

APPENDIX REPORT

Project No.	SHT2007089505EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20070895004	Model No.	DDR1010
Start test date	2020/8/27	Finish date	2020/8/27
Temperature	25°C	Humidity	50%
Test Engineer	Jiongsheng.Feng	Auditor	Xiaodong Zheo

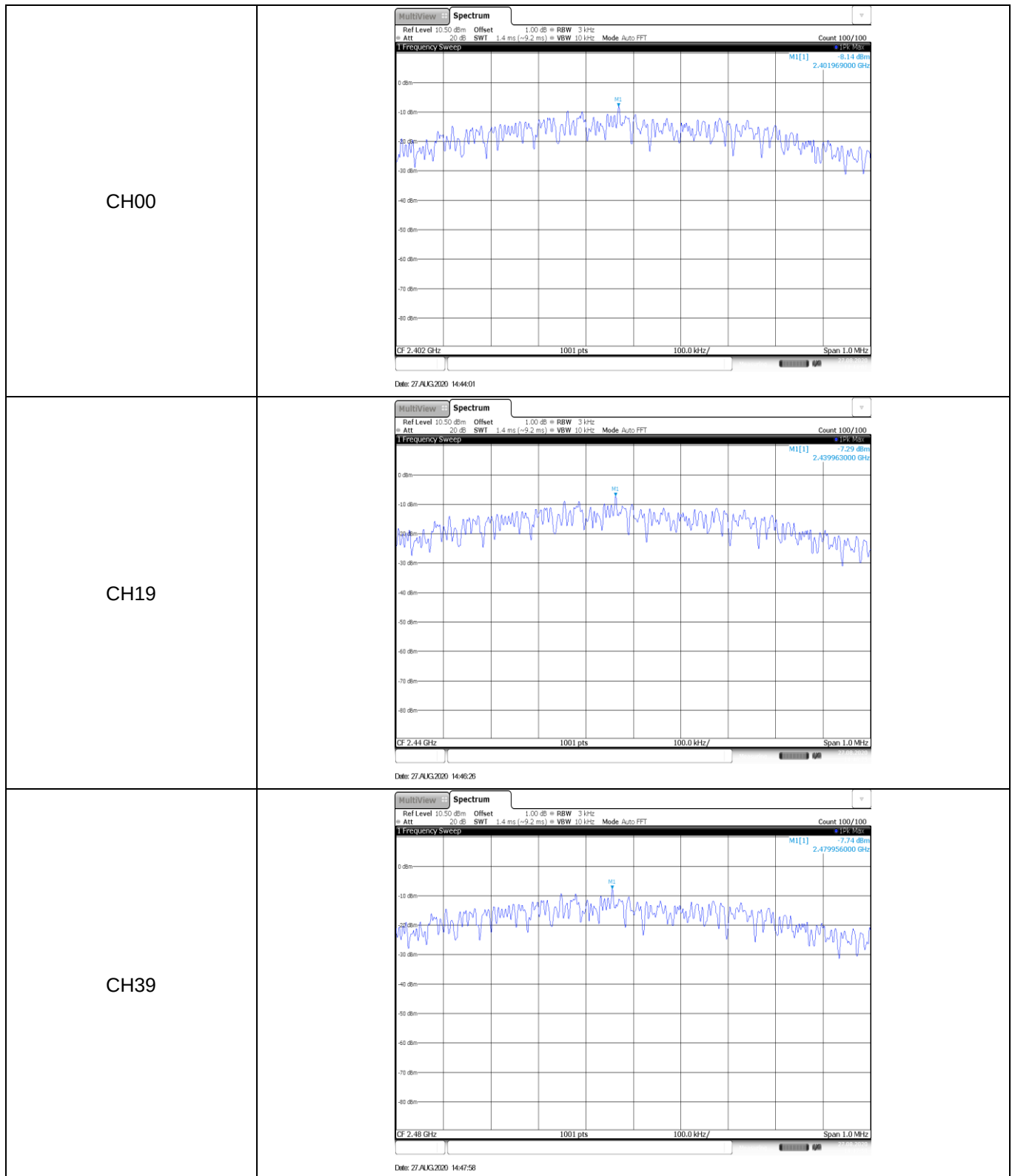
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Peak Output Power

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	6.27	6.25	≤ 30.00	Pass
	19	6.94	6.91		
	39	6.62	6.60		

