

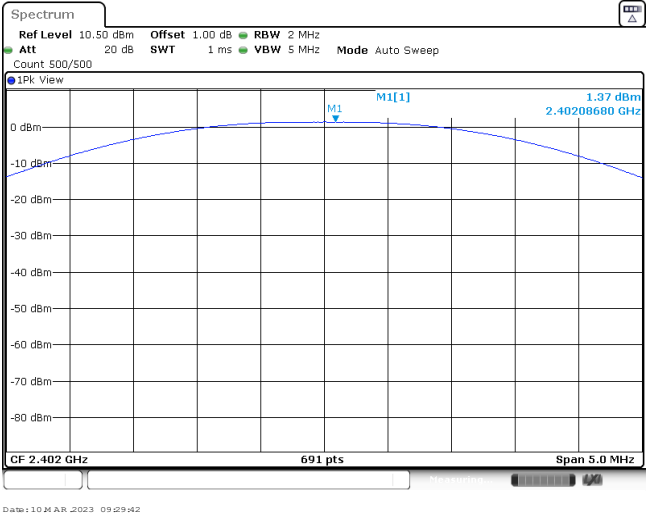
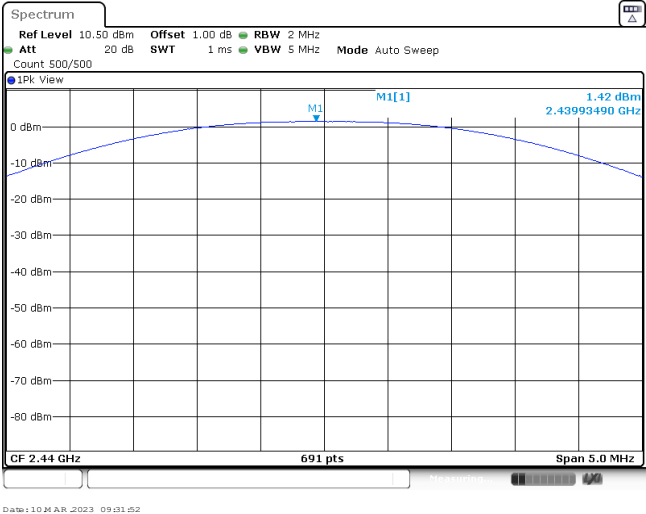
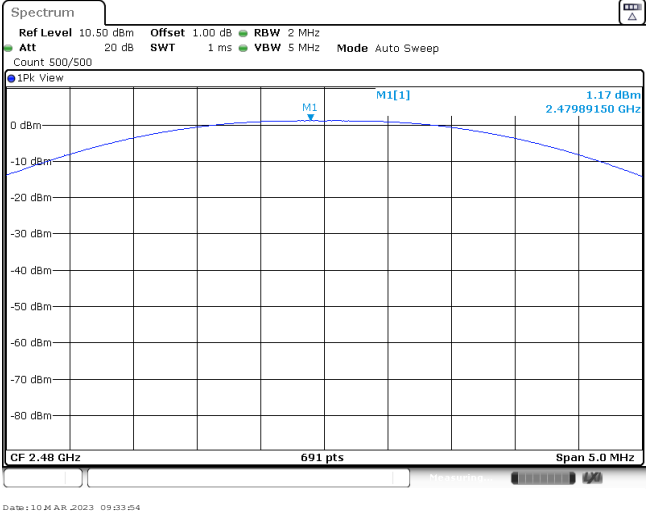
APPENDIX REPORT

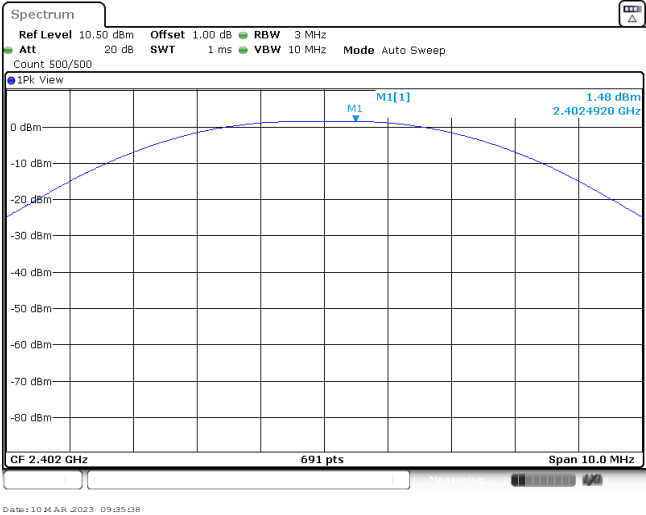
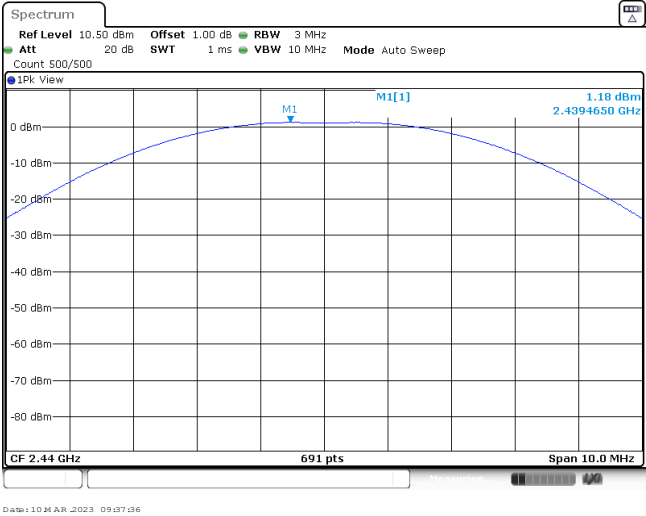
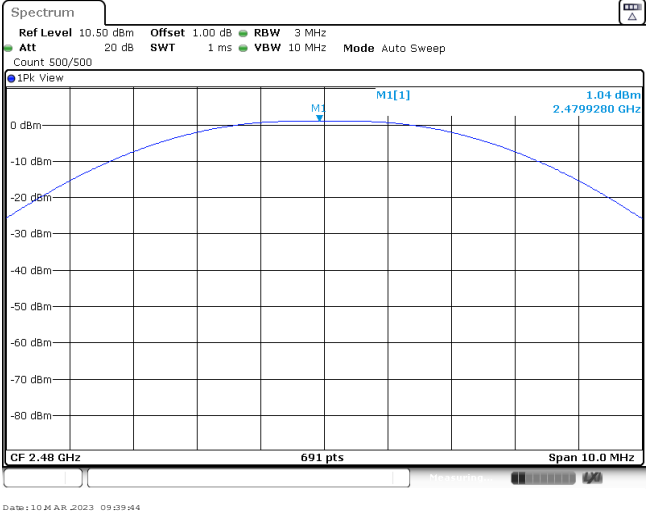
Project No.	SHT2211052301EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT22110523004	Model No.	TOD1
Start test date	2023-03-10	Finish date	2023-03-10
Temperature	24.3℃	Humidity	55%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zheo

