

## Appendix A

### RF Test Data for BT LE (Conducted Measurement)

Product Name: Cabinet Lock

Trade Mark: Digilock

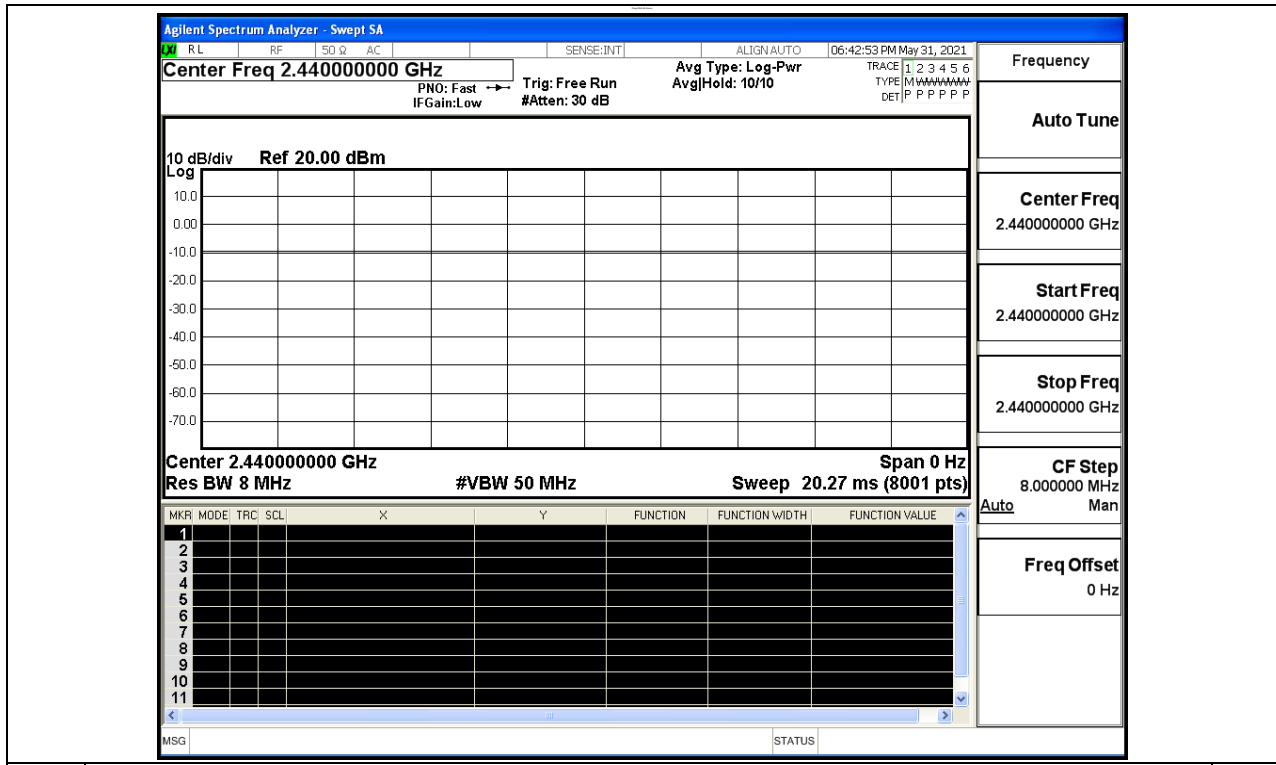
Test Model: D6VR-NX-1X1X

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 50%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Carl Fu   |
| Supervised by:     | Li Huan   |

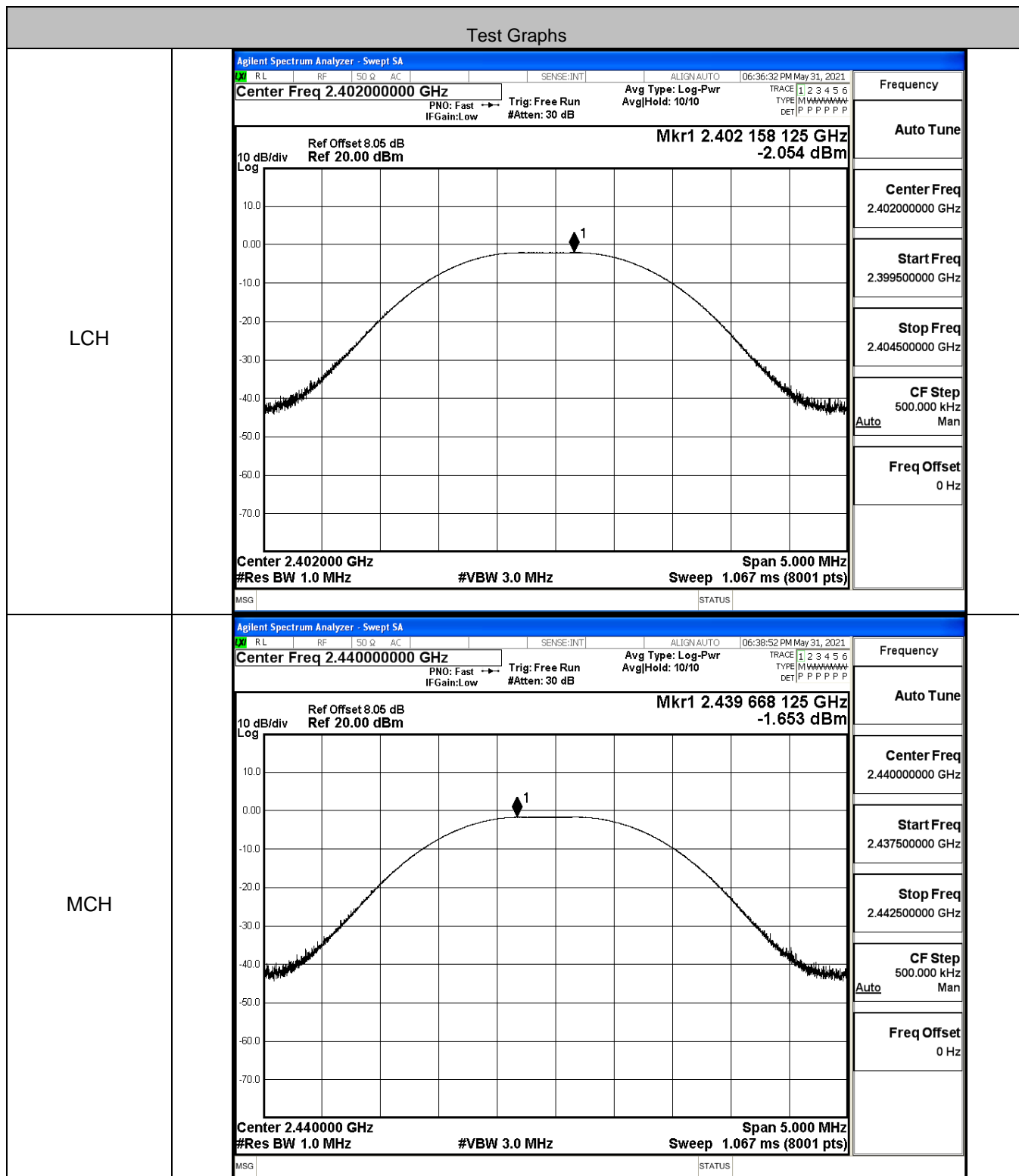
#### A.1 Duty Cycle

| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| BT LE     | 2440         | Ant1 | 100           | PASS    |