Appendix B: Power Spectral Density

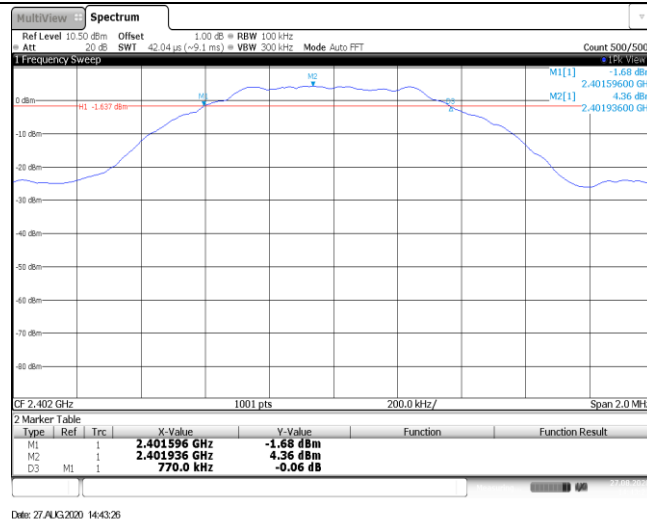
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-8.14	≤8.00	Pass
	19	-7.29		
	39	-7.74		



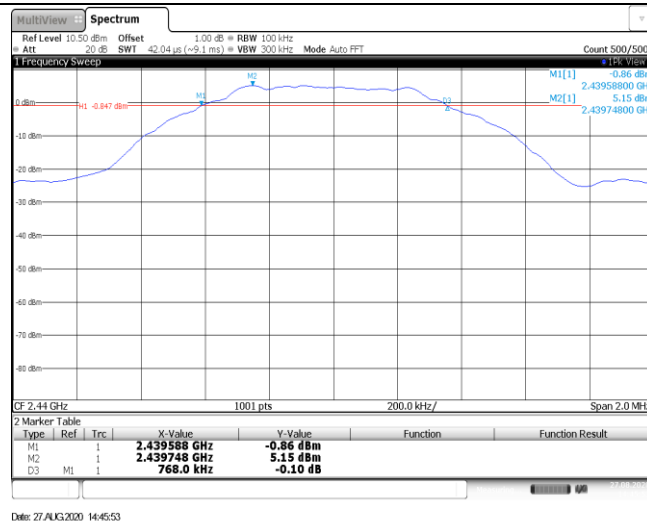
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	770.00	≥500	Pass
	19	768.00		
	39	770.00		

