

APPENDIX REPORT

Project No.	SHT2111009101EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT21110091003	Model No.	R4
Start test date	2021-11-10	Finish date	2021-11-11
Temperature	24.3℃	Humidity	26%
Test Engineer	Weiyang Xiang	Auditor	Xiaodong Zhu

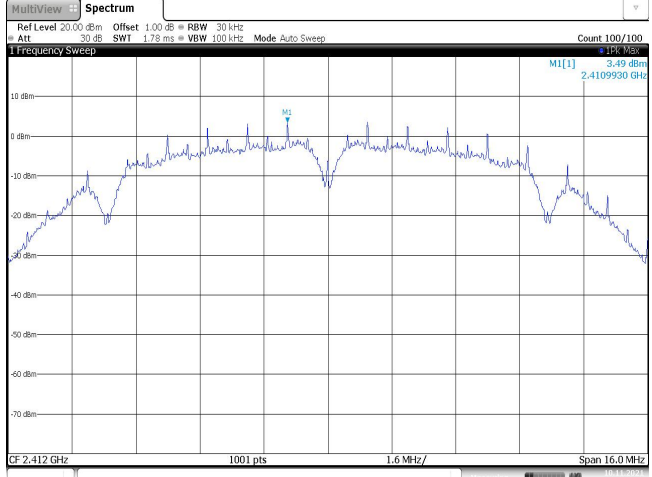
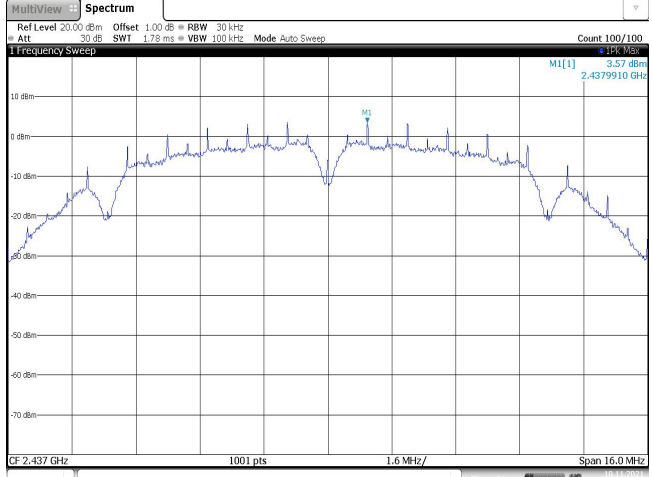
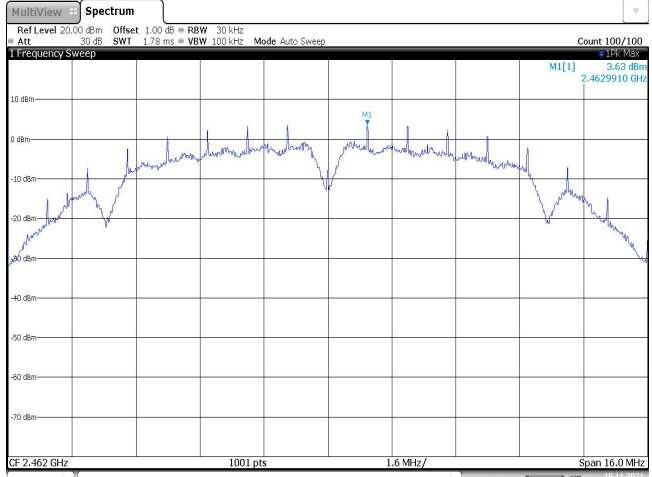
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

