

APPENDIX REPORT

Project No.	SHT2006084601EW	Radio Specification	Bluetooth BLE
Test sample No.		Model No.	DQAPT
Start test date	2020/8/3	Finish date	2020/8/3
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	Xiaodong Zheo

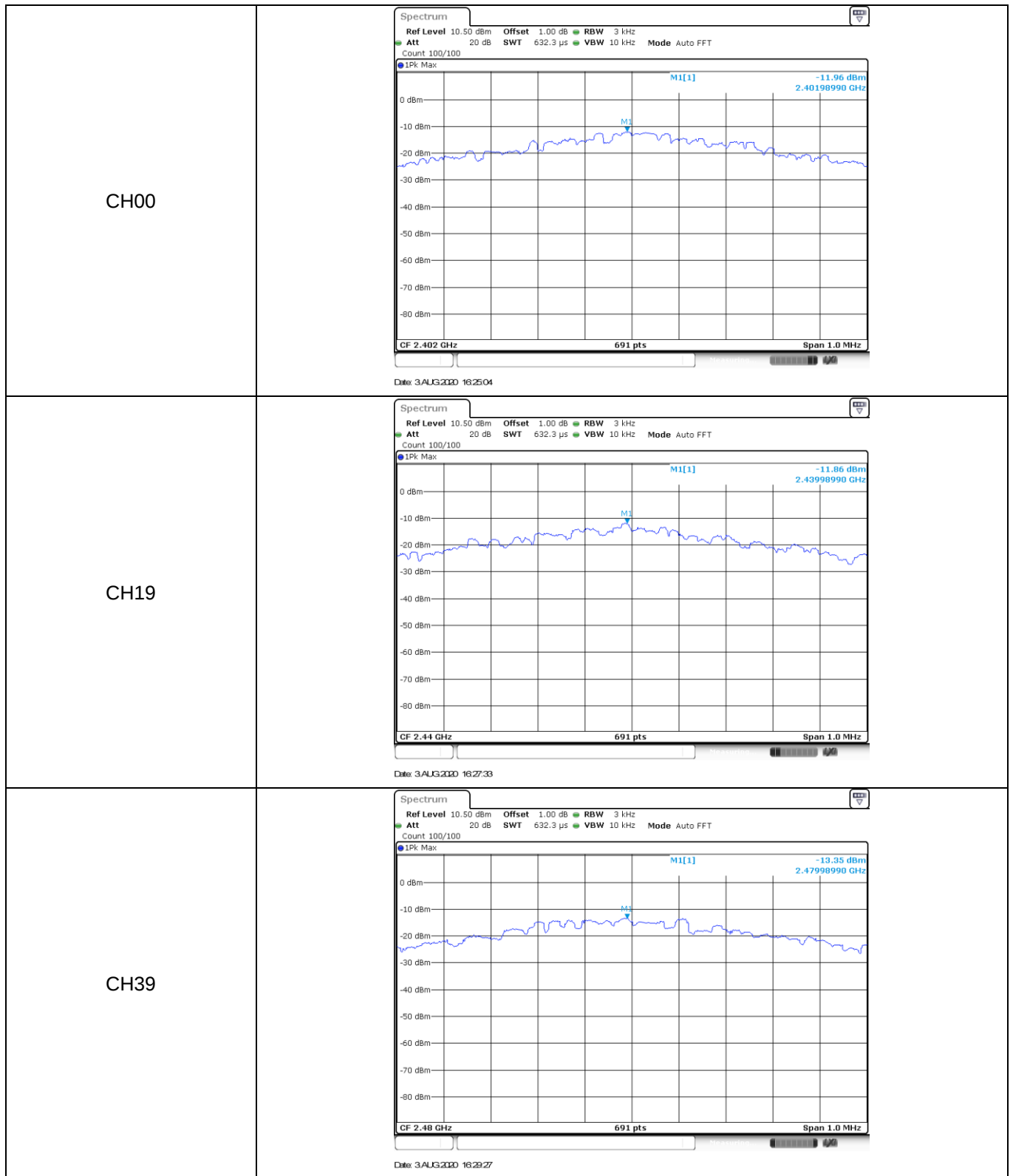
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Peak Output Power

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	0.39	0.37	≤ 30.00	Pass
	19	0.12	0.10		
	39	-0.34	-0.36		

Appendix B: Power Spectral Density

Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-11.96	≤8.00	Pass
	19	-11.86		
	39	-13.35		



