

# APPENDIX REPORT

Project No.	SHT2007123701EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20071237002	Model No.	8WC1
Start test date	2020/8/6	Finish date	2020/8/6
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	9.48	9.46	≤ 30.00	Pass
	19	9.43	9.40		
	39	8.80	8.77		

**Appendix B: Power Spectral Density**

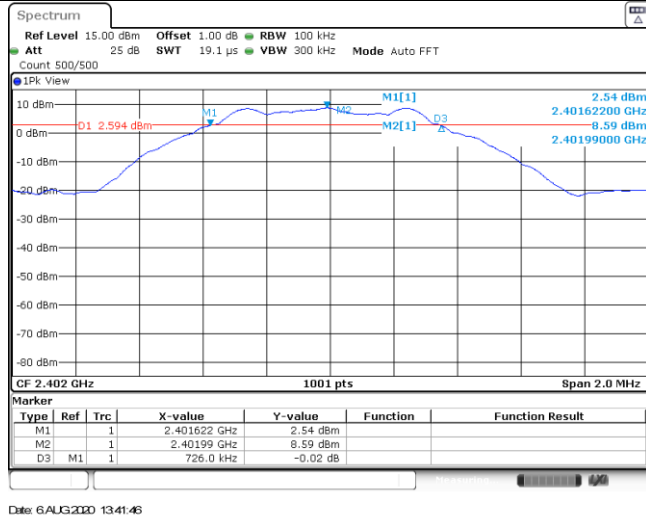
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-6.62	≤8.00	Pass
	19	-6.75		
	39	-7.25		

CH00	<p>Spectrum 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 -6.62 dBm 2.40185820 GHz CF 2.402 GHz 691 pts Span 1.0 MHz Date: 6 AUG 2020 13:42:18</p>
CH19	<p>Spectrum 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 -6.75 dBm 2.43985820 GHz CF 2.44 GHz 691 pts Span 1.0 MHz Date: 6 AUG 2020 13:44:55</p>
CH39	<p>Spectrum 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 -7.25 dBm 2.47985820 GHz CF 2.48 GHz 691 pts Span 1.0 MHz Date: 6 AUG 2020 13:46:27</p>

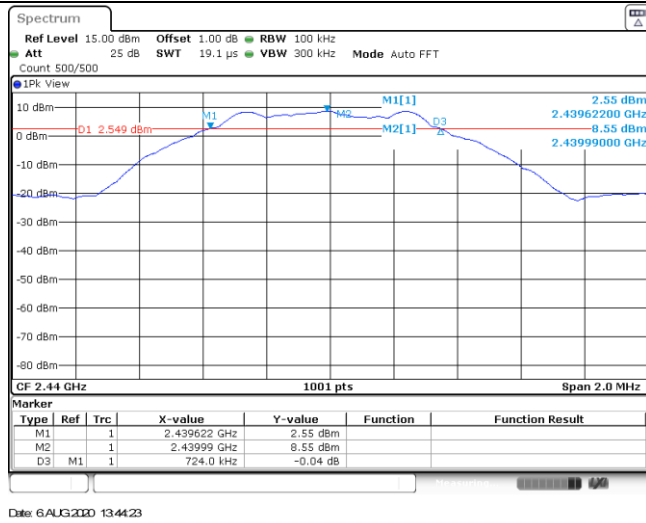
**Appendix C: 6dB bandwidth**

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	726.00	≥500	Pass
	19	724.00		
	39	726.00		

