

APPENDIX REPORT

Project No.	SHT2108043802EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT21080438003	Model No.	VS16340
Start test date	2021-09-07	Finish date	2021-09-07
Temperature	26.4℃	Humidity	36%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

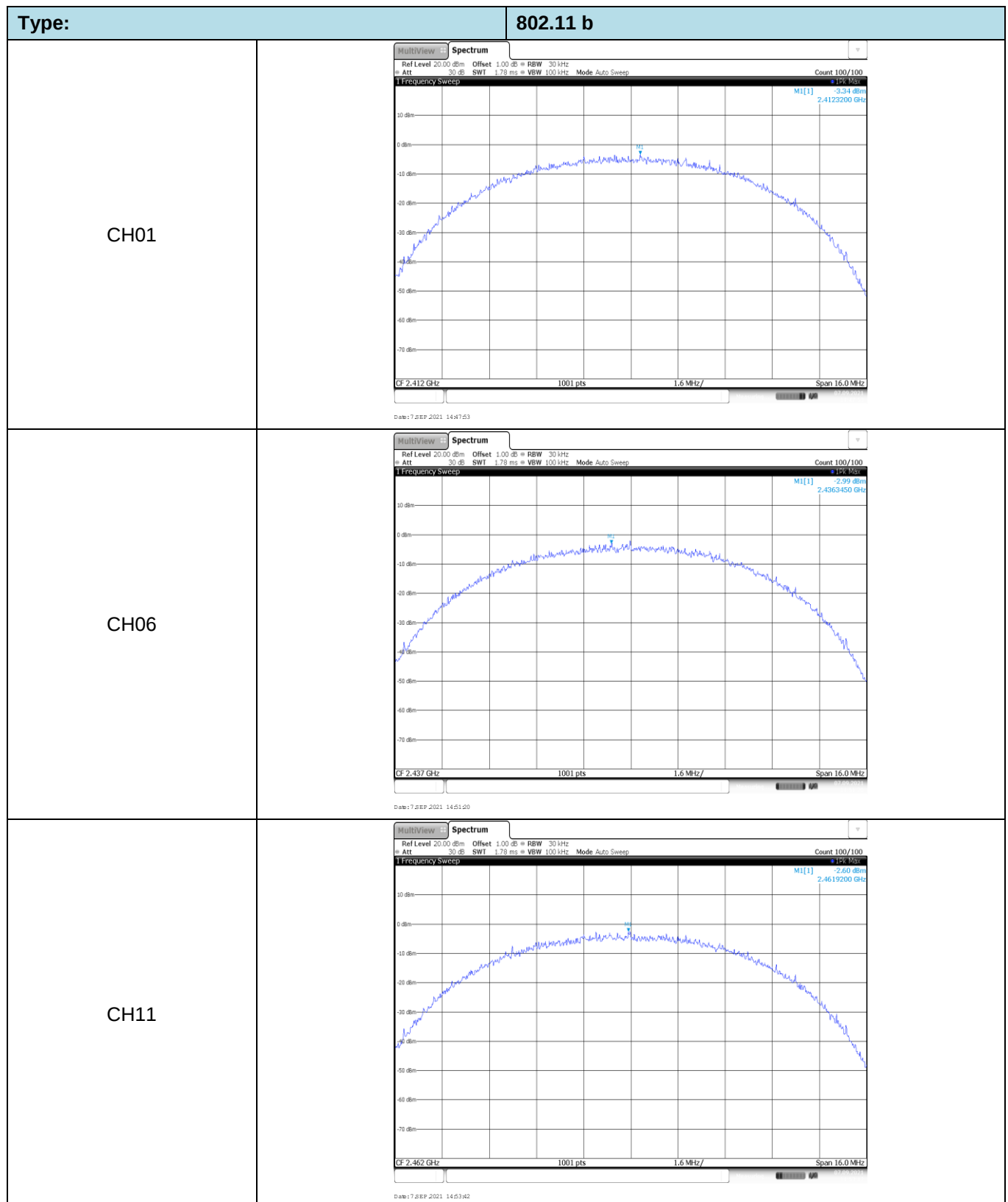
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Conducted Peak Output Power

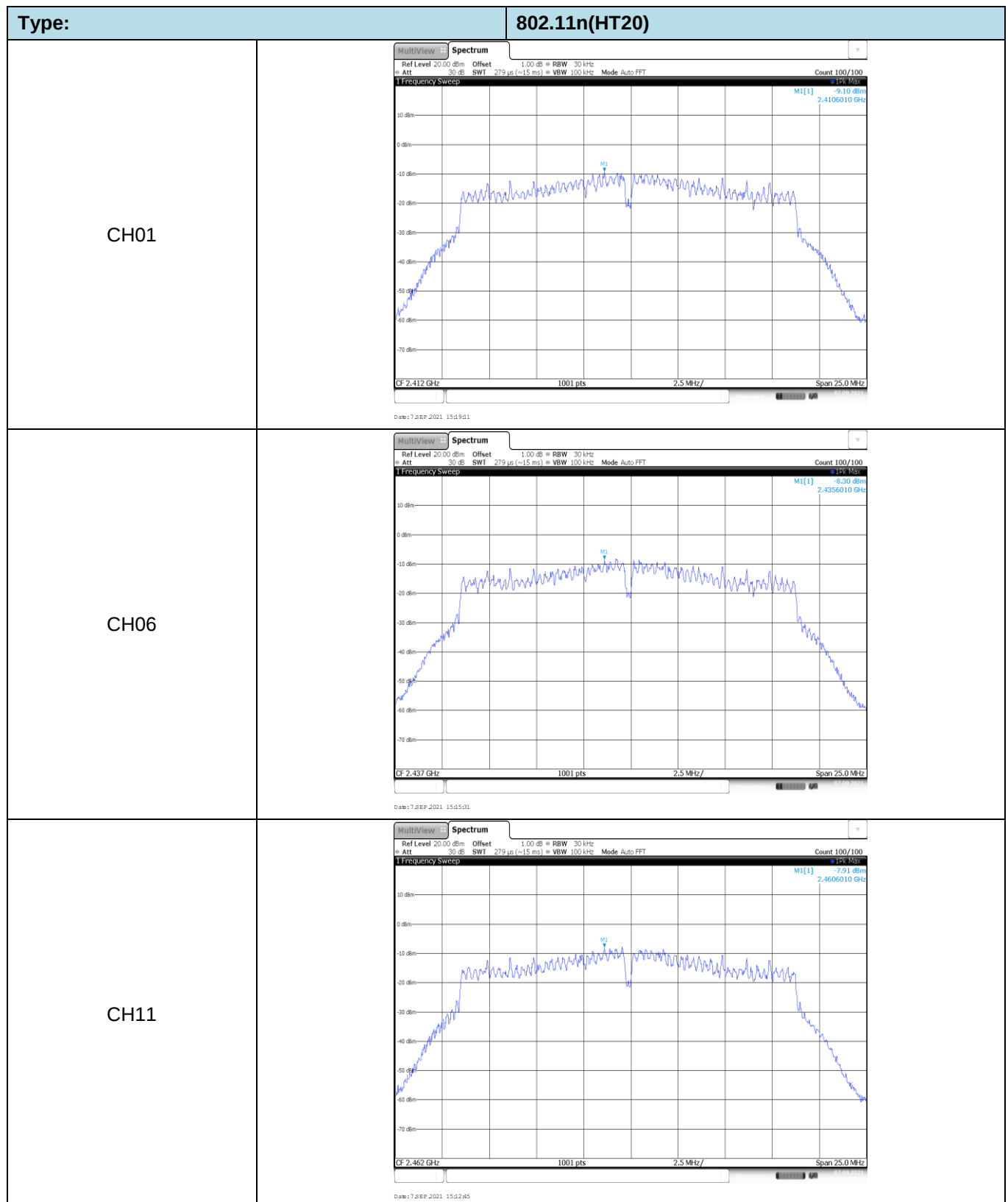
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	14.36	12.94	≤ 30.00	Pass
	06	14.98	13.44		
	11	15.52	14.02		
802.11g	01	13.28	11.04	≤ 30.00	Pass
	06	14.13	11.90		
	11	14.56	12.28		
802.11n (HT20)	01	13.35	11.52	≤ 30.00	Pass
	06	13.86	12.04		
	11	14.56	12.60		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-3.34	≤8.00	Pass
	06	-2.99		
	11	-2.60		
802.11g	01	-9.37	≤8.00	Pass
	06	-9.12		
	11	-8.63		
802.11n(HT20)	01	-9.10	≤8.00	Pass
	06	-8.30		
	11	-7.91		



