

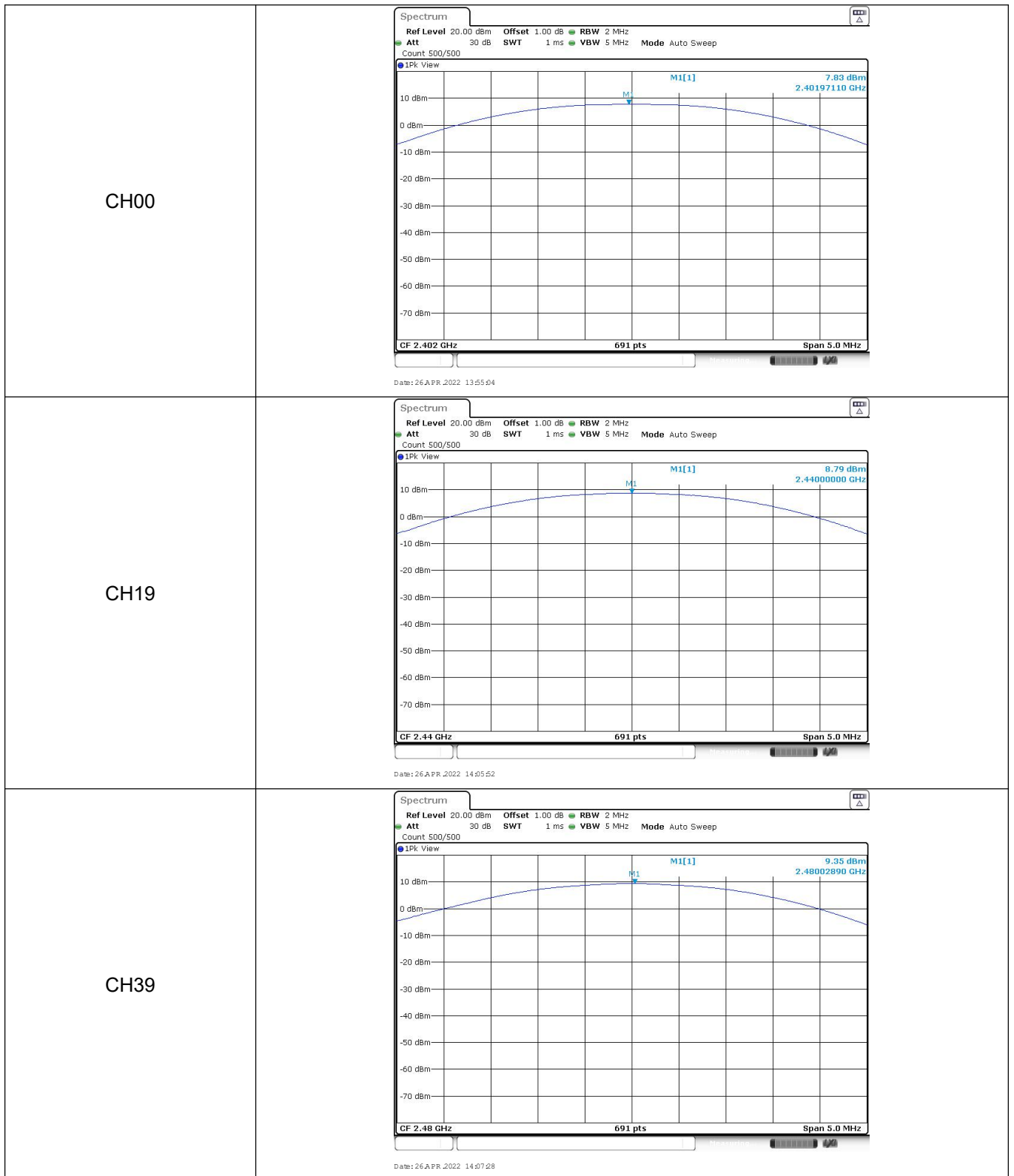
# APPENDIX REPORT

|                 |                    |                     |                      |
|-----------------|--------------------|---------------------|----------------------|
| Project No.     | SHT2202072102EW    | Radio Specification | Bluetooth BLE        |
| Test sample No. | YPHT22020721001    | Model No.           | ABX00049             |
| Start test date | 2022-04-26         | Finish date         | 2022-04-26           |
| Temperature     | 24.4℃              | Humidity            | 37%                  |
| Test Engineer   | <i>Casper Chen</i> | Auditor             | <i>Xiaodong Zhao</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**

