

## Appendix A

### RF Test Data for BT V4.2(BLE) (Conducted Measurement)

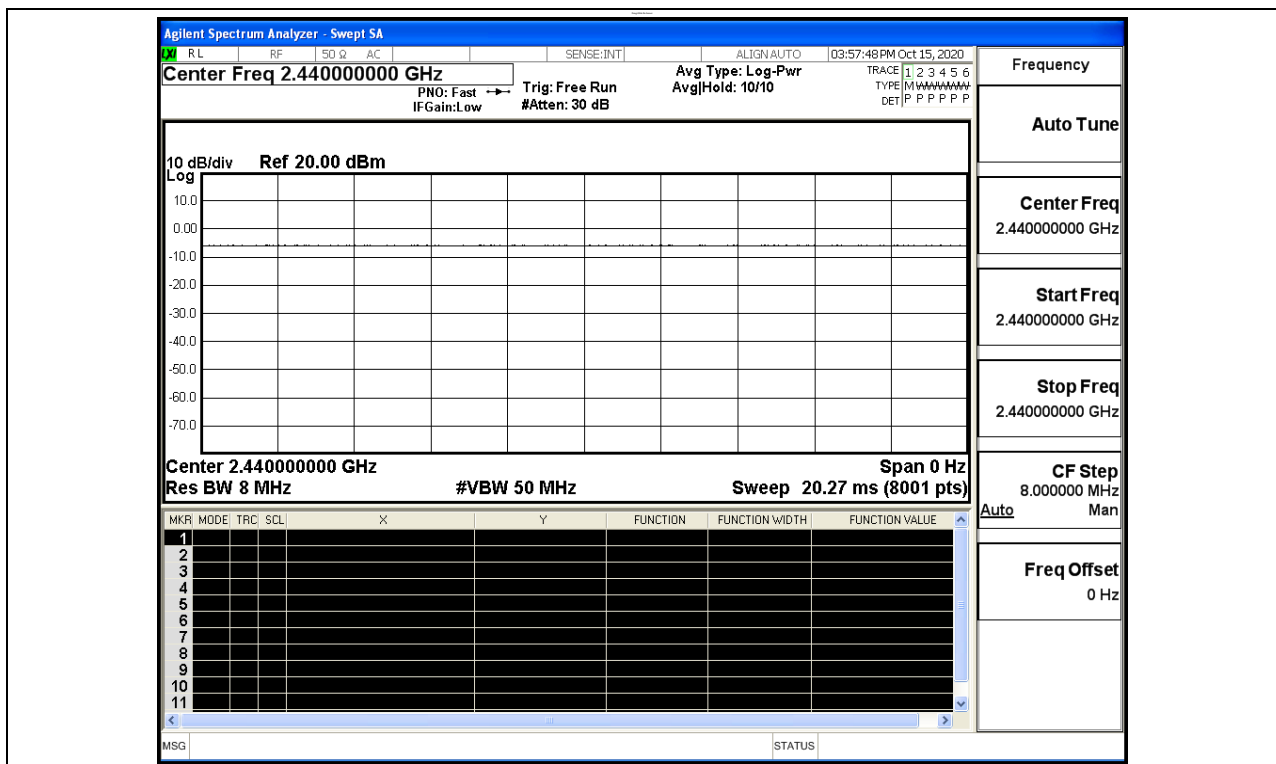
**Product Name: BABI Angel Monitor**  
**Trade Mark: BABI**  
**Test Model: BAM1001**

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 22.7°C    |
| Relative Humidity: | 53.9%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jay Li    |
| Supervised by:     | Li Huan   |

#### A.1 Duty Cycle

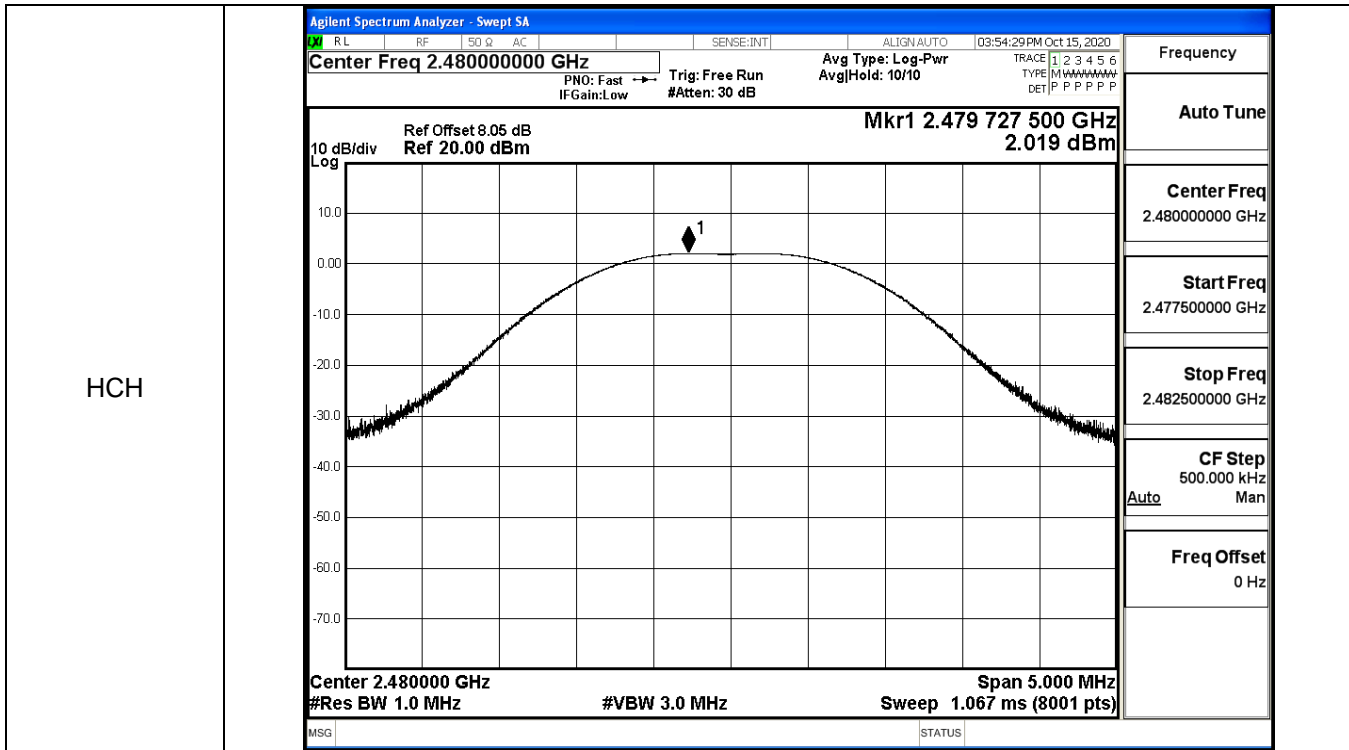
| Test Mode | Test Channel | Ant  | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| BT LE     | 2440         | Ant1 | 100           | PASS    |



