

APPENDIX REPORT

Project No.	SHT2202047304EW	Radio Specification	WIFI 2.4G
Test sample No.	YPHT22020473011	Model No.	T4K
Start test date	2022-03-03	Finish date	2022-04-06
Temperature	25.1℃	Humidity	44%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

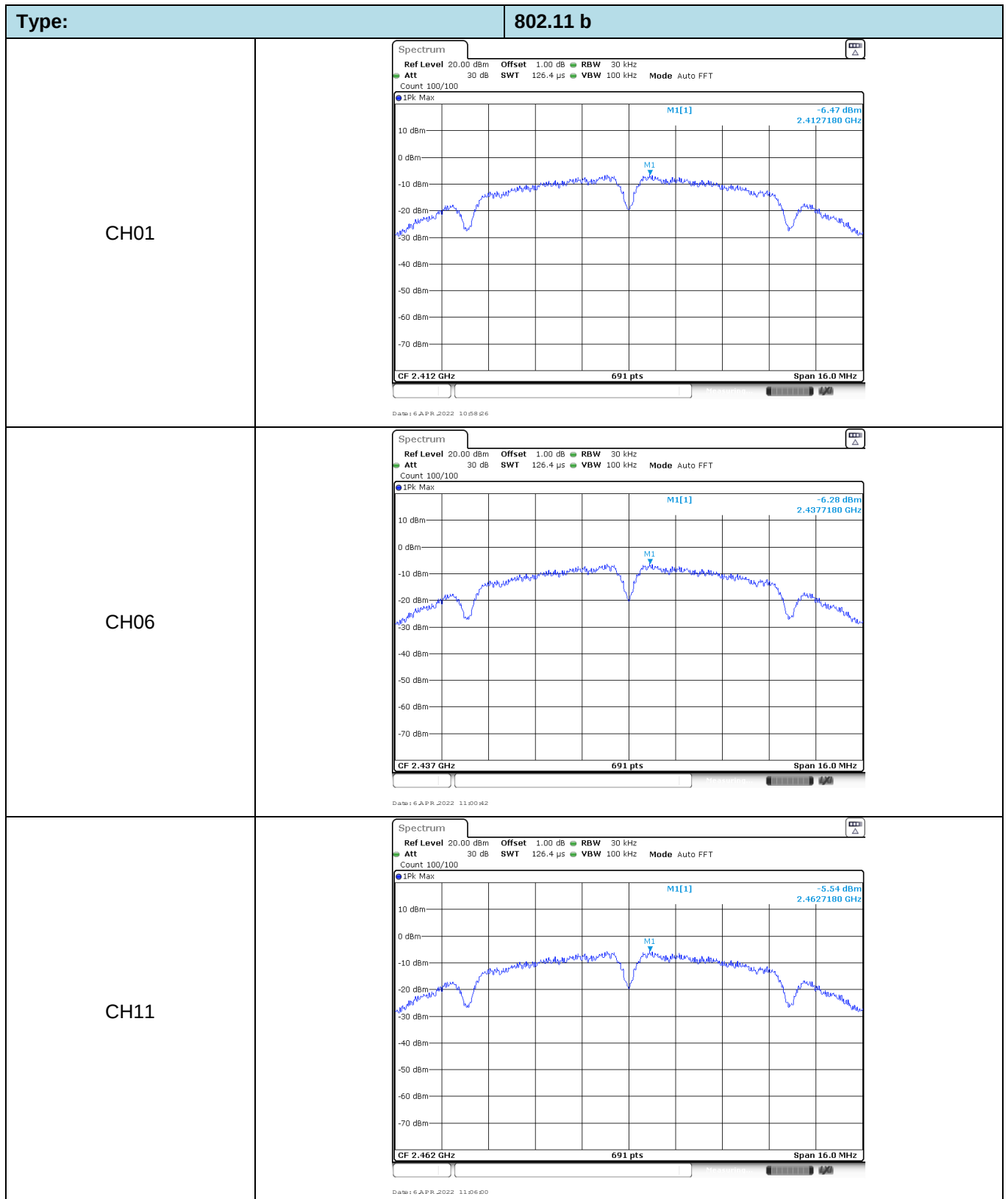
Appendix clause	Test item	Result
A	Conducted Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty Cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

