

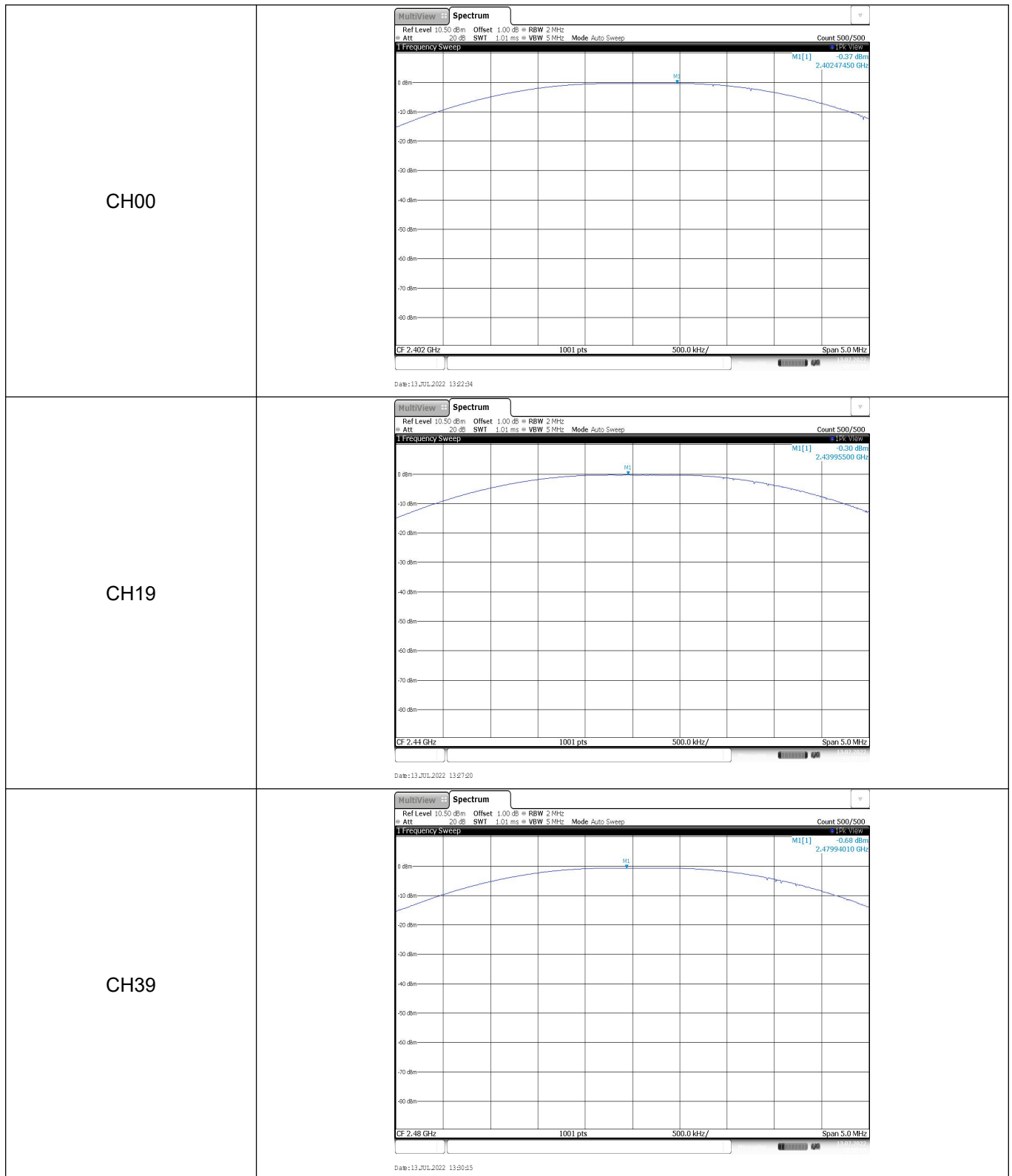
APPENDIX REPORT

Project No.	SHT2207009001EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT22070090009	Model No.	HL60-L-GP-ZX
Start test date	2022-07-13	Finish date	2022-07-13
Temperature	24.9℃	Humidity	34%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhu

