

APPENDIX REPORT

Project No.	SHT2309011202EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT23090112001	Model No.	TM2210-B1
Start test date	2023/10/23	Finish date	2023/10/24
Temperature	24.5℃	Humidity	46%
Test Engineer	<i>Casper Chen</i>	Auditor	<i>Xiaodong Zhu</i>

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

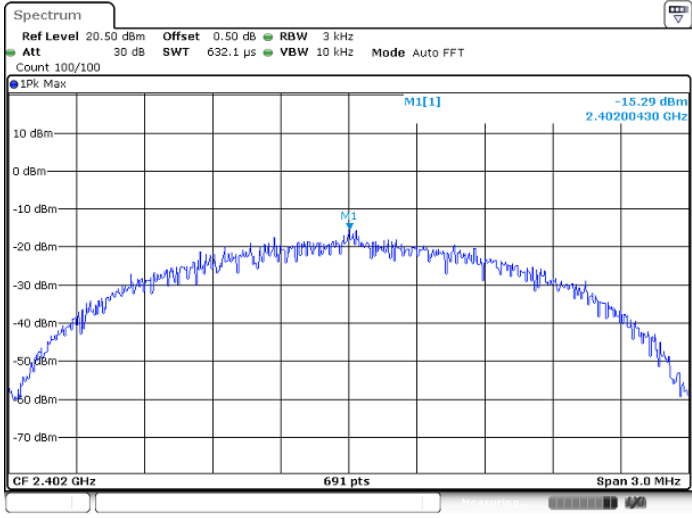
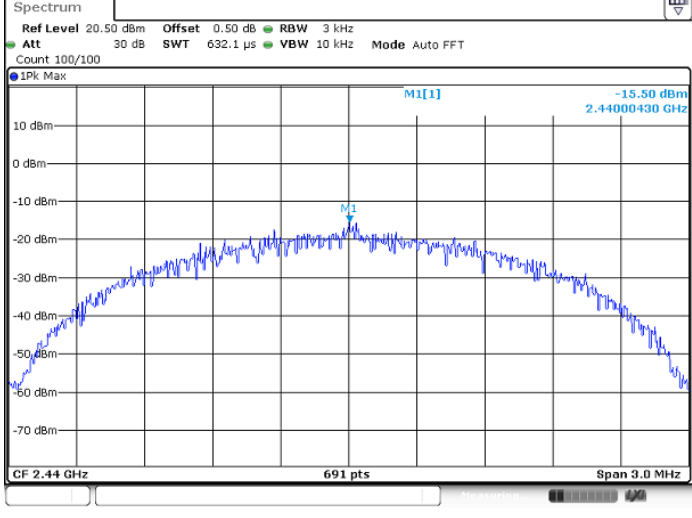
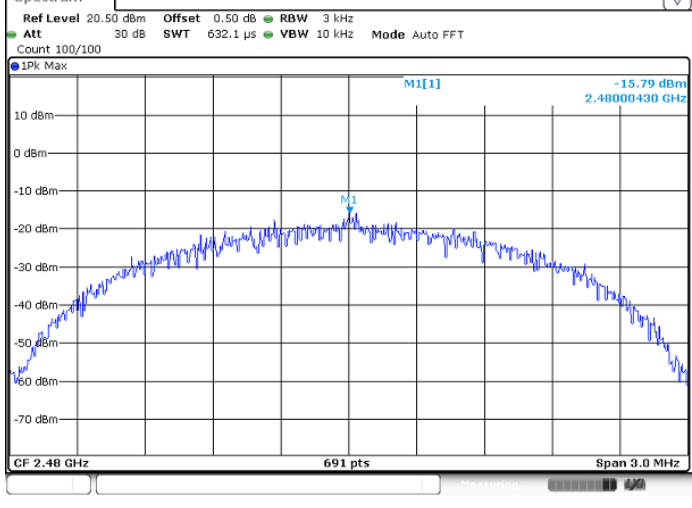
Appendix A: Peak Output Power

Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Antenna Gain (dBi)	Maximum e.r.i.p. (dBm)	EIRP Limit (dBm)	Result
1Mbps	00	5.86	5.85	≤ 30.00	2.00	7.86	≤ 36.00	Pass
	19	6.88	6.86		2.00	8.88		
	39	7.67	7.64		2.00	9.67		
2Mbps	00	6.40	6.38	≤ 30.00	2.00	8.40	≤ 36.00	Pass
	19	6.47	6.44		2.00	8.47		
	39	6.24	6.22		2.00	8.24		

