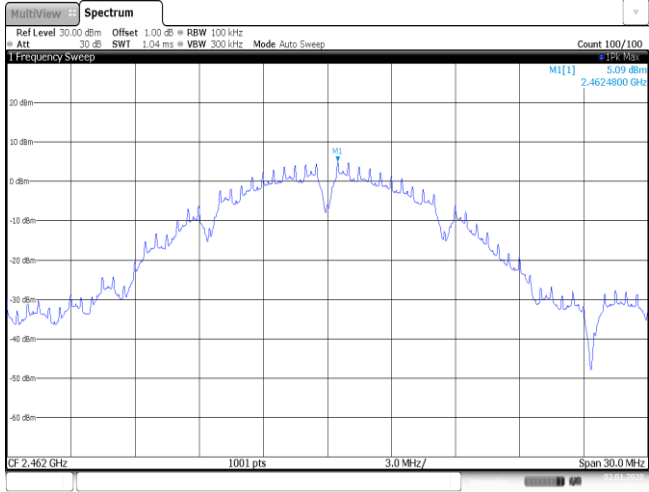
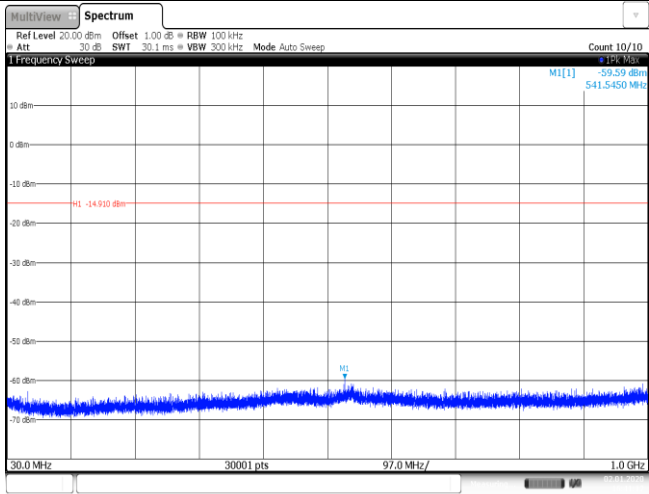
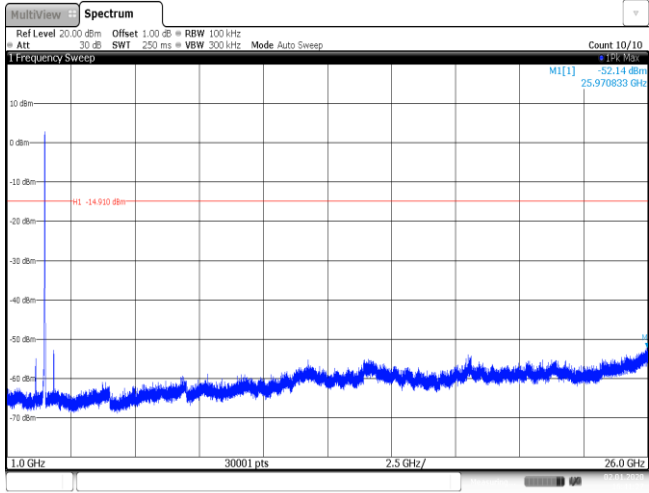
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Hz/MHz Frequency Sweep M1[1] 2.55 dBm M2[1] 2.411430 GHz M2[1] -41.08 dBm M2[1] -72.000000 GHz -17.450 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>2.41143 GHz</td><td>2.55 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-41.08 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-59.17 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.07 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399488 GHz</td><td>-37.09 dBm</td><td></td><td></td></tr></tbody></table> Date: 2/JAN/2020 16:33:34			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41143 GHz	2.55 dBm			M2	1		2.4 GHz	-41.08 dBm			M3	1		2.39 GHz	-59.17 dBm			M4	1		2.31 GHz	-64.07 dBm			M5	1		2.399488 GHz	-37.09 dBm		
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CH11	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWT 1.03 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Hz/MHz Frequency Sweep M1[1] 5.01 dBm M2[1] 2.4624780 GHz M2[1] -43.48 dBm M2[1] 2.4835000 GHz -14.990 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>2.462478 GHz</td><td>5.01 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-43.48 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-64.77 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483536 GHz</td><td>-44.67 dBm</td><td></td><td></td></tr></tbody></table> Date: 2/JAN/2020 16:40:50			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.462478 GHz	5.01 dBm			M2	1		2.4835 GHz	-43.48 dBm			M3	1		2.5 GHz	-64.77 dBm			M4	1		2.483536 GHz	-44.67 dBm									
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M4	1		2.483536 GHz	-44.67 dBm																																									