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

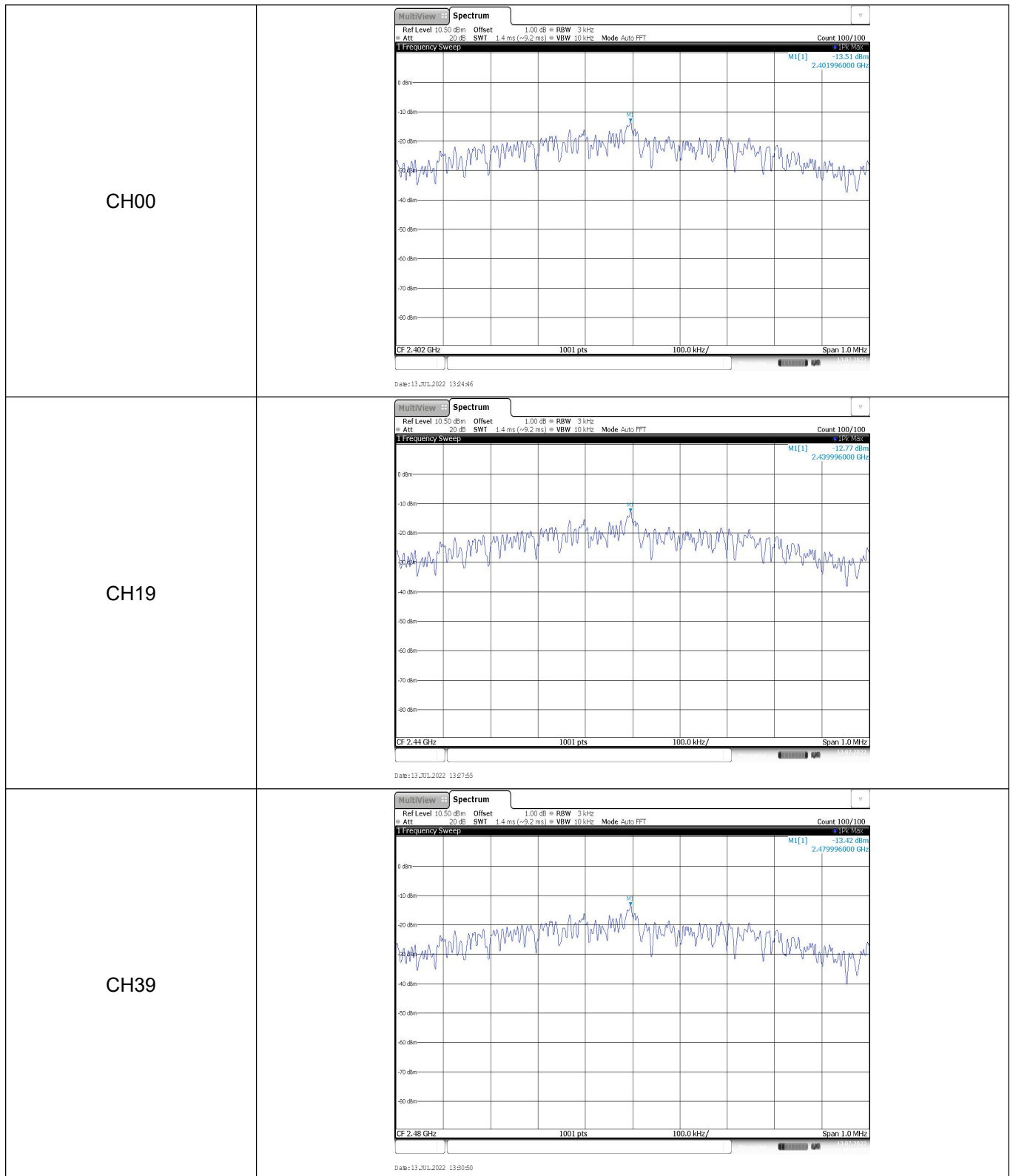
Appendix A: Peak Output Power

Type	Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	-0.37	-0.39	≤ 30.00	Pass
	19	-0.30	-0.32		
	39	-0.68	-0.69		