Appendix B: Power Spectral Density

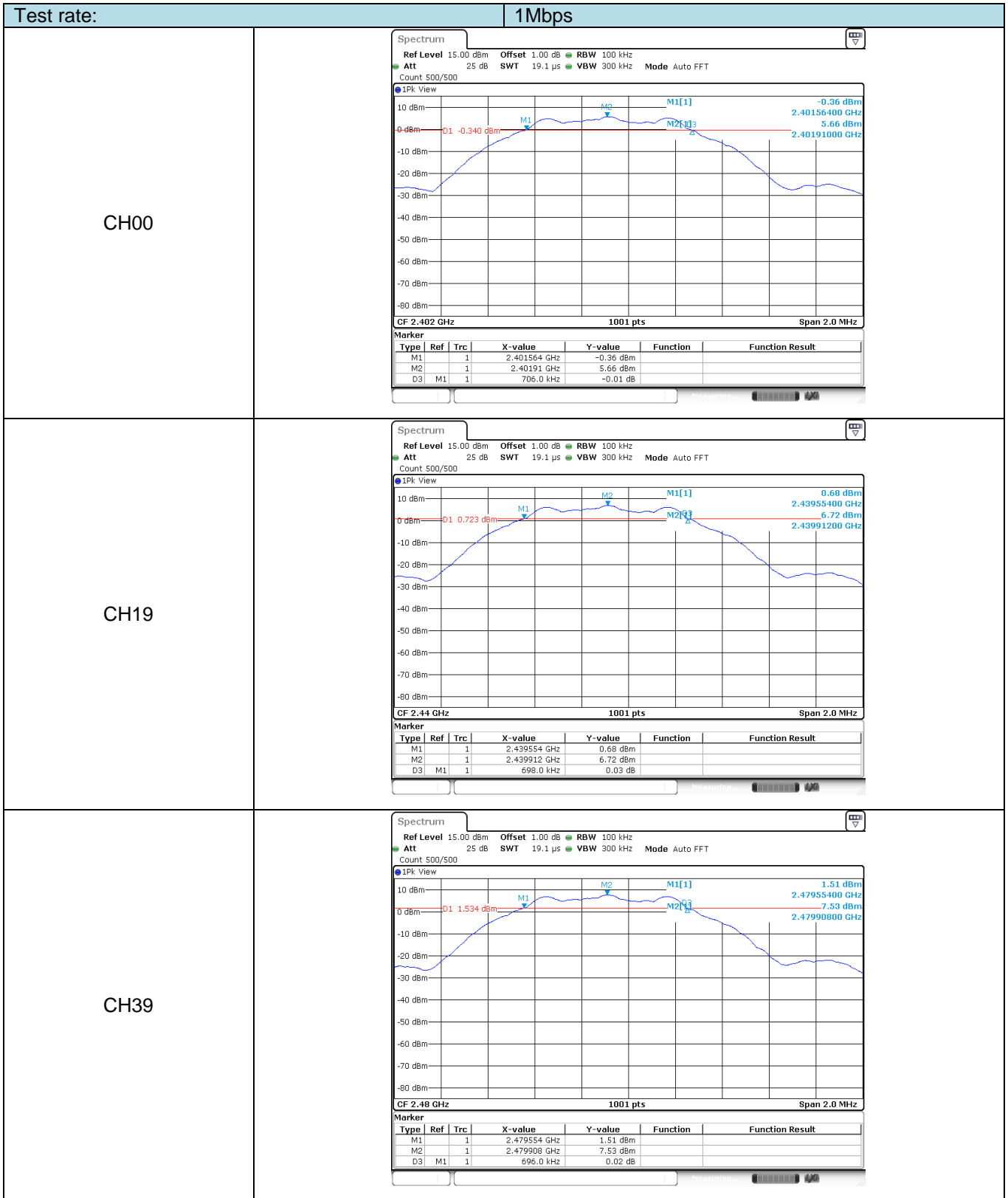
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
1Mbps	00	-10.00	≤8.00	Pass
	19	-8.91		
	39	-7.98		
2Mbps	00	-15.29	≤8.00	Pass
	19	-15.50		
	39	-15.79		