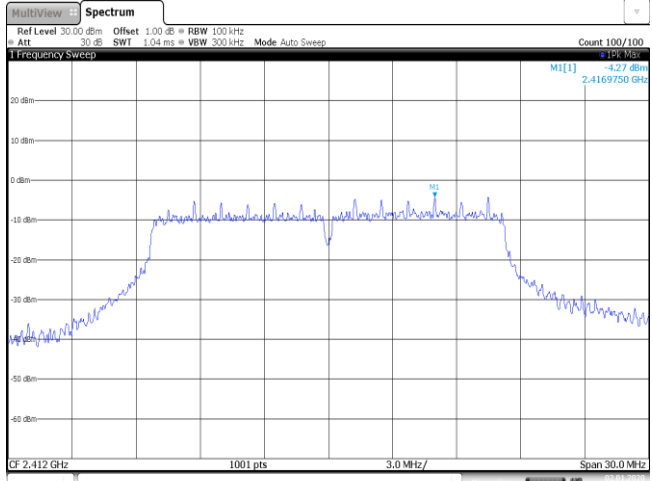
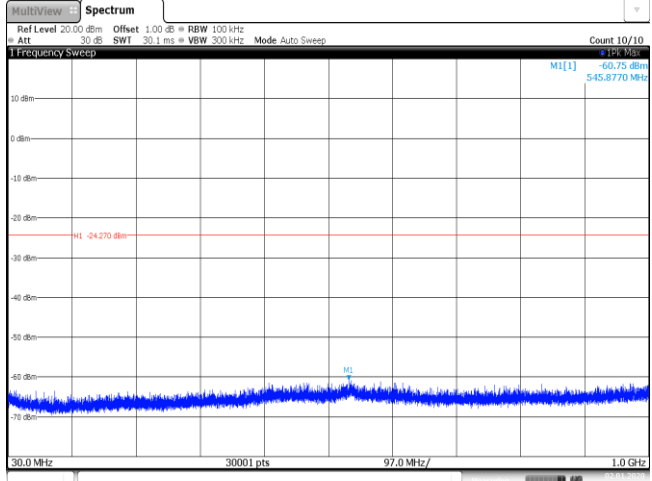
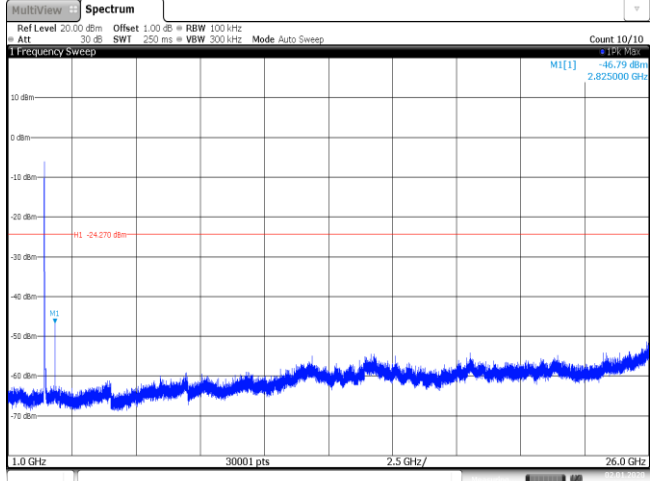
Test Item:	Bandedge	Type:	802.11 g																																										
CH01	MultViewSpectrum Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep  2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz 2 Marker Table <table><tr><th>Type</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>-4.26 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-35.55 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-45.92 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.71 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399824 GHz</td><td>-36.55 dBm</td><td></td><td></td></tr></table> Date: 2/JAN/2020 16:49:29			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41691 GHz	-4.26 dBm			M2	1		2.4 GHz	-35.55 dBm			M3	1		2.39 GHz	-45.92 dBm			M4	1		2.31 GHz	-62.71 dBm			M5	1		2.399824 GHz	-36.55 dBm		
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Test Item:	Bandedge	Type:	802.11 n(HT20)
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 <		

