

APPENDIX REPORT

Project No.	SHT2011064601EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20110646003	Model No.	LS140L
Start test date	2020-12-3	Finish date	2020-12-3
Temperature	24.7°C	Humidity	40%
Test Engineer	Qizhi Zhang	Auditor	Xiaodong Zheo

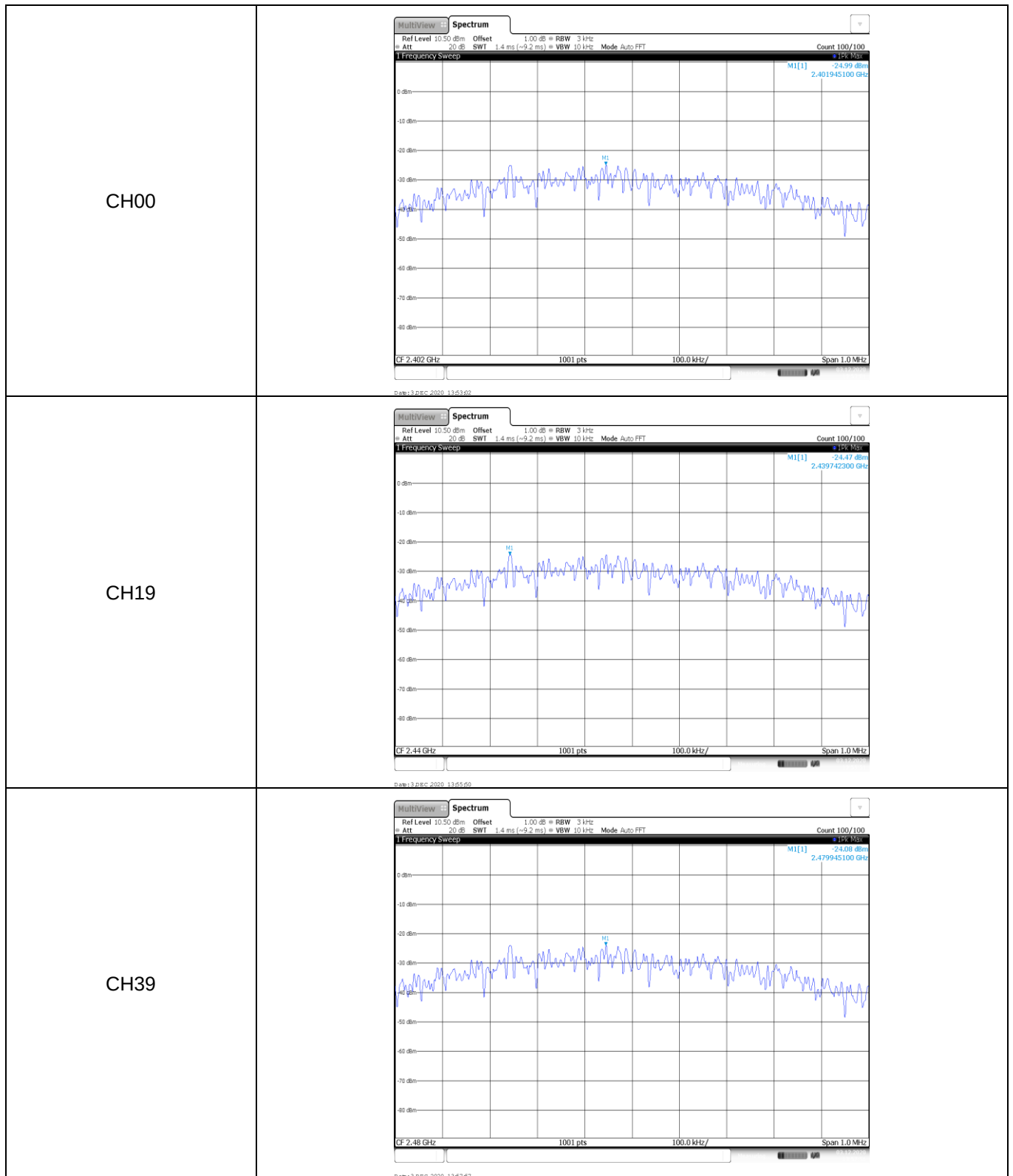
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

Appendix A: Peak Output Power

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	-9.13	-9.14	≤ 30.00	Pass
	19	-8.51	-8.52		
	39	-8.26	-8.28		