Test rate: 1Mbps	
CH00	
CH19	
CH39	

Test rate: 2Mbps	
CH00	
CH19	
CH39	

Appendix C: 6dB bandwidth

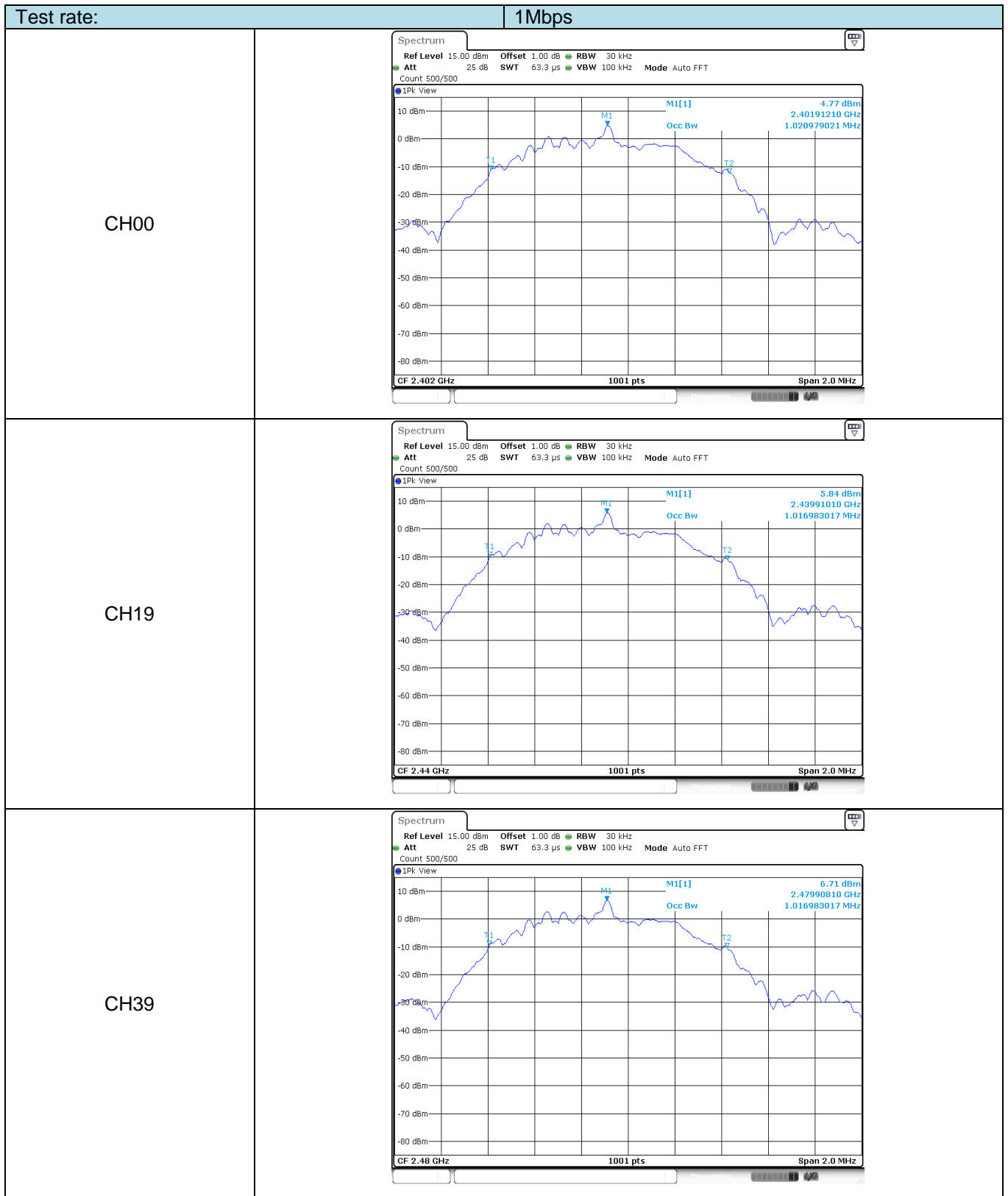
Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
1Mbps	00	710.00	≥500	Pass
	19	700.00		
	39	700.00		
2Mbps	00	1140.00	≥500	Pass
	19	1130.00		
	39	1140.00		

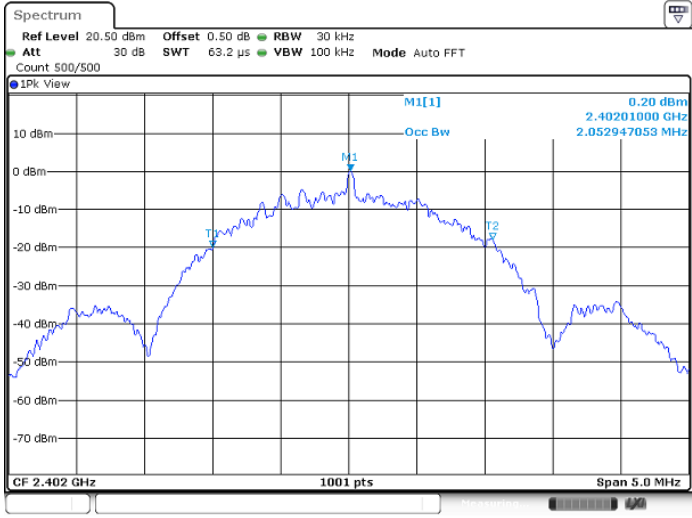
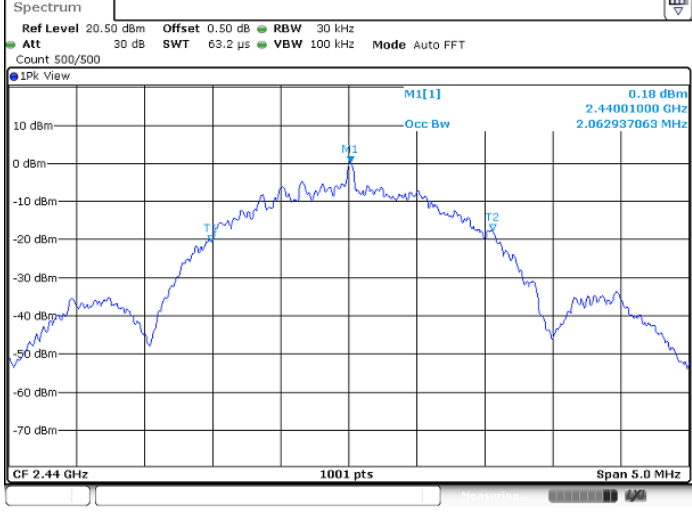
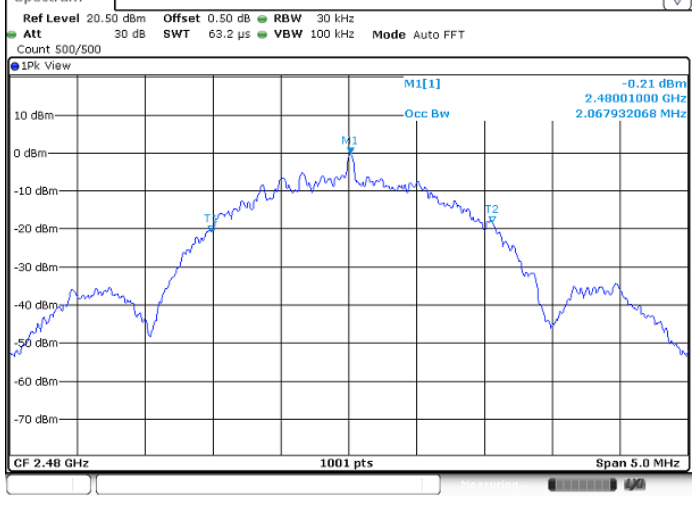