### A.2 Maximum Conducted Peak Output Power

| Mode  | Channel | Conduct Peak Power[dBm] | Limit [dBm] | Verdict |
|-------|---------|-------------------------|-------------|---------|
| BT LE | LCH     | 2.31                    | 30          | PASS    |
| BT LE | MCH     | 2.005                   | 30          | PASS    |
| BT LE | HCH     | 2.019                   | 30          | PASS    |

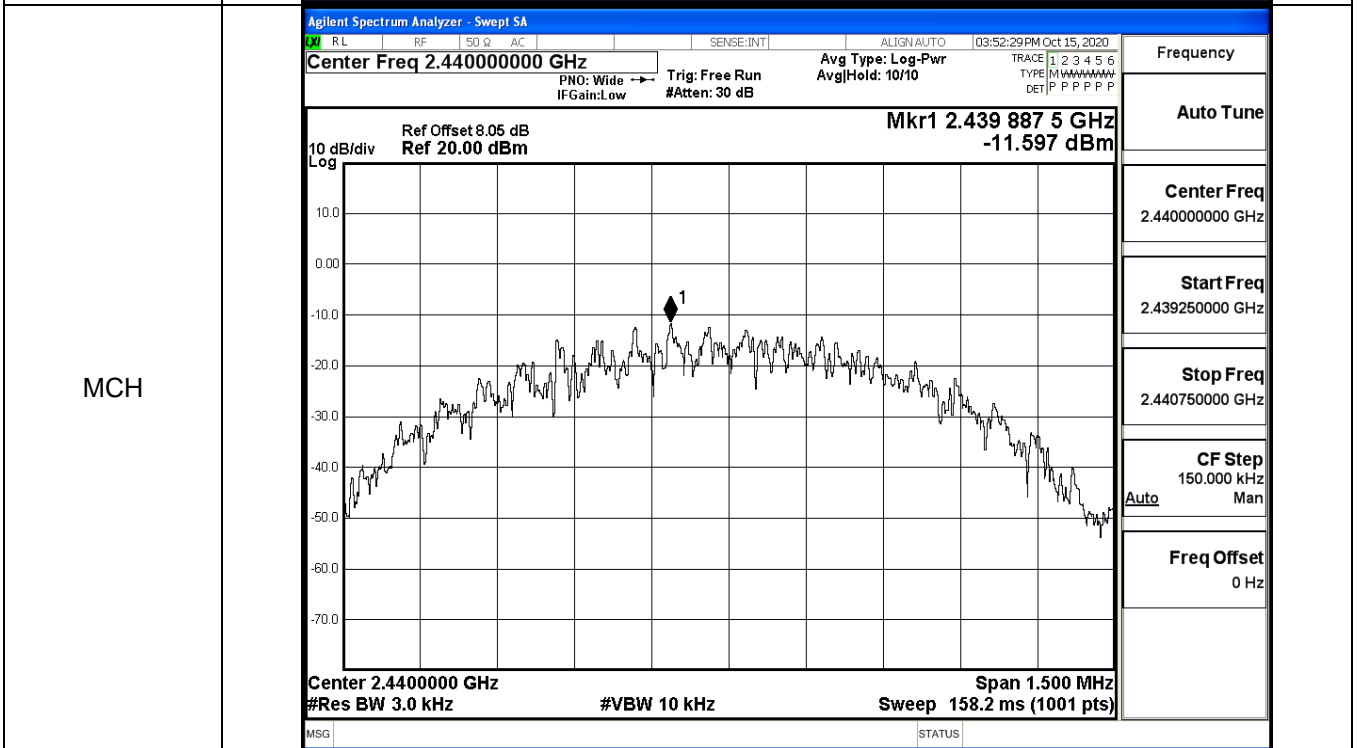
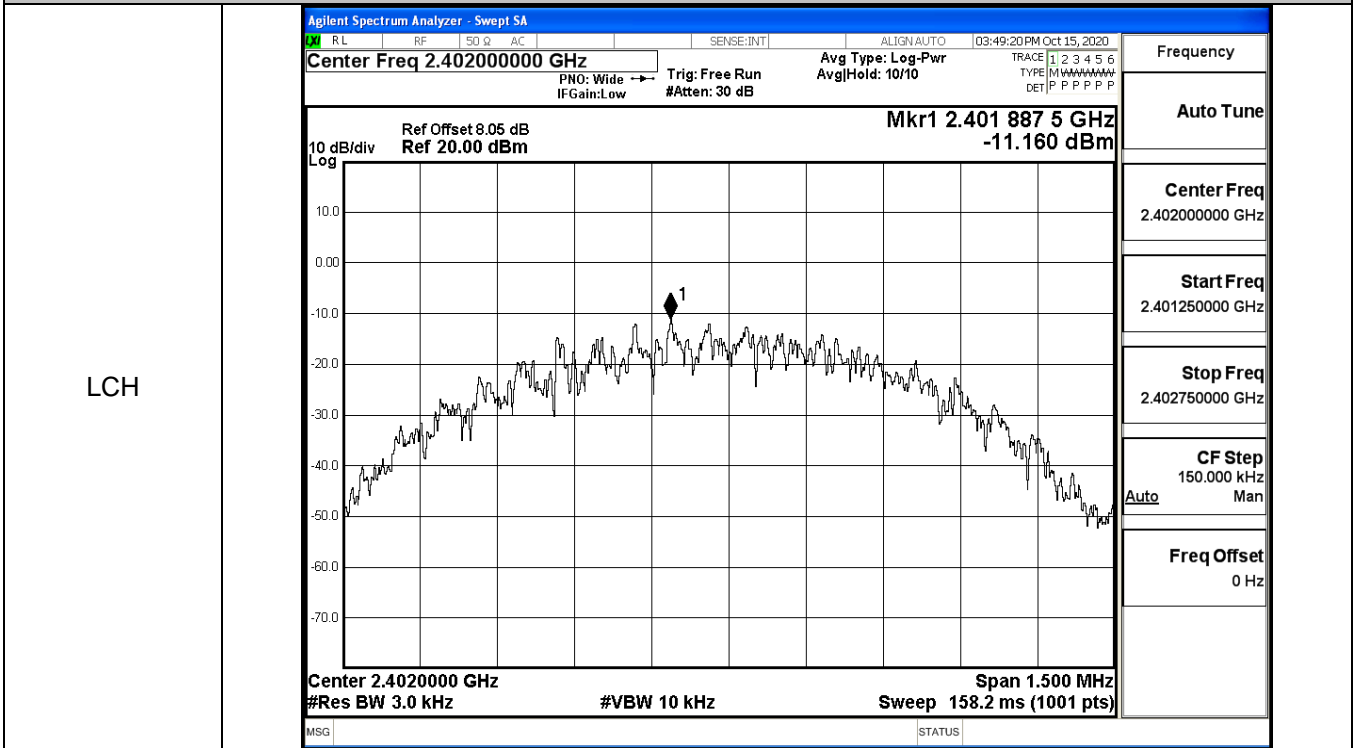
| Test Graphs |  |
|-------------|--|
| LCH         | <div style="border: 1px solid black; padding: 5px;"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.40200000 GHz</p> <p>Mkr1 2.401 735 000 GHz<br/>2.310 dBm</p> <p>Center 2.402000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 5.000 MHz Sweep 1.067 ms (8001 pts)</p> </div> |
| MCH         | <div style="border: 1px solid black; padding: 5px;"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.44000000 GHz</p> <p>Mkr1 2.440 178 750 GHz<br/>2.005 dBm</p> <p>Center 2.440000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 5.000 MHz Sweep 1.067 ms (8001 pts)</p> </div> |



