

APPENDIX REPORT

Project No.	SHT2004026301EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20040263001	Model No.	HR-0536
Start test date	2020/6/15	Finish date	2020/6/15
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	<i>William.wang</i>

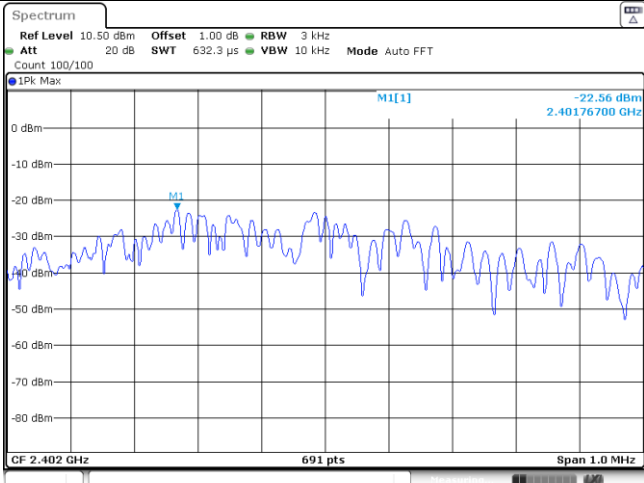
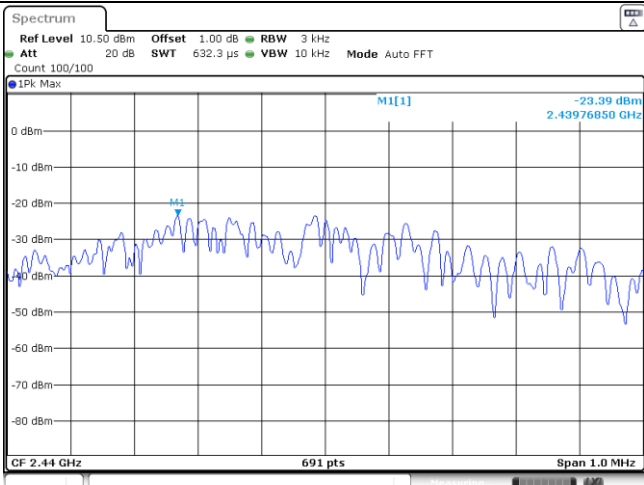
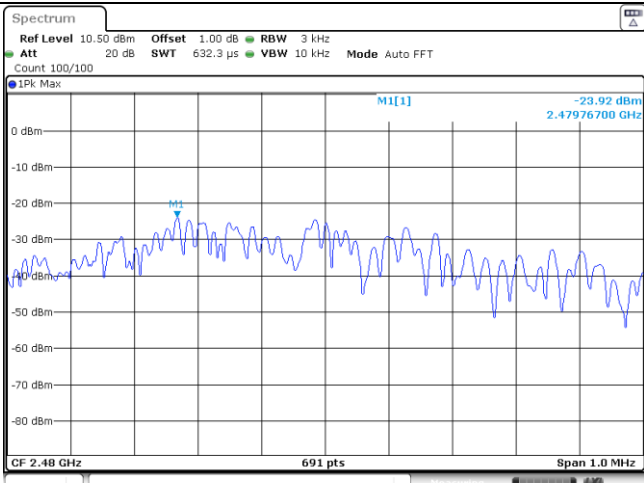
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Peak Output Power

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	-3.96	-3.98	≤30.00	Pass
	19	-4.22	-4.23		
	39	-5.18	-5.20		