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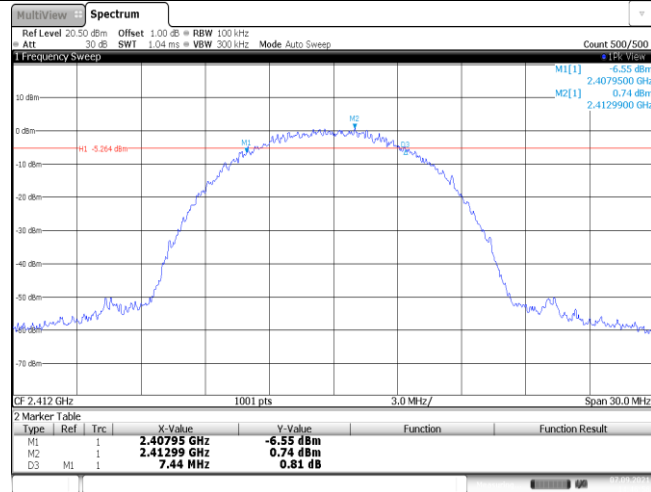
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	7.44	≥0.5	Pass
	06	7.20		
	11	7.59		
802.11g	01	15.21	≥0.5	Pass
	06	15.21		
	11	15.18		
802.11n(HT20)	01	15.69	≥0.5	Pass
	06	16.14		
	11	15.18		

Type:

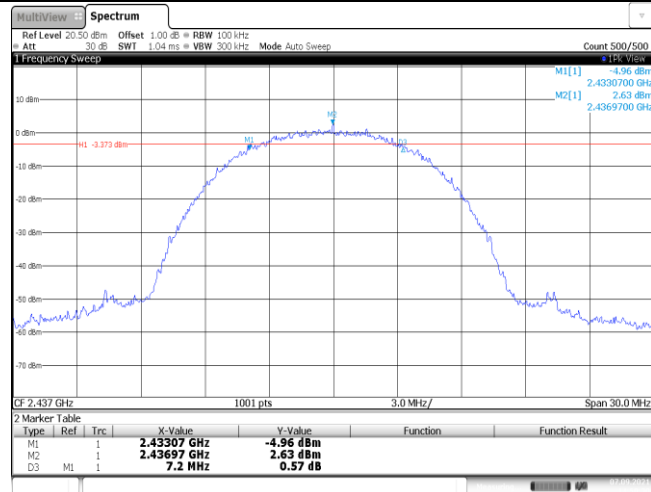
802.11 b

CH01



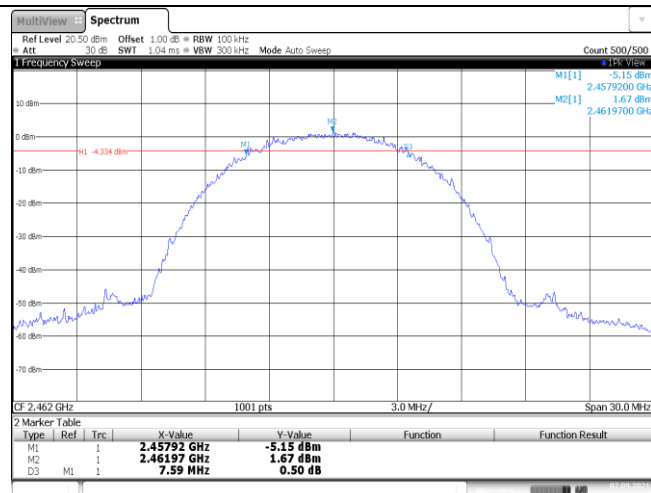
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CH06

