

APPENDIX REPORT

Project No.	SHT2007089512EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20070895028	Model No.	PPA1002
Start test date	2020/10/15	Finish date	2020/10/15
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	Xiaodong Zheo

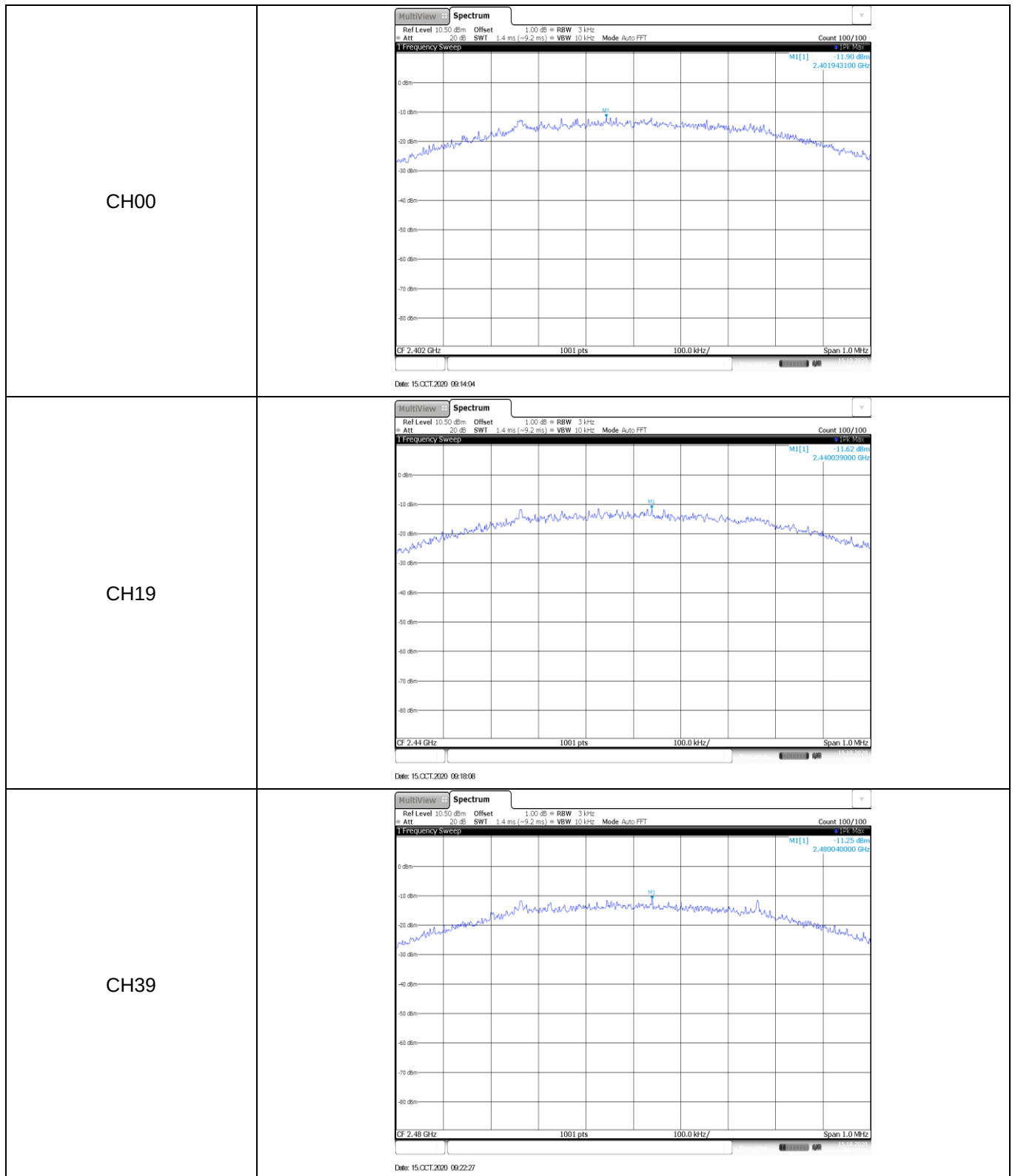
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Peak Output Power

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	-2.14	-2.15	≤ 30.00	Pass
	19	-1.90	-1.92		
	39	-1.75	-1.76		