Test rate: 2Mbps																																	
CH00	<p>CF 2.402 GHz 1001 pts Span 5.0 MHz</p> <table border="1"> <thead> <tr> <th>Marker</th> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</th> <th>Y-value</th> <th>Function</th> <th>Function Result</th> </tr> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.401445 GHz</td> <td>-3.18 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.40201 GHz</td> <td>2.84 dBm</td> <td></td> <td></td> </tr> <tr> <td>D3</td> <td>M1</td> <td>1</td> <td></td> <td>1.14 MHz</td> <td>-0.29 dB</td> <td></td> <td></td> </tr> </tbody> </table>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.401445 GHz	-3.18 dBm			M2	1			2.40201 GHz	2.84 dBm			D3	M1	1		1.14 MHz	-0.29 dB		
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Appendix D: 99% Occupied Bandwidth

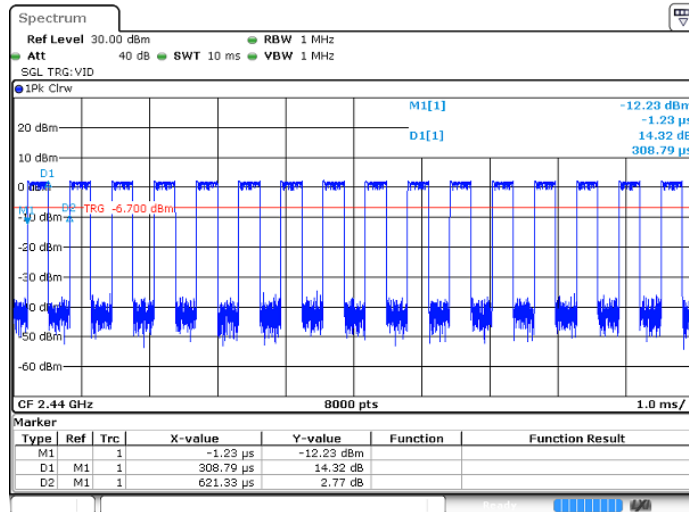
Test rate	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
1Mbps	00	1.02	-	Pass
	19	1.02		
	39	1.02		
2Mbps	00	2.05	-	Pass
	19	2.06		
	39	2.07		



Test rate: 2Mbps	
CH00	
CH19	
CH39	

Appendix E: Duty cycle

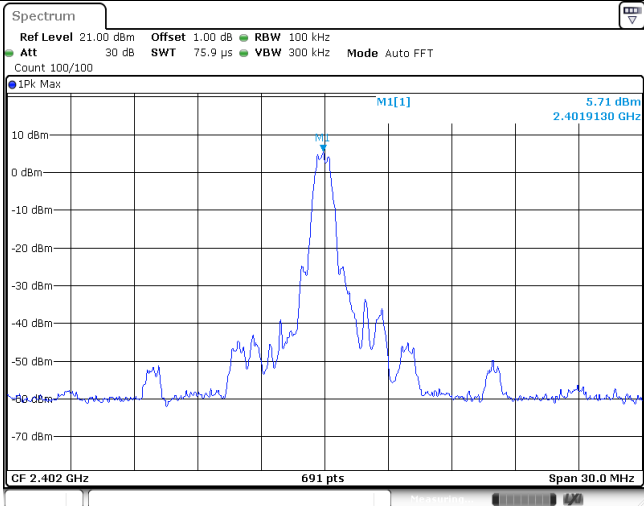
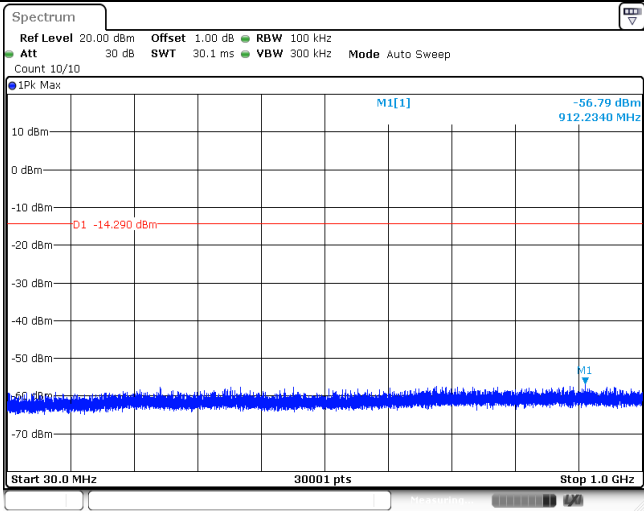
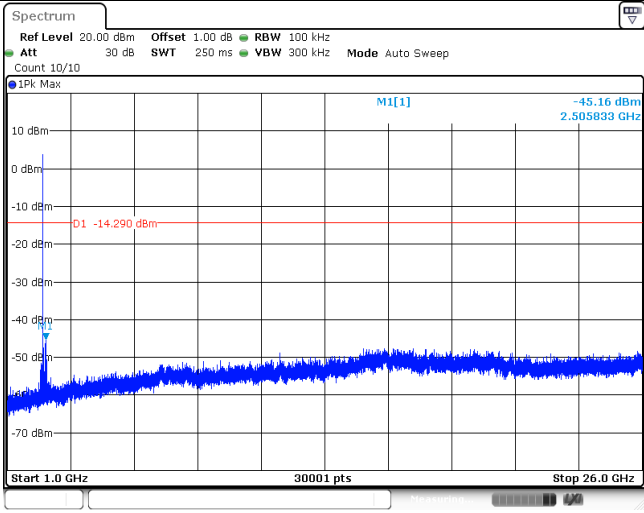
Test Frequency (MHz)	Ton time for single burst (ms)	Tperiod (ms)	Duty cycle	1/Ton time (kHz)
2440	0.31	0.62	50%	3.23