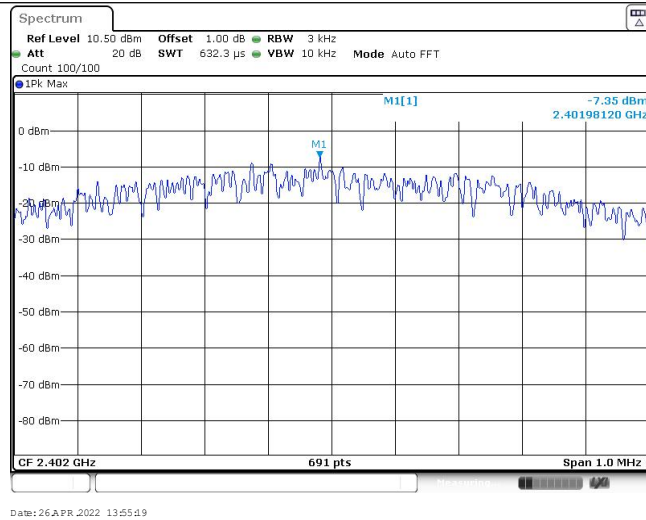
| Type   | Channel | Peak Output power (dBm) | Average Output power (dBm) | Limit (dBm) | Result |
|--------|---------|-------------------------|----------------------------|-------------|--------|
| BT-BLE | 00      | 7.83                    | 7.81                       | ≤ 30.00     | Pass   |
|        | 19      | 8.79                    | 8.78                       |             |        |
|        | 39      | 9.35                    | 9.33                       |             |        |



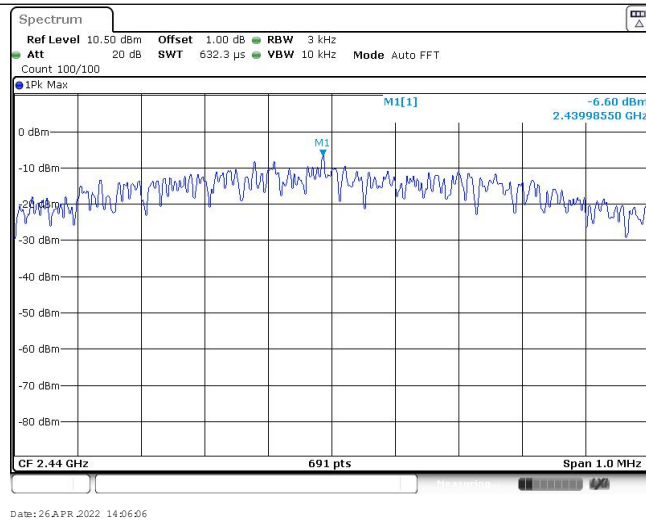
**Appendix B: Power Spectral Density**

| Type   | Channel | Power Spectral Density(dBm/3KHz) | Limit (dBm/3KHz) | Result |
|--------|---------|----------------------------------|------------------|--------|
| BT-BLE | 00      | -7.35                            | ≤8.00            | Pass   |
|        | 19      | -6.60                            |                  |        |
|        | 39      | -6.20                            |                  |        |