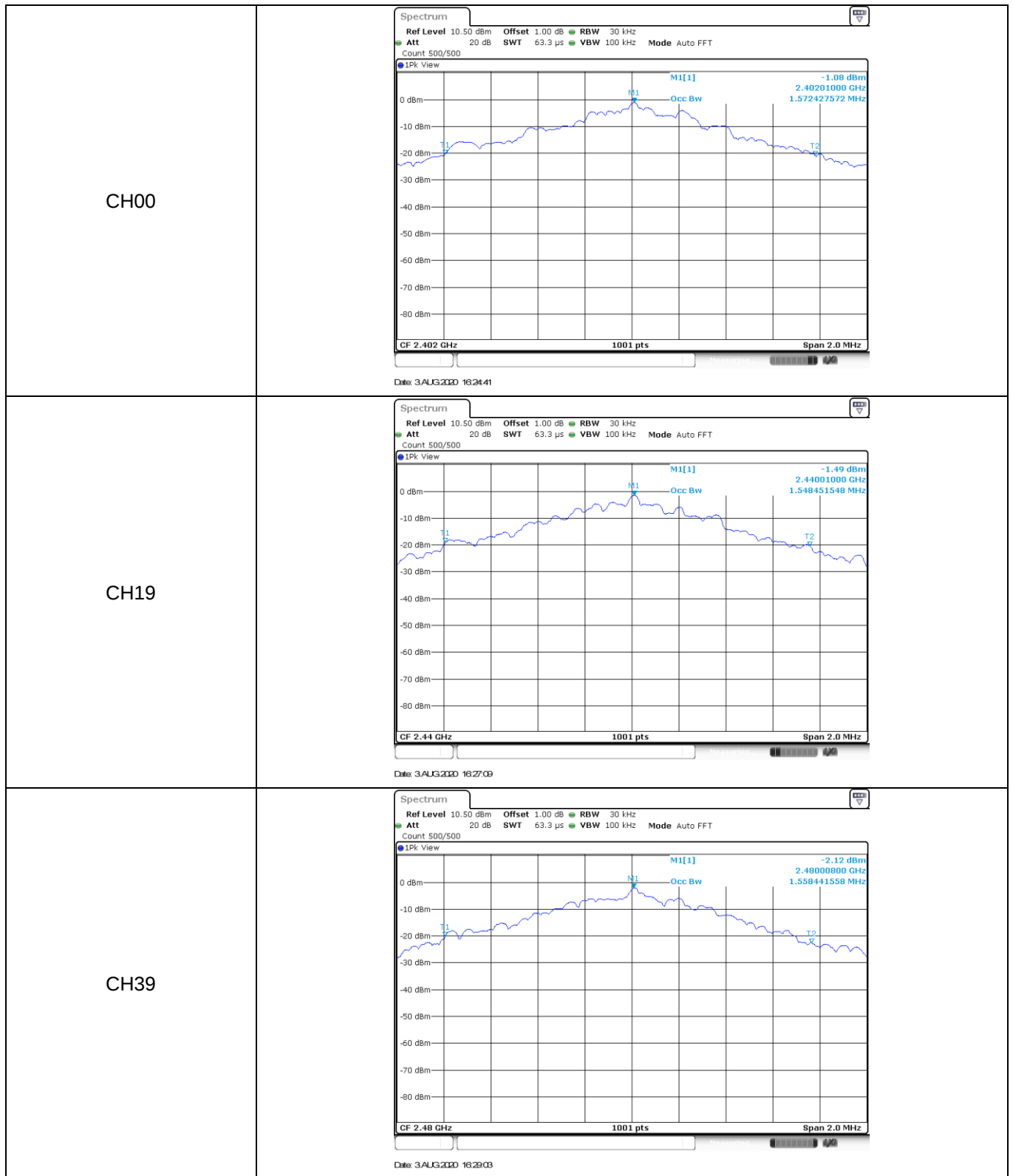
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	862.00	≥500	Pass
	19	844.00		
	39	852.00		

