

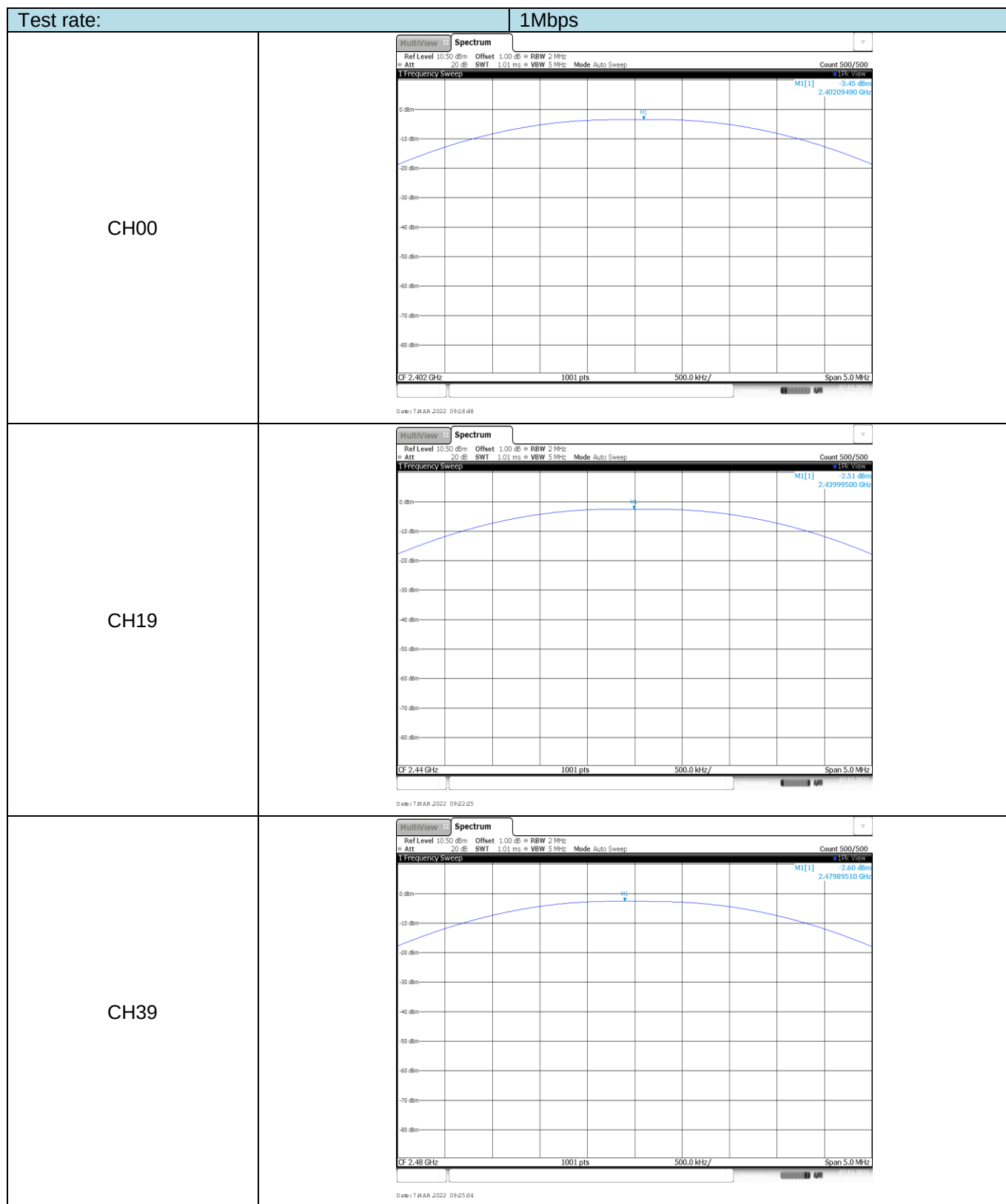
APPENDIX REPORT

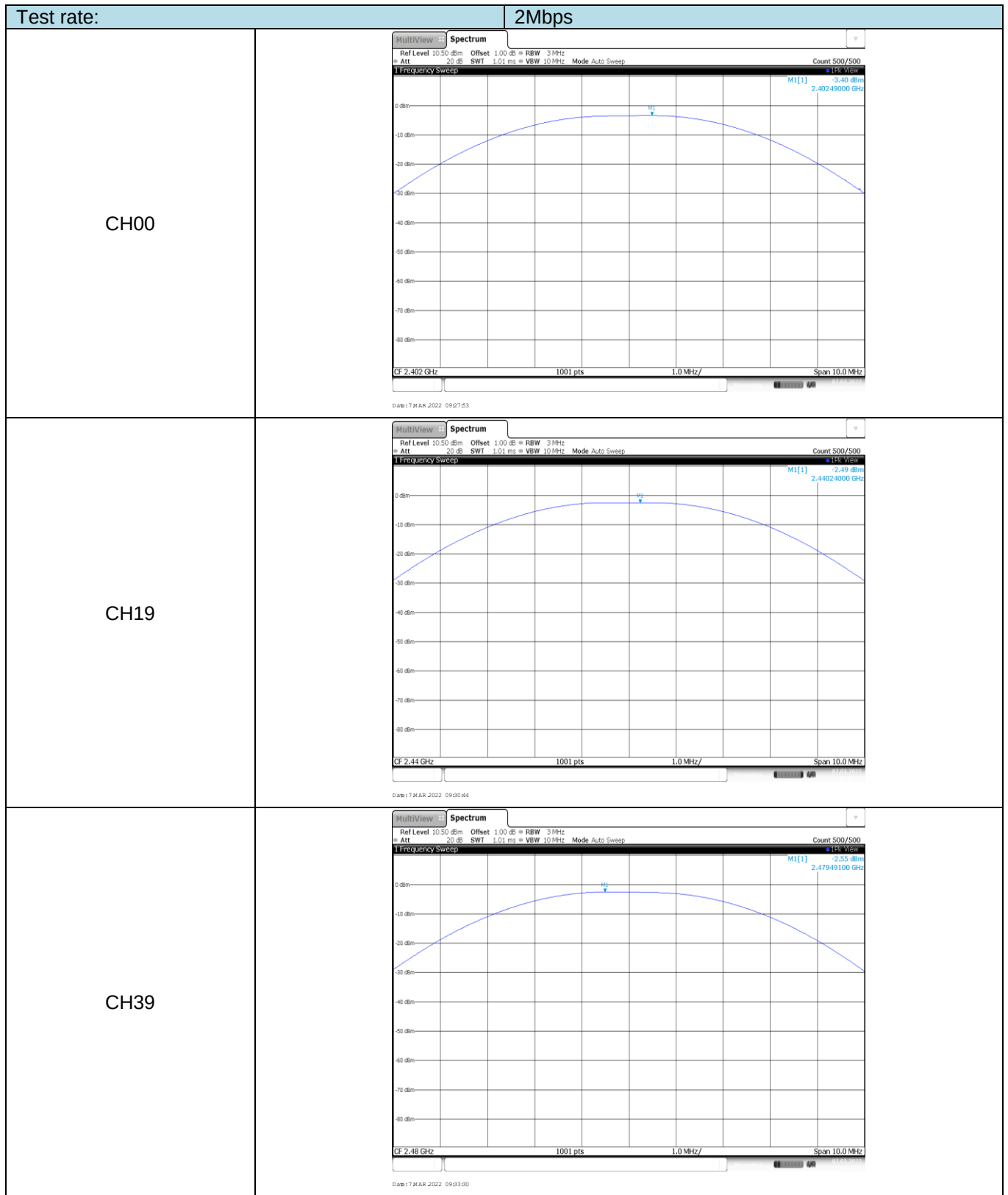
Project No.	SHT2202043703EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT22020437006	Model No.	L681
Start test date	2022-03-07	Finish date	2022-03-07
Temperature	24.4℃	Humidity	50%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhao

Appendix clause	Test item	Result
A	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: Peak Output Power