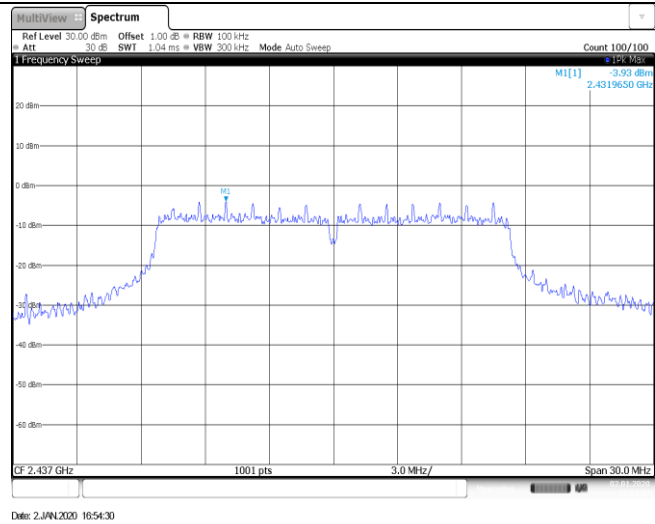
Test Item:	SE	Type:	802.11b
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

CH06 Reference level	 The spectrum plot shows a frequency sweep from 2.437 GHz to 2.437800 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The plot shows a noisy signal with a peak around 0 dBm. The x-axis is labeled with 1001 pts, 3.0 MHz, and Span 30.0 MHz. The date and time are 2/JUN/2020 16:35:58.
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 noisy signal with a peak around -60 dBm. The x-axis is labeled with 30001 pts, 97.0 MHz, and 1.0 GHz. The date and time are 2/JUN/2020 16:36:14.
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 noisy signal with a peak around -51 dBm. The x-axis is labeled with 30001 pts, 2.5 GHz, and 26.0 GHz. The date and time are 2/JUN/2020 16:36:30.

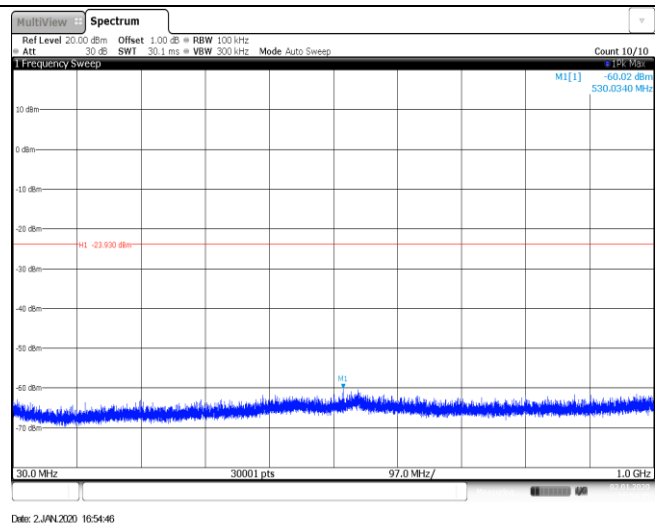
CH11 Reference level	 The spectrum plot shows a frequency sweep from 2.462 GHz to 2.462800 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The plot shows a noisy signal with a peak around 0 dBm. The x-axis is labeled with 1001 pts and 3.0 MHz/.
CH11 30MHz~1000MHz	 The spectrum plot shows a frequency sweep from 30.0 MHz to 1000 MHz. The y-axis represents power in dBm, ranging from -70 to 10. The plot shows a noisy signal with a peak around -59.59 dBm. The x-axis is labeled with 30001 pts and 97.0 MHz/.
CH11 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 noisy signal with a peak around -52.14 dBm. The x-axis is labeled with 30001 pts and 2.5 GHz/.