CH00	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 19.1 μs VBW 300 kHz Mode Auto FFT 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 1001 pts Span 2.0 MHz 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>2.401548 GHz</td><td>-5.72 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.402 GHz</td><td>0.30 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>862.0 kHz</td><td>-0.02 dB</td><td></td><td></td></tr></table> Date: 3AUG2020 16:24:32	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.401548 GHz	-5.72 dBm			M2	1		2.402 GHz	0.30 dBm			D3	M1	1	862.0 kHz	-0.02 dB		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																							
M1	1		2.401548 GHz	-5.72 dBm																									
M2	1		2.402 GHz	0.30 dBm																									
D3	M1	1	862.0 kHz	-0.02 dB																									
CH19	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 19.1 μs VBW 300 kHz Mode Auto FFT 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 1001 pts Span 2.0 MHz 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>2.439544 GHz</td><td>-6.03 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.440002 GHz</td><td>0.05 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>844.0 kHz</td><td>0.07 dB</td><td></td><td></td></tr></table> Date: 3AUG2020 16:27:01	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.439544 GHz	-6.03 dBm			M2	1		2.440002 GHz	0.05 dBm			D3	M1	1	844.0 kHz	0.07 dB		
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CH39	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 19.1 μs VBW 300 kHz Mode Auto FFT 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 1001 pts Span 2.0 MHz 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>2.47955 GHz</td><td>-6.48 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.480004 GHz</td><td>-0.41 dBm</td><td></td><td></td></tr><tr><td>D3</td><td>M1</td><td>1</td><td>852.0 kHz</td><td>-0.02 dB</td><td></td><td></td></tr></table> Date: 3AUG2020 16:28:54	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.47955 GHz	-6.48 dBm			M2	1		2.480004 GHz	-0.41 dBm			D3	M1	1	852.0 kHz	-0.02 dB		
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M2	1		2.480004 GHz	-0.41 dBm																									
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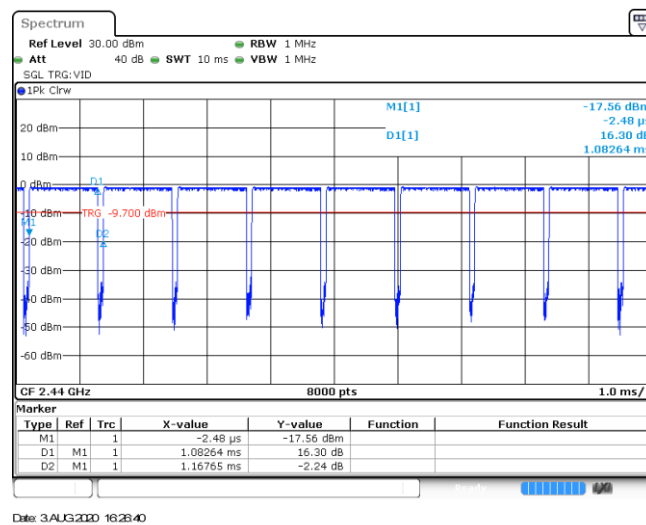
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.57	-	Pass
	19	1.55		
	39	1.56		

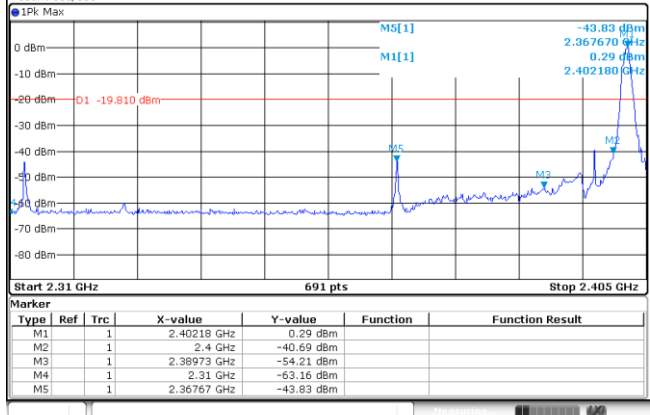
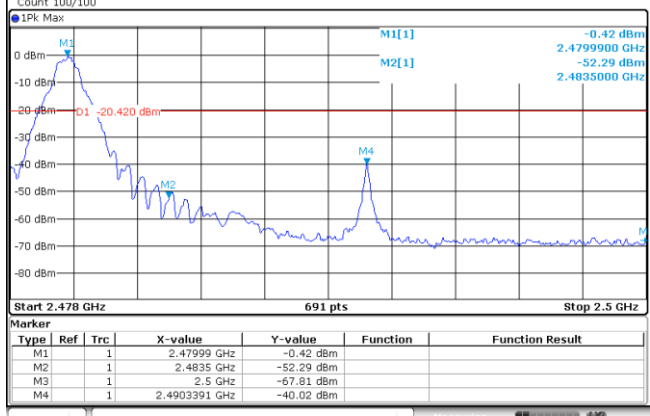