Appendix B: Power Spectral Density

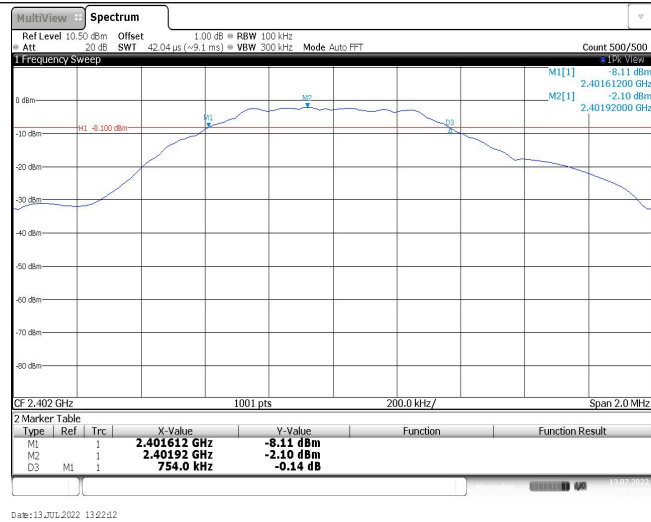
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-13.51	≤8.00	Pass
	19	-12.77		
	39	-13.42		



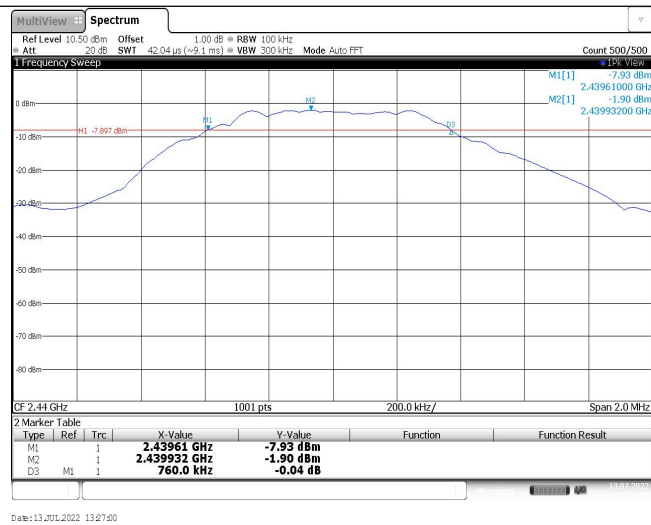
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	754.00	≥500	Pass
	19	760.00		
	39	766.00		

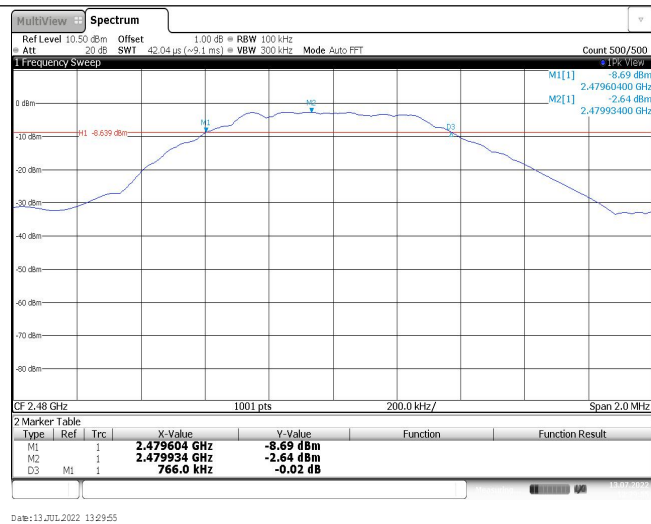
CH00



CH19



CH39



Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.05	-	Pass
	19	1.04		
	39	1.04		