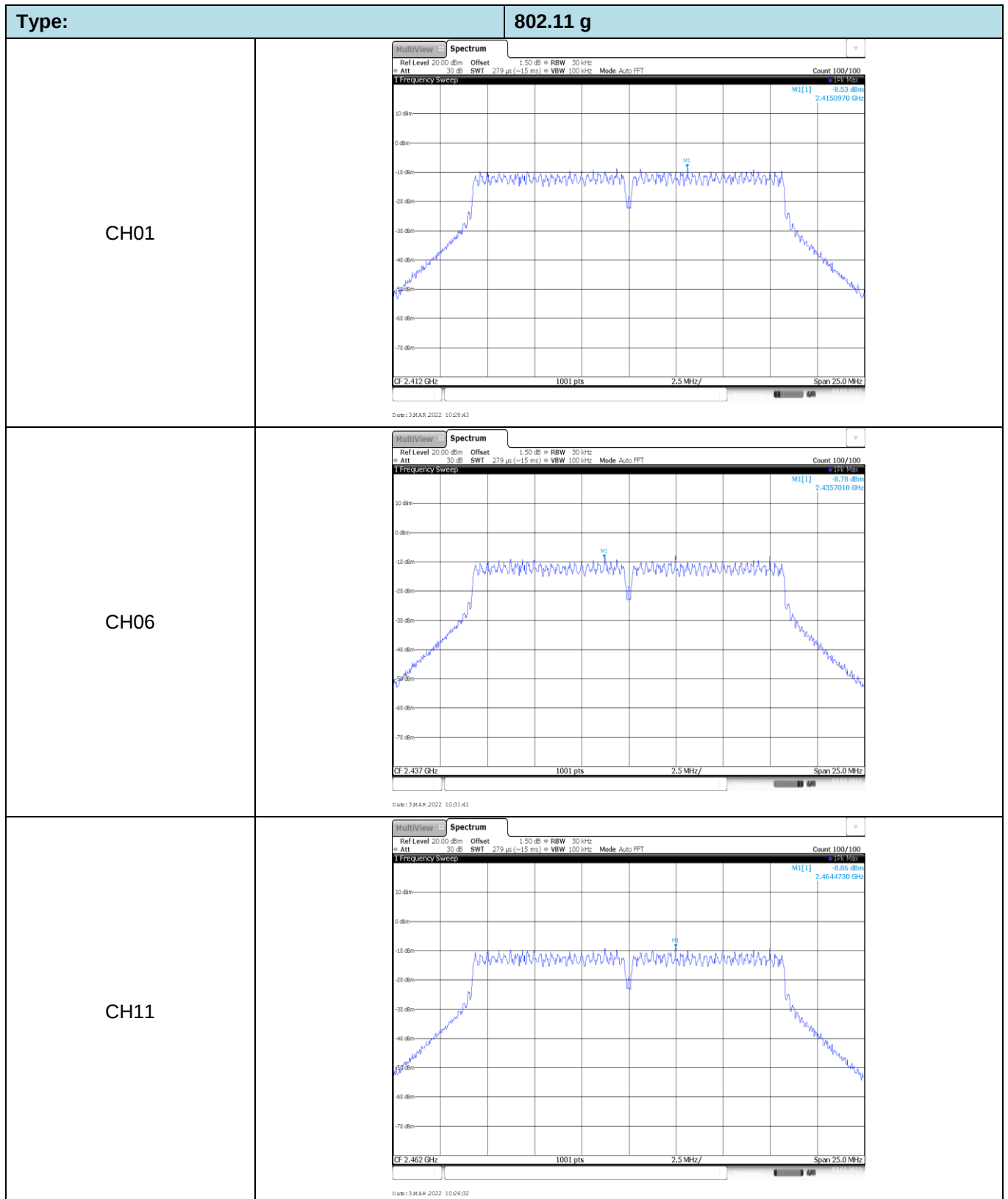
Appendix A: Conducted Peak Output Power

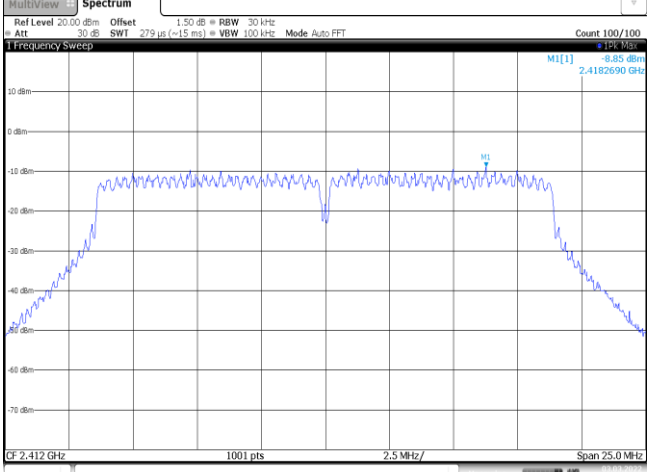
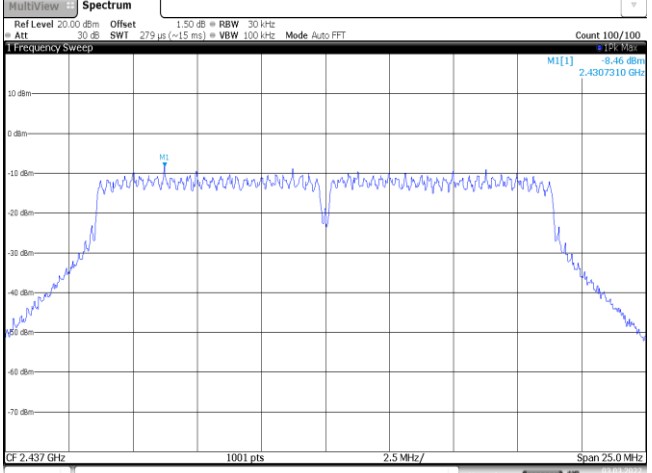
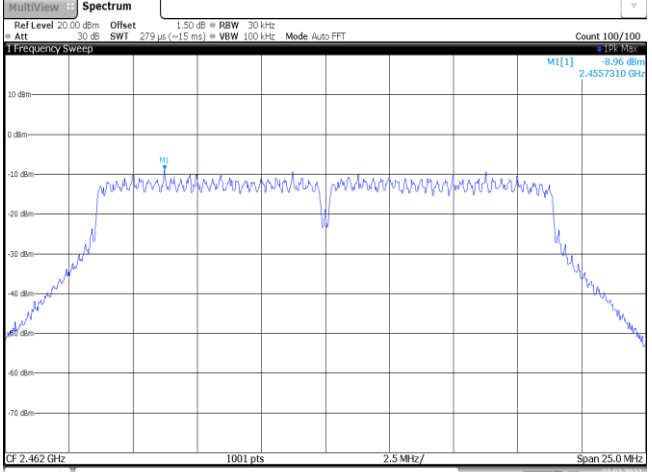
Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
802.11b	01	10.21	10.11	≤ 30.00	Pass
	06	10.67	10.52		
	11	10.48	10.31		
802.11g	01	15.60	12.72	≤ 30.00	Pass
	06	15.53	12.64		
	11	15.71	12.86		
802.11n (HT20)	01	15.59	13.06	≤ 30.00	Pass
	06	15.50	13.03		
	11	15.72	13.18		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density (dBm/30KHz)	Limit (dBm/3KHz)	Result
802.11b	01	-6.47	≤8.00	Pass
	06	-6.28		
	11	-5.54		
802.11g	01	-8.53	≤8.00	Pass
	06	-8.76		
	11	-8.86		
802.11n(HT20)	01	-8.85	≤8.00	Pass
	06	-8.46		
	11	-8.96		