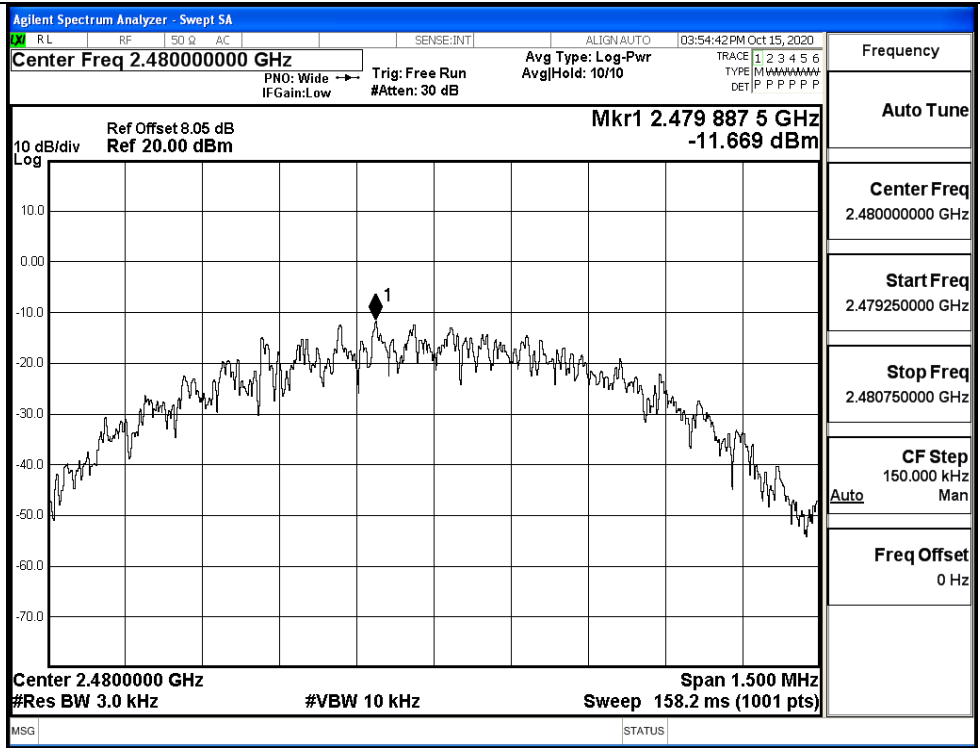
### A.3 Maximum Power Spectral Density

| Mode  | Channel | PSD [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|-------|---------|----------------|------------------|---------|
| BT LE | LCH     | -11.160        | 8                | PASS    |
| BT LE | MCH     | -11.597        | 8                | PASS    |
| BT LE | HCH     | -11.669        | 8                | PASS    |