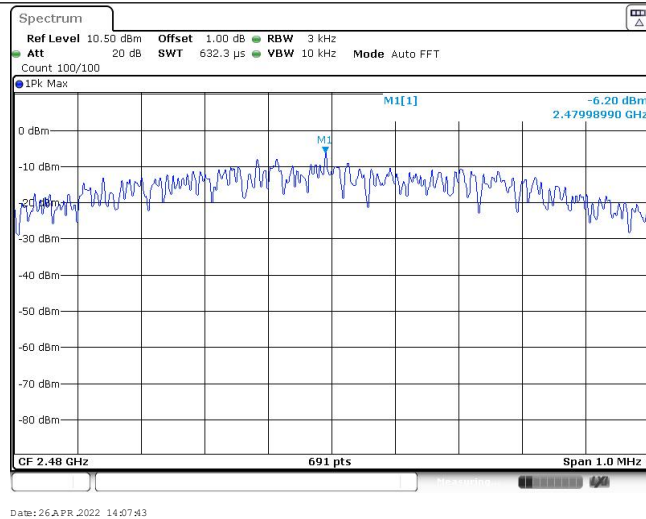
CH00



CH19



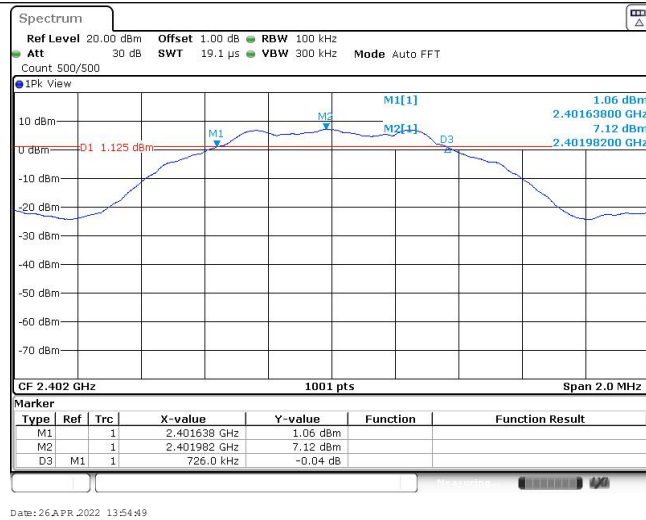
CH39



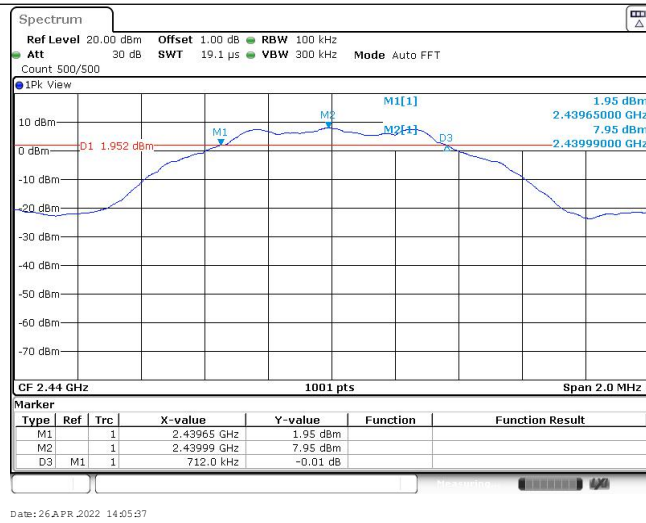
**Appendix C: 6dB bandwidth**

| Type   | Channel | 6dB Bandwidth(kHz) | Limit (kHz) | Result |
|--------|---------|--------------------|-------------|--------|
| BT-BLE | 00      | 726.00             | ≥500        | Pass   |
|        | 19      | 712.00             |             |        |
|        | 39      | 698.00             |             |        |