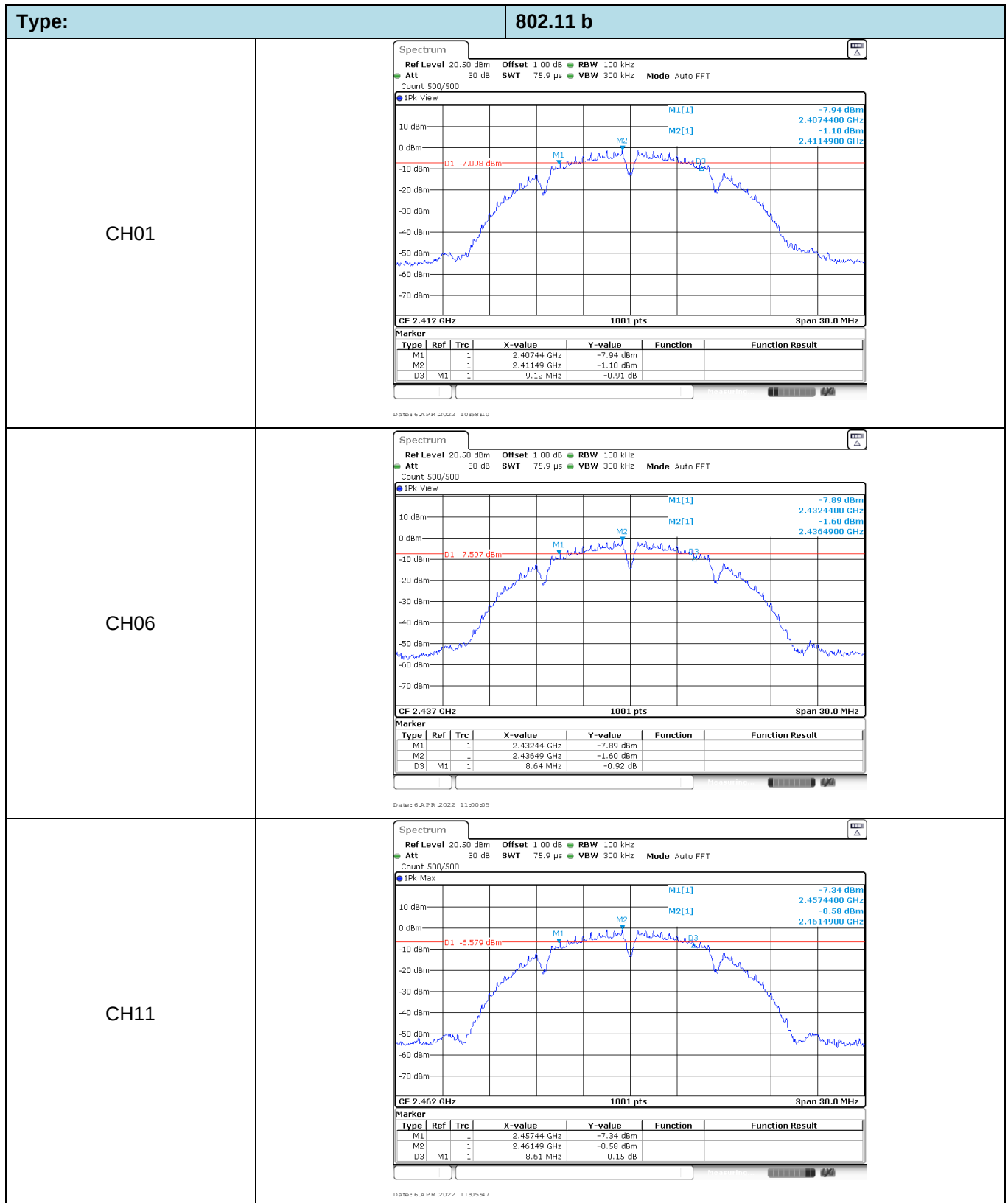


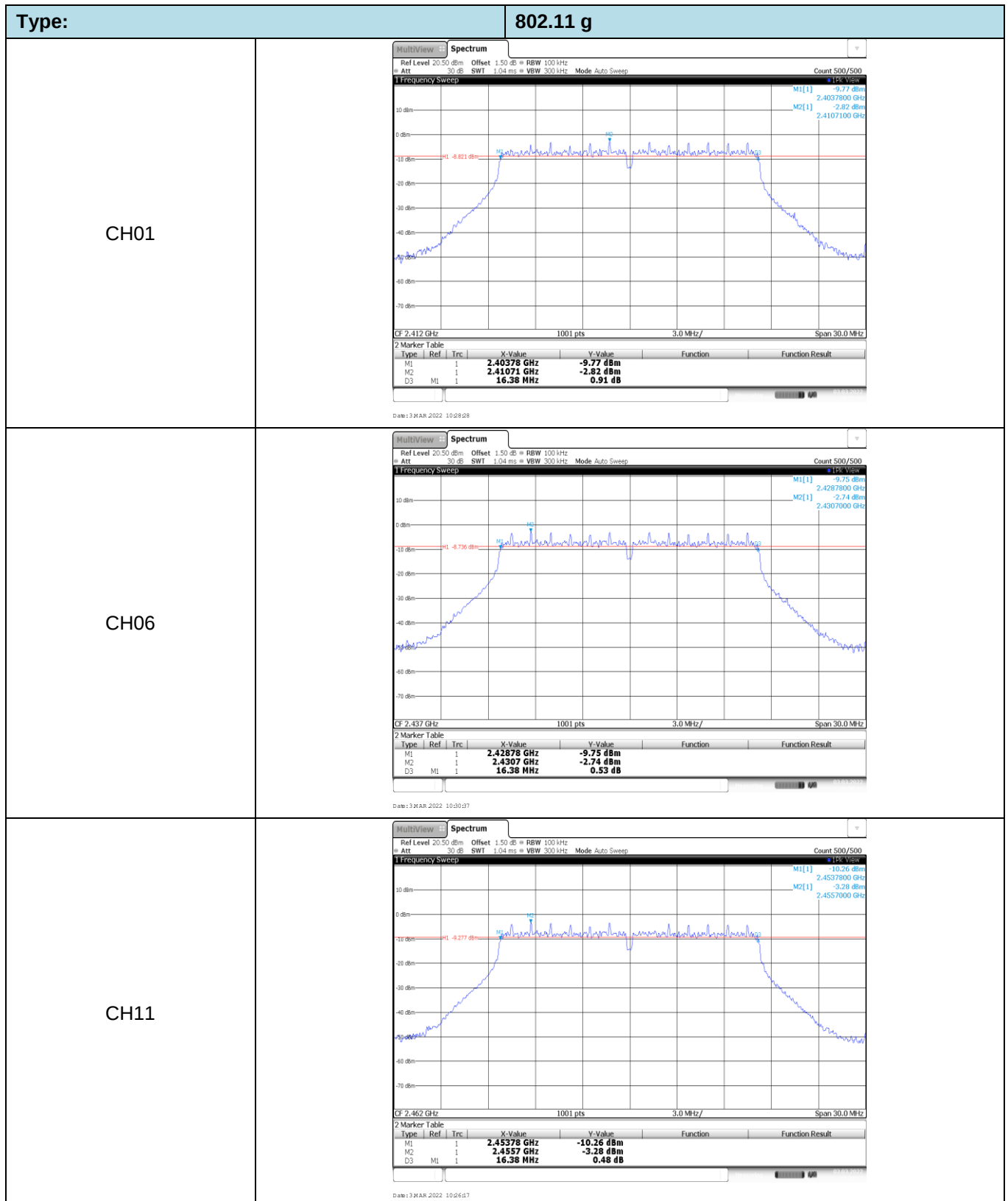


Type:	802.11n(HT20)
CH01	 3 MAR 2022 10:50:05
CH06	 3 MAR 2022 10:48:20
CH11	 3 MAR 2022 10:45:07

Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	9.12	≥0.5	Pass
	06	8.64		
	11	8.61		
802.11g	01	16.38	≥0.5	Pass
	06	16.38		
	11	16.38		
802.11n(HT20)	01	17.61	≥0.5	Pass
	06	17.61		
	11	17.58		

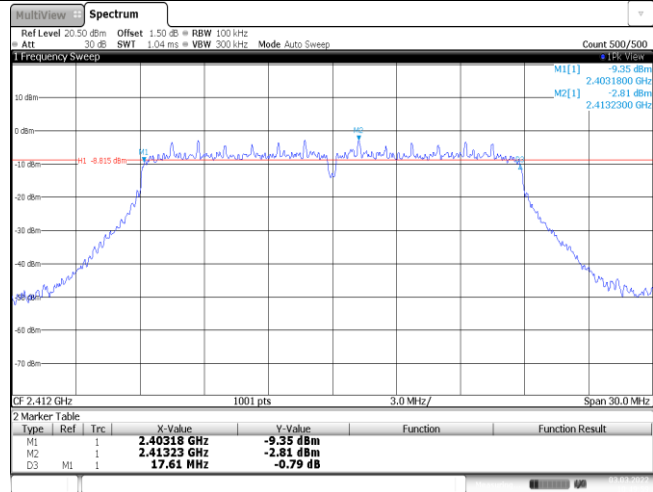




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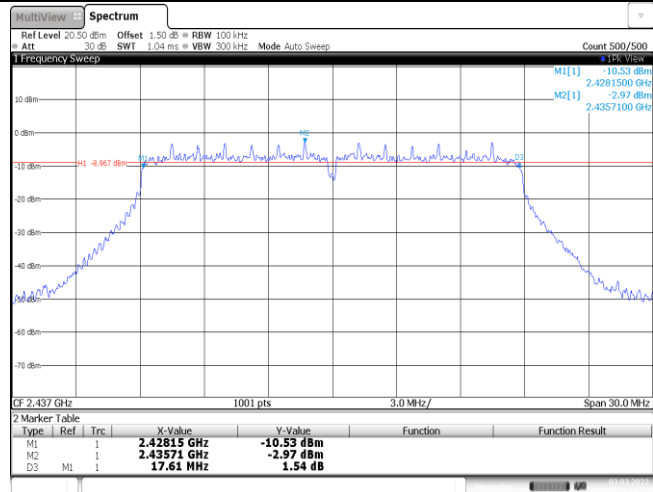
802.11n(HT20)

CH01



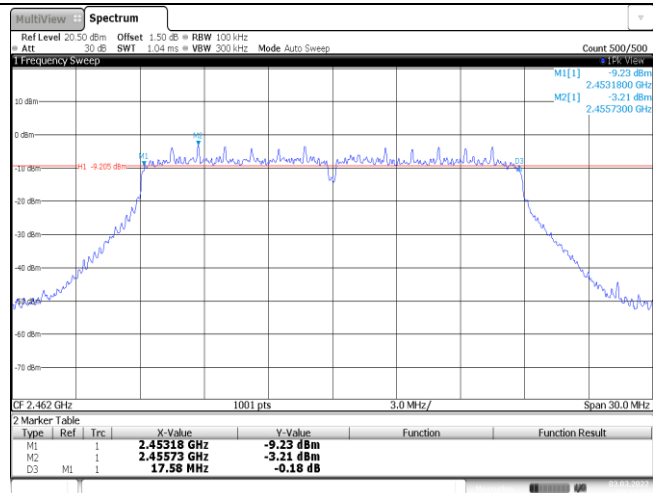
Date: 3 MAR 2022 10:50:00

CH06



Date: 3 MAR 2022 10:48:15

CH11



Date: 3 MAR 2022 10:45:42

Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Bandwidth (MHz)	Limit (MHz)	Result
802.11b	01	13.46	-	Pass
	06	13.46		
	11	13.58		
802.11g	01	16.81	-	Pass
	06	16.84		
	11	16.84		
802.11n(HT20)	01	17.92	-	Pass
	06	17.95		
	11	17.92		

Appendix report page: 12 of 28

Type:

802.11 g

CH01



Date: 3 MAR 2022 10:28:07

CH06



Date: 3 MAR 2022 10:30:46

CH11

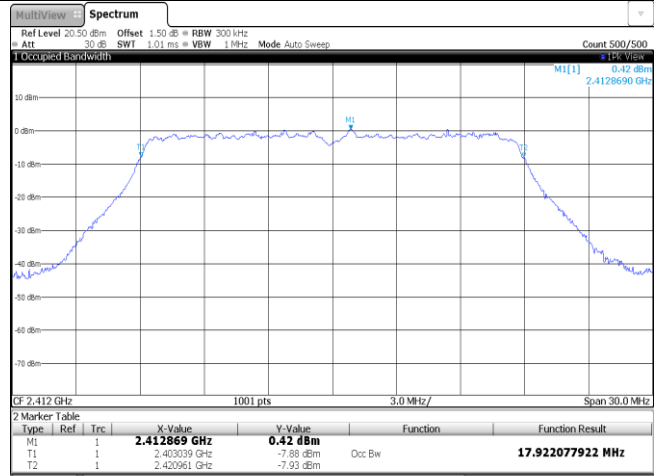


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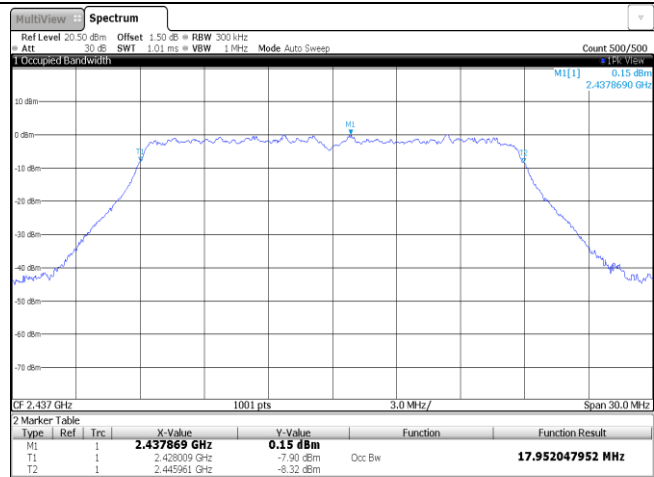
802.11n(HT20)

CH01



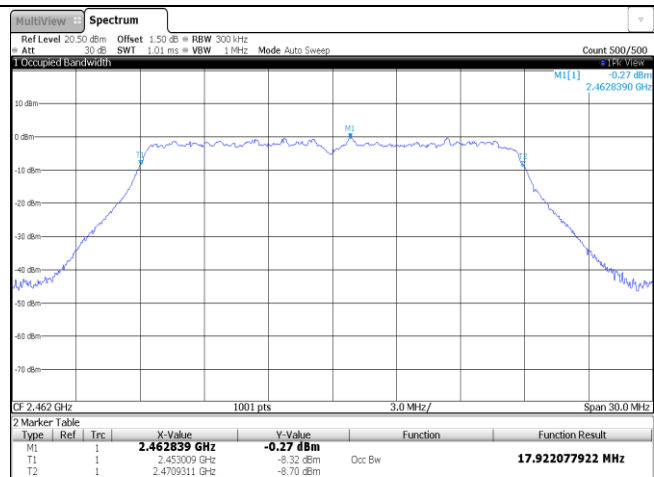
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CH06