#### Test Graphs



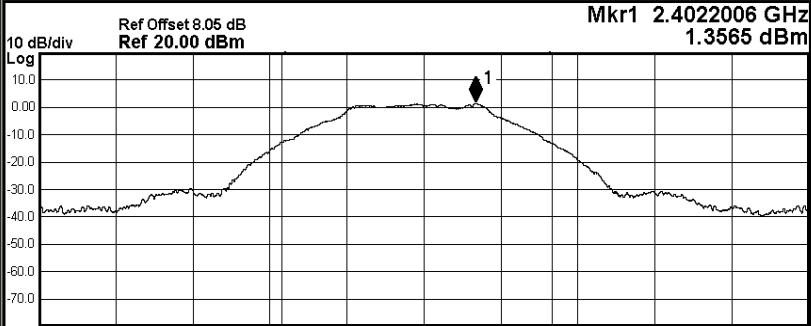
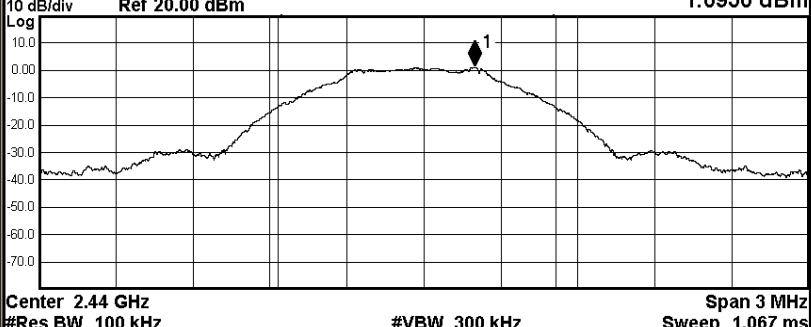
HCH



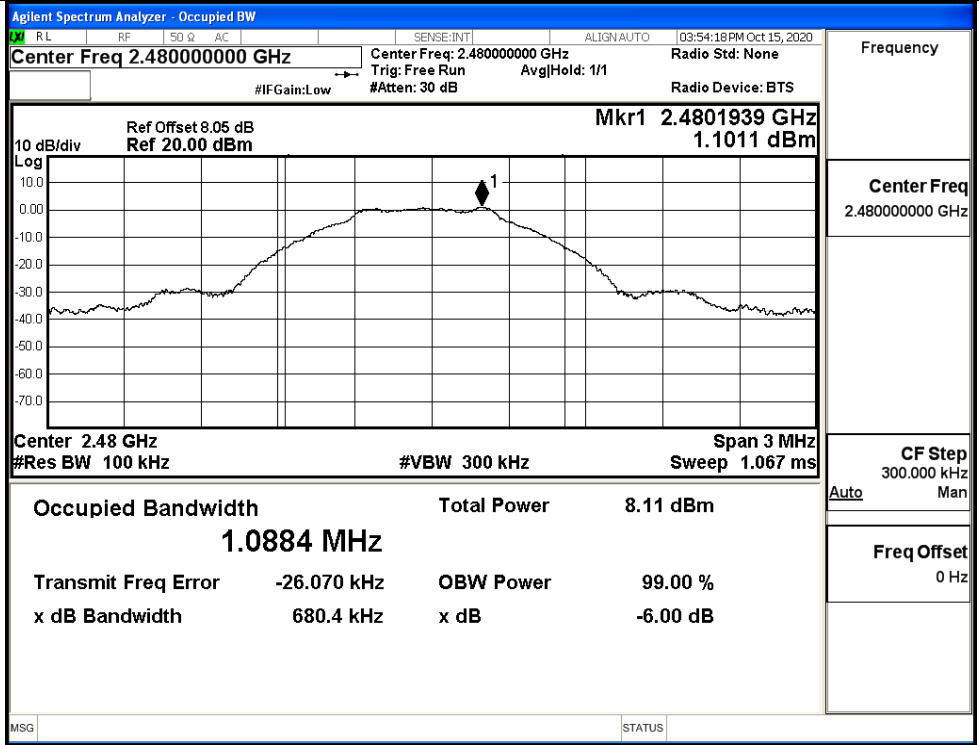
|                                       |
|---------------------------------------|
| Frequency                             |
| Auto Tune                             |
| Center Freq<br>2.48000000 GHz         |
| Start Freq<br>2.479250000 GHz         |
| Stop Freq<br>2.480750000 GHz          |
| CF Step<br>150.000 kHz<br>Auto<br>Man |
| Freq Offset<br>0 Hz                   |

**A.4 6dB Bandwidth**

| Mode  | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-------|---------|---------------------|-------------|---------|
| BT LE | LCH     | 0.6756              | ≥0.5        | PASS    |
| BT LE | MCH     | 0.6793              | ≥0.5        | PASS    |
| BT LE | HCH     | 0.6804              | ≥0.5        | PASS    |

| Test Graphs         |   |                    |             |          |                   |  |  |                     |           |         |                |      |          |
|---------------------|---|--------------------|-------------|----------|-------------------|--|--|---------------------|-----------|---------|----------------|------|----------|
| LCH                 | <div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 03:48:56 PM Oct 15, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None<br/>Trig: Free Run AvgHold: 1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="font-size: x-small; margin: 0;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4022006 GHz<br/>Log Ref 20.00 dBm 1.3565 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.402 GHz #Res BW 100 kHz #VBW 300 kHz Span 3 MHz Sweep 1.067 ms</p> <table style="width:100%; font-size: x-small; border-collapse: collapse;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>8.42 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0529 MHz</b></td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>  | Occupied Bandwidth | Total Power | 8.42 dBm | <b>1.0529 MHz</b> |  |  | Transmit Freq Error | OBW Power | 99.00 % | x dB Bandwidth | x dB | -6.00 dB |
| Occupied Bandwidth  | Total Power   | 8.42 dBm           |             |          |                   |  |  |                     |           |         |                |      |          |
| <b>1.0529 MHz</b>   |   |                    |             |          |                   |  |  |                     |           |         |                |      |          |
| Transmit Freq Error | OBW Power   | 99.00 %            |             |          |                   |  |  |                     |           |         |                |      |          |
| x dB Bandwidth      | x dB  | -6.00 dB           |             |          |                   |  |  |                     |           |         |                |      |          |
| MCH                 | <div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 03:52:04 PM Oct 15, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None<br/>Trig: Free Run AvgHold: 1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="font-size: x-small; margin: 0;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4401976 GHz<br/>Log Ref 20.00 dBm 1.0950 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.44 GHz #Res BW 100 kHz #VBW 300 kHz Span 3 MHz Sweep 1.067 ms</p> <table style="width:100%; font-size: x-small; border-collapse: collapse;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>8.09 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0798 MHz</b></td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin: 0;">MSG STATUS</p> </div> | Occupied Bandwidth | Total Power | 8.09 dBm | <b>1.0798 MHz</b> |  |  | Transmit Freq Error | OBW Power | 99.00 % | x dB Bandwidth | x dB | -6.00 dB |
| Occupied Bandwidth  | Total Power   | 8.09 dBm           |             |          |                   |  |  |                     |           |         |                |      |          |
| <b>1.0798 MHz</b>   |   |                    |             |          |                   |  |  |                     |           |         |                |      |          |
| Transmit Freq Error | OBW Power   | 99.00 %            |             |          |                   |  |  |                     |           |         |                |      |          |
| x dB Bandwidth      | x dB  | -6.00 dB           |             |          |                   |  |  |                     |           |         |                |      |          |

