

# APPENDIX REPORT

Project No.	SHT2010078801EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20100788004	Model No.	CN6Q15
Start test date	2020/10/30	Finish date	2020/10/30
Temperature	25°C	Humidity	50%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhe

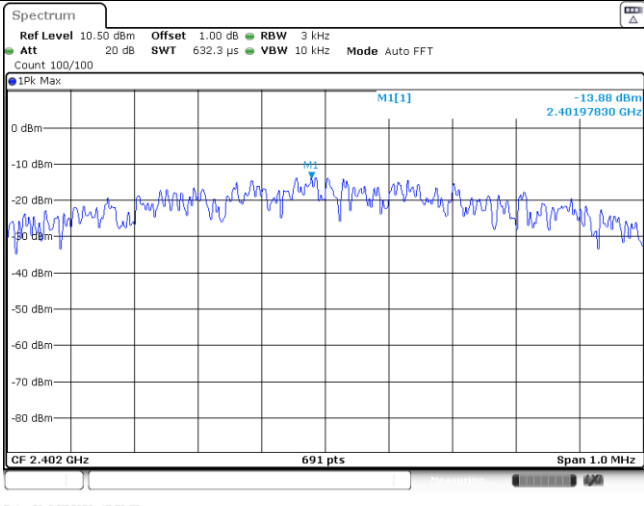
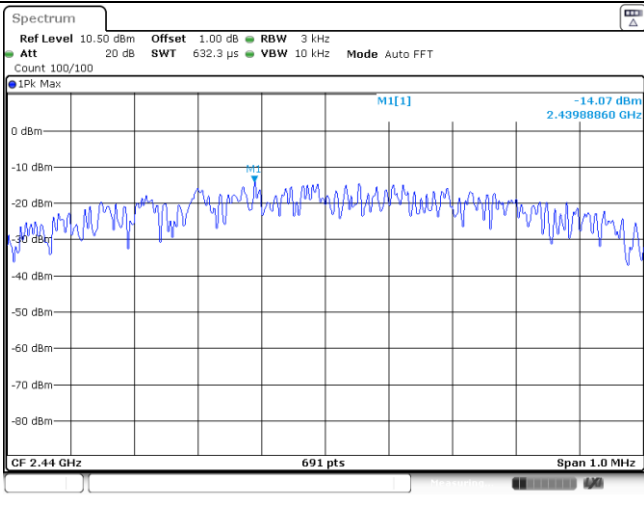
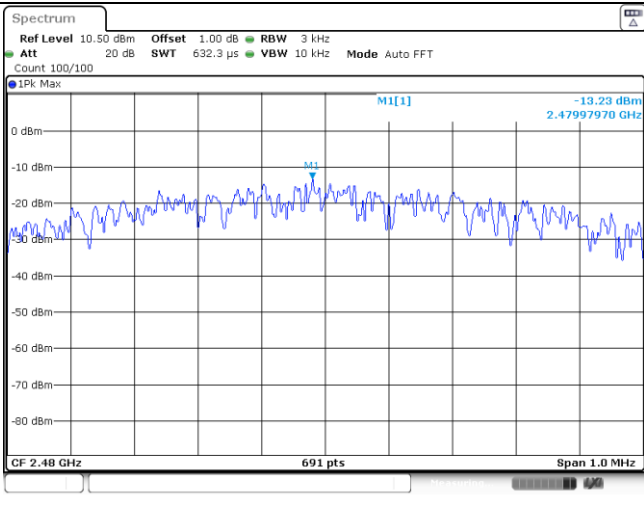
Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	Power Spectral Density	PASS
C	6 dB Bandwidth	PASS
D	99% Occupied Bandwidth	PASS
E	Duty cycle	PASS
F	Band edge and Spurious Emissions (conducted)	PASS

**Appendix A: Peak Output Power**

Type	Channel	Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
BT-BLE	00	2.29	2.27	≤ 30.00	Pass
	19	1.92	1.91		
	39	1.75	1.74		