Appendix B: Power Spectral Density

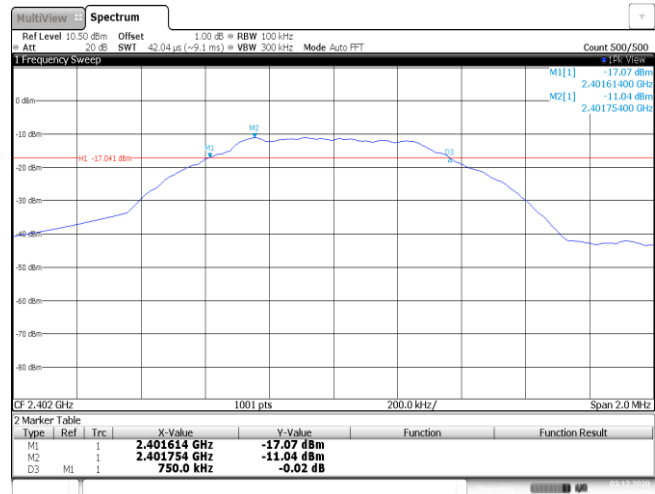
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-24.99	≤8.00	Pass
	19	-24.47		
	39	-24.08		



Appendix C: 6dB bandwidth

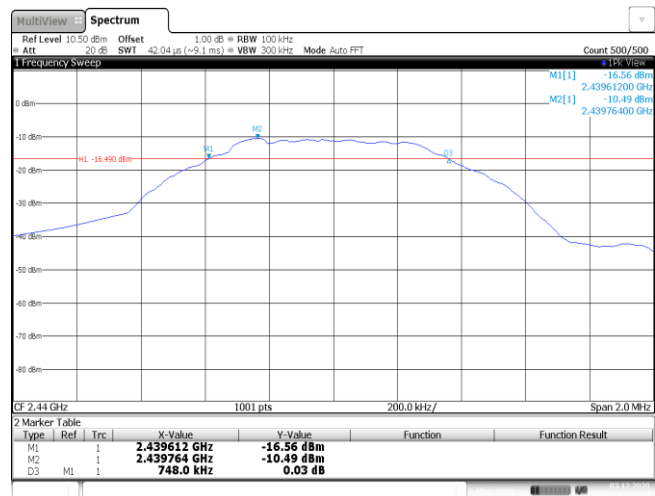
Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	750.00	≥500	Pass
	19	748.00		
	39	752.00		