Date: 3 MAR 2022 10:48:23

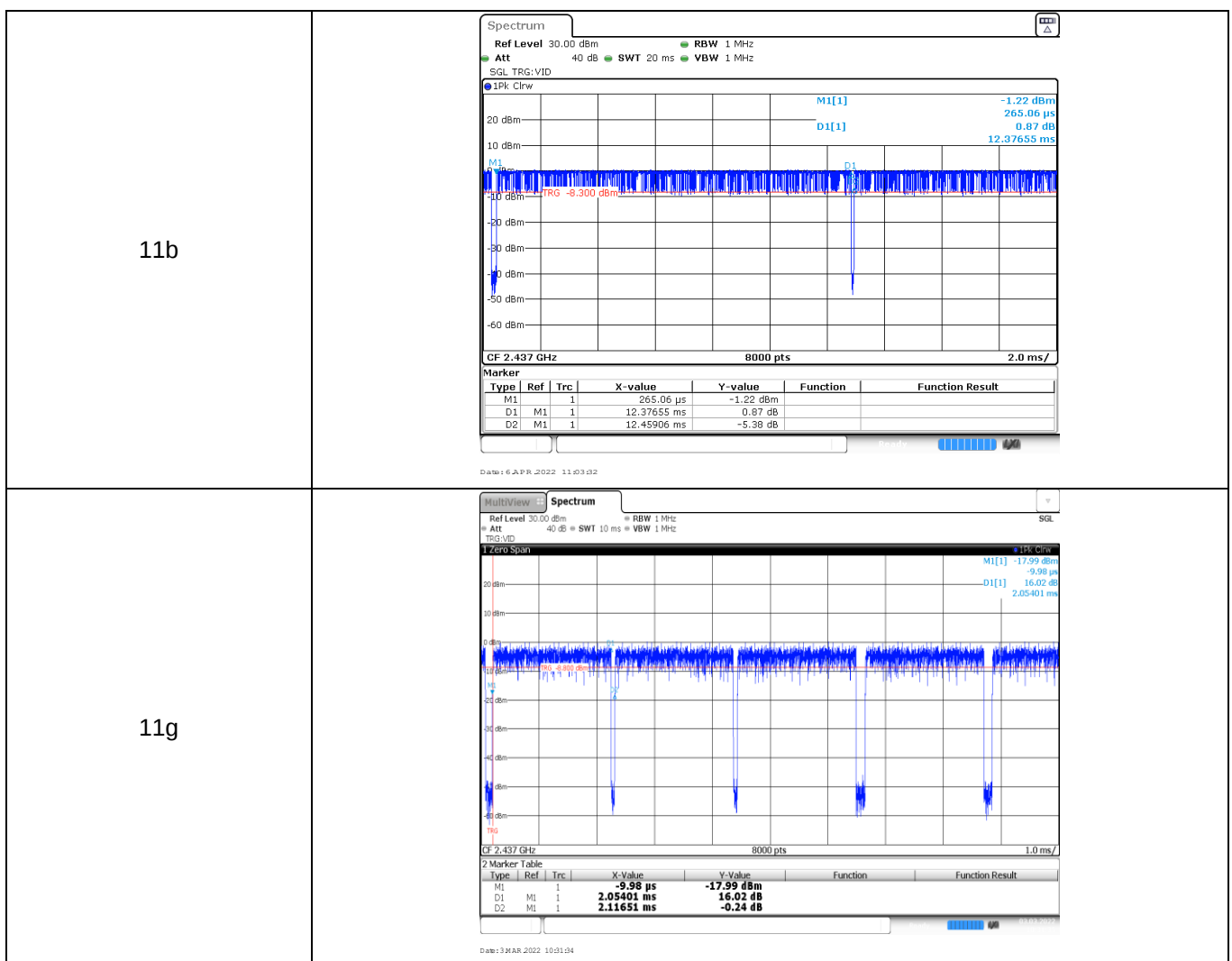
CH11

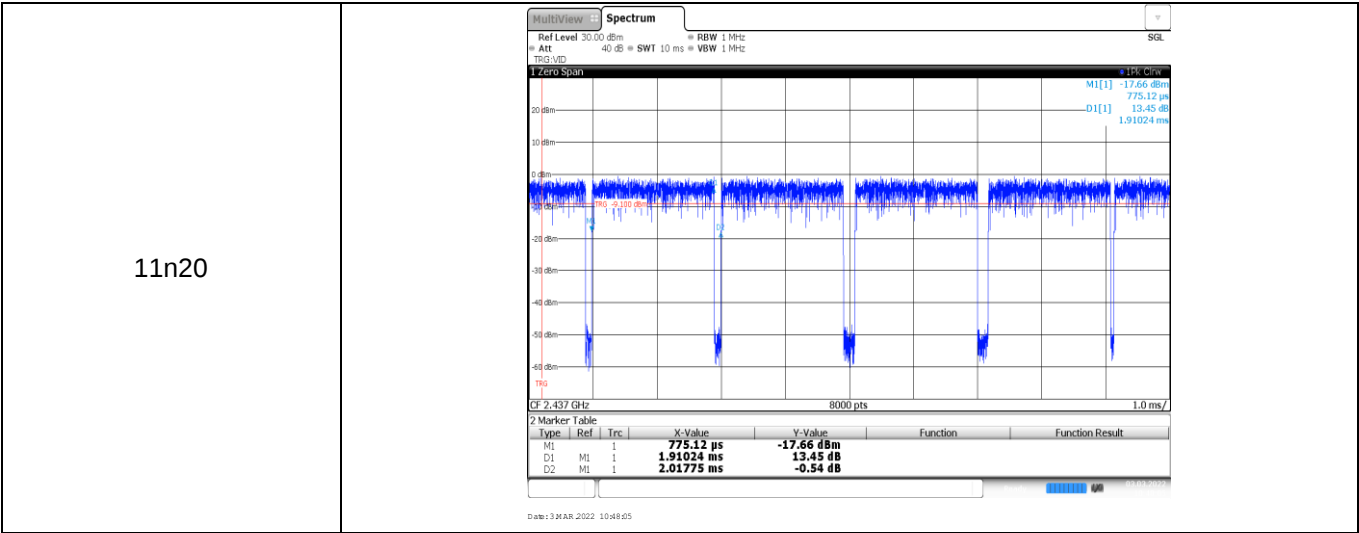


Date: 3 MAR 2022 10:45:50

Appendix E: Duty Cycle

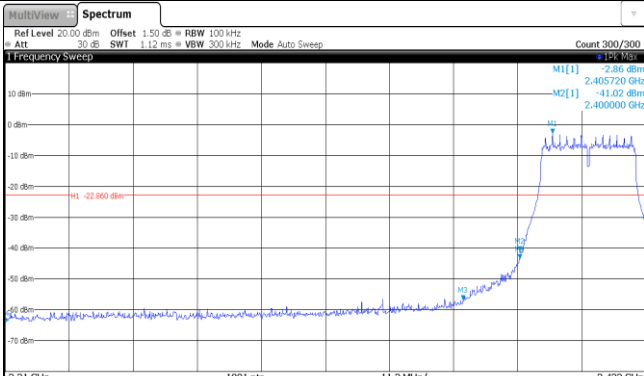
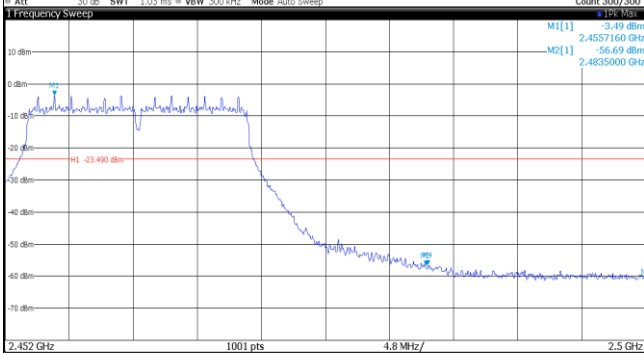
Modulation Type	Test Frequency (MHz)	T _{on time} for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on time} (kHz)
11b	2437	12.38	12.46	99.4%	0.1
11g	2437	2.05	2.12	96.7%	0.5
11n20	2437	1.91	2.02	94.6%	0.5