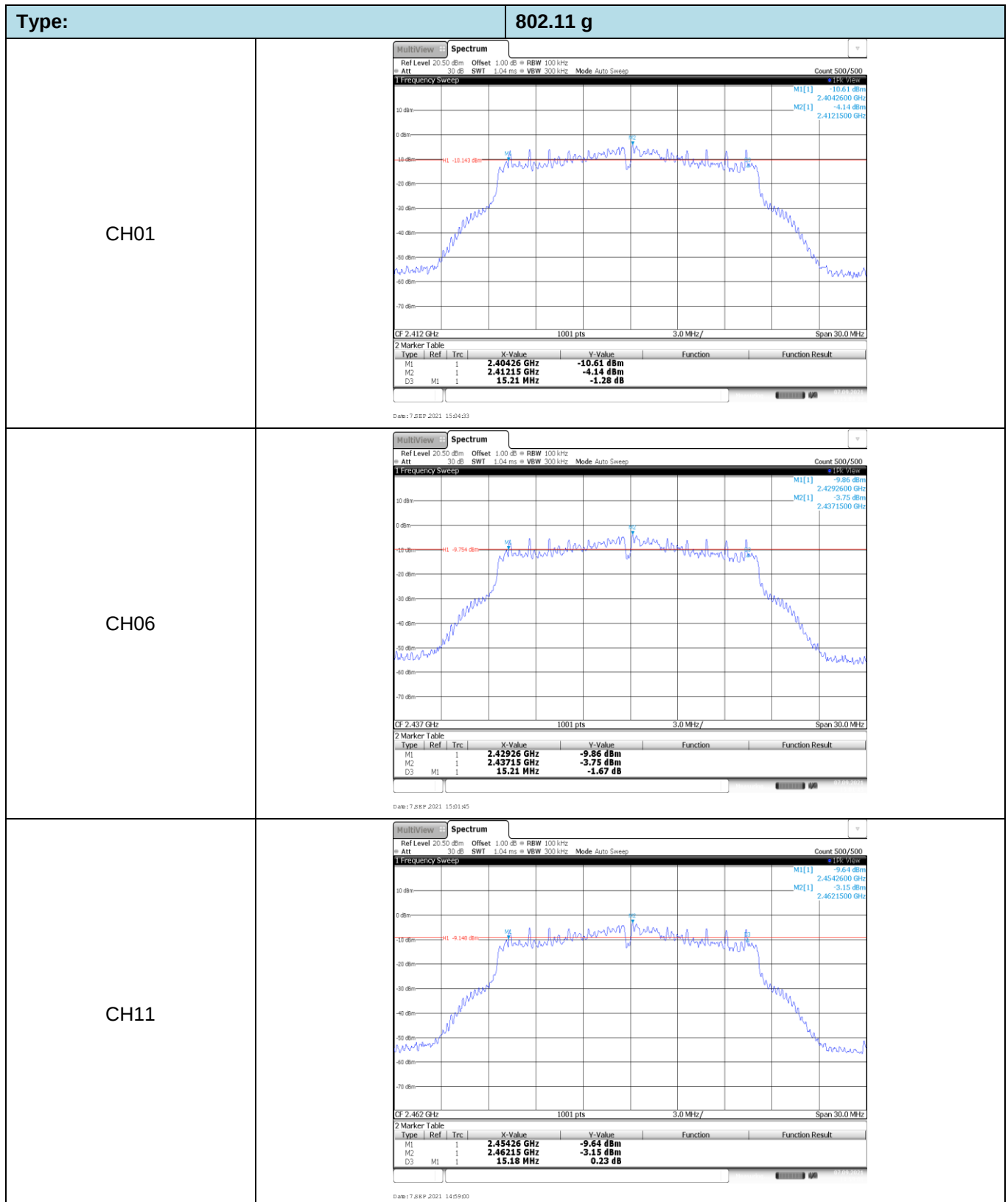


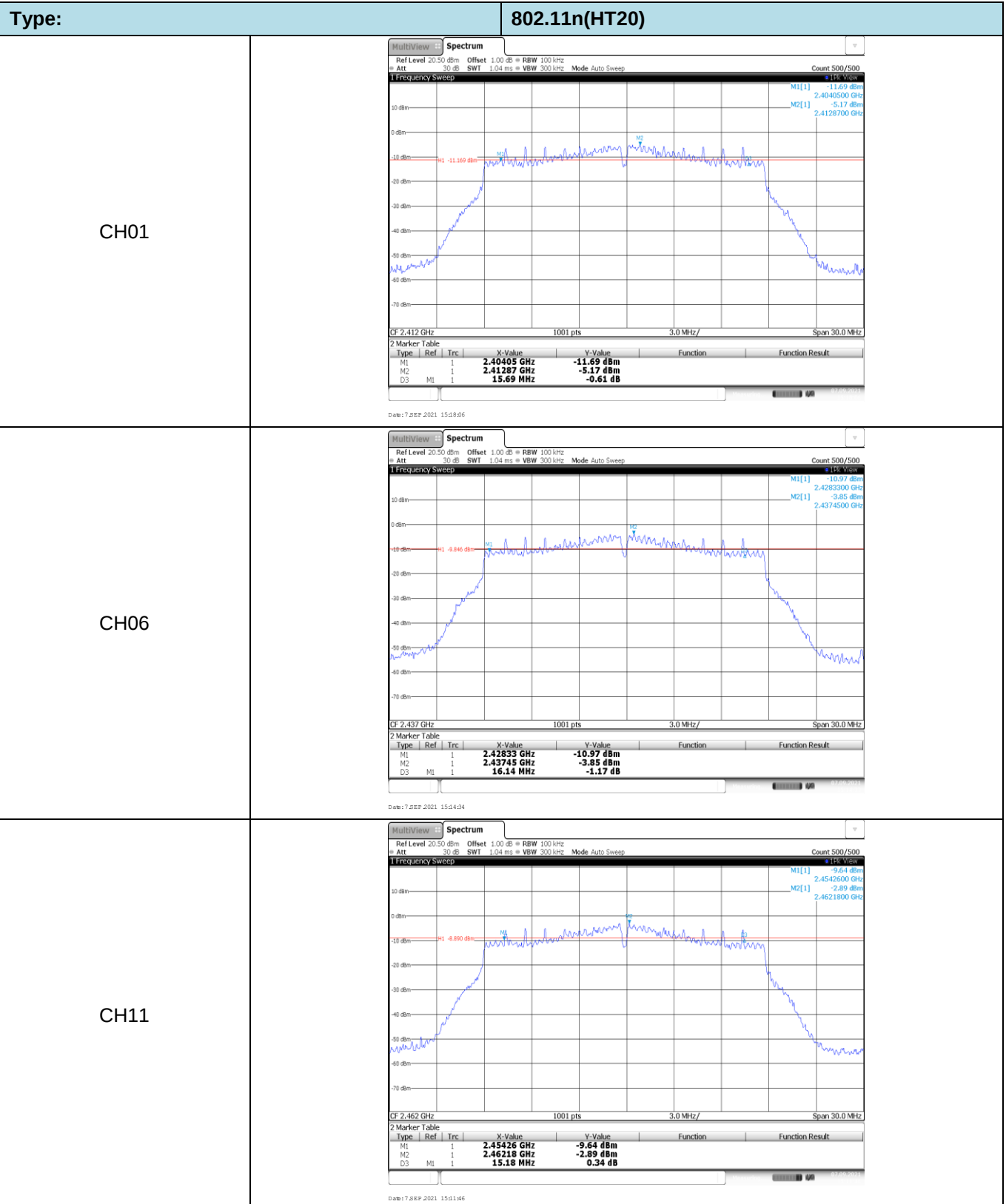
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CH11



Date: 7 SEP 2021 14:52:49





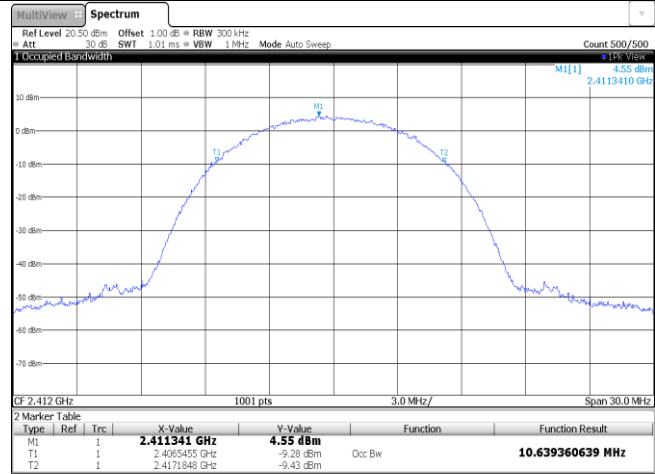
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	10.64	-	Pass
	06	10.64		
	11	10.79		
802.11g	01	16.33	-	Pass
	06	16.36		
	11	16.30		
802.11n(HT20)	01	17.68	-	Pass
	06	17.68		
	11	17.62		

Type:

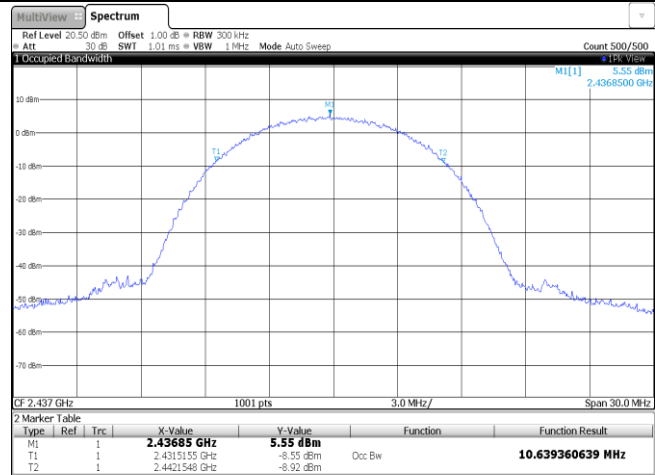
802.11 b

CH01



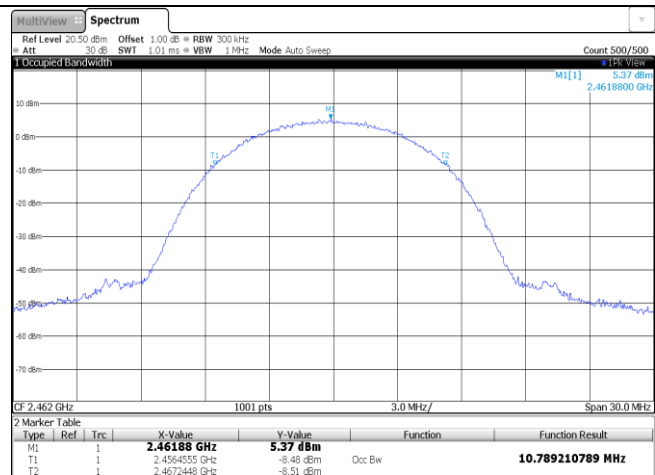
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CH06



Date: 7 SEP 2021 14:50:08

CH11



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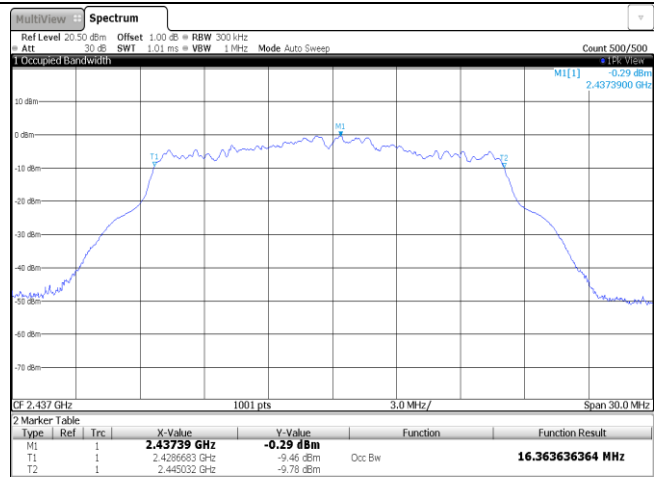
802.11 g

CH01



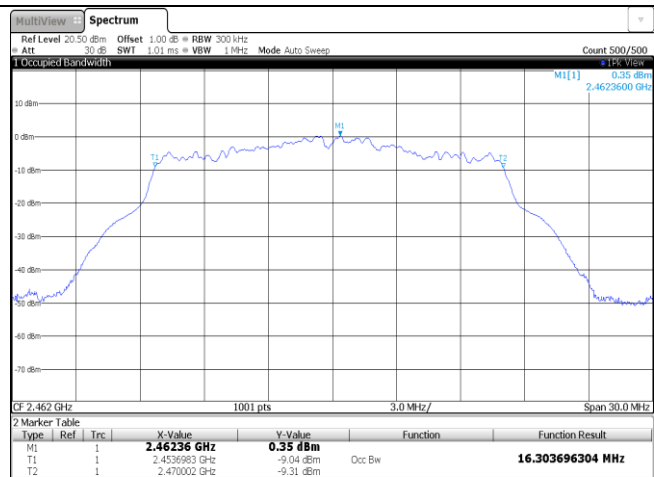
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CH06