HCH



### A.5 RF Conducted Spurious Emissions

| Mode  | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|------------|------------------|-------------|---------|
| BT LE | LCH     | 1.381      | -35.645          | -18.619     | PASS    |
| BT LE | MCH     | 1.07       | -37.072          | -18.930     | PASS    |
| BT LE | HCH     | 1.06       | -36.909          | -18.940     | PASS    |

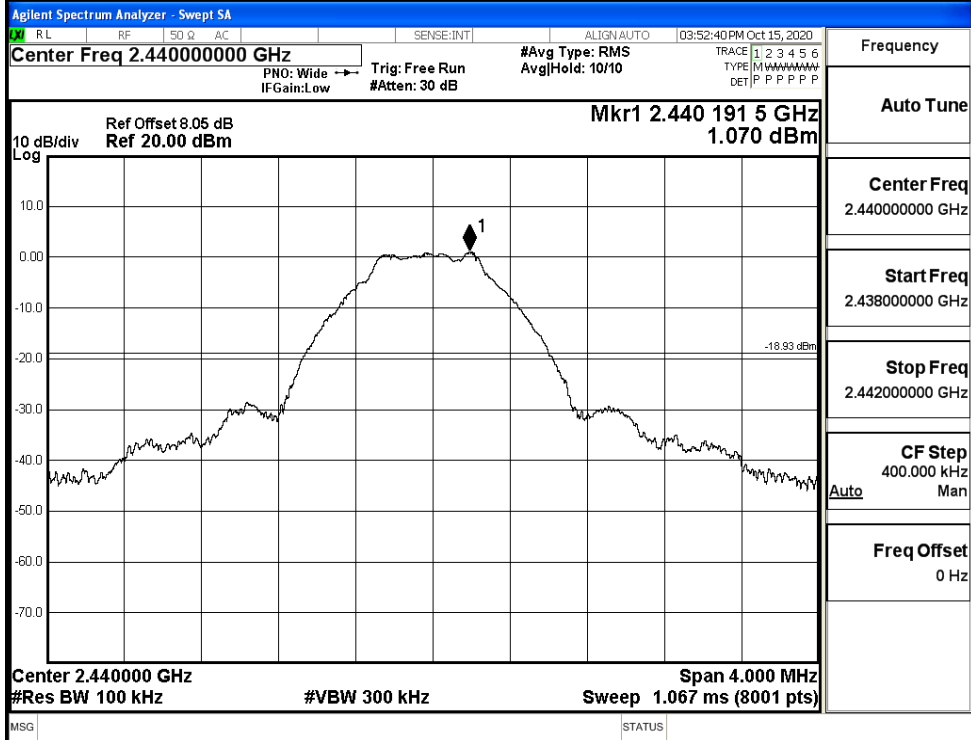
BT LE\_LCH\_Graphs

|                |  |
|----------------|--|
| Pref/BT LE/LCH |  |
| Puw/BT LE/LCH  |  |

