

APPENDIX REPORT

Project No.	SHT2207080705EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22060506003	Model No.	B8U
Start test date	2022-07-28	Finish date	2022-07-28
Temperature	26.2℃	Humidity	32%
Test Engineer	Xiaoxiao Li	Auditor	Xiaodong Zhuo

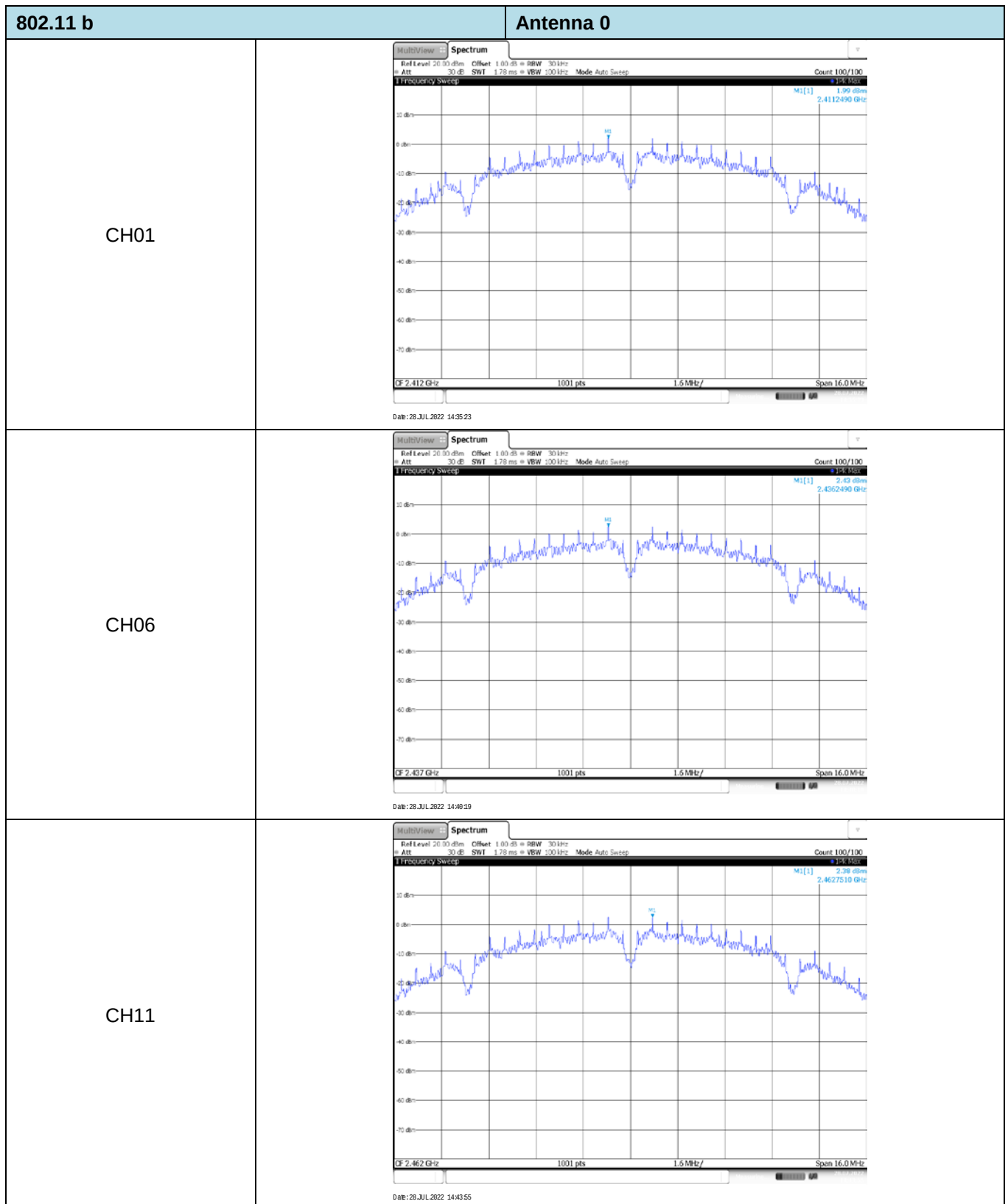
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions(coducted)	PASS

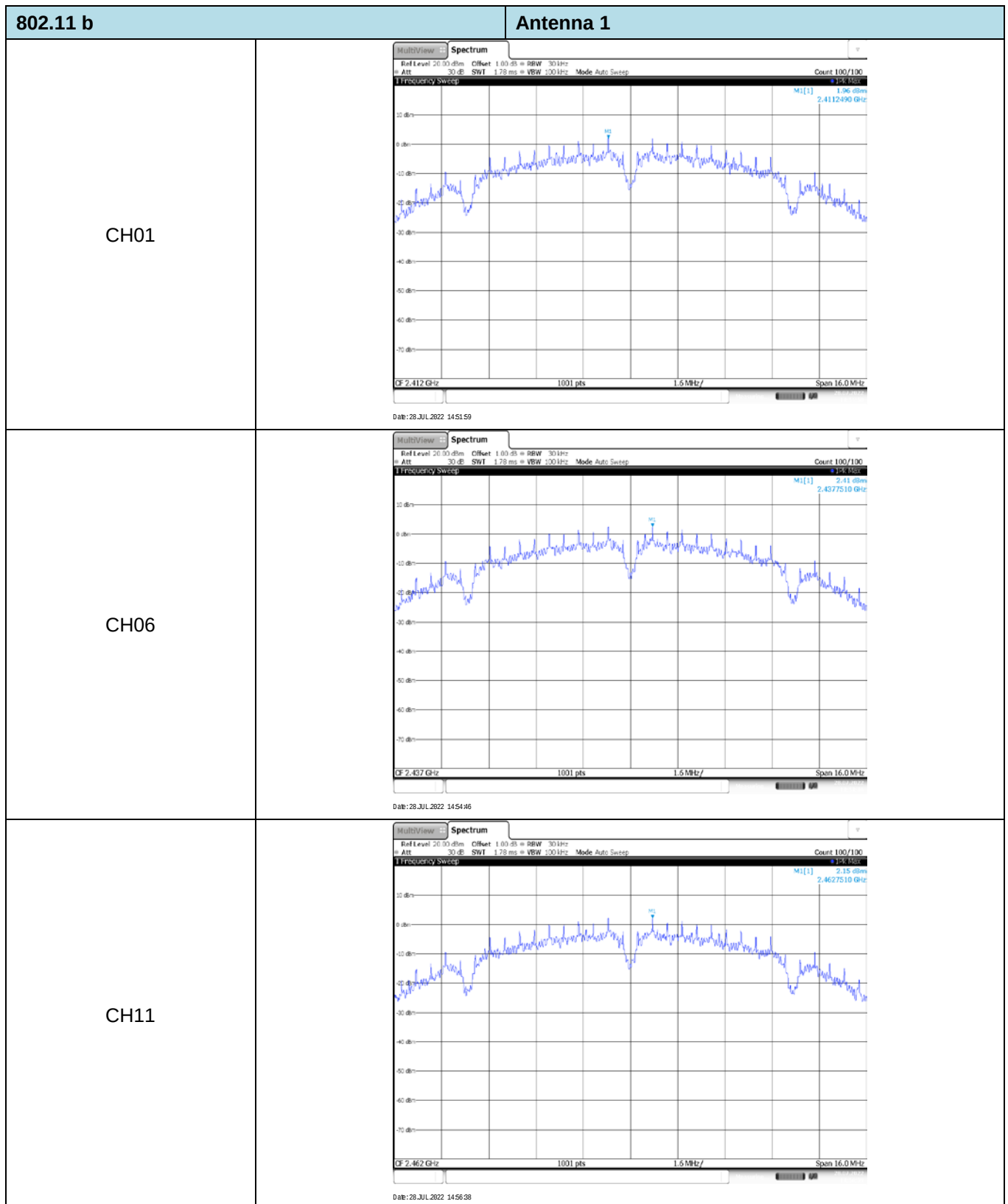
Appendix A: Conducted Peak Output Power

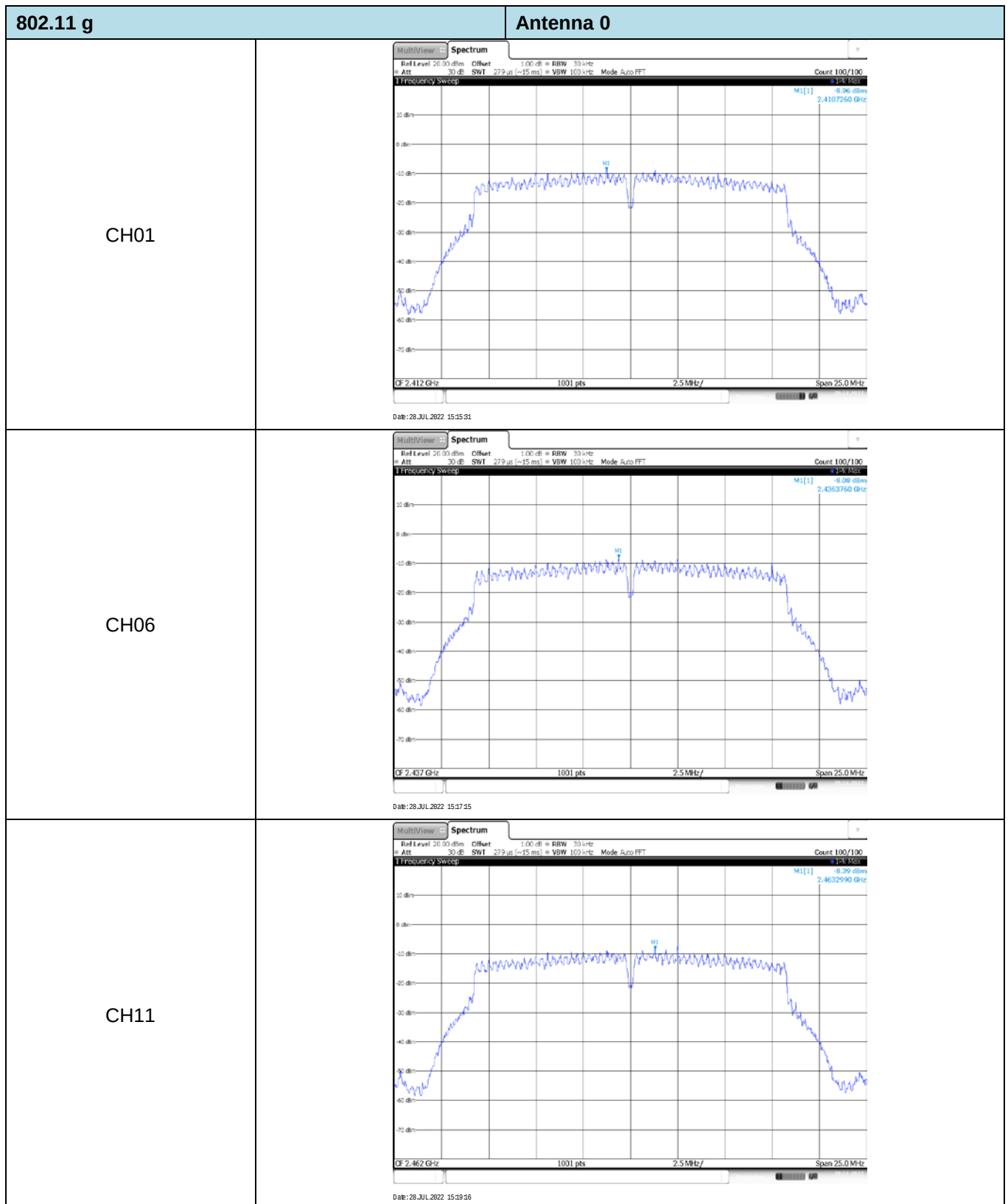
Type	Channel	Peak Output power (dBm)			Average Output power (dBm)			Limit (dBm)	Result
		Antenna 0	Antenna 1	Total	Antenna 0	Antenna 1	Total		
802.11b	01	15.18	14.81	-	12.74	12.46	-	≤30.00	Pass
	06	15.80	15.57	-	13.45	13.57	-		
	11	15.34	15.03	-	12.88	12.72	-		
802.11g	01	15.67	15.55	-	12.98	12.90	-	≤30.00	Pass
	06	16.07	15.97	-	13.40	13.25	-		
	11	15.81	15.75	-	13.33	13.14	-		
802.11n (HT20)	01	15.63	16.01	18.81	12.73	14.71	16.84	≤30.00	Pass
	06	16.00	16.28	19.16	13.09	15.02	17.17		
	11	15.83	16.18	19.01	12.94	15.04	17.13		
802.11n (HT40)	03	15.77	15.91	18.86	12.82	14.23	16.59	≤30.00	Pass
	06	15.99	16.06	19.06	13.01	14.41	16.78		
	09	15.88	16.12	19.01	13.12	14.42	16.83		