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CH11

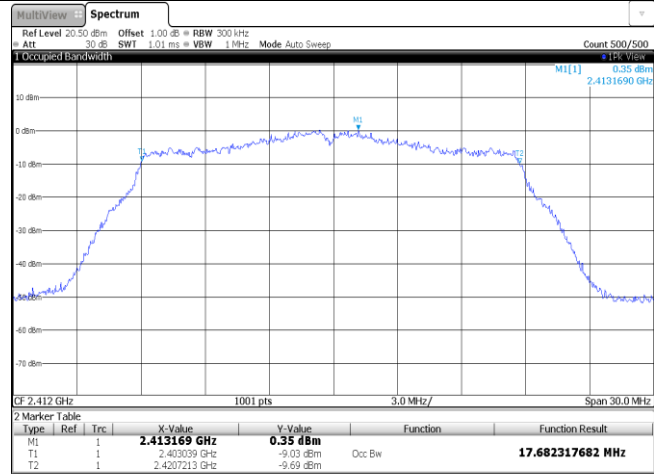


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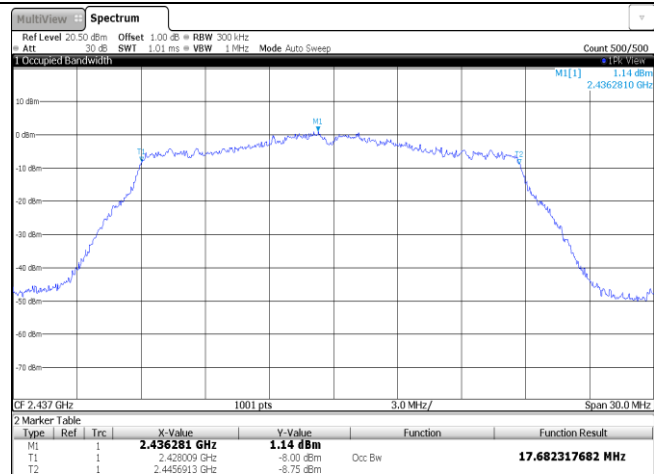
802.11n(HT20)

CH01



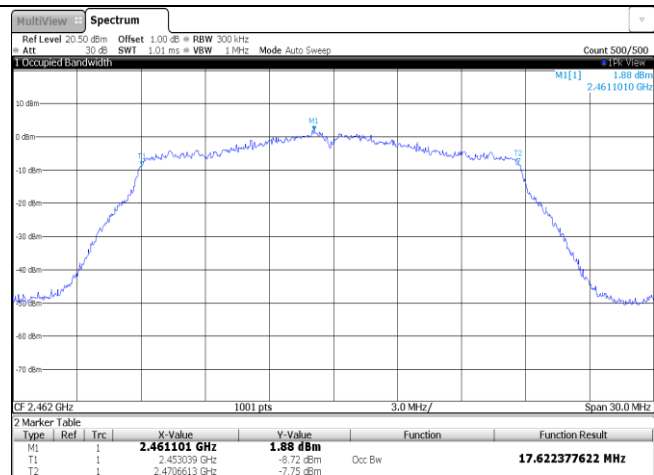
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CH06



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CH11

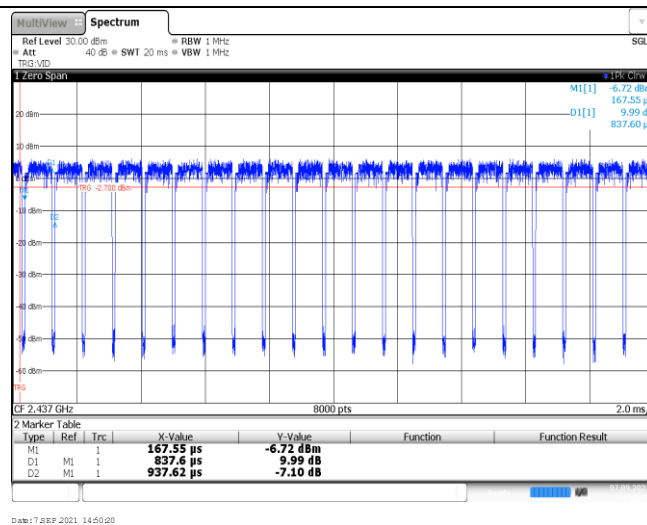


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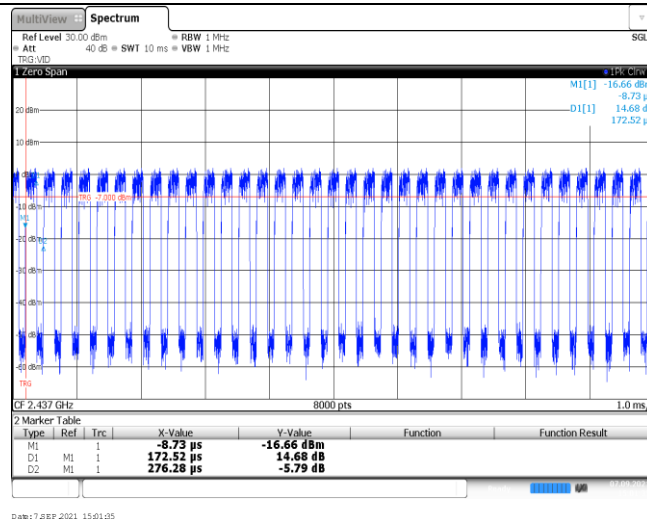
Appendix E: Duty Cycle

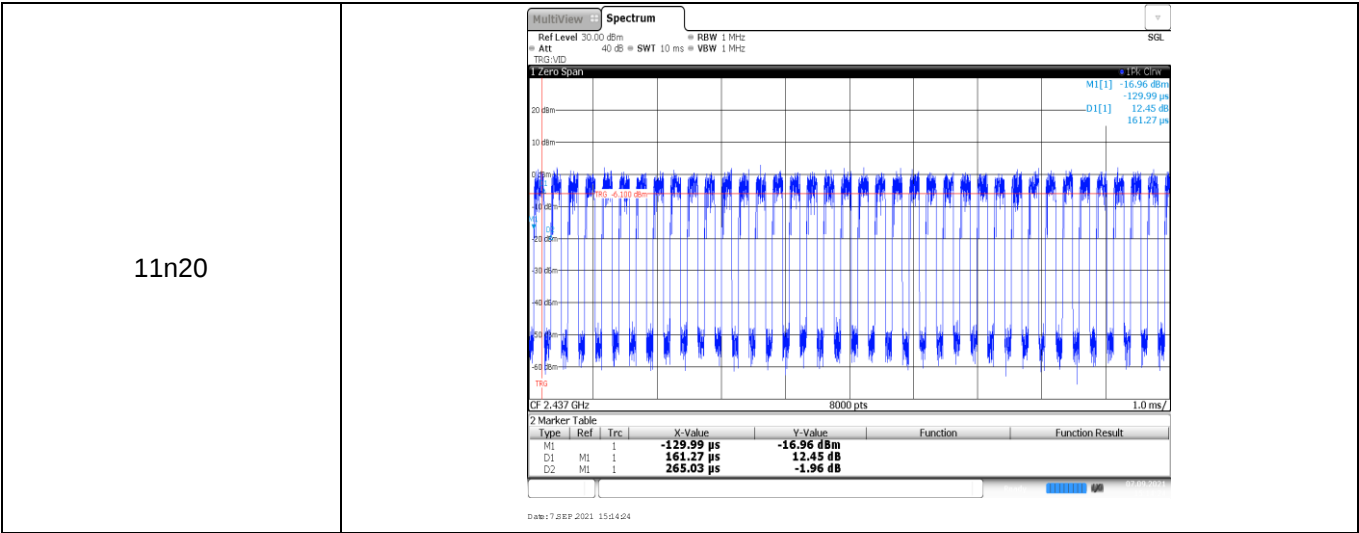
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	0.84	0.94	89.4%	1.2
11g	2437	0.17	0.28	60.7%	5.9
11n20	2437	0.16	0.27	59.3%	6.3