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	1.37	1.34	≤ 30.00	Pass
	19	1.42	1.40		
	39	1.17	1.14		
2Mbps	00	1.48	1.42	≤ 30.00	Pass
	19	1.18	1.09		
	39	1.04	0.95		

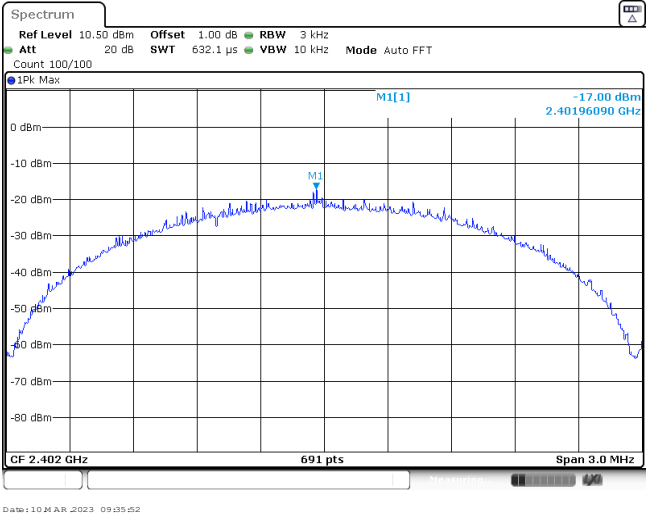
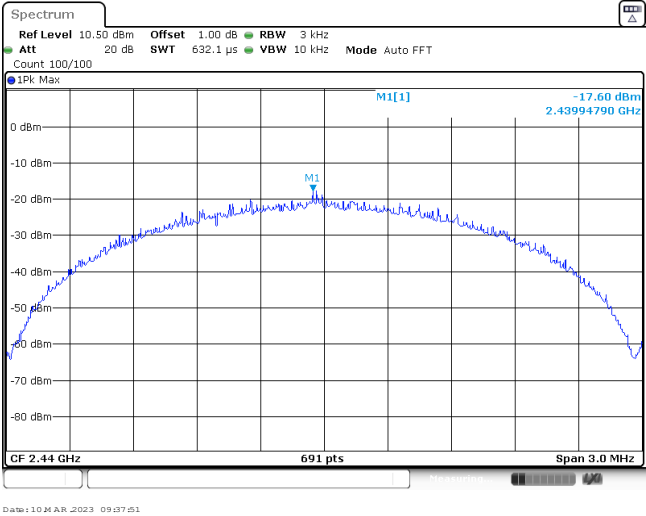
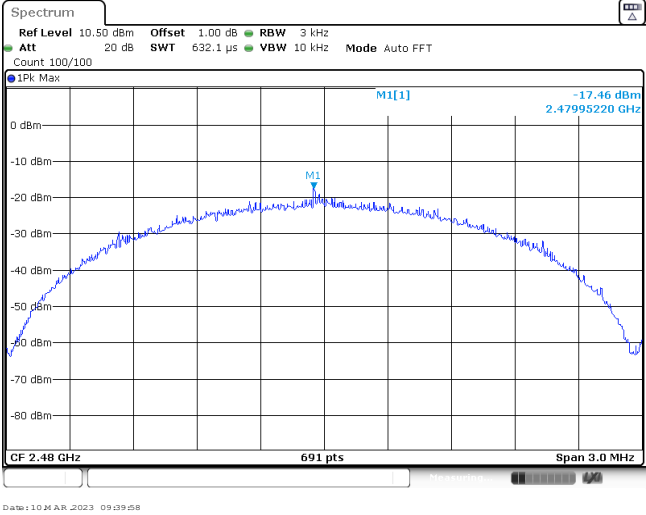
Test rate:		1Mbps
CH00	 Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1 ms VBW 5 MHz Mode Auto Sweep Count 500/500 IPk View 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 2.402 GHz 691 pts Span 5.0 MHz 1.37 dBm 2.40208680 GHz M1 M1[1] Date: 10 MAR 2023 09:29:42	
CH19	 Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1 ms VBW 5 MHz Mode Auto Sweep Count 500/500 IPk View 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 2.44 GHz 691 pts Span 5.0 MHz 1.42 dBm 2.43993490 GHz M1 M1[1] Date: 10 MAR 2023 09:31:52	
CH39	 Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 2 MHz Att 20 dB SWT 1 ms VBW 5 MHz Mode Auto Sweep Count 500/500 IPk View 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 2.48 GHz 691 pts Span 5.0 MHz 1.17 dBm 2.47989150 GHz M1 M1[1] Date: 10 MAR 2023 09:33:54	

Test rate:		2Mbps
CH00		
CH19		
CH39		

Appendix B: Power Spectral Density

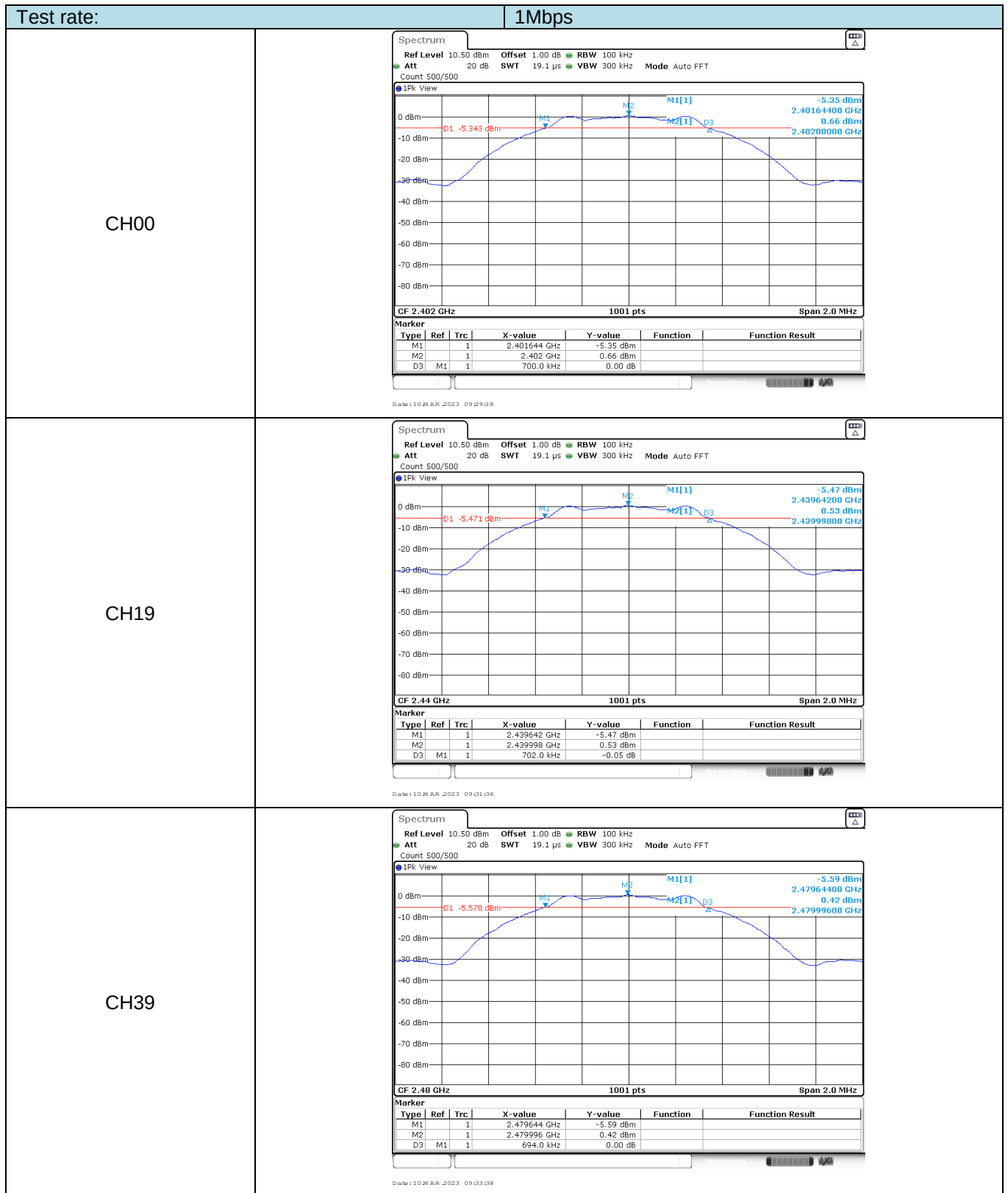
Test rate	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
1Mbps	00	-15.29	≤8.00	Pass
	19	-14.90		
	39	-15.20		
2Mbps	00	-17.00	≤8.00	Pass
	19	-17.58		
	39	-17.46		