Appendix B: Power Spectral Density

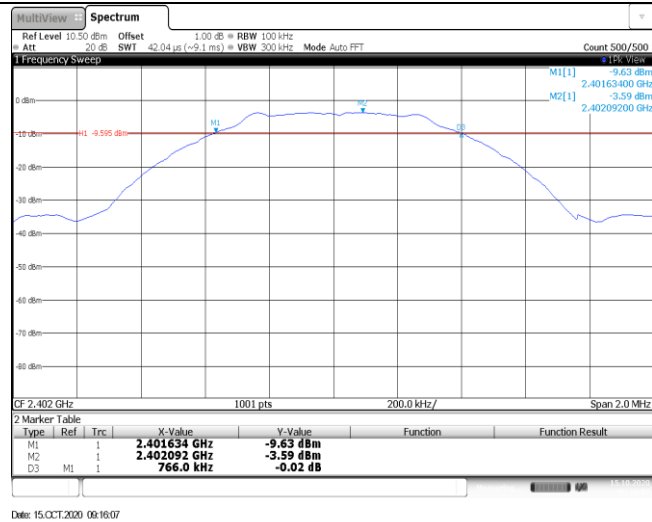
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-11.90	≤8.00	Pass
	19	-11.62		
	39	-11.25		



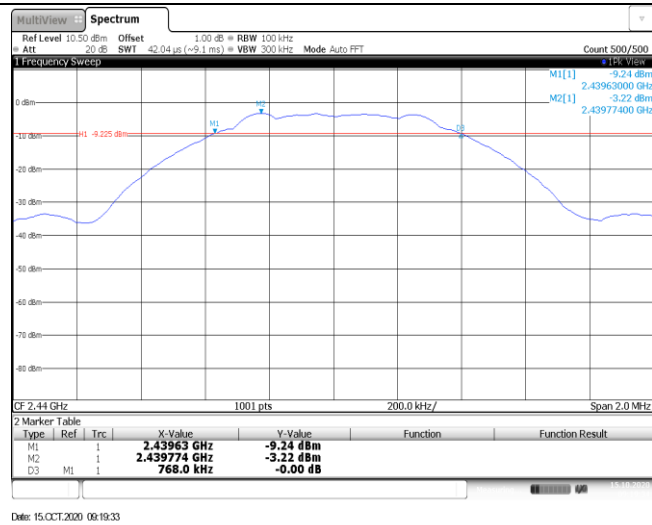
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	766.00	≥500	Pass
	19	768.00		
	39	704.00		