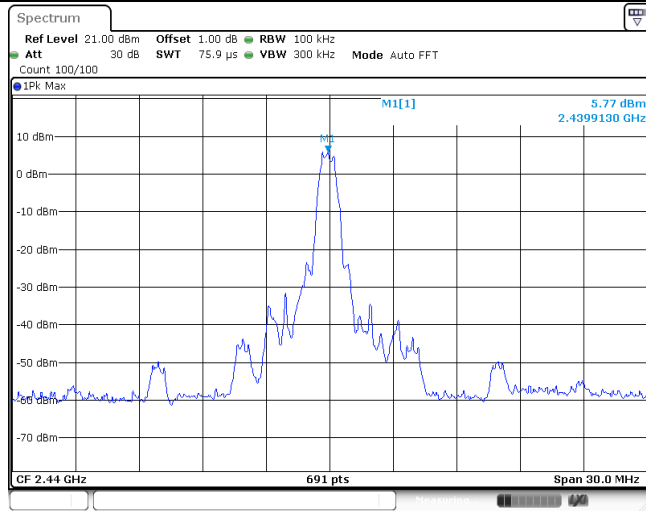
Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge	Test Rate:	1Mbps																																										
CH00	 <p>Marker Table for CH00:</p> <table border="1"> <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>2.40191 GHz</td> <td>5.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-39.00 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>-61.97 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.398667 GHz</td> <td>-43.12 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40191 GHz	5.41 dBm			M2	1		2.4 GHz	-39.00 dBm			M3	1		2.39 GHz	-58.62 dBm			M4	1		2.31 GHz	-61.97 dBm			M5	1		2.398667 GHz	-43.12 dBm		
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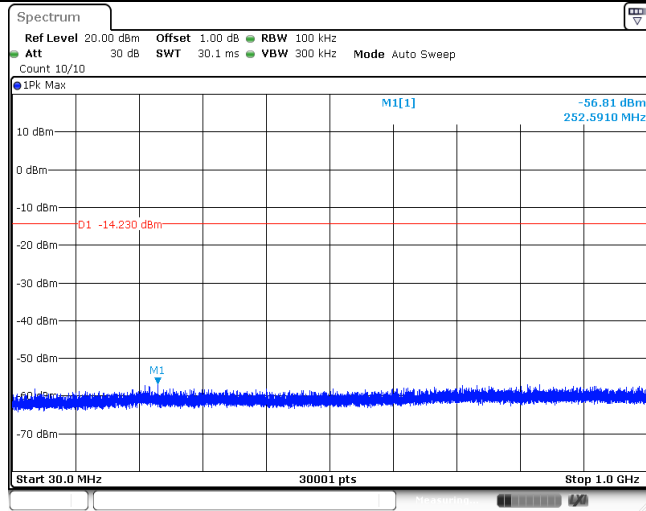
Test Item:	Band edge	Test Rate:	2Mbps																																										
CH00	 <p>Spectrum Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1Pk Max</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Ref</th> <th>Trc</th> <th>X-value</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>2.40204 GHz</td> <td>2.35 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-29.25 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-54.80 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-53.99 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399905 GHz</td> <td>-36.12 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40204 GHz	2.35 dBm			M2	1		2.4 GHz	-29.25 dBm			M3	1		2.39 GHz	-54.80 dBm			M4	1		2.31 GHz	-53.99 dBm			M5	1		2.399905 GHz	-36.12 dBm		
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CH39	 <p>Spectrum Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz Att 30 dB SWT 56.9 μs VBW 300 kHz Mode Auto FFT Count 100/100 1Pk Max</p> <table border="1"> <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>2.480022 GHz</td> <td>2.37 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-52.47 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-59.30 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4839623 GHz</td> <td>-51.49 dBm</td> <td></td> <td></td> </tr> </tbody> </table>			Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.480022 GHz	2.37 dBm			M2	1		2.4835 GHz	-52.47 dBm			M3	1		2.5 GHz	-59.30 dBm			M4	1		2.4839623 GHz	-51.49 dBm									
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Test Item:	SE	Test Rate:	1Mbps
<p>CH00 Reference level</p>			
<p>CH00 30MHz~1000MHz</p>			
<p>CH00 1GHz~26GHz</p>			