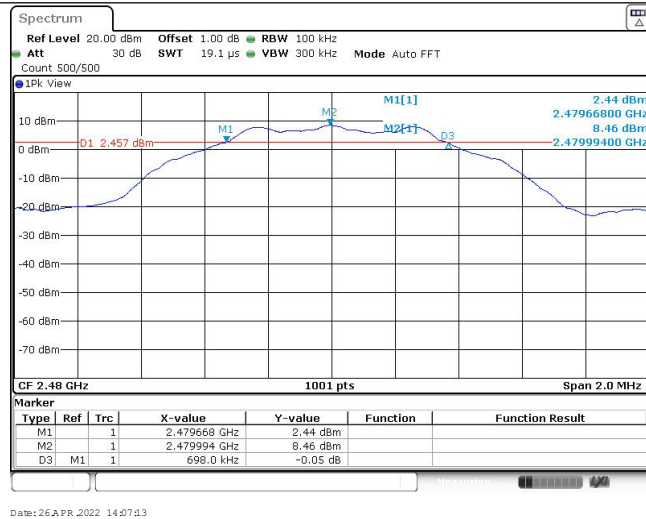
CH00



CH19



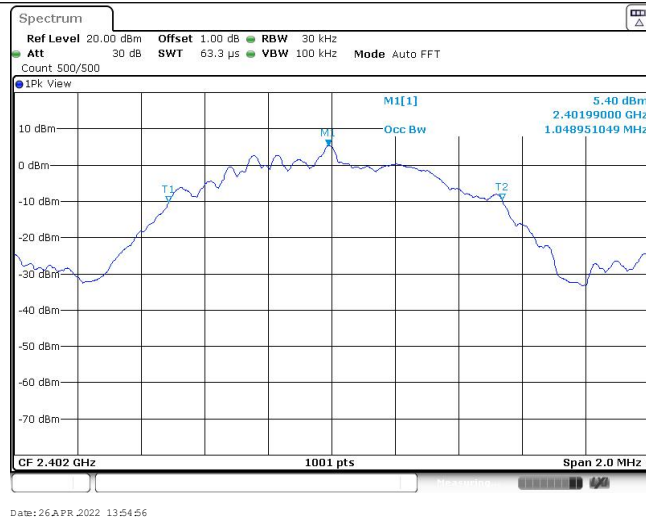
CH39



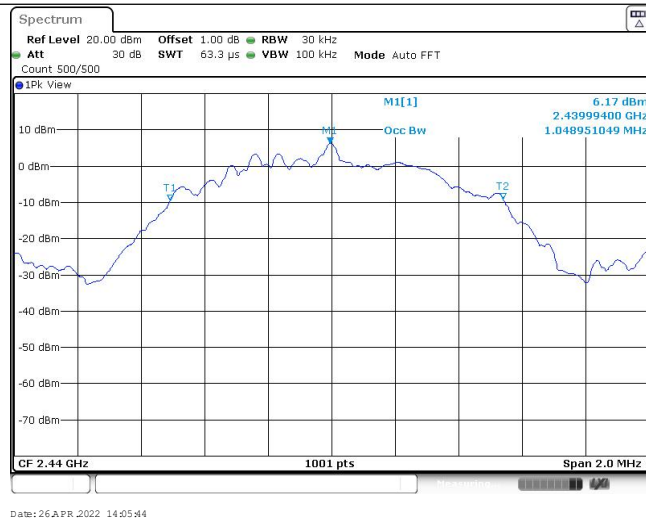
**Appendix D: 99% Occupied Bandwidth**

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

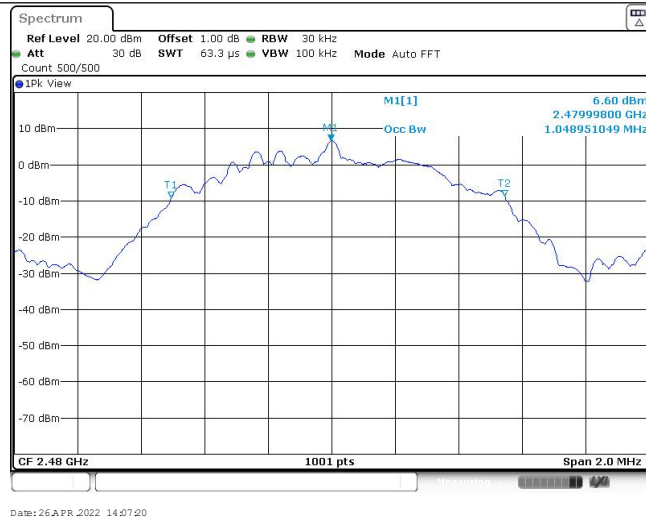
CH00



CH19

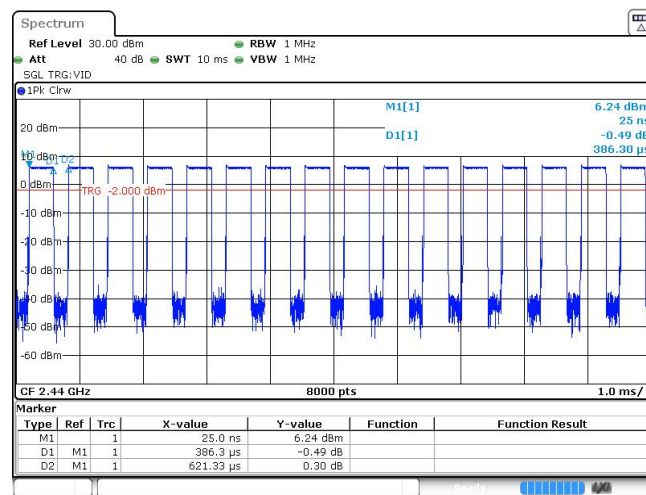


CH39