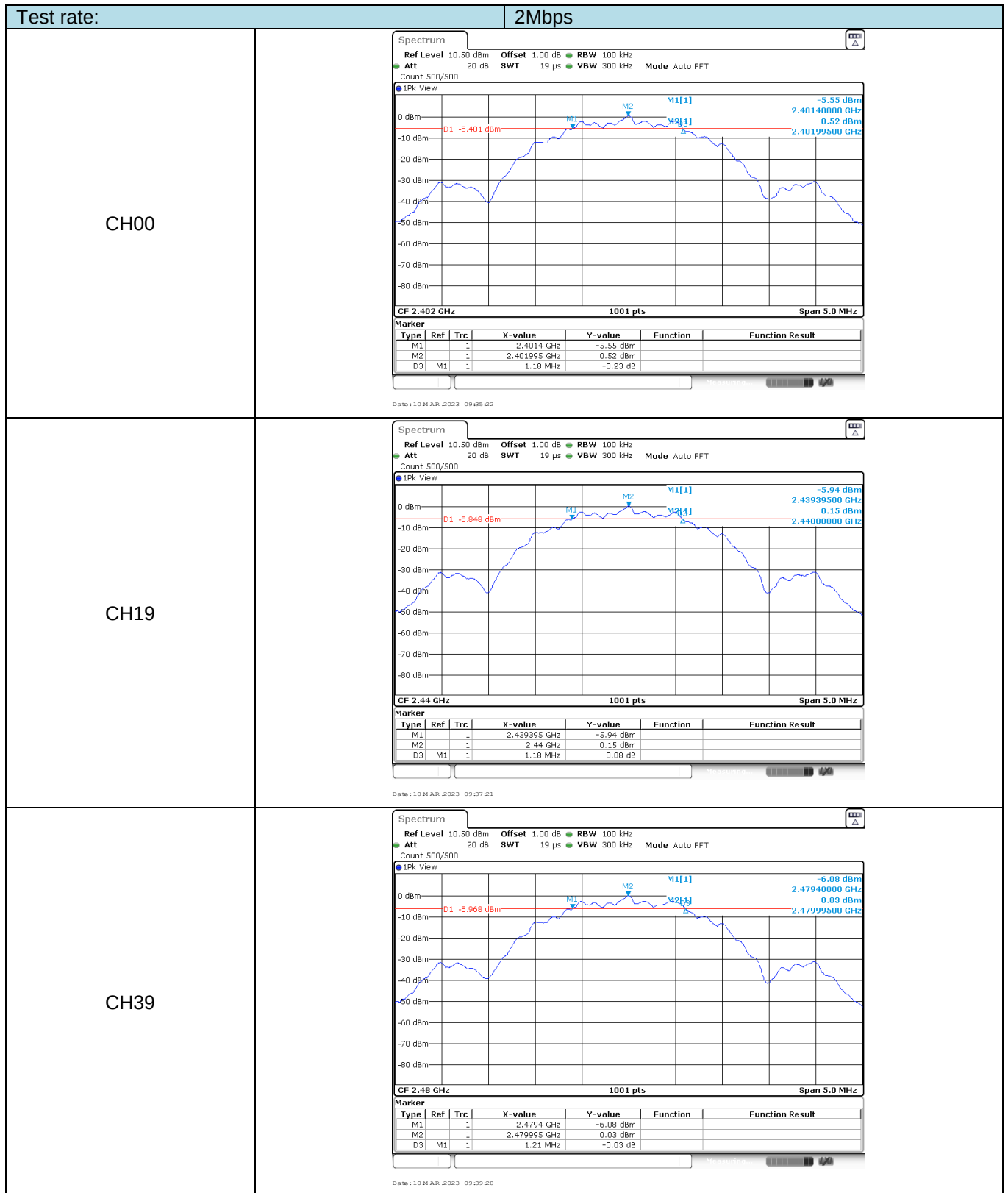
Test rate:		1Mbps
CH00	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 632.3 μs VBW 10 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -15.29 dBm 2.40198990 GHz CF 2.402 GHz 691 pts Span 1.0 MHz Date: 10 MAR 2023 09:29:56	
CH19	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 632.3 μs VBW 10 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -14.90 dBm 2.43998990 GHz CF 2.44 GHz 691 pts Span 1.0 MHz Date: 10 MAR 2023 09:32:06	
CH39	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 3 kHz Att 20 dB SWT 632.3 μs VBW 10 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -15.20 dBm 2.47998840 GHz CF 2.48 GHz 691 pts Span 1.0 MHz Date: 10 MAR 2023 09:34:08	