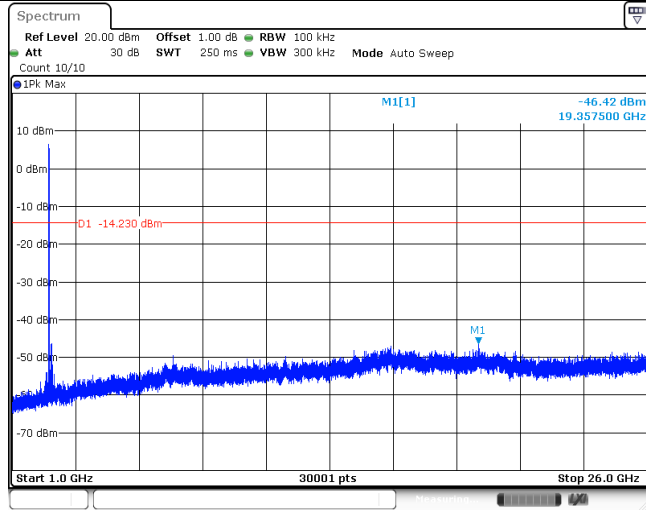
CH19
Reference level

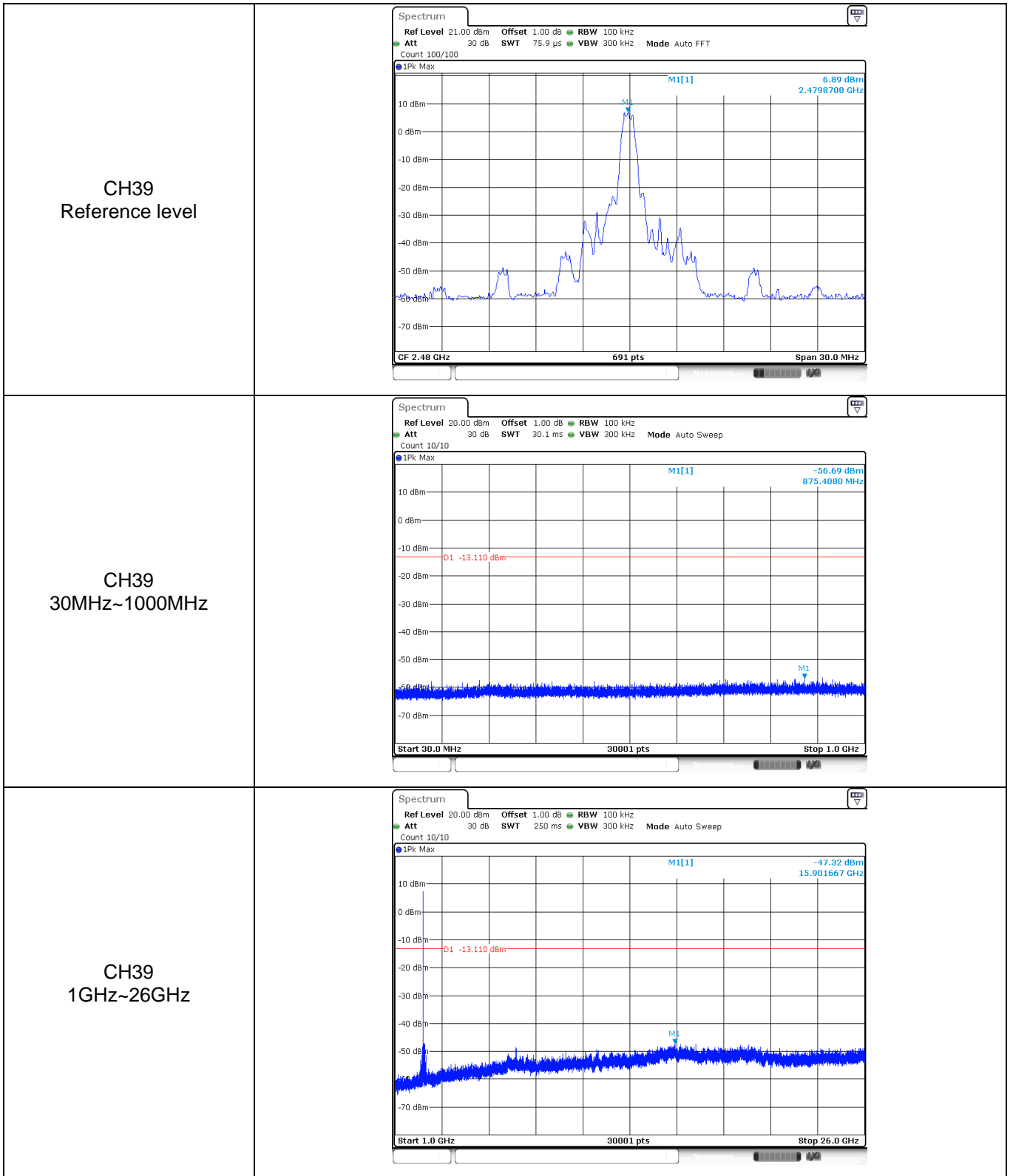