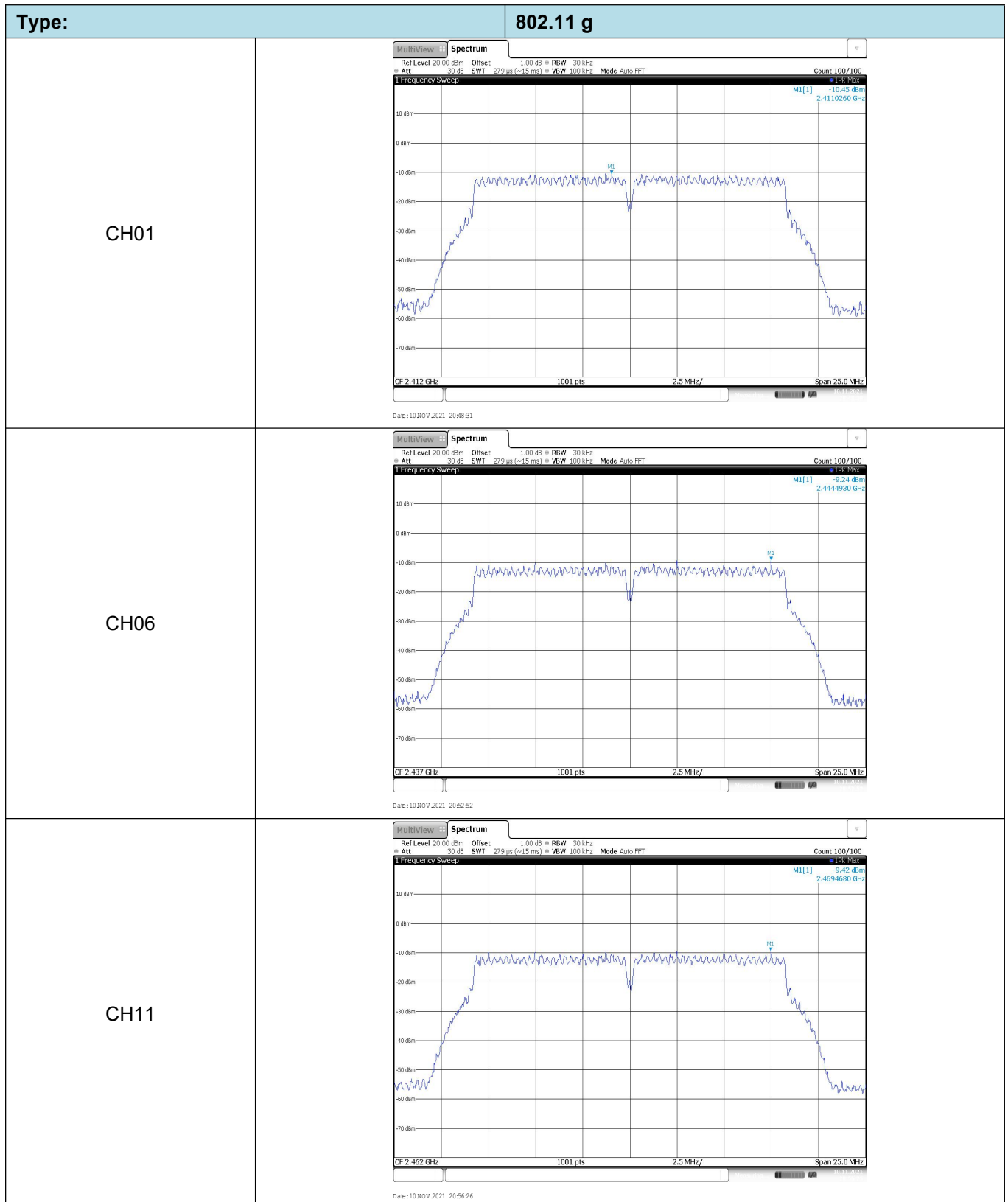
Appendix A: Conducted Peak Output Power

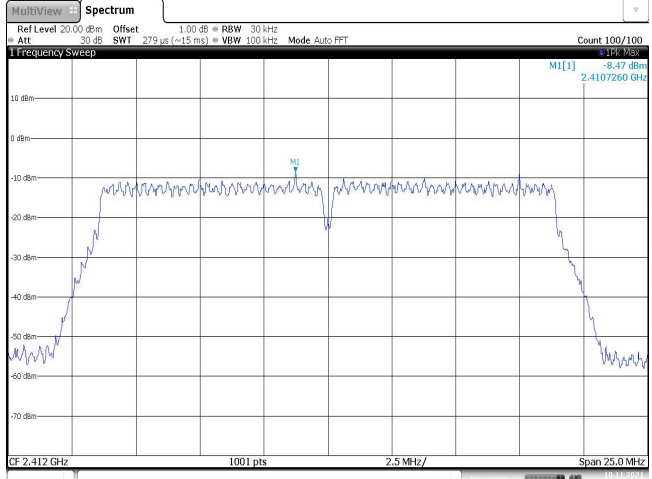
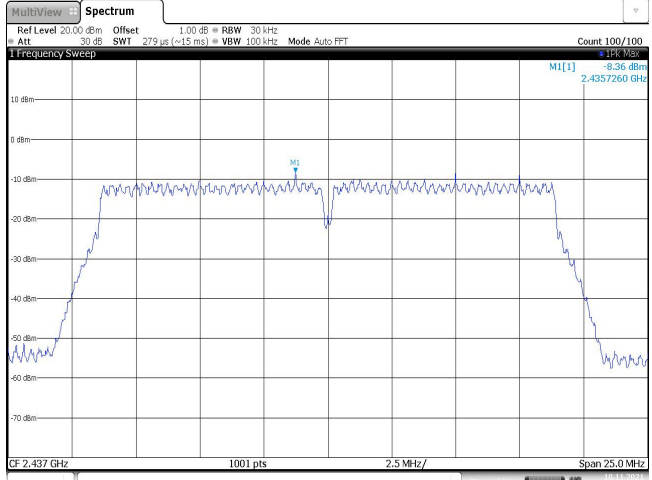
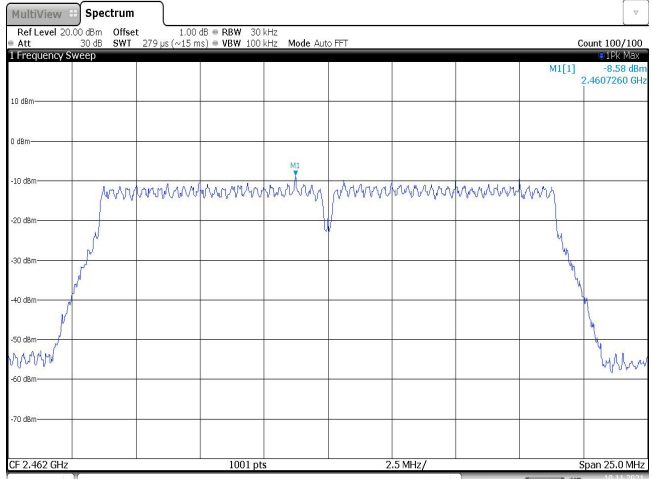
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	14.69	12.28	≤ 30.00	Pass
	06	14.96	12.53		
	11	14.86	12.43		
802.11g	01	15.12	13.02	≤ 30.00	Pass
	06	14.71	12.75		
	11	15.10	13.00		
802.11n (HT20)	01	15.13	13.00	≤ 30.00	Pass
	06	15.42	13.18		
	11	15.11	13.01		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	3.49	≤8.00	Pass
	06	3.57		
	11	3.63		
802.11g	01	-10.45	≤8.00	Pass
	06	-9.24		
	11	-9.42		
802.11n(HT20)	01	-8.47	≤8.00	Pass
	06	-8.36		
	11	-8.58		