CH00



CH19

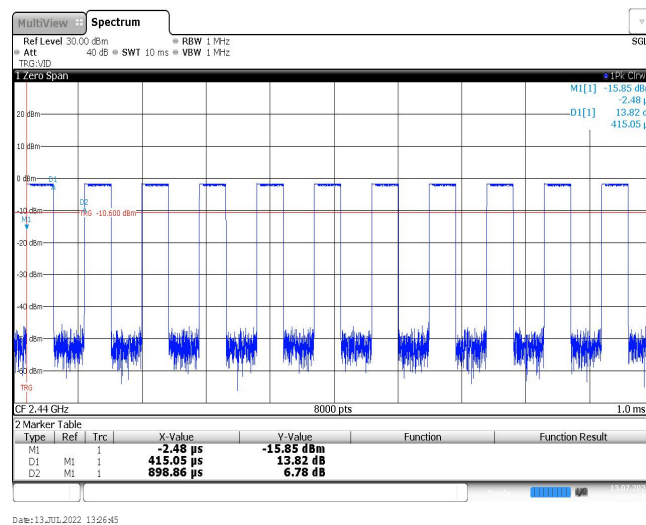


CH39



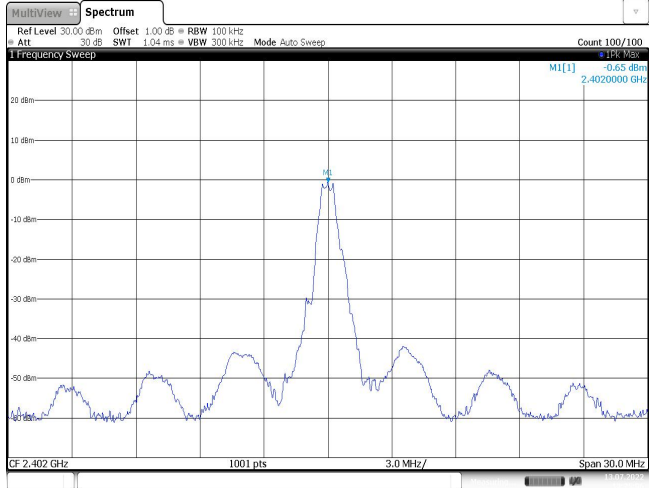
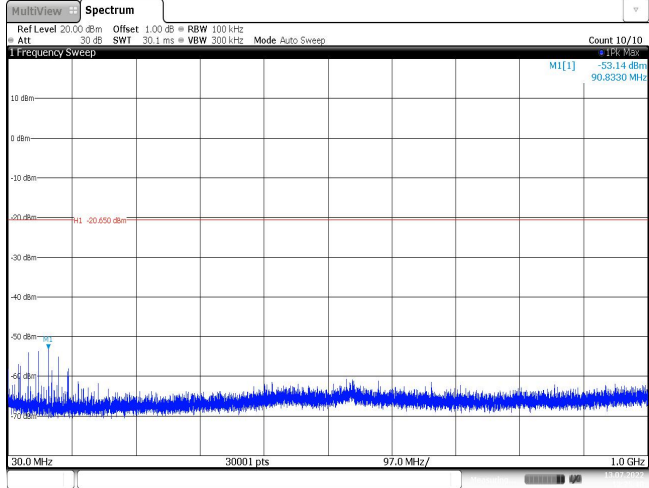
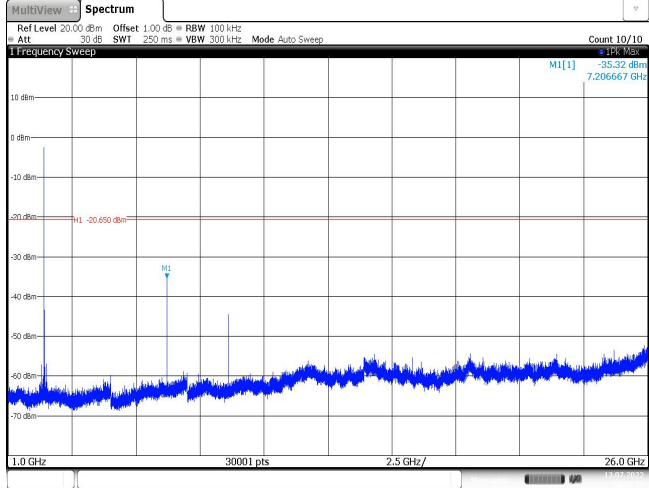
Appendix E: Duty cycle

Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	0.42	0.90	46.7%	2.38

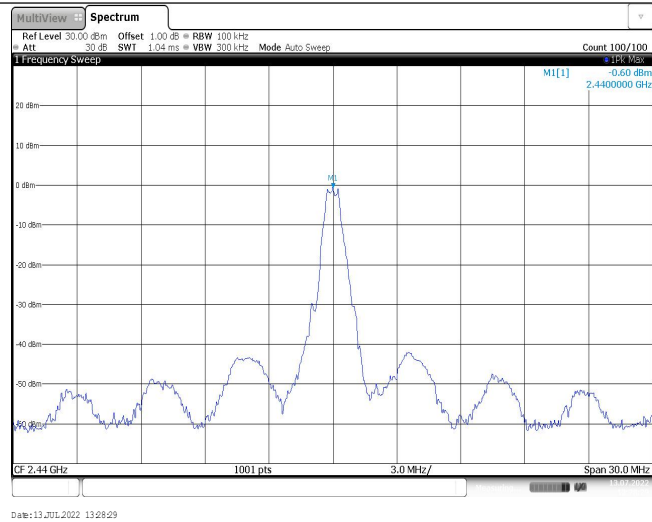


Appendix F: Band edge and Spurious Emissions (conducted)

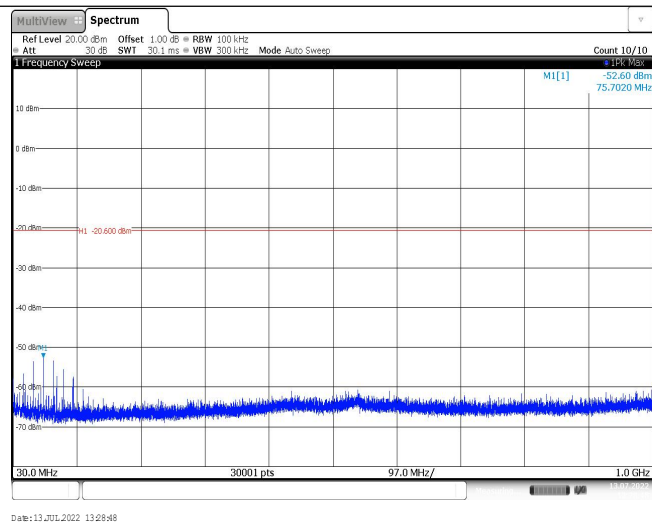
Test Item:	Band edge																																										
CH00	MultiView Spectrum Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz Att 20 dB SWT 1.05 ms VBW 300 kHz Mode Auto Sweep Count 200/200 100 MHz Frequency Sweep 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz M1 -0.89 dBm 2.4020100 GHz -50.97 dBm 2.4000000 GHz M2 -50.97 dBm 2.4000000 GHz -54.32 dBm 2.4000000 GHz M3 -54.32 dBm 2.4000000 GHz -69.78 dBm 2.4000000 GHz M4 -69.78 dBm 2.4000000 GHz -44.01 dBm 2.4000000 GHz M5 -44.01 dBm 2.4000000 GHz -44.01 dBm 2.4000000 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>2.40201 GHz</td><td>-0.89 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-50.97 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-54.32 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-69.78 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.397685 GHz</td><td>-44.01 dBm</td><td></td><td></td></tr></table> Date: 13 JUL 2022 13:24:57	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.40201 GHz	-0.89 dBm			M2	1		2.4 GHz	-50.97 dBm			M3	1		2.39 GHz	-54.32 dBm			M4	1		2.31 GHz	-69.78 dBm			M5	1		2.397685 GHz	-44.01 dBm		
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																					
M1	1		2.40201 GHz	-0.89 dBm																																							
M2	1		2.4 GHz	-50.97 dBm																																							
M3	1		2.39 GHz	-54.32 dBm																																							
M4	1		2.31 GHz	-69.78 dBm																																							
M5	1		2.397685 GHz	-44.01 dBm																																							
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 100/100 100 MHz Frequency Sweep 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 M1 -1.17 dBm 2.4799890 GHz -42.75 dBm 2.4835000 GHz M2 -42.75 dBm 2.4835000 GHz -57.38 dBm 2.4835000 GHz M3 -57.38 dBm 2.4835000 GHz -42.71 dBm 2.4835000 GHz M4 -42.71 dBm 2.4835000 GHz -42.71 dBm 2.4835000 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>2.479989 GHz</td><td>-1.17 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-42.75 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-57.38 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.483566 GHz</td><td>-42.71 dBm</td><td></td><td></td></tr></table> Date: 13 JUL 2022 13:31:02	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479989 GHz	-1.17 dBm			M2	1		2.4835 GHz	-42.75 dBm			M3	1		2.5 GHz	-57.38 dBm			M4	1		2.483566 GHz	-42.71 dBm									
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result																																					
M1	1		2.479989 GHz	-1.17 dBm																																							
M2	1		2.4835 GHz	-42.75 dBm																																							
M3	1		2.5 GHz	-57.38 dBm																																							
M4	1		2.483566 GHz	-42.71 dBm																																							