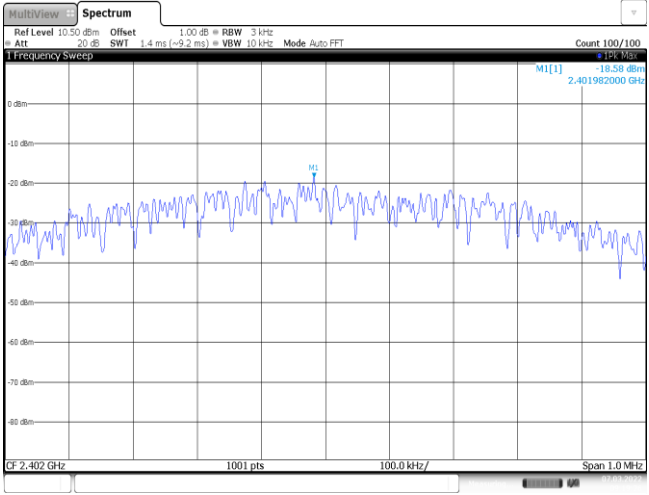
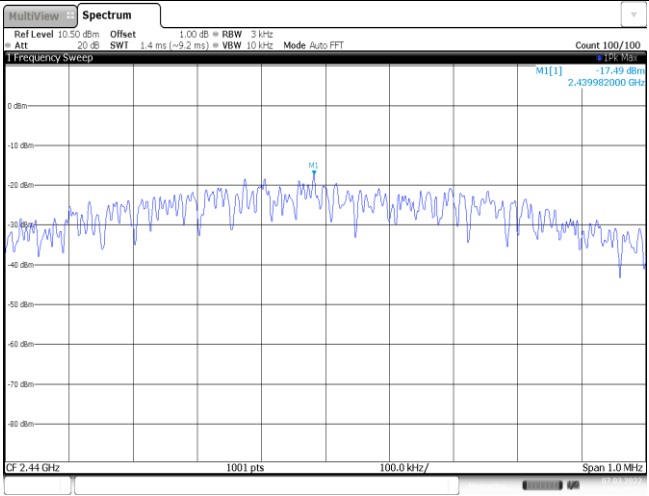
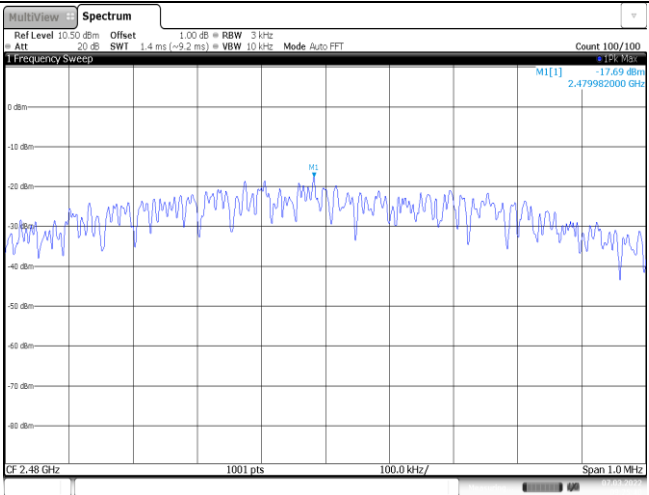
Test rate	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
1Mbps	00	-3.45	-3.54	≤ 30.00	Pass
	19	-2.51	-2.59		
	39	-2.60	-2.69		
2Mbps	00	-3.40	-3.47	≤ 30.00	Pass
	19	-2.49	-2.60		
	39	-2.55	-2.62		