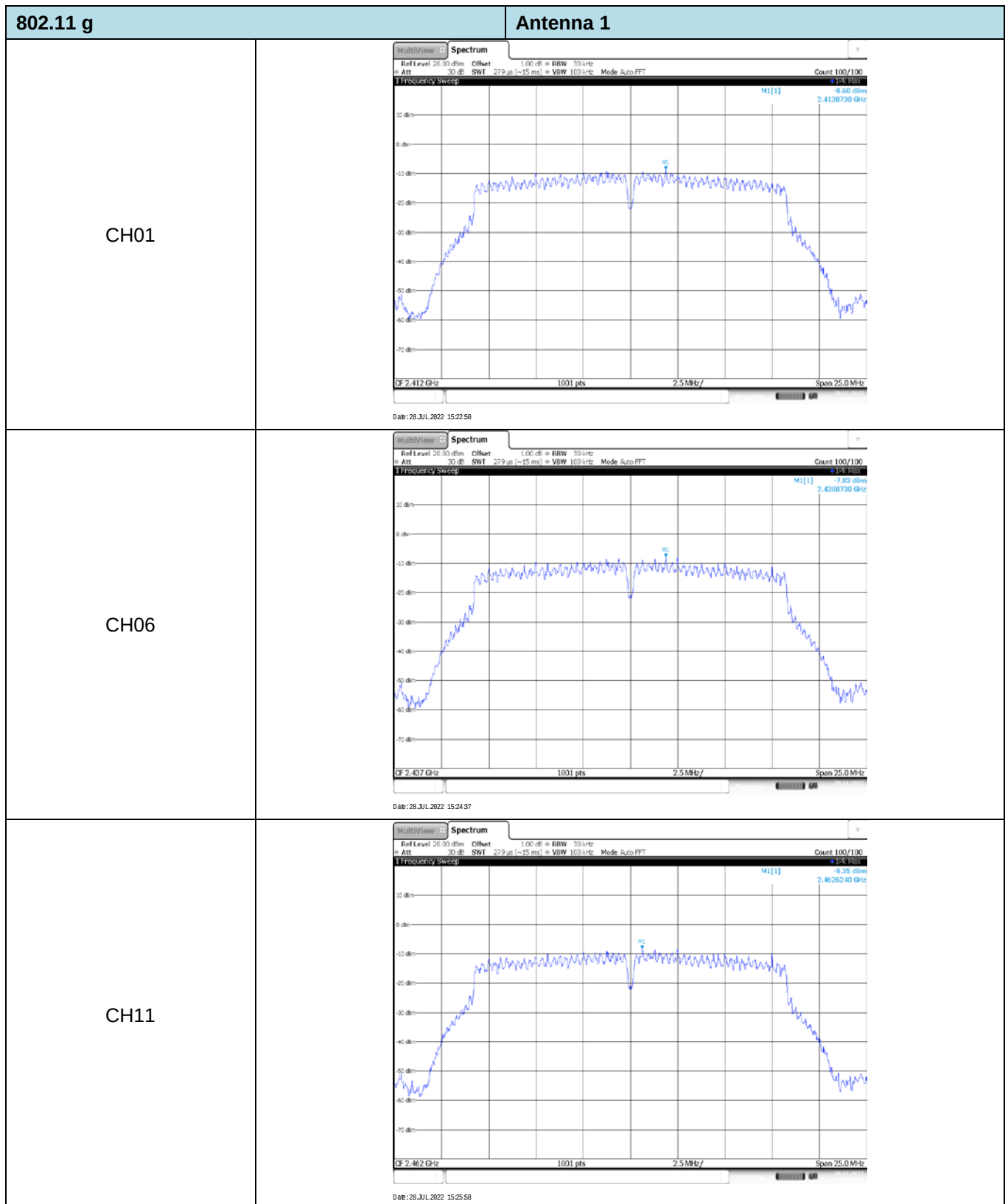
Appendix B: Power Spectral Density

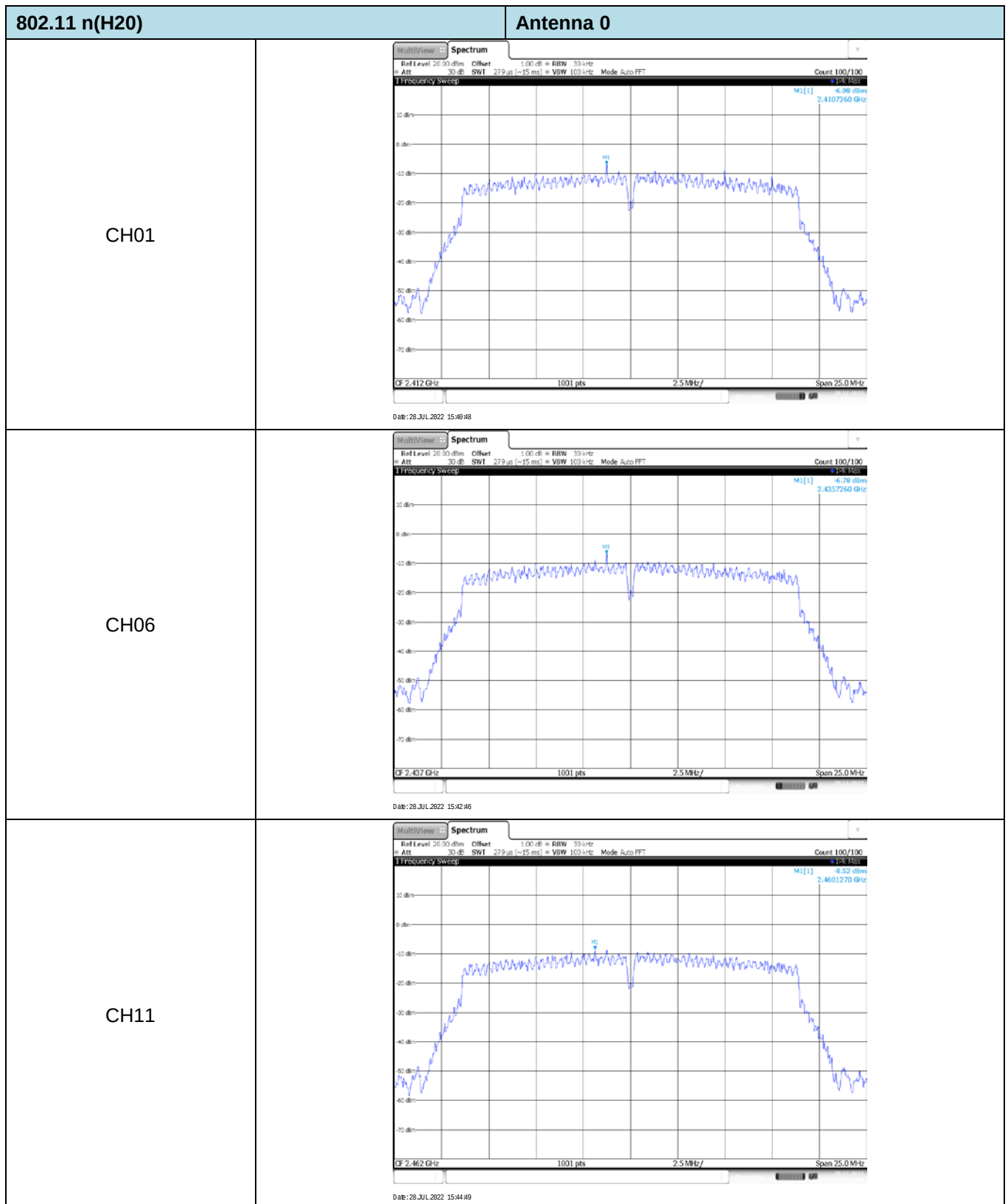
Type	Channel	Power Spectral Density (dBm/30KHz)		Total Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
		Antenna 0	Antenna 1			
802.11b	01	1.99	1.96	-	≤7.86	Pass
	06	2.43	2.41	-		
	11	2.38	2.15	-		
802.11g	01	-8.96	-8.60	-	≤7.86	Pass
	06	-8.08	-7.83	-		
	11	-8.23	-8.35	-		
802.11n(HT20)	01	-6.98	-7.04	-4.00	≤7.86	Pass
	06	-6.78	-6.77	-3.76		
	11	-8.52	-7.50	-4.97		
802.11n(HT40)	03	-11.54	-11.01	-8.26	≤7.86	Pass
	06	-10.39	-10.58	-7.47		
	09	-12.09	-12.18	-9.12		

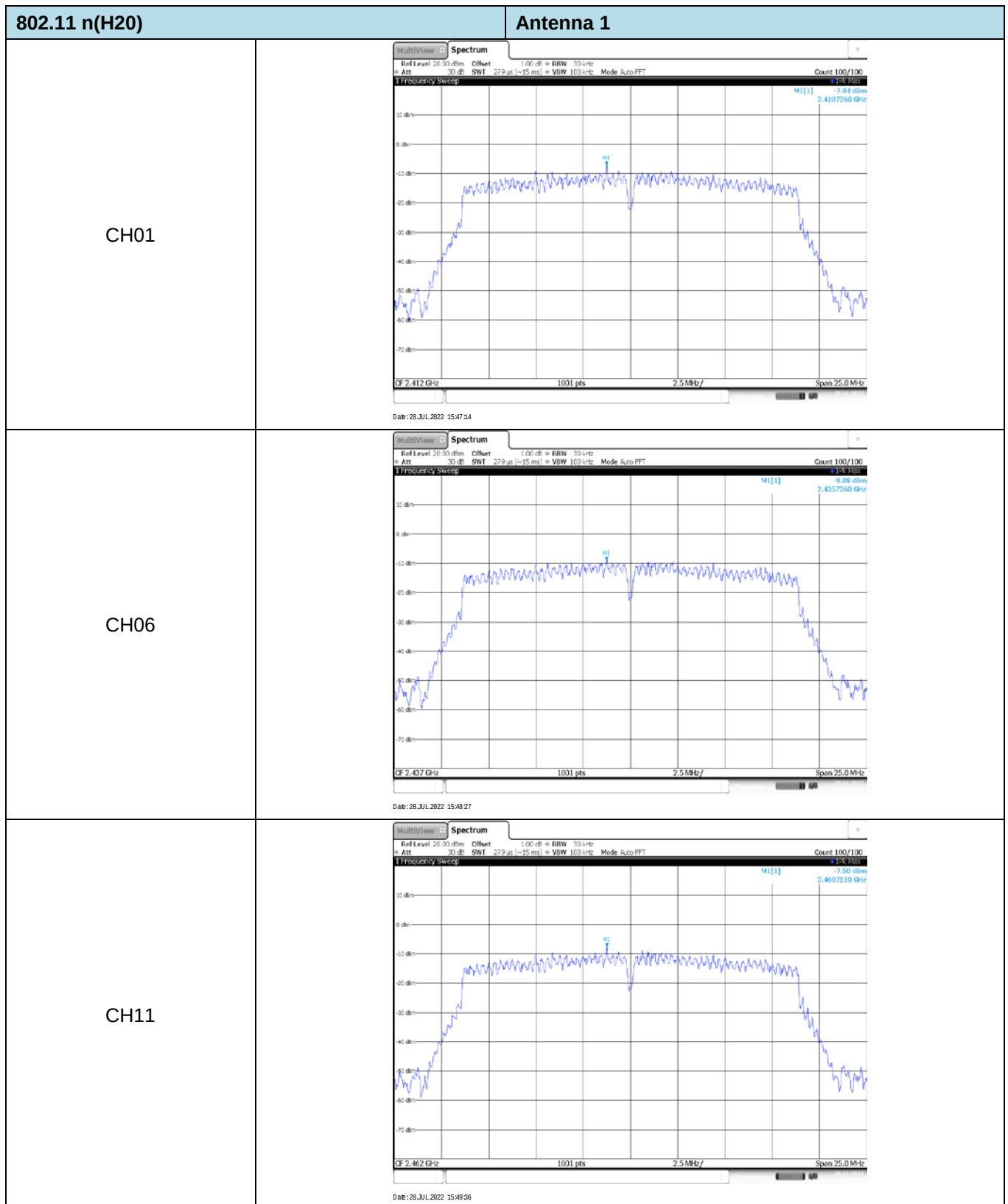


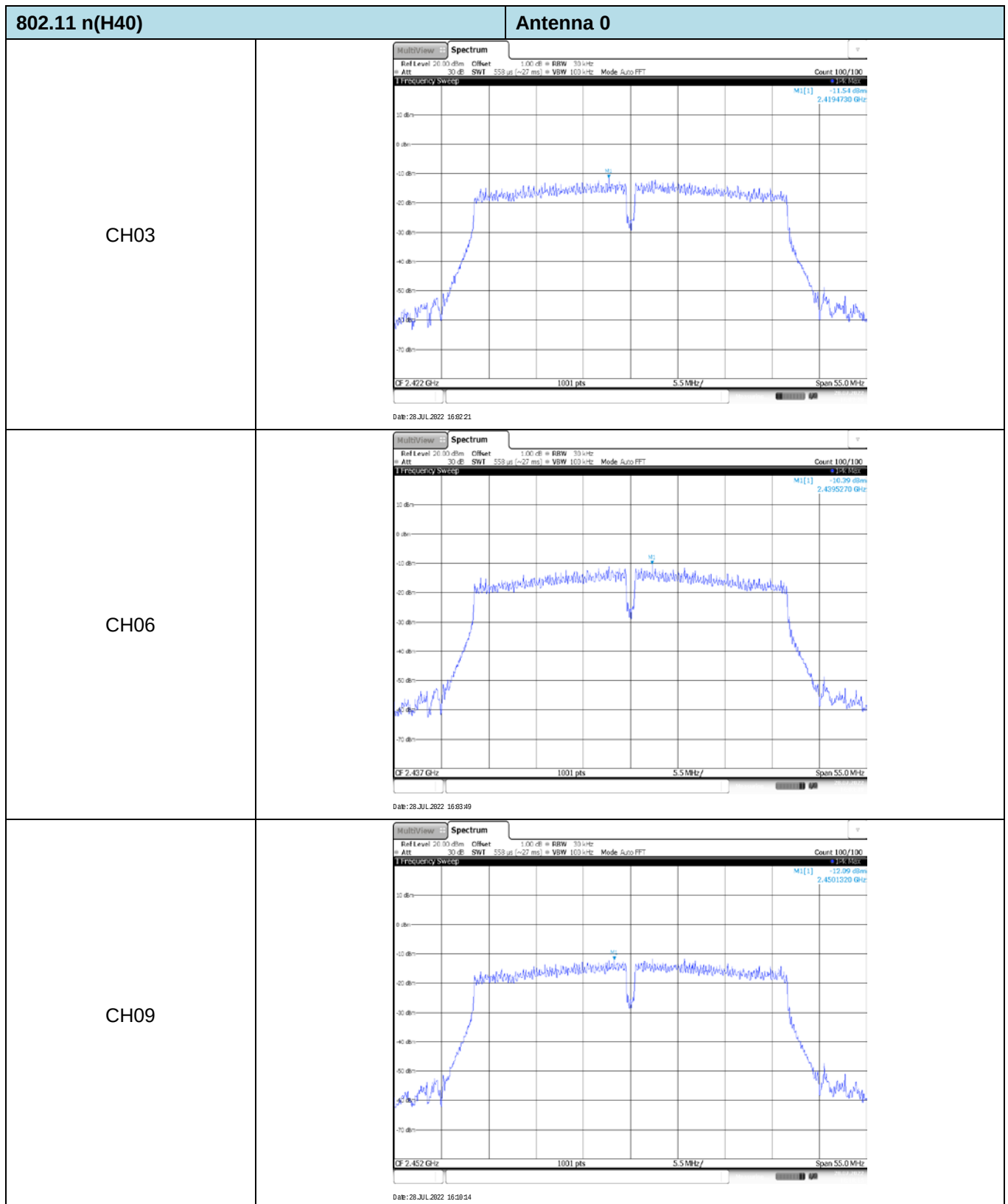


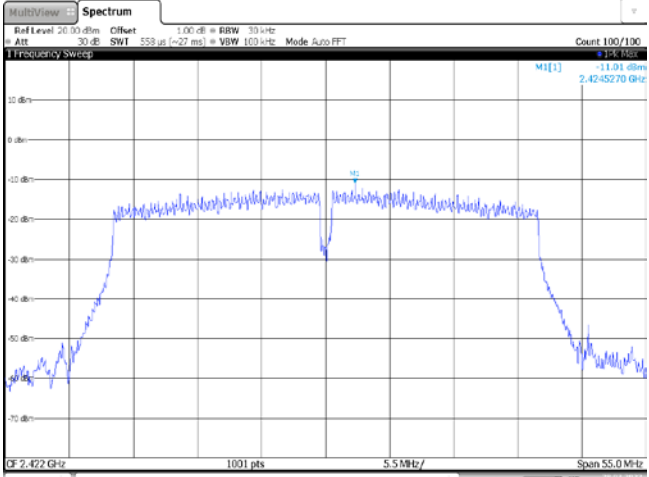
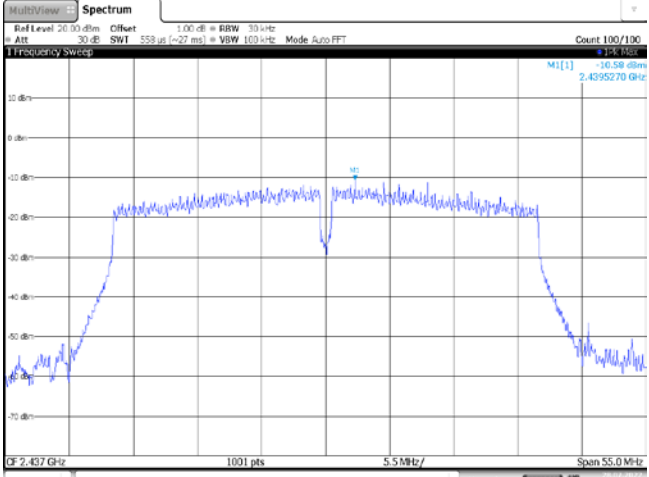
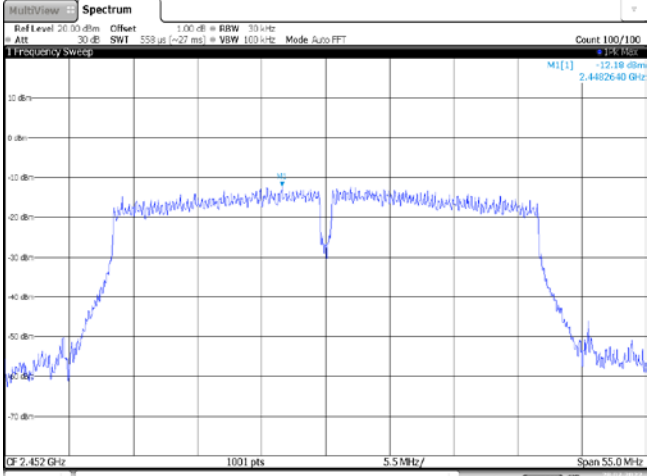










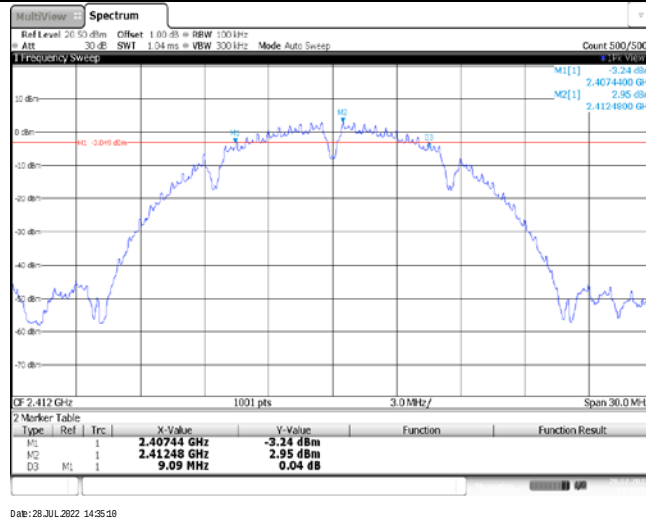
802.11 n(H40)	Antenna 1
CH03	 MultiView Spectrum Ref Level 20.00 dBm Offset 30.0 dB SWI 553 us (~20 ms) RBW 30 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep M[1] -11.01 dBm 2.4245270 GHz CF 2.422 GHz 1001 pts 5.5 MHz/ Span 55.0 MHz Date: 28.JUL.2022 16:13:57
CH06	 MultiView Spectrum Ref Level 20.00 dBm Offset 30.0 dB SWI 553 us (~20 ms) RBW 30 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep M[1] -16.58 dBm 2.4395270 GHz CF 2.437 GHz 1001 pts 5.5 MHz/ Span 55.0 MHz Date: 28.JUL.2022 16:15:10
CH09	 MultiView Spectrum Ref Level 20.00 dBm Offset 30.0 dB SWI 553 us (~20 ms) RBW 30 kHz Mode Auto FFT Count 100/100 1 Frequency Sweep M[1] -12.18 dBm 2.4402640 GHz CF 2.437 GHz 1001 pts 5.5 MHz/ Span 55.0 MHz Date: 28.JUL.2022 16:16:12