Test Item:	SE
CH00 Reference level	 The spectrum plot shows a single prominent peak at 2.402 GHz. The y-axis represents power in dBm, ranging from -60 to 20. The x-axis represents frequency in GHz, ranging from 2.4 to 2.5. The peak is labeled with a value of -0.65 dBm. The plot is titled 'Spectrum' and includes parameters: 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. The count is 100/100.
CH00 30MHz~1000MHz	 The spectrum plot shows a noise floor 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, ranging from 30.0 to 1000.0. The noise floor is around -53.14 dBm. The plot is titled 'Spectrum' and includes parameters: 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. The count is 10/10.
CH00 1GHz~26GHz	 The spectrum plot shows a noise floor 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, ranging from 1.0 to 26.0. The noise floor is around -55.32 dBm. The plot is titled 'Spectrum' and includes parameters: Ref Level 20.00 dBm, Offset 1.00 dB, RBW 100 kHz, Att 30 dB, SWI 250 ms, VBW 300 kHz, Mode Auto Sweep. The count is 10/10.

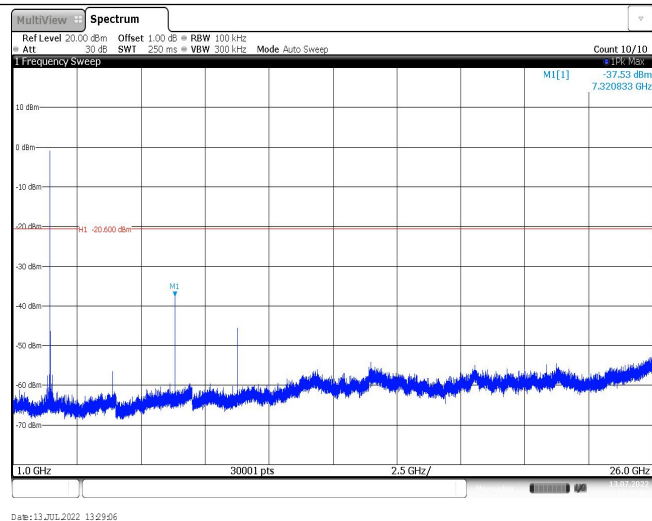
CH19
Reference level

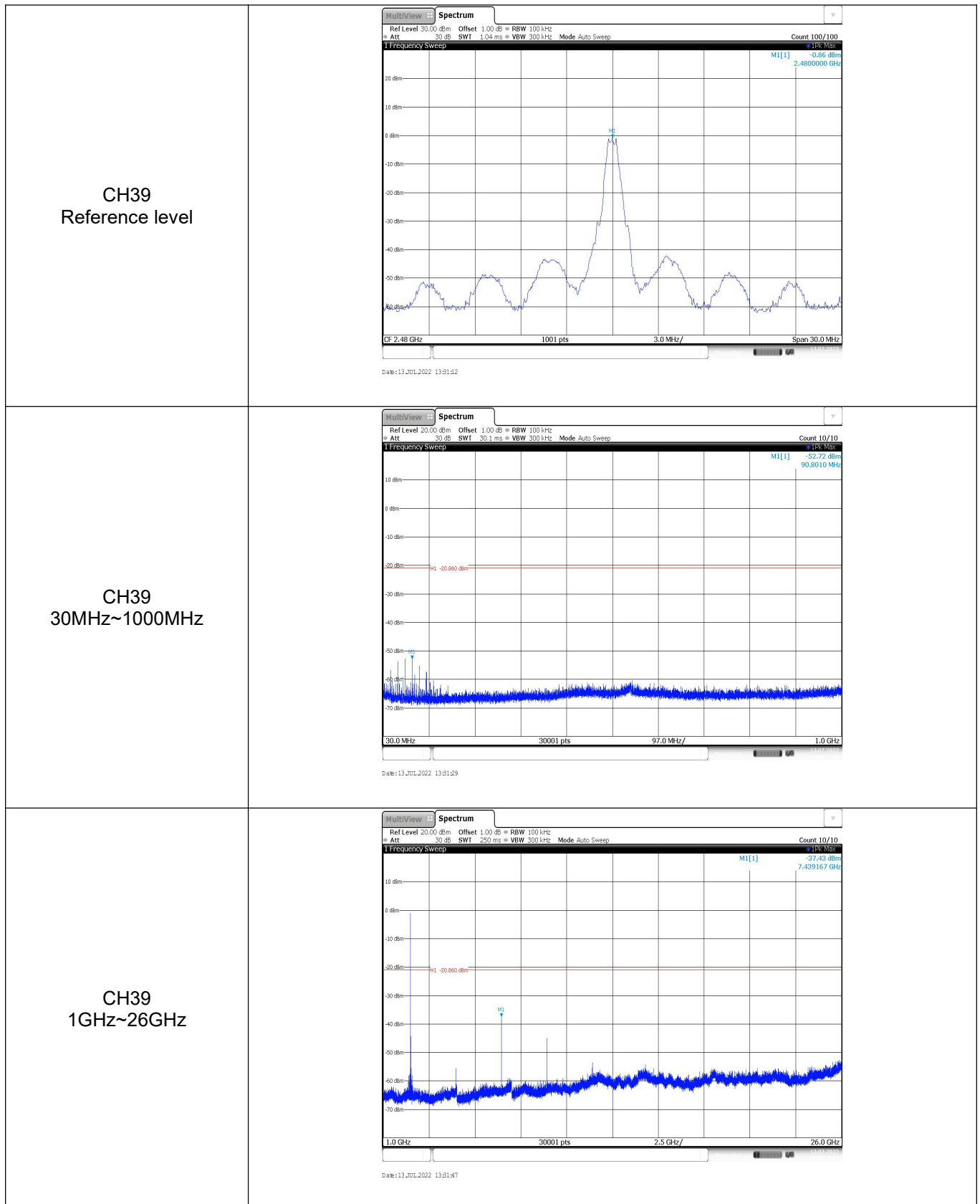


CH19
30MHz~1000MHz



CH19
1GHz~26GHz





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