11b



11g



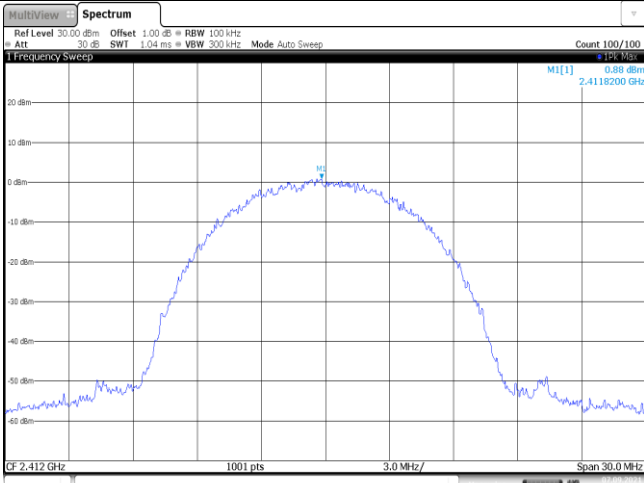
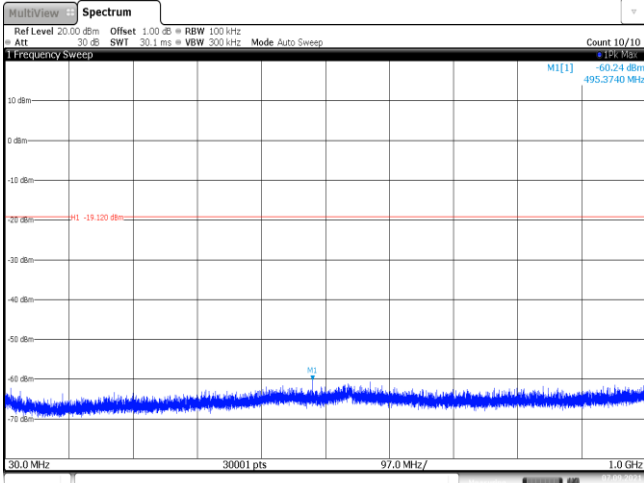
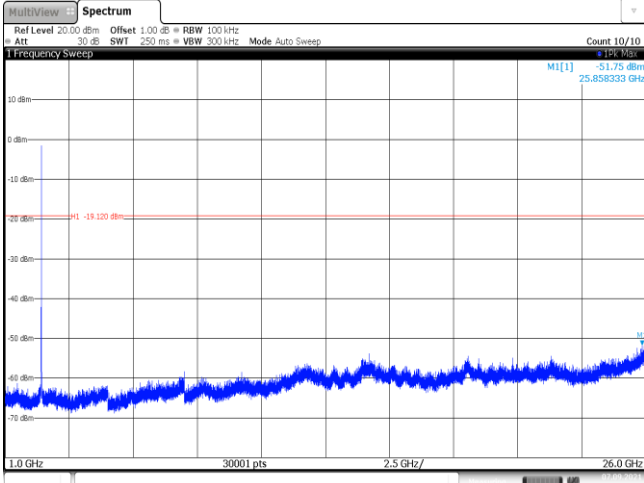


Appendix F: Band edge and Spurious Emissions (conducted)

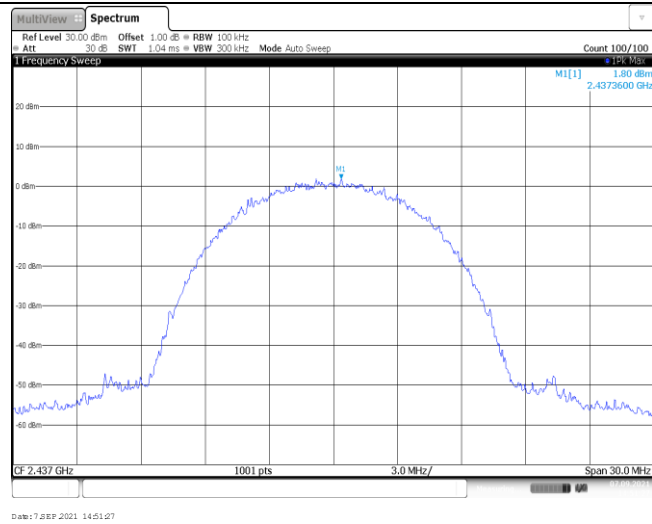
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 0.15x M20 1 Frequency Sweep 30 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.31 GHz 1001 pts 11.2 MHz/ 2.422 GHz M1 0.56 dBm 2.410420 GHz -55.96 dBm M2 -55.96 dBm 2.400000 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>2.41042 GHz</td><td>0.56 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-55.96 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-62.66 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.38 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399712 GHz</td><td>-55.01 dBm</td><td></td><td></td></tr></table> Date: 7 SEP 2021 14:48:03			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41042 GHz	0.56 dBm			M2	1		2.4 GHz	-55.96 dBm			M3	1		2.39 GHz	-62.66 dBm			M4	1		2.31 GHz	-63.38 dBm			M5	1		2.399712 GHz	-55.01 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 0.15x M20 1 Frequency Sweep 30 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 1.18 dBm 2.462334 GHz -61.68 dBm M2 -61.68 dBm 2.483500 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>2.462334 GHz</td><td>1.18 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.48335 GHz</td><td>-61.68 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-63.07 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.485264 GHz</td><td>-59.67 dBm</td><td></td><td></td></tr></table> Date: 7 SEP 2021 14:53:52			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.462334 GHz	1.18 dBm			M2	1		2.48335 GHz	-61.68 dBm			M3	1		2.5 GHz	-63.07 dBm			M4	1		2.485264 GHz	-59.67 dBm									
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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 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/ 2.422 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>2.4121 GHz</td><td>-4.38 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-47.40 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-58.62 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.06 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399936 GHz</td><td>-51.12 dBm</td><td></td><td></td></tr></table> Date: 7 SEP 2021 15:05:02			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.4121 GHz	-4.38 dBm			M2	1		2.4 GHz	-47.40 dBm			M3	1		2.39 GHz	-58.62 dBm			M4	1		2.31 GHz	-63.06 dBm			M5	1		2.399936 GHz	-51.12 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 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 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>2.462142 GHz</td><td>-3.30 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-57.95 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-63.37 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.48368 GHz</td><td>-57.29 dBm</td><td></td><td></td></tr></table> Date: 7 SEP 2021 15:00:04			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.462142 GHz	-3.30 dBm			M2	1		2.4835 GHz	-57.95 dBm			M3	1		2.5 GHz	-63.37 dBm			M4	1		2.48368 GHz	-57.29 dBm									
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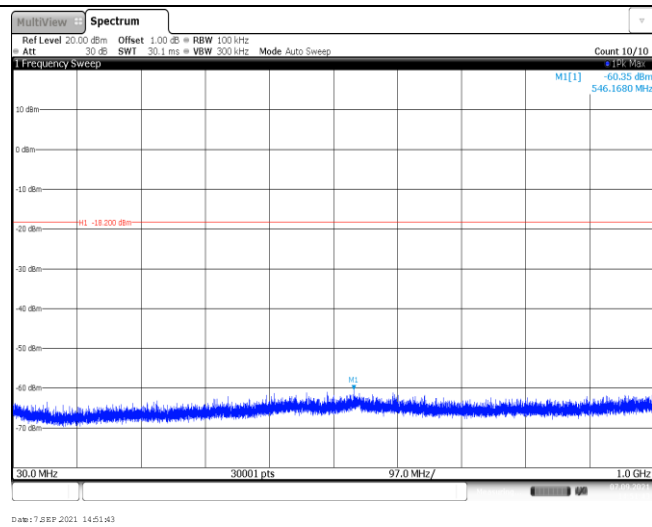
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Test Item:	Spurious Emissions	Type:	802.11 b
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

