

APPENDIX REPORT

Project No.	SHT2001035304EW	Radio Specification	Bluetooth BLE
Test sample No.	YPHT20010353003	Model No.	DSJ-K9
Start test date	2020/2/28	Finish date	2020/2/28
Temperature	25°C	Humidity	50%
Test Engineer	Jinyue.Yan	Auditor	<i>William.wang</i>

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	2.52	2.51	≤30.00	Pass
	19	5.66	5.64		
	39	2.65	2.63		

Appendix B: Power Spectral Density

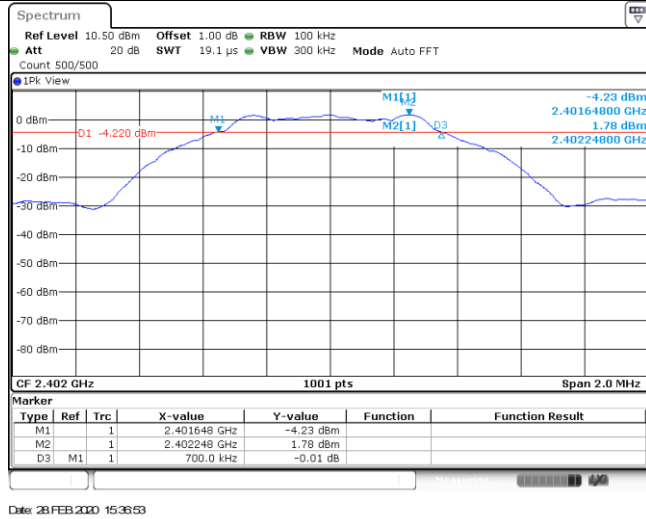
Type	Channel	Power Spectral Density(dBm/3KHz)	Limit (dBm/3KHz)	Result
BT-BLE	00	-12.83	≤8.00	Pass
	19	-9.65		
	39	-12.66		

<p>CH00</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 IPK Max M1[1] -12.83 dBm 2.40197970 GHz CF 2.402 GHz 691 pts Span 1.0 MHz Date: 28 FEB 2020 15:37:25</p>
<p>CH19</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 IPK Max M1[1] -9.65 dBm 2.43997970 GHz CF 2.44 GHz 691 pts Span 1.0 MHz Date: 28 FEB 2020 15:42:20</p>
<p>CH39</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 IPK Max M1[1] -12.66 dBm 2.47997970 GHz CF 2.48 GHz 691 pts Span 1.0 MHz Date: 28 FEB 2020 15:46:05</p>

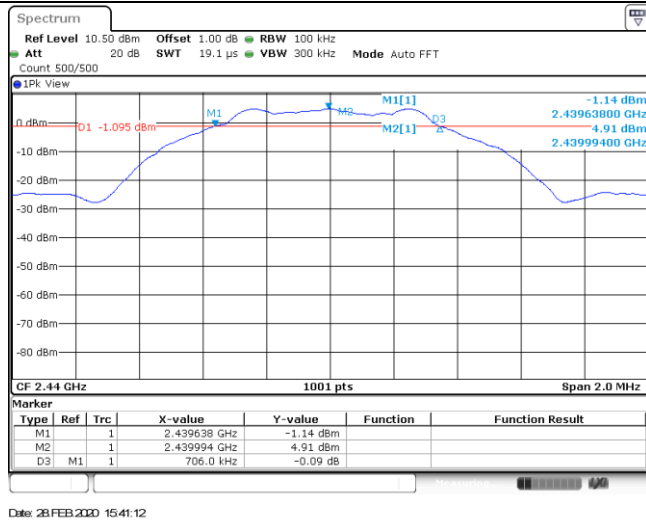
Appendix C: 6dB bandwidth

Type	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
BT-BLE	00	700.00	≥500	Pass
	19	706.00		
	39	692.00		