Type:	802.11 b
CH01	 MultiView Spectrum 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] 3.49 dBm 2.4109930 GHz CF 2.412 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 10 NOV 2021 20:34:22
CH06	 MultiView Spectrum 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] 3.57 dBm 2.4379910 GHz CF 2.437 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 10 NOV 2021 20:37:00
CH11	 MultiView Spectrum 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] 3.63 dBm 2.4629910 GHz CF 2.462 GHz 1001 pts 1.6 MHz/ Span 16.0 MHz Date: 10 NOV 2021 20:38:55



Type:	802.11n(HT20)
CH01	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -8.47 dBm 2.4107260 GHz CF 2.412 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 10 NOV 2021 21:03:34
CH06	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -8.36 dBm 2.4357260 GHz CF 2.437 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 10 NOV 2021 21:07:47
CH11	 MultiView Spectrum Ref Level 20.00 dBm Offset 1.00 dB BW 30 kHz Att 30 dB SWI 279 us (~15 ms) VBW 100 kHz Mode Auto FFT Count 100/100 MI[1] -8.58 dBm 2.4607260 GHz CF 2.462 GHz 1001 pts 2.5 MHz/ Span 25.0 MHz Date: 10 NOV 2021 21:11:25

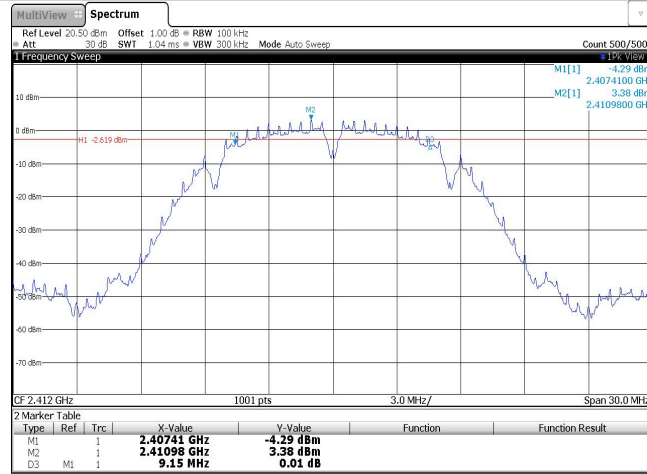
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	9.15	≥0.5	Pass
	06	9.15		
	11	9.15		
802.11g	01	16.41	≥0.5	Pass
	06	16.41		
	11	16.41		
802.11n(HT20)	01	17.67	≥0.5	Pass
	06	17.67		
	11	17.67		

Type:

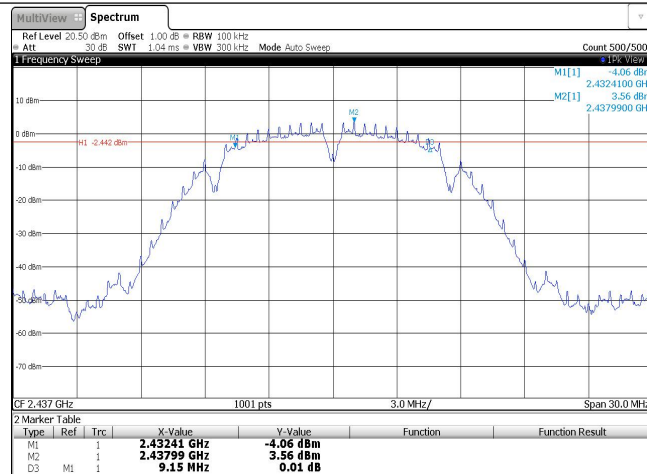
802.11 b

CH01



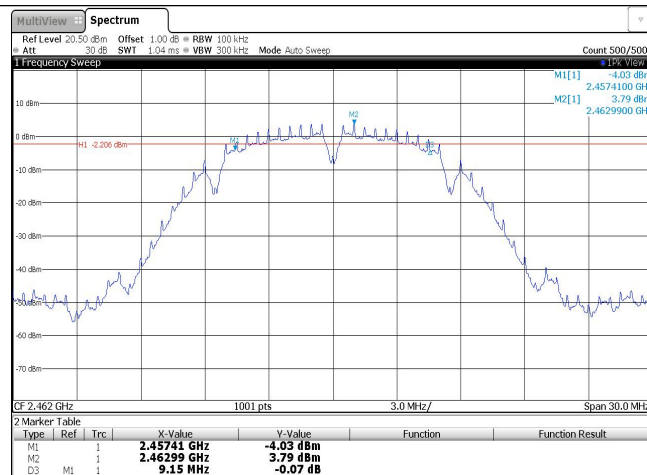
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CH06



Date: 10 NOV 2021 20:35:55

CH11

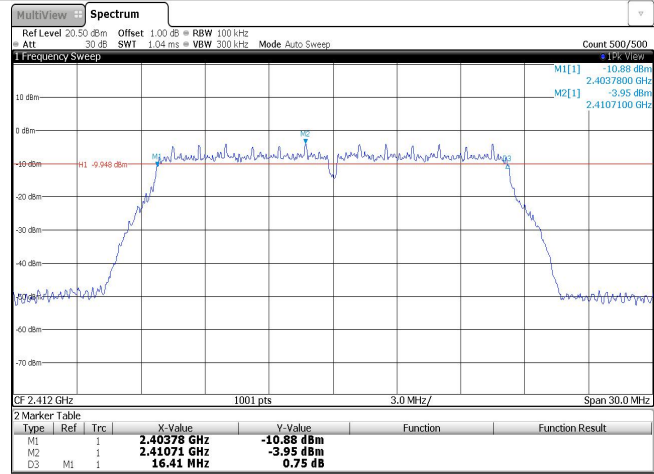


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Type:

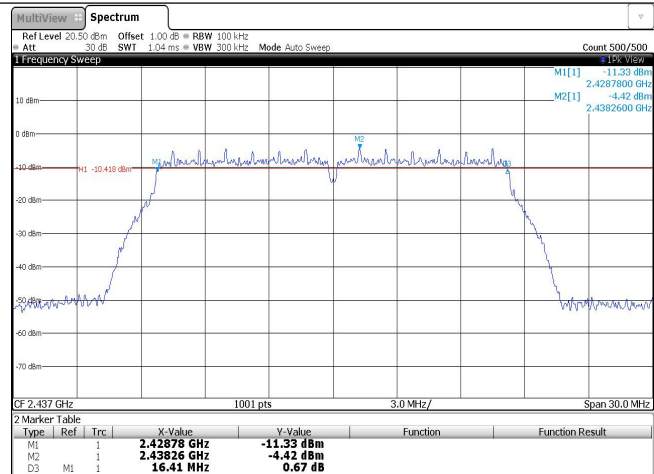
802.11 g

CH01



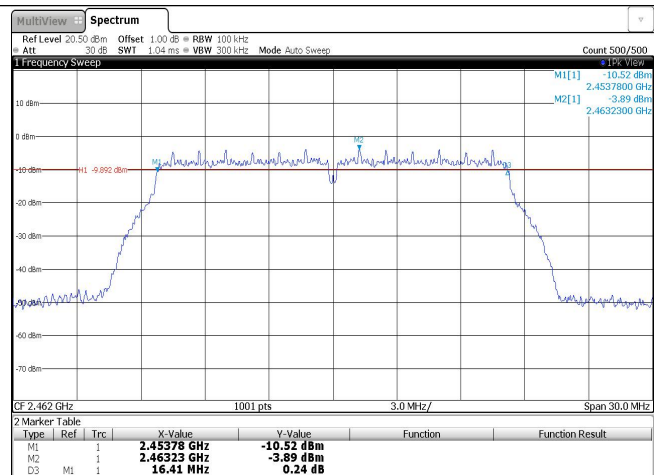
Date: 10 NOV 2021 20:46:25

CH06



Date: 10 NOV 2021 20:50:28

CH11

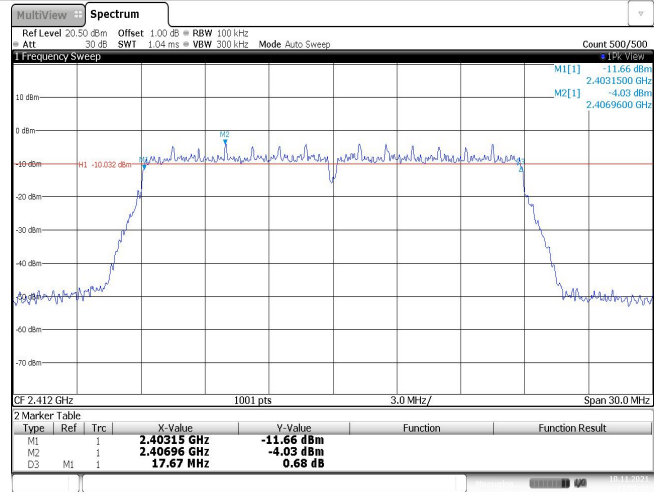


Date: 10 NOV 2021 20:54:19

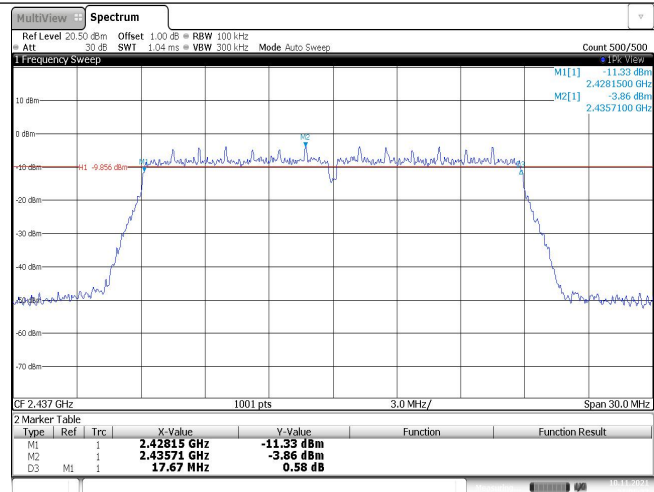
Type:

802.11n(HT20)