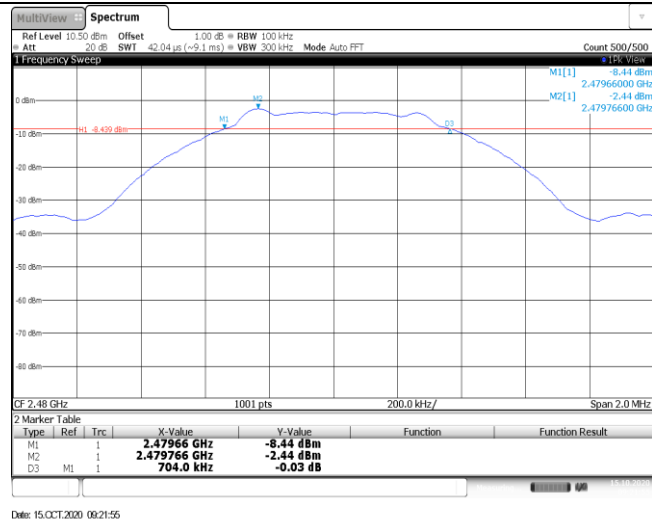
CH00



CH19



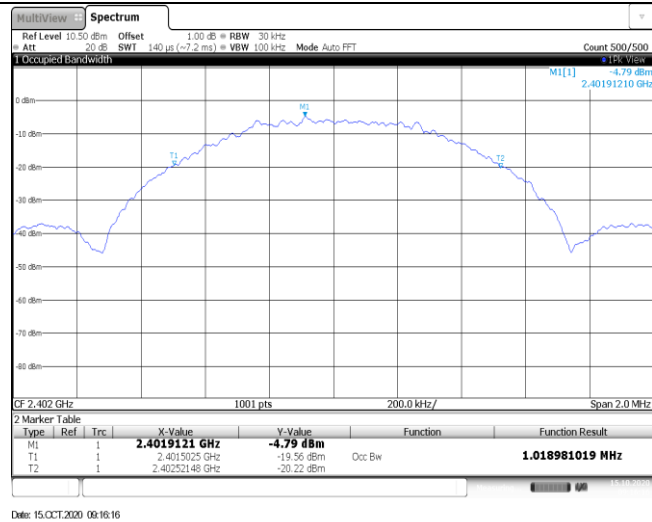
CH39



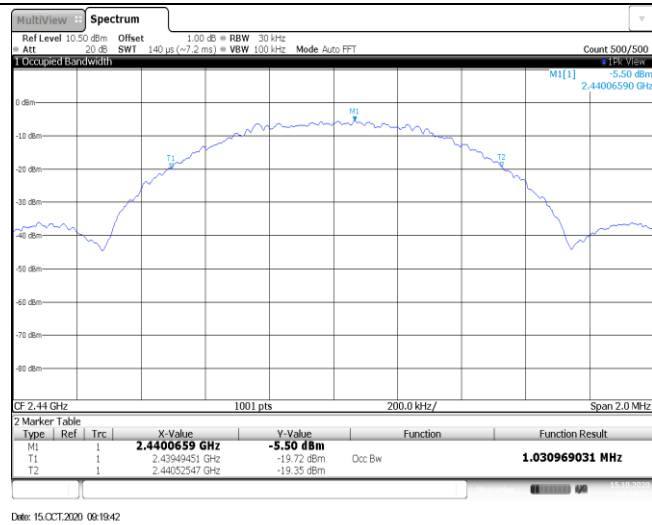
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.02	-	Pass
	19	1.03		
	39	1.02		