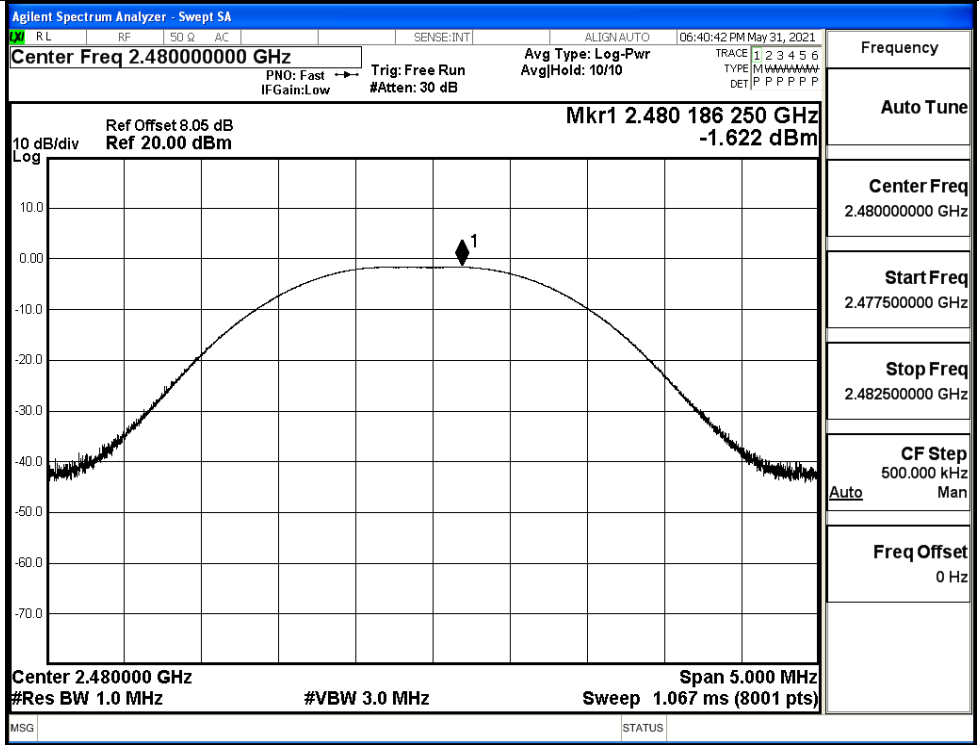


### B.2 Maximum Conducted Peak Output Power

| Mode  | Channel | Conduct Peak Power[dBm] | Limit [dBm] | Verdict |
|-------|---------|-------------------------|-------------|---------|
| BT LE | LCH     | -2.054                  | 30          | PASS    |
| BT LE | MCH     | -1.653                  | 30          | PASS    |
| BT LE | HCH     | -1.622                  | 30          | PASS    |



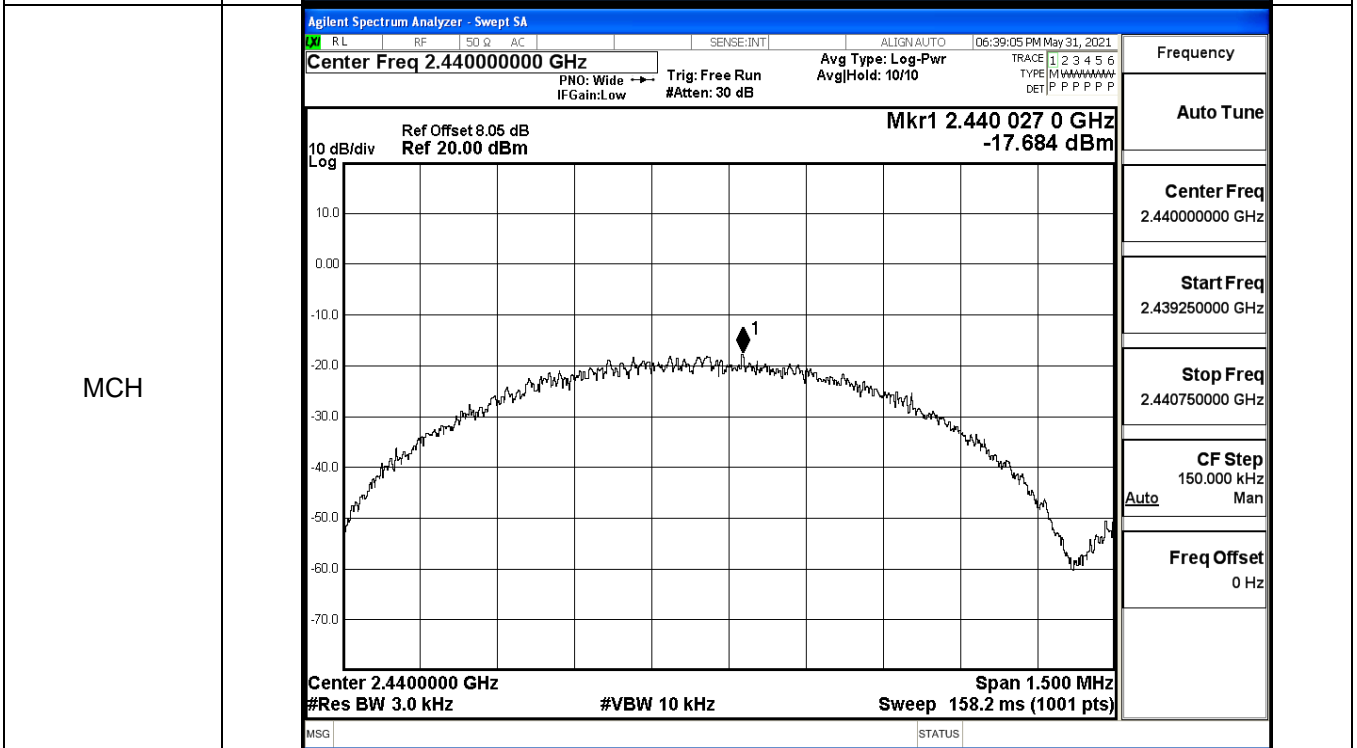
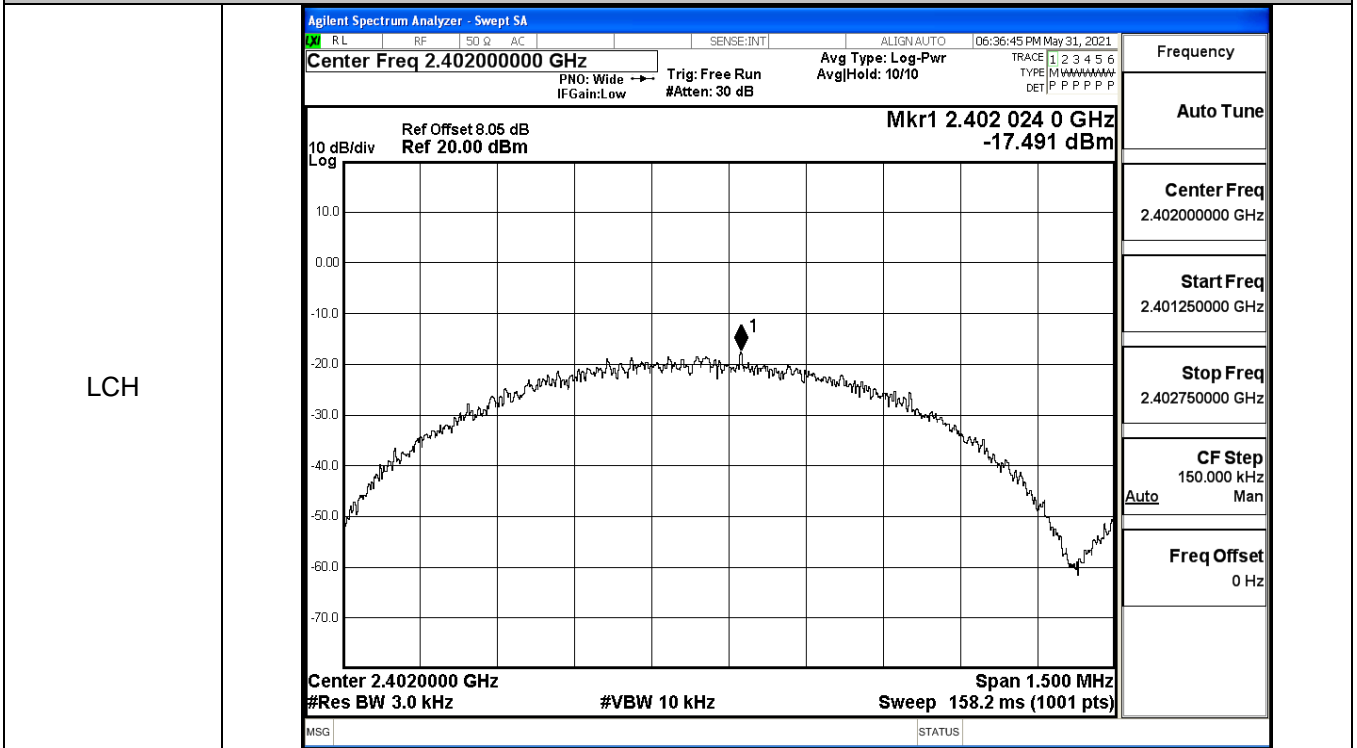
HCH