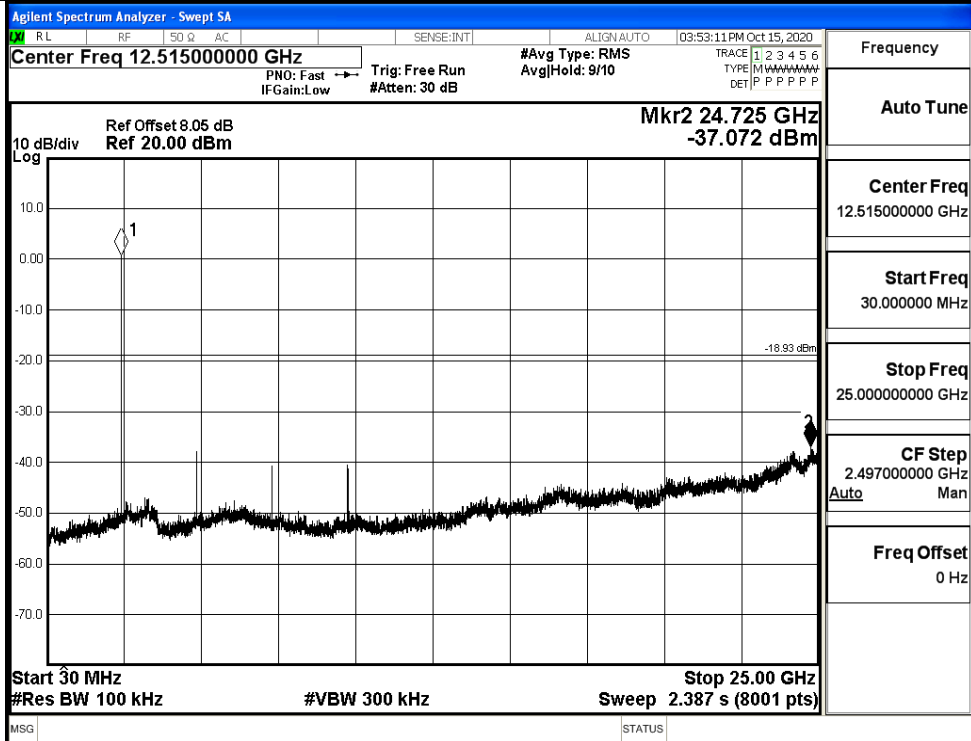


BT LE\_MCH\_Graphs

Pref/BT LE/MCH

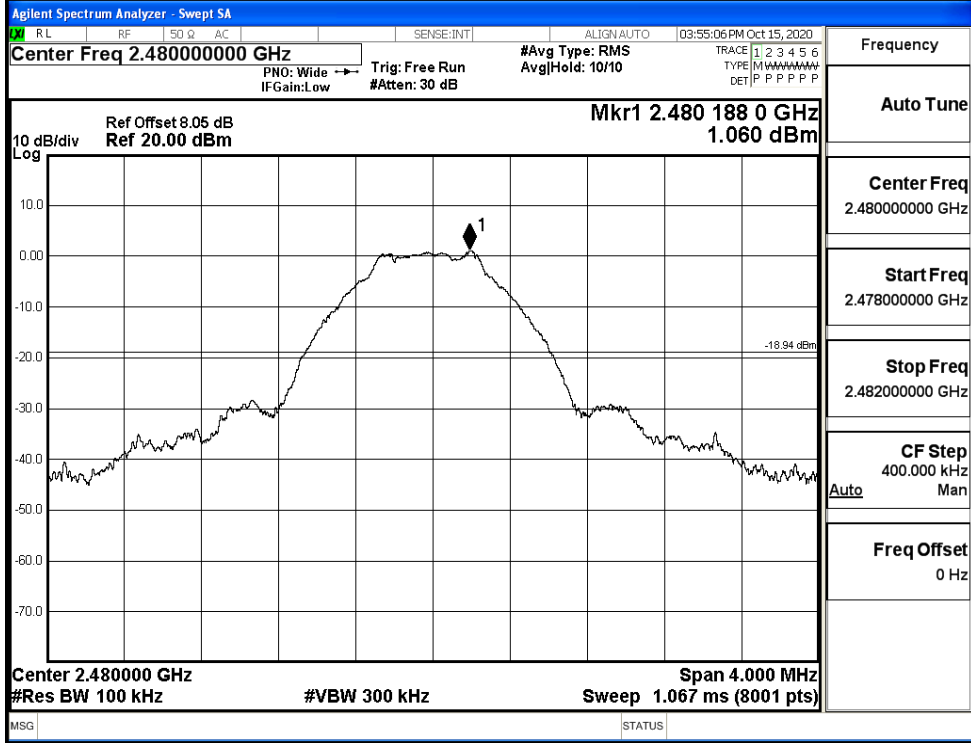


Puw/BT LE/MCH

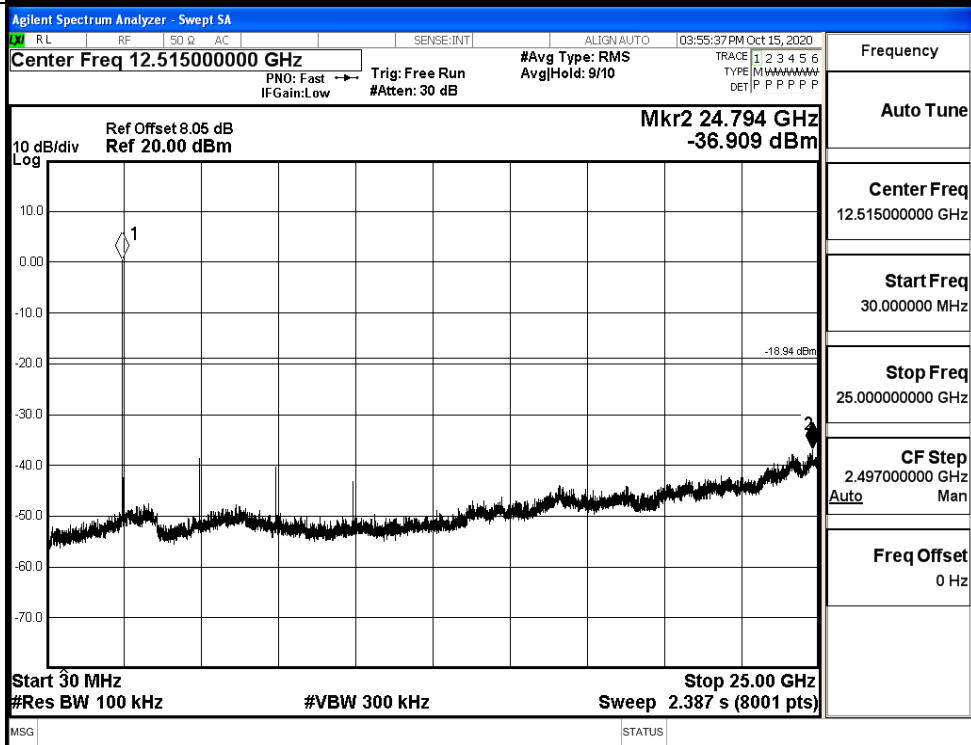


BT LE\_HCH\_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



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

| Mode  | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|--------------------|--------------------------|-------------|---------|
| BT LE | LCH     | 1.437              | -49.287                  | -18.56      | PASS    |
| BT LE | HCH     | 1.241              | -43.739                  | -18.76      | PASS    |