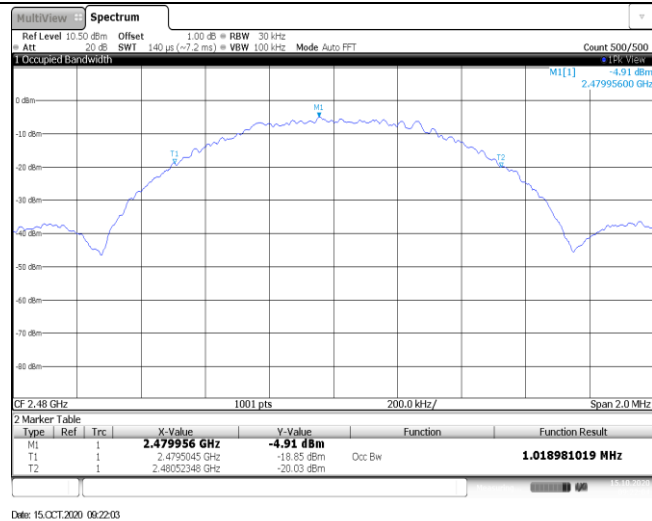
CH00



CH19

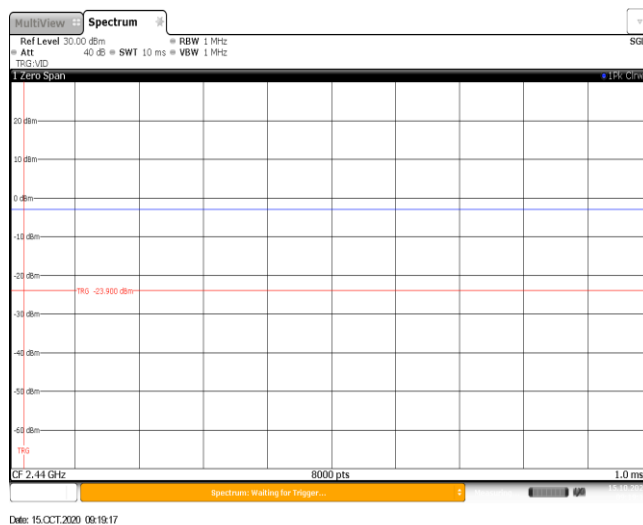


CH39



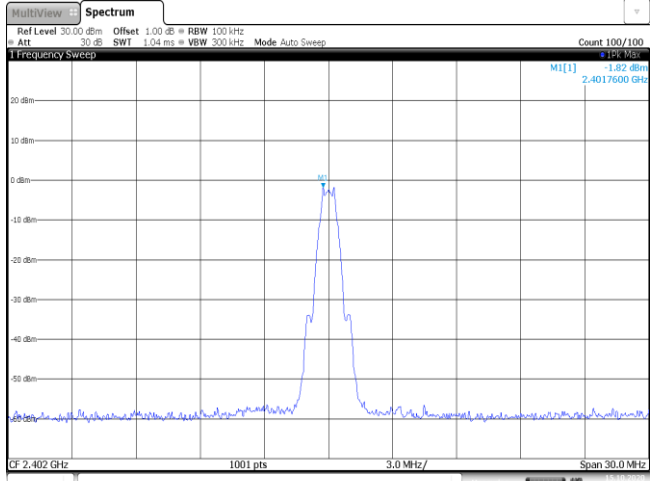
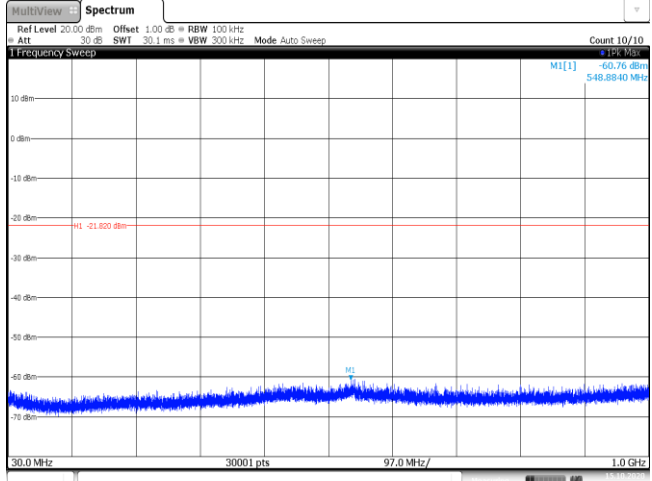
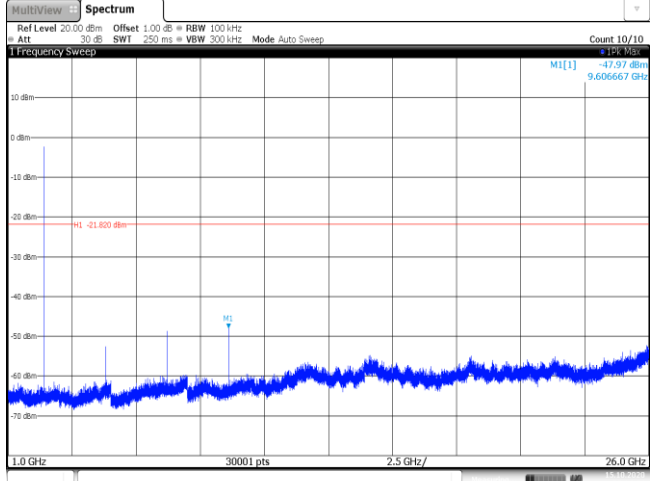
Appendix E: Duty cycle