### A.3 Maximum Power Spectral Density

| Mode  | Channel | PSD [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|-------|---------|----------------|------------------|---------|
| BT LE | LCH     | -17.491        | 8                | PASS    |
| BT LE | MCH     | -17.684        | 8                | PASS    |
| BT LE | HCH     | -17.184        | 8                | PASS    |

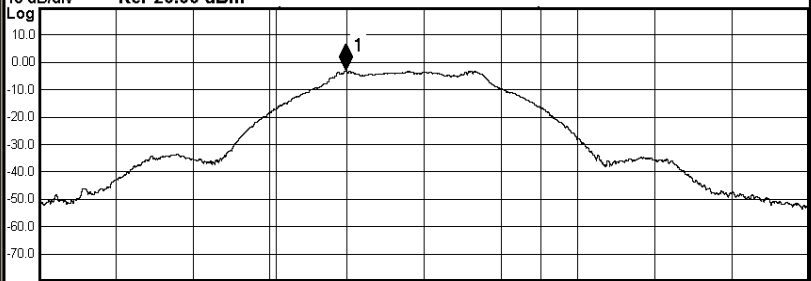
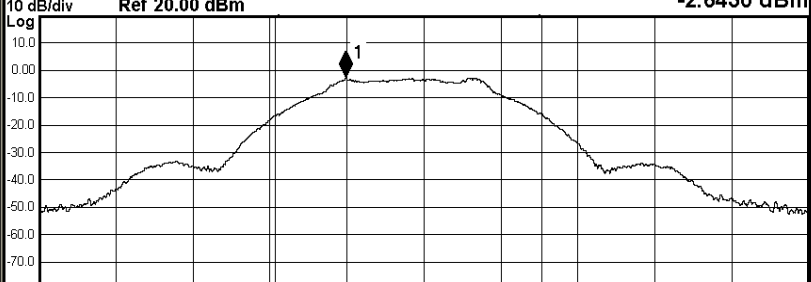
#### Test Graphs

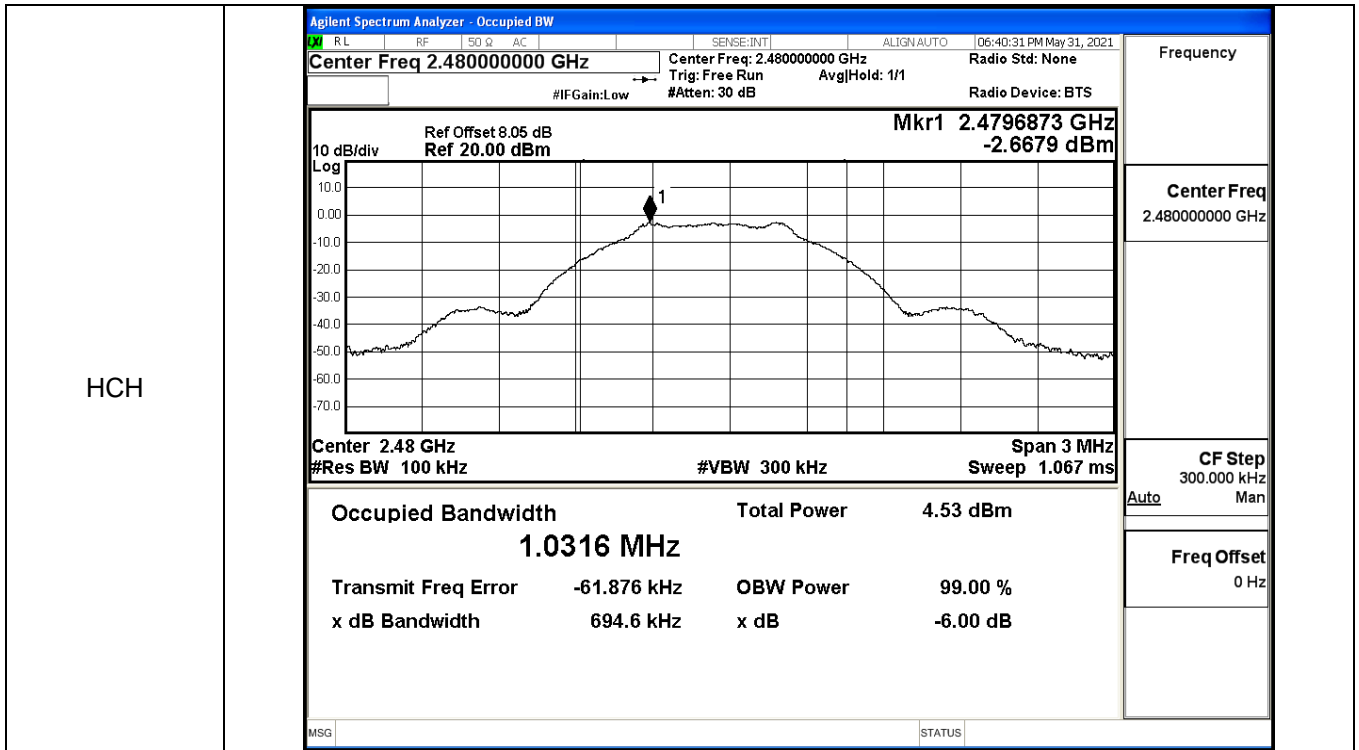




**A.4 6dB Bandwidth**

| Mode  | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-------|---------|---------------------|-------------|---------|
| BT LE | LCH     | 0.6929              | ≥0.5        | PASS    |
| BT LE | MCH     | 0.7052              | ≥0.5        | PASS    |
| BT LE | HCH     | 0.6946              | ≥0.5        | PASS    |