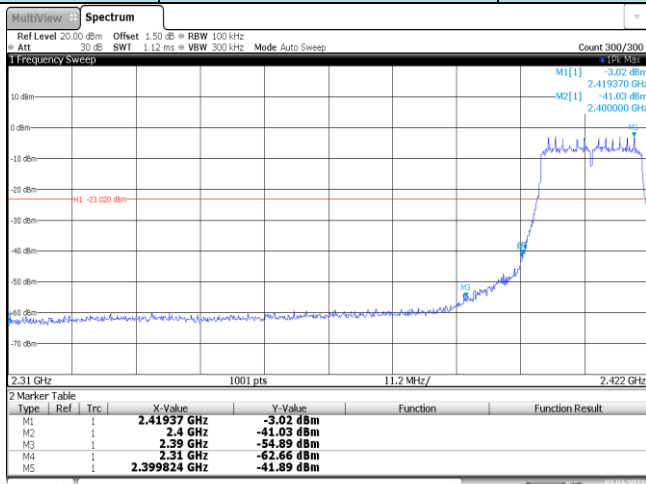
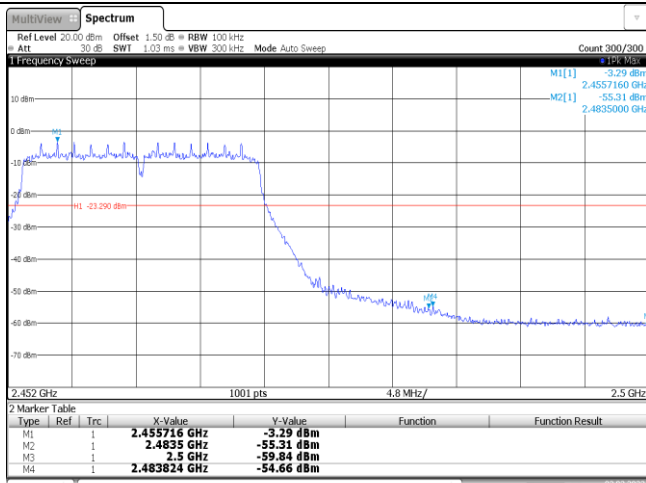


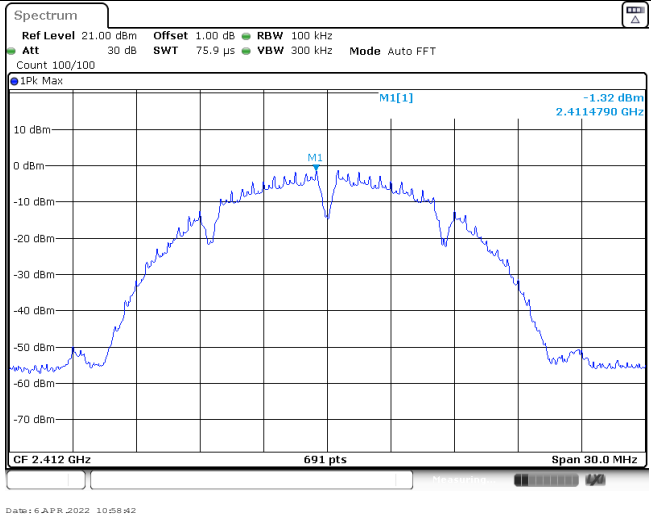
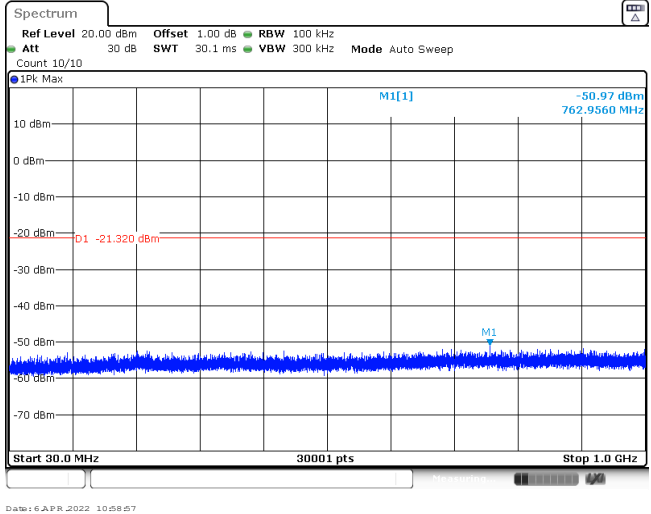
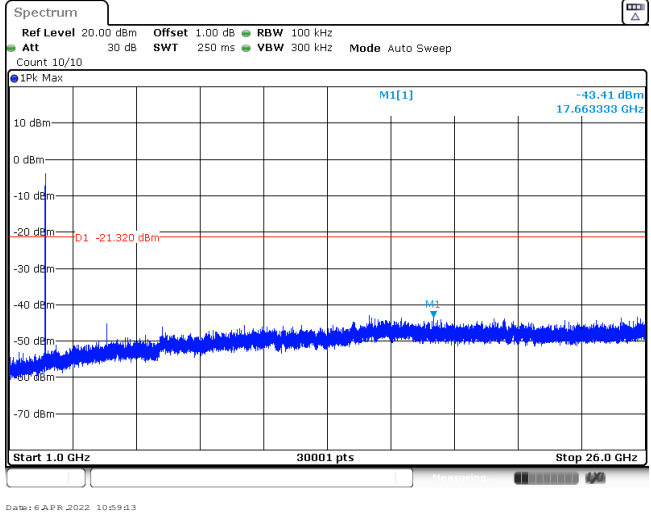


Appendix F: Band edge and Spurious Emissions (conducted)

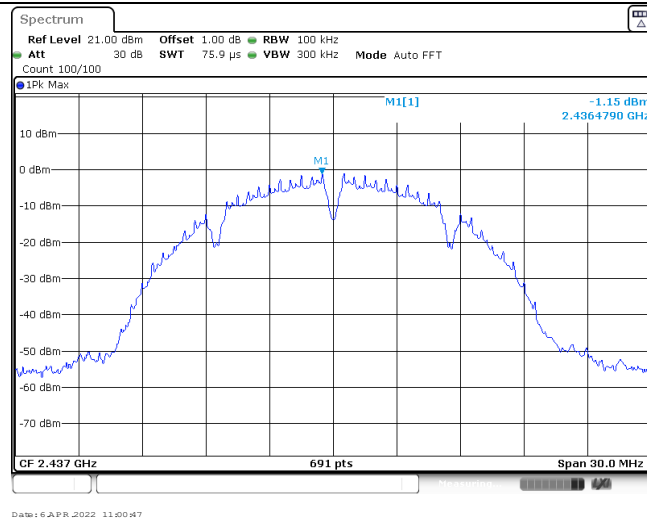
Test Item:	Bandedge	Type:	802.11 b																																										
CH01	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 246.5 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm -10 dBm 0 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] M2[1] M3 M4 -2.28 dBm -50.83 dBm -57.31 dBm -59.24 dBm 2.411550 GHz 2.409000 GHz 2.399925 GHz 2.31 GHz D1 -22.280 dBm Start 2.31 GHz 691 pts Stop 2.422 GHz Marker <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>2.41155 GHz</td><td>-2.28 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-50.83 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-57.31 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-59.24 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399925 GHz</td><td>-54.06 dBm</td><td></td><td></td></tr></table> Date: 6 APR 2022 10:58:35			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.41155 GHz	-2.28 dBm			M2	1		2.4 GHz	-50.83 dBm			M3	1		2.39 GHz	-57.31 dBm			M4	1		2.31 GHz	-59.24 dBm			M5	1		2.399925 GHz	-54.06 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
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M5	1		2.399925 GHz	-54.06 dBm																																									
CH11	Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 113.8 μs VBW 300 kHz Mode Auto FFT Count 300/300 1Pk Max 10 dBm -10 dBm 0 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm M1[1] M2[1] M3 M4 -0.63 dBm -54.88 dBm -58.28 dBm -54.88 dBm 2.462524 GHz 2.483500 GHz 2.5 GHz 2.483513 GHz D1 -20.630 dBm Start 2.452 GHz 691 pts Stop 2.5 GHz Marker <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>2.462524 GHz</td><td>-0.63 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-54.88 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-58.28 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483513 GHz</td><td>-54.88 dBm</td><td></td><td></td></tr></table> Date: 6 APR 2022 11:06:09			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.462524 GHz	-0.63 dBm			M2	1		2.4835 GHz	-54.88 dBm			M3	1		2.5 GHz	-58.28 dBm			M4	1		2.483513 GHz	-54.88 dBm									
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M4	1		2.483513 GHz	-54.88 dBm																																									