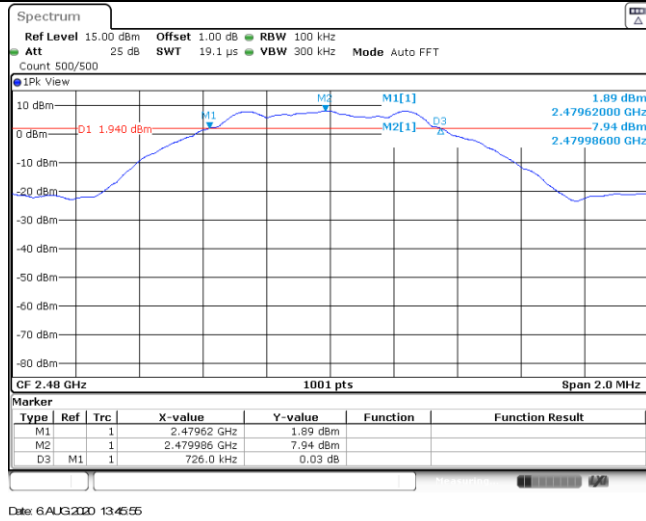
CH00



CH19



CH39



**Appendix D: 99% Occupied Bandwidth**

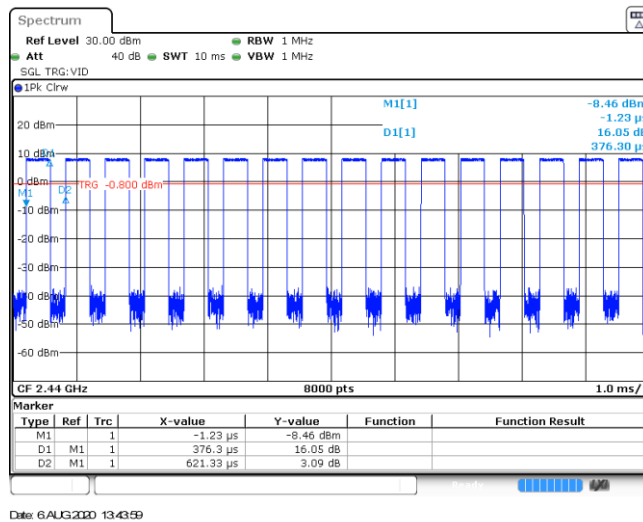
Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.04	-	Pass
	19	1.04		
	39	1.04		

<p>CH00</p>	<p>Spectrum              Ref Level 15.00 dBm Offset 1.00 dB RBW 30 kHz              Att 25 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT              Count 500/500              IPK View              M1[1] 4.57 dBm              2.40195800 GHz              1.040959041 MHz              Occ Bw              T1 T2              CF 2.402 GHz 1001 pts Span 2.0 MHz              Date: 6 AUG 2020 13:41:54</p>
<p>CH19</p>	<p>Spectrum              Ref Level 15.00 dBm Offset 1.00 dB RBW 30 kHz              Att 25 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT              Count 500/500              IPK View              M1[1] 4.52 dBm              2.43995800 GHz              1.038961039 MHz              Occ Bw              T1 T2              CF 2.44 GHz 1001 pts Span 2.0 MHz              Date: 6 AUG 2020 13:44:31</p>
<p>CH39</p>	<p>Spectrum              Ref Level 15.00 dBm Offset 1.00 dB RBW 30 kHz              Att 25 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT              Count 500/500              IPK View              M1[1] 3.88 dBm              2.47995800 GHz              1.036963037 MHz              Occ Bw              T1 T2              CF 2.48 GHz 1001 pts Span 2.0 MHz              Date: 6 AUG 2020 13:46:03</p>


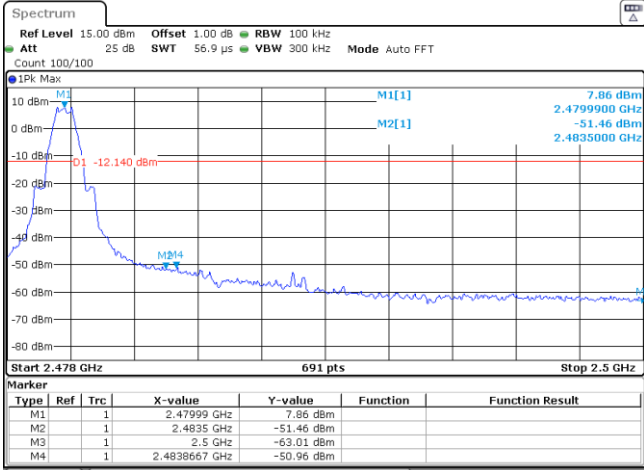


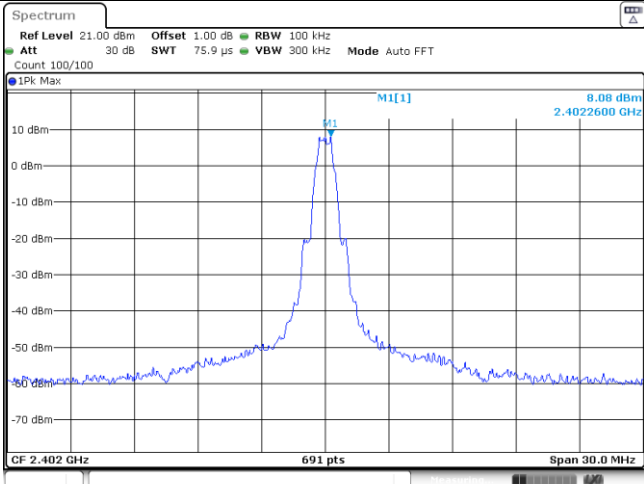
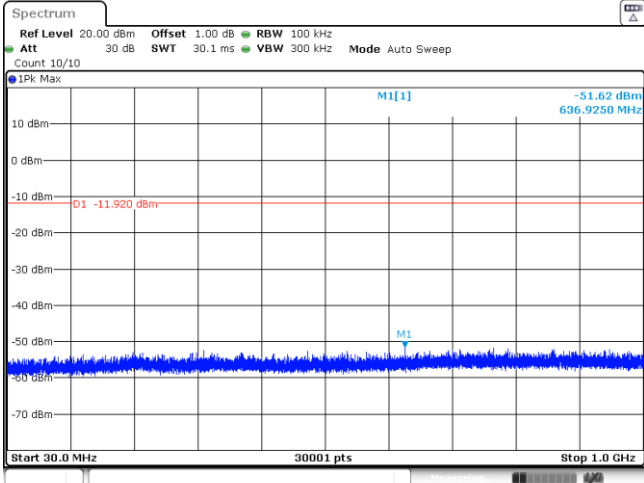
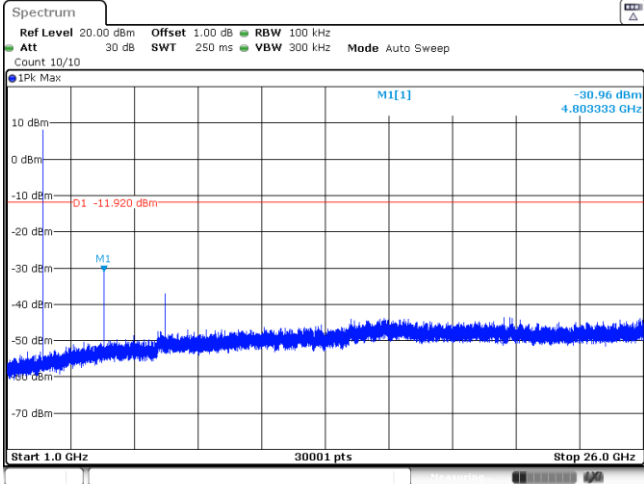
### Appendix E: Duty cycle