Appendix B: Power Spectral Density

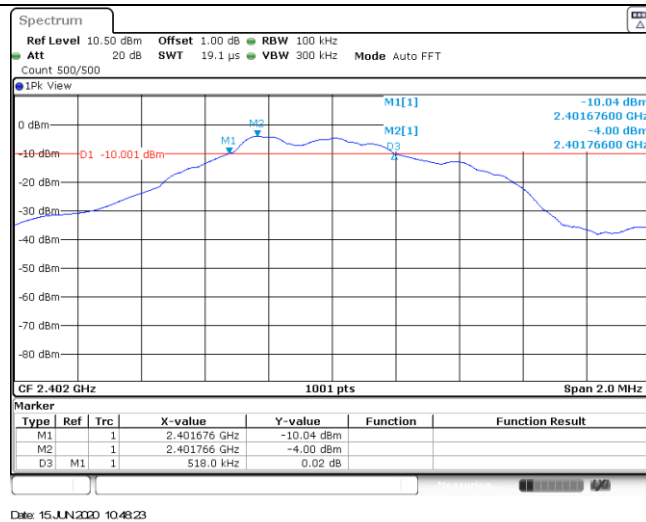
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-22.56	≤8.00	Pass
	19	-23.39		
	39	-23.92		

CH00	 Spectrum plot for CH00. The plot shows a noisy signal with a peak at 2.40176700 GHz and -22.56 dBm. The y-axis ranges from 0 dBm to -80 dBm, and the x-axis ranges from 2.402 GHz to 2.401 GHz. The plot includes a grid and a peak marker labeled M1[1]. 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 IPk Max M1[1] -22.56 dBm 2.40176700 GHz CF 2.402 GHz 691 pts Span 1.0 MHz Date: 15 JUN 2020 10:48:55
CH19	 Spectrum plot for CH19. The plot shows a noisy signal with a peak at 2.43976850 GHz and -23.39 dBm. The y-axis ranges from 0 dBm to -80 dBm, and the x-axis ranges from 2.44 GHz to 2.439 GHz. The plot includes a grid and a peak marker labeled M1[1]. 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 IPk Max M1[1] -23.39 dBm 2.43976850 GHz CF 2.44 GHz 691 pts Span 1.0 MHz Date: 15 JUN 2020 10:51:13
CH39	 Spectrum plot for CH39. The plot shows a noisy signal with a peak at 2.47976700 GHz and -23.92 dBm. The y-axis ranges from 0 dBm to -80 dBm, and the x-axis ranges from 2.48 GHz to 2.479 GHz. The plot includes a grid and a peak marker labeled M1[1]. 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 IPk Max M1[1] -23.92 dBm 2.47976700 GHz CF 2.48 GHz 691 pts Span 1.0 MHz Date: 15 JUN 2020 10:52:44

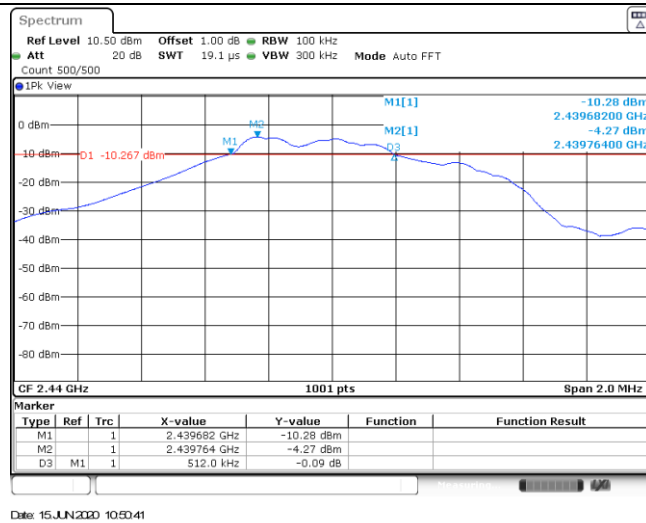
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	518.00	≥500	Pass
	19	512.00		
	39	510.00		