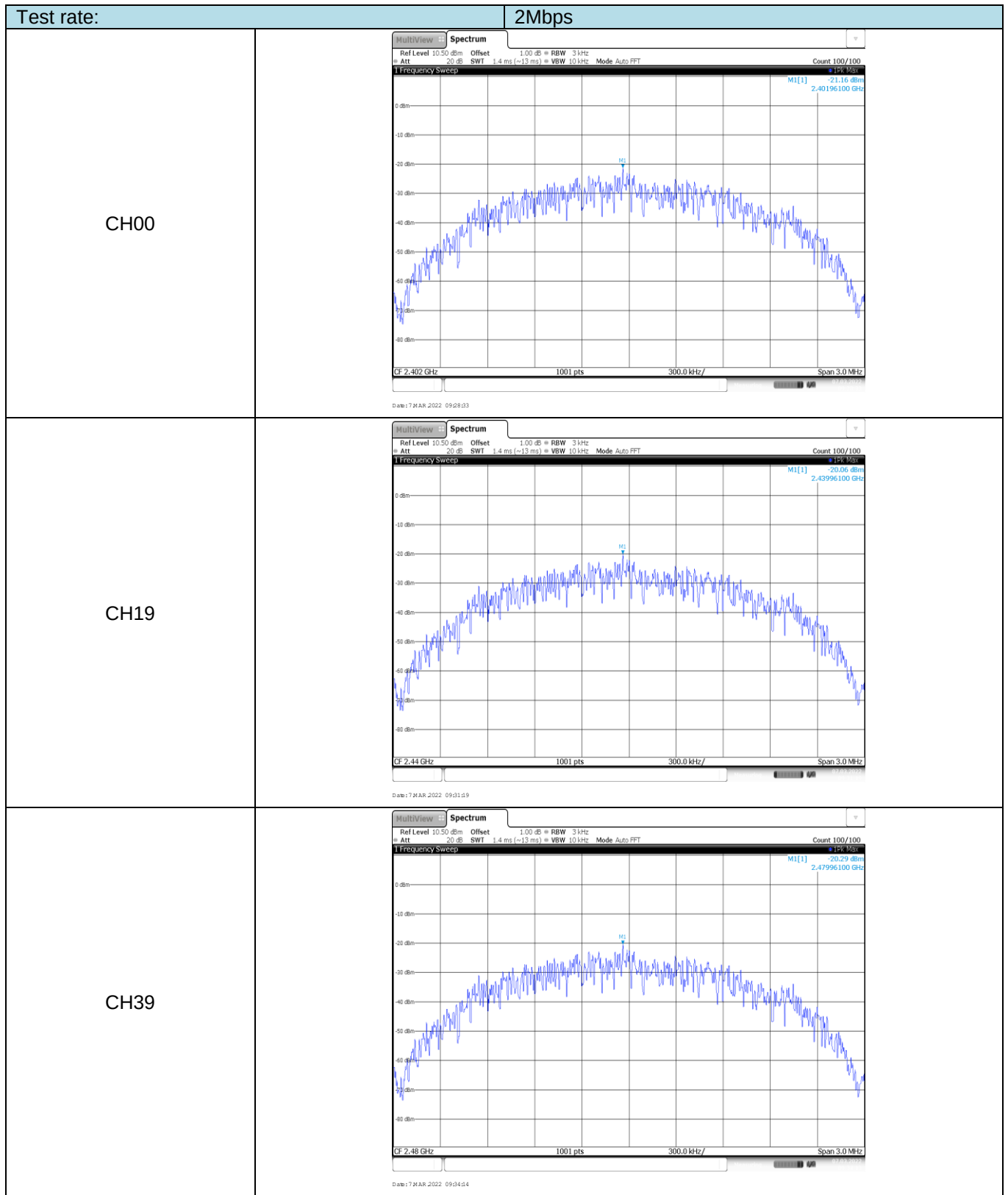




Appendix B: Power Spectral Density

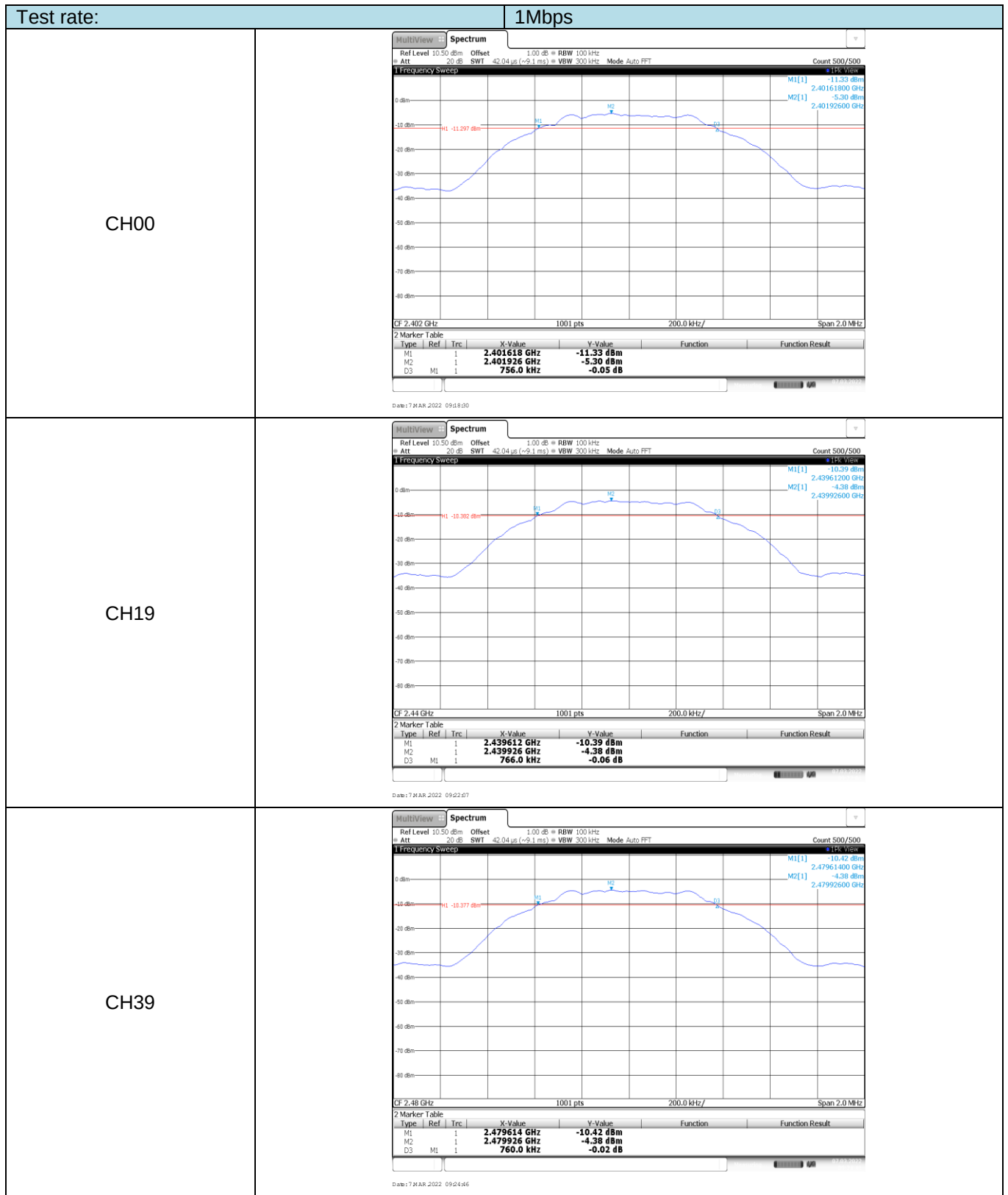
Test rate	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
1Mbps	00	-18.58	≤8.00	Pass
	19	-17.49		
	39	-17.69		
2Mbps	00	-21.16	≤8.00	Pass
	19	-20.06		
	39	-20.29		

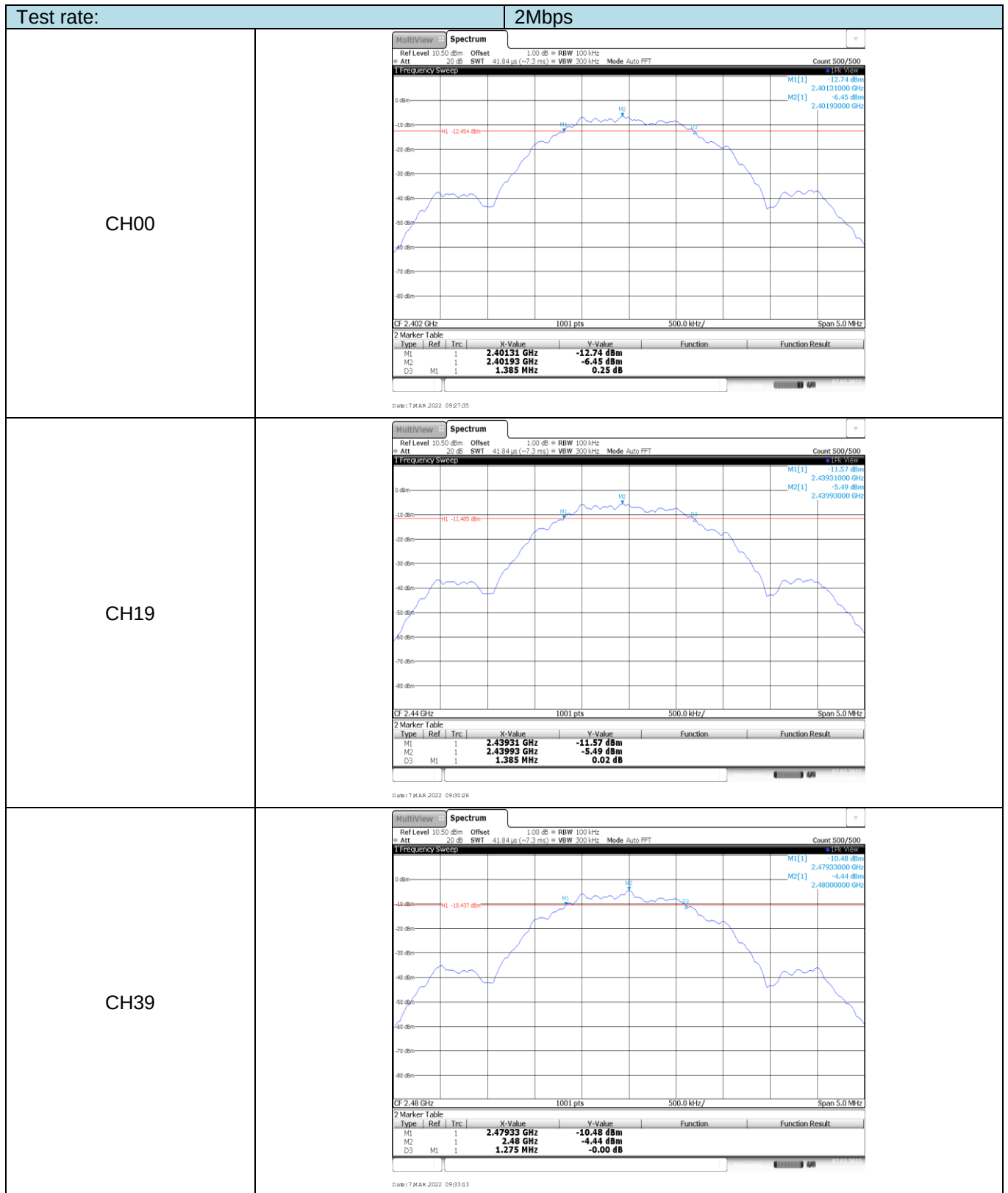
Test rate:		1Mbps
CH00	 Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 30 dB SWI 1.4 ms (-2.2 ms) VBW 10 kHz Mode Auto FFT Count 100/100 M1[1] -18.58 dBm 2.401982000 GHz CF 2.402 GHz 1001 pts 100.0 kHz/ Span 1.0 MHz Date: 7 MAR 2022 09:19:26	
CH19	 Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 30 dB SWI 1.4 ms (-2.2 ms) VBW 10 kHz Mode Auto FFT Count 100/100 M1[1] -17.49 dBm 2.439982000 GHz CF 2.44 GHz 1001 pts 100.0 kHz/ Span 1.0 MHz Date: 7 MAR 2022 09:23:21	
CH39	 Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 30 dB SWI 1.4 ms (-2.2 ms) VBW 10 kHz Mode Auto FFT Count 100/100 M1[1] -17.69 dBm 2.479982000 GHz CF 2.48 GHz 1001 pts 100.0 kHz/ Span 1.0 MHz Date: 7 MAR 2022 09:25:40	