CH00



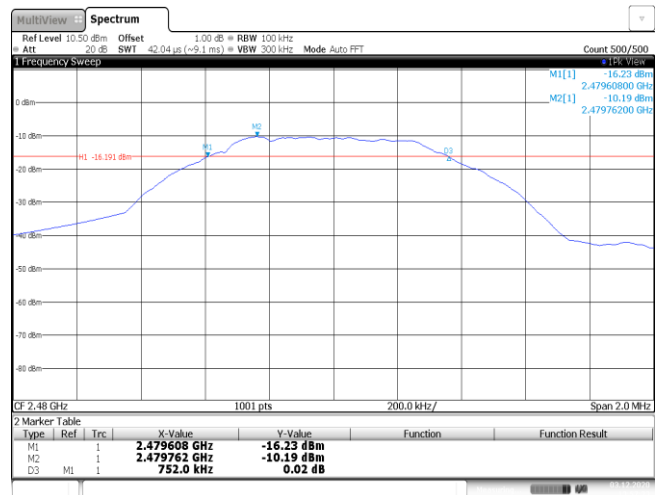
Date: 13 DEC 2020 13:52:28

CH19



Date: 13 DEC 2020 13:55:17

CH39

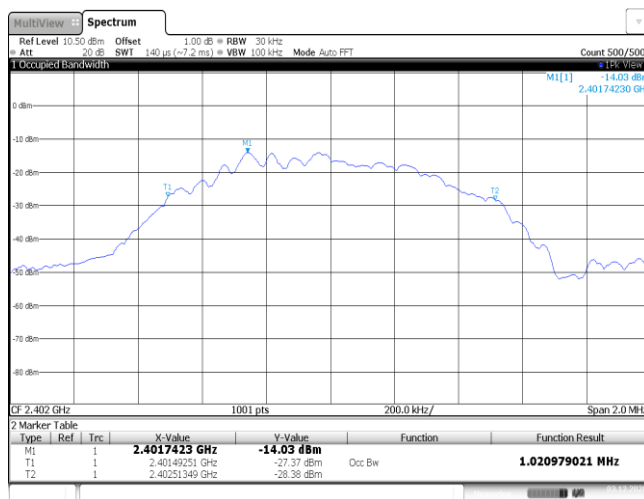


Date: 13 DEC 2020 13:57:23

Appendix D: 99% Occupied Bandwidth

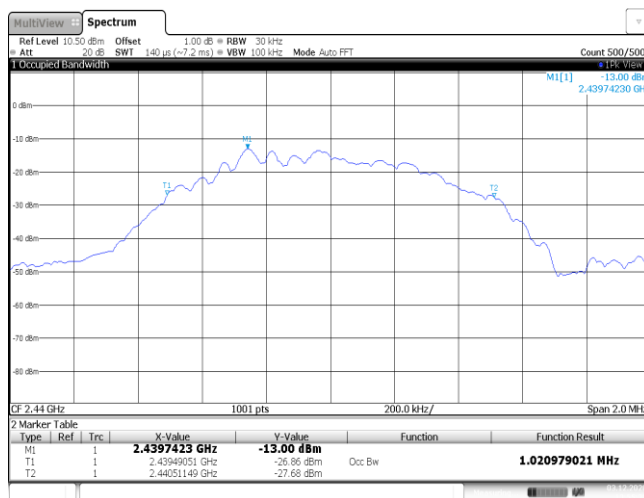
Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.02	-	Pass
	19	1.02		
	39	1.02		