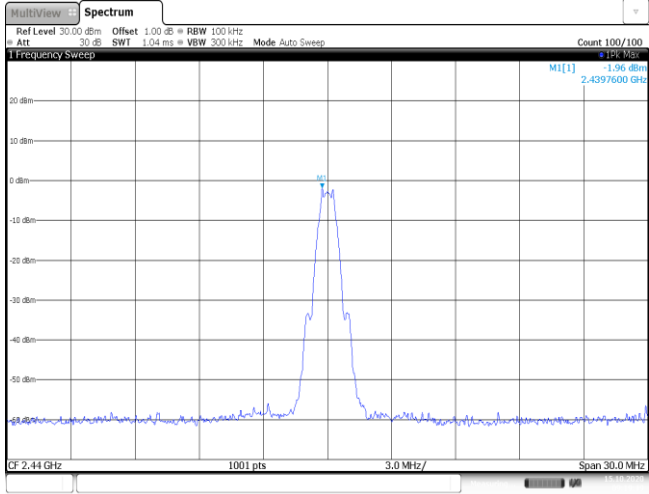
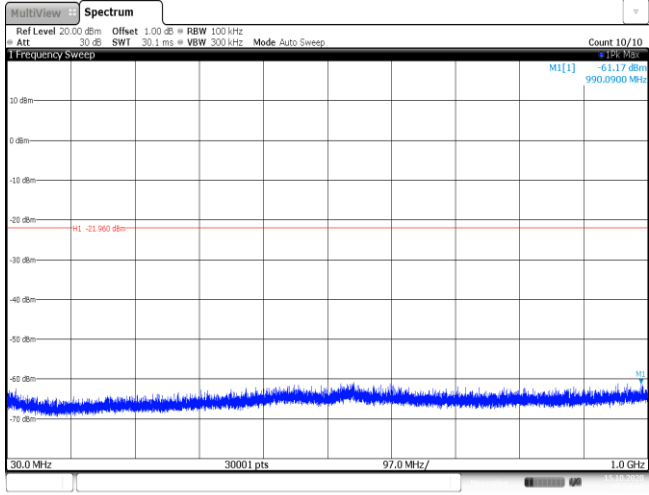
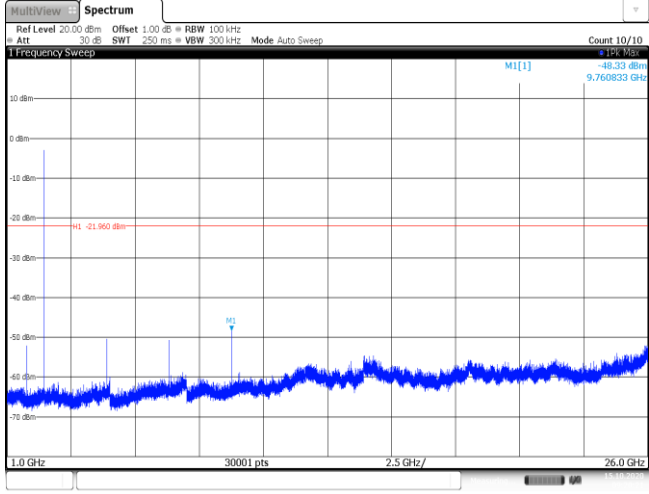
Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	1.00	1.00	100%	1.0