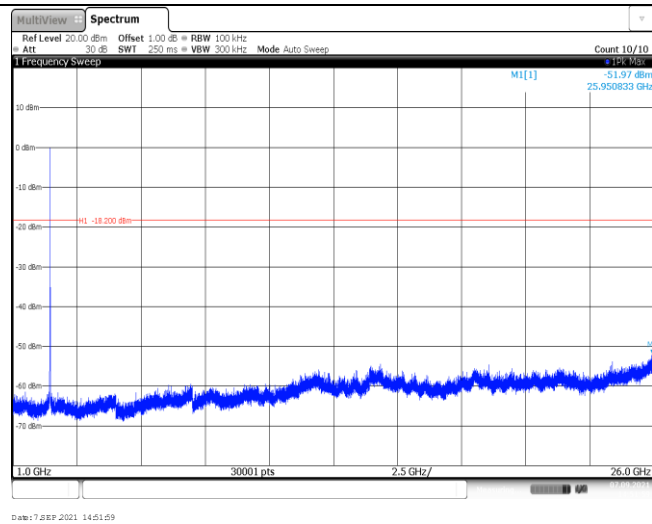
CH06
Reference level



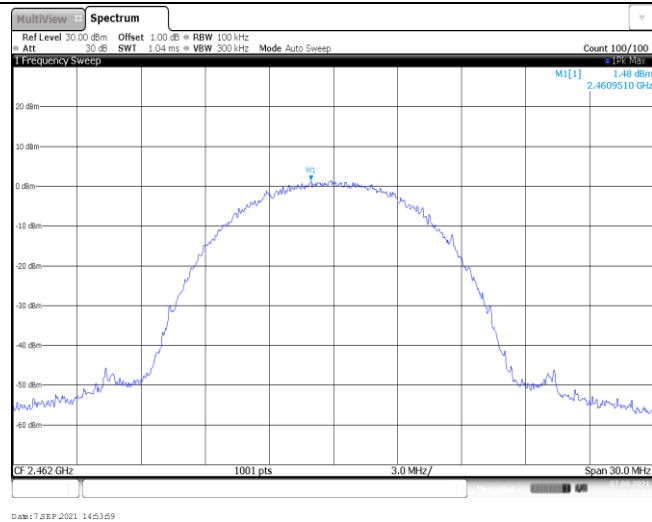
CH06
30MHz~1000MHz



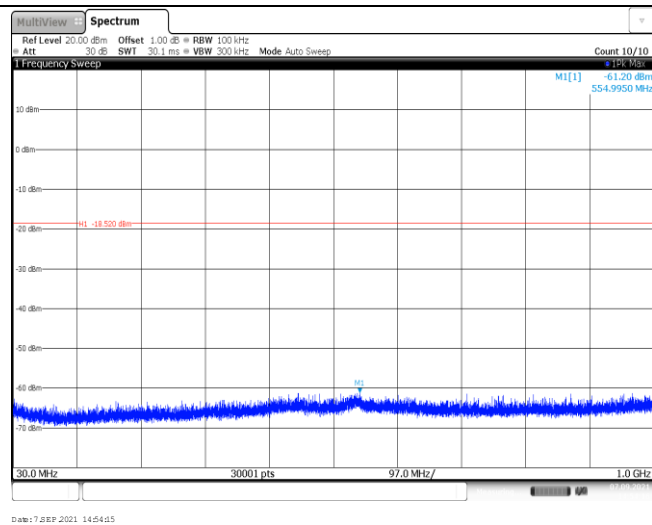
CH06
1GHz~26GHz



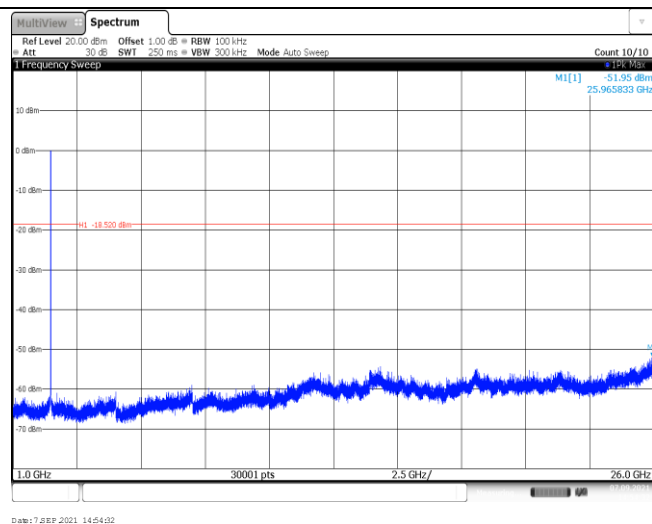
CH11
Reference level

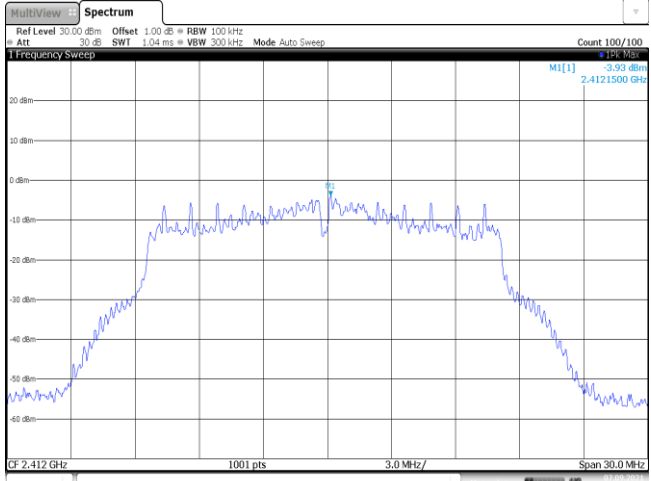
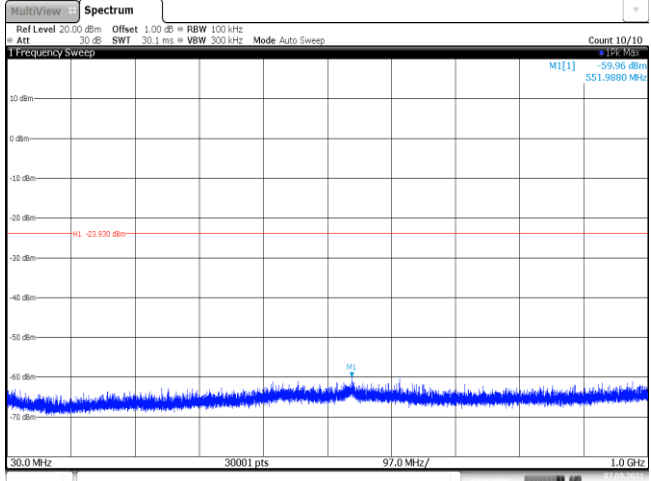
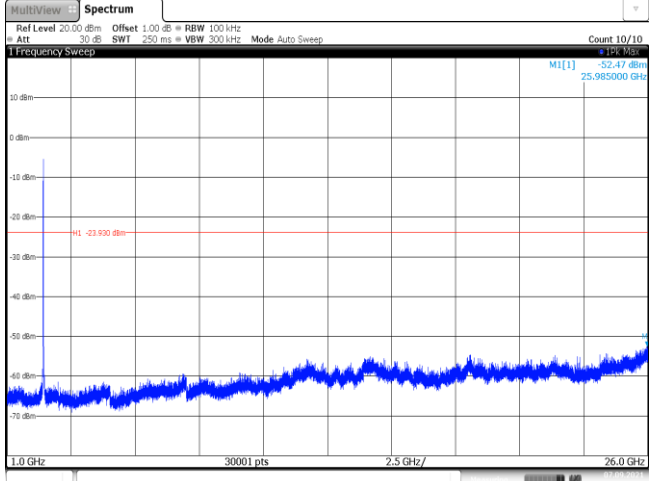