## 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%      | 2.56                         |

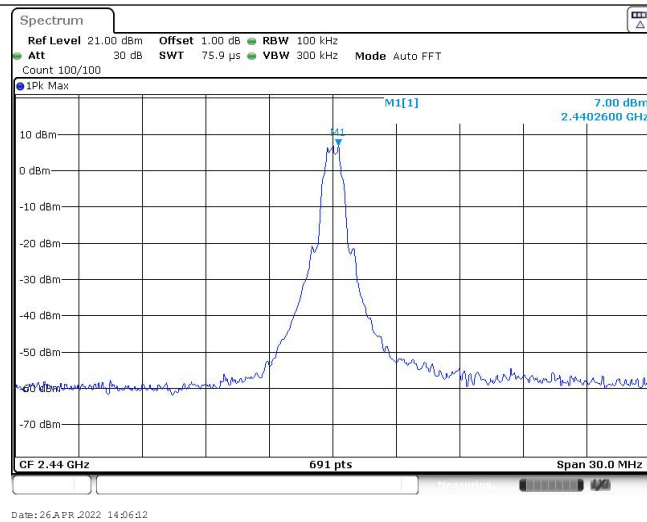
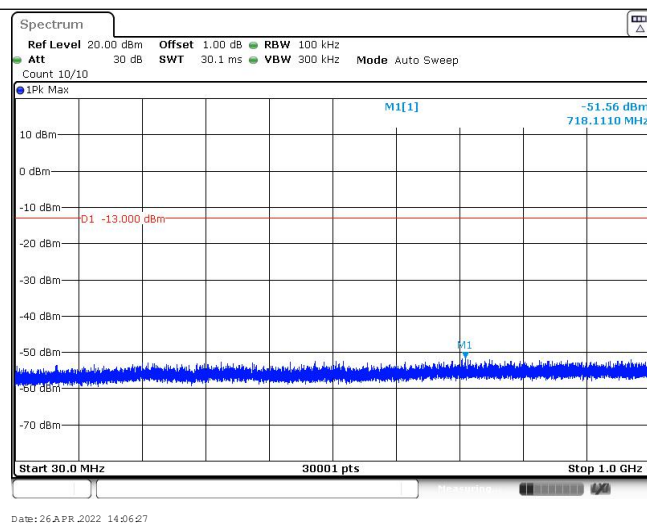
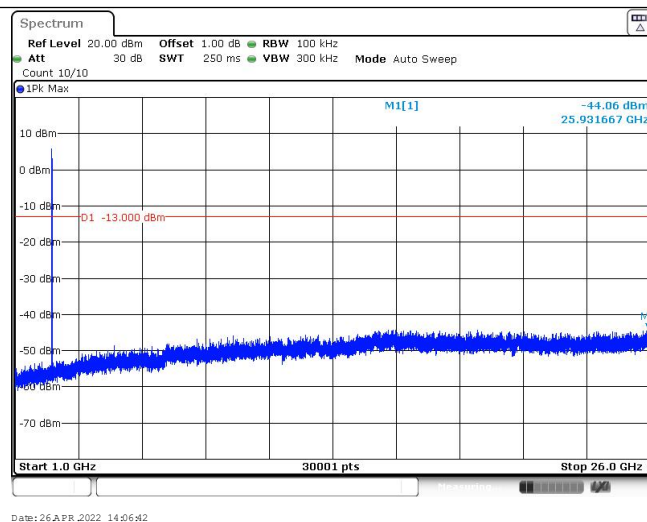


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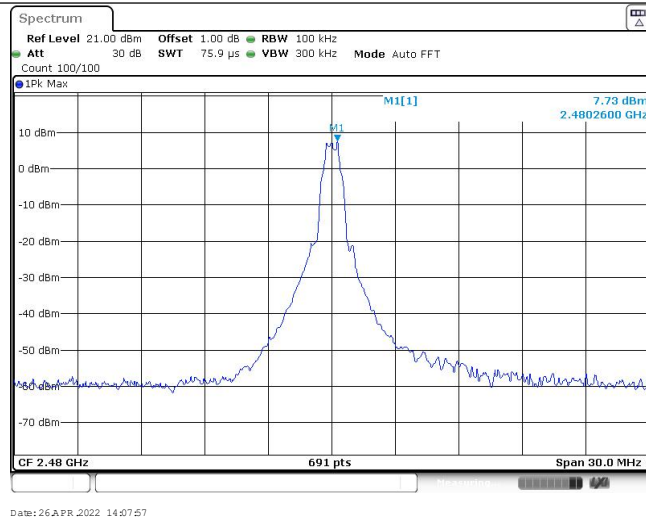
## Appendix F: Band edge and Spurious Emissions (conducted)