Test Item:	SE	Type:	802.11g
CH01 Reference level		 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 MI[1] -42.7 dBm 2.4169750 GHz Date: 2/JUN/2020 16:49:36	
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 MI[1] -60.75 dBm 545.8770 MHz Date: 2/JUN/2020 16:49:52	
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 MI[1] -46.79 dBm 2.825000 GHz Date: 2/JUN/2020 16:50:08	

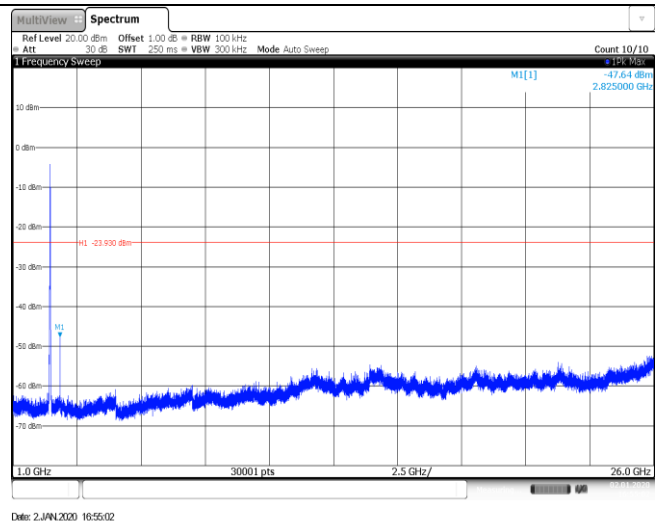
CH06
Reference level

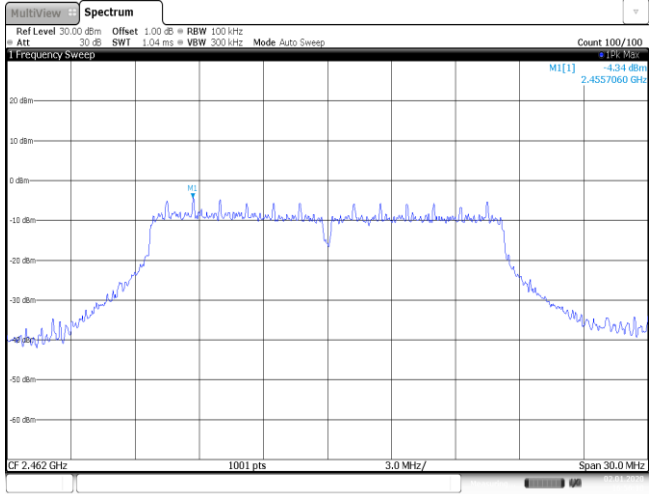
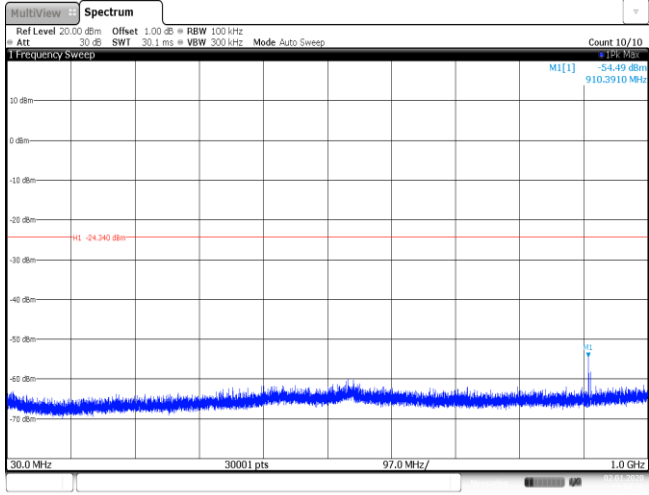
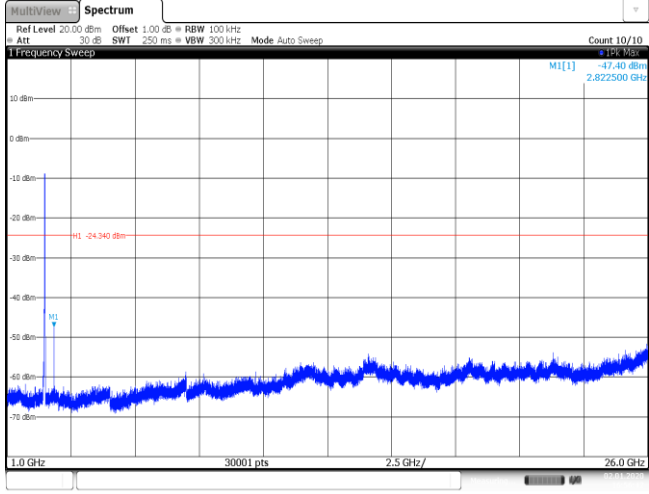