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	0.38	0.62	61.3%	2.6



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

Test Item:	Band edge																																										
CH00	 <p><b>Spectrum</b>          Ref Level 15.00 dBm Offset 1.00 dB RBW 100 kHz          Att 25 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep          Count 300/300</p> <p>1Pk Max          10 dBm M1[1] 8.71 dBm          0 dBm M2[1] 2.40204 GHz          -11.290 dBm D1 -11.290 dBm          -20 dBm          -30 dBm          -40 dBm          -50 dBm M3          -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>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>2.40204 GHz</td> <td>8.71 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-46.91 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-58.99 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-58.70 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399906 GHz</td> <td>-46.86 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date 6AUG2010 13:42:28</p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40204 GHz	8.71 dBm			M2	1		2.4 GHz	-46.91 dBm			M3	1		2.39 GHz	-58.99 dBm			M4	1		2.31 GHz	-58.70 dBm			M5	1		2.399906 GHz	-46.86 dBm		
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CH39	 <p><b>Spectrum</b>          Ref Level 15.00 dBm Offset 1.00 dB RBW 100 kHz          Att 25 dB SWT 56.9 μs VBW 300 kHz Mode Auto FFT          Count 100/100</p> <p>1Pk Max          10 dBm M1 7.86 dBm          0 dBm M2[1] 2.4799900 GHz          -51.46 dBm M2[1] 2.4835000 GHz          -12.140 dBm D1 -12.140 dBm          -20 dBm          -30 dBm          -40 dBm          -50 dBm M3          -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>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>2.47999 GHz</td> <td>7.86 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-51.46 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-63.01 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4838667 GHz</td> <td>-50.96 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Date 6AUG2010 13:46:37</p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.47999 GHz	7.86 dBm			M2	1		2.4835 GHz	-51.46 dBm			M3	1		2.5 GHz	-63.01 dBm			M4	1		2.4838667 GHz	-50.96 dBm									
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Test Item:	SE
<p>CH00 Reference level</p>	 <p>Spectrum</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>1Pk Max</p> <p>0.00 dBm 2.4022600 GHz</p> <p>CF 2.402 GHz 691 pts Span 30.0 MHz</p> <p>Date: 6 AUG 2020 13:42:35</p>
<p>CH00 30MHz~1000MHz</p>	 <p>Spectrum</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>1Pk Max</p> <p>-51.62 dBm 636.9250 MHz</p> <p>D1 -11.920 dBm</p> <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 6 AUG 2020 13:42:51</p>
<p>CH00 1GHz~26GHz</p>	 <p>Spectrum</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>1Pk Max</p> <p>-30.96 dBm 4.803333 GHz</p> <p>D1 -11.920 dBm</p> <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 6 AUG 2020 13:43:07</p>

<p>CH19 Reference level</p>	<p>Spectrum          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          IPK Max          M1[1] 7.98 dBm          2.4402600 GHz          CF 2.44 GHz 691 pts Span 30.0 MHz          Date: 6.AUG.2020 13:45:01</p>
<p>CH19 30MHz~1000MHz</p>	<p>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          IPK Max          M1[1] -51.23 dBm          980.2930 MHz          D1 -12.020 dBm          Start 30.0 MHz 30001 pts Stop 1.0 GHz          Date: 6.AUG.2020 13:45:17</p>
<p>CH19 1GHz~26GHz</p>	<p>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          IPK Max          M1[1] -29.94 dBm          4.879167 GHz          D1 -12.020 dBm          Start 1.0 GHz 30001 pts Stop 26.0 GHz          Date: 6.AUG.2020 13:45:33</p>

<p>CH39 Reference level</p>	
<p>CH39 30MHz~1000MHz</p>	
<p>CH39 1GHz~26GHz</p>	

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