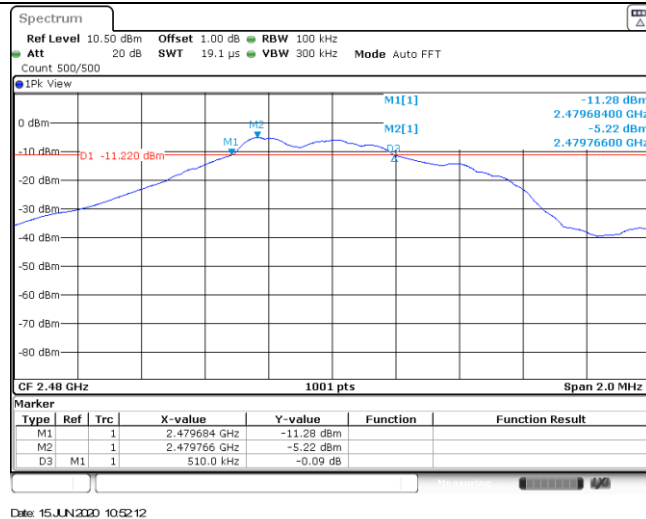
CH00



CH19

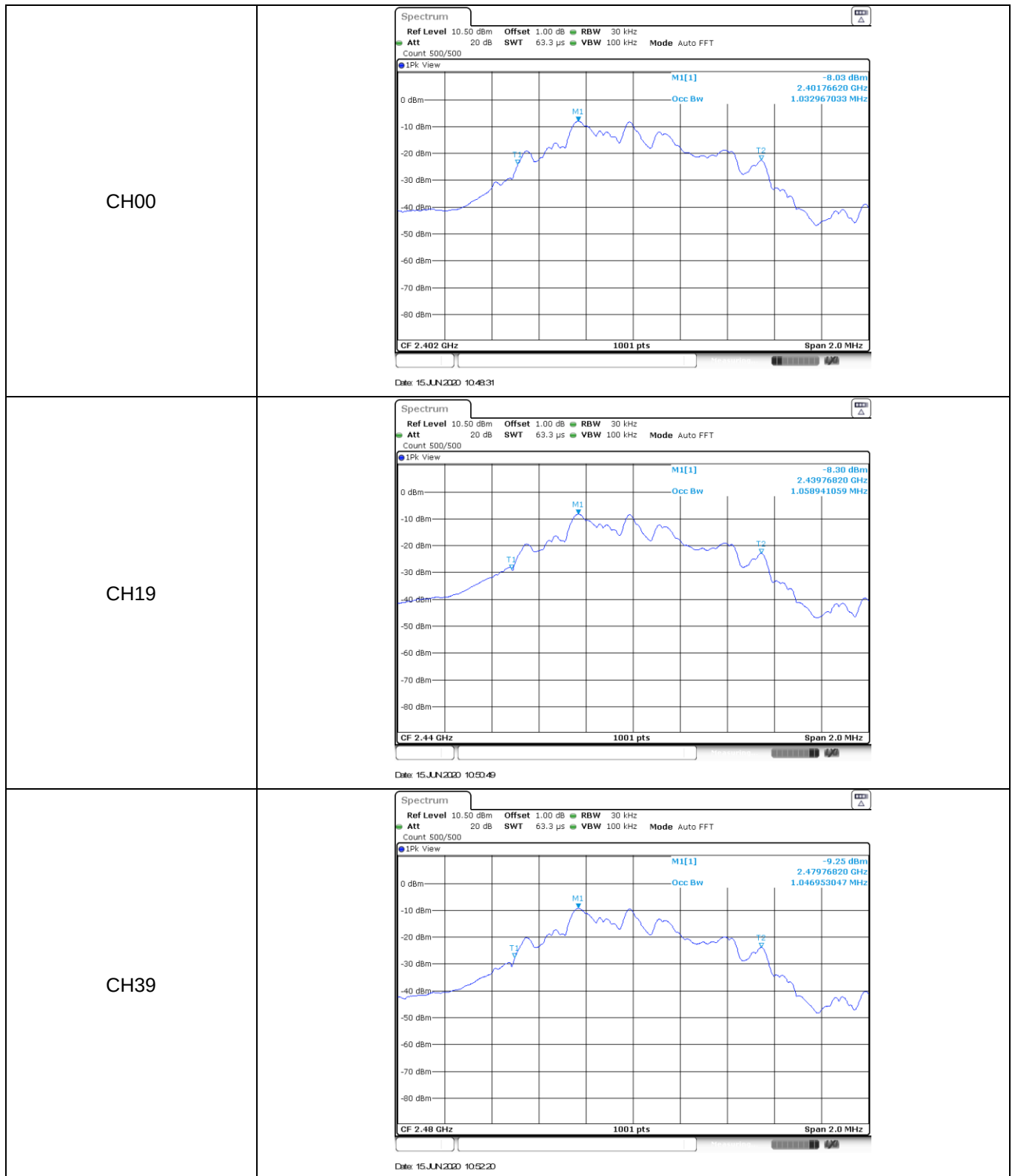


CH39



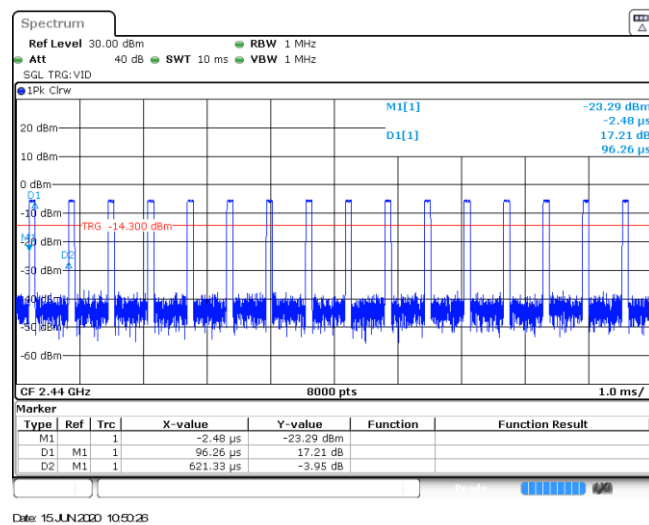
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.03	-	Pass
	19	1.06		
	39	1.05		