Appendix C: 6dB Bandwidth

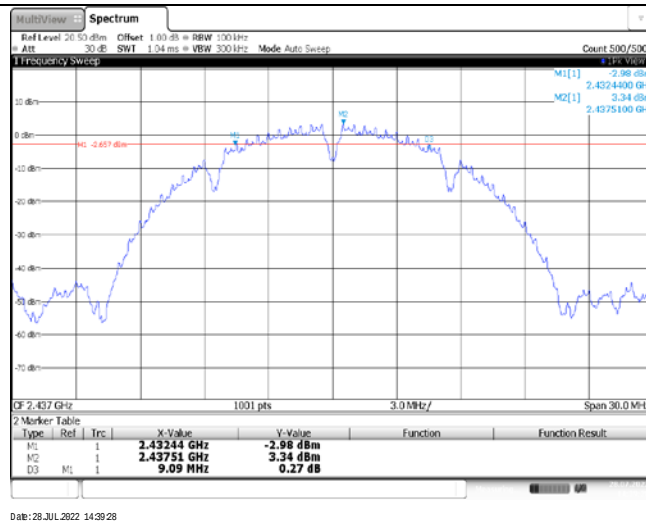
Type	Channel	6dB Bandwidth (MHz)	Limit (kHz)	Result
802.11b	01	9.09	≥500	Pass
	06	9.09		
	11	9.09		
802.11g	01	15.18	≥500	Pass
	06	15.18		
	11	15.18		
802.11n(HT20)	01	15.18	≥500	Pass
	06	15.18		
	11	15.18		
802.11n(HT40)	03	35.28	≥500	Pass
	06	35.22		
	09	35.28		

802.11 b

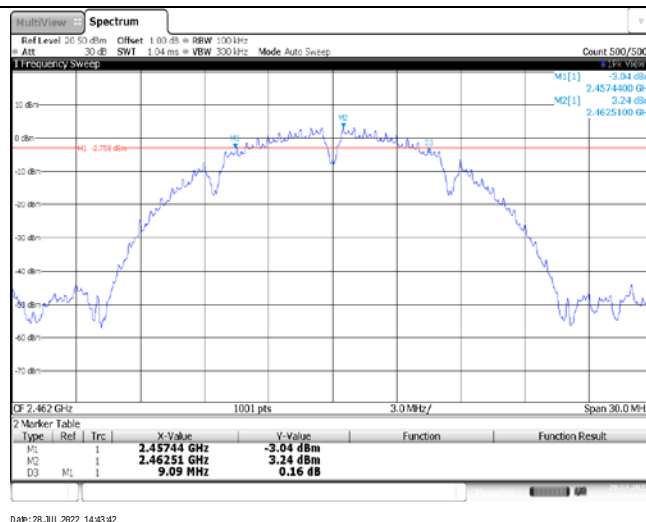
CH01



CH06

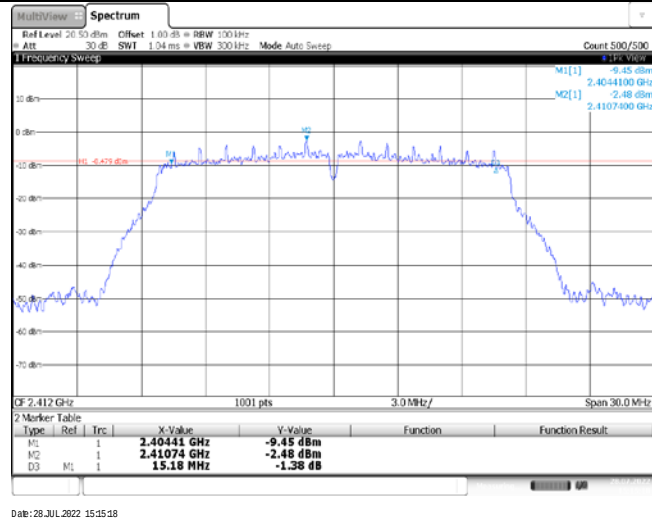


CH11

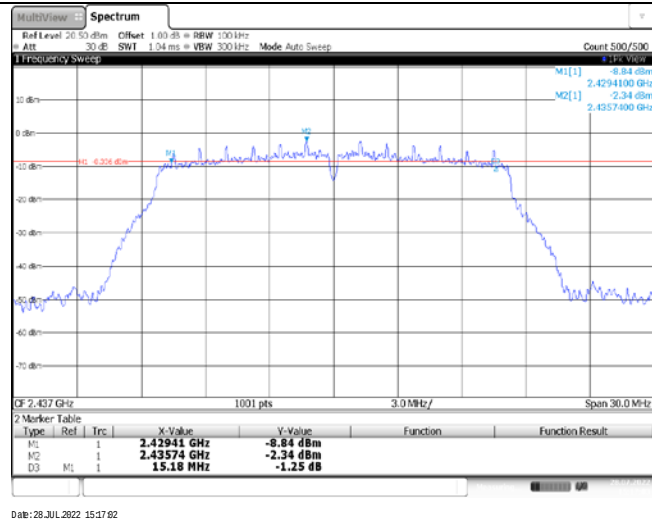


802.11 g

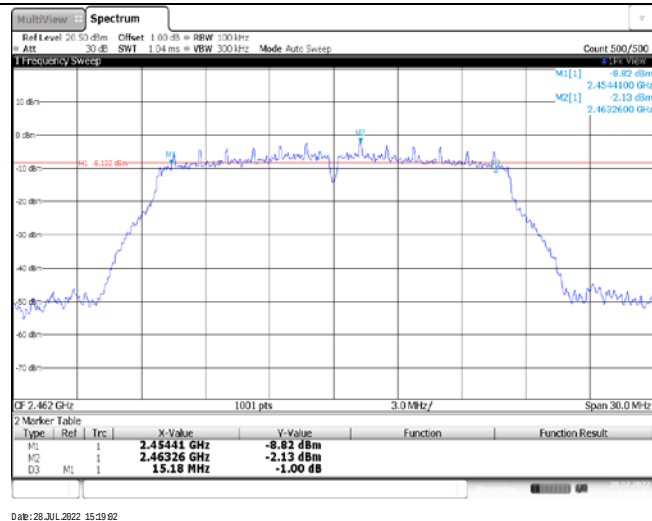
CH01



CH06

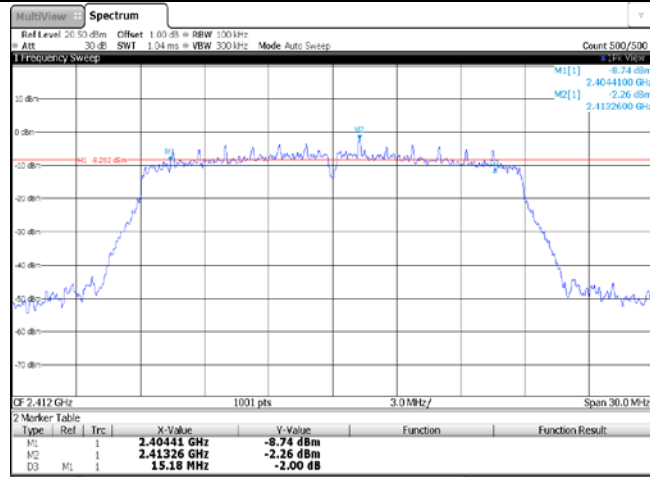


CH11



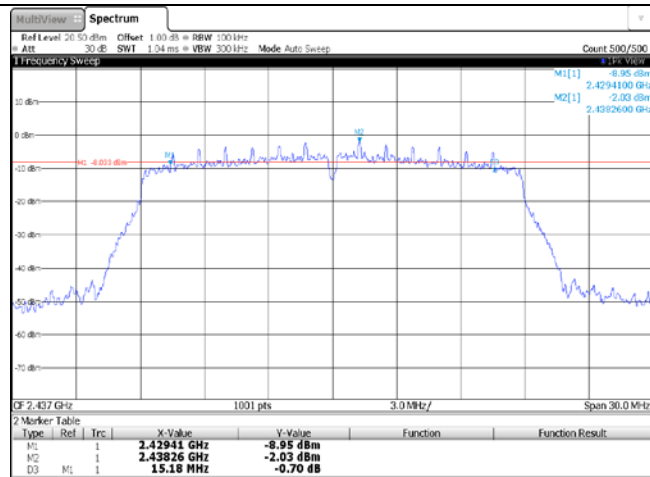
802.11n(HT20)

CH01



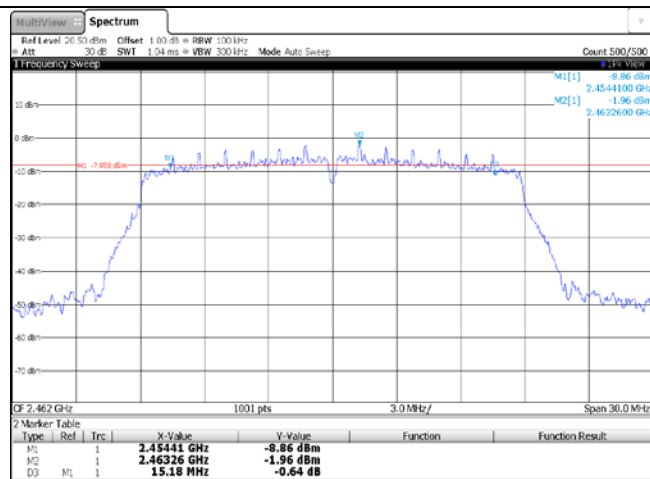
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CH06



Date: 28.JUL.2022 15:42:32

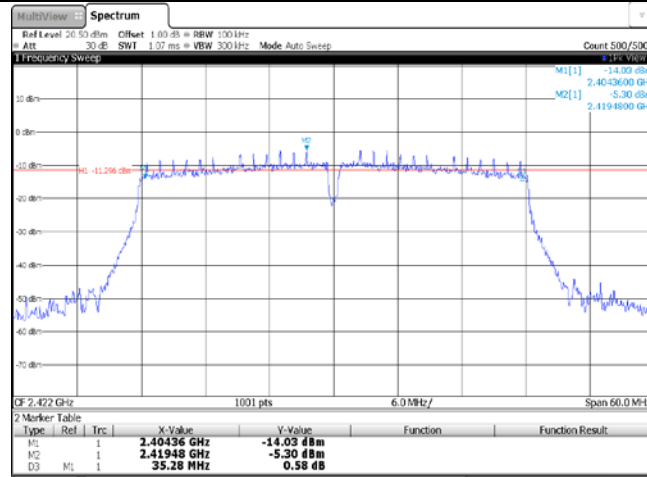
CH11



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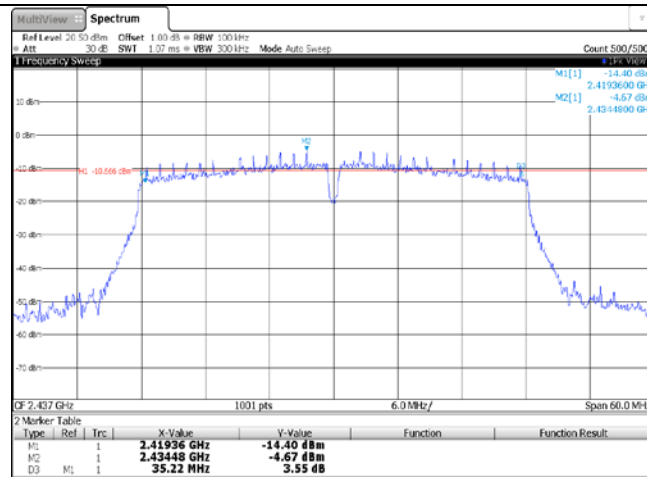
802.11n(HT40)

CH03



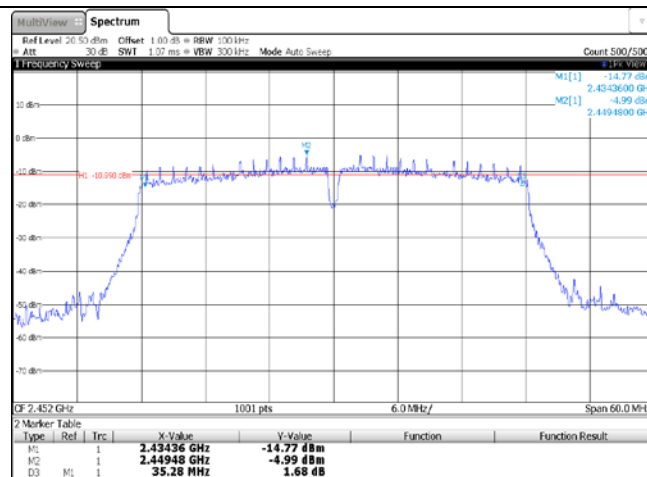
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CH06



Date: 28.JUL.2022 16:03:36

CH09



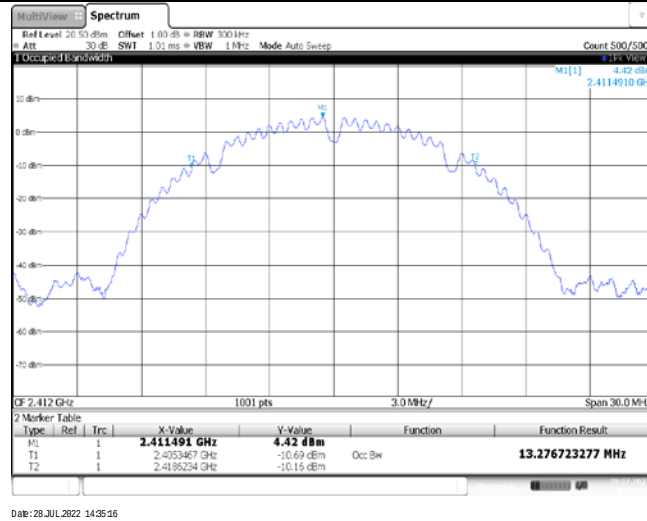
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Appendix D: 99% Occupied Bandwidth

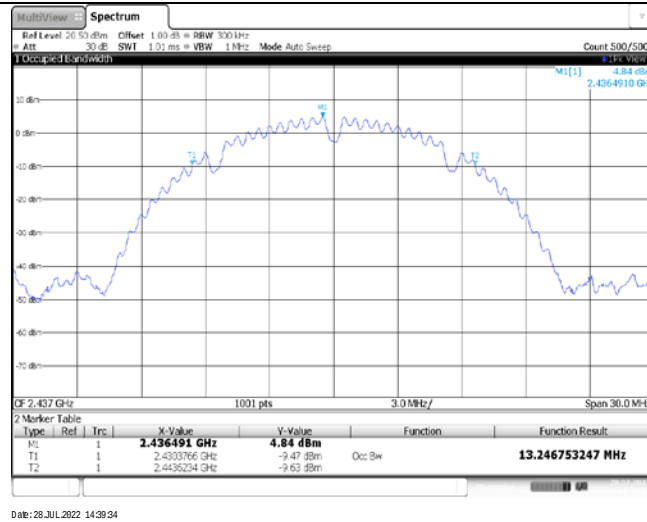
Type	Channel	99% Bandwidth (MHz)	Limit (kHz)	Result
802.11b	01	13.28	-	Pass
	06	13.25		
	11	13.25		
802.11g	01	16.75	-	Pass
	06	16.78		
	11	16.78		
802.11n(HT20)	01	17.62	-	Pass
	06	17.65		
	11	17.65		
802.11n(HT40)	03	36.14	-	Pass
	06	35.96		
	09	36.08		