CH11
30MHz~1000MHz

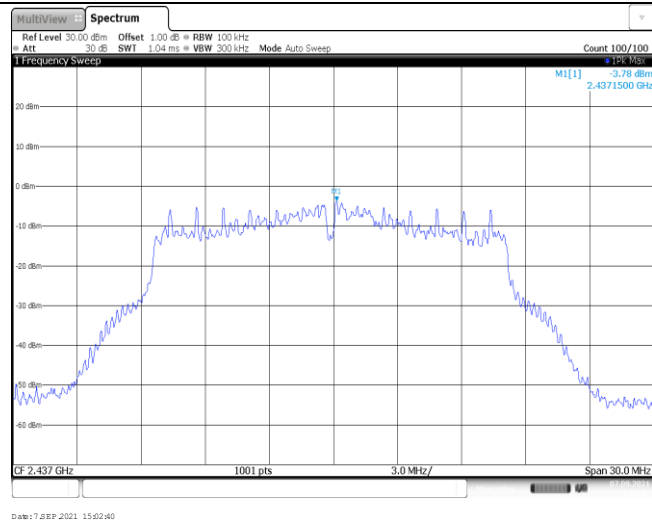


CH11
1GHz~26GHz

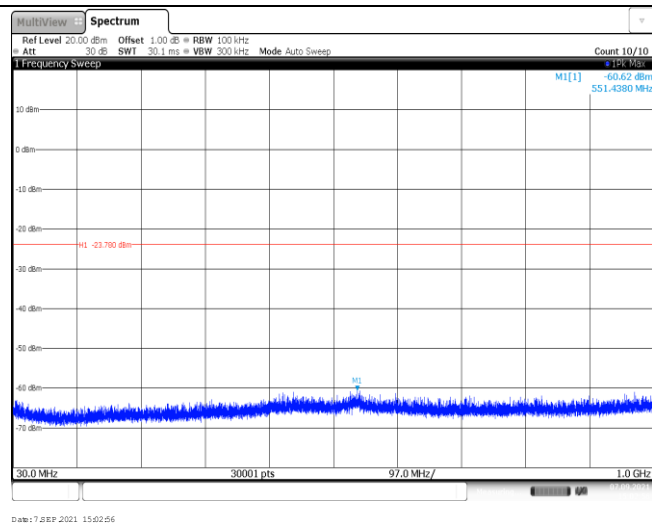


Test Item:	Spurious Emissions	Type:	802.11 g
CH01 Reference level	 CH01 Reference level		
CH01 30MHz~1000MHz	 CH01 30MHz~1000MHz		
CH01 1GHz~26GHz	 CH01 1GHz~26GHz		

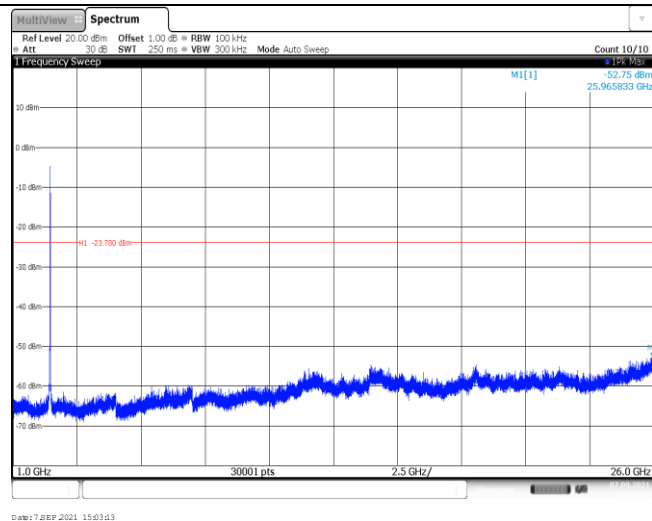
CH06
Reference level



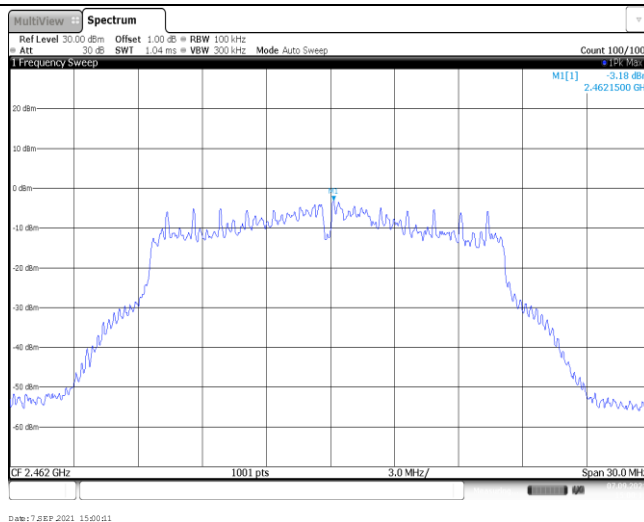
CH06
30MHz~1000MHz



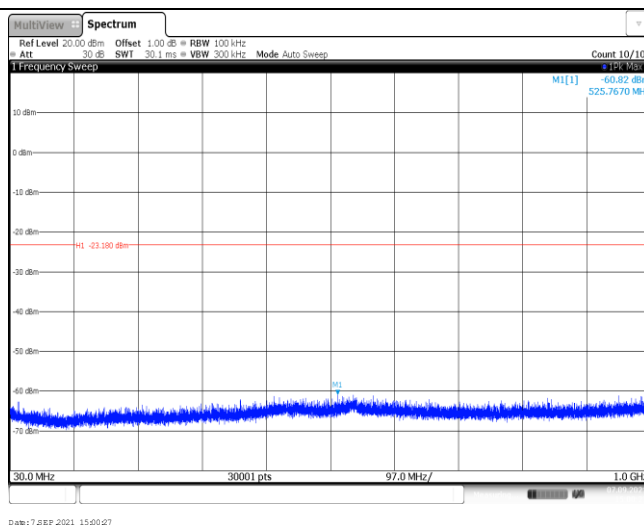
CH06
1GHz~26GHz



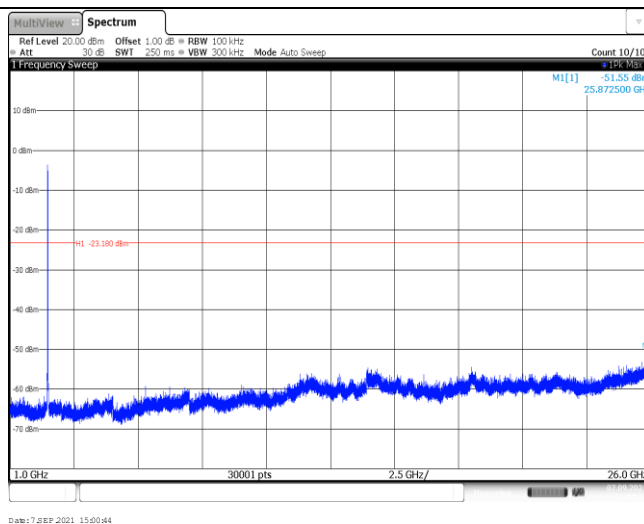
CH11
Reference level

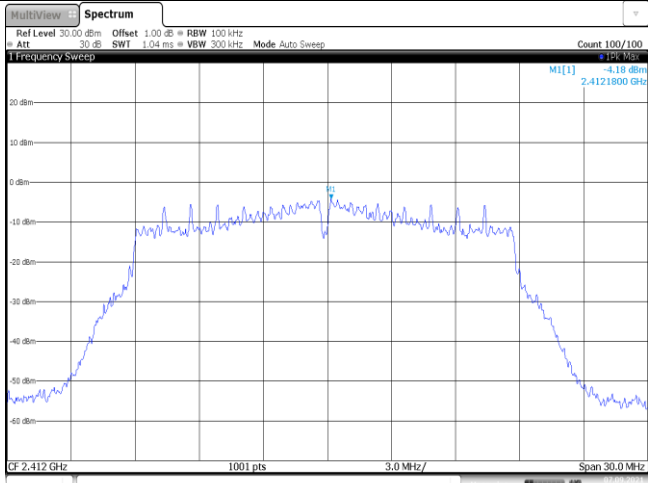
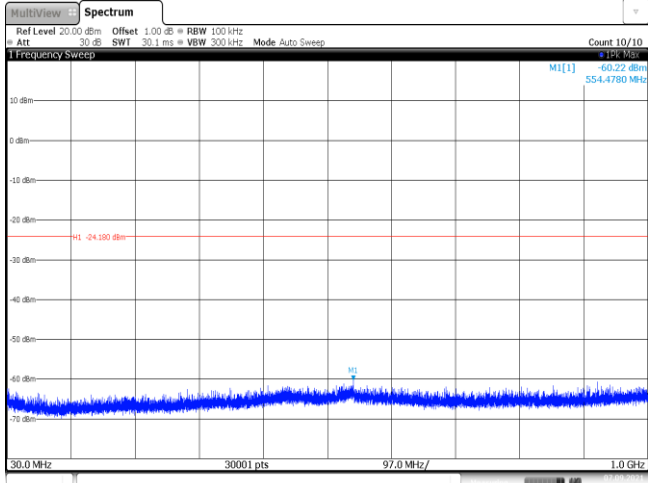
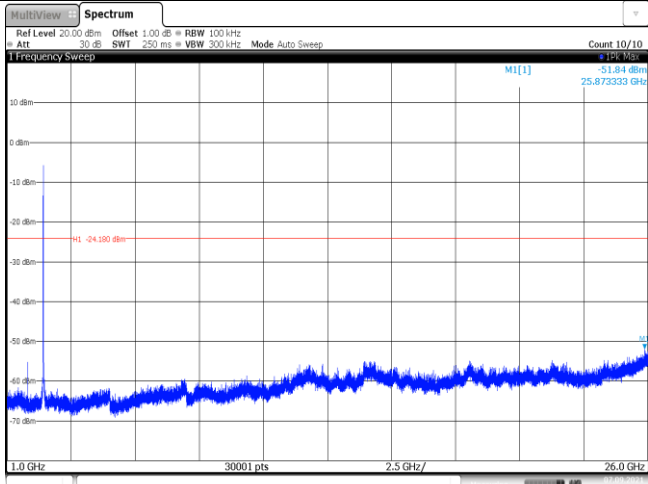