| Test Item: | Band edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |               |            |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------|------------|----------|-----------------|----------|-----------------|----|---|--|-------------|----------|--|--|----|---|--|------------|------------|--|--|----|---|--|----------|------------|--|--|----|---|--|---------------|------------|--|--|----|---|--|-------------|------------|--|--|
| CH00       | <div><div>Spectrum</div><div><div>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz</div><div>Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep</div><div>Count 300/300</div></div><div><div>1Pk Max</div><div><div>M1[1] 5.86 dBm 2.402040 GHz</div><div>M2[1] -51.50 dBm 2.400000 GHz</div><div>D1 -14.140 dBm</div><div>M3</div><div>M5</div></div></div><div><div>Start 2.31 GHz 691 pts Stop 2.405 GHz</div><div><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>2.40204 GHz</td><td>5.86 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4 GHz</td><td>-51.50 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.39 GHz</td><td>-55.10 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.31 GHz</td><td>-54.71 dBm</td><td></td><td></td></tr><tr><td>M5</td><td>1</td><td></td><td>2.39963 GHz</td><td>-51.02 dBm</td><td></td><td></td></tr></table></div></div></div> <div>Date: 26 APR 2022 13:55:28</div> | Type | Ref           | Trc        | X-value  | Y-value         | Function | Function Result | M1 | 1 |  | 2.40204 GHz | 5.86 dBm |  |  | M2 | 1 |  | 2.4 GHz    | -51.50 dBm |  |  | M3 | 1 |  | 2.39 GHz | -55.10 dBm |  |  | M4 | 1 |  | 2.31 GHz      | -54.71 dBm |  |  | M5 | 1 |  | 2.39963 GHz | -51.02 dBm |  |  |
| Type       | Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Trc  | X-value       | Y-value    | Function | Function Result |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M1         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.40204 GHz   | 5.86 dBm   |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M2         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.4 GHz       | -51.50 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M3         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.39 GHz      | -55.10 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M4         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.31 GHz      | -54.71 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M5         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.39963 GHz   | -51.02 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| CH39       | <div><div>Spectrum</div><div><div>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz</div><div>Att 30 dB SWT 56.9 μs VBW 300 kHz Mode Auto FFT</div><div>Count 100/100</div></div><div><div>1Pk Max</div><div><div>M1 8.38 dBm 2.4799900 GHz</div><div>M2[1] -49.32 dBm 2.4835000 GHz</div><div>D1 -11.620 dBm</div><div>M3</div><div>M4</div></div></div><div><div>Start 2.478 GHz 691 pts Stop 2.5 GHz</div><div><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>2.47999 GHz</td><td>8.38 dBm</td><td></td><td></td></tr><tr><td>M2</td><td>1</td><td></td><td>2.4835 GHz</td><td>-49.32 dBm</td><td></td><td></td></tr><tr><td>M3</td><td>1</td><td></td><td>2.5 GHz</td><td>-59.94 dBm</td><td></td><td></td></tr><tr><td>M4</td><td>1</td><td></td><td>2.4836116 GHz</td><td>-48.69 dBm</td><td></td><td></td></tr></table></div></div></div> <div>Date: 26 APR 2022 14:07:51</div>                                                                                             | Type | Ref           | Trc        | X-value  | Y-value         | Function | Function Result | M1 | 1 |  | 2.47999 GHz | 8.38 dBm |  |  | M2 | 1 |  | 2.4835 GHz | -49.32 dBm |  |  | M3 | 1 |  | 2.5 GHz  | -59.94 dBm |  |  | M4 | 1 |  | 2.4836116 GHz | -48.69 dBm |  |  |    |   |  |             |            |  |  |
| Type       | Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Trc  | X-value       | Y-value    | Function | Function Result |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M1         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.47999 GHz   | 8.38 dBm   |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M2         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.4835 GHz    | -49.32 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M3         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.5 GHz       | -59.94 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |
| M4         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 2.4836116 GHz | -48.69 dBm |          |                 |          |                 |    |   |  |             |          |  |  |    |   |  |            |            |  |  |    |   |  |          |            |  |  |    |   |  |               |            |  |  |    |   |  |             |            |  |  |