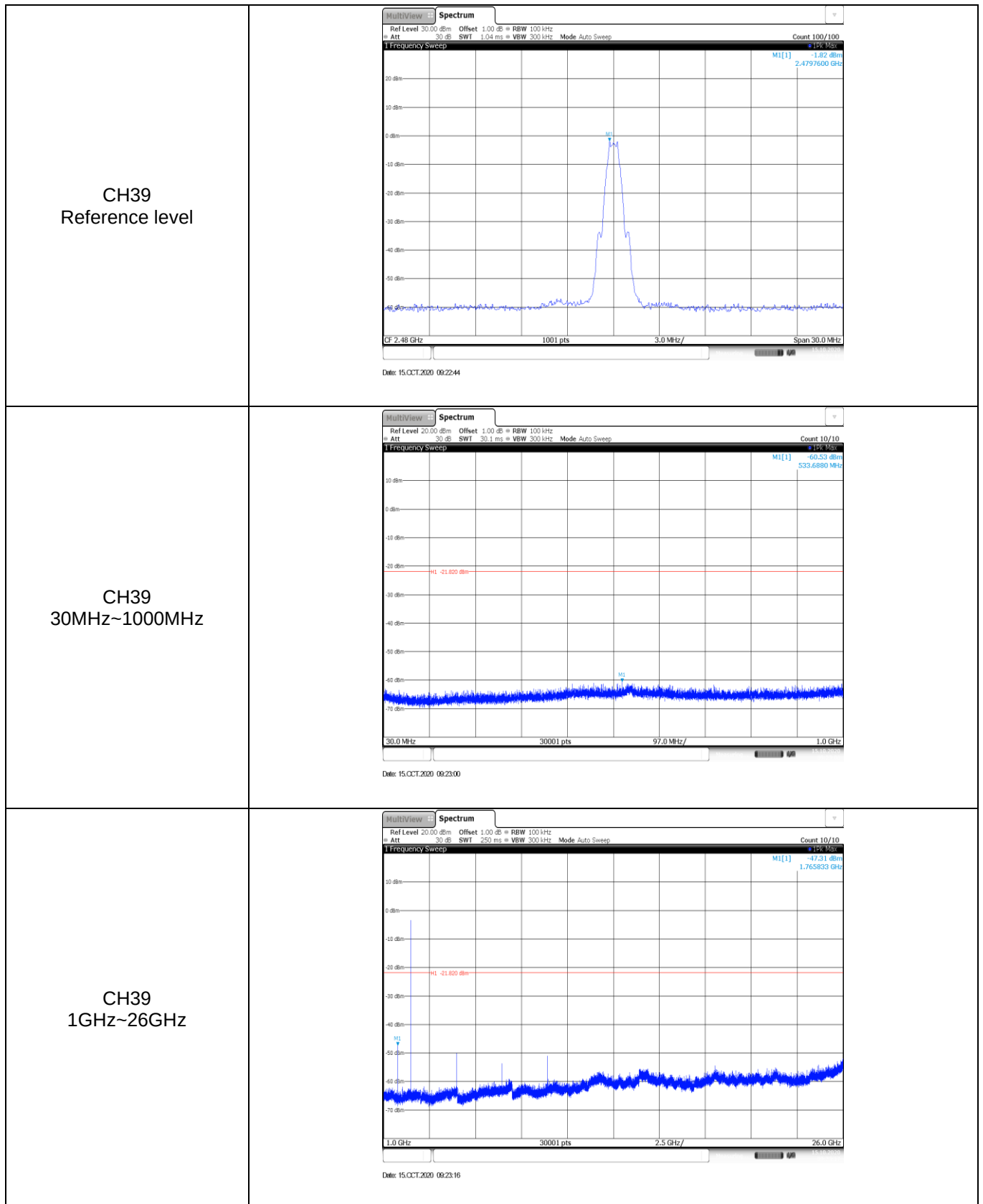


Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge																																										
CH00	MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 1.05 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1 Frequency Sweep M1[1] -2.22 dBm 2.4022000 GHz M2[1] -65.08 dBm 2.4000000 GHz 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 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>2.4022 GHz</td><td>-2.22 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-65.08 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-73.24 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-73.18 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.398635 GHz</td><td>-64.85 dBm</td><td></td><td></td></tr></table> Date: 15.OCT.2020 09:27:43	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.4022 GHz	-2.22 dBm			M2	1		2.4 GHz	-65.08 dBm			M3	1		2.39 GHz	-73.24 dBm			M4	1		2.31 GHz	-73.18 dBm			M5	1		2.398635 GHz	-64.85 dBm		
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CH39	MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 1.02 ms VBW 300 kHz Mode Auto Sweep Count 100/100 1 Frequency Sweep M1[1] -1.96 dBm 2.4797690 GHz M2[1] -67.44 dBm 2.4835000 GHz 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 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>2.479769 GHz</td><td>-1.96 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-67.44 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-72.78 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.48361 GHz</td><td>-66.17 dBm</td><td></td><td></td></tr></table> Date: 15.OCT.2020 09:23:45	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479769 GHz	-1.96 dBm			M2	1		2.4835 GHz	-67.44 dBm			M3	1		2.5 GHz	-72.78 dBm			M4	1		2.48361 GHz	-66.17 dBm									
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Test Item:	SE
CH00 Reference level	 15.OCT.2020 09:14:22
CH00 30MHz~1000MHz	 15.OCT.2020 09:14:38
CH00 1GHz~26GHz	 15.OCT.2020 09:14:54

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 count of 100/100 and a value of -1.96 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30.0 dB, SWF 1.04 ms, VSW 300 kHz, Mode Auto Sweep. The date is 15.OCT.2020 09:19:48.
CH19 30MHz~1000MHz	 The spectrum plot shows a noisy baseline across the 30 MHz to 1000 MHz range. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in MHz, with a span of 97.0 MHz. A red horizontal line is drawn at -21.960 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30.0 dB, SWF 30.1 ms, VSW 300 kHz, Mode Auto Sweep. The date is 15.OCT.2020 09:20:05.
CH19 1GHz~26GHz	 The spectrum plot shows a noisy baseline across the 1 GHz to 26 GHz range. The y-axis represents power in dBm, ranging from -70 to 10. The x-axis represents frequency in GHz, with a span of 26.0 GHz. A red horizontal line is drawn at -21.960 dBm. A sharp peak is visible at 9.760833 GHz, labeled with a count of 10/10 and a value of -48.33 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30.0 dB, SWF 250 ms, VSW 300 kHz, Mode Auto Sweep. The date is 15.OCT.2020 09:20:21.



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