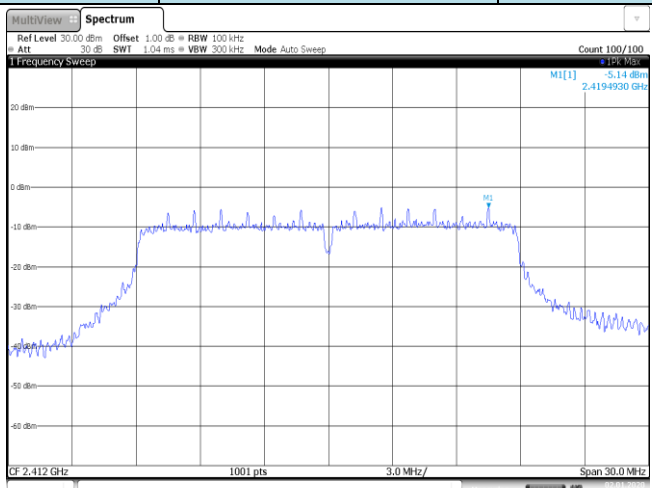
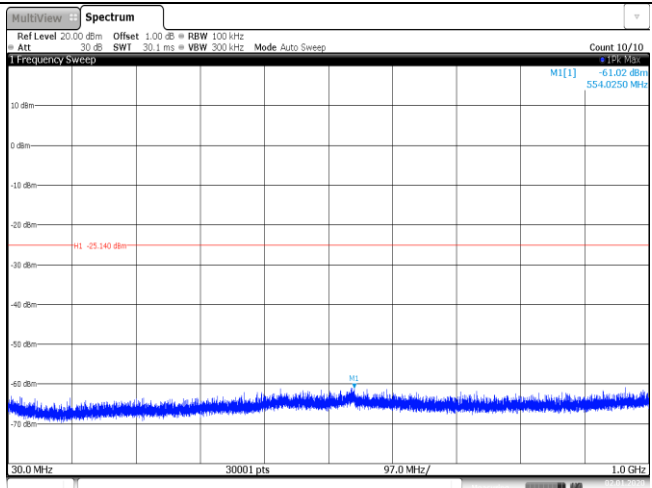
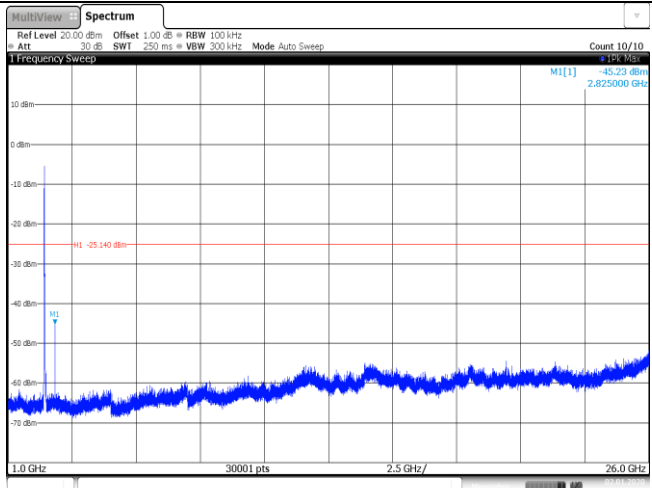
CH06
30MHz~1000MHz