CH00



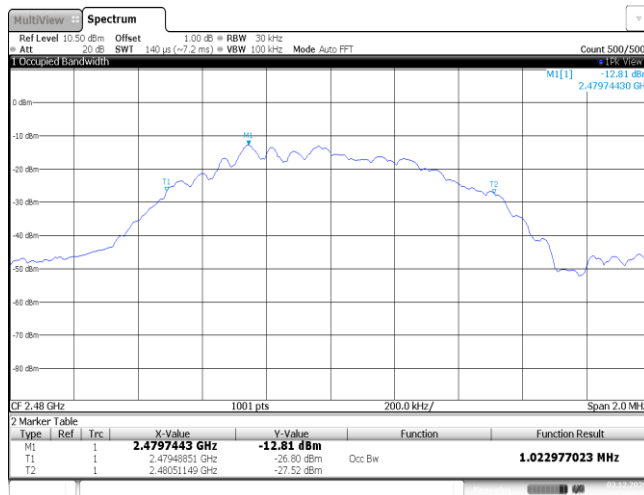
Date: 13 DEC 2020 13:52:27

CH19



Date: 13 DEC 2020 13:55:26

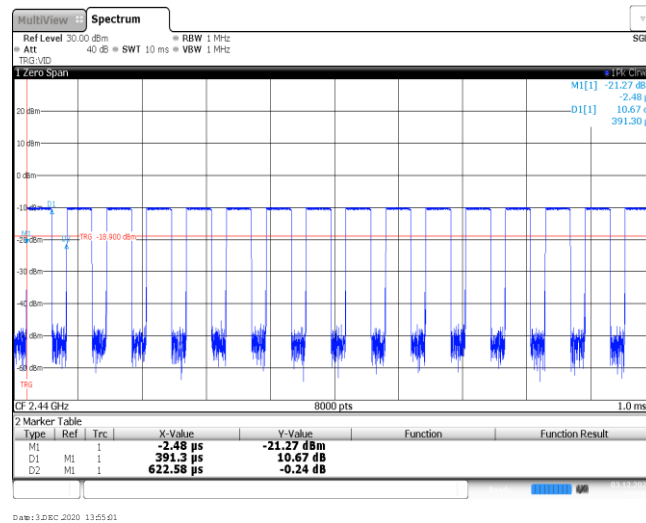
CH39



Date: 13 DEC 2020 13:57:02

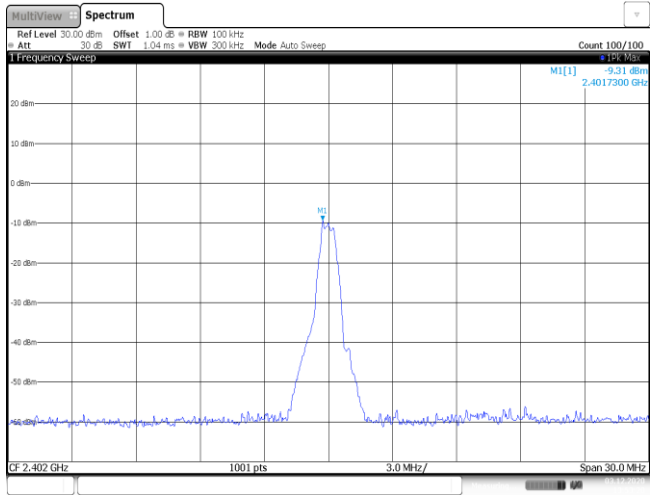
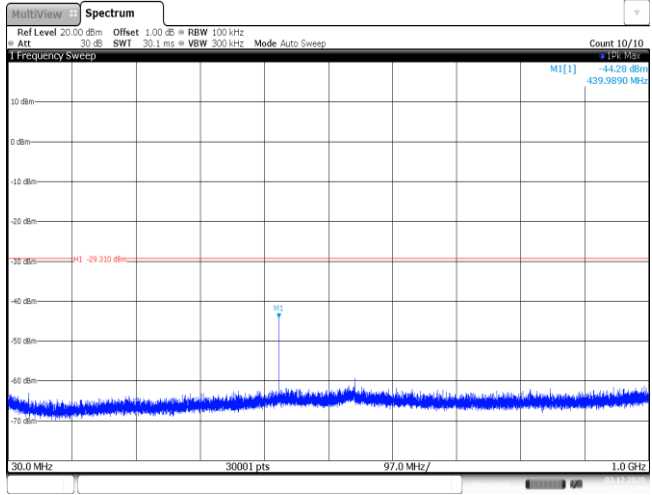
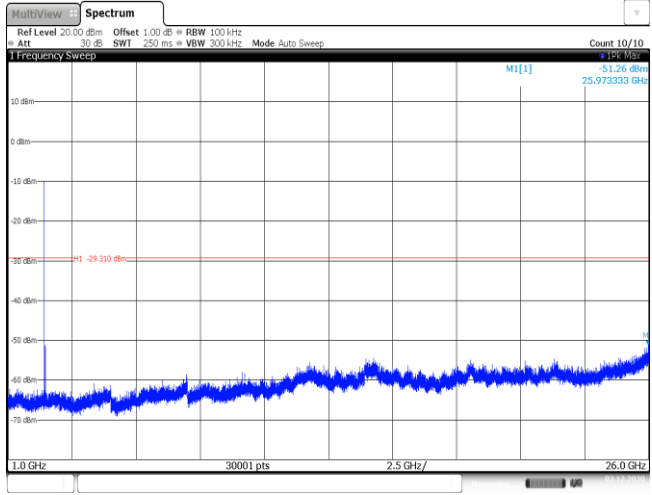
Appendix E: Duty cycle

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	62.9%	2.6

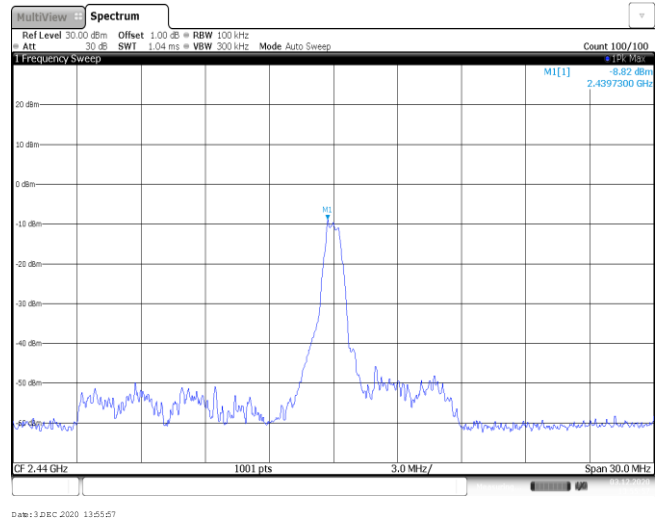


Appendix F: Band edge and Spurious Emissions (conducted)