Test rate: 2Mbps	
CH00	
CH19	
CH39	

Appendix C: 6dB bandwidth

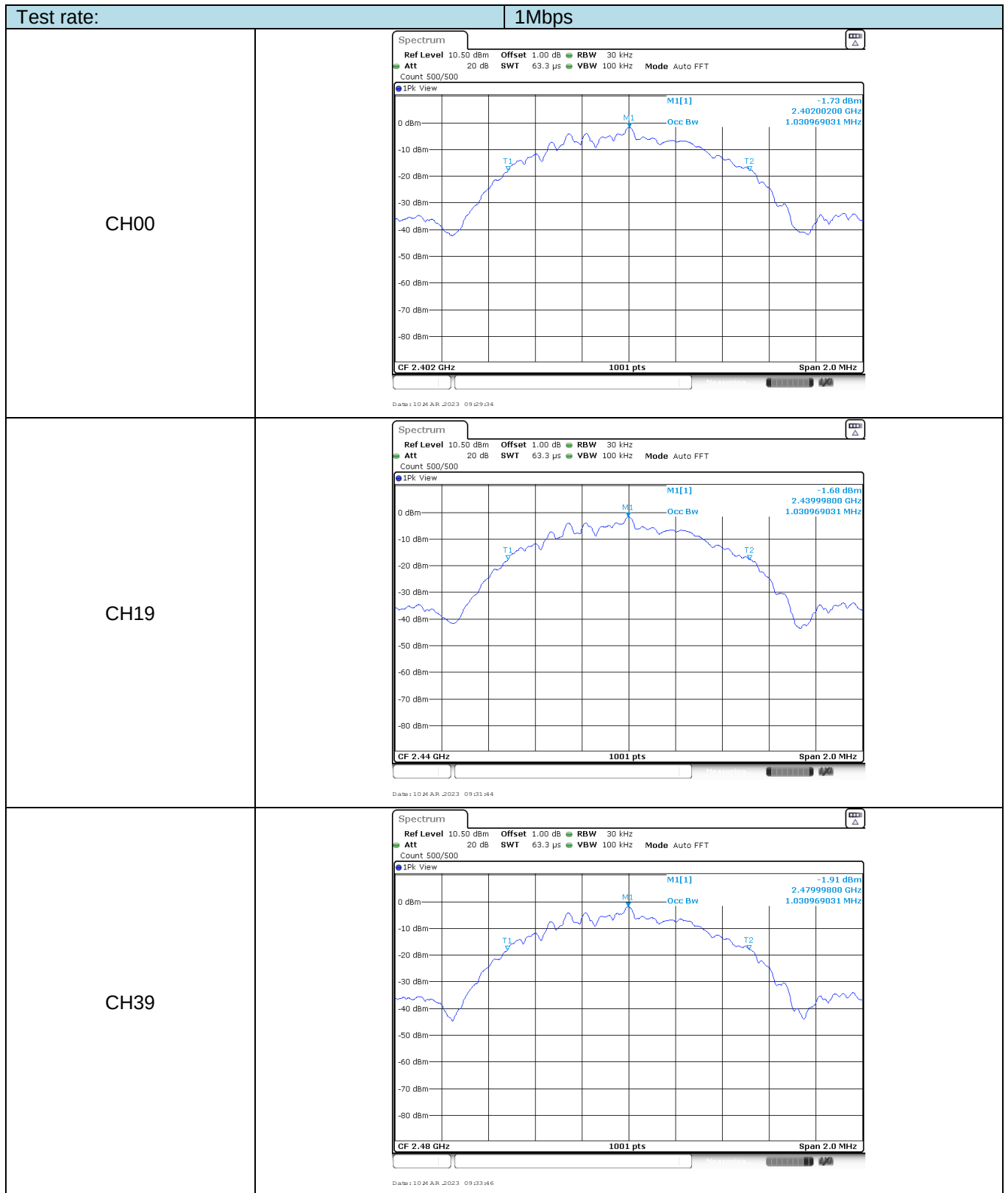
Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
1Mbps	00	700.00	≥500	Pass
	19	702.00		
	39	694.00		
2Mbps	00	1180.00	≥500	Pass
	19	1180.00		
	39	1210.00		