**Appendix B: Power Spectral Density**

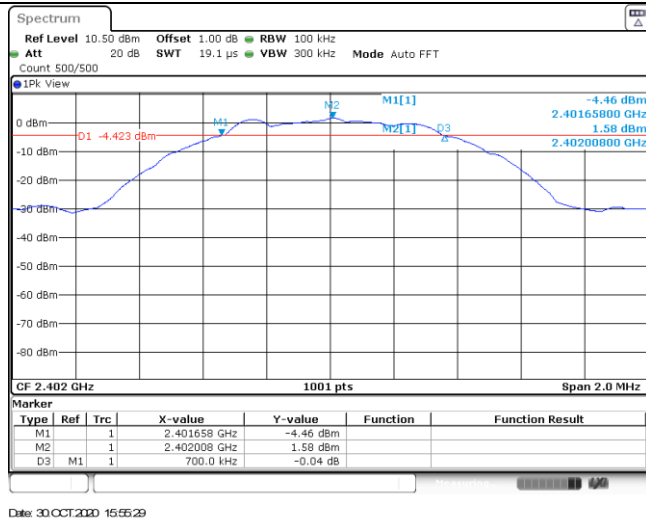
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-13.88	≤8.00	Pass
	19	-14.07		
	39	-13.23		

CH00	 <p>Spectrum</p> <p>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</p> <p>IPK Max</p> <p>M1[1] -13.88 dBm 2.40197830 GHz</p> <p>CF 2.402 GHz 691 pts Span 1.0 MHz</p> <p>Date: 20 OCT 2020 15:53:59</p>
CH19	 <p>Spectrum</p> <p>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</p> <p>IPK Max</p> <p>M1[1] -14.07 dBm 2.43988860 GHz</p> <p>CF 2.44 GHz 691 pts Span 1.0 MHz</p> <p>Date: 20 OCT 2020 15:57:10</p>
CH39	 <p>Spectrum</p> <p>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</p> <p>IPK Max</p> <p>M1[1] -13.23 dBm 2.47997970 GHz</p> <p>CF 2.48 GHz 691 pts Span 1.0 MHz</p> <p>Date: 20 OCT 2020 15:58:55</p>

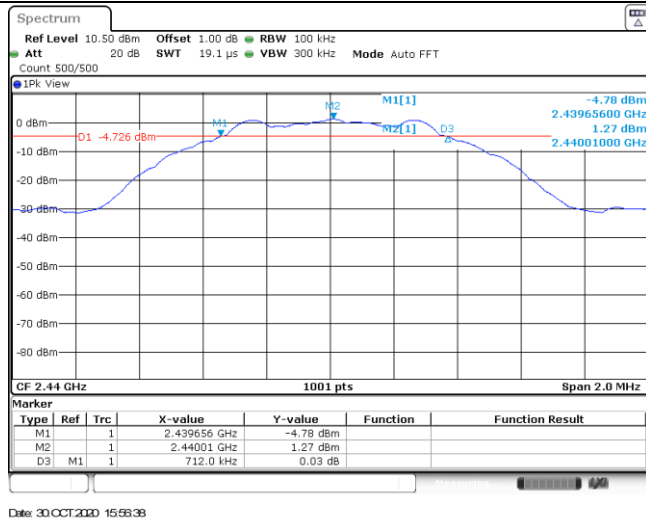
**Appendix C: 6dB bandwidth**

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	700.00	≥500	Pass
	19	712.00		
	39	710.00		