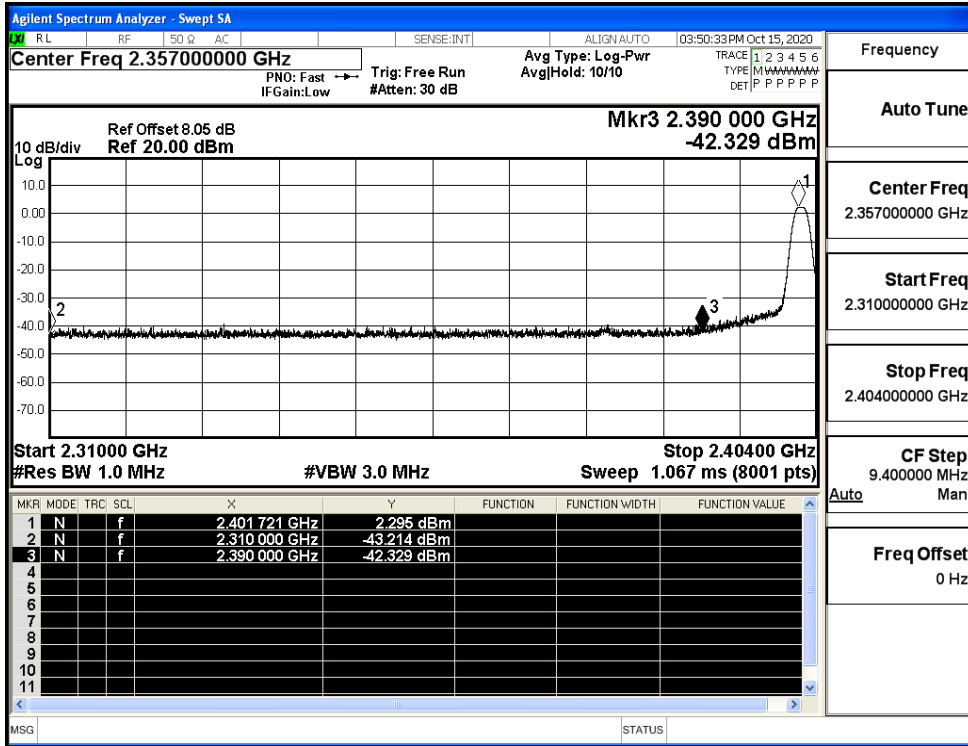
Test Graphs

| LCH | <p>Agilent Spectrum Analyzer - Swept SA<br/>                 Center Freq 2.35700000 GHz<br/>                 Max Spurious Level -49.287 dBm<br/>                 Mkr4 2.373 662 GHz<br/>                 Start 2.31000 GHz, Stop 2.40400 GHz<br/>                 #Res BW 100 kHz, #VBW 300 kHz, Sweep 9.067 ms (8001 pts)</p> <table border="1" style="font-size: small;"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr><td>1</td><td>N</td><td>f</td><td></td><td>2.401 967 GHz</td><td>1.437 dBm</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>N</td><td>f</td><td></td><td>2.400 000 GHz</td><td>-43.640 dBm</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>N</td><td>f</td><td></td><td>2.390 000 GHz</td><td>-51.841 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.373 662 GHz</td><td>-49.287 dBm</td><td></td><td></td><td></td></tr> </tbody> </table>                | MKR | MODE | TRC              | SCL         | X        | Y              | FUNCTION       | FUNCTION WIDTH | FUNCTION VALUE | 1 | N | f |  | 2.401 967 GHz    | 1.437 dBm |  |  |  | 2 | N | f |  | 2.400 000 GHz    | -43.640 dBm |  |  |  | 3 | N | f |  | 2.390 000 GHz    | -51.841 dBm |  |  |  | 4 | N | f |  | 2.373 662 GHz    | -49.287 dBm |  |  |  | Frequency<br>Auto Tune<br>Center Freq<br>2.35700000 GHz<br>Start Freq<br>2.310000000 GHz<br>Stop Freq<br>2.404000000 GHz<br>CF Step<br>9.400000 MHz<br>Freq Offset<br>0 Hz |
|-----|---|-----|------|------------------|-------------|----------|----------------|----------------|----------------|----------------|---|---|---|--|------------------|-----------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|--|
| MKR | MODE  | TRC | SCL  | X                | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 1   | N   | f   |      | 2.401 967 GHz    | 1.437 dBm   |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 2   | N   | f   |      | 2.400 000 GHz    | -43.640 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 3   | N   | f   |      | 2.390 000 GHz    | -51.841 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 4   | N   | f   |      | 2.373 662 GHz    | -49.287 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| HCH | <p>Agilent Spectrum Analyzer - Swept SA<br/>                 Center Freq 2.48900000 GHz<br/>                 Max Spurious Level -43.739 dBm<br/>                 Mkr4 2.483 703 50 GHz<br/>                 Start 2.47800 GHz, Stop 2.50000 GHz<br/>                 #Res BW 100 kHz, #VBW 300 kHz, Sweep 2.133 ms (8001 pts)</p> <table border="1" style="font-size: small;"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr><td>1</td><td>N</td><td>f</td><td></td><td>2.480 200 00 GHz</td><td>1.241 dBm</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>N</td><td>f</td><td></td><td>2.483 500 00 GHz</td><td>-45.080 dBm</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>N</td><td>f</td><td></td><td>2.500 000 00 GHz</td><td>-53.462 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.483 703 50 GHz</td><td>-43.739 dBm</td><td></td><td></td><td></td></tr> </tbody> </table> | MKR | MODE | TRC              | SCL         | X        | Y              | FUNCTION       | FUNCTION WIDTH | FUNCTION VALUE | 1 | N | f |  | 2.480 200 00 GHz | 1.241 dBm |  |  |  | 2 | N | f |  | 2.483 500 00 GHz | -45.080 dBm |  |  |  | 3 | N | f |  | 2.500 000 00 GHz | -53.462 dBm |  |  |  | 4 | N | f |  | 2.483 703 50 GHz | -43.739 dBm |  |  |  | Frequency<br>Auto Tune<br>Center Freq<br>2.48900000 GHz<br>Start Freq<br>2.478000000 GHz<br>Stop Freq<br>2.500000000 GHz<br>CF Step<br>2.200000 MHz<br>Freq Offset<br>0 Hz |
| MKR | MODE  | TRC | SCL  | X                | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 1   | N   | f   |      | 2.480 200 00 GHz | 1.241 dBm   |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 2   | N   | f   |      | 2.483 500 00 GHz | -45.080 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 3   | N   | f   |      | 2.500 000 00 GHz | -53.462 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |
| 4   | N   | f   |      | 2.483 703 50 GHz | -43.739 dBm |          |                |                |                |                |   |   |   |  |                  |           |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |   |   |   |  |                  |             |  |  |  |  |