Appendix C: 6dB bandwidth

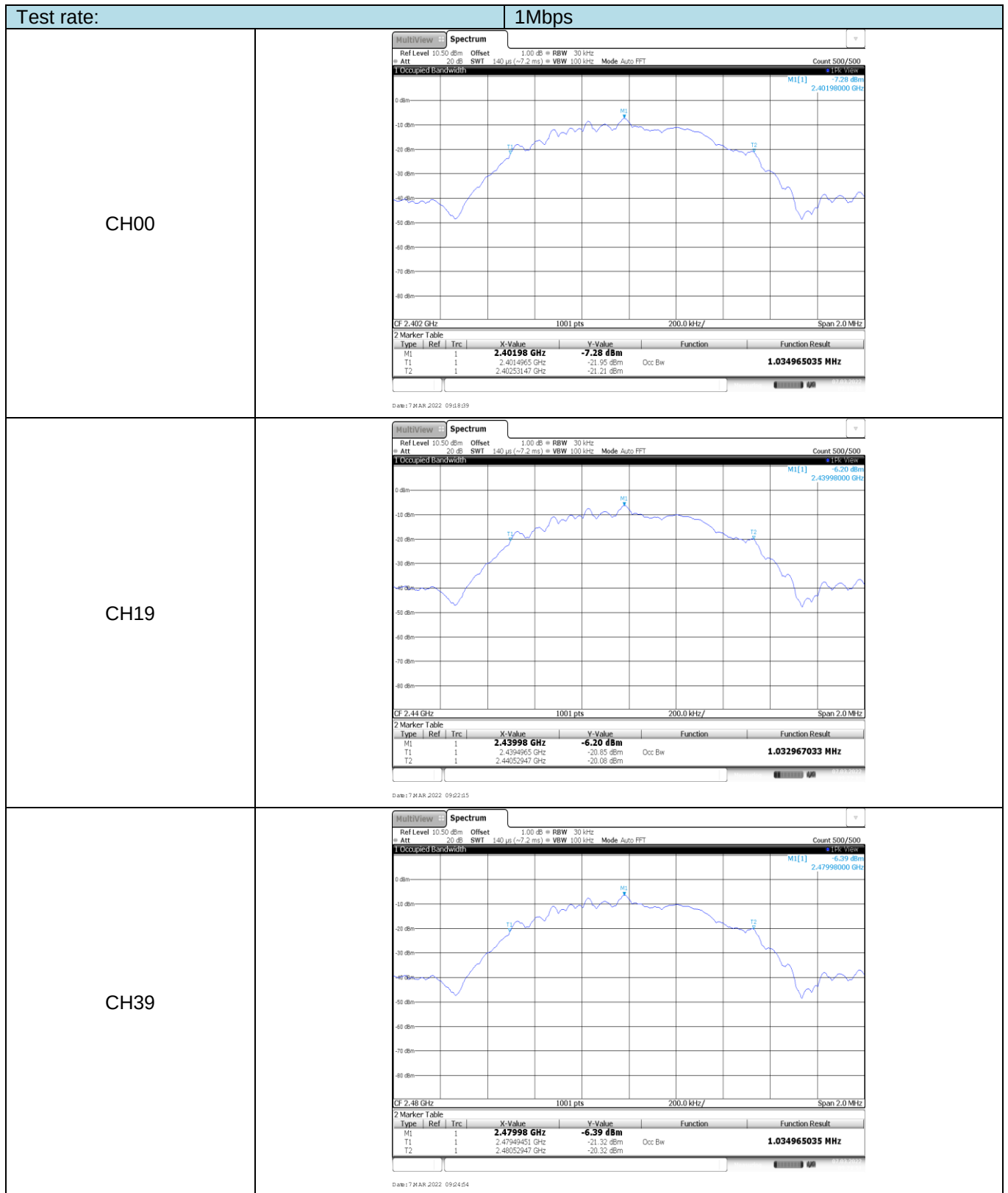
Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
1Mbps	00	756.00	≥500	Pass
	19	766.00		
	39	760.00		
2Mbps	00	1385.00	≥500	Pass
	19	1385.00		
	39	1275.00		