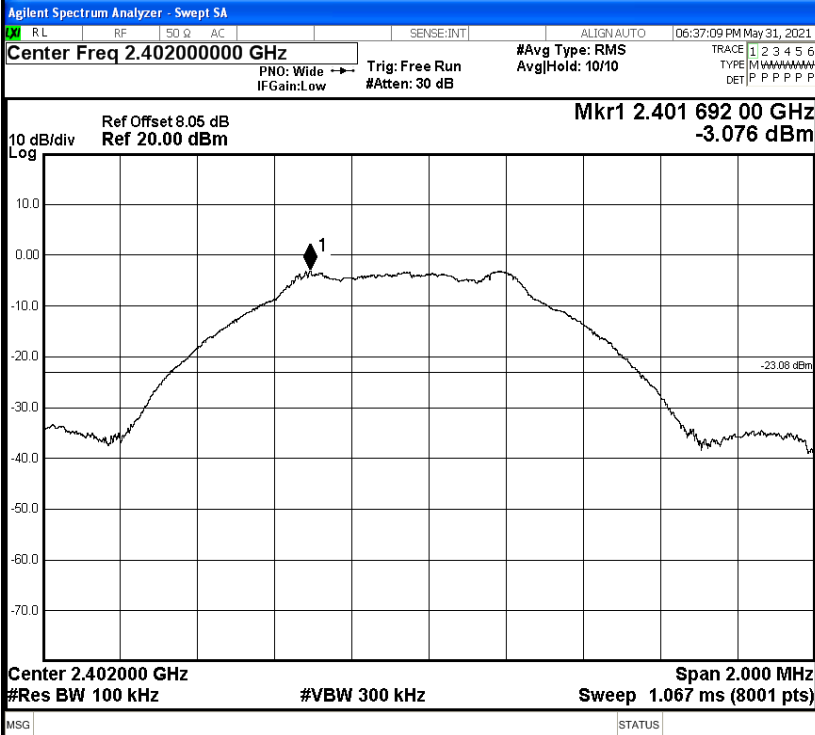
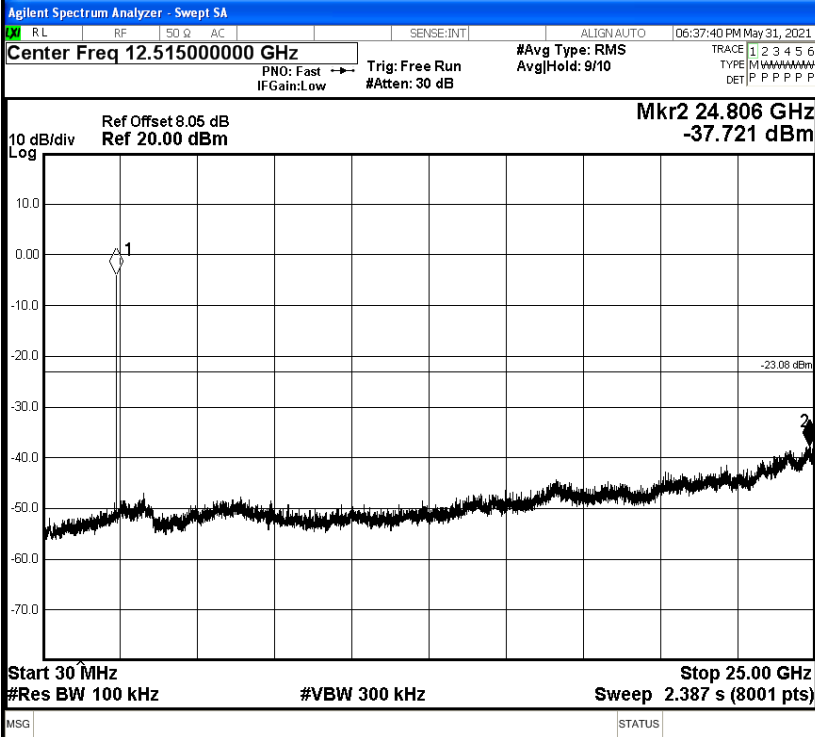
| Test Graphs         |  |                    |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
|---------------------|--|--------------------|-------------|----------|-------------------|--|--|---------------------|-------------|-----------|----------------|-----------|------|--|--|---------|--|--|----------|
| LCH                 | <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;"><b>Agilent Spectrum Analyzer - Occupied BW</b></p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 06:36:21 PM May 31, 2021</p> <p style="margin: 0;"><b>Center Freq 2.402000000 GHz</b> Center Freq: 2.402000000 GHz Radio Std: None<br/>Trig: Free Run AvgHold: 1/1<br/>#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;">10 dB/div<br/>Log</div> <div style="text-align: right;">Mkr1 2.401697 GHz<br/>-3.0555 dBm</div> </div>  <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.402 GHz<br/>#Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz<br/>Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">4.11 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0314 MHz</b></td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-60.072 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>692.9 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">99.00 %</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div>       | Occupied Bandwidth | Total Power | 4.11 dBm | <b>1.0314 MHz</b> |  |  | Transmit Freq Error | -60.072 kHz | OBW Power | x dB Bandwidth | 692.9 kHz | x dB |  |  | 99.00 % |  |  | -6.00 dB |
| Occupied Bandwidth  | Total Power  | 4.11 dBm           |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| <b>1.0314 MHz</b>   |  |                    |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| Transmit Freq Error | -60.072 kHz  | OBW Power          |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| x dB Bandwidth      | 692.9 kHz  | x dB               |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
|                     |  | 99.00 %            |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
|                     |  | -6.00 dB           |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| MCH                 | <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;"><b>Agilent Spectrum Analyzer - Occupied BW</b></p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 06:38:41 PM May 31, 2021</p> <p style="margin: 0;"><b>Center Freq 2.440000000 GHz</b> Center Freq: 2.440000000 GHz Radio Std: None<br/>Trig: Free Run AvgHold: &gt;1/1<br/>#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;">10 dB/div<br/>Log</div> <div style="text-align: right;">Mkr1 2.4396955 GHz<br/>-2.6430 dBm</div> </div>  <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.44 GHz<br/>#Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz<br/>Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">4.47 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0324 MHz</b></td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-57.331 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>705.2 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">99.00 %</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div> | Occupied Bandwidth | Total Power | 4.47 dBm | <b>1.0324 MHz</b> |  |  | Transmit Freq Error | -57.331 kHz | OBW Power | x dB Bandwidth | 705.2 kHz | x dB |  |  | 99.00 % |  |  | -6.00 dB |
| Occupied Bandwidth  | Total Power  | 4.47 dBm           |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| <b>1.0324 MHz</b>   |  |                    |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| Transmit Freq Error | -57.331 kHz  | OBW Power          |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
| x dB Bandwidth      | 705.2 kHz  | x dB               |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
|                     |  | 99.00 %            |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |
|                     |  | -6.00 dB           |             |          |                   |  |  |                     |             |           |                |           |      |  |  |         |  |  |          |