802.11 b

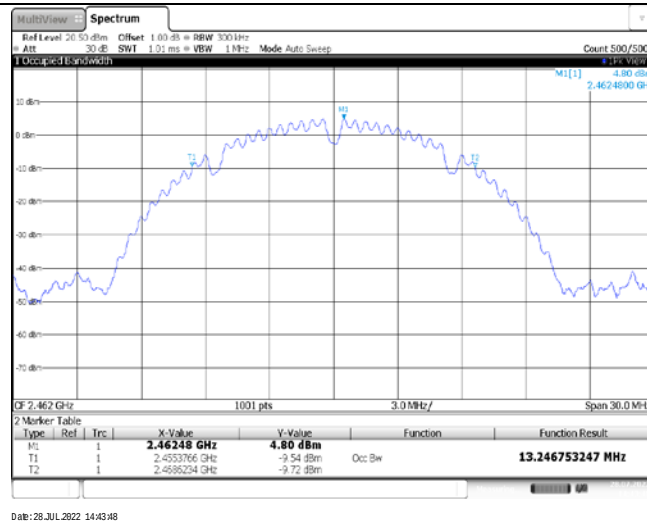
CH01



CH06

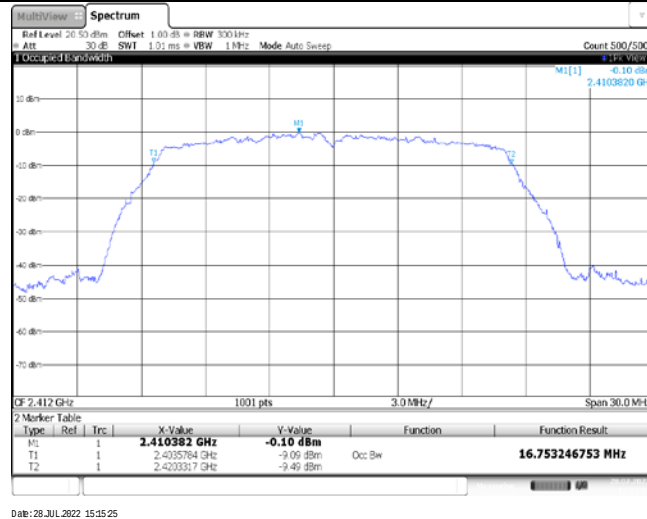


CH11

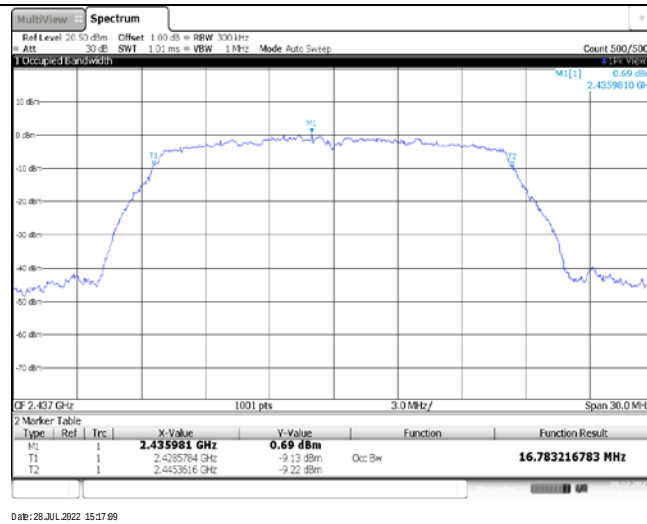


802.11 g

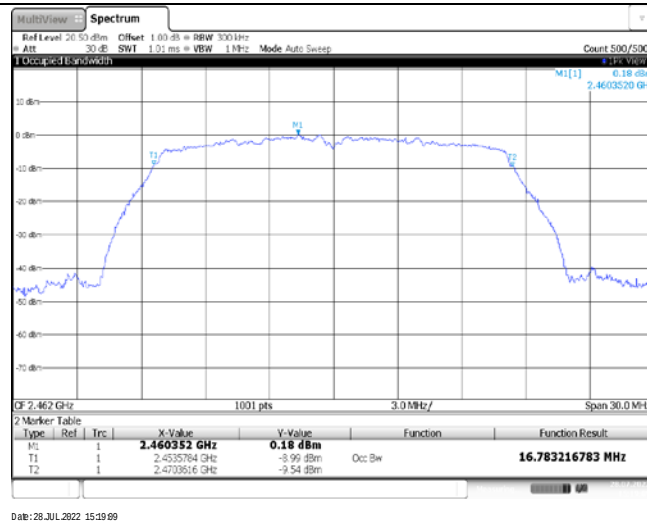
CH01



CH06

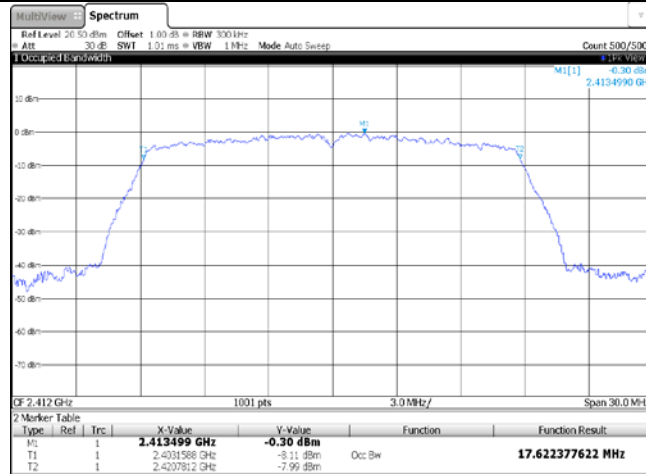


CH11



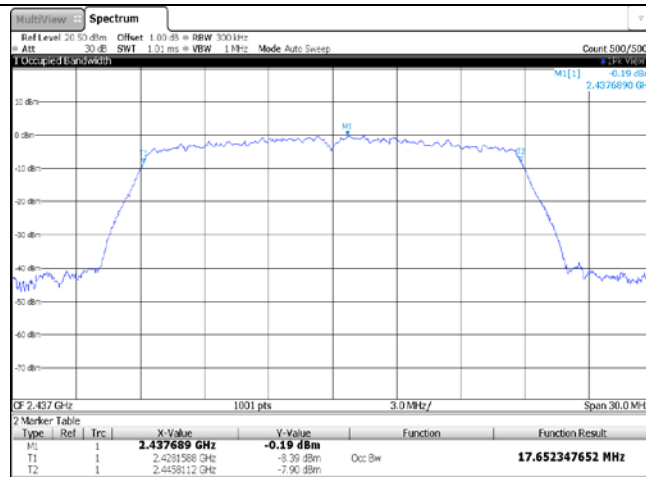
802.11n(HT20)

CH01



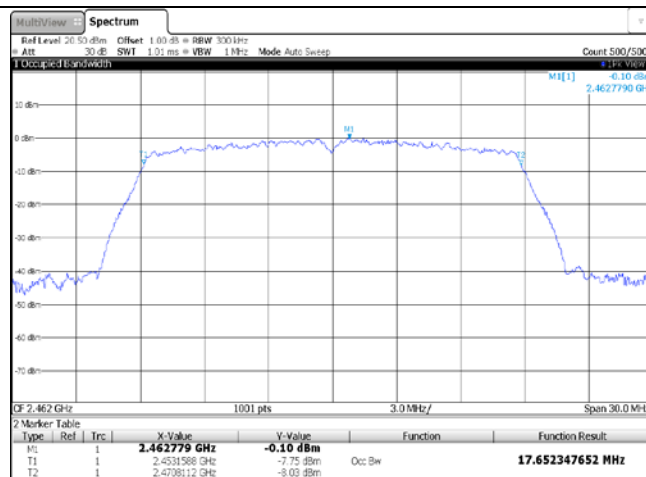
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CH06



Date:28.JUL.2022 15:42:39

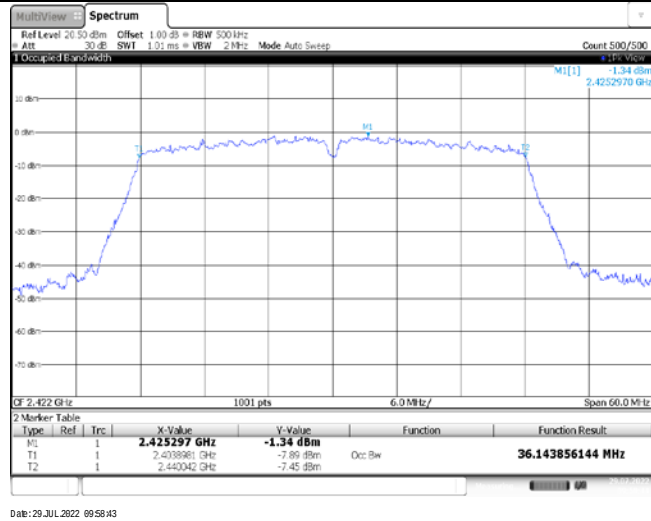
CH11



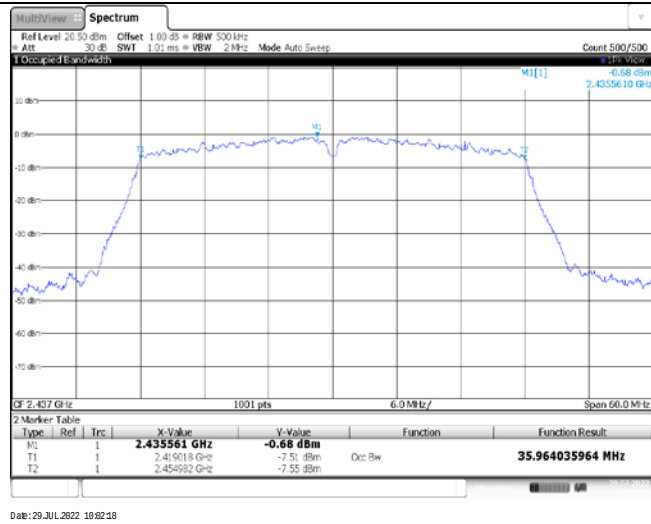
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802.11n(HT40)

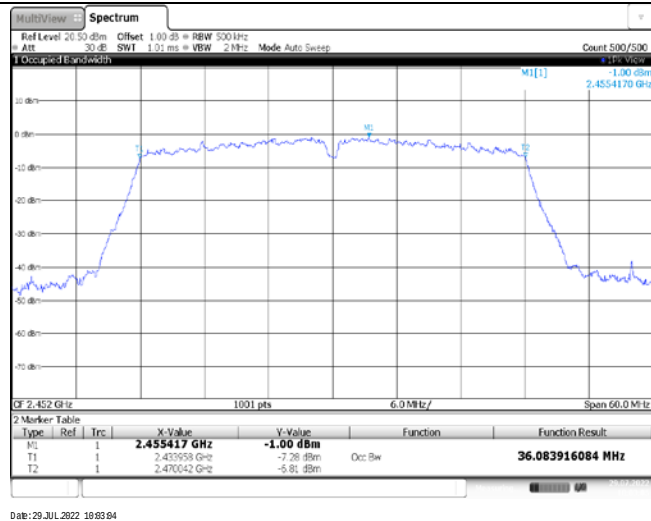
CH03



CH06

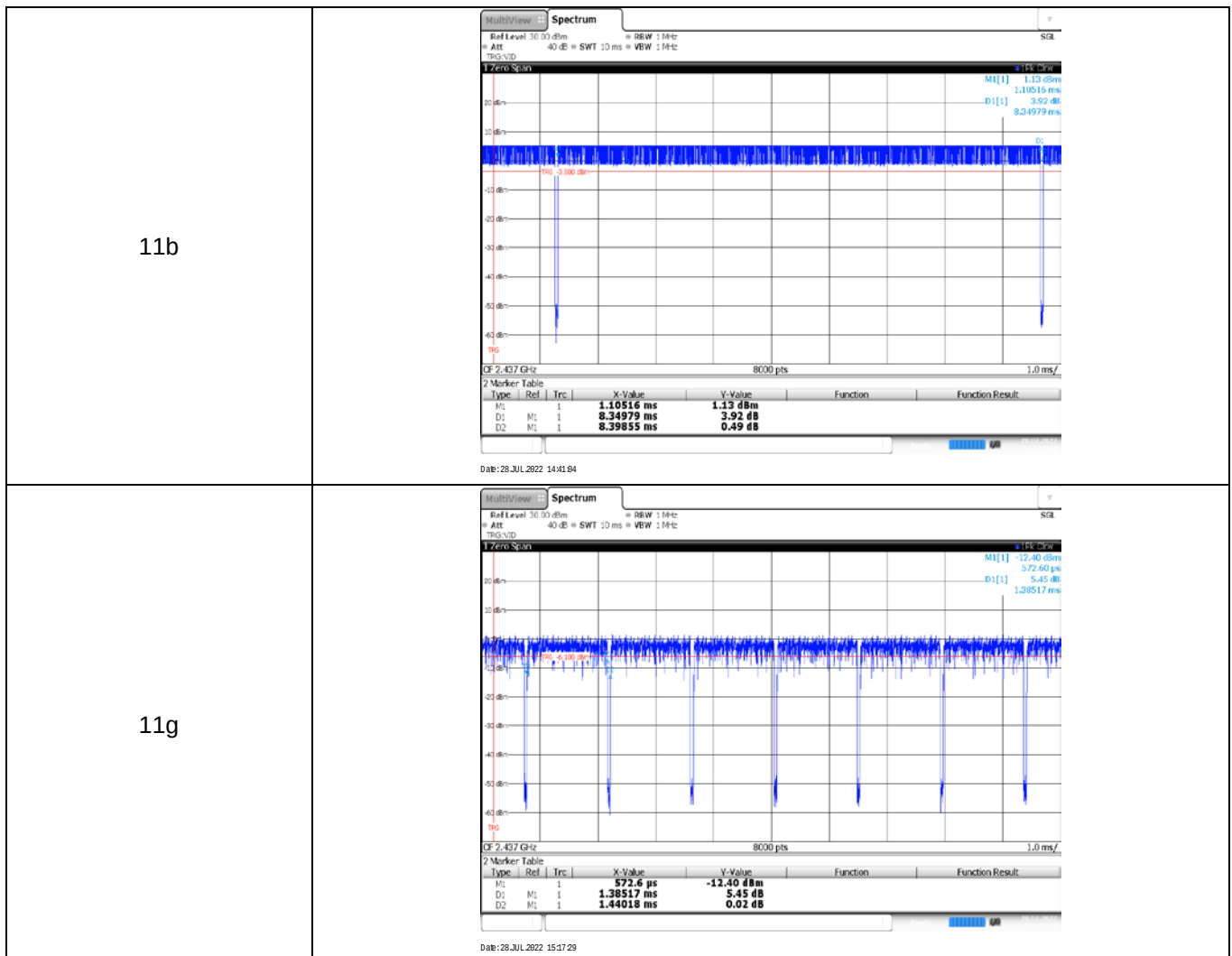


CH09

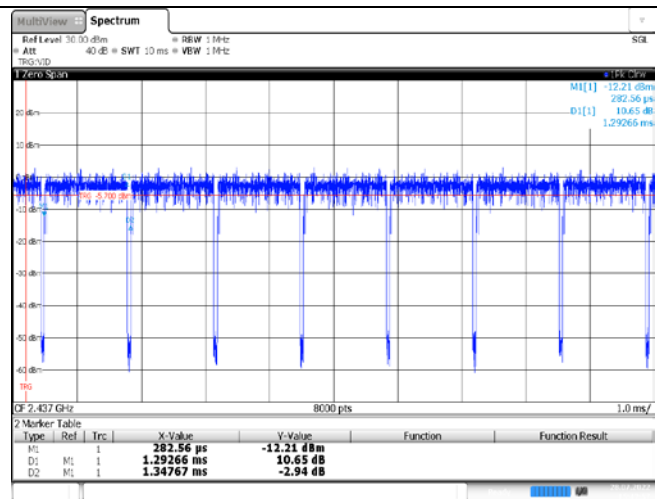


Appendix E: Duty Cycle

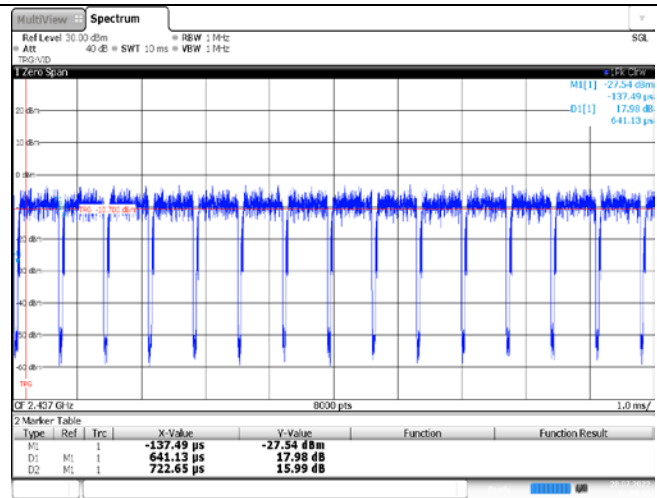
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	8.35	8.40	99.4%	0.1
11g	2437	1.39	1.44	96.5%	0.7
11n20	2437	1.29	1.35	95.6%	0.8
11n40	2437	0.69	0.72	95.8%	1.4



11n20



11n40



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 SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 200/200 Frequency Sweep 10 dB 0 dB -10 dB -20 dB -30 dB -40 dB -50 dB -60 dB -70 dB M1[1] -2.95 dBm 2.410640 GHz M2[1] -49.01 dBm 2.400000 GHz 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>2.41064 GHz</td><td>-2.95 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-49.01 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-57.68 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.16 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399624 GHz</td><td>-45.93 dBm</td><td></td><td></td></tr></table> Date: 28.JUL.2022 15:15:42			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41064 GHz	-2.95 dBm			M2	1		2.4 GHz	-49.01 dBm			M3	1		2.39 GHz	-57.68 dBm			M4	1		2.31 GHz	-62.16 dBm			M5	1		2.399624 GHz	-45.93 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.41064 GHz	-2.95 dBm																																									
M2	1		2.4 GHz	-49.01 dBm																																									
M3	1		2.39 GHz	-57.68 dBm																																									
M4	1		2.31 GHz	-62.16 dBm																																									
M5	1		2.399624 GHz	-45.93 dBm																																									
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 200/200 Frequency Sweep 10 dB 0 dB -10 dB -20 dB -30 dB -40 dB -50 dB -60 dB -70 dB M1[1] -2.31 dBm 2.4632450 GHz M2[1] -56.87 dBm 2.4625000 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>2.463245 GHz</td><td>-2.31 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4635 GHz</td><td>-56.87 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-59.77 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.485168 GHz</td><td>-55.52 dBm</td><td></td><td></td></tr></table> Date: 28.JUL.2022 15:19:26			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.463245 GHz	-2.31 dBm			M2	1		2.4635 GHz	-56.87 dBm			M3	1		2.5 GHz	-59.77 dBm			M4	1		2.485168 GHz	-55.52 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
M1	1		2.463245 GHz	-2.31 dBm																																									
M2	1		2.4635 GHz	-56.87 dBm																																									
M3	1		2.5 GHz	-59.77 dBm																																									
M4	1		2.485168 GHz	-55.52 dBm																																									