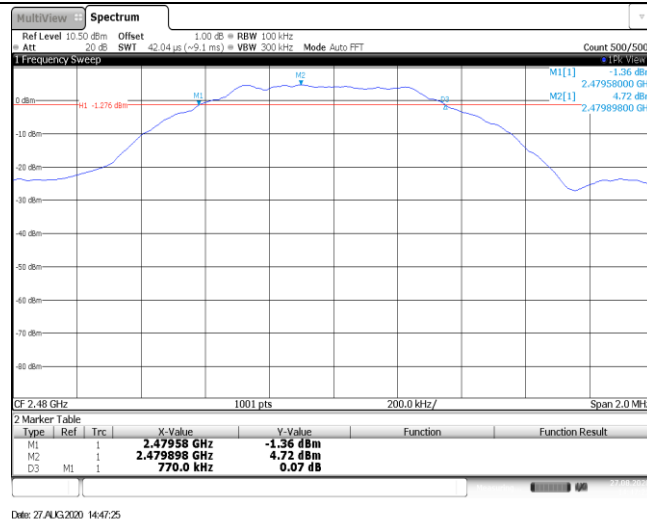
CH00



CH19



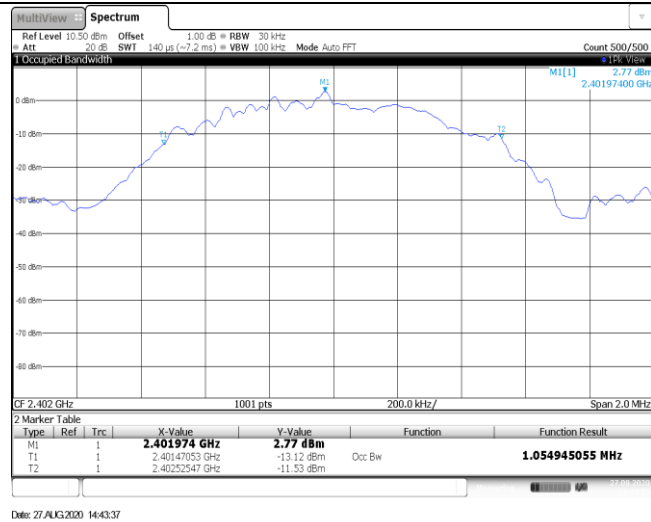
CH39



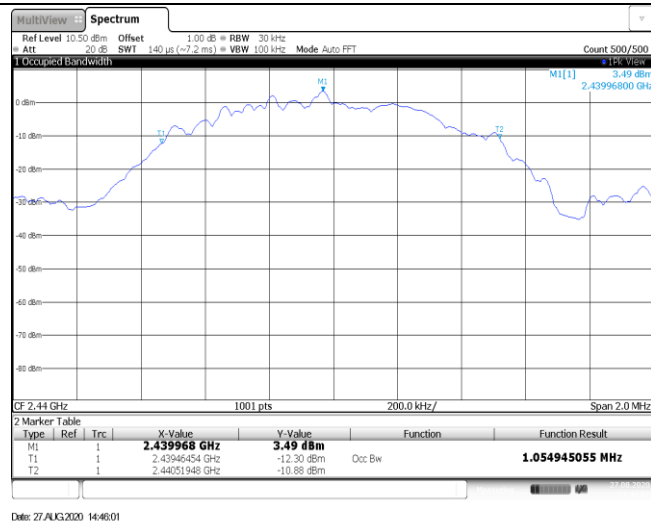
Appendix D: 99% Occupied Bandwidth

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