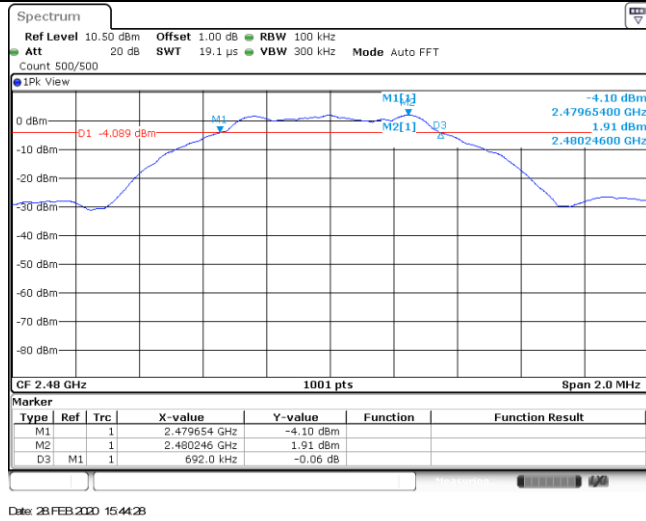
CH00



CH19



CH39



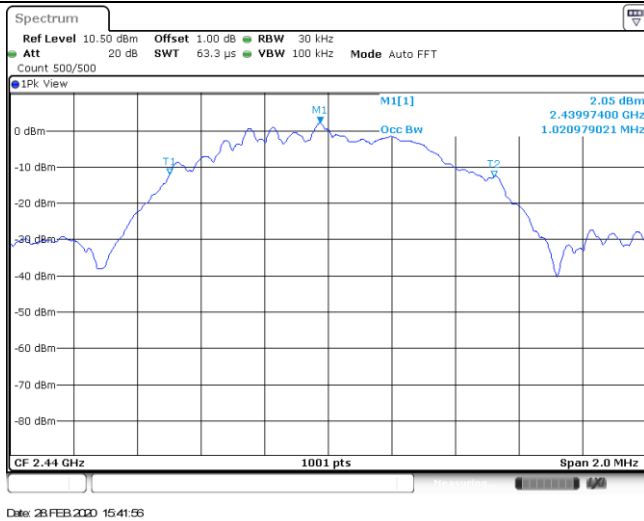
Appendix D: 99% Occupied Bandwidth

Type	Channel	99% Occupied Bandwidth(MHz)	Limit (kHz)	Result
BT-BLE	00	1.03	-	Pass
	19	1.02		
	39	1.02		