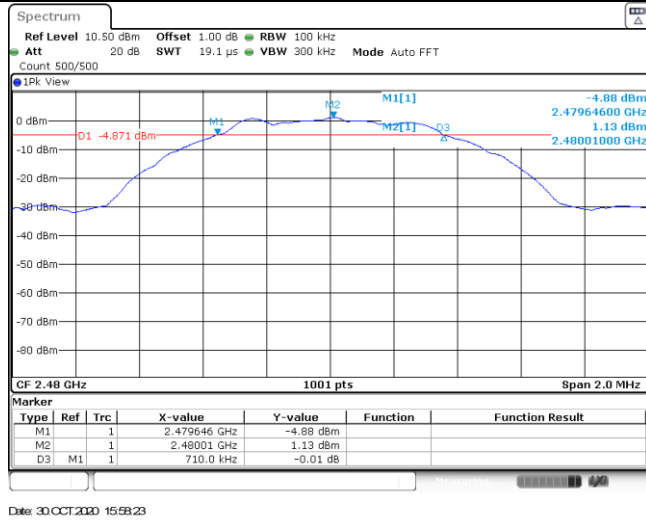
CH00



CH19



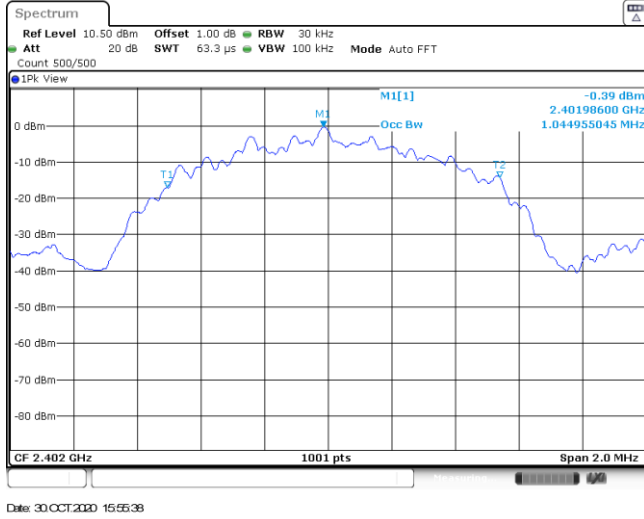
CH39



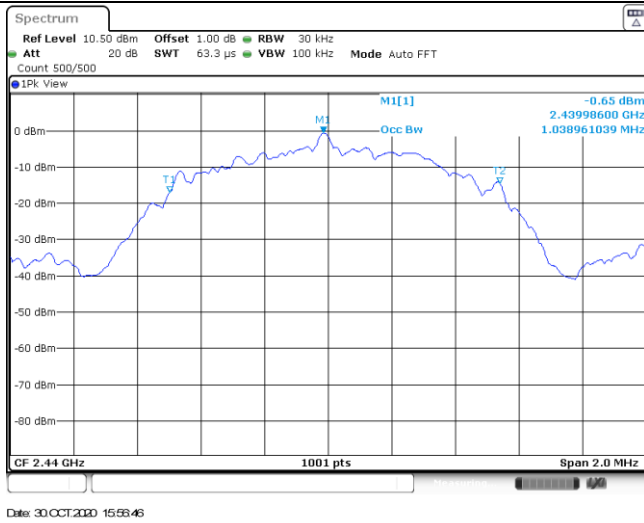
**Appendix D: 99% Occupied Bandwidth**