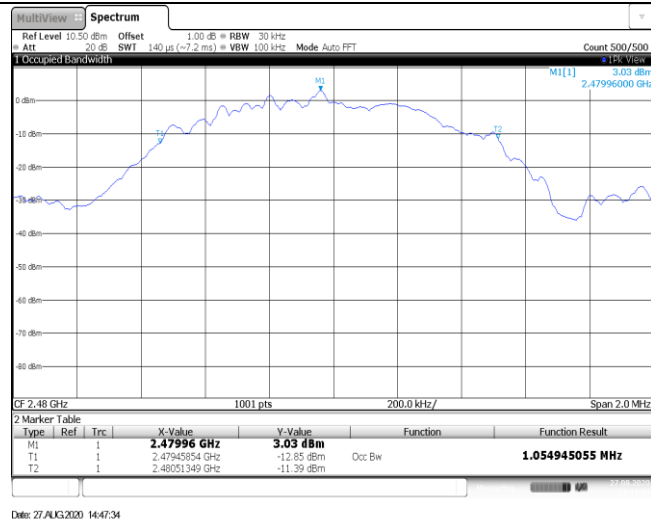
CH00



CH19

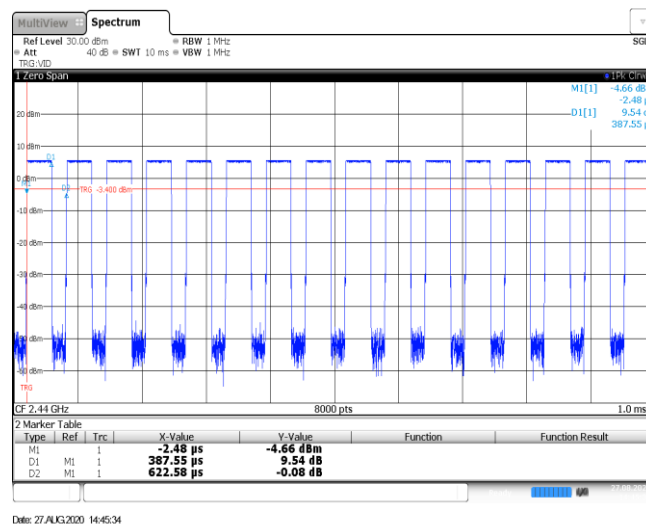


CH39



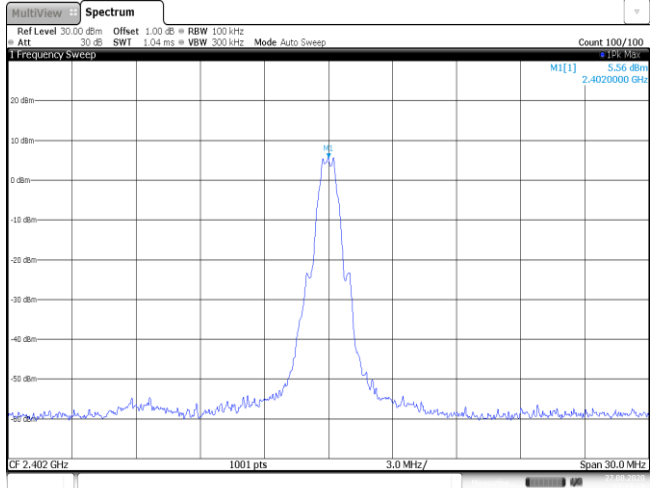
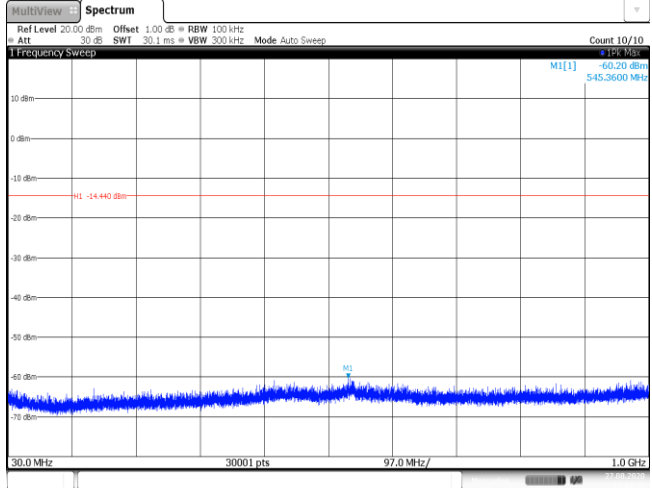
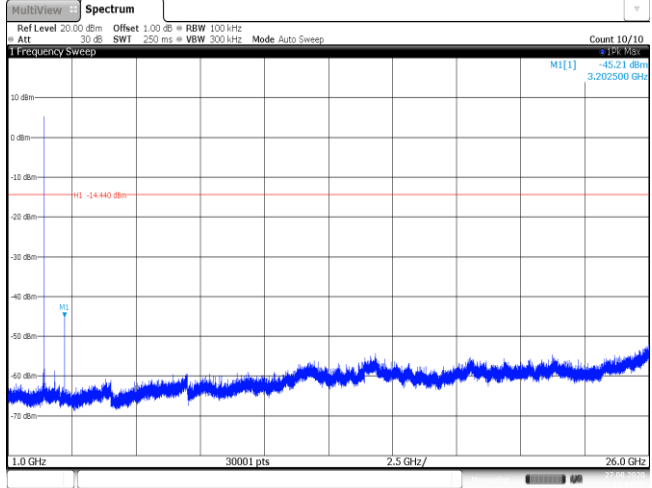
Appendix E: Duty cycle