### A.5 RF Conducted Spurious Emissions

| Mode  | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|------------|------------------|-------------|---------|
| BT LE | LCH     | -3.076     | -37.721          | -23.076     | PASS    |
| BT LE | MCH     | -2.701     | -37.615          | -22.701     | PASS    |
| BT LE | HCH     | -2.651     | -37.285          | -22.651     | PASS    |

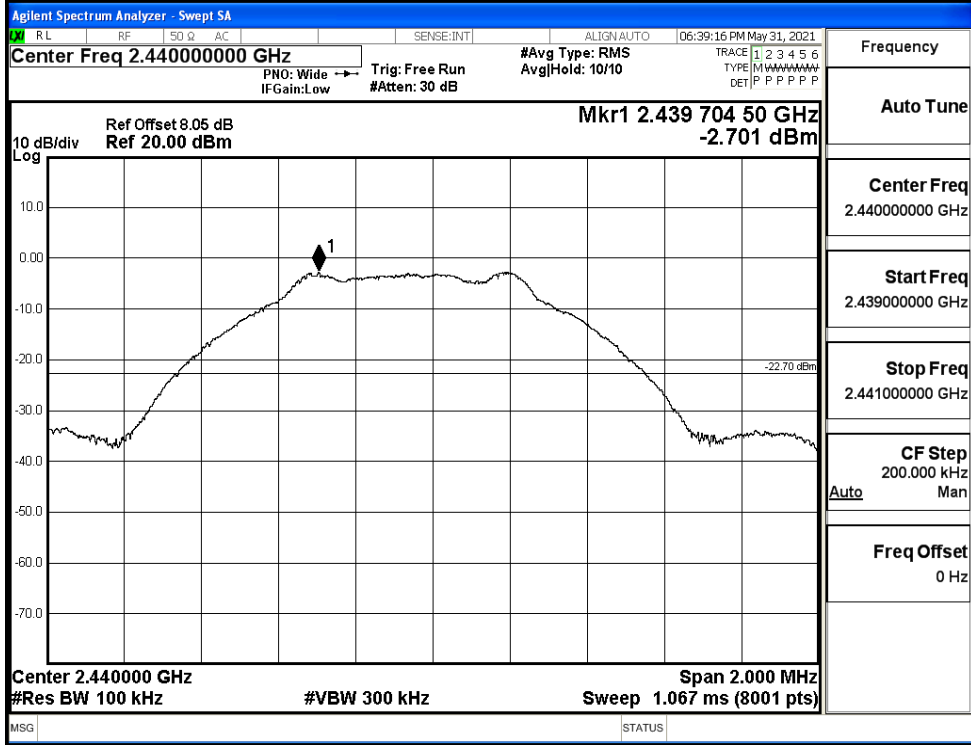
BT LE\_LCH\_Graphs

|                                    |  |  |           |           |                                 |                               |                               |                                    |                     |
|------------------------------------|--|--|-----------|-----------|---------------------------------|-------------------------------|-------------------------------|------------------------------------|---------------------|
| Pref/BT LE/LCH                     |   | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq<br/>2.402000000 GHz</td></tr> <tr><td>Start Freq<br/>2.401000000 GHz</td></tr> <tr><td>Stop Freq<br/>2.403000000 GHz</td></tr> <tr><td>CF Step<br/>200.000 kHz<br/>Auto</td></tr> <tr><td>Freq Offset<br/>0 Hz</td></tr> </table>     | Frequency | Auto Tune | Center Freq<br>2.402000000 GHz  | Start Freq<br>2.401000000 GHz | Stop Freq<br>2.403000000 GHz  | CF Step<br>200.000 kHz<br>Auto     | Freq Offset<br>0 Hz |
| Frequency                          |  |  |           |           |                                 |                               |                               |                                    |                     |
| Auto Tune                          |  |  |           |           |                                 |                               |                               |                                    |                     |
| Center Freq<br>2.402000000 GHz     |  |  |           |           |                                 |                               |                               |                                    |                     |
| Start Freq<br>2.401000000 GHz      |  |  |           |           |                                 |                               |                               |                                    |                     |
| Stop Freq<br>2.403000000 GHz       |  |  |           |           |                                 |                               |                               |                                    |                     |
| CF Step<br>200.000 kHz<br>Auto     |  |  |           |           |                                 |                               |                               |                                    |                     |
| Freq Offset<br>0 Hz                |  |  |           |           |                                 |                               |                               |                                    |                     |
| Puw/BT LE/LCH                      |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq<br/>12.515000000 GHz</td></tr> <tr><td>Start Freq<br/>30.000000 MHz</td></tr> <tr><td>Stop Freq<br/>25.000000000 GHz</td></tr> <tr><td>CF Step<br/>2.497000000 GHz<br/>Auto</td></tr> <tr><td>Freq Offset<br/>0 Hz</td></tr> </table> | Frequency | Auto Tune | Center Freq<br>12.515000000 GHz | Start Freq<br>30.000000 MHz   | Stop Freq<br>25.000000000 GHz | CF Step<br>2.497000000 GHz<br>Auto | Freq Offset<br>0 Hz |
| Frequency                          |  |  |           |           |                                 |                               |                               |                                    |                     |
| Auto Tune                          |  |  |           |           |                                 |                               |                               |                                    |                     |
| Center Freq<br>12.515000000 GHz    |  |  |           |           |                                 |                               |                               |                                    |                     |
| Start Freq<br>30.000000 MHz        |  |  |           |           |                                 |                               |                               |                                    |                     |
| Stop Freq<br>25.000000000 GHz      |  |  |           |           |                                 |                               |                               |                                    |                     |
| CF Step<br>2.497000000 GHz<br>Auto |  |  |           |           |                                 |                               |                               |                                    |                     |
| Freq Offset<br>0 Hz                |  |  |           |           |                                 |                               |                               |                                    |                     |