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

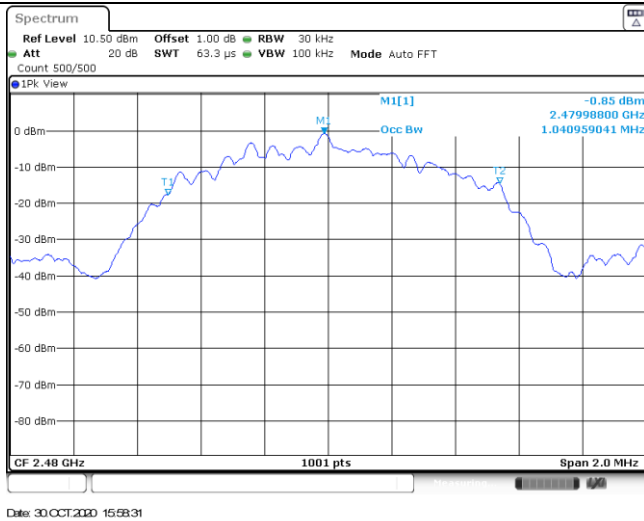
CH00



CH19



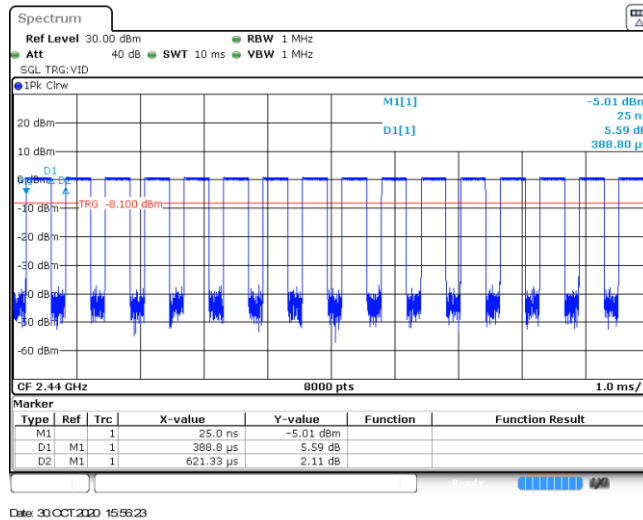
CH39