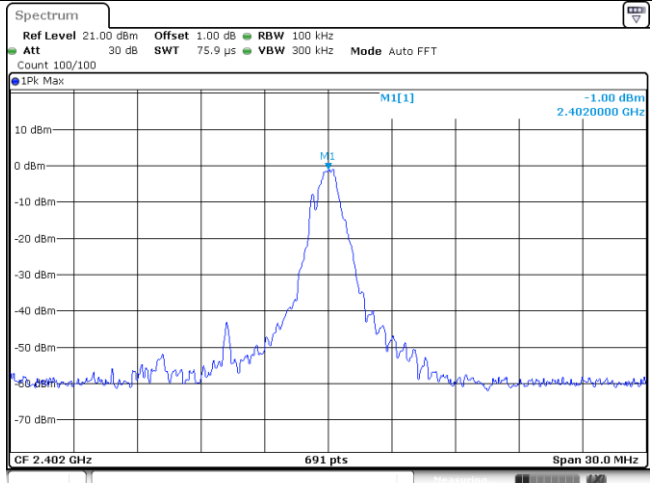
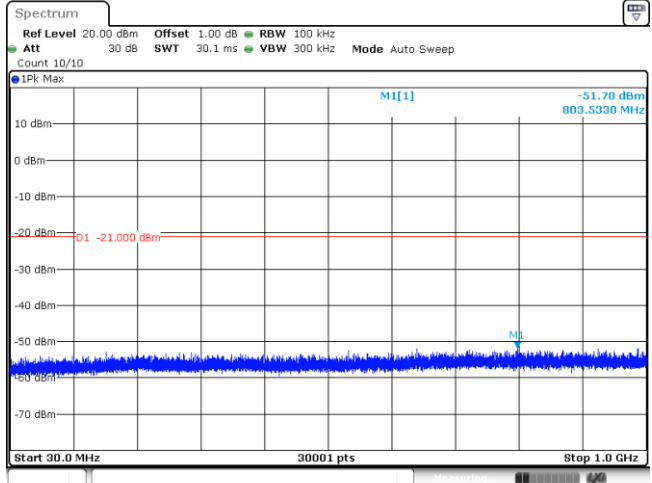
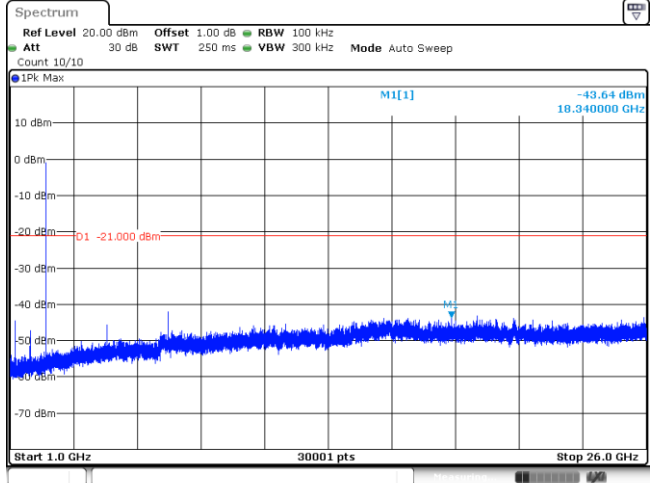
Appendix E: Duty cycle

Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	1.08	1.17	92.3%	0.9

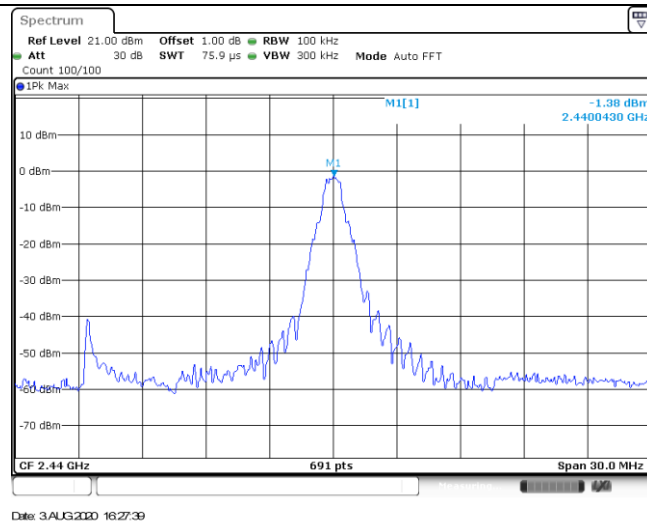


Appendix F: Band edge and Spurious Emissions (conducted)