Test Item:	Bandedge	Type:	802.11 g																																										
CH01	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.50 dB RBW 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>2.40572 GHz</td><td>-2.86 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-41.02 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-56.70 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.28 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399936 GHz</td><td>-43.61 dBm</td><td></td><td></td></tr></table> Date: 3 MAR 2022 10:28:53			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40572 GHz	-2.86 dBm			M2	1		2.4 GHz	-41.02 dBm			M3	1		2.39 GHz	-56.70 dBm			M4	1		2.31 GHz	-63.28 dBm			M5	1		2.399936 GHz	-43.61 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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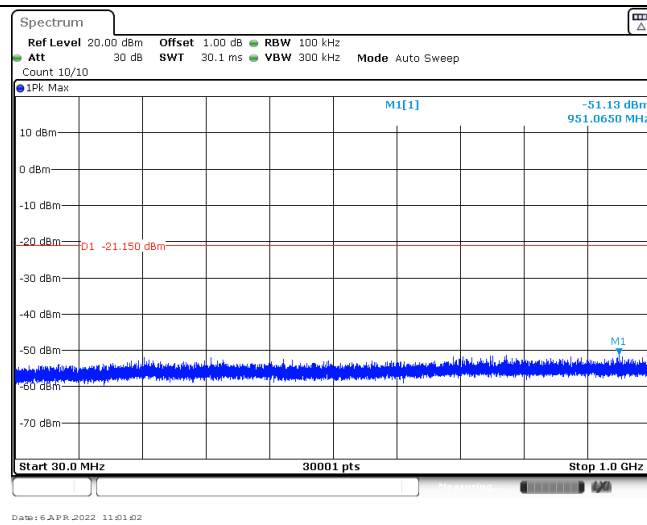
Test Item:	Bandedge	Type:	802.11 n(HT20)																																									
CH01	MultiViewSpectrum Ref Level 20.00 dBm Offset 1.50 dB RBW 100 kHz Att 30 dB SWI 1.12 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep  2 Marker Table <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-Value</th><th>Y-Value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.41937 GHz</td><td>-3.02 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-41.03 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-54.89 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-62.66 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399824 GHz</td><td>-41.89 dBm</td><td></td><td></td></tr></table> Date: 3 MAR 2022 10:50:25	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.41937 GHz	-3.02 dBm			M2	1		2.4 GHz	-41.03 dBm			M3	1		2.39 GHz	-54.89 dBm			M4	1		2.31 GHz	-62.66 dBm			M5	1		2.399824 GHz	-41.89 dBm			
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M3	1		2.5 GHz	-59.84 dBm																																								
M4	1		2.483824 GHz	-54.66 dBm																																								

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

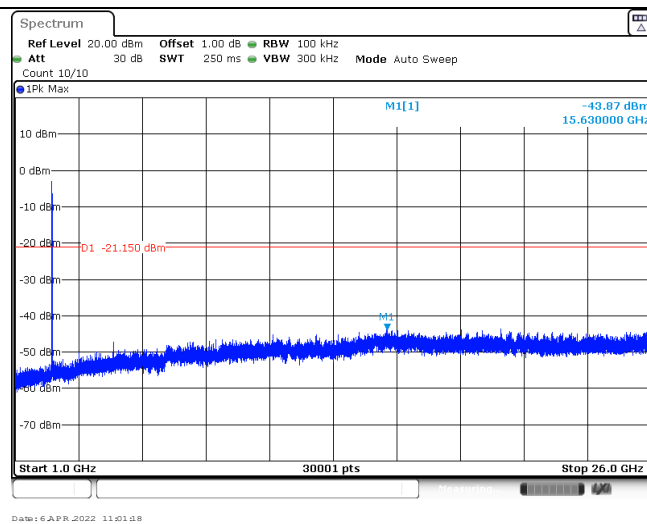
CH06
Reference level

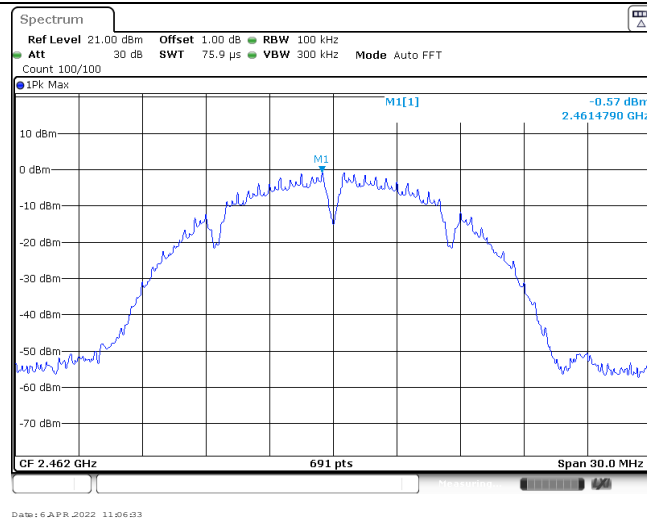
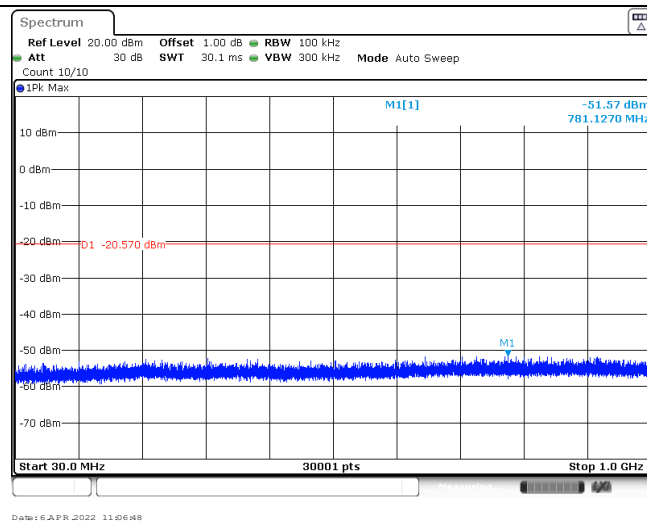
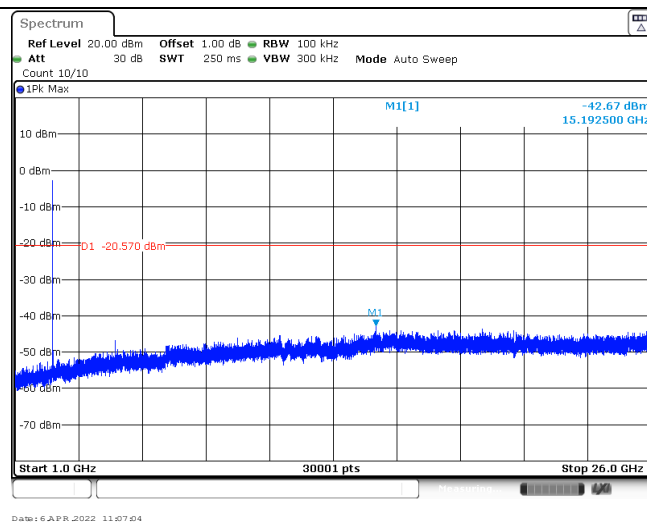


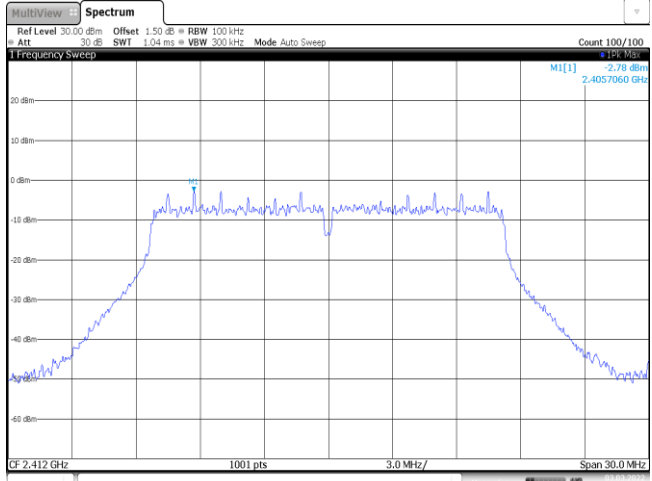
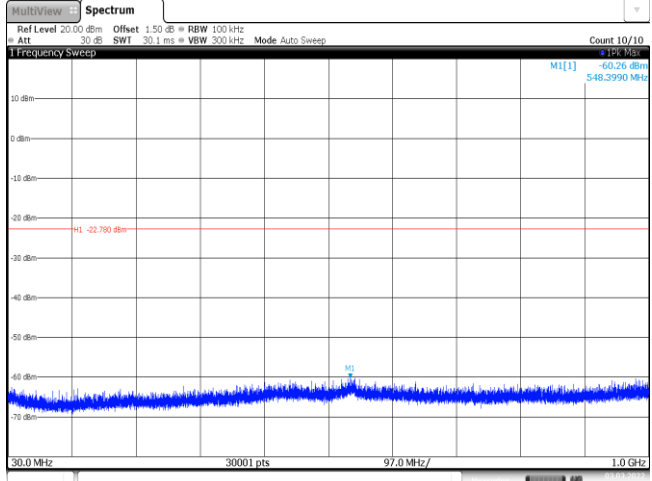
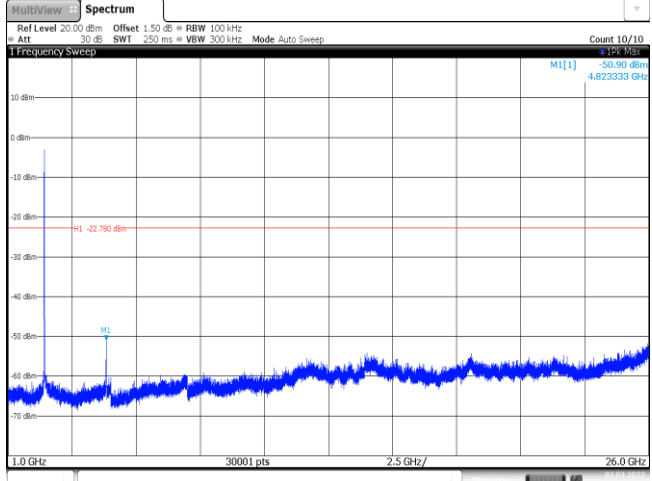
CH06
30MHz~1000MHz