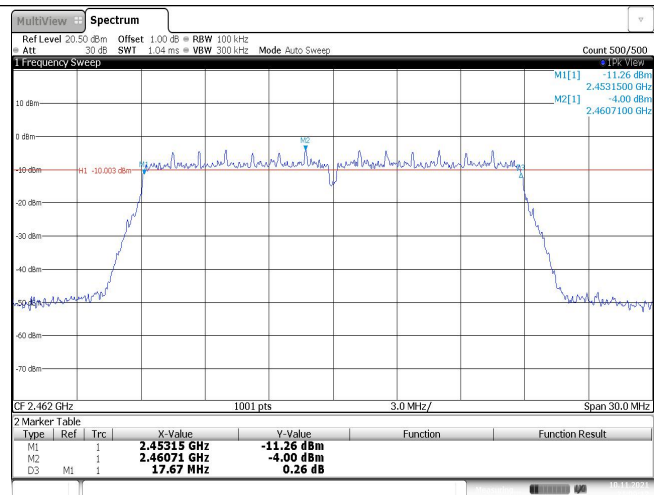
CH01



CH06

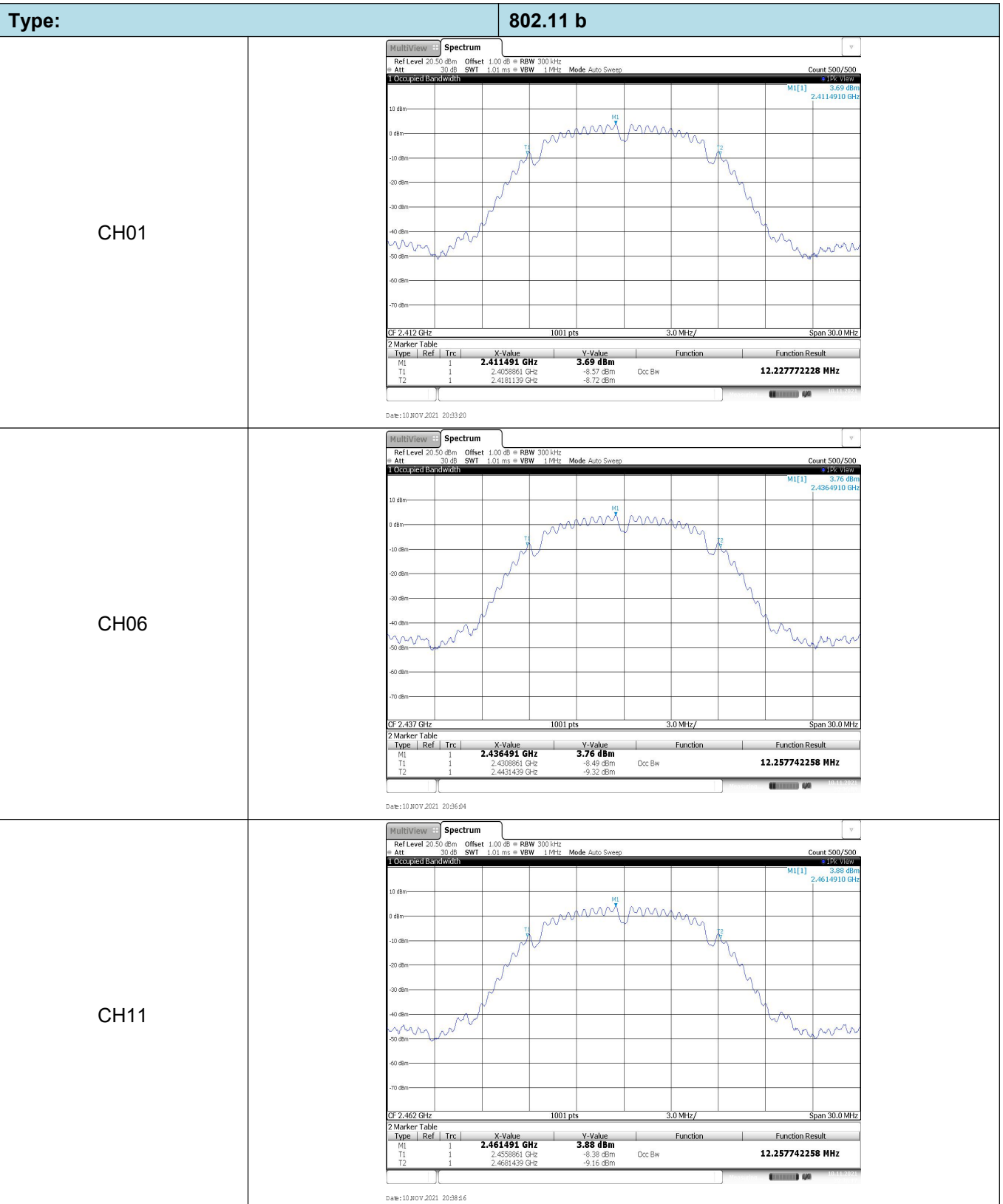


CH11



Appendix D: 99% Occupied Bandwidth

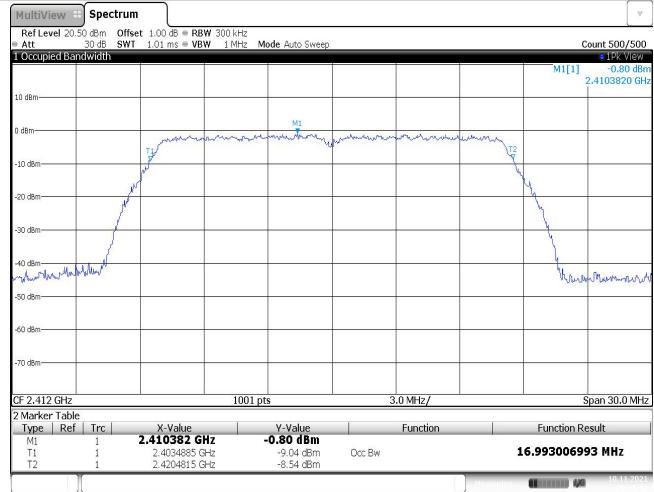
Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	12.23	-	Pass
	06	12.26		
	11	12.26		
802.11g	01	16.99	-	Pass
	06	17.02		
	11	16.99		
802.11n(HT20)	01	17.89	-	Pass
	06	17.89		
	11	17.92		



Type:

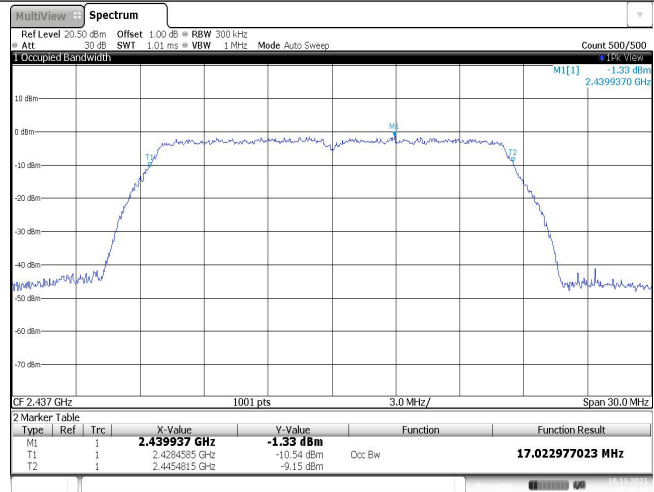
802.11 g

CH01



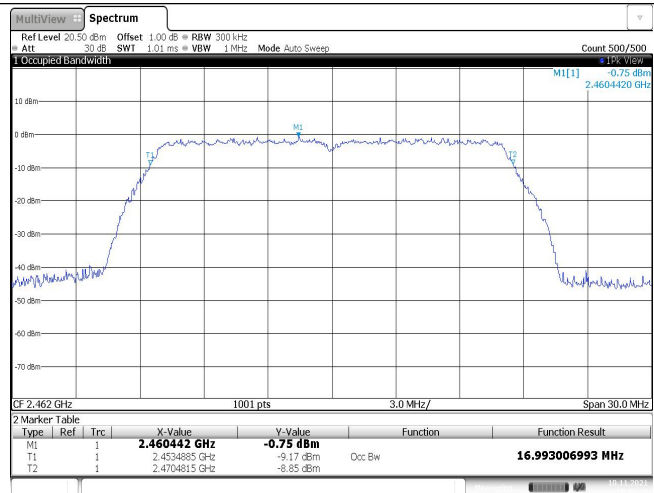
Date: 10 NOV 2021 20:46:34

CH06



Date: 10 NOV 2021 20:50:37

CH11

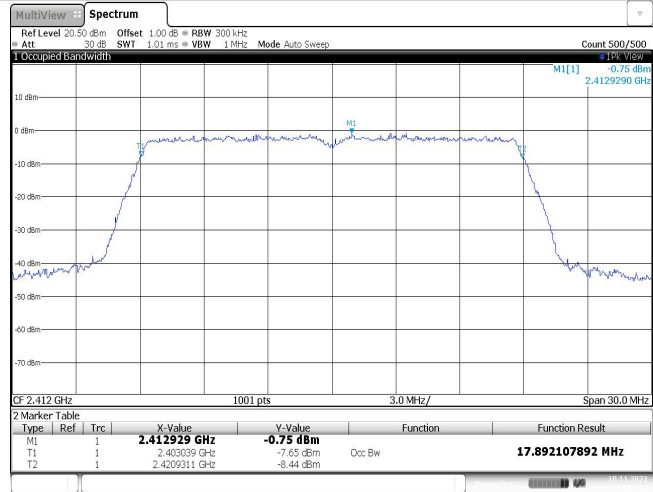


Date: 10 NOV 2021 20:54:28

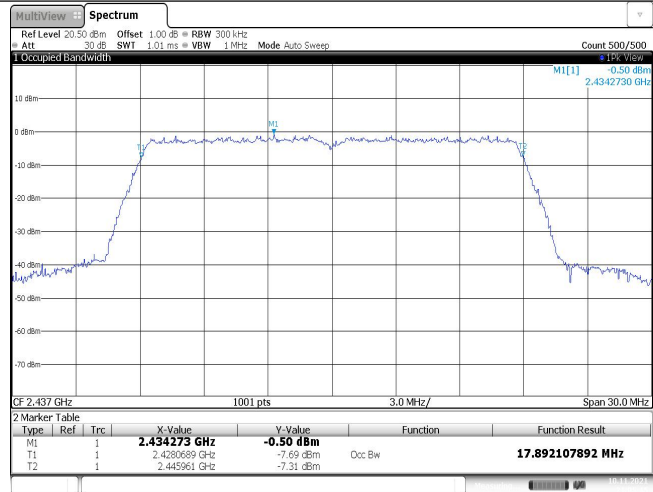
Type:

802.11n(HT20)