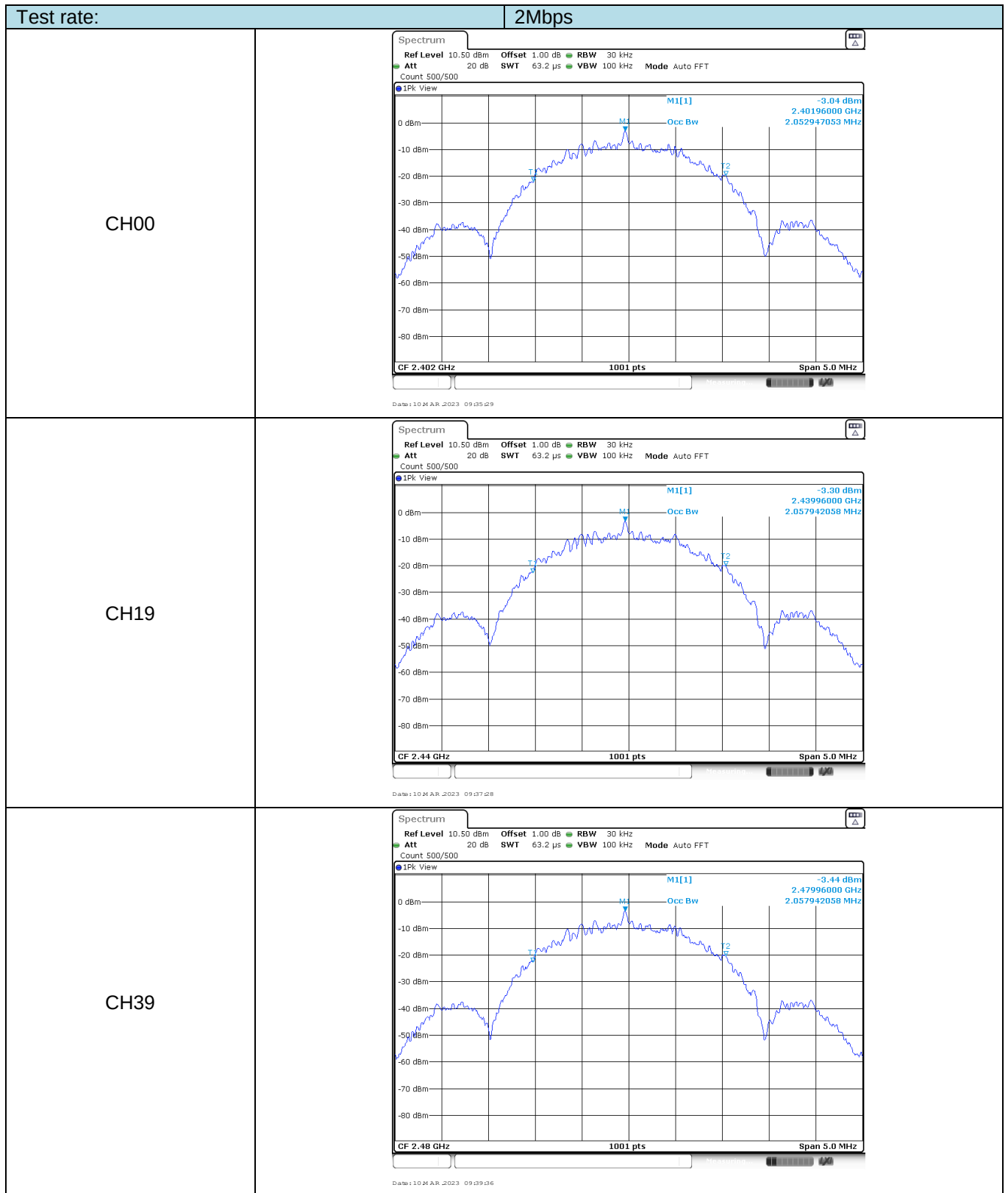




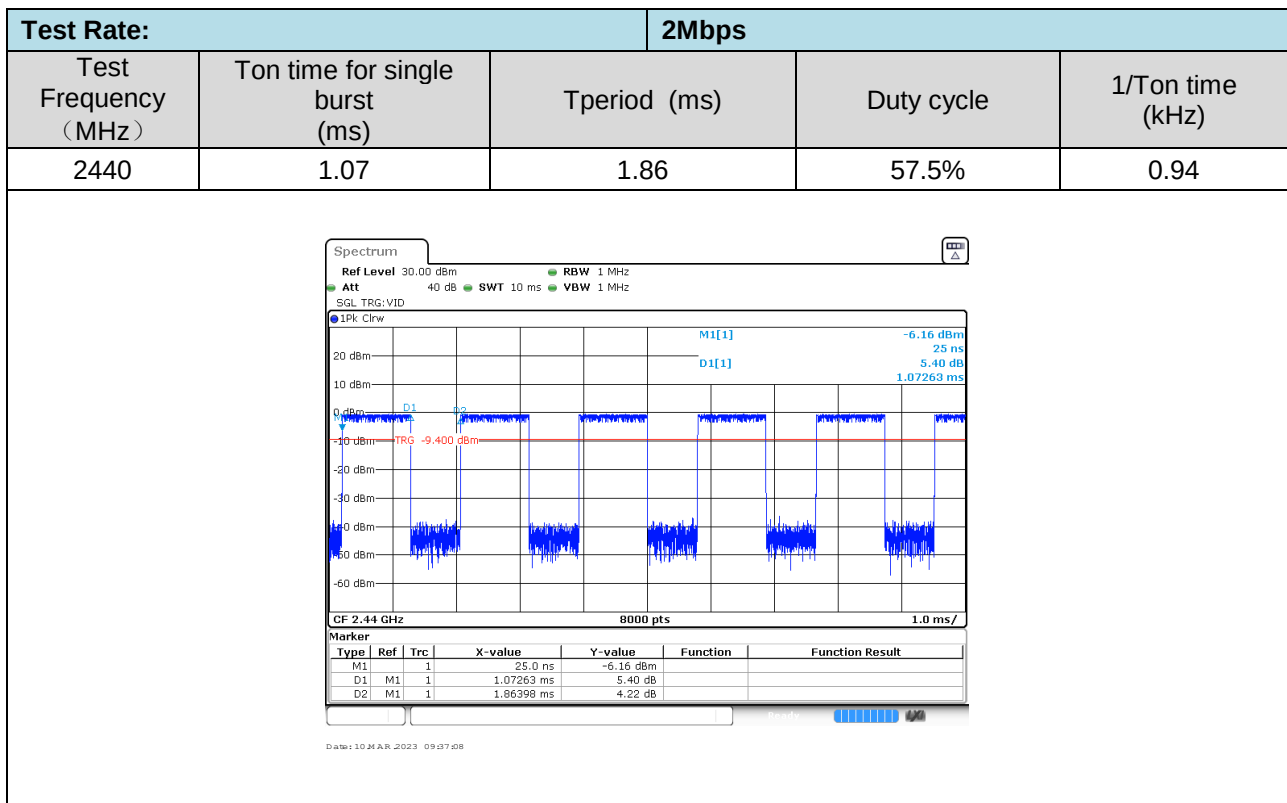
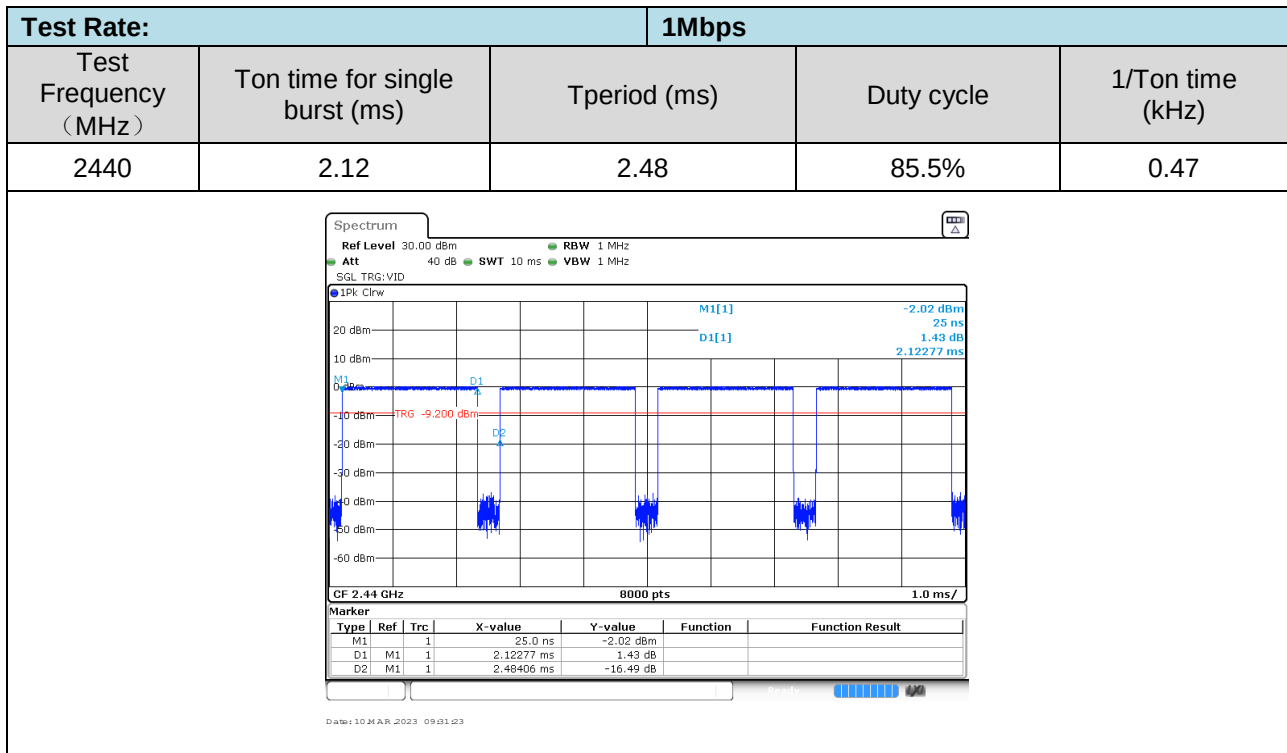
Appendix D: 99% Occupied Bandwidth

Test rate	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
1Mbps	00	1.03	-	Pass
	19	1.03		
	39	1.03		
2Mbps	00	2.05	-	Pass
	19	2.06		
	39	2.06		