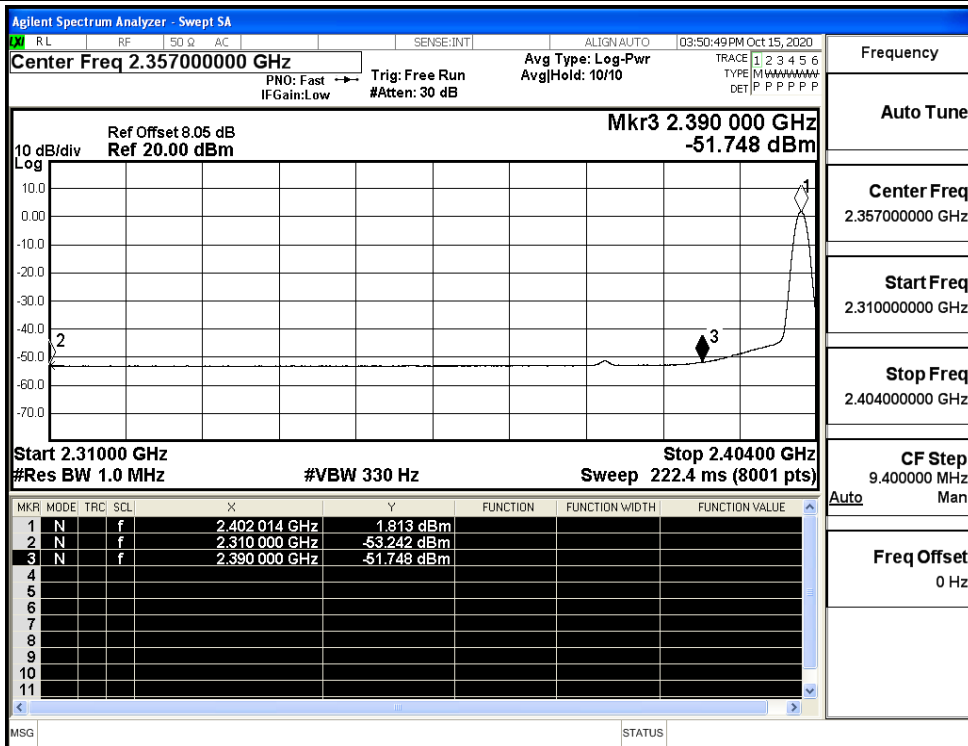
## A.7 Restrict-band band-edge measurements

| 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 | -43.21      | 2.0  | 0             | 52.04      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2310.0 | -53.24      | 2.0  | 0             | 42.02      | AV       | 54             | PASS  |
|           |              | Ant1 | 2390.0 | -42.33      | 2.0  | 0             | 52.93      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2390.0 | -51.75      | 2.0  | 0             | 43.51      | AV       | 54             | PASS  |
|           | 2480         | Ant1 | 2483.5 | -36.10      | 2.0  | 0             | 59.16      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2483.5 | -45.07      | 2.0  | 0             | 50.19      | AV       | 54             | PASS  |
|           |              | Ant1 | 2500.0 | -42.29      | 2.0  | 0             | 52.96      | PEAK     | 74             | PASS  |
|           |              | Ant1 | 2500.0 | -52.24      | 2.0  | 0             | 43.01      | AV       | 54             | PASS  |

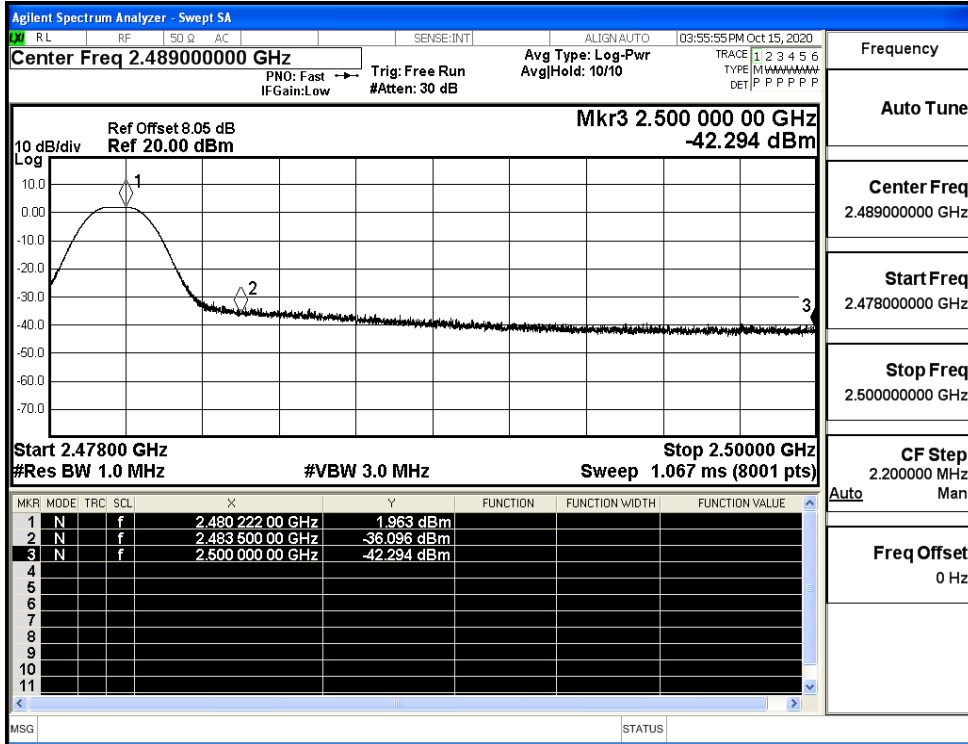
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



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