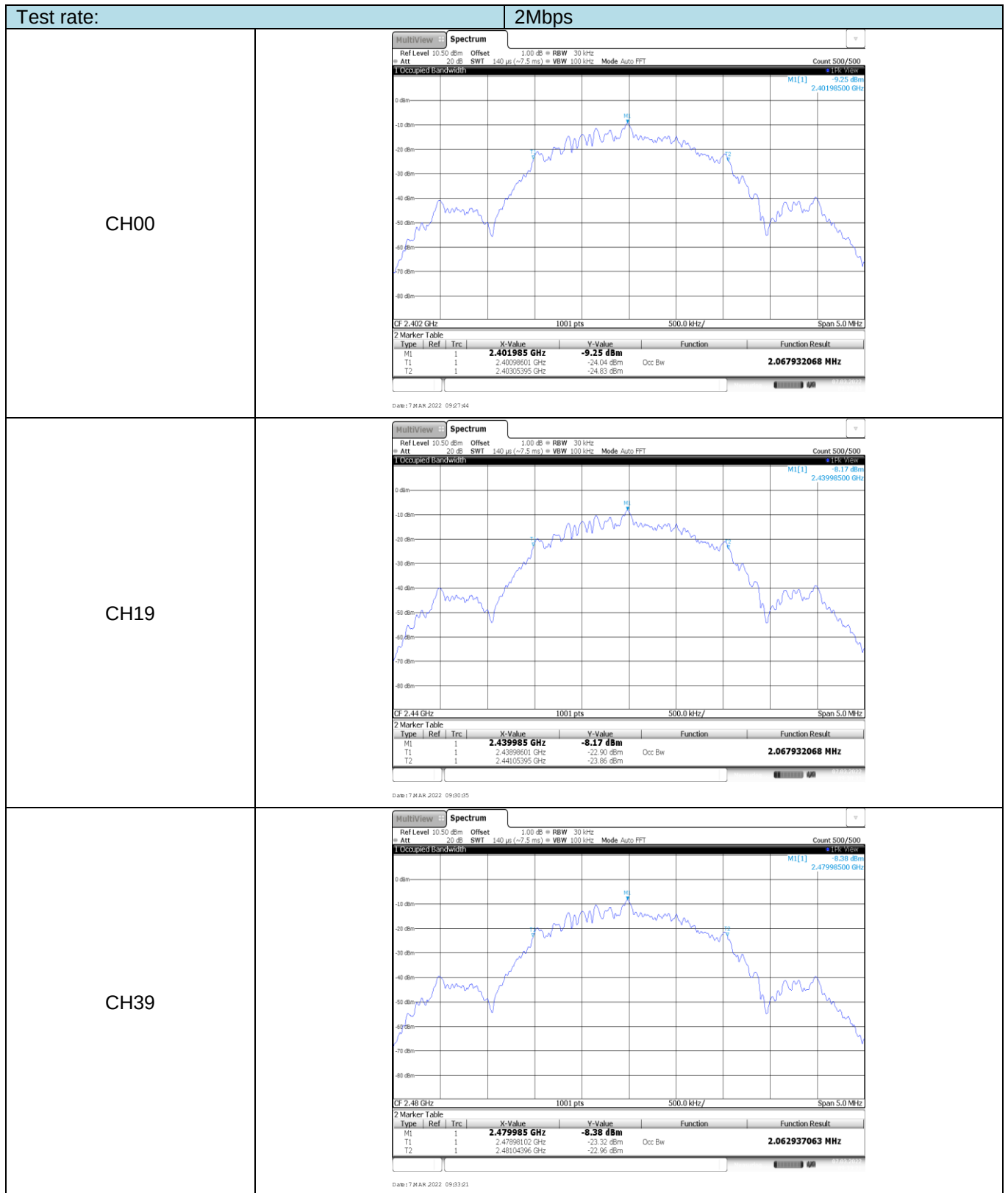




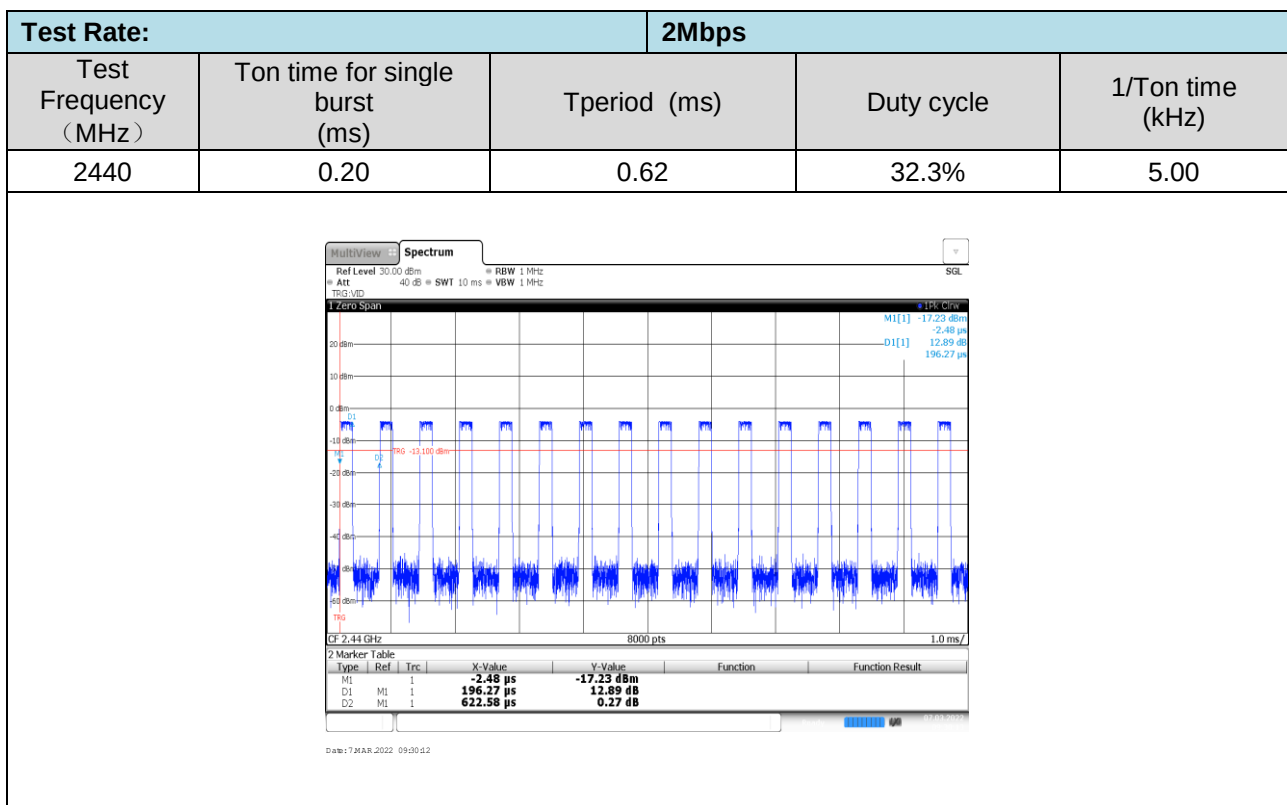
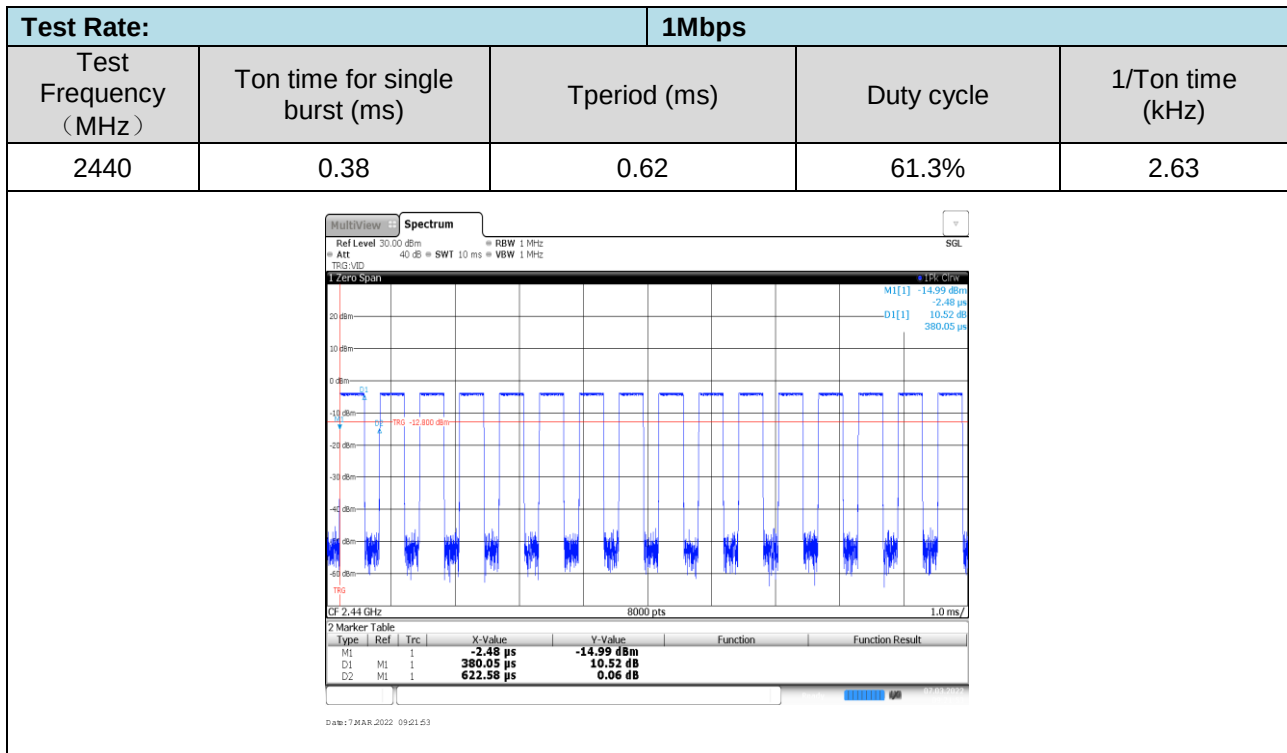
Appendix D: 99% Occupied Bandwidth

Test rate	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
1Mbps	00	1.03	-	Pass
	19	1.03		
	39	1.03		
2Mbps	00	2.07	-	Pass
	19	2.07		
	39	2.06		





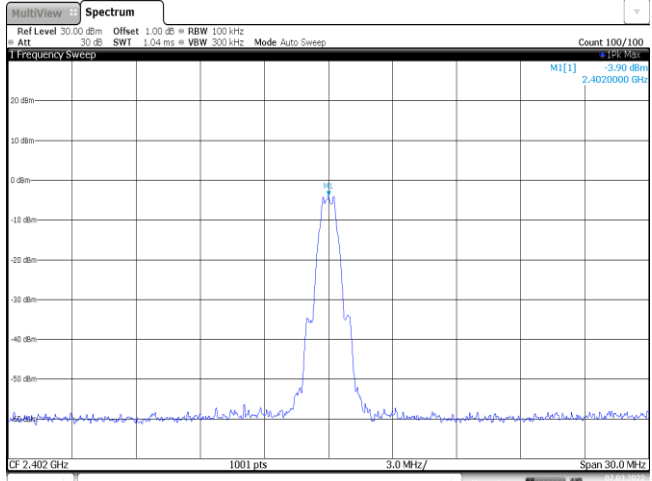
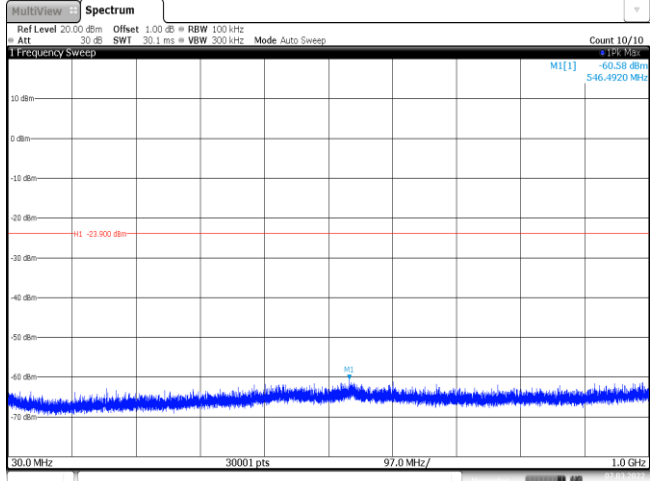
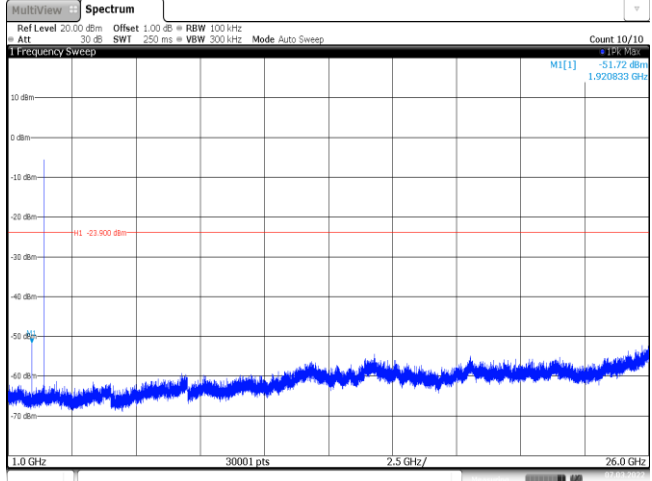
Appendix E: Duty cycle