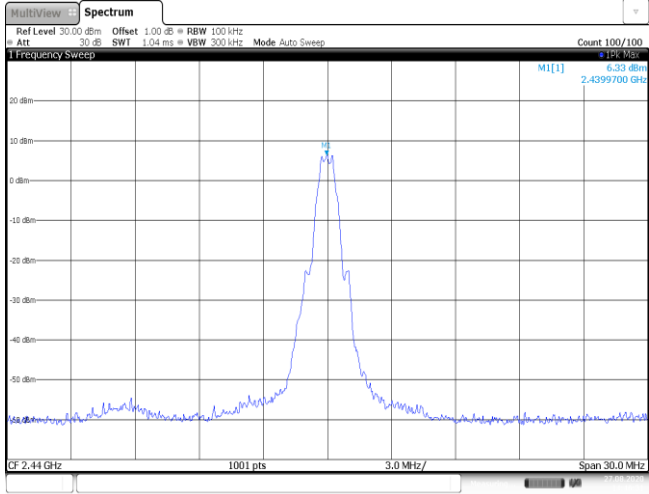
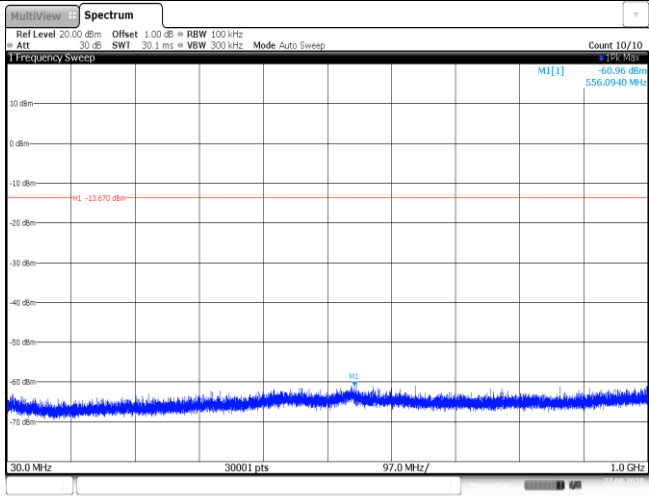
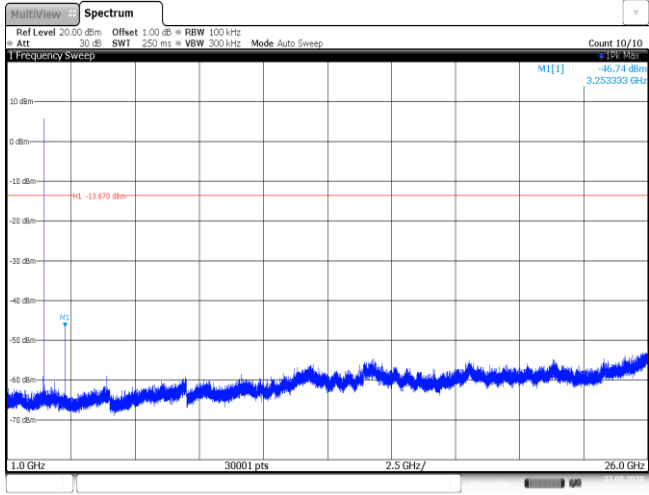
Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	0.39	0.62	17.7%	9.1