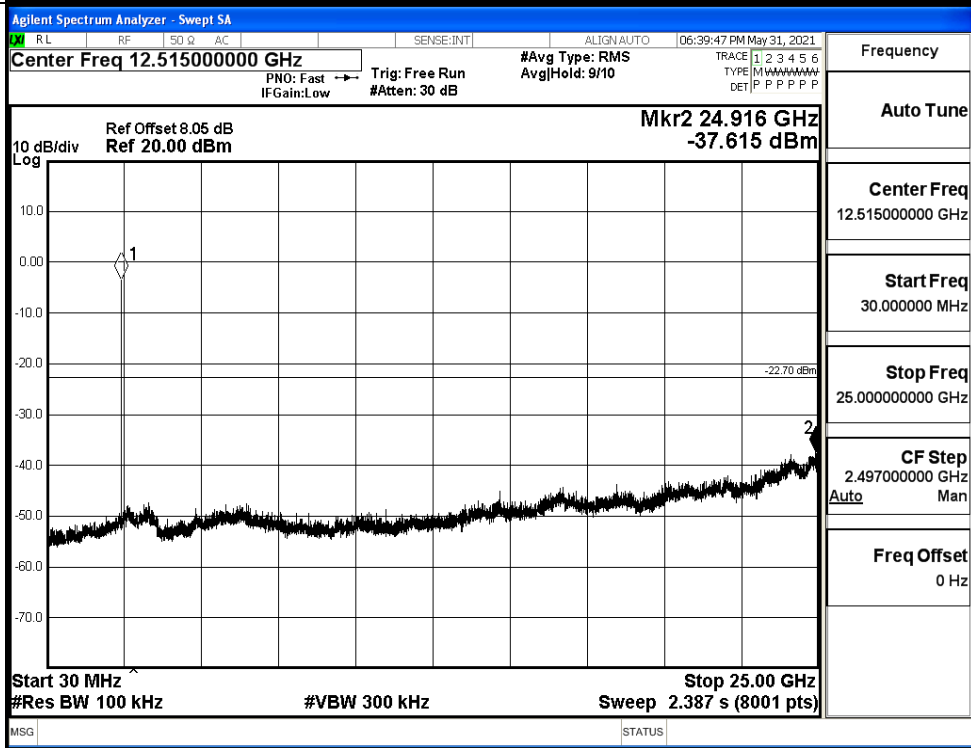


BT LE\_MCH\_Graphs

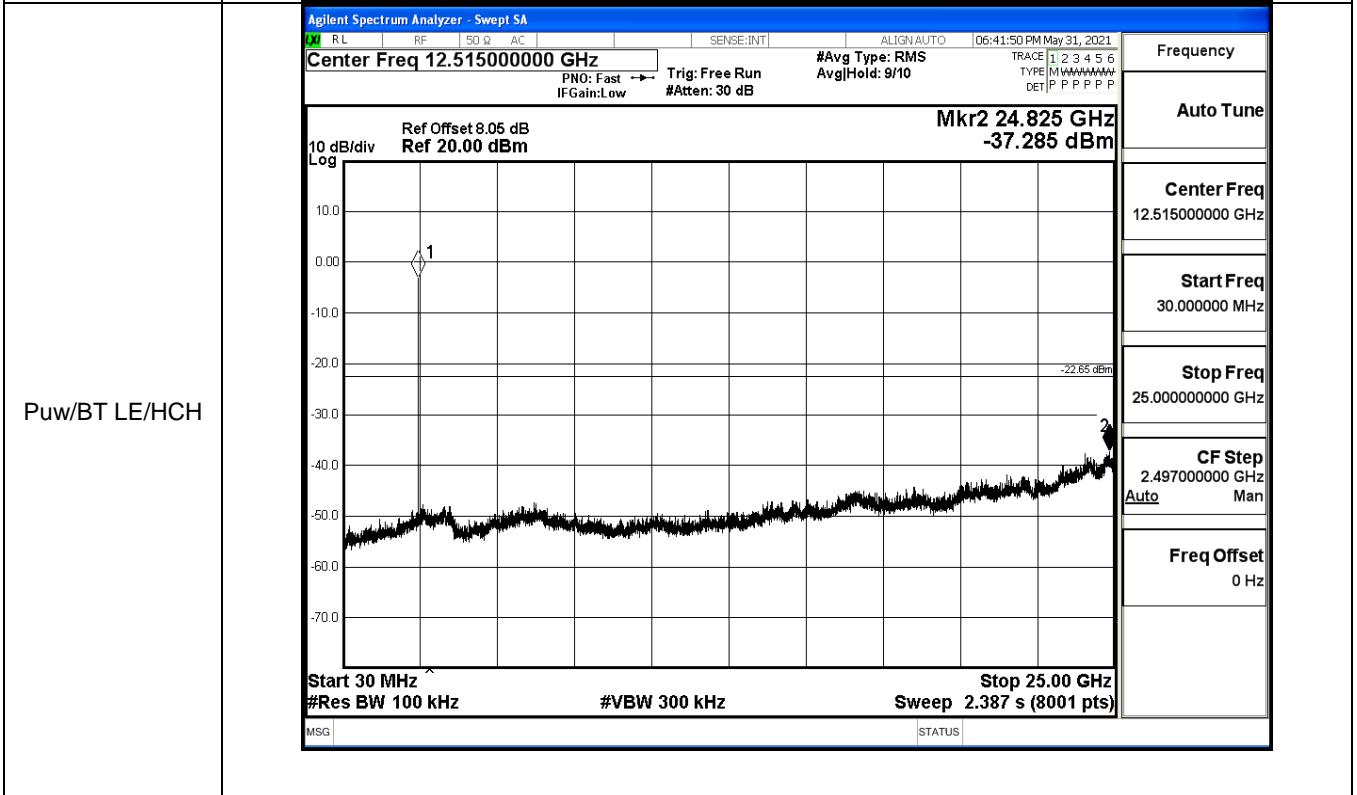
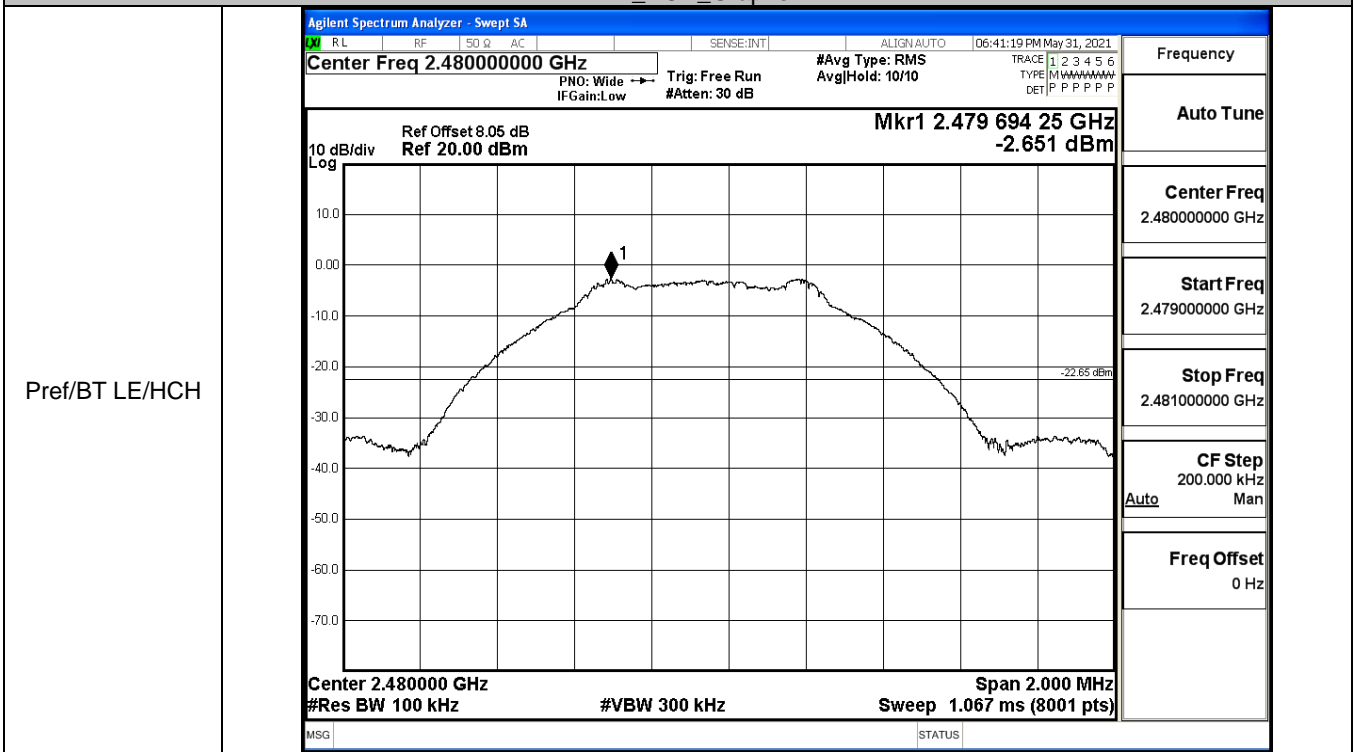
Pref/BT LE/MCH