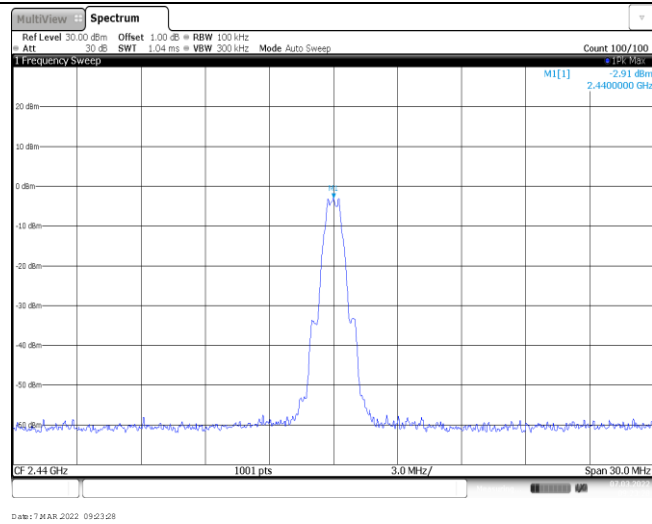
Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Test Rate:	1Mbps																																										
CH00	MultiViewSpectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWF 1.05 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep 0 dB 10 dB 20 dB 30 dB 40 dB 50 dB 60 dB 70 dB 80 dB M1[1] 2.4020100 GHz -4.22 dBm M2[1] 2.4000000 GHz -63.29 dBm M3 2.405 GHz M4 2.31 GHz M5 2.399965 GHz 2.31 GHz 1001 pts 9.5 MHz/ 2.405 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>2.40201 GHz</td><td>-4.22 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-63.29 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-71.64 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-73.52 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399965 GHz</td><td>-63.24 dBm</td><td></td><td></td></tr></tbody></table> Date: 7 MAR 2022 09:19:27			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40201 GHz	-4.22 dBm			M2	1		2.4 GHz	-63.29 dBm			M3	1		2.39 GHz	-71.64 dBm			M4	1		2.31 GHz	-73.52 dBm			M5	1		2.399965 GHz	-63.24 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																							
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M5	1		2.399965 GHz	-63.24 dBm																																									
CH39	MultiViewSpectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWF 1.02 ms VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep 0 dB 10 dB 20 dB 30 dB 40 dB 50 dB 60 dB 70 dB 80 dB M1[1] 2.4799890 GHz -3.35 dBm M2[1] 2.4835000 GHz -69.37 dBm M3 2.5 GHz M4 2.483544 GHz 2.478 GHz 1001 pts 2.2 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>2.479989 GHz</td><td>-3.35 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-69.37 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-73.81 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483544 GHz</td><td>-69.34 dBm</td><td></td><td></td></tr></tbody></table> Date: 7 MAR 2022 09:25:50			Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479989 GHz	-3.35 dBm			M2	1		2.4835 GHz	-69.37 dBm			M3	1		2.5 GHz	-73.81 dBm			M4	1		2.483544 GHz	-69.34 dBm									
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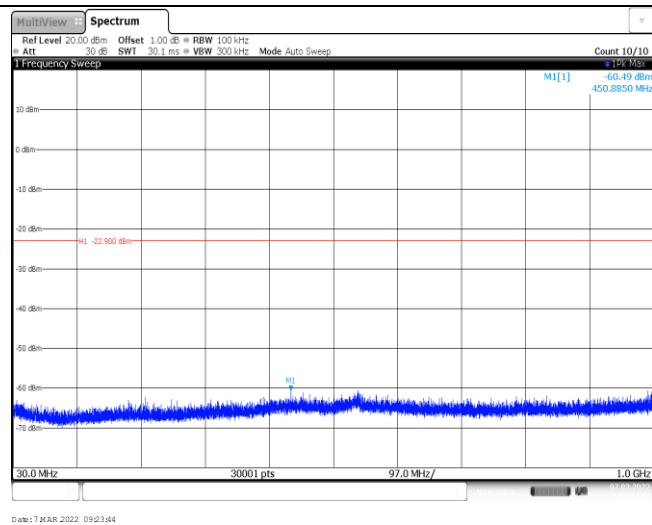
Test Item:	Band edge	Test Rate:	2Mbps																																								
CH00	MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWI 1.05 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep M1[1] -4.16 dBm 2.4020100 GHz M2[1] -35.59 dBm 2.4000000 GHz M1 -24.160 dBm 2.31 GHz 1001 pts 9.5 MHz/ 2.405 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>2.40201 GHz</td><td>-4.16 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-35.59 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-71.92 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-73.82 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399965 GHz</td><td>-35.42 dBm</td><td></td><td></td></tr></table> Date: 7 MAR 2022 09:28:43	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40201 GHz	-4.16 dBm			M2	1		2.4 GHz	-35.59 dBm			M3	1		2.39 GHz	-71.92 dBm			M4	1		2.31 GHz	-73.82 dBm			M5	1		2.399965 GHz	-35.42 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																					
M1	1		2.40201 GHz	-4.16 dBm																																							
M2	1		2.4 GHz	-35.59 dBm																																							
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CH39	MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWI 1.02 ms VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -3.30 dBm 2.4799890 GHz M2[1] -65.84 dBm 2.4835000 GHz M1 -33.300 dBm 2.478 GHz 1001 pts 2.2 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>2.479989 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>-65.84 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-73.70 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483522 GHz</td><td>-65.92 dBm</td><td></td><td></td></tr></table> Date: 7 MAR 2022 09:24:24	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479989 GHz	-3.30 dBm			M2	1		2.4835 GHz	-65.84 dBm			M3	1		2.5 GHz	-73.70 dBm			M4	1		2.483522 GHz	-65.92 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																					
M1	1		2.479989 GHz	-3.30 dBm																																							
M2	1		2.4835 GHz	-65.84 dBm																																							
M3	1		2.5 GHz	-73.70 dBm																																							
M4	1		2.483522 GHz	-65.92 dBm																																							

Test Item:	SE	Test Rate:	1Mbps
CH00 Reference level		 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 MI[1] 3.90 dBm 2.402000 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 2.402 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 7 MAR 2022 09:20:04	
CH00 30MHz~1000MHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -60.58 dBm 546.4920 MHz 20 dBm 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: 7 MAR 2022 09:20:21	
CH00 1GHz~26GHz		 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 MI[1] -51.72 dBm 1.920633 GHz 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 7 MAR 2022 09:20:37	