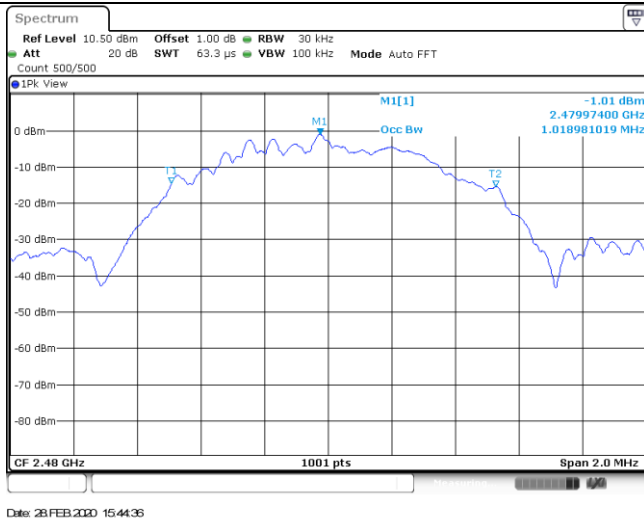
CH00



CH19

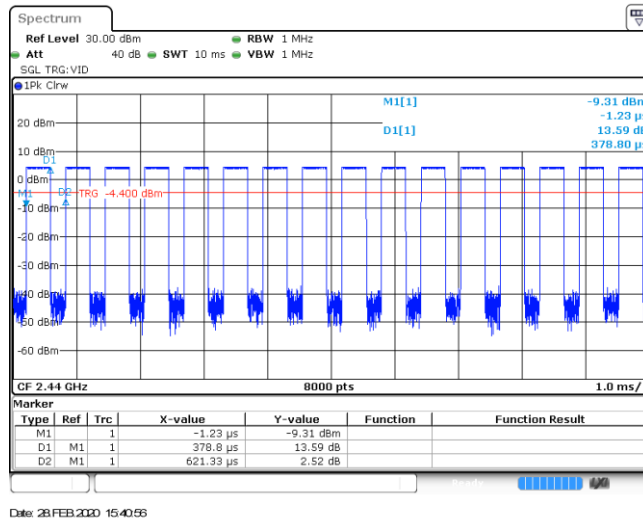


CH39

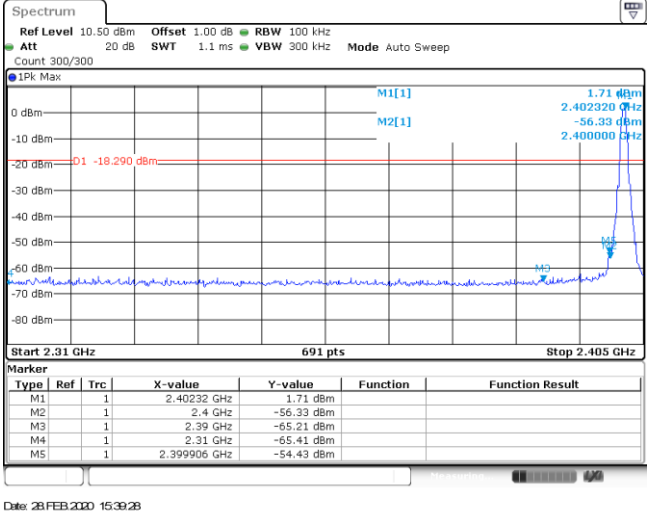
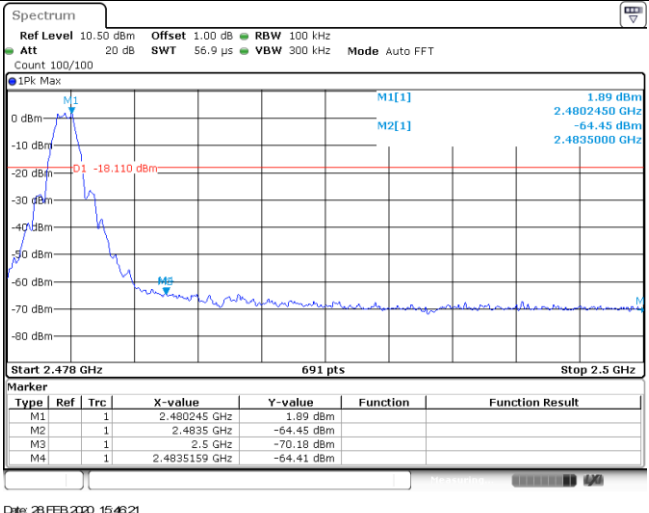