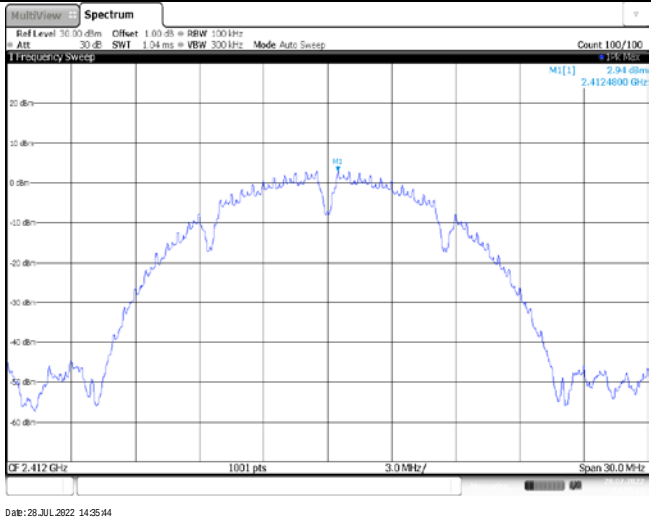
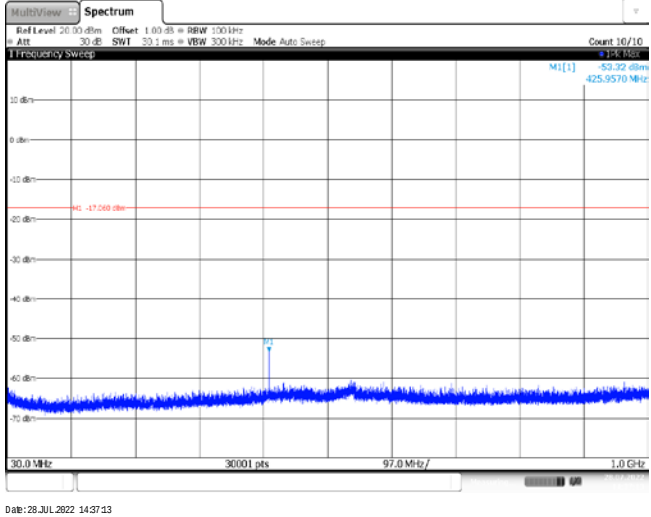
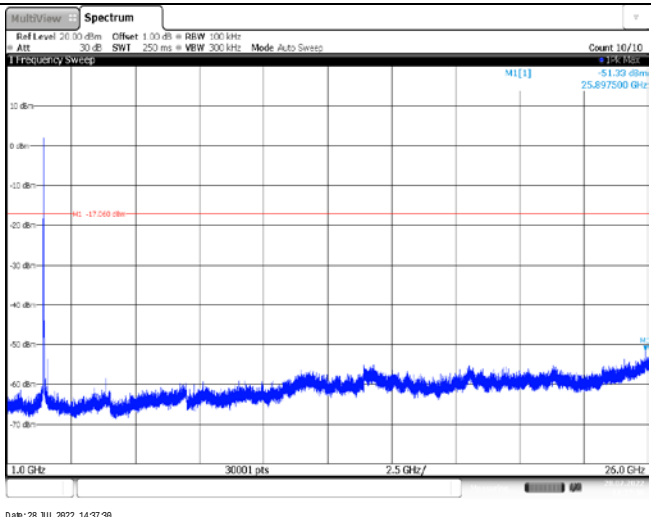
Test Item:	Bandedge	802.11 n(HT20)	Antenna 0
CH01			

Test Item:	Bandedge	802.11 n(HT40)	Antenna 0
CH03			

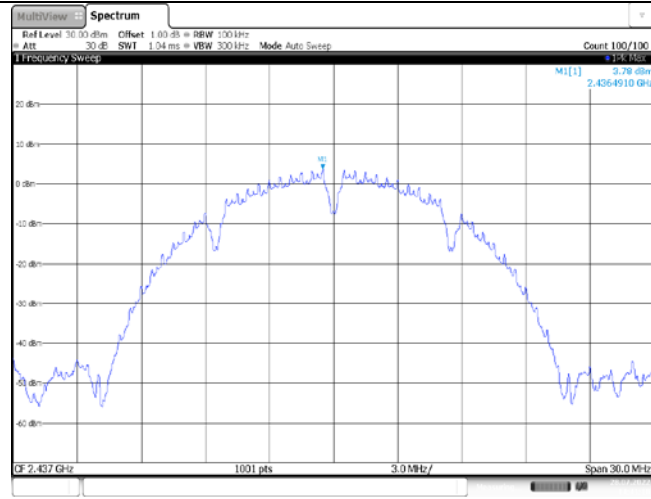
Test Item:	Bandedge	802.11 b	Antenna 1
CH01			

Test Item:	Bandedge	802.11 n(HT20)	Antenna 1
CH01			

Test Item:	Bandedge	802.11 n(HT40)	Antenna 1
CH03			

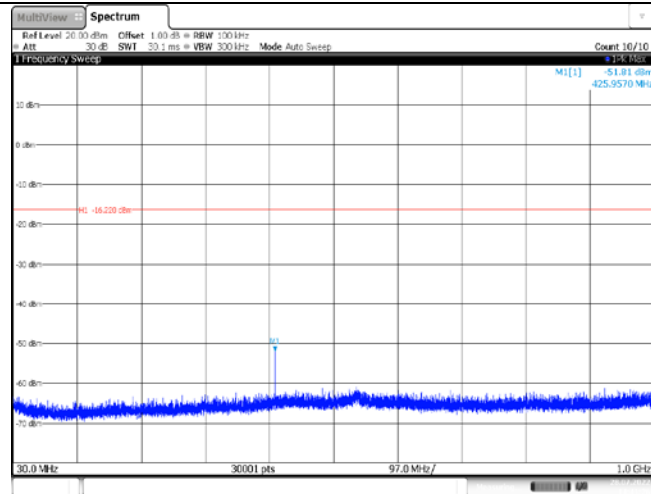
Test Item:	SE	802.11 b	Antenna 0
Reference level CH01			
CH01			
			

Reference level CH06

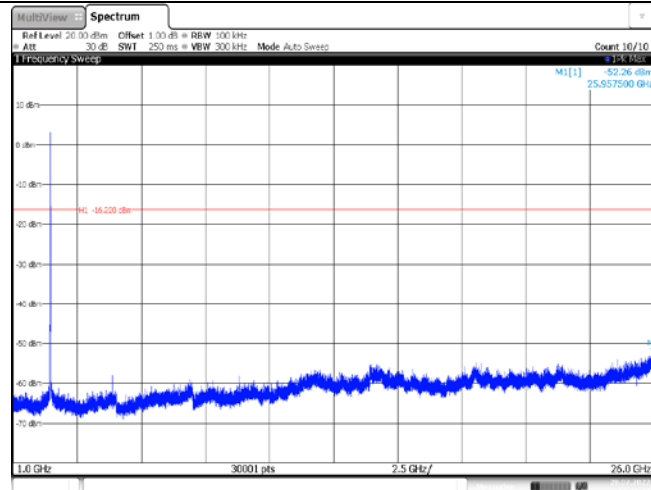


Date: 28 JUL 2022 14:41:11

CH06

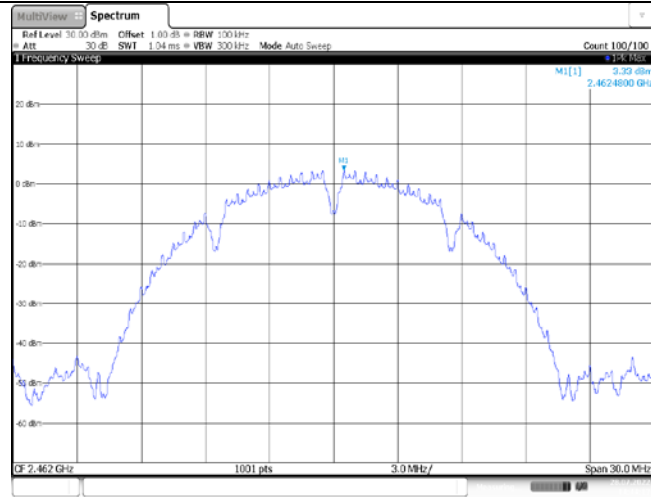


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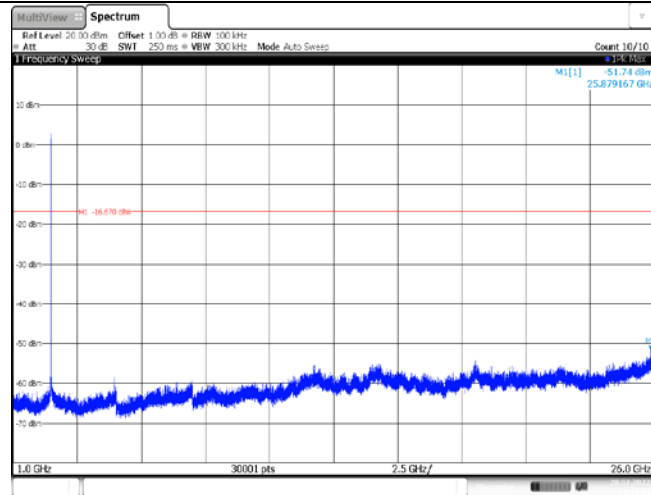
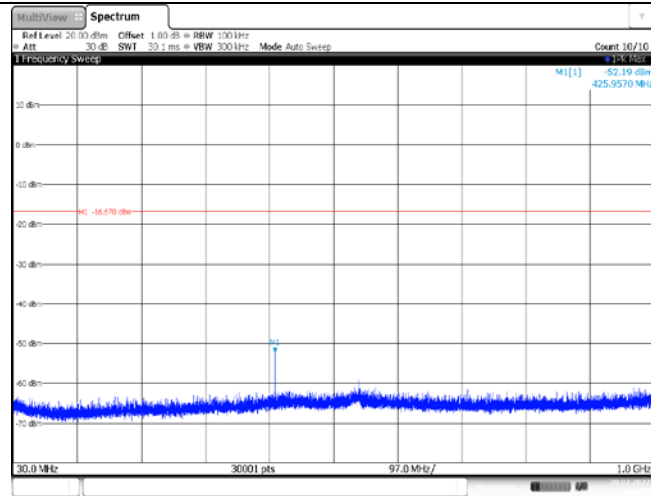


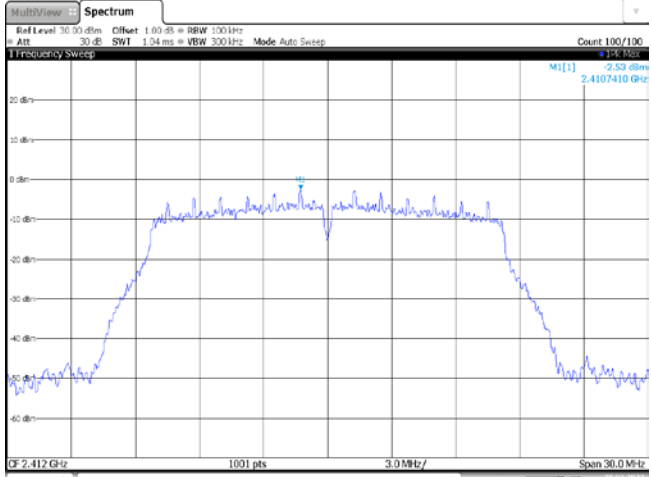
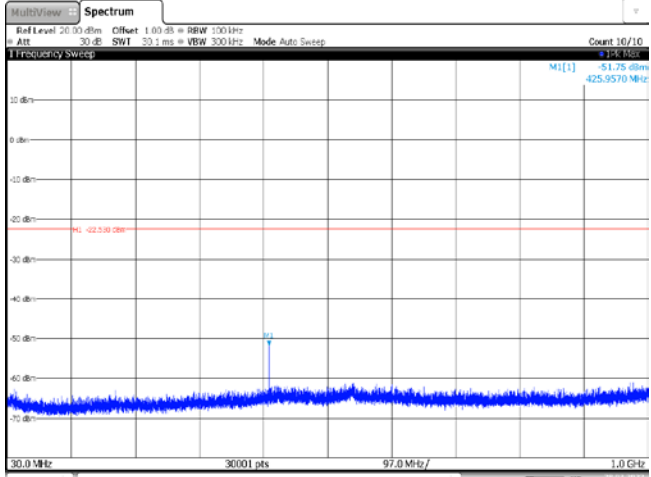
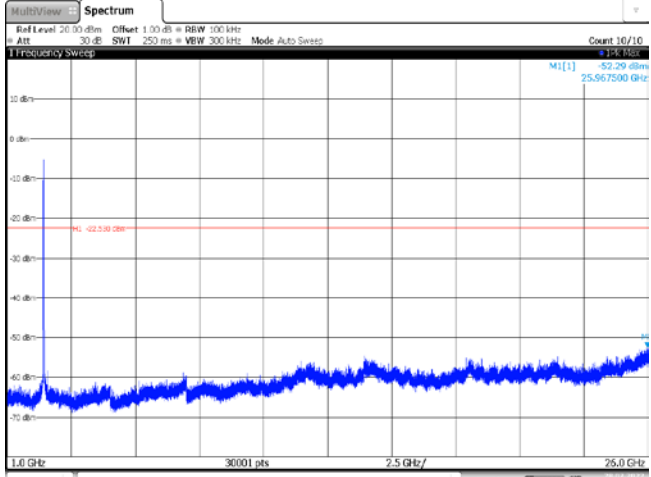
Date: 28 JUL 2022 14:41:43

Reference level CH11

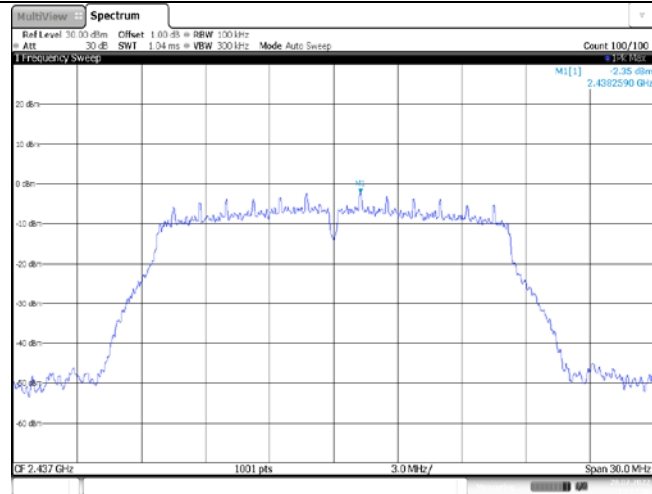


CH11



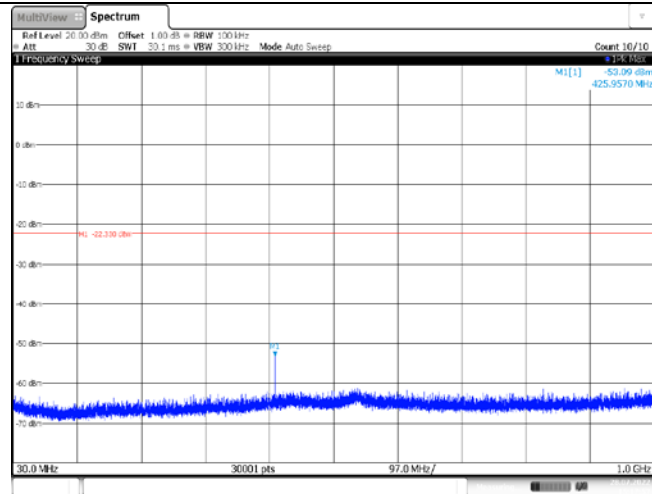
Test Item:	SE	802.11 g	Antenna 0
Reference level CH01	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWI 1.04 ms = VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M[1] -2.53 dBm 2.4107410 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 2.412 GHz 1001 pts 3.0 MHz Span 30.0 MHz Date: 28.JUL.2022 15:15:49		
CH01	 MultiView Spectrum 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 1 Frequency Sweep M[1] -51.75 dBm 425.9570 MHz 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: 28.JUL.2022 15:16:05		
	 MultiView Spectrum 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 1 Frequency Sweep M[1] -52.29 dBm 25.967500 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 1.0 GHz 30001 pts 24.0 GHz 25.0 GHz Date: 28.JUL.2022 15:16:22		