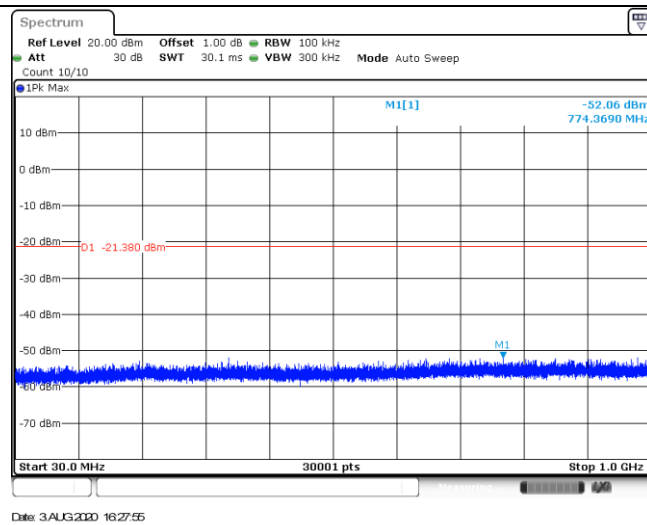
Test Item:	Band edge																																										
CH00	Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Count 300/300 1Pk Max  Start 2.31 GHz 691 pts Stop 2.405 GHz Marker <table><tr><th>Type</th><th>Ref</th><th>Trc</th><th>X-value</th><th>Y-value</th><th>Function</th><th>Function Result</th></tr><tr><td>M1</td><td>1</td><td></td><td>2.40218 GHz</td><td>-0.29 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-40.69 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.38973 GHz</td><td>-54.21 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-63.16 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.36767 GHz</td><td>-43.83 dBm</td><td></td><td></td></tr></table> Date: 3 AUG 2020 16:34:15	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40218 GHz	-0.29 dBm			M2	1		2.4 GHz	-40.69 dBm			M3	1		2.38973 GHz	-54.21 dBm			M4	1		2.31 GHz	-63.16 dBm			M5	1		2.36767 GHz	-43.83 dBm		
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M5	1		2.36767 GHz	-43.83 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  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>-0.42 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-52.29 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-67.81 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4903391 GHz</td><td>-40.02 dBm</td><td></td><td></td></tr></table> Date: 3 AUG 2020 16:29:36	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.47999 GHz	-0.42 dBm			M2	1		2.4835 GHz	-52.29 dBm			M3	1		2.5 GHz	-67.81 dBm			M4	1		2.4903391 GHz	-40.02 dBm									
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M4	1		2.4903391 GHz	-40.02 dBm																																							

Test Item:	SE
CH00 Reference level	 Spectrum Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Mode Auto FFT Att 30 dB SWT 75.9 μs VBW 300 kHz Count 100/100 1Pk Max M1[1] -1.00 dBm 2.402000 GHz M1 CF 2.402 GHz 691 pts Span 30.0 MHz Date: 3.AUG.2020 16:25:21
CH00 30MHz~1000MHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Mode Auto Sweep Att 30 dB SWT 30.1 ms VBW 300 kHz Count 10/10 1Pk Max M1[1] -51.70 dBm 803.5330 MHz M1 Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 3.AUG.2020 16:25:37
CH00 1GHz~26GHz	 Spectrum Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Mode Auto Sweep Att 30 dB SWT 250 ms VBW 300 kHz Count 10/10 1Pk Max M1[1] -43.64 dBm 18.340000 GHz M1 Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 3.AUG.2020 16:25:53