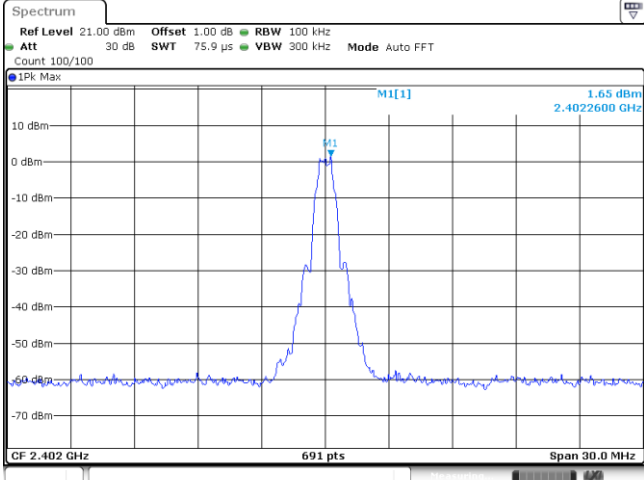
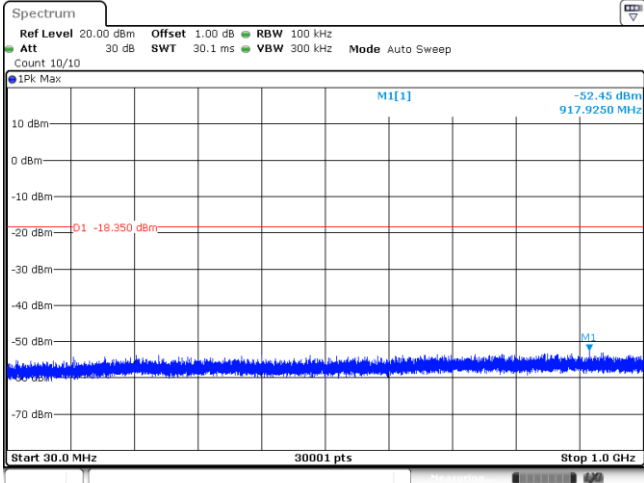
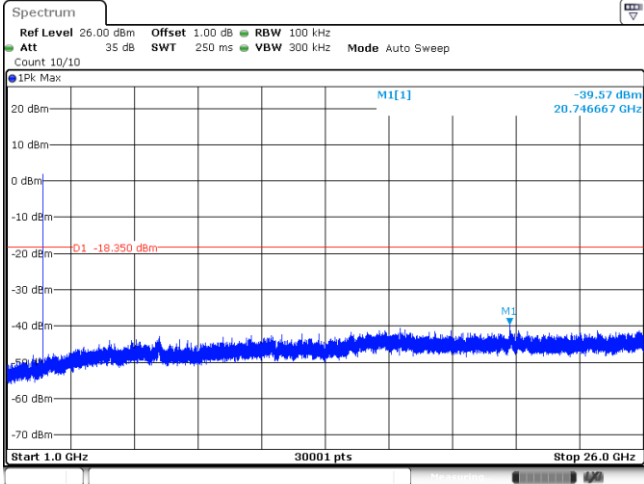
Appendix E: Duty cycle

Test Frequency (MHz)	T _{on} time for single burst (ms)	T _{period} (ms)	Duty cycle	1/T _{on} time (kHz)
2440	0.38	0.62	61.3%	2.6

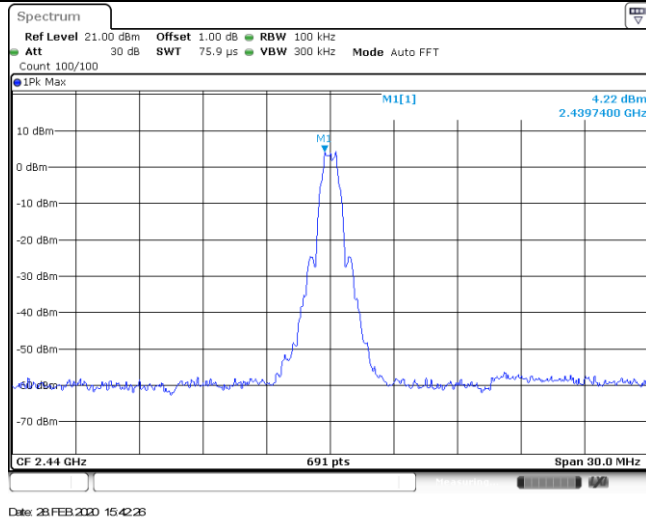


Appendix F: Band edge and Spurious Emissions (conducted)