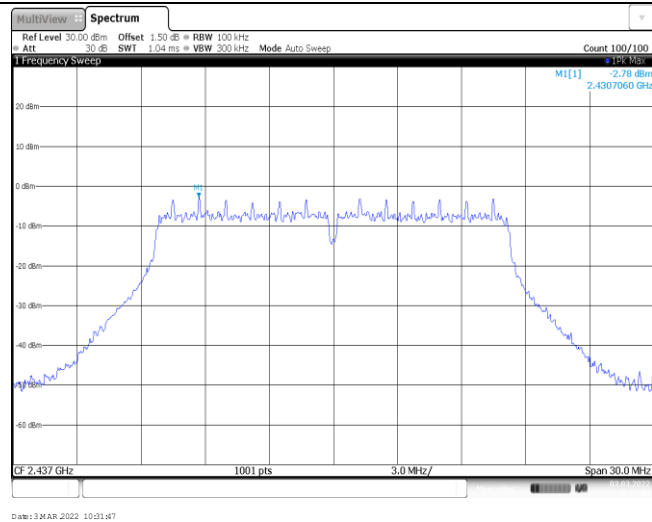
CH06
1GHz~26GHz



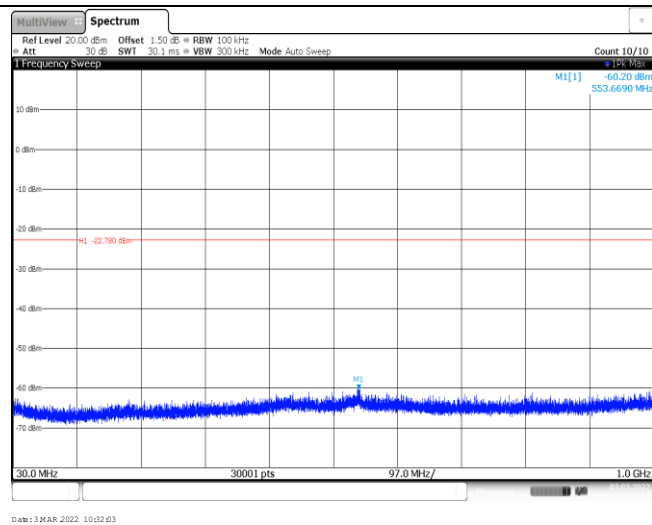
CH11
Reference levelCH11
30MHz~1000MHzCH11
1GHz~26GHz

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

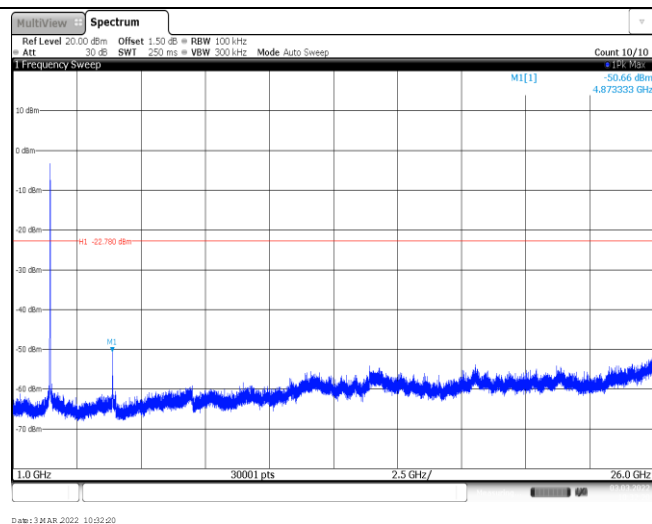
CH06
Reference level

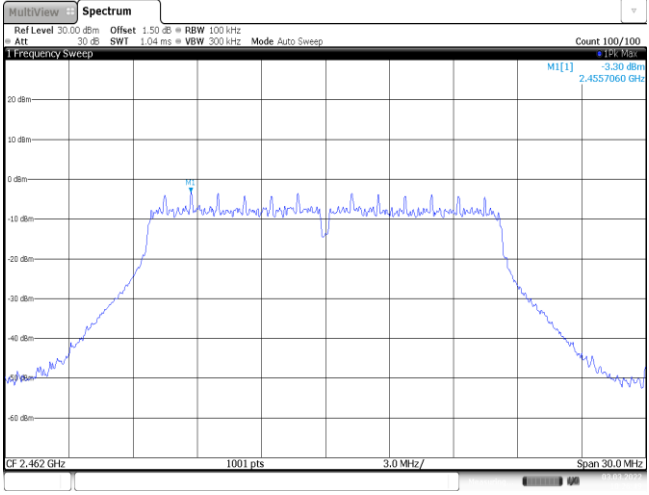
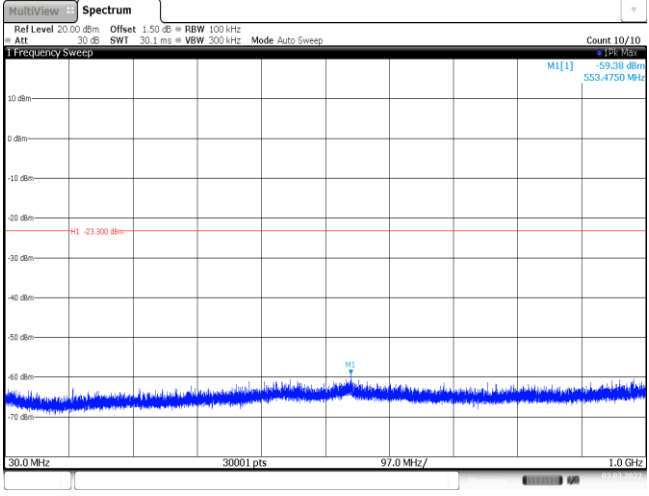
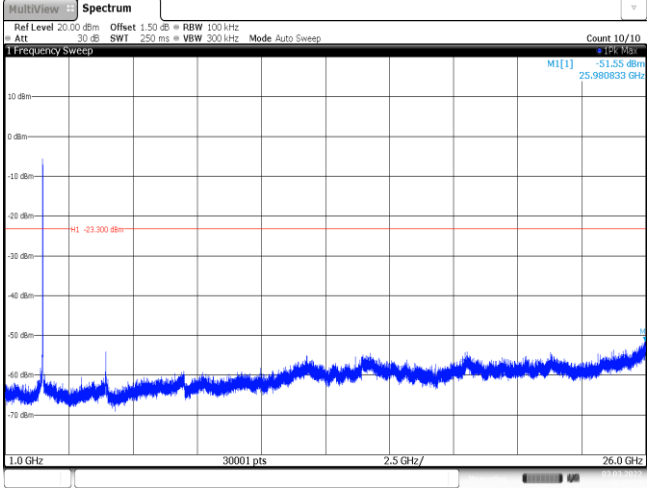


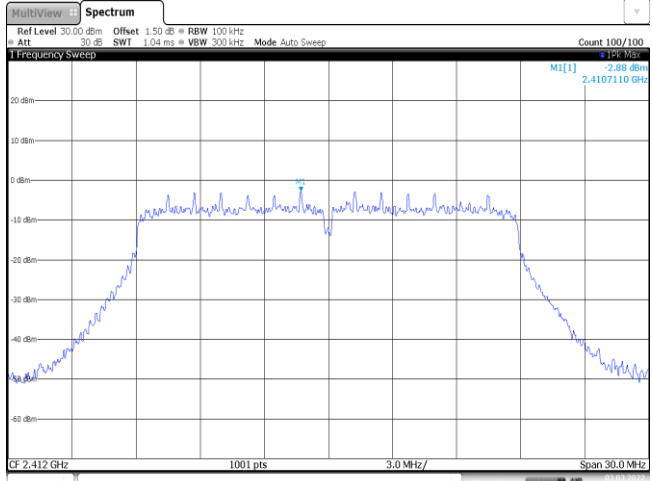
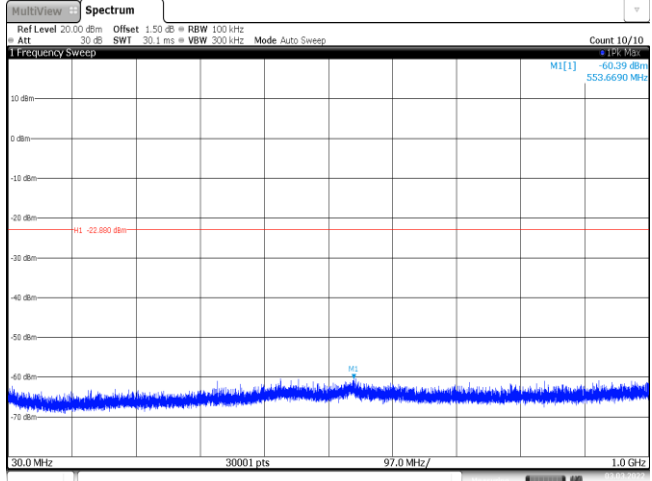
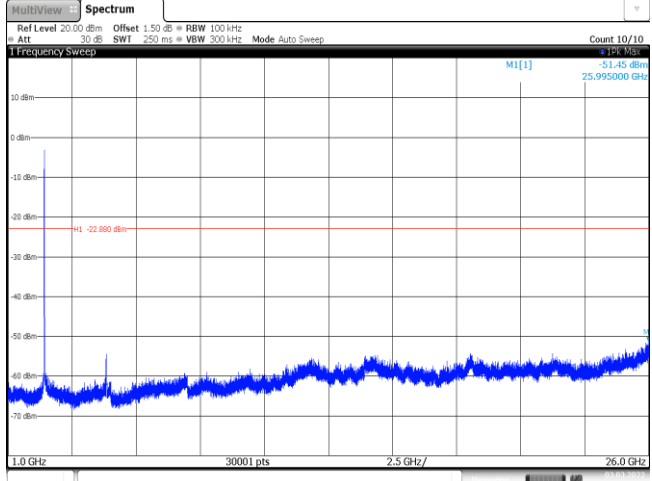
CH06
30MHz~1000MHz