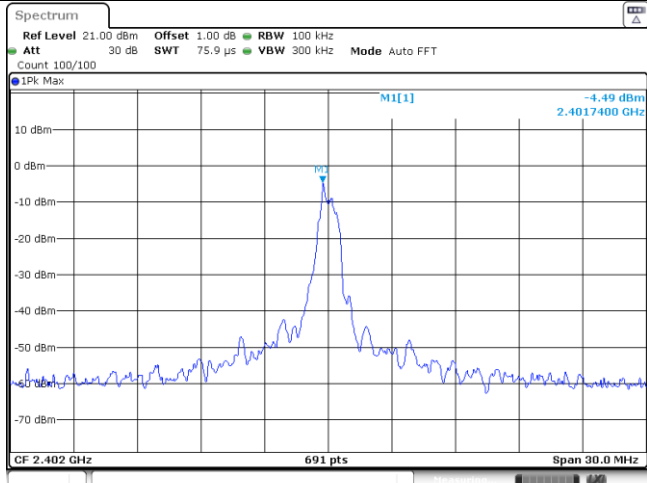
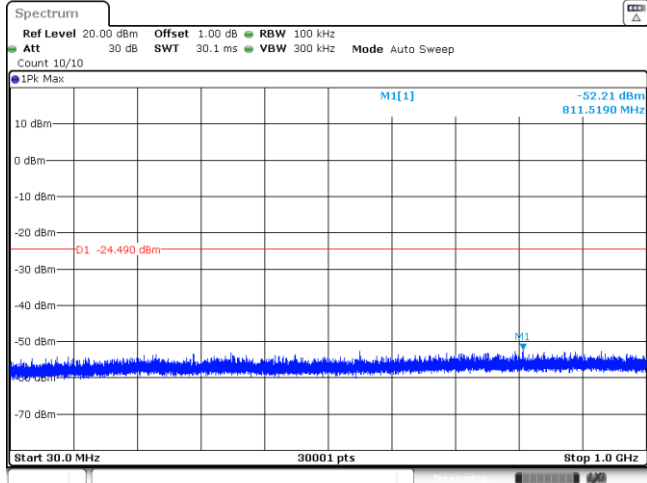
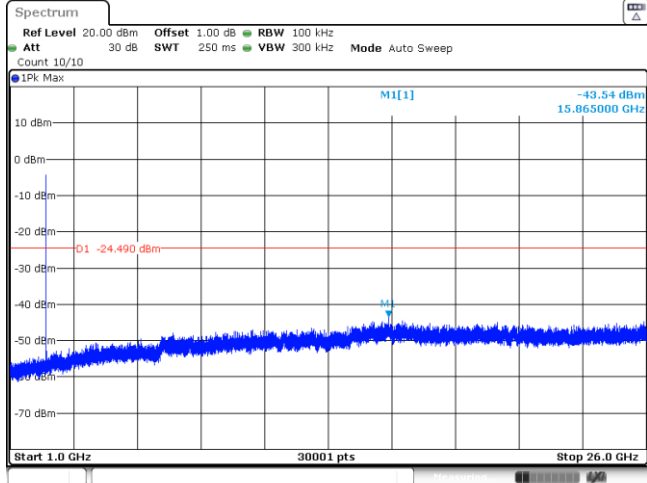
Appendix E: Duty cycle

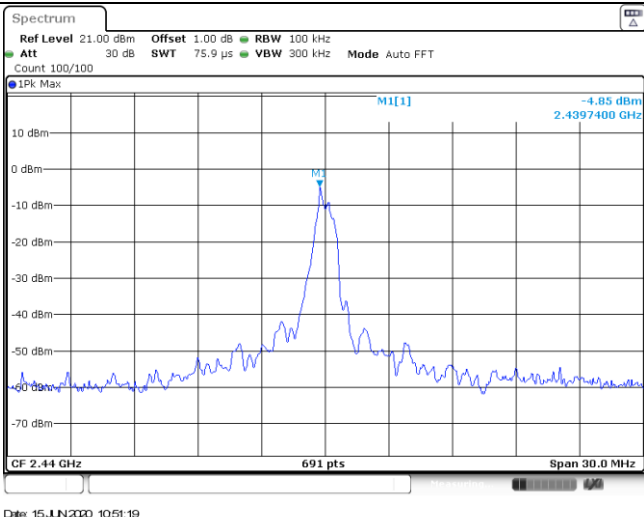