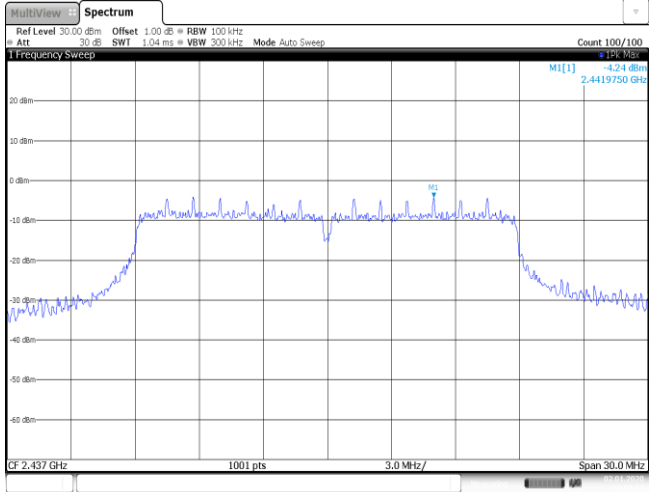
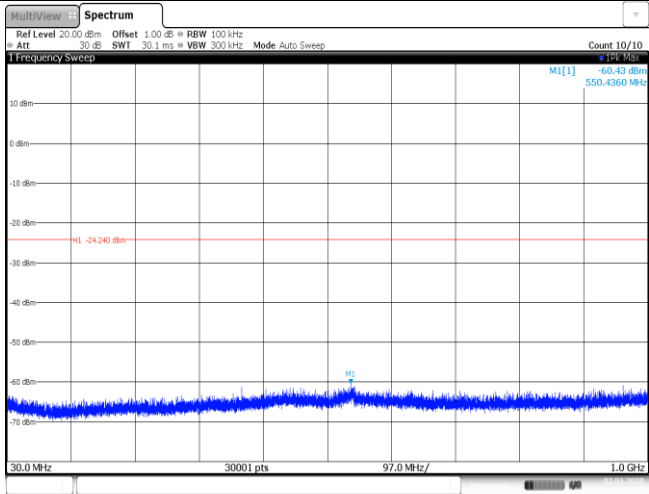
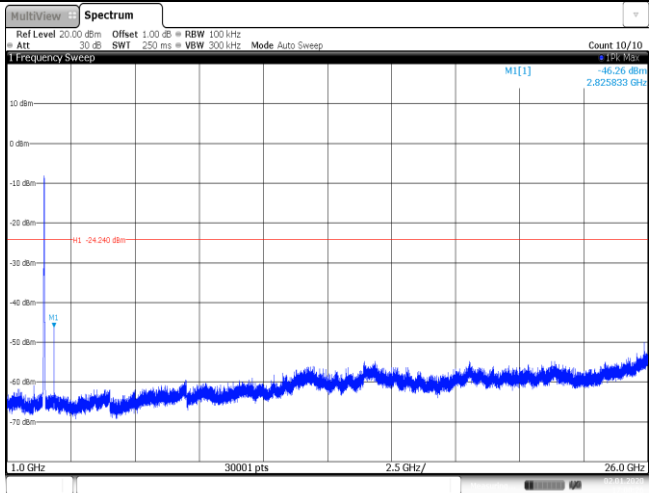