Test Item:	Band edge																																										
CH00	 <p>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</p> <p>1Pk Max</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>2.40232 GHz</td> <td>1.71 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4 GHz</td> <td>-56.33 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.39 GHz</td> <td>-65.21 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.31 GHz</td> <td>-65.41 dBm</td> <td></td> <td></td> </tr> <tr> <td>M5</td> <td>1</td> <td></td> <td>2.399906 GHz</td> <td>-54.43 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Start 2.31 GHz 691 pts Stop 2.405 GHz</p> <p>Date: 28 FEB 2020 15:39:28</p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.40232 GHz	1.71 dBm			M2	1		2.4 GHz	-56.33 dBm			M3	1		2.39 GHz	-65.21 dBm			M4	1		2.31 GHz	-65.41 dBm			M5	1		2.399906 GHz	-54.43 dBm		
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																					
M1	1		2.40232 GHz	1.71 dBm																																							
M2	1		2.4 GHz	-56.33 dBm																																							
M3	1		2.39 GHz	-65.21 dBm																																							
M4	1		2.31 GHz	-65.41 dBm																																							
M5	1		2.399906 GHz	-54.43 dBm																																							
CH39	 <p>Spectrum 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> <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>2.480245 GHz</td> <td>1.89 dBm</td> <td></td> <td></td> </tr> <tr> <td>M2</td> <td>1</td> <td></td> <td>2.4835 GHz</td> <td>-64.45 dBm</td> <td></td> <td></td> </tr> <tr> <td>M3</td> <td>1</td> <td></td> <td>2.5 GHz</td> <td>-70.18 dBm</td> <td></td> <td></td> </tr> <tr> <td>M4</td> <td>1</td> <td></td> <td>2.4835159 GHz</td> <td>-64.41 dBm</td> <td></td> <td></td> </tr> </tbody> </table> <p>Start 2.478 GHz 691 pts Stop 2.5 GHz</p> <p>Date: 28 FEB 2020 15:46:21</p>	Type	Ref	Trc	X-value	Y-value	Function	Function Result	M1	1		2.480245 GHz	1.89 dBm			M2	1		2.4835 GHz	-64.45 dBm			M3	1		2.5 GHz	-70.18 dBm			M4	1		2.4835159 GHz	-64.41 dBm									
Type	Ref	Trc	X-value	Y-value	Function	Function Result																																					
M1	1		2.480245 GHz	1.89 dBm																																							
M2	1		2.4835 GHz	-64.45 dBm																																							
M3	1		2.5 GHz	-70.18 dBm																																							
M4	1		2.4835159 GHz	-64.41 dBm																																							

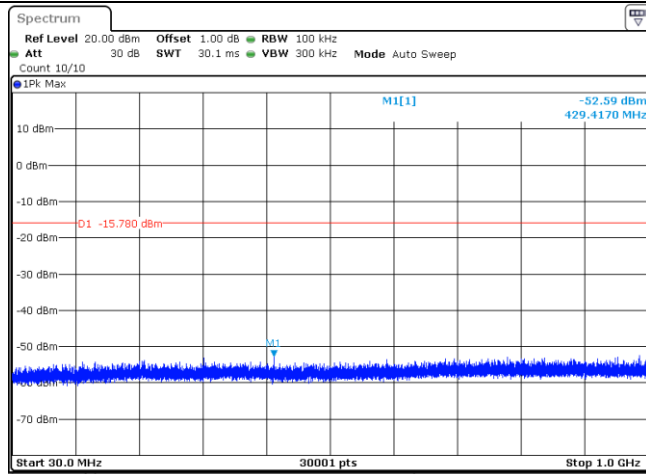
Test Item:	SE
<p>CH00 Reference level</p>	 <p>Spectrum</p> <p>Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz Att 30 dB SWT 75.9 μs VBW 300 kHz Mode Auto FFT Count 100/100</p> <p>1Pk Max M1[1] 1.65 dBm 2.4022600 GHz</p> <p>CF 2.402 GHz 691 pts Span 30.0 MHz</p> <p>Date: 28 FEB 2020 15:39:35</p>
<p>CH00 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 M1[1] -52.45 dBm 917.9250 MHz</p> <p>D1 -18.350 dBm</p> <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 28 FEB 2020 15:39:50</p>
<p>CH00 1GHz~26GHz</p>	 <p>Spectrum</p> <p>Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz Att 35 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep Count 10/10</p> <p>1Pk Max M1[1] -39.57 dBm 20.746667 GHz</p> <p>D1 -18.350 dBm</p> <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 28 FEB 2020 15:40:05</p>