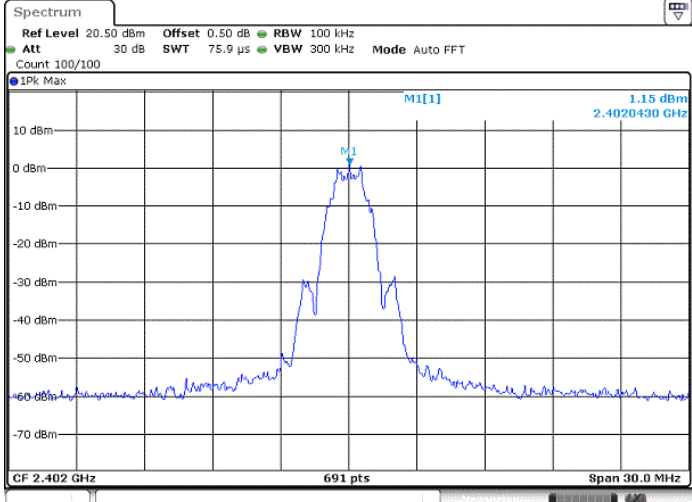
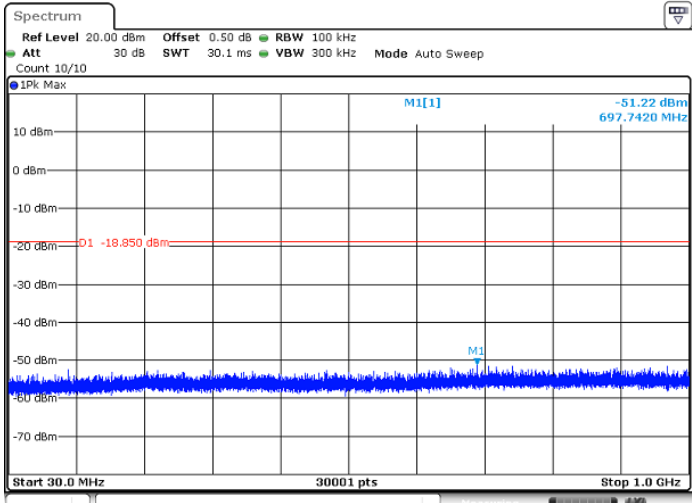
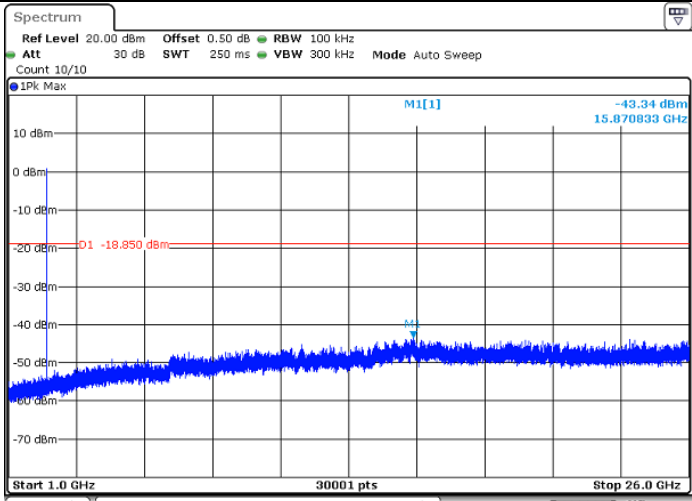
CH19
30MHz~1000MHz