Reference level CH06

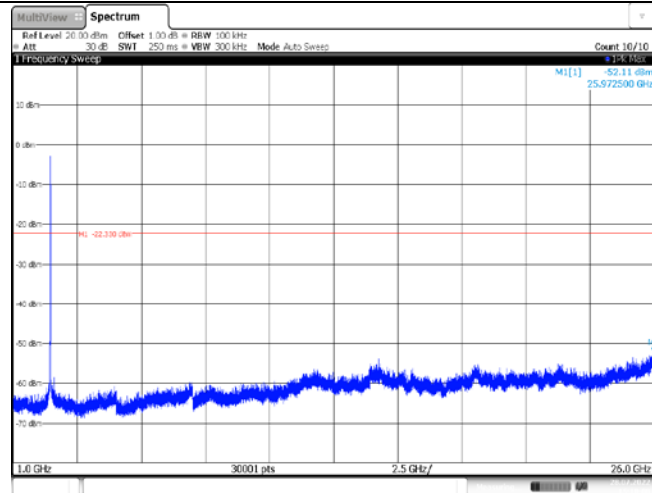


Date: 28 JUL 2022 15:17:35

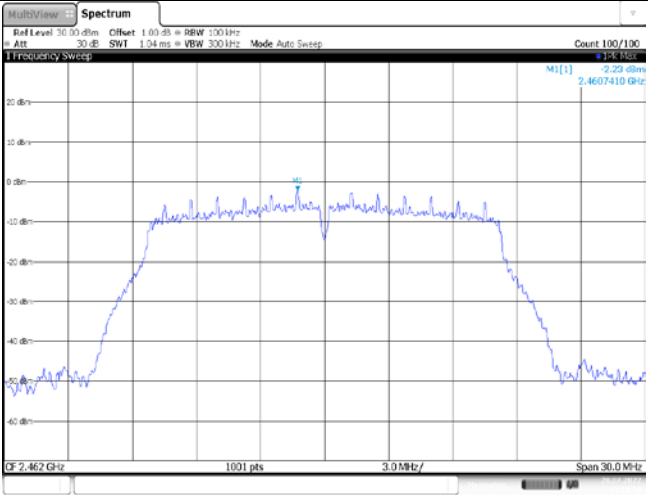
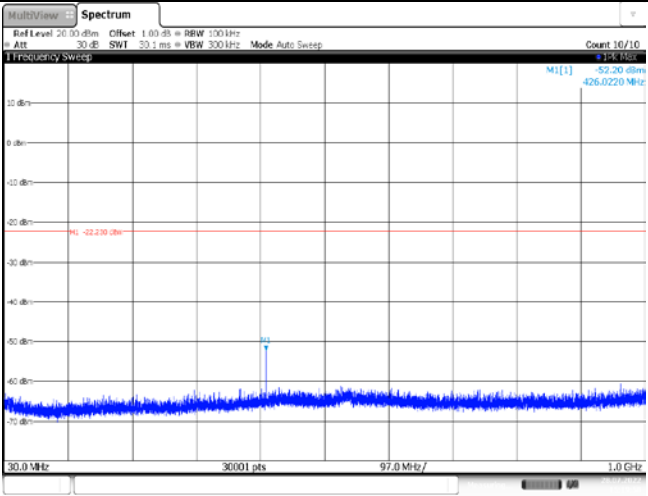
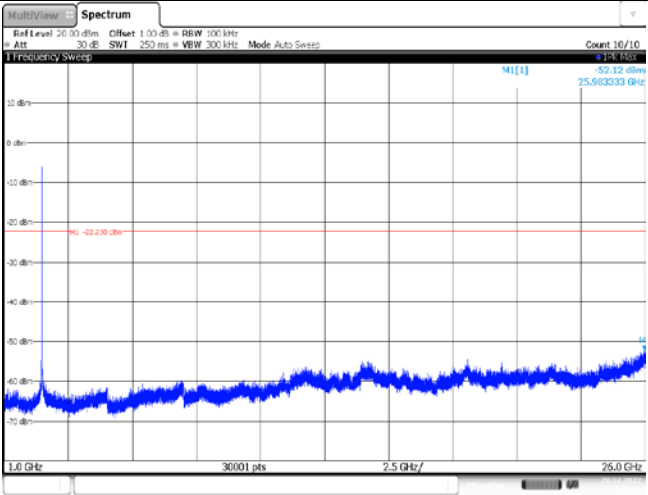
CH06

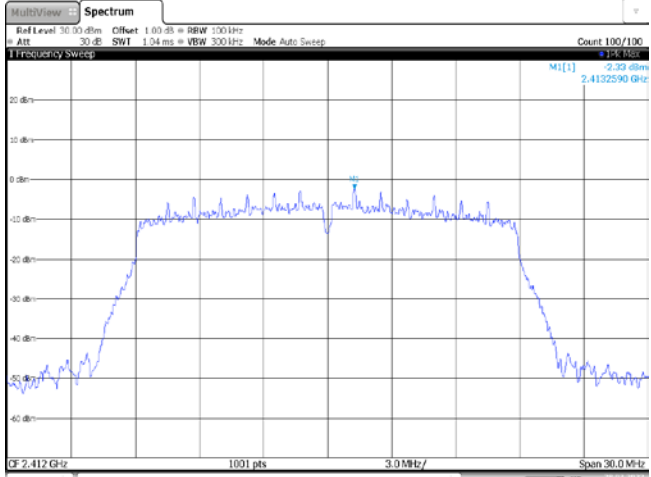
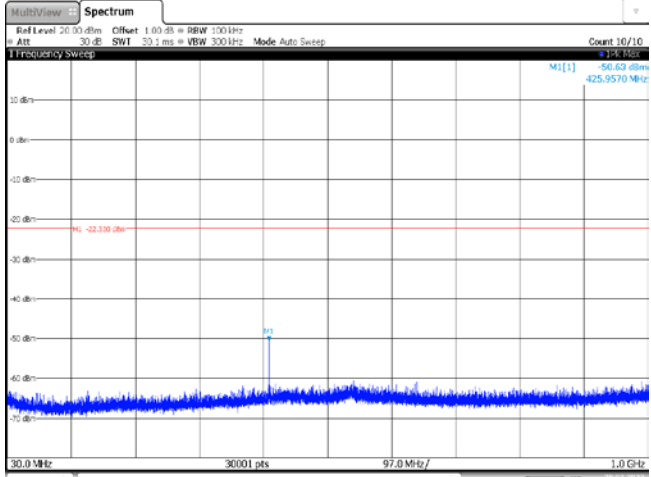
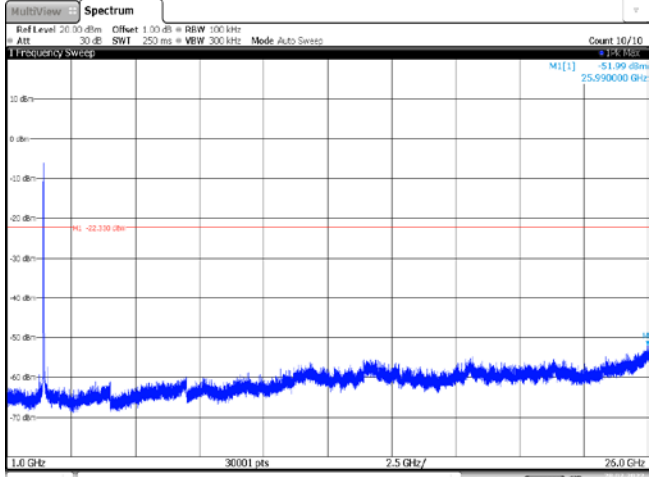


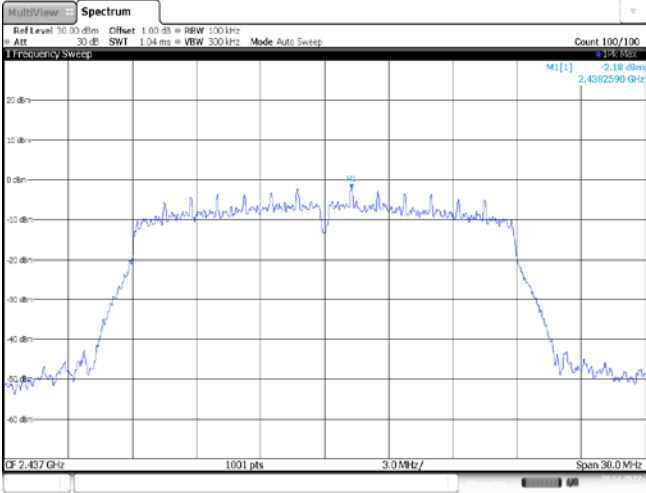
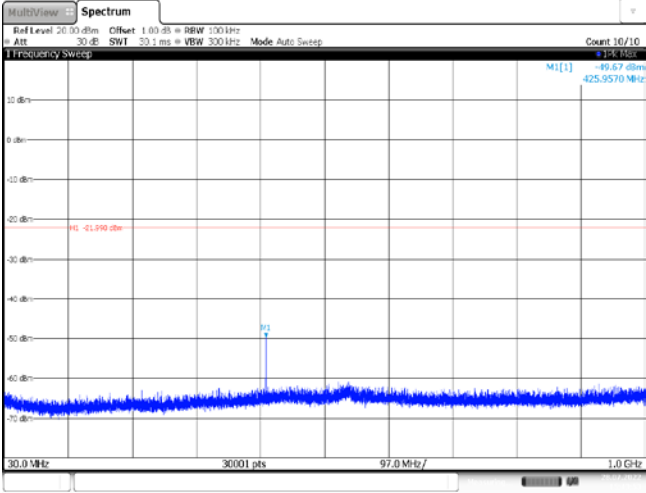
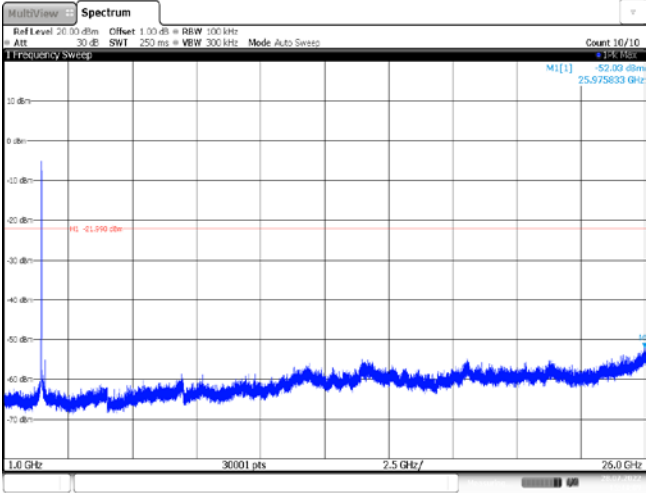
Date: 28 JUL 2022 15:17:52



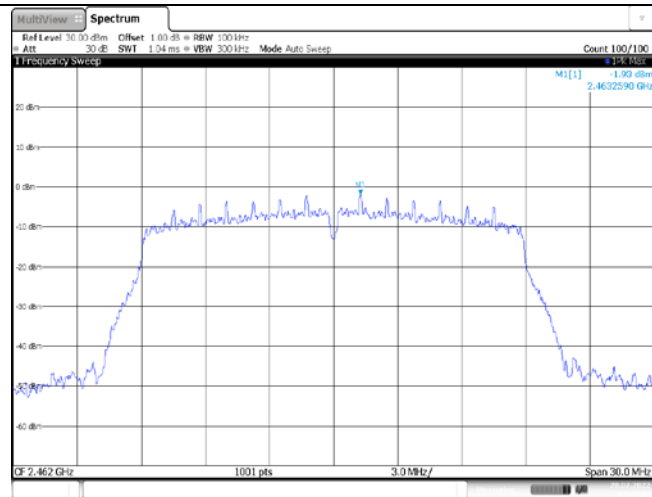
Date: 28 JUL 2022 15:18:08

Reference levelCH11	 Date:28 JUL 2022 15:19:33
CH11	 Date:28 JUL 2022 15:19:59
	 Date:28 JUL 2022 15:20:06

Test Item:	SE	802.11 n(HT20)	Antenna 0
Reference level CH01	 Date: 28 JUL 2022 15:41:05		
CH01	 Date: 28 JUL 2022 15:41:22		
	 Date: 28 JUL 2022 15:41:38		

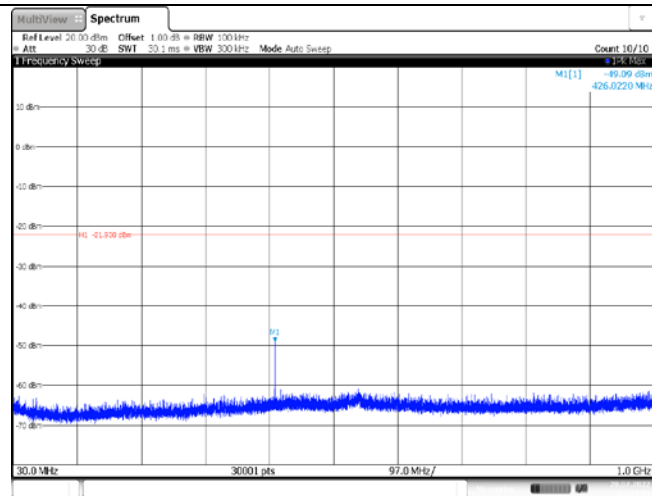
Reference levelCH06	 28 JUL 2022 15:43:37
CH06	 28 JUL 2022 15:43:53
	 28 JUL 2022 15:44:09

Reference level CH11

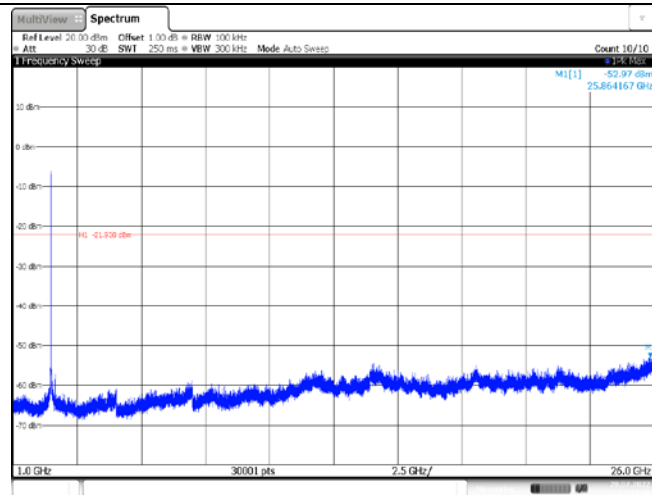


Date: 28 JUL 2022 15:45 06

CH11



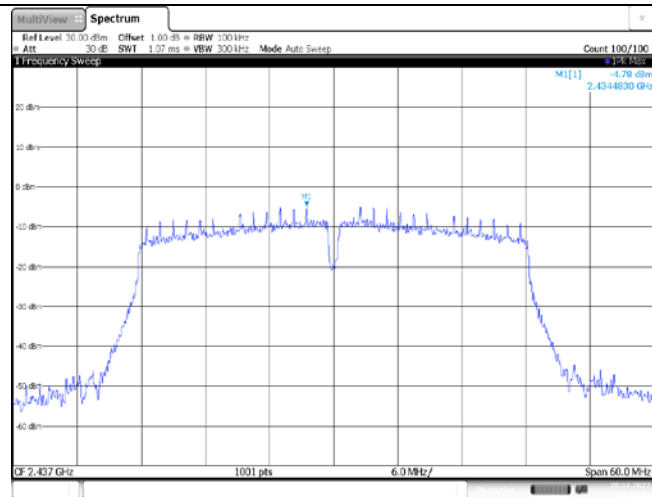
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Date: 28 JUL 2022 15:45:39

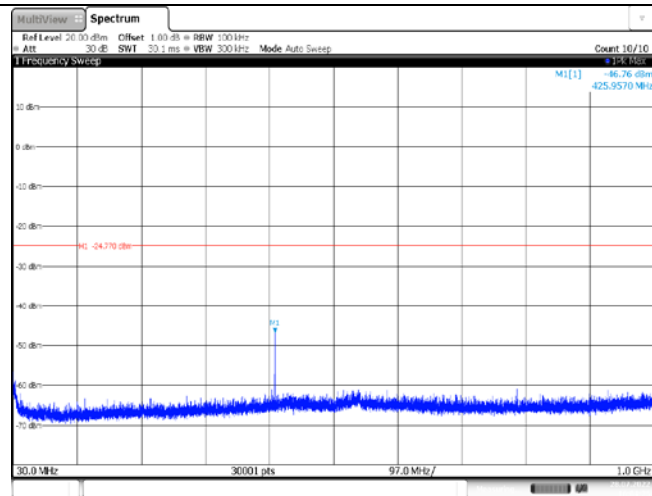
Test Item:	SE	802.11 n(HT40)	Antenna 0
Reference levelCH03	MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWT 1.07 ms = VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] -5.35 dBm 2.4194830 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 2.422 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date: 28.JUL.2022 16:02:38		
CH03	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWT 30.1 ms = VBW 300 kHz Mode Auto Sweep Count 10/10 1 Frequency Sweep MU[1] -46.06 dBm 425.9570 MHz 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: 28.JUL.2022 16:02:54		
	MultiView Spectrum Ref Level 20.00 dBm Offset 1.10 dB = RBW 100 kHz Att 30 dB SWT 250 ms = VBW 300 kHz Mode Auto Sweep Count 10/10 1 Frequency Sweep MU[1] -51.97 dBm 25.920833 GHz 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm 1.0 GHz 30001 pts 2.5 GHz/ 25.0 GHz Date: 28.JUL.2022 16:03:11		