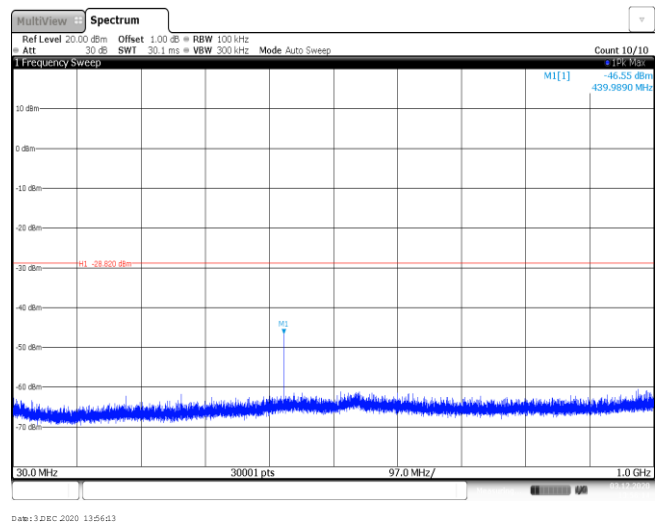
Test Item:	Band edge																																										
CH00	MultiViewSpectrum Ref Level 10.50 dBm Offset 1.00 dB BW 100 kHz ATT 20 dB SWT 1.05 ms VBW 300 kHz Mode Auto Sweep Count 300/300 Frequency Sweep M1 -9.57 dBm 2.401726 GHz M2 -64.74 dBm 2.400000 GHz 2.31 GHz 1001 pts 9.5 MHz/ 2.405 GHz 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>2.401726 GHz</td><td>-9.57 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-64.74 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-72.60 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-74.64 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.398445 GHz</td><td>-67.23 dBm</td><td></td><td></td></tr></table> Date: 3 DEC 2020 13:53:42	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.401726 GHz	-9.57 dBm			M2	1		2.4 GHz	-64.74 dBm			M3	1		2.39 GHz	-72.60 dBm			M4	1		2.31 GHz	-74.64 dBm			M5	1		2.398445 GHz	-67.23 dBm		
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M1	1		2.401726 GHz	-9.57 dBm																																							
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CH39	MultiViewSpectrum Ref Level 10.50 dBm Offset 1.00 dB BW 100 kHz ATT 20 dB SWT 1.02 ms VBW 300 kHz Mode Auto Sweep Count 100/100 Frequency Sweep M1 -8.58 dBm 2.479725 GHz M2 -67.41 dBm 2.483500 GHz 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>2.479725 GHz</td><td>-8.58 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-67.41 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-73.58 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.484028 GHz</td><td>-66.87 dBm</td><td></td><td></td></tr></table> Date: 3 DEC 2020 13:58:07	Type	Ref	Trc	X-Value	Y-Value	Function	Function Result	M1	1		2.479725 GHz	-8.58 dBm			M2	1		2.4835 GHz	-67.41 dBm			M3	1		2.5 GHz	-73.58 dBm			M4	1		2.484028 GHz	-66.87 dBm									
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M4	1		2.484028 GHz	-66.87 dBm																																							

Test Item:	SE
CH00 Reference level	 Ref Level 30.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 1.04 ms VBW 300 kHz Mode Auto Sweep Count 100/100 M1[1] -3.31 dBm 2.4017300 GHz CF 2.402 GHz 1001 pts 3.0 MHz/ Span 30.0 MHz Date: 3 DEC 2020 13:53:21
CH00 30MHz~1000MHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 30.1 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -44.23 dBm 439.9890 MHz 30.0 MHz 30001 pts 97.0 MHz/ 1.0 GHz Date: 3 DEC 2020 13:53:07
CH00 1GHz~26GHz	 Ref Level 20.00 dBm Offset 1.00 dB BW 100 kHz Att 30 dB SWI 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10 M1[1] -31.23 dBm 25.973333 GHz 1.0 GHz 30001 pts 2.5 GHz/ 26.0 GHz Date: 3 DEC 2020 13:53:53