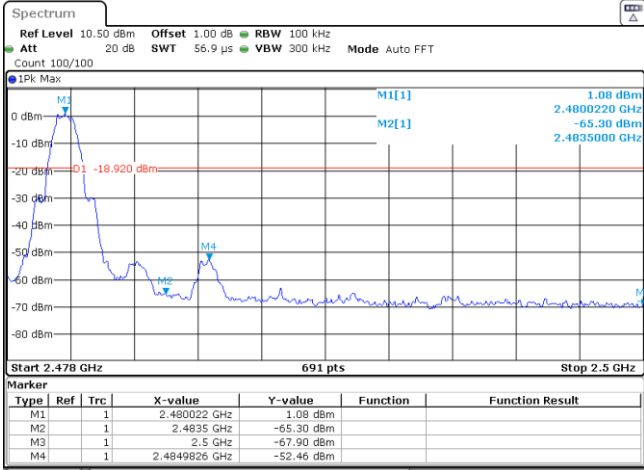


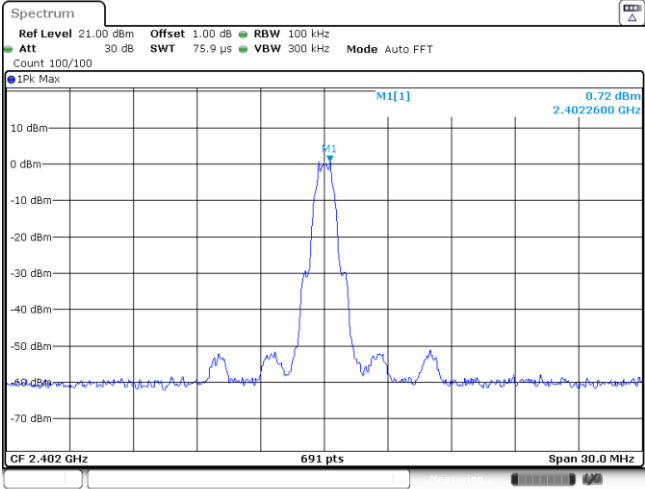
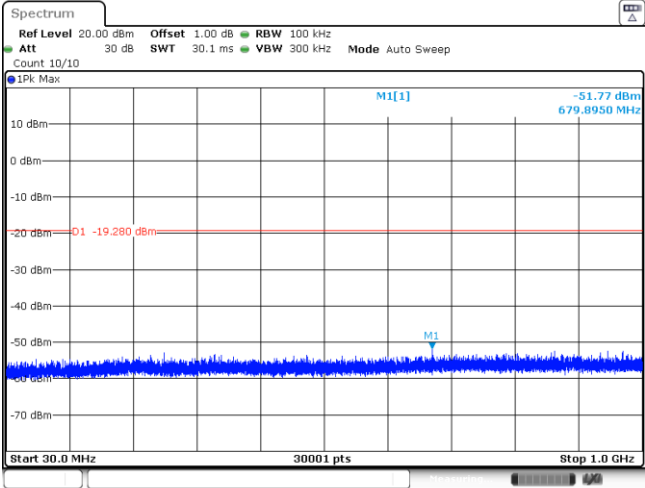
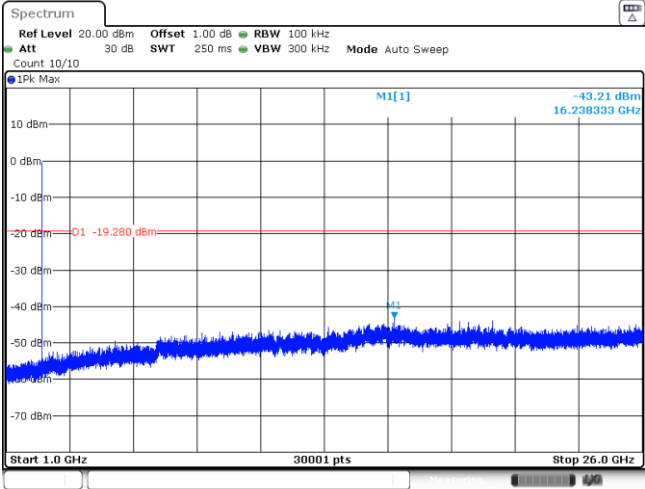
### Appendix E: Duty cycle