Reference level CH06

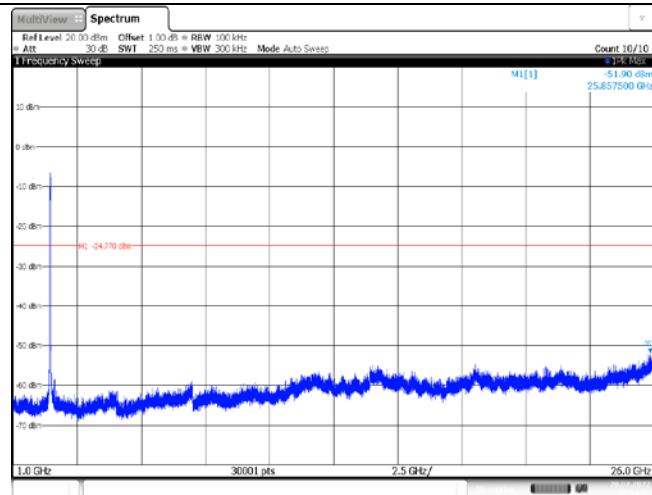


Date: 28 JUL 2022 16:04:09

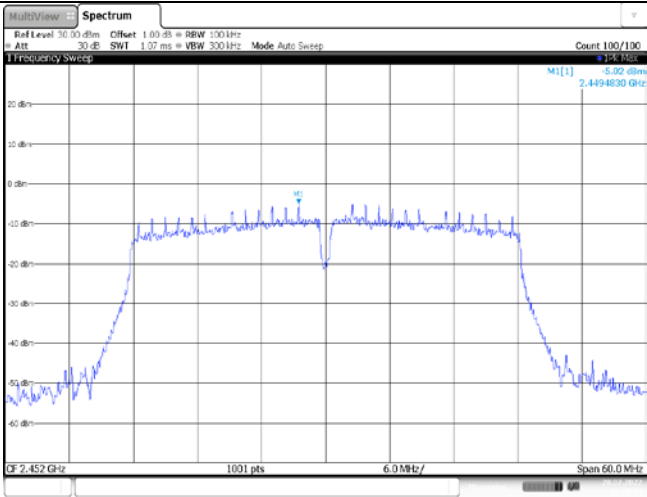
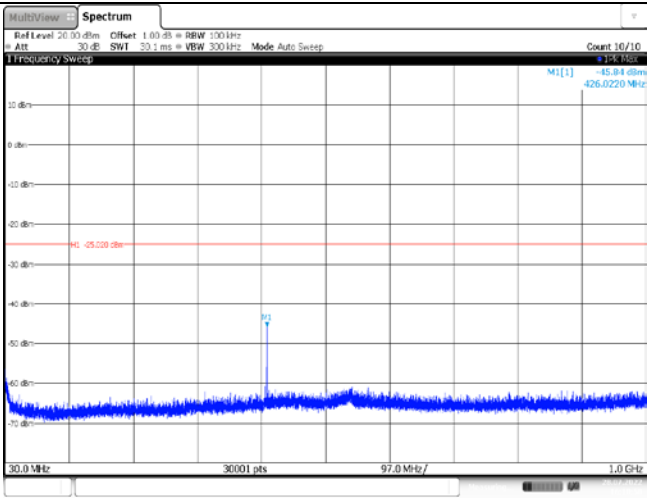
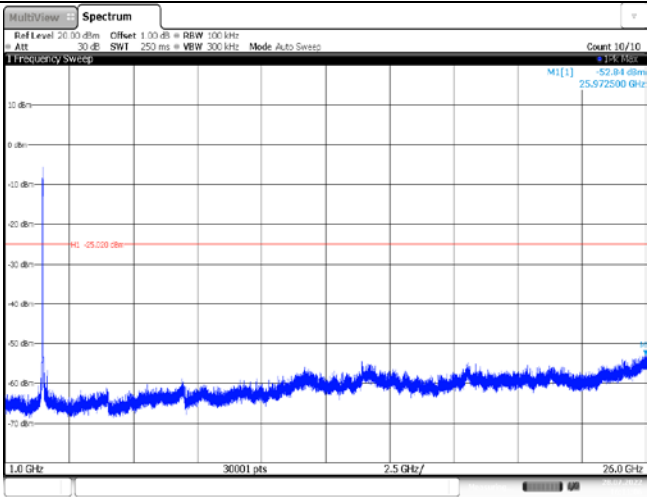
CH06



Date: 28 JUL 2022 16:04:25

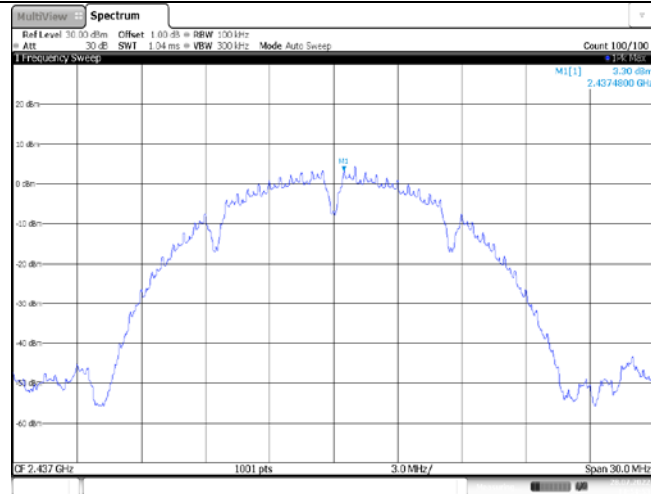


Date: 28 JUL 2022 16:04:42

Reference level CH09	 Date:28 JUL 2022 16:10:33
CH09	 Date:28 JUL 2022 16:10:59
	 Date:28 JUL 2022 16:11:06

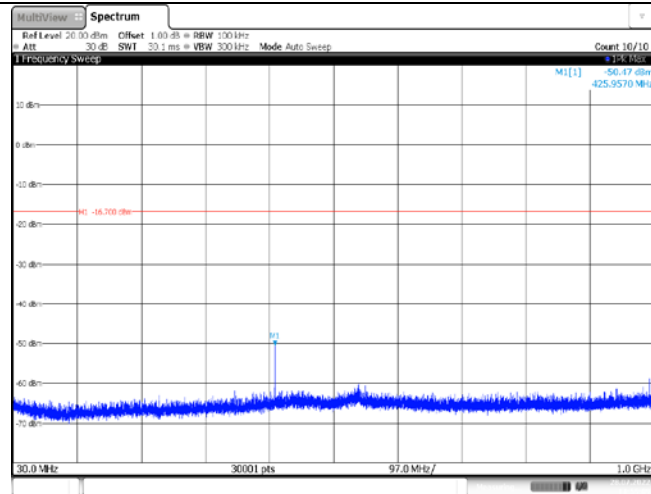
Test Item:	SE	802.11 b	Antenna 1
Reference level CH01	MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWI 1.04 ms = VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm MU[1] 2.88 dBm 2.4114910 GHz CF 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date:28.JUL.2022 14:52:16		
	CH01	MultiView Spectrum 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 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm MU[1] -49.58 dBm 426.0220 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date:28.JUL.2022 14:52:33	
		MultiView Spectrum 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 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm MU[1] -52.50 dBm 25.884167 GHz 1.0 GHz 30001 pts 2.5 GHz/ 25.0 GHz Date:28.JUL.2022 14:52:50	

Reference level CH06

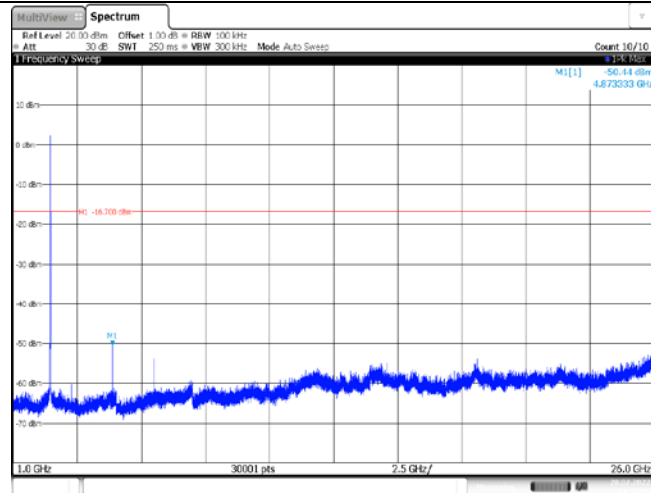


Date: 28 JUL 2022 14:54:53

CH06

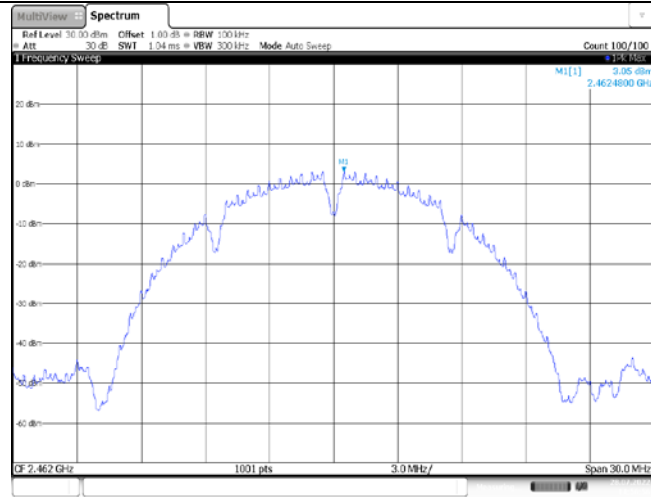


Date: 28 JUL 2022 14:55:09

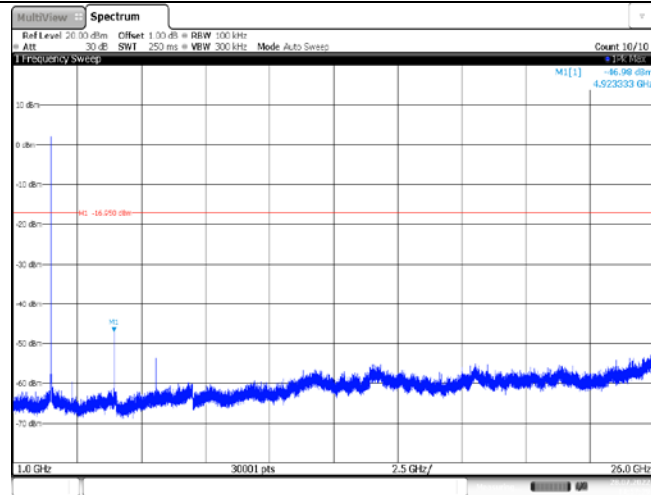
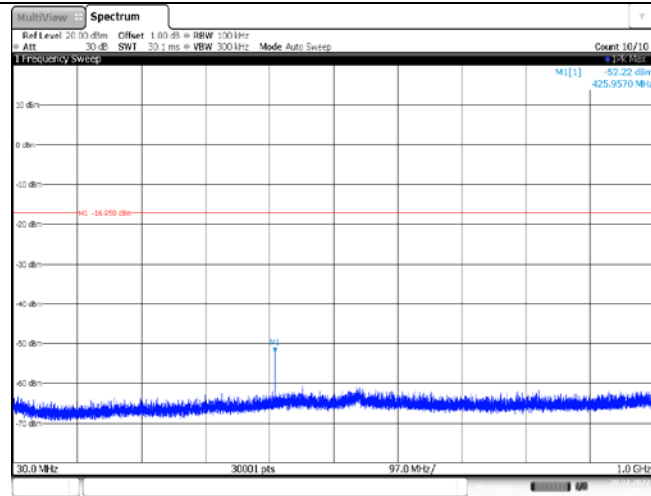


Date: 28 JUL 2022 14:55:26

Reference level CH11

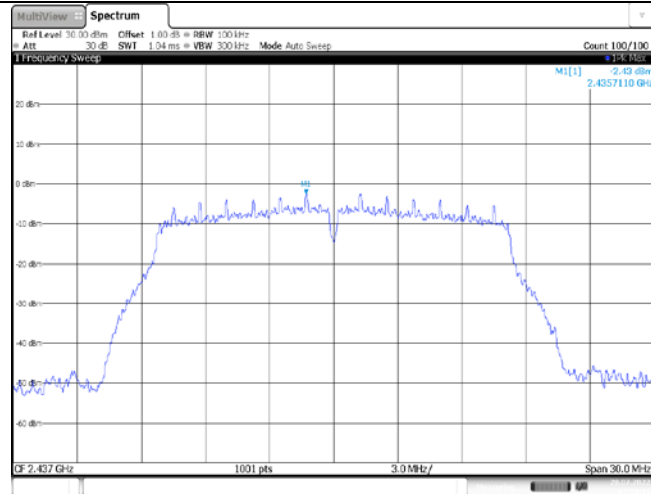


CH11



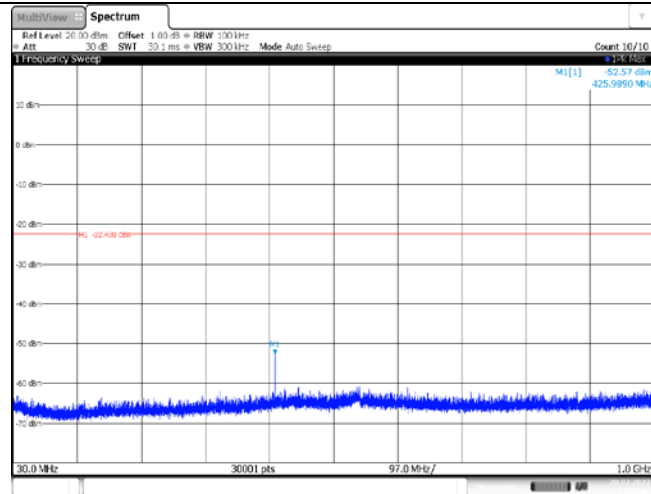
Test Item:	SE	802.11 g	Antenna 1
Reference level CH01			
CH01			

Reference level CH06

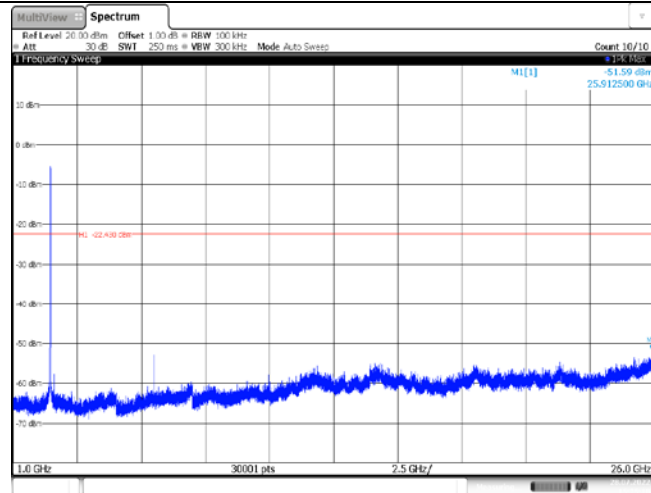


Date: 28 JUL 2022 15:24:45

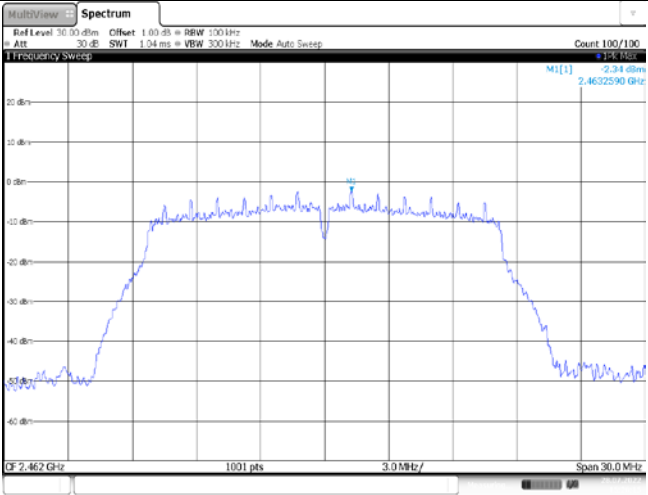
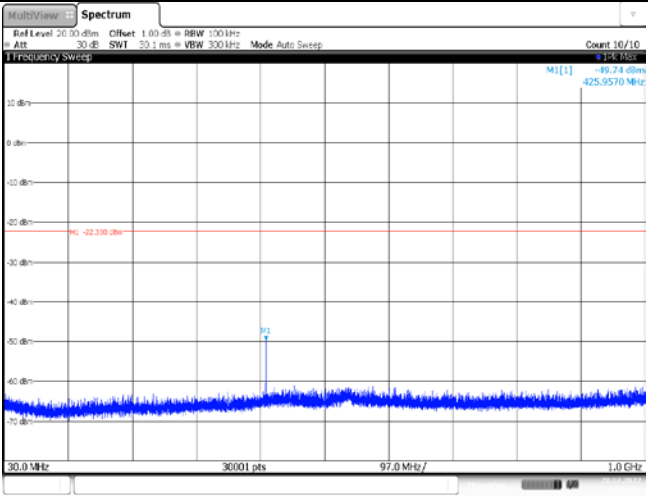
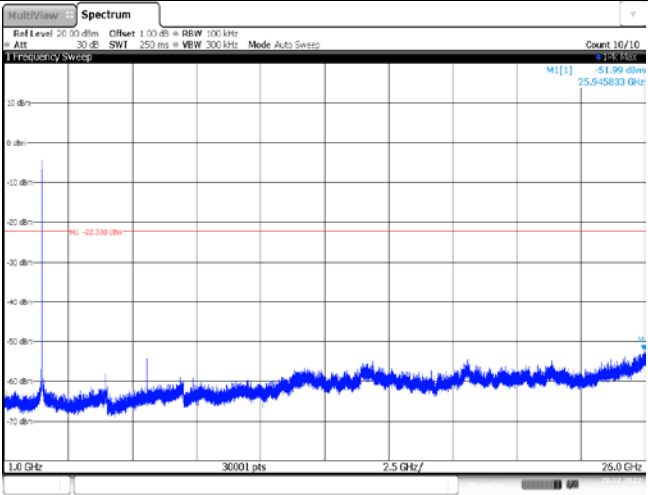
CH06