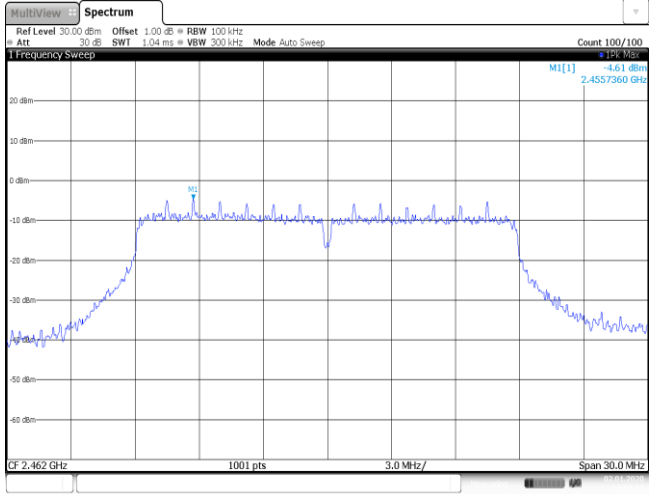
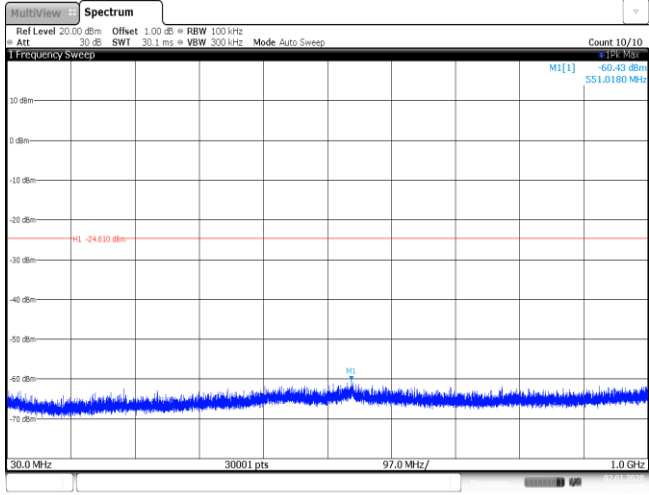
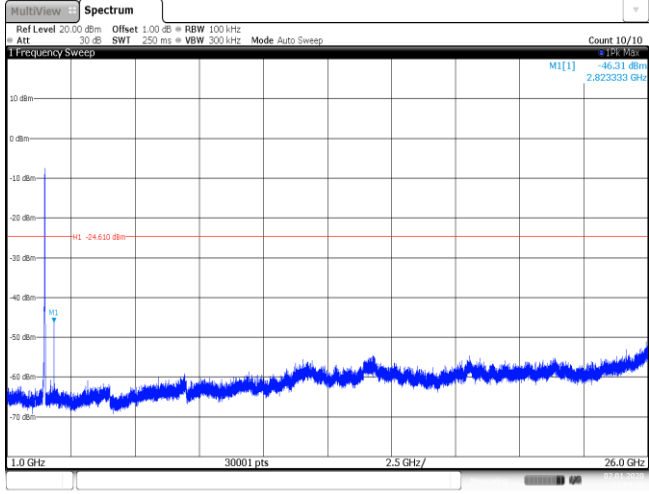
CH06
1GHz~26GHz



CH11 Reference level	 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] -4.34 dBm 2.4557060 GHz CF 2.462 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 2/JUN/2020 16:56:10
CH11 30MHz~1000MHz	 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] -54.49 dBm 910.3910 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 2/JUN/2020 16:56:26
CH11 1GHz~26GHz	 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] -47.40 dBm 2.822500 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 2/JUN/2020 16:56:42

Test Item:	SE	Type:	802.11n(HT20)
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 MI[1] -5.14 dBm 2.4194930 GHz 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 2/JUN/2020 16:58:07	
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 MI[1] -61.02 dBm 554.62250 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 2/JUN/2020 16:58:23	
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 MI[1] -45.23 dBm 2.825000 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 2/JUN/2020 16:58:40	

CH06 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 1.04 ms VSW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -42.4 dBm 2.4419750 GHz CF 2.437 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 2 JUN 2020 16:56:53
CH06 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 30.1 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.43 dBm 550.4360 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 2 JUN 2020 17:00:09
CH06 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 250 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -46.26 dBm 2.825833 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 2 JUN 2020 17:00:26

CH11 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 1.04 ms VSW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -46.1 dBm 2.4557360 GHz CF 2.462 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 2 JUN 2020 17:03:49
CH11 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 30.1 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.43 dBm 551.0180 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 2 JUN 2020 17:04:05
CH11 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30.0 dB SWF 250 ms VSW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -46.31 dBm 2.823333 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 2 JUN 2020 17:04:22

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