Puw/BT LE/MCH



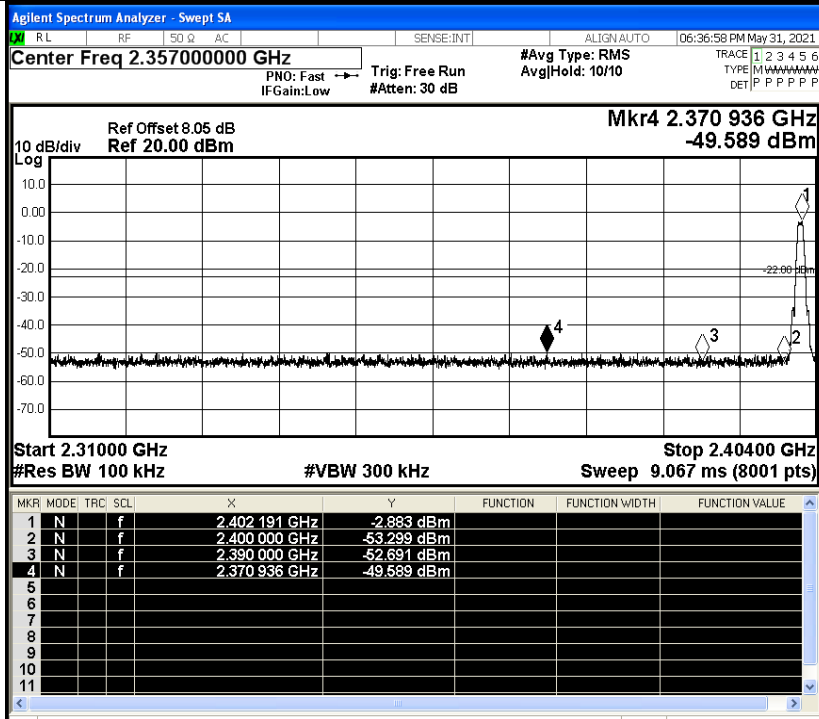
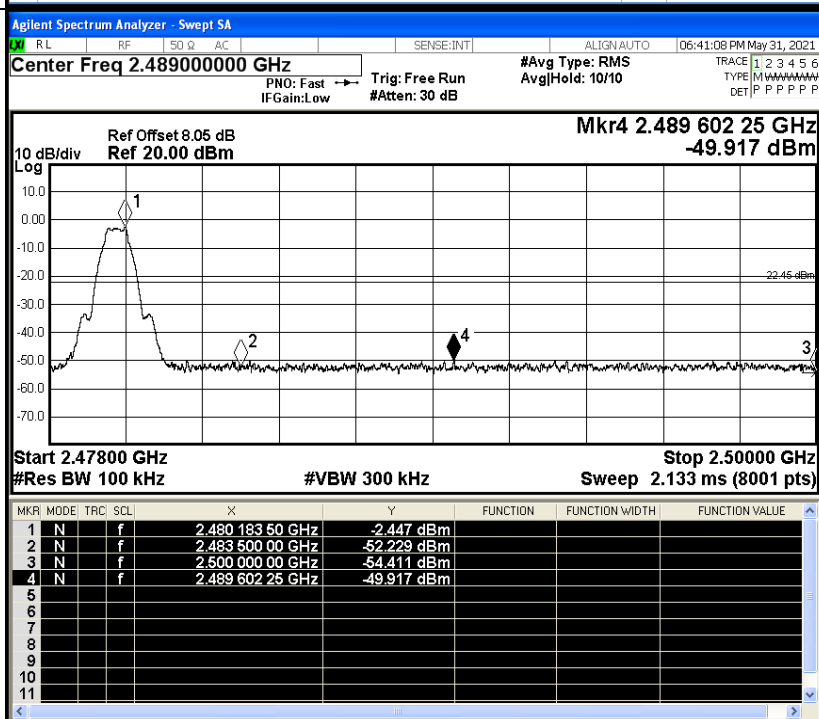
BT LE\_HCH\_Graphs



### A.6 Band-edge for RF Conducted Emissions

| Mode  | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|--------------------|--------------------------|-------------|---------|
| BT LE | LCH     | -2.883             | -49.589                  | -22.88      | PASS    |
| BT LE | HCH     | -2.447             | -49.917                  | -22.45      | PASS    |