Appendix E: Duty cycle

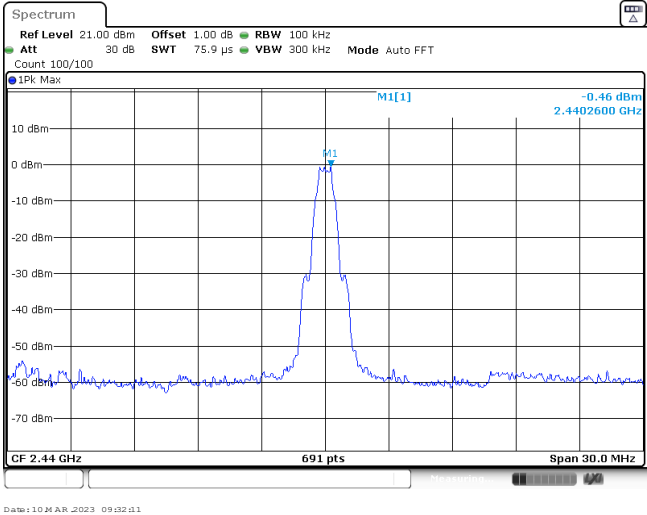
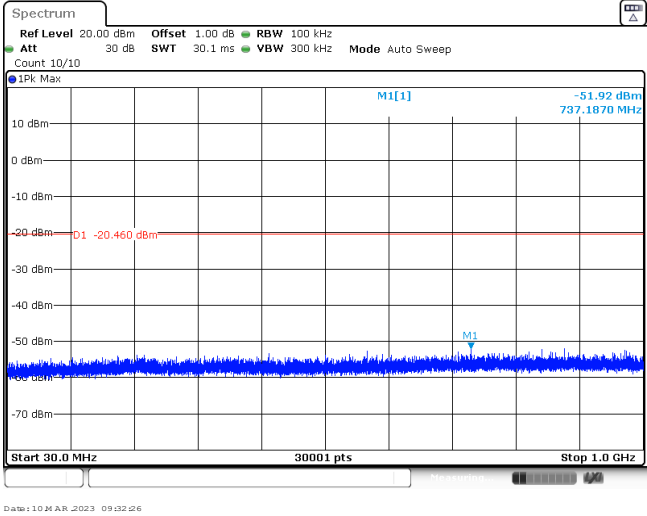
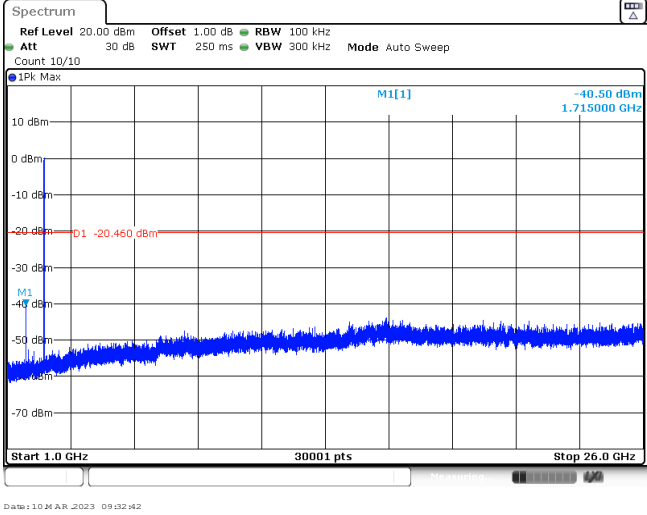


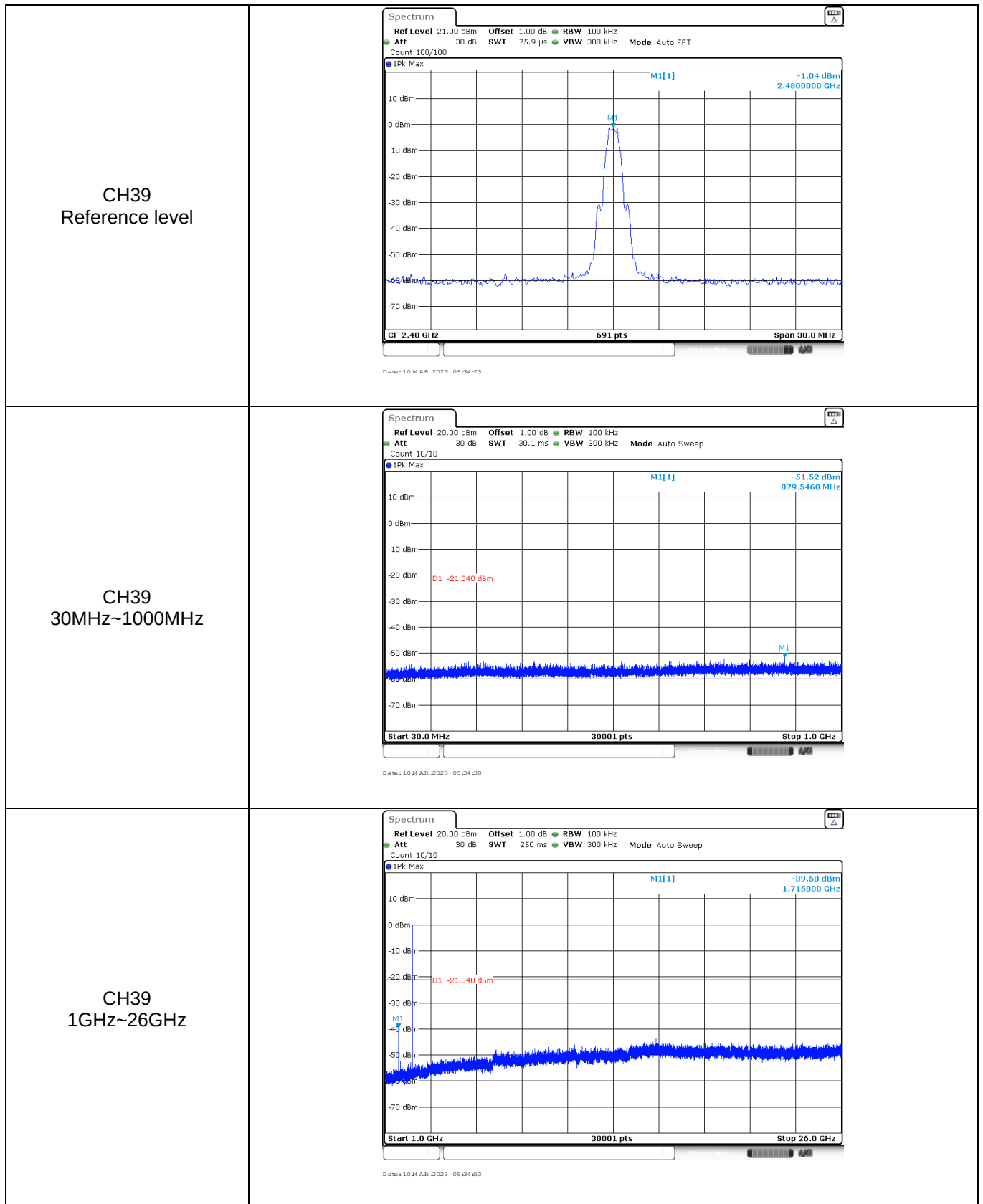
Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Test Rate:	1Mbps																																										
CH00	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1Pk Max 0 dBm M1[1] 0.46 dBm -10 dBm M2[1] 2.402040 GHz -20 dBm D1 -19.540 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm Start 2.31 GHz 691 pts Stop 2.405 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>2.40204 GHz</td><td>0.46 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-57.29 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-64.06 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-64.71 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39963 GHz</td><td>-55.53 dBm</td><td></td><td></td></tr></table> Date: 10/24/2023 09:30:05			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40204 GHz	0.46 dBm			M2	1		2.4 GHz	-57.29 dBm			M3	1		2.39 GHz	-64.06 dBm			M4	1		2.31 GHz	-64.71 dBm			M5	1		2.39963 GHz	-55.53 dBm		
	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																						
M1	1		2.40204 GHz	0.46 dBm																																									
M2	1		2.4 GHz	-57.29 dBm																																									
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M5	1		2.39963 GHz	-55.53 dBm																																									
CH39	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 56.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max 0 dBm M1 0.26 dBm -10 dBm M2[1] 2.4799900 GHz -20 dBm D1 -19.740 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm Start 2.478 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>2.47999 GHz</td><td>0.26 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-61.32 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-68.86 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4835797 GHz</td><td>-61.63 dBm</td><td></td><td></td></tr></table> Date: 10/24/2023 09:34:17			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.47999 GHz	0.26 dBm			M2	1		2.4835 GHz	-61.32 dBm			M3	1		2.5 GHz	-68.86 dBm			M4	1		2.4835797 GHz	-61.63 dBm									
	Type	Ref	Trc	X-value	Y-value	Function	Function Result																																						
M1	1		2.47999 GHz	0.26 dBm																																									
M2	1		2.4835 GHz	-61.32 dBm																																									
M3	1		2.5 GHz	-68.86 dBm																																									
M4	1		2.4835797 GHz	-61.63 dBm																																									