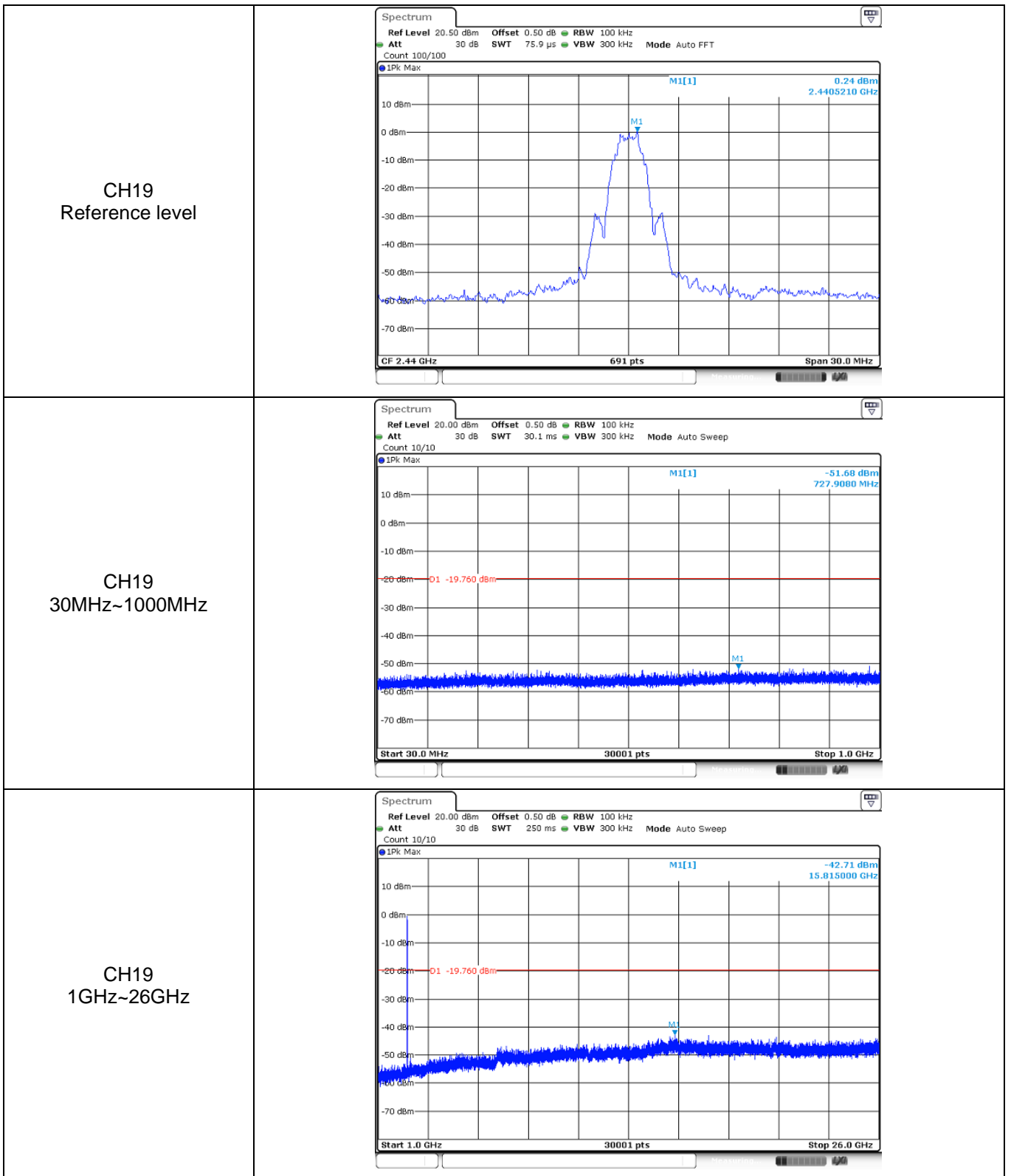


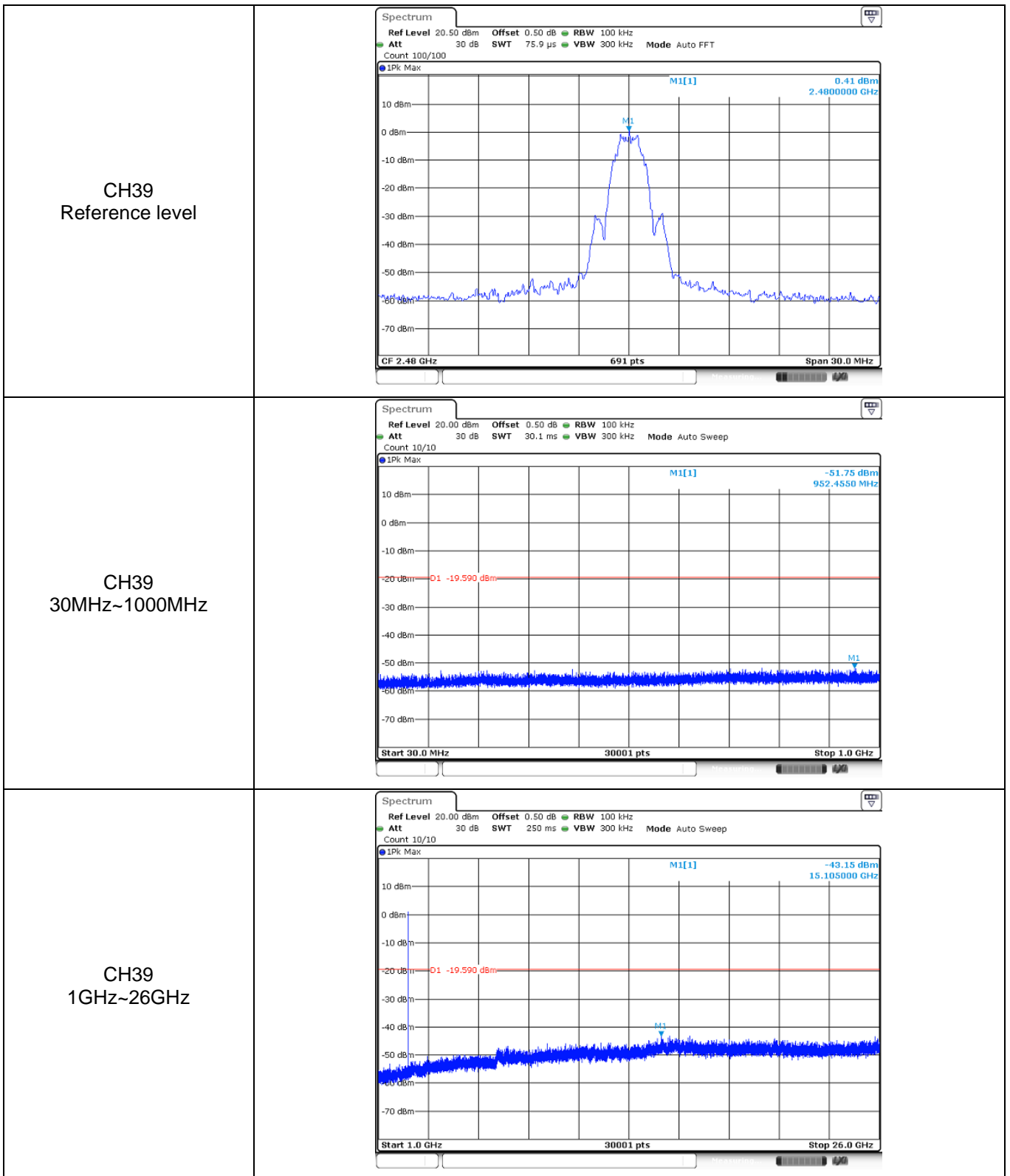
CH19
1GHz~26GHz





Test Item:	SE	Test Rate:	2Mbps
<p>CH00 Reference level</p>			
<p>CH00 30MHz~1000MHz</p>			
<p>CH00 1GHz~26GHz</p>			





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