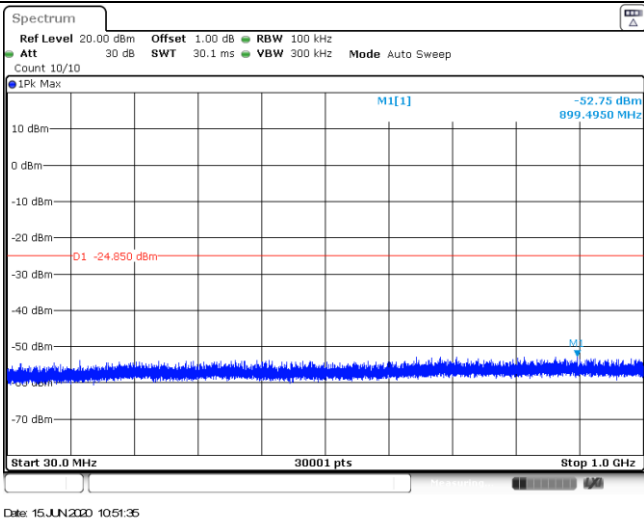
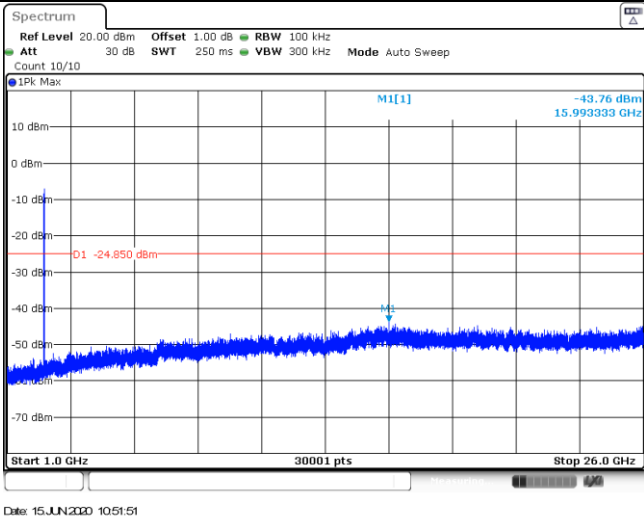
Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	0.10	0.62	16.1%	10