Test Item:	Band edge	Test Rate:	2Mbps																																										
CH00	Spectrum Ref Level 10.50 dBm Att 20 dB Offset 1.00 dB RBW 100 kHz SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm M1[1] M2[1] M3 M4 M5 0.09 dBm 2.402040 GHz -31.35 dBm 2.400000 GHz -19.910 dBm Start 2.31 GHz 691 pts Stop 2.405 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>2.40204 GHz</td><td>0.09 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-31.35 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-64.70 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-65.73 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.399906 GHz</td><td>-38.46 dBm</td><td></td><td></td></tr></table> Date: 10 MAR 2023 09:36:01			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40204 GHz	0.09 dBm			M2	1		2.4 GHz	-31.35 dBm			M3	1		2.39 GHz	-64.70 dBm			M4	1		2.31 GHz	-65.73 dBm			M5	1		2.399906 GHz	-38.46 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.40204 GHz	0.09 dBm																																									
M2	1		2.4 GHz	-31.35 dBm																																									
M3	1		2.39 GHz	-64.70 dBm																																									
M4	1		2.31 GHz	-65.73 dBm																																									
M5	1		2.399906 GHz	-38.46 dBm																																									
CH39	Spectrum Ref Level 10.50 dBm Att 20 dB Offset 1.00 dB RBW 100 kHz SWT 56.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm M1 M2 M3 M4 -0.12 dBm 2.4799900 GHz -60.14 dBm 2.4835000 GHz -20.120 dBm Start 2.478 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>2.47999 GHz</td><td>-0.12 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-60.14 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-68.62 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4835159 GHz</td><td>-60.12 dBm</td><td></td><td></td></tr></table> Date: 10 MAR 2023 09:40:07			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.47999 GHz	-0.12 dBm			M2	1		2.4835 GHz	-60.14 dBm			M3	1		2.5 GHz	-68.62 dBm			M4	1		2.4835159 GHz	-60.12 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																							
M1	1		2.47999 GHz	-0.12 dBm																																									
M2	1		2.4835 GHz	-60.14 dBm																																									
M3	1		2.5 GHz	-68.62 dBm																																									
M4	1		2.4835159 GHz	-60.12 dBm																																									

Test Item:	SE	Test Rate:	1Mbps
CH00 Reference level	Spectrum Ref Level 21.00 dBm Att 30 dB Count 100/100 Offset 1.00 dB SWT 75.9 μs RBW 100 kHz VBW 300 kHz Mode Auto FFT 1Pk Max 0.38 dBm 2.4022600 GHz M1[1] 41 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.402 GHz 691 pts Span 30.0 MHz Date: 10/24/AR/2023 09:30:13		
CH00 30MHz~1000MHz	Spectrum Ref Level 20.00 dBm Att 30 dB Count 10/10 Offset 1.00 dB SWT 30.1 ms RBW 100 kHz VBW 300 kHz Mode Auto Sweep 1Pk Max -51.71 dBm 879.5460 MHz M1[1] M1 -20 dBm -19.620 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 10/24/AR/2023 09:30:28		
CH00 1GHz~26GHz	Spectrum Ref Level 20.00 dBm Att 30 dB Count 10/10 Offset 1.00 dB SWT 250 ms RBW 100 kHz VBW 300 kHz Mode Auto Sweep 1Pk Max -39.76 dBm 1.715000 GHz M1[1] M1 -20 dBm -19.620 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 10/24/AR/2023 09:30:43		

CH19 Reference level	 Spectrum plot showing a peak at 2.4402600 GHz with a power level of -0.46 dBm. The plot includes parameters: Ref Level 21.00 dBm, Att 30 dB, Offset 1.00 dB, RBW 100 kHz, Count 100/100, Mode Auto FFT, Span 30.0 MHz, and 691 pts.
CH19 30MHz~1000MHz	 Spectrum plot showing a noise floor at -51.92 dBm. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, Offset 1.00 dB, RBW 100 kHz, Count 10/10, Mode Auto Sweep, Start 30.0 MHz, Stop 1.0 GHz, and 30001 pts.
CH19 1GHz~26GHz	 Spectrum plot showing a noise floor at -40.50 dBm. The plot includes parameters: Ref Level 20.00 dBm, Att 30 dB, Offset 1.00 dB, RBW 100 kHz, Count 10/10, Mode Auto Sweep, Start 1.0 GHz, Stop 26.0 GHz, and 30001 pts.