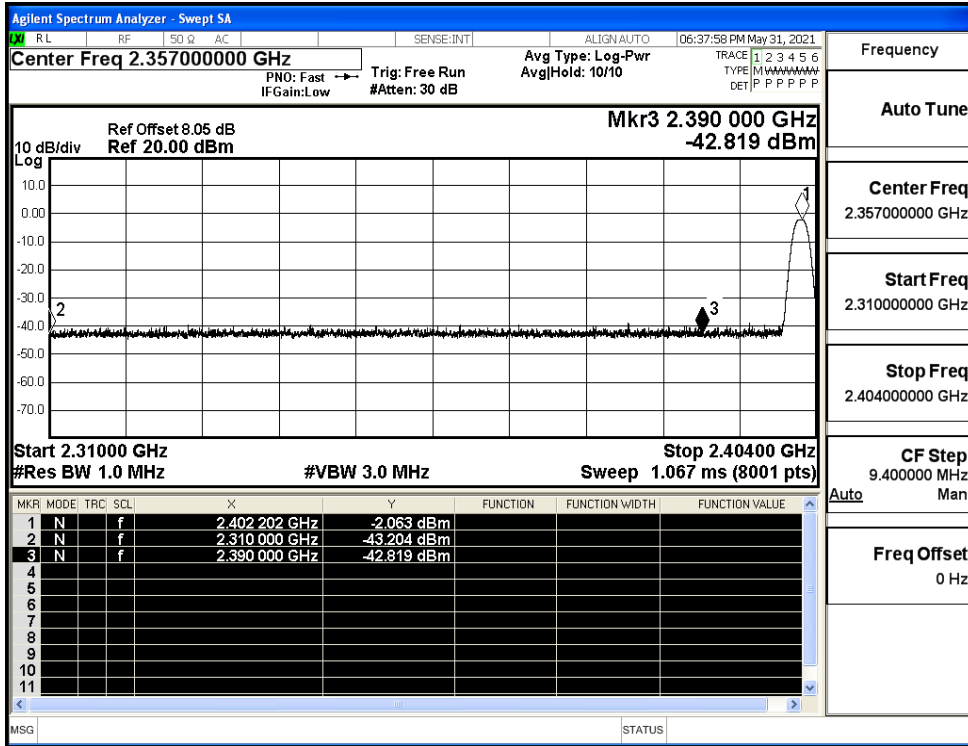
Test Graphs

|     |  |  |
|-----|--|--|
| LCH |   | <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq<br/>2.35700000 GHz</p> <p>Start Freq<br/>2.31000000 GHz</p> <p>Stop Freq<br/>2.40400000 GHz</p> <p>CF Step<br/>9.400000 MHz</p> <p>Freq Offset<br/>0 Hz</p> |
| HCH |  | <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq<br/>2.48900000 GHz</p> <p>Start Freq<br/>2.47800000 GHz</p> <p>Stop Freq<br/>2.50000000 GHz</p> <p>CF Step<br/>2.200000 MHz</p> <p>Freq Offset<br/>0 Hz</p> |

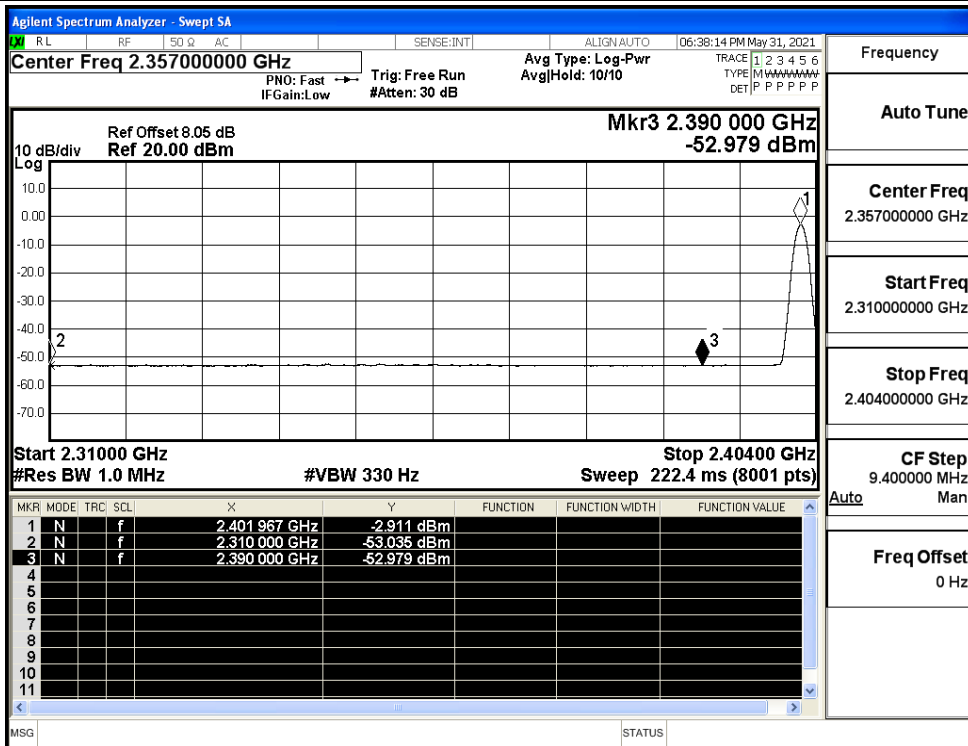
**A.7 Restrict-band band-edge measurements**

| Test Mode | Test Channel | Ant  | Freq.  | Power [dBm] | Gain | Ground Factor | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdi |
|-----------|--------------|------|--------|-------------|------|---------------|------------|----------|----------------|-------|
| BT LE     | 2402         | Ant1 | 2310.0 | -43.20      | 2.0  | 0             | 54.03      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2310.0 | -53.04      | 2.0  | 0             | 44.19      | AV       | 54             | PASS  |
|           |              | Ant1 | 2390.0 | -42.82      | 2.0  | 0             | 54.41      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2390.0 | -52.98      | 2.0  | 0             | 44.25      | AV       | 54             | PASS  |
|           | 2480         | Ant1 | 2483.5 | -42.68      | 2.0  | 0             | 54.55      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2483.5 | -52.48      | 2.0  | 0             | 44.75      | AV       | 54             | PASS  |
|           |              | Ant1 | 2500.0 | -42.73      | 2.0  | 0             | 54.50      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2500.0 | -52.44      | 2.0  | 0             | 44.79      | AV       | 54             | PASS  |

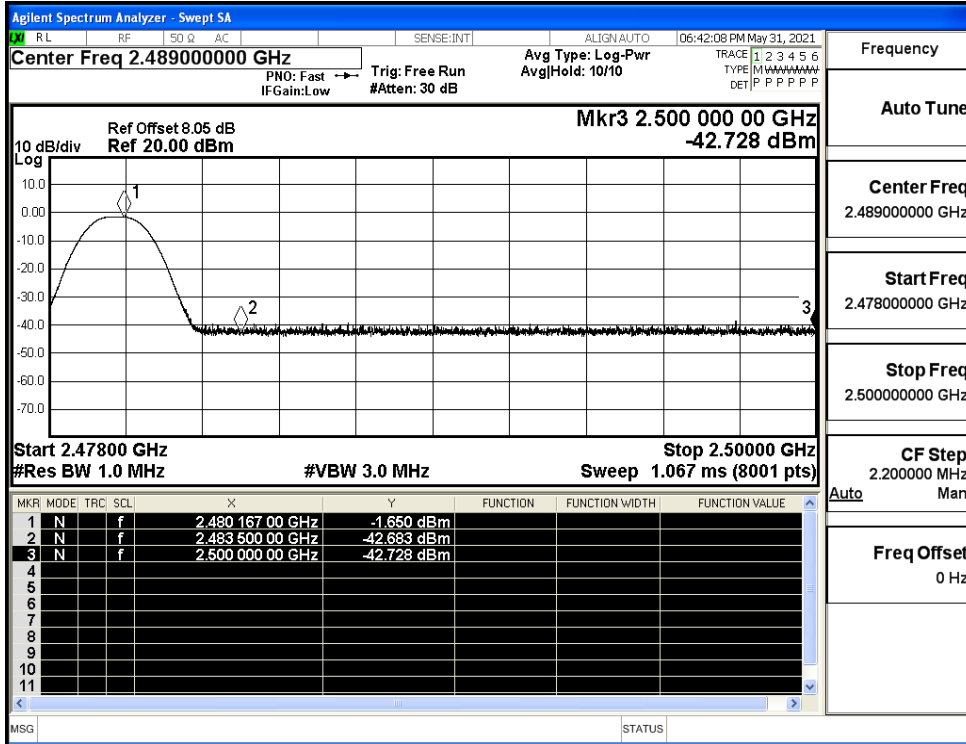
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_AV



Restrict-band band-edge measurements\_BT LE\_2480\_Ant1\_PEAK



Restrict-band band-edge measurements\_BT LE\_2480\_Ant1\_AV