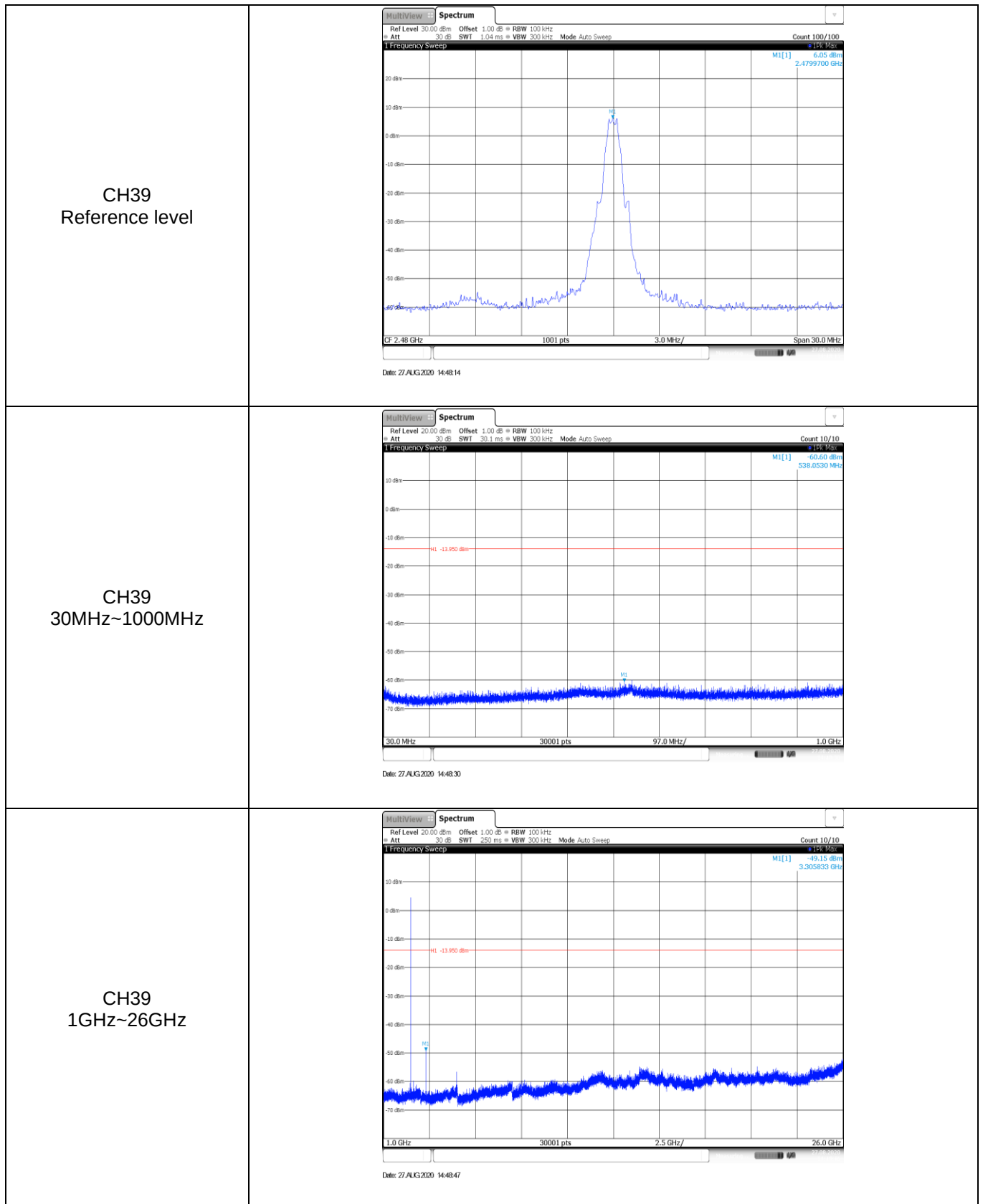


Appendix F: Band edge and Spurious Emissions (conducted)

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 D1 -13.960 dBm M1[1] 6.04 dBm M2[1] 2.401770 GHz M3[1] -51.39 dBm M4[1] 2.400000 GHz M5 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>6.04 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td></td><td>2.4 GHz</td><td>-51.39 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td></td><td>2.39 GHz</td><td>-63.09 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td></td><td>2.31 GHz</td><td>-64.13 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td></td><td>2.35434 GHz</td><td>-55.30 dBm</td><td></td><td></td></tr></table> Date: 28 AUG 2020 18:31:17	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.40177 GHz	6.04 dBm			M2	1			2.4 GHz	-51.39 dBm			M3	1			2.39 GHz	-63.09 dBm			M4	1			2.31 GHz	-64.13 dBm			M5	1			2.35434 GHz	-55.30 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 Frequency Sweep 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm M1 -14.150 dBm M1[1] 5.85 dBm M2[1] 2.4799670 GHz M3[1] -61.65 dBm M4[1] 2.4835000 GHz M4 2.478 GHz 1001 pts 2.2 MHz/ 2.5 GHz <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>2.479967 GHz</td><td>5.85 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-61.65 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-69.22 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.48394 GHz</td><td>-60.09 dBm</td><td></td><td></td></tr></table> Date: 27 AUG 2020 14:48:08	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479967 GHz	5.85 dBm			M2	1		2.4835 GHz	-61.65 dBm			M3	1		2.5 GHz	-69.22 dBm			M4	1		2.48394 GHz	-60.09 dBm															
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Test Item:	SE
CH00 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] 5.56 dBm 2.402000 GHz 2.402 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 27/AUG/2020 14:44:20
CH00 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -60.20 dBm 545.3600 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 27/AUG/2020 14:44:36
CH00 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -45.21 dBm 3.202500 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 27/AUG/2020 14:44:52

CH19 Reference level	 The spectrum plot shows a single sharp peak at 2.4399700 GHz with a magnitude of 6.33 dBm. The x-axis ranges from 2.44 GHz to 2.45 GHz, and the y-axis ranges from -80 dBm to 20 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 30.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 1.04 ms, VBW 300 kHz, Mode Auto Sweep, Count 100/100. The date is 27/AUG/2020 14:46:32.
CH19 30MHz~1000MHz	 The spectrum plot shows a flat noise floor across the 30 MHz to 1000 MHz range. The x-axis ranges from 30.0 MHz to 1.0 GHz, and the y-axis ranges from -80 dBm to 10 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 30.1 ms, VBW 300 kHz, Mode Auto Sweep, Count 10/10. The date is 27/AUG/2020 14:46:47.
CH19 1GHz~26GHz	 The spectrum plot shows a flat noise floor across the 1 GHz to 26 GHz range. The x-axis ranges from 1.0 GHz to 26.0 GHz, and the y-axis ranges from -80 dBm to 10 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWF 250 ms, VBW 300 kHz, Mode Auto Sweep, Count 10/10. The date is 27/AUG/2020 14:47:04.



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