CH11
30MHz~1000MHz

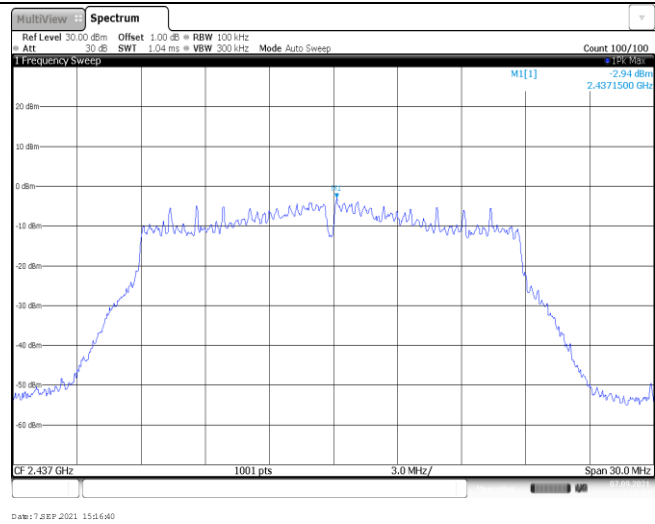


CH11
1GHz~26GHz

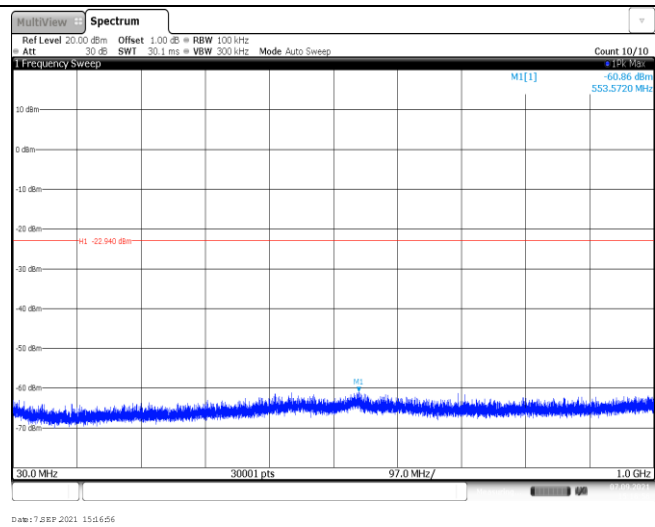


Test Item:	Spurious Emissions	Type:	802.11 n(HT20)
CH01 Reference level			
CH01 30MHz~1000MHz			
CH01 1GHz~26GHz			

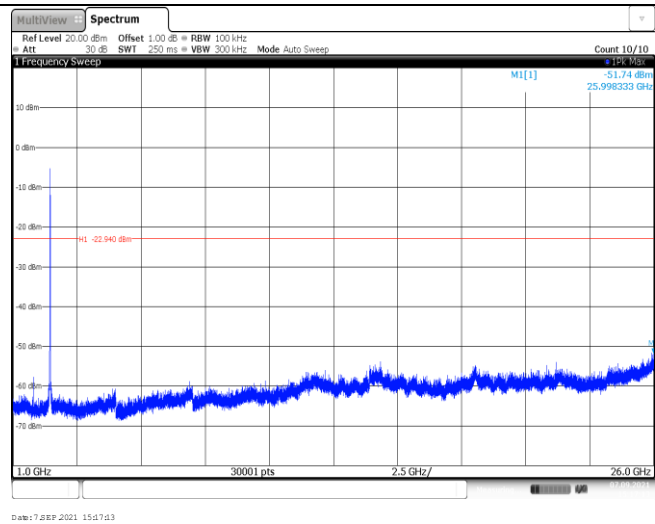
CH06
Reference level



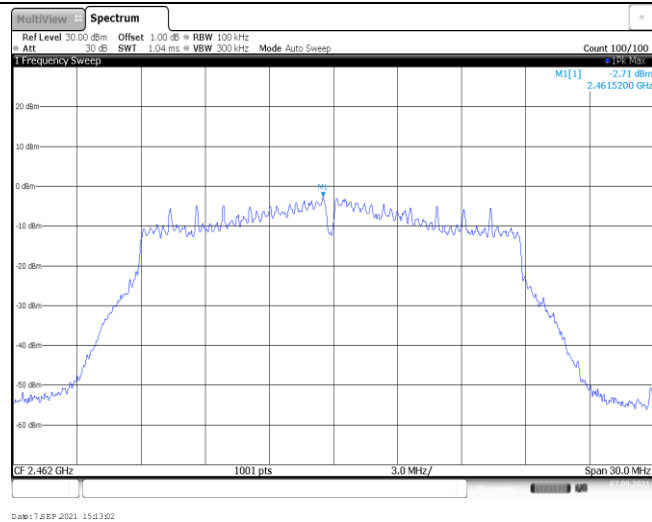
CH06
30MHz~1000MHz



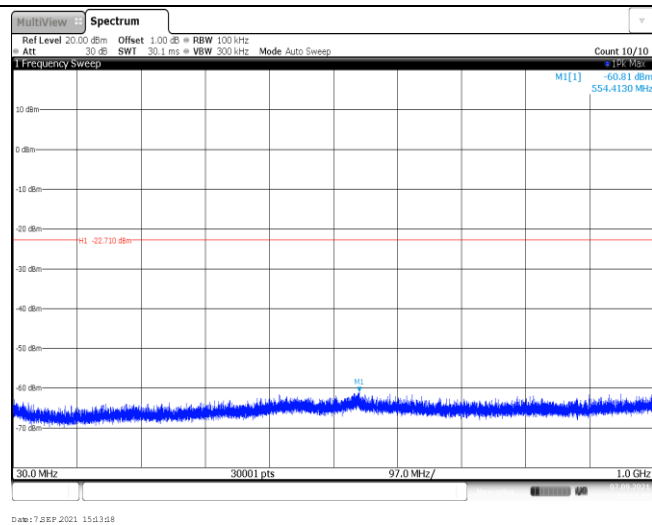
CH06
1GHz~26GHz



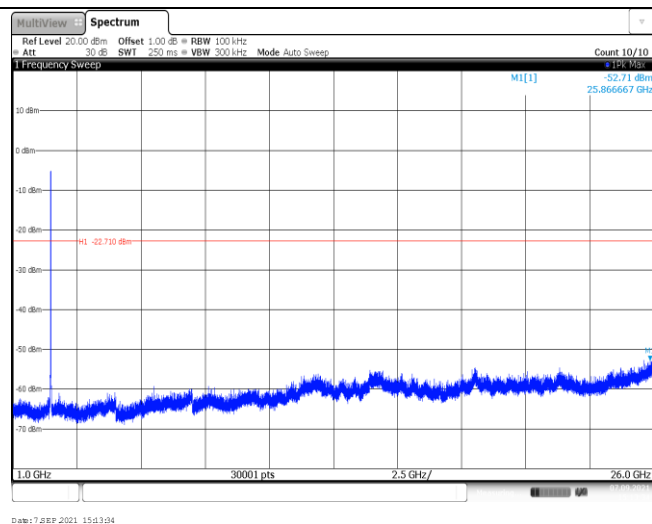
CH11
Reference level



CH11
30MHz~1000MHz



CH11
1GHz~26GHz



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