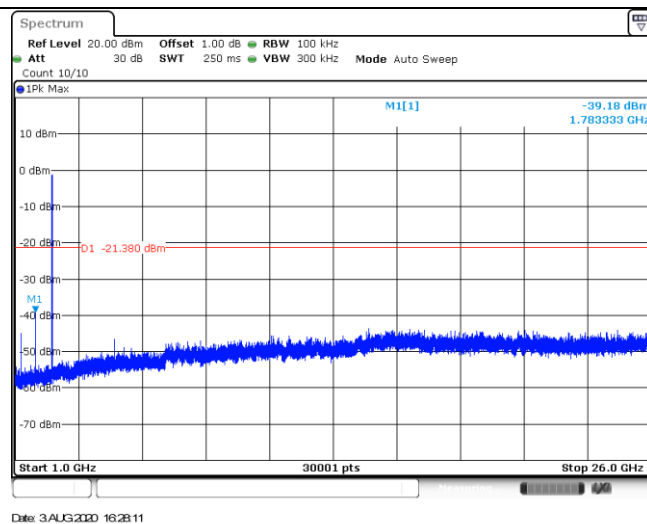
CH19
Reference level

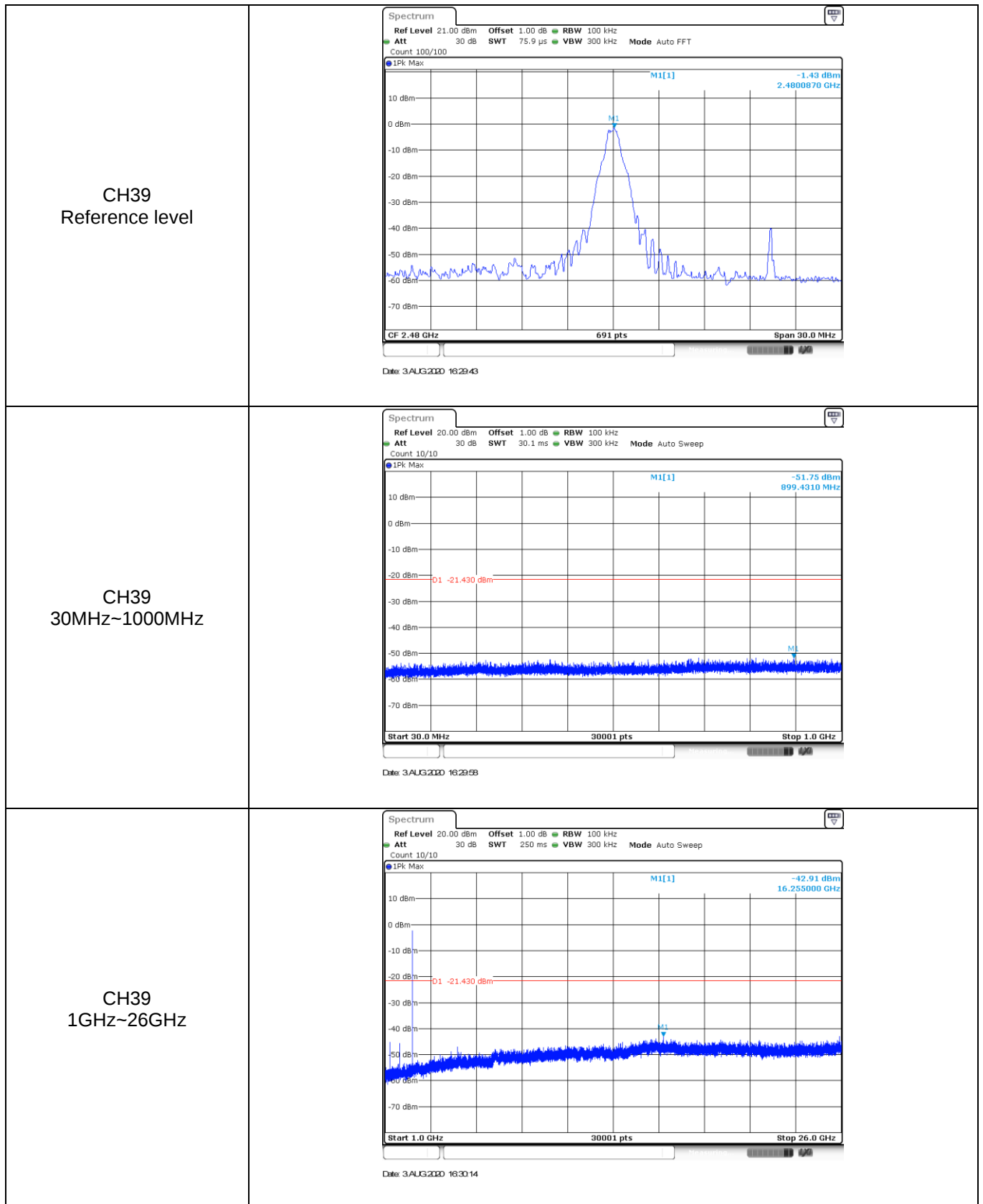


CH19
30MHz~1000MHz



CH19
1GHz~26GHz





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