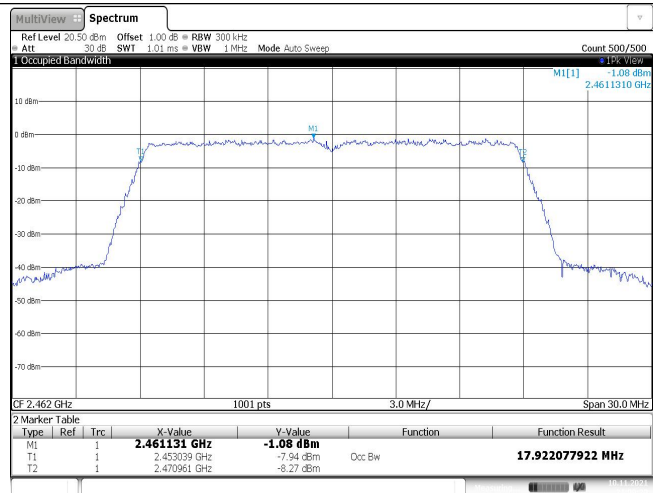
CH01



CH06



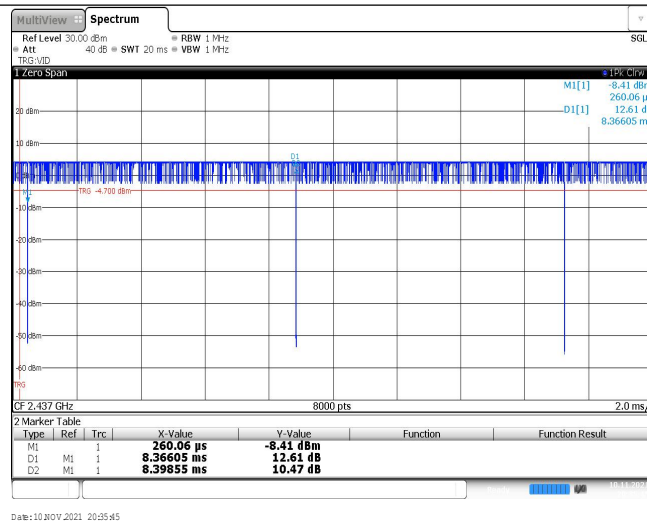
CH11



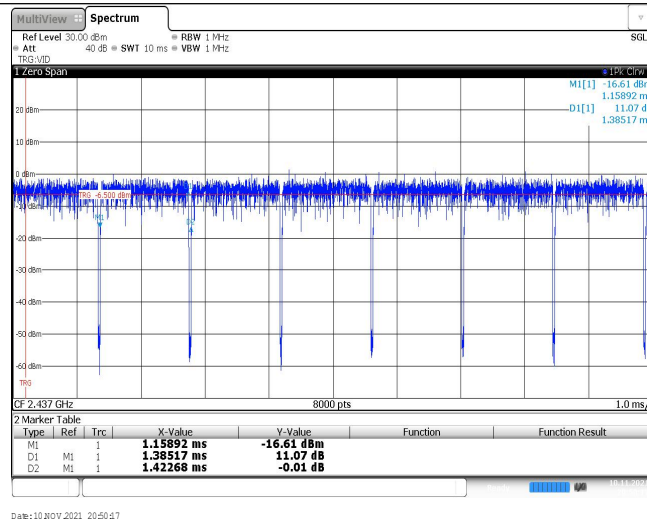
Appendix E: Duty Cycle

Modulation Type	Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
11b	2437	8.37	8.40	99.6%	0.1
11g	2437	1.39	1.42	97.9%	0.7
11n20	2437	1.29	1.33	97.0%	0.8

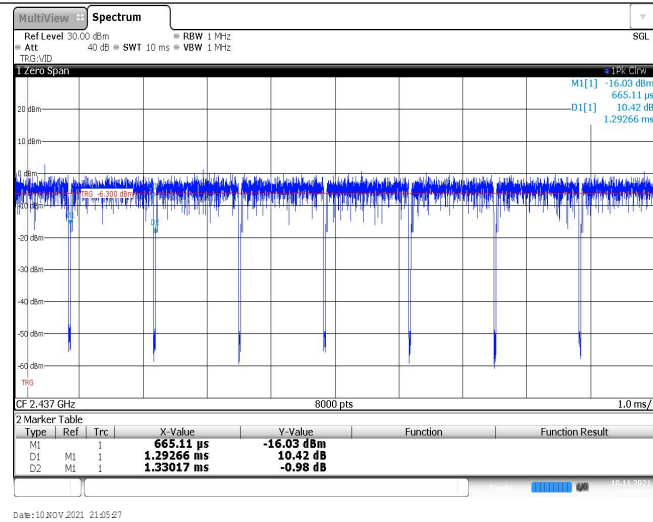
11b



11g



11n20



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 1 Frequency Sweep 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1 -16.560 dBm M1[1] 3.44 dBm M2[1] 2.410980 GHz M2[1] -52.78 dBm M2 4000000 GHz M3 M3 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>2.41098 GHz</td><td>3.44 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-52.78 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-61.08 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.90 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.397024 GHz</td><td>-44.98 dBm</td><td></td><td></td></tr></table> Date: 10 NOV 2021 20:34:28			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41098 GHz	3.44 dBm			M2	1		2.4 GHz	-52.78 dBm			M3	1		2.39 GHz	-61.08 dBm			M4	1		2.31 GHz	-63.90 dBm			M5	1		2.397024 GHz	-44.98 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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