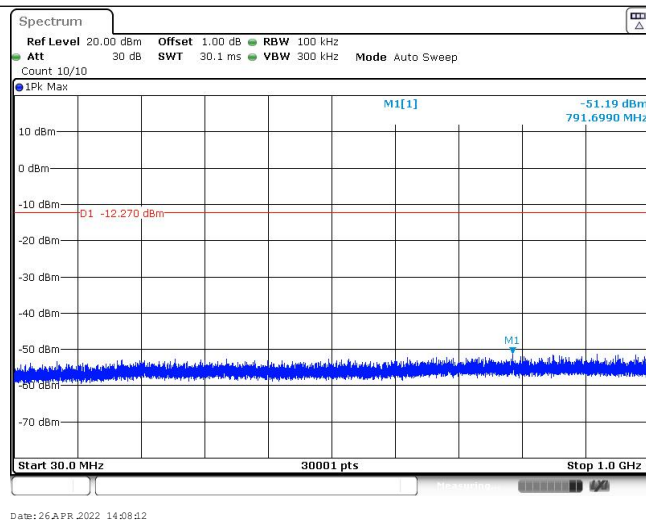
| Test Item:              | SE                                                                                                                                                                                                                                                                                                 |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CH00<br>Reference level | <p>Spectrum</p> <p>Ref Level 21.00 dBm Offset 1.00 dB RBW 100 kHz<br/>Att 30 dB SWT 75.9 <math>\mu</math>s VBW 300 kHz Mode Auto FFT<br/>Count 100/100</p> <p>1Pk Max</p> <p>6.38 dBm<br/>2.4022600 GHz</p> <p>CF 2.402 GHz 691 pts Span 30.0 MHz</p> <p>Date: 26 APR 2022 13:55:33</p>            |
| CH00<br>30MHz~1000MHz   | <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz<br/>Att 30 dB SWT 30.1 ms VBW 300 kHz Mode Auto Sweep<br/>Count 10/10</p> <p>1Pk Max</p> <p>-51.26 dBm<br/>865.1580 MHz</p> <p>D1 -13.620 dBm</p> <p>Start 30.0 MHz 30001 pts Stop 1.0 GHz</p> <p>Date: 26 APR 2022 13:55:49</p> |
| CH00<br>1GHz~26GHz      | <p>Spectrum</p> <p>Ref Level 20.00 dBm Offset 1.00 dB RBW 100 kHz<br/>Att 30 dB SWT 250 ms VBW 300 kHz Mode Auto Sweep<br/>Count 10/10</p> <p>1Pk Max</p> <p>-43.28 dBm<br/>17.735833 GHz</p> <p>D1 -13.620 dBm</p> <p>Start 1.0 GHz 30001 pts Stop 26.0 GHz</p> <p>Date: 26 APR 2022 13:56:04</p> |

CH19  
Reference levelCH19  
30MHz~1000MHzCH19  
1GHz~26GHz

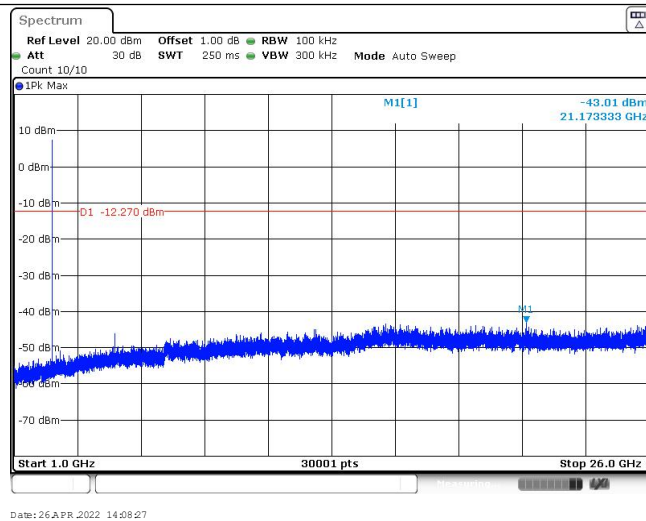
CH39  
Reference level



CH39  
30MHz~1000MHz



CH39  
1GHz~26GHz



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