Test Frequency (MHz)	T <sub>on</sub> time for single burst (ms)	T <sub>period</sub> (ms)	Duty cycle	1/T <sub>on</sub> time (kHz)
2440	0.39	0.62	62.9%	2.6

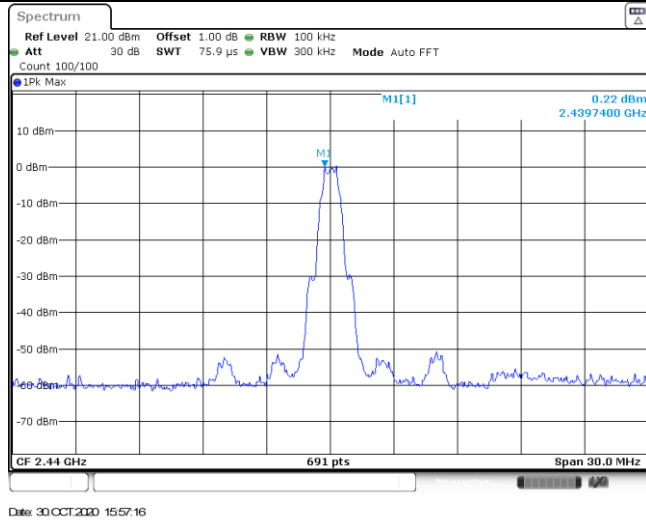


### Appendix F: Band edge and Spurious Emissions (conducted)

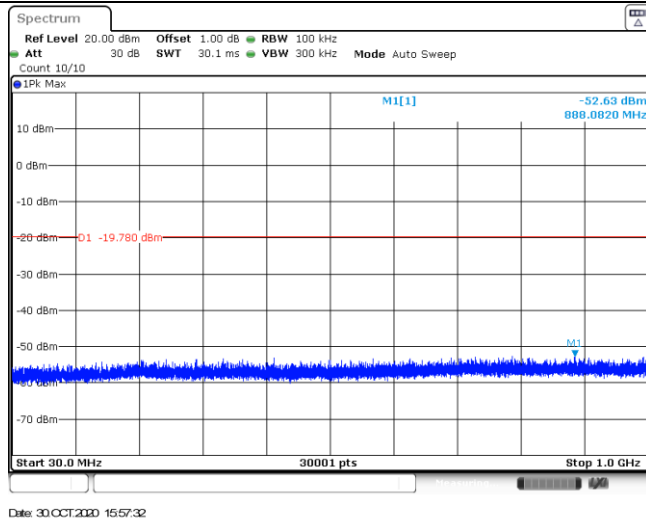
Test Item:	Band edge																																																
CH00	 <p><b>Spectrum</b>          Ref Level 10.50 dBm Offset 1.00 dB RBW 100 kHz          Att 20 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep          Count 300/300</p> <p>1Pk Max</p> <p>0 dBm          -10 dBm          -20 dBm          -30 dBm          -40 dBm          -50 dBm          -60 dBm          -70 dBm          -80 dBm</p> <p>Start 2.31 GHz 691 pts Stop 2.405 GHz</p> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.40204 GHz</td> <td>1.49 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.4 GHz</td> <td>-55.68 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td></td> <td>2.39 GHz</td> <td>-65.02 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td></td> <td>2.31 GHz</td> <td>-64.42 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td></td> <td>2.32203 GHz</td> <td>-62.29 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 30 OCT 2020 15:54:26</p>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.40204 GHz	1.49 dBm			M2	1			2.4 GHz	-55.68 dBm			M3	1			2.39 GHz	-65.02 dBm			M4	1			2.31 GHz	-64.42 dBm			M5	1			2.32203 GHz	-62.29 dBm		
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CH39	 <p><b>Spectrum</b>          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</p> <p>1Pk Max</p> <p>0 dBm          -10 dBm          -20 dBm          -30 dBm          -40 dBm          -50 dBm          -60 dBm          -70 dBm          -80 dBm</p> <p>Start 2.478 GHz 691 pts Stop 2.5 GHz</p> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td>M1</td> <td>1</td> <td></td> <td></td> <td>2.480022 GHz</td> <td>1.08 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td></td> <td>2.4835 GHz</td> <td>-65.30 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td></td> <td>2.5 GHz</td> <td>-67.90 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td></td> <td>2.4849826 GHz</td> <td>-52.46 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date: 30 OCT 2020 15:59:05</p>	Marker	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1			2.480022 GHz	1.08 dBm			M2	1			2.4835 GHz	-65.30 dBm			M3	1			2.5 GHz	-67.90 dBm			M4	1			2.4849826 GHz	-52.46 dBm										
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Test Item:	SE
<p>CH00 Reference level</p>	 <p>Ref Level 21.00 dBm    Offset 1.00 dB    RBW 100 kHz  Att 30 dB    SWT 75.9 <math>\mu</math>s    VBW 300 kHz    Mode Auto FFT  Count 100/100</p> <p>0.72 dBm 2.4022600 GHz</p> <p>CF 2.402 GHz    691 pts    Span 30.0 MHz</p> <p>Date: 30 OCT 2020 16:08:40</p>
<p>CH00 30MHz~1000MHz</p>	 <p>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</p> <p>-51.77 dBm 679.8950 MHz</p> <p>-19.280 dBm</p> <p>Start 30.0 MHz    30001 pts    Stop 1.0 GHz</p> <p>Date: 30 OCT 2020 16:08:56</p>
<p>CH00 1GHz~26GHz</p>	 <p>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</p> <p>-49.21 dBm 16.238333 GHz</p> <p>-19.280 dBm</p> <p>Start 1.0 GHz    30001 pts    Stop 26.0 GHz</p> <p>Date: 30 OCT 2020 16:07:12</p>