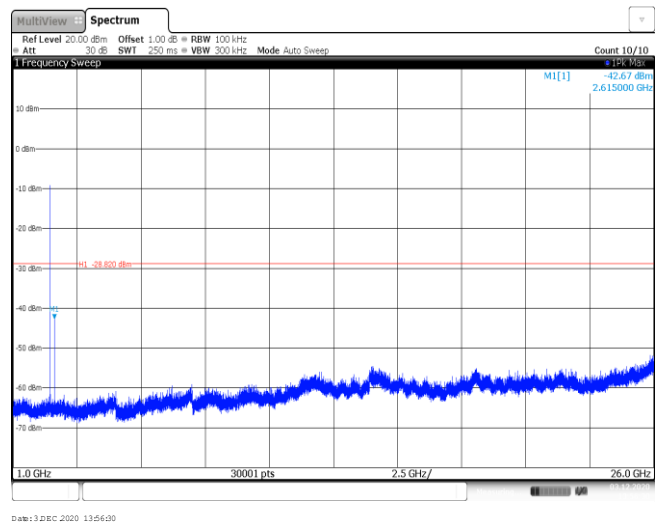
CH19
Reference level

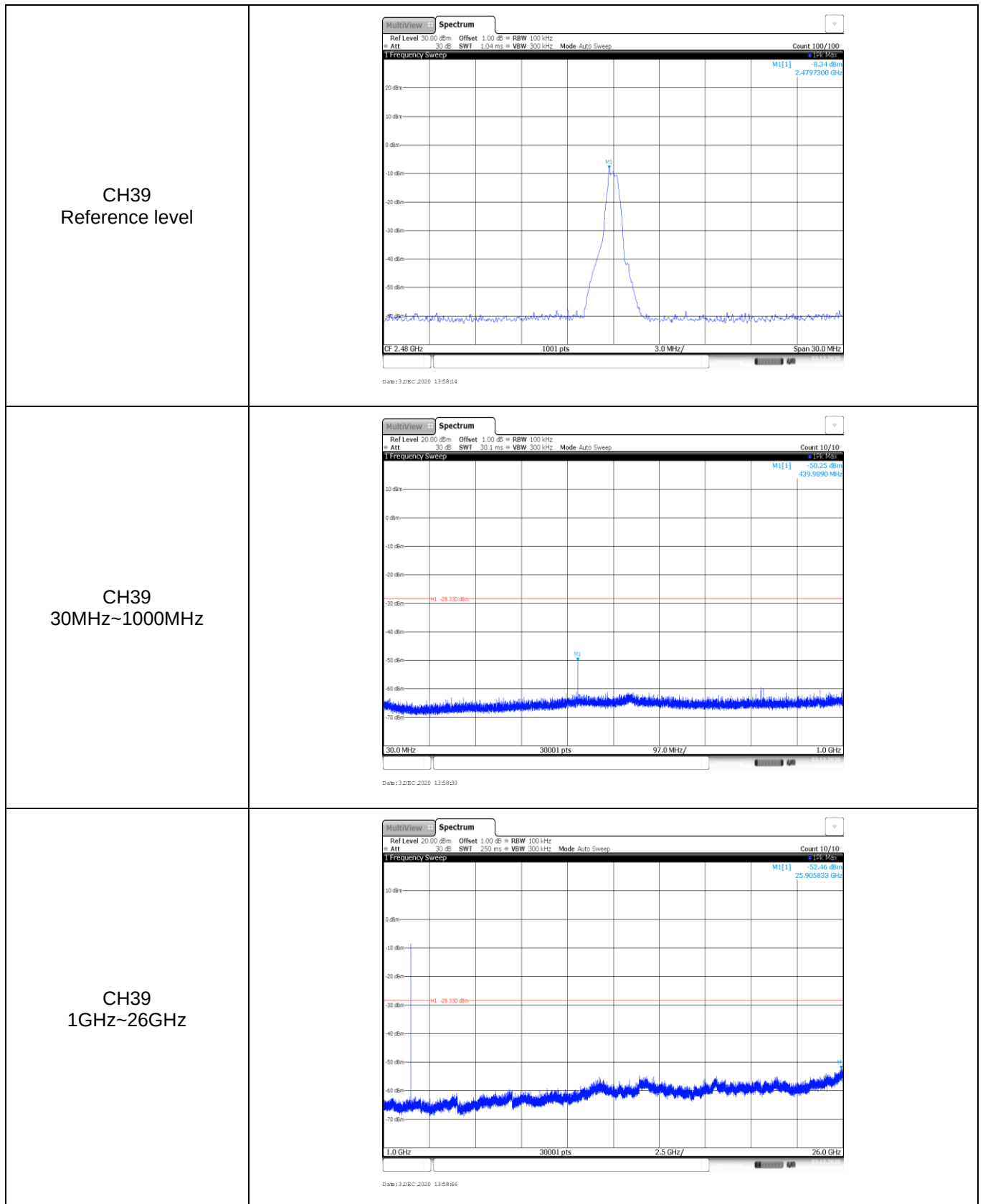


CH19
30MHz~1000MHz



CH19
1GHz~26GHz





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