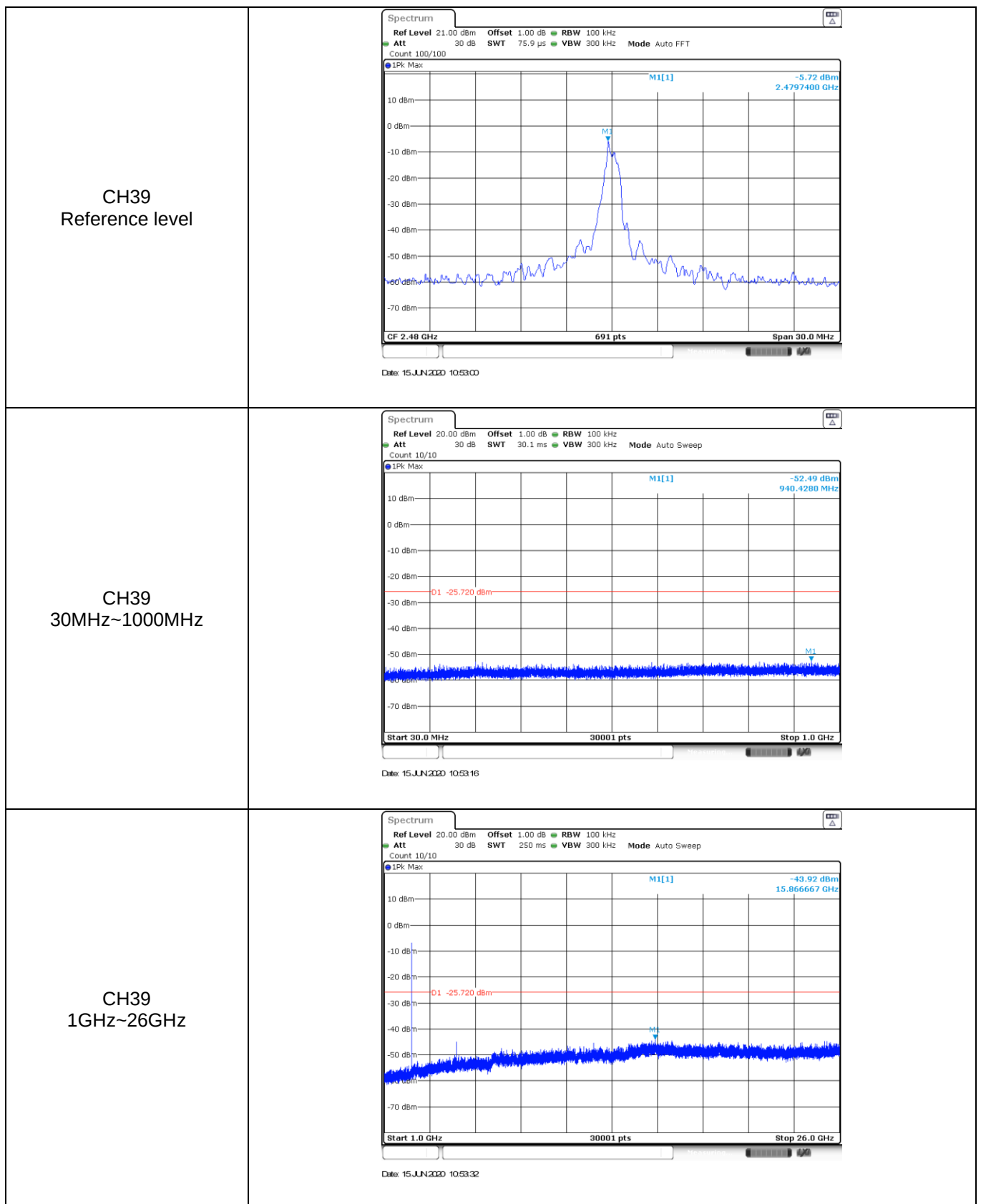


Appendix F: Band edge and Spurious Emissions (conducted)

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 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 -4.16 dBm -41.95 dBm -59.22 dBm -65.75 dBm -43.00 dBm D1 -24.160 dBm Start 2.31 GHz 691 pts Stop 2.405 GHz <table><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><tr><td>M1</td><td>1</td><td></td><td></td><td>2.40177 GHz</td><td>-4.16 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td></td><td>2.4 GHz</td><td>-41.95 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td></td><td>2.39 GHz</td><td>-59.22 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td></td><td>2.31 GHz</td><td>-65.75 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td></td><td>2.399906 GHz</td><td>-43.00 dBm</td><td></td><td></td></tr></table> Date: 15 JUN 2020 10:49:05	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.40177 GHz	-4.16 dBm			M2	1			2.4 GHz	-41.95 dBm			M3	1			2.39 GHz	-59.22 dBm			M4	1			2.31 GHz	-65.75 dBm			M5	1			2.399906 GHz	-43.00 dBm		
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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 -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm M1[1] M2[1] M3 M4 -5.23 dBm -56.12 dBm -65.27 dBm -50.20 dBm D1 -25.230 dBm Start 2.478 GHz 691 pts Stop 2.5 GHz <table><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><tr><td>M1</td><td>1</td><td></td><td></td><td>2.479767 GHz</td><td>-5.23 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td></td><td>2.4835 GHz</td><td>-56.12 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td></td><td>2.5 GHz</td><td>-65.27 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td></td><td>2.4838029 GHz</td><td>-50.20 dBm</td><td></td><td></td></tr></table> Date: 15 JUN 2020 10:52:53	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.479767 GHz	-5.23 dBm			M2	1			2.4835 GHz	-56.12 dBm			M3	1			2.5 GHz	-65.27 dBm			M4	1			2.4838029 GHz	-50.20 dBm										
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M3	1			2.5 GHz	-65.27 dBm																																												
M4	1			2.4838029 GHz	-50.20 dBm																																												

Test Item:	SE
CH00 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] -4.49 dBm 2.4017400 GHz CF 2.402 GHz 691 pts Span 30.0 MHz Date: 15 JUN 2020 10:49:11
CH00 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] -52.21 dBm 811.5190 MHz D1 -24.490 dBm Start 30.0 MHz 30001 pts Stop 1.0 GHz Date: 15 JUN 2020 10:49:27
CH00 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] -43.54 dBm 15.865000 GHz D1 -24.490 dBm Start 1.0 GHz 30001 pts Stop 26.0 GHz Date: 15 JUN 2020 10:50:03

CH19 Reference level	
CH19 30MHz~1000MHz	
CH19 1GHz~26GHz	



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