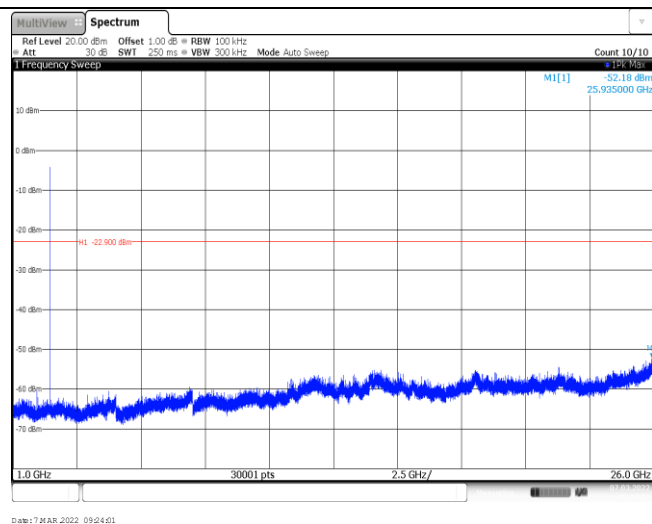
CH19
Reference level

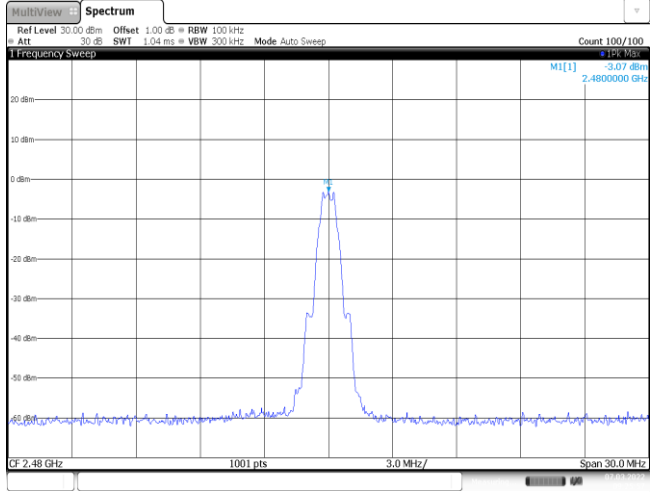
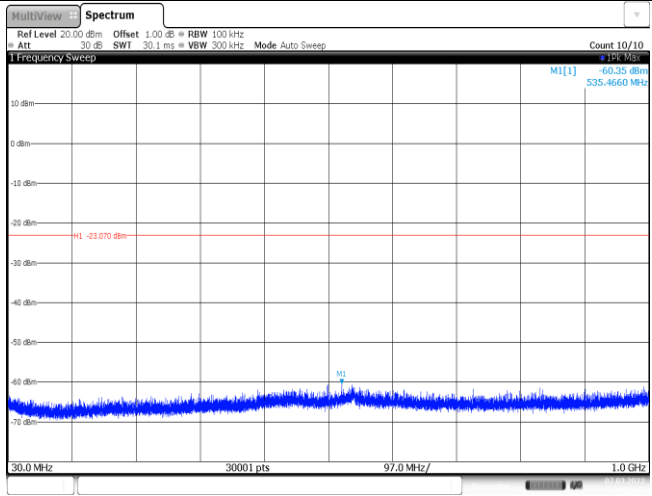
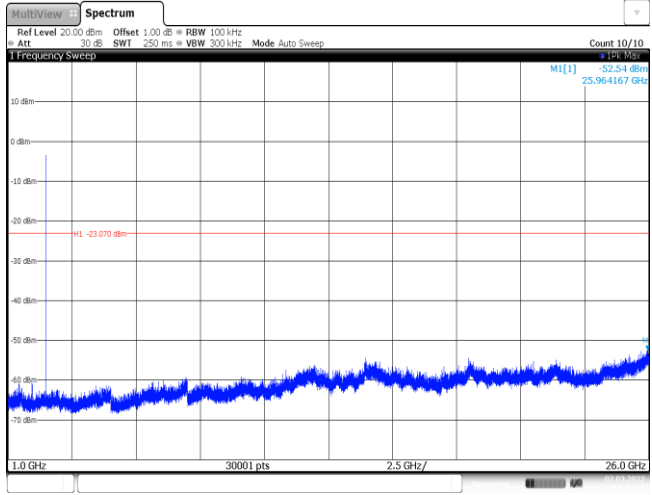


CH19
30MHz~1000MHz



CH19
1GHz~26GHz



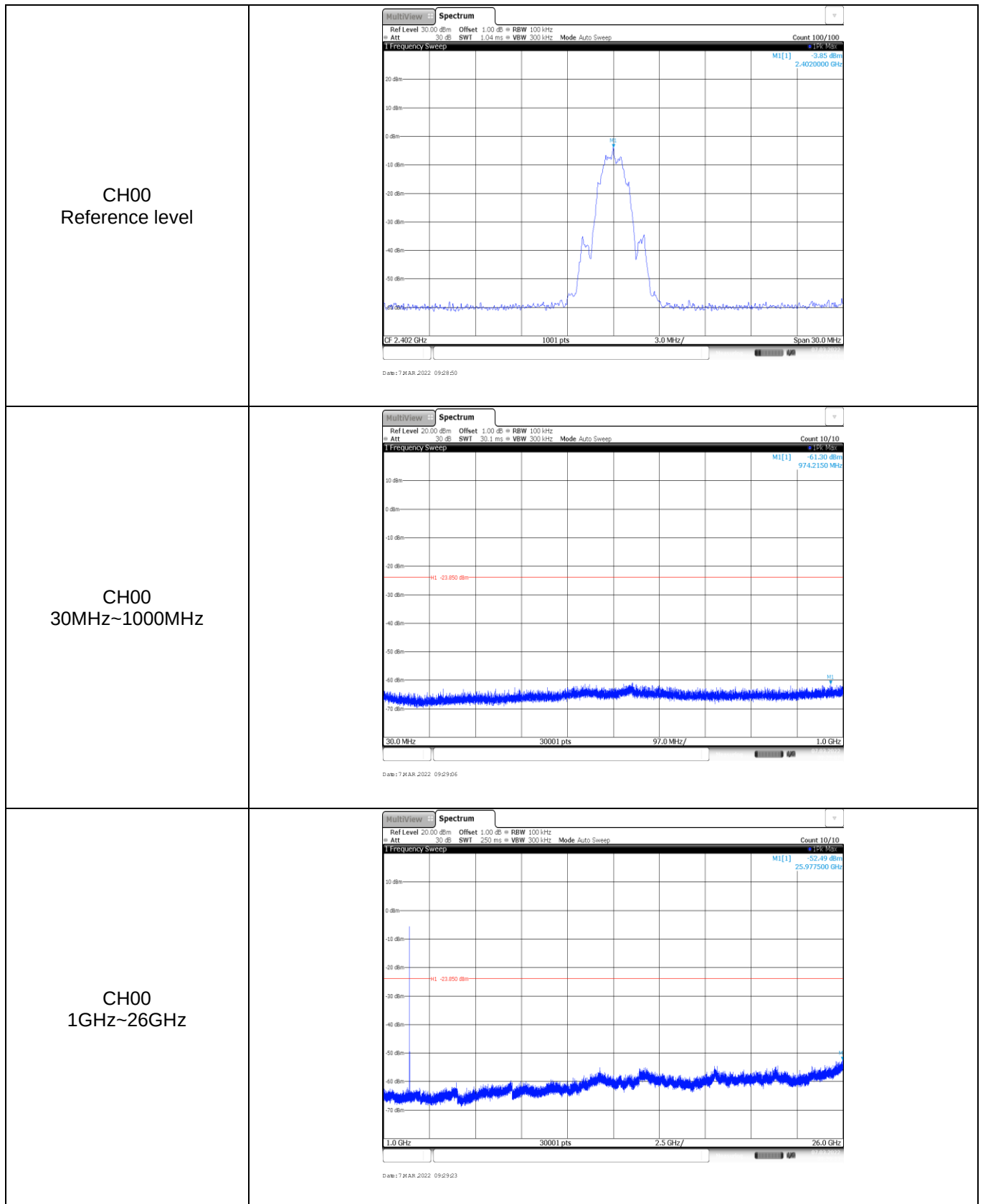
CH39 Reference level	 The spectrum plot shows a single sharp peak at 2.48 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in MHz, ranging from 2.47 to 2.49. The peak is labeled with a value of -3.07 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Span 30.0 MHz, and Date: 7 MAR 2022 09:25:57.
CH39 30MHz~1000MHz	 The spectrum plot shows a wideband signal from 30 MHz to 1000 MHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, ranging from 30 to 1000. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Span 97.0 MHz, and Date: 7 MAR 2022 09:26:13.
CH39 1GHz~26GHz	 The spectrum plot shows a wideband signal from 1 GHz to 26 GHz. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in GHz, ranging from 1.0 to 26.0. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Span 25.0 GHz, and Date: 7 MAR 2022 09:26:29.