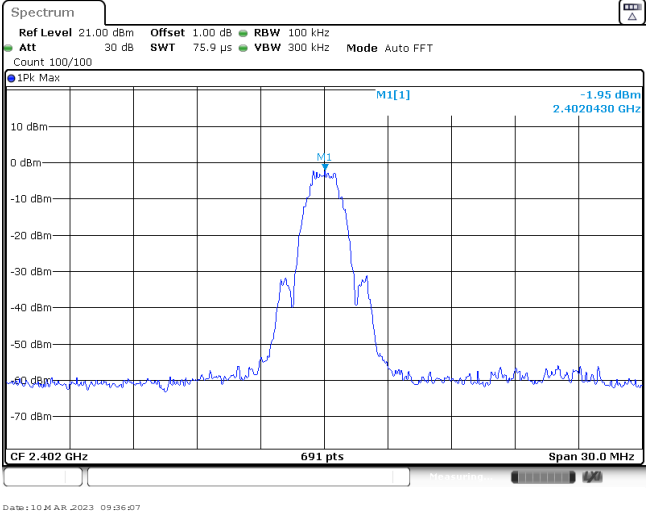
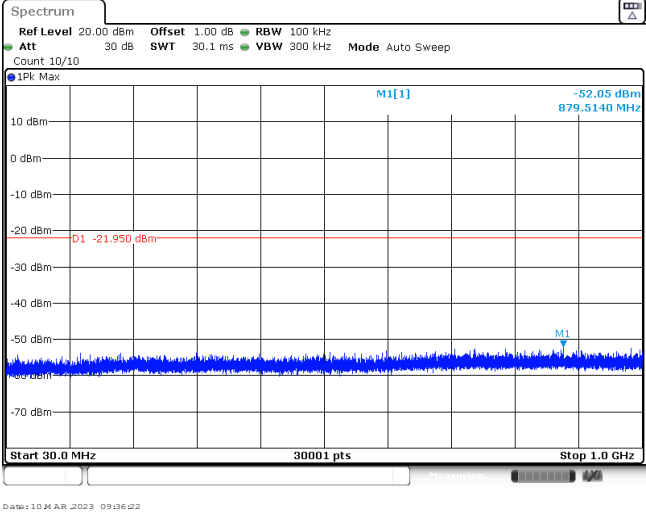
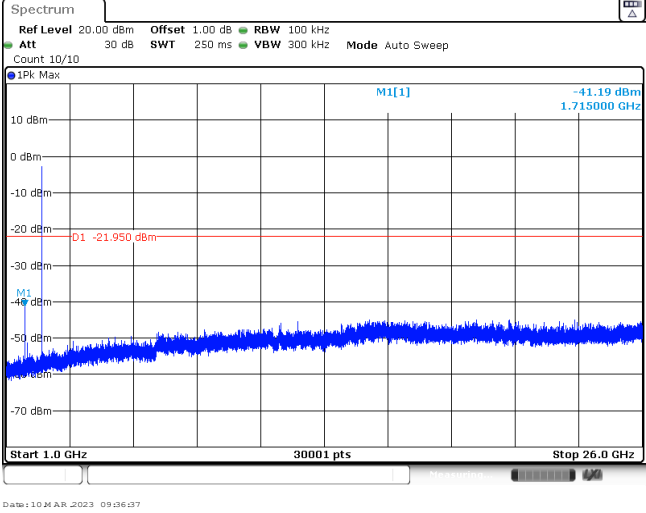


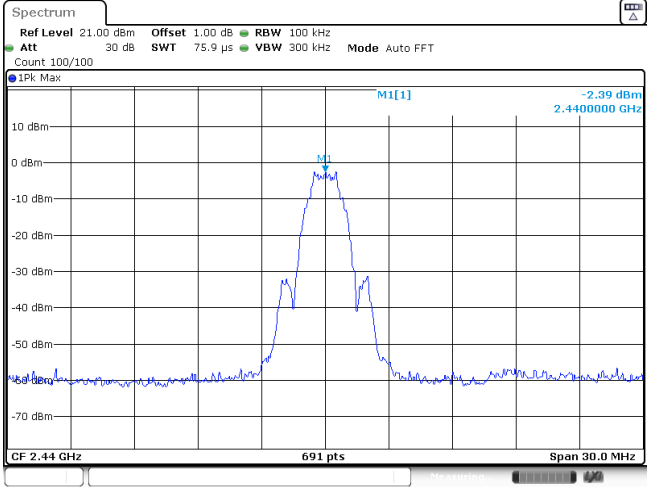
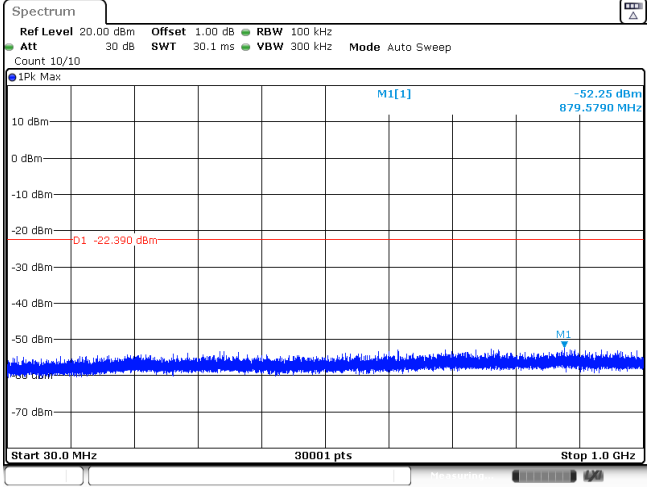
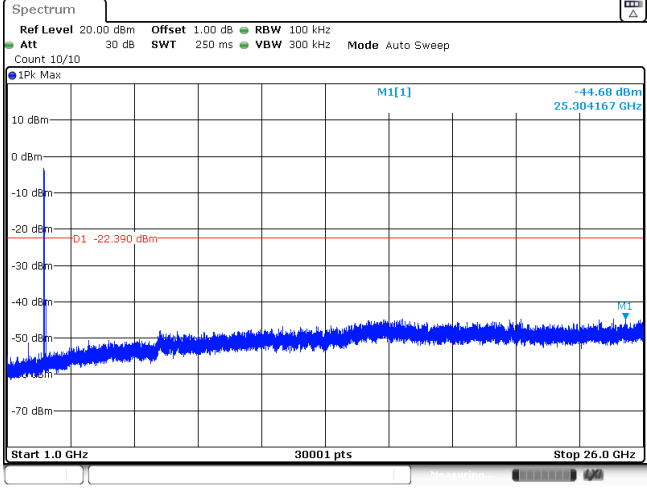
Test Item:

SE

Test Rate:

2Mbps

CH00 Reference level	
CH00 30MHz~1000MHz	
CH00 1GHz~26GHz	

CH19 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max M1[1] -2.39 dBm 2.440000 GHz CF 2.44 GHz 691 pts Span 30.0 MHz Date: 10 Mar 2023 09:57:57
CH19 30MHz~1000MHz	 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 1Pk Max M1[1] -52.25 dBm 879.5790 MHz D1 -22.390 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 10 Mar 2023 09:38:12
CH19 1GHz~26GHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 1Pk Max M1[1] -44.68 dBm 25.304167 GHz D1 -22.390 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 10 Mar 2023 09:38:27

CH39 Reference level	
CH39 30MHz~1000MHz	
CH39 1GHz~26GHz	

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