CH19
Reference level



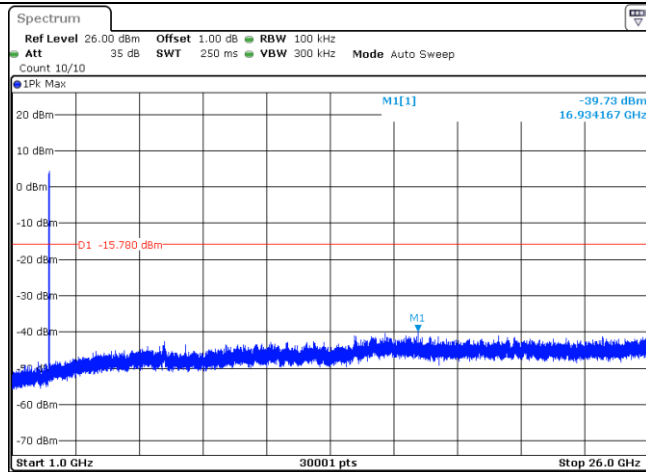
Date: 28 FEB 2020 15:42:28

CH19
30MHz~1000MHz



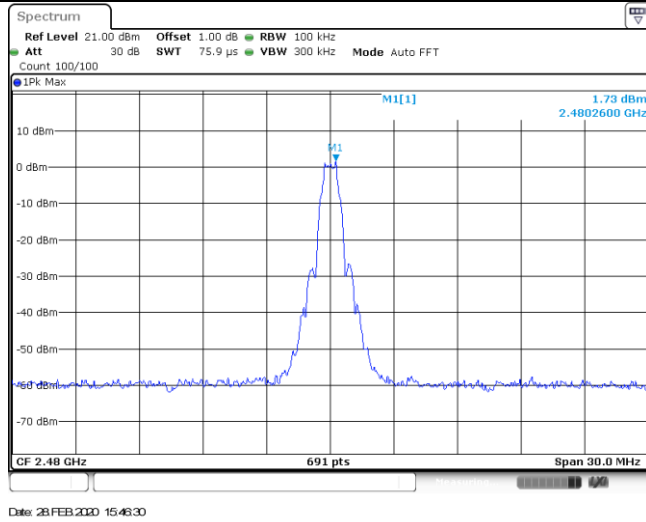
Date: 28 FEB 2020 15:42:42

CH19
1GHz~26GHz

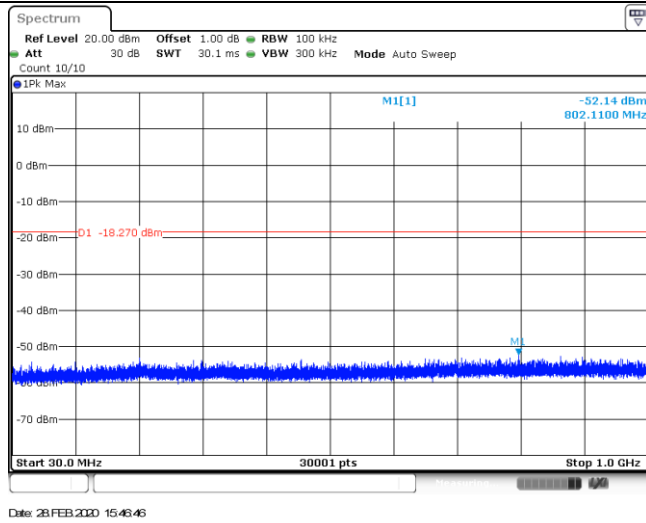


Date: 28 FEB 2020 15:42:58

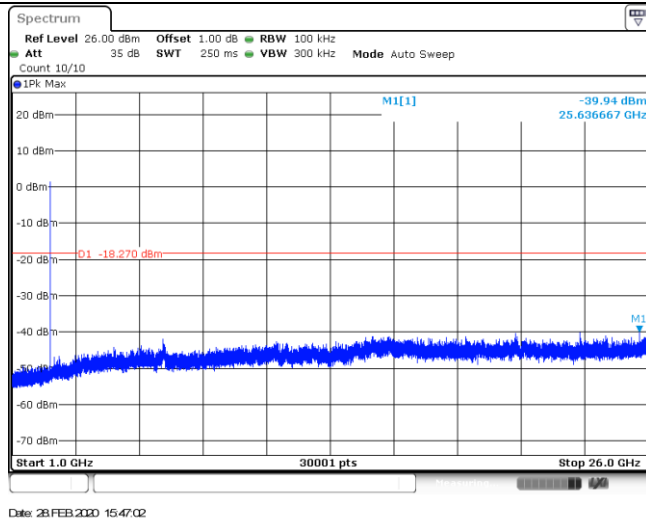
CH39
Reference level



CH39
30MHz~1000MHz



CH39
1GHz~26GHz



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