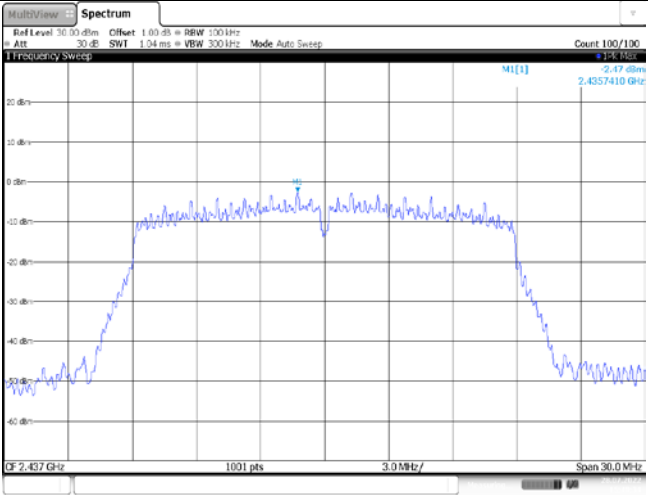
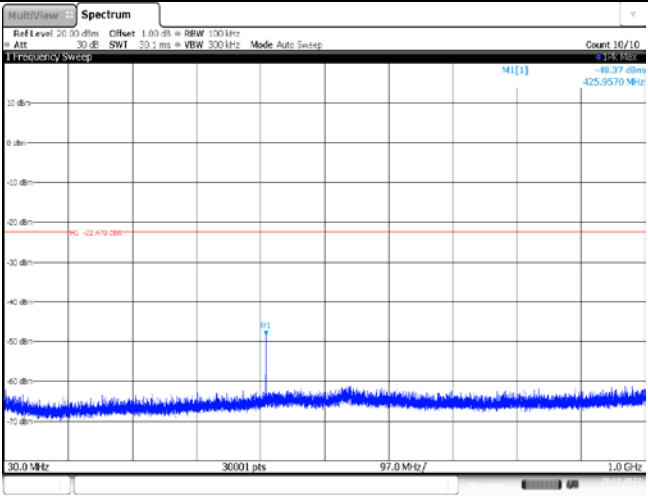
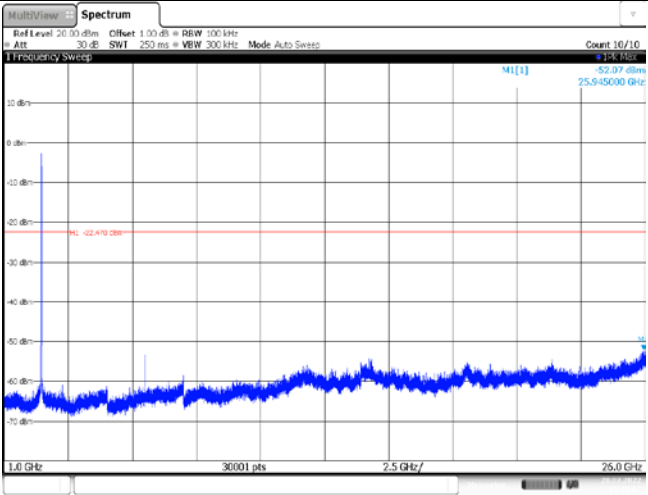
Date: 28 JUL 2022 15:25:02

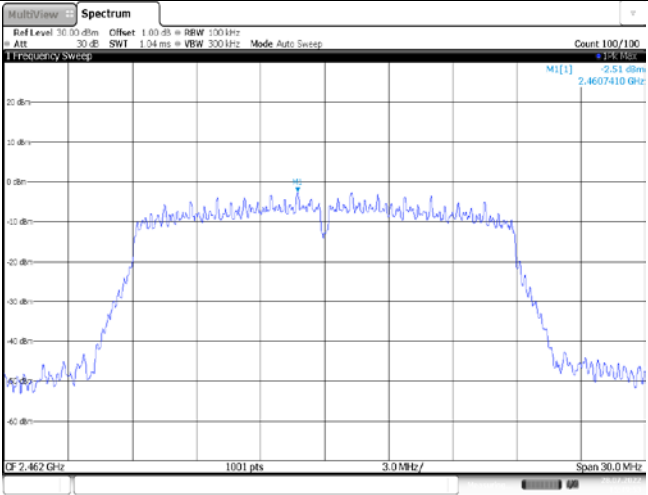
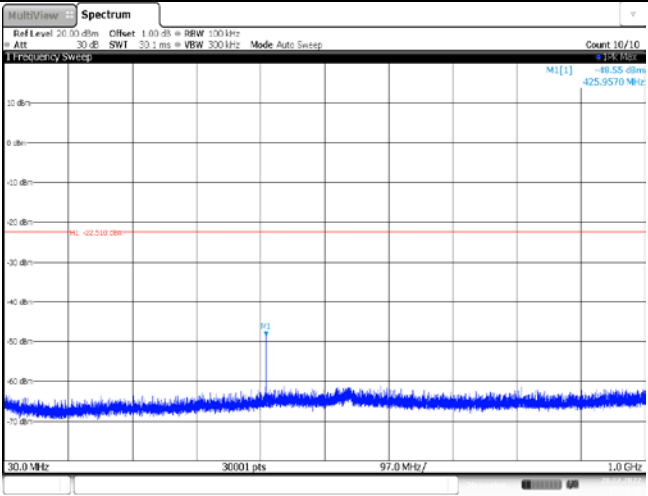
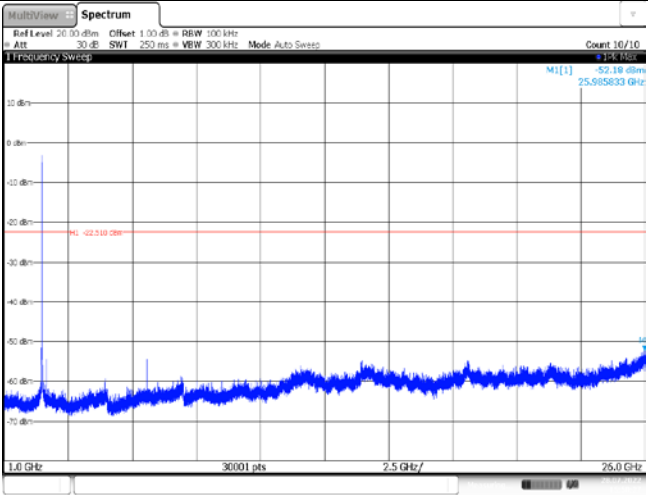


Date: 28 JUL 2022 15:25:18

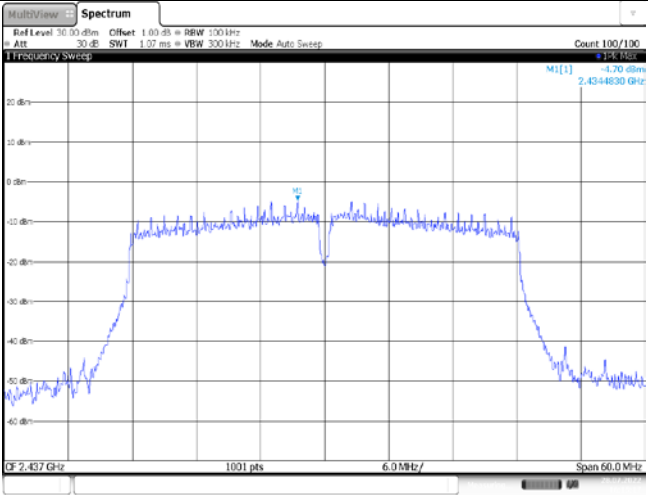
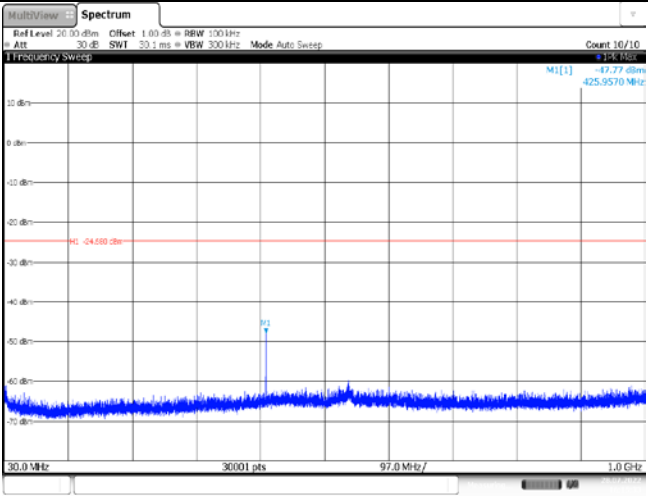
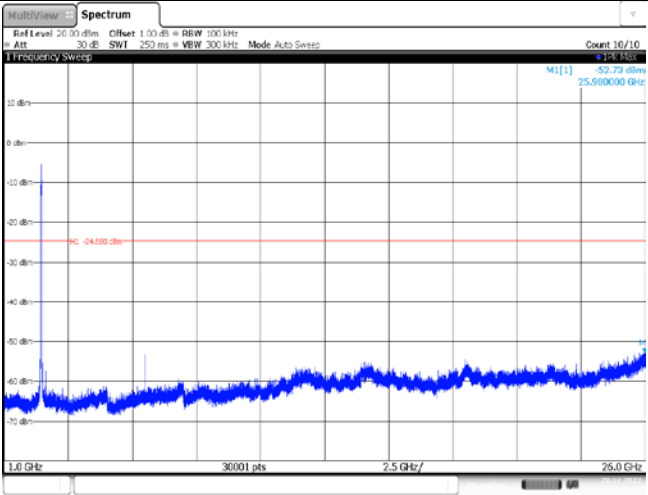
Reference level CH11	 Count: 100/100 Date: 28 JUL 2022 15:26:16
CH11	 Count: 10/10 Date: 28 JUL 2022 15:26:32
	 Count: 10/10 Date: 28 JUL 2022 15:26:48

Test Item:	SE	802.11 n(HT20)	Antenna 1
Reference level CH01	Date: 28 JUL 2022 15:47:32		
CH01	Date: 28 JUL 2022 15:47:48		
	Date: 28 JUL 2022 15:48:05		

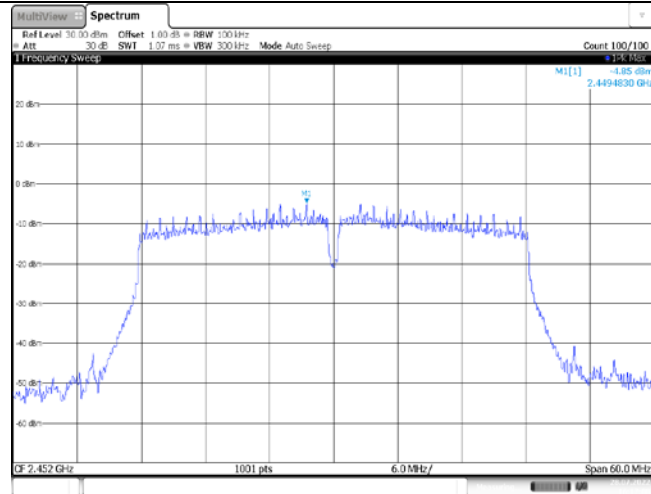
Reference level CH06	 Count 100/100 -10.49 dBm 2.437410 GHz CF 2.437 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 28 JUL 2022 15:48:34
CH06	 Count 10/10 -46.27 dBm 425.9570 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 28 JUL 2022 15:48:59
	 Count 10/10 -52.07 dBm 25.945000 GHz 1.0 GHz 30001 pts 2.5 GHz/ 25.0 GHz Date: 28 JUL 2022 15:49:07

Reference levelCH11	 Count: 100/100 29.51 dBm 2.467410 GHz CF 2.462 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 28 JUL 2022 15:49:54
CH11	 Count: 10/10 -46.55 dBm 425.9570 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 28 JUL 2022 15:50:10
	 Count: 10/10 -52.18 dBm 25.985833 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 28 JUL 2022 15:50:26

Test Item:	SE	802.11 n(HT40)	Antenna 1
Reference levelCH03	MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWT 1.07 ms = VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep MU[1] -5.06 dBm 2.4194830 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 2.422 GHz 1001 pts 6.0 MHz/ Span 60.0 MHz Date:28.JUL.2022 16:14:15		
CH03	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB = RBW 100 kHz Att 30 dB SWT 33.1 ms = VBW 300 kHz Mode Auto Sweep Count 10/10 1 Frequency Sweep MU[1] -46.62 dBm 426.0220 MHz 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:28.JUL.2022 16:14:31		
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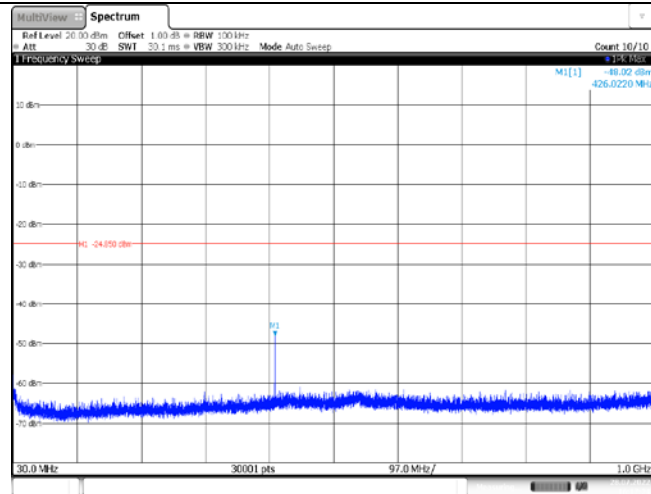
Reference level CH06	
CH06	
	

Reference level CH09

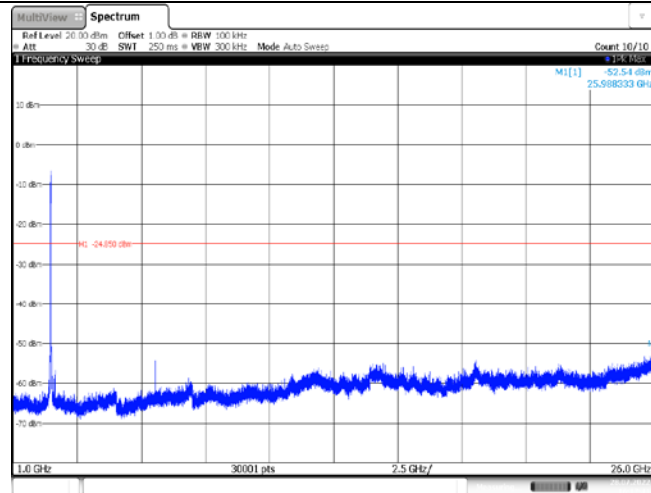


Date: 28 JUL 2022 16:17:08

CH09



Date: 28 JUL 2022 16:17:24



Date: 28 JUL 2022 16:17:41

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