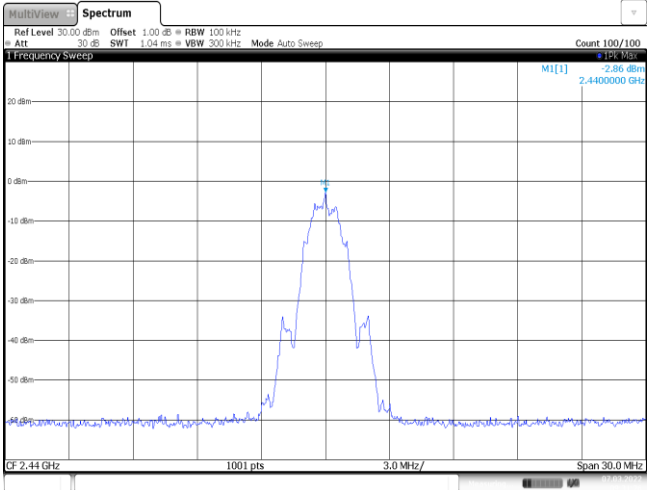
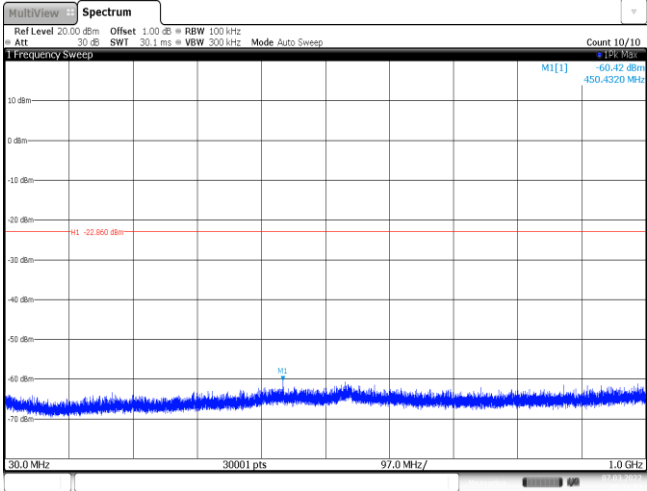
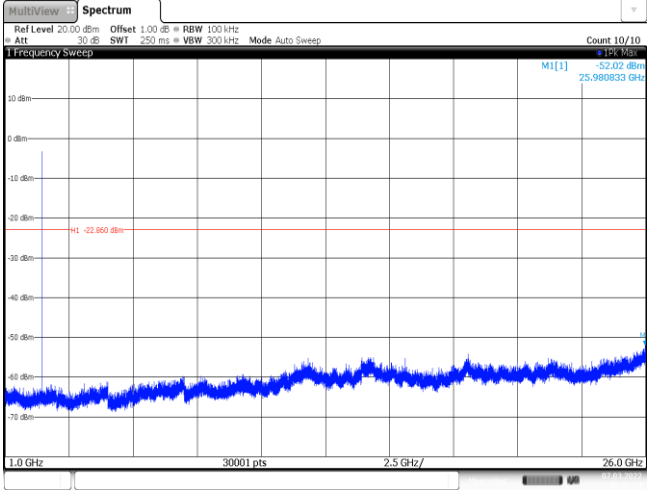
Test Item:

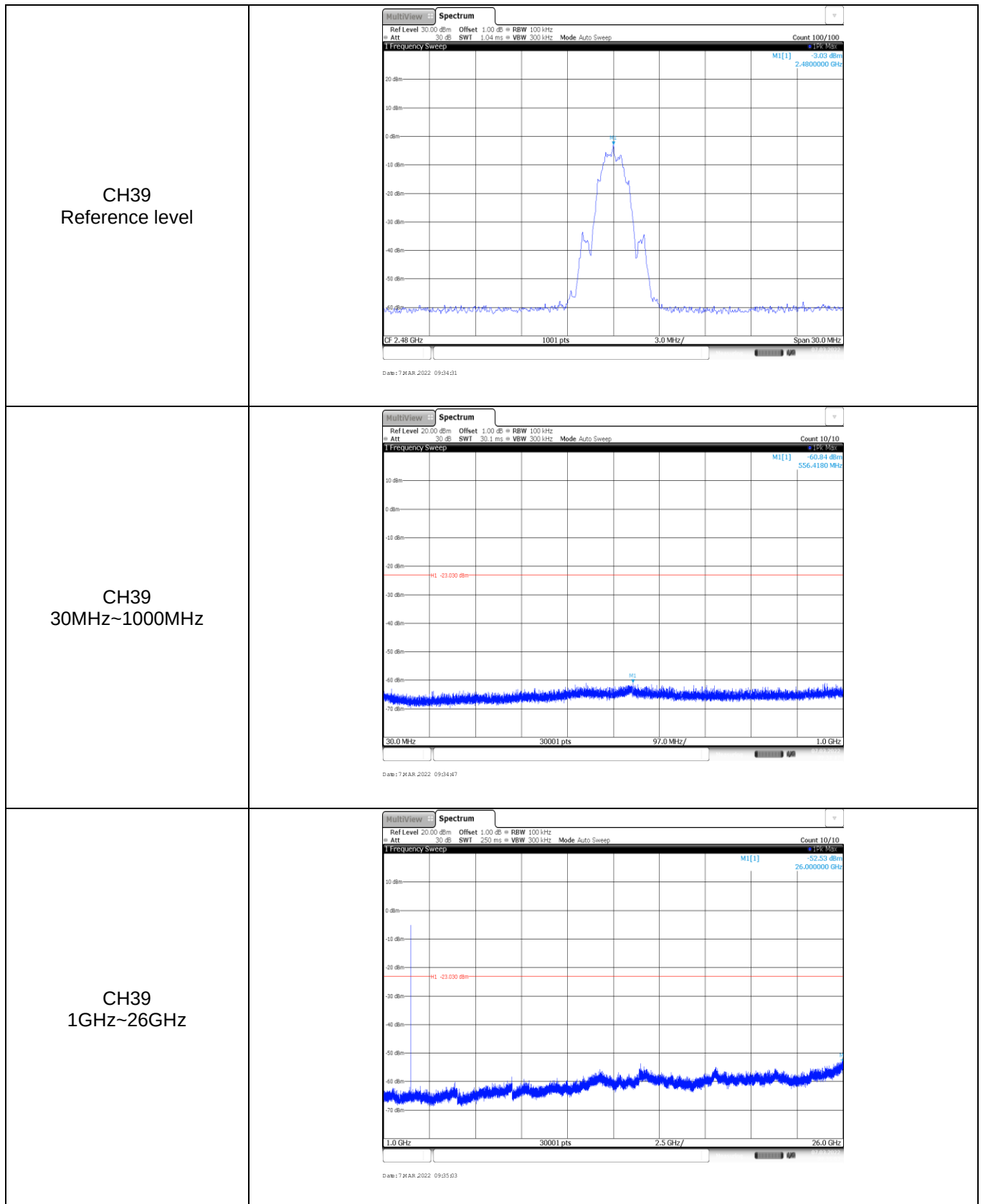
SE

Test Rate:

2Mbps



CH19 Reference level	 The spectrum plot shows a single sharp peak at 2.44 GHz. The y-axis represents power in dBm, ranging from -80 to 20. The x-axis represents frequency in MHz, with a span of 30.0 MHz. The peak is labeled with a value of -2.86 dBm. The plot includes a grid and various measurement parameters at the top.
CH19 30MHz~1000MHz	 The spectrum plot shows a noisy baseline across the 30 MHz to 1000 MHz range. The y-axis ranges from -70 to 10 dBm. The x-axis ranges from 30.0 MHz to 1.0 GHz. A red horizontal line is drawn at -22.860 dBm. The plot includes a grid and various measurement parameters at the top.
CH19 1GHz~26GHz	 The spectrum plot shows a noisy baseline across the 1 GHz to 26 GHz range. The y-axis ranges from -70 to 10 dBm. The x-axis ranges from 1.0 GHz to 26.0 GHz. A red horizontal line is drawn at -22.860 dBm. The plot includes a grid and various measurement parameters at the top.



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