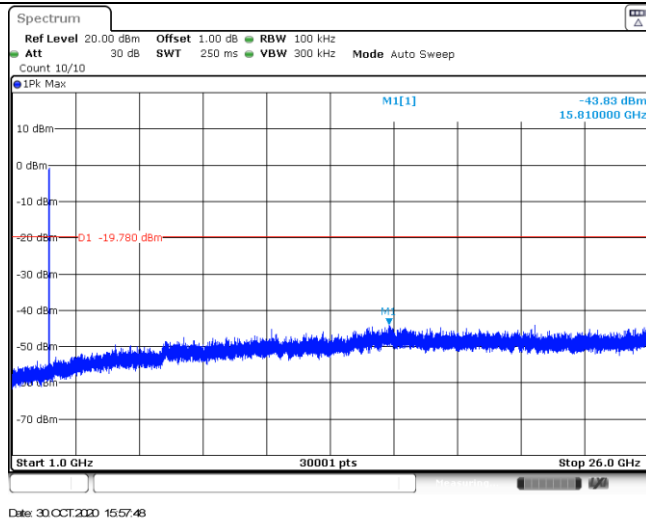
CH19  
Reference level



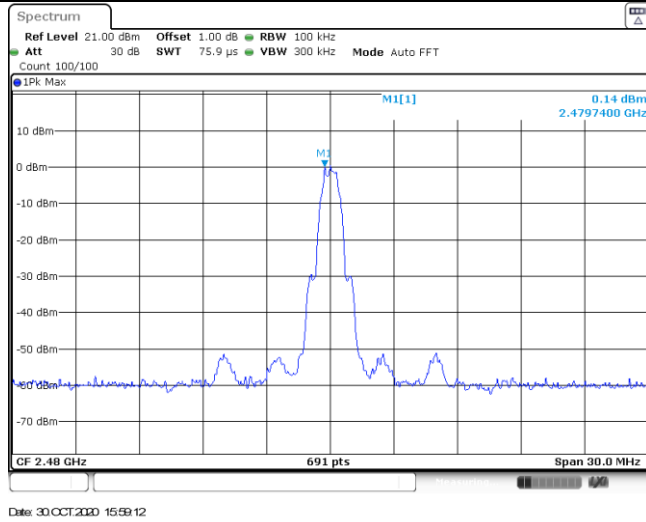
CH19  
30MHz~1000MHz



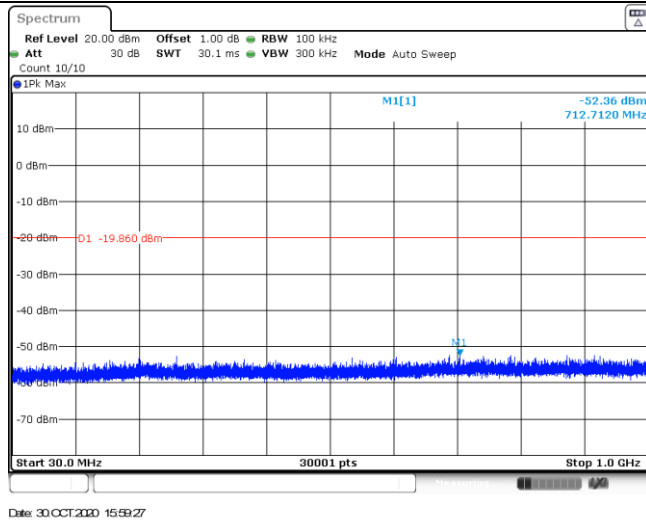
CH19  
1GHz~26GHz



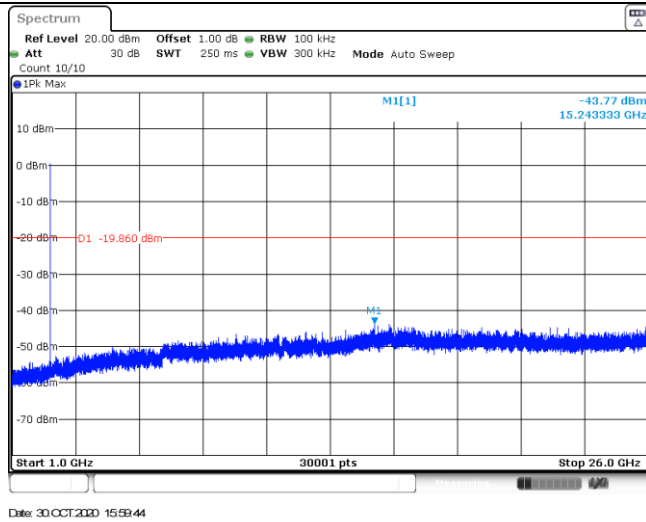
CH39  
Reference level



CH39  
30MHz~1000MHz



CH39  
1GHz~26GHz



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