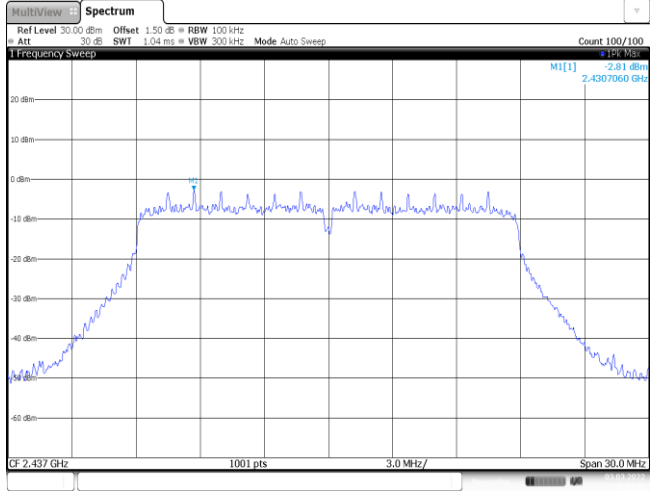
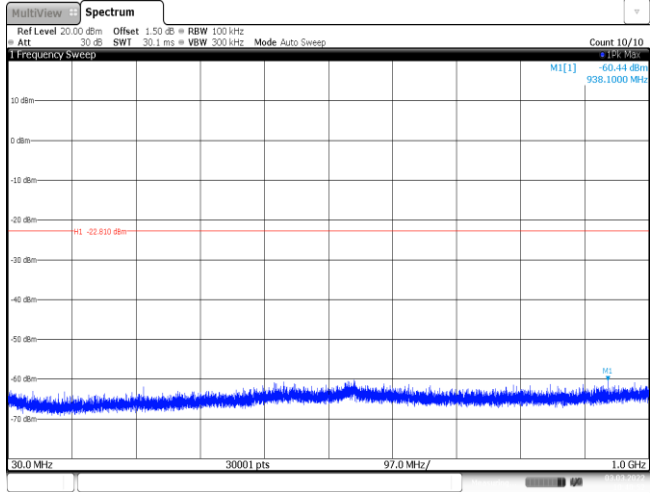
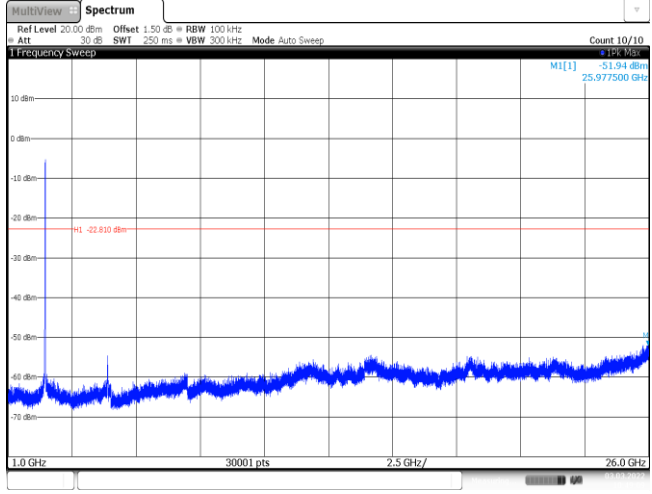


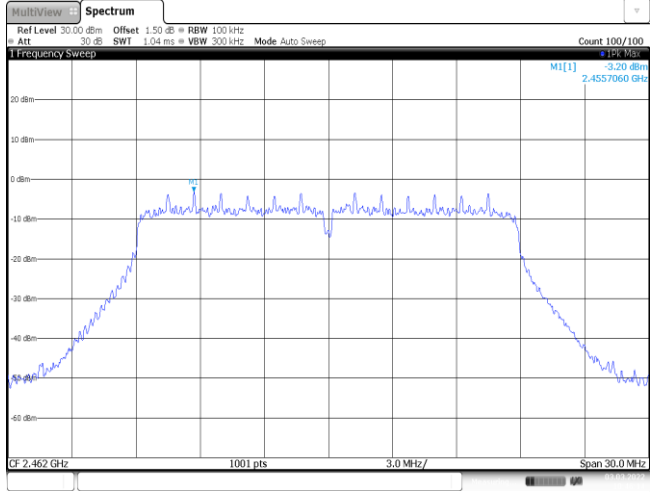
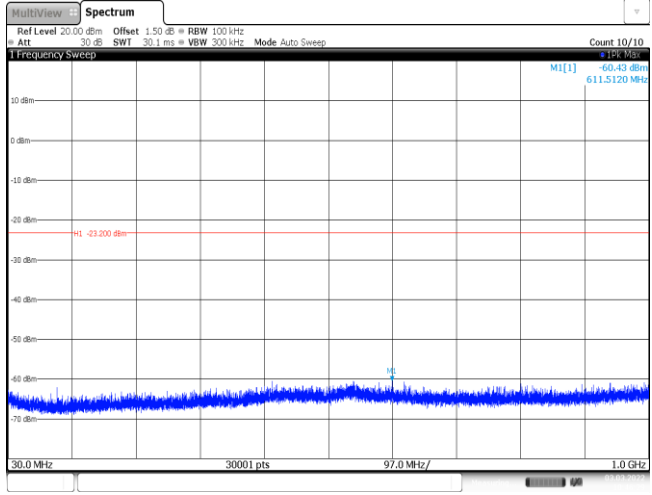
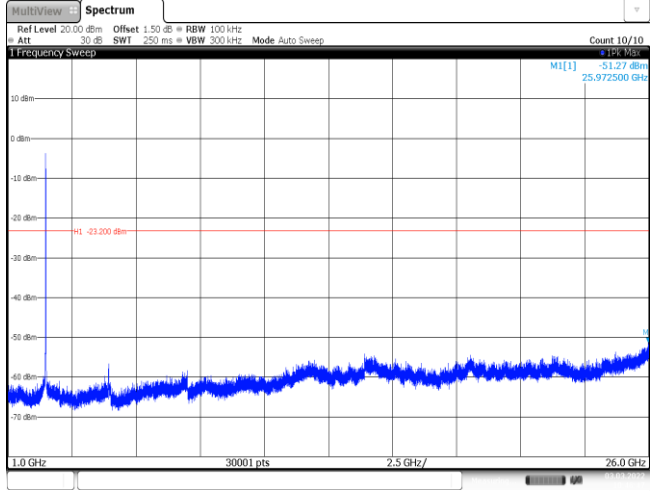
CH06
1GHz~26GHz



CH11 Reference level	
CH11 30MHz~1000MHz	
CH11 1GHz~26GHz	

Test Item:	Spurious Emissions	Type:	802.11 n(HT20)
CH01 Reference level	 Ref Level 30.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -2.88 dBm 2.4107110 GHz 2.412 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 3 MAR 2022 10:50:22		
CH01 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.39 dBm 553.6690 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 3 MAR 2022 10:50:48		
CH01 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -51.45 dBm 25.995000 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 3 MAR 2022 10:51:04		

CH06 Reference level	 Ref Level 30.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SW 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 MI[1] -2.81 dBm 2.437060 GHz CF 2.437 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 3 MAR 2022 10:48:36
CH06 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SW 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -60.44 dBm 938.1000 MHz H1 -22.810 dBm 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 3 MAR 2022 10:48:53
CH06 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.50 dB BW 100 kHz Att 30 dB SW 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -51.94 dBm 25.977500 GHz H1 -22.810 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 3 MAR 2022 10:49:09

CH11 Reference level	
CH11 30MHz~1000MHz	
CH11 1GHz~26GHz	

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