

Appendix B

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

Product Name: Bluetooth Hybrid Amplifier

Trade Mark: DAYTON AUDIO

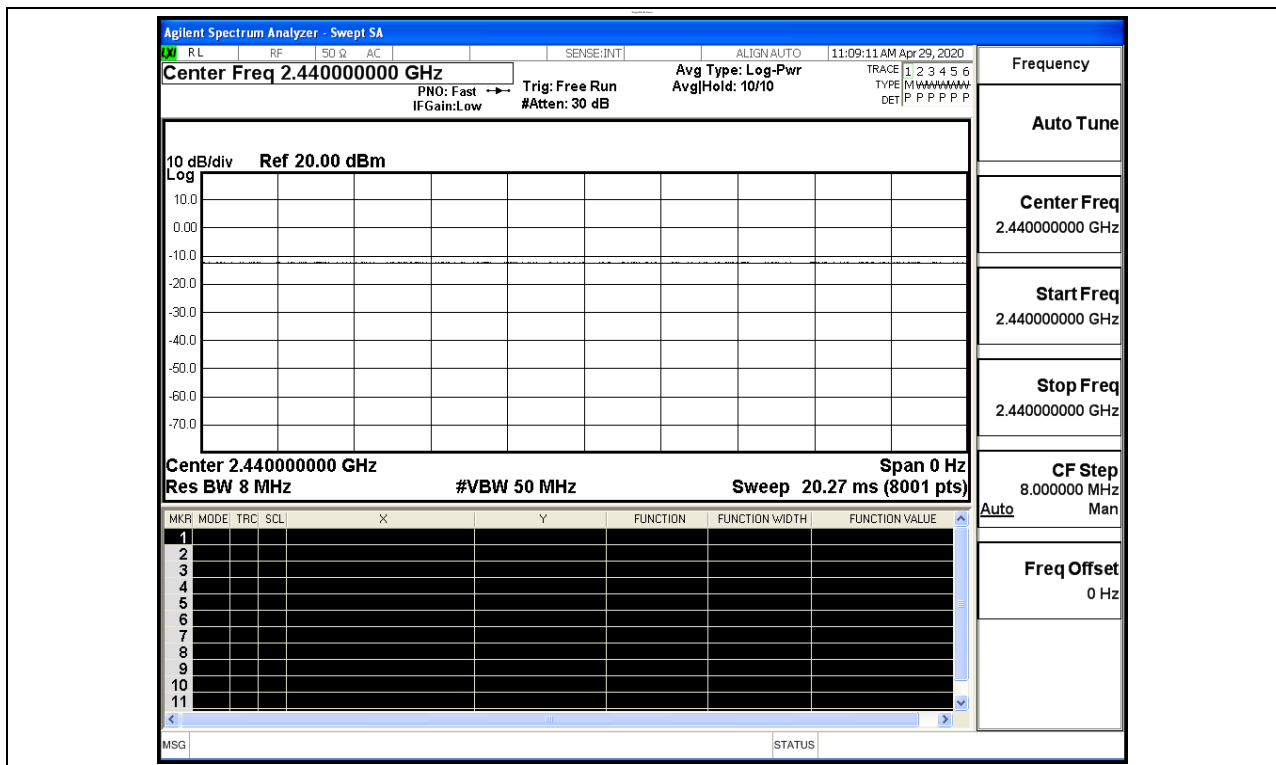
Test Model: HTA20BT

Environmental Conditions

| | |
|--------------------|-------------|
| Temperature: | 23.7°C |
| Relative Humidity: | 54.5% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Alisa Huang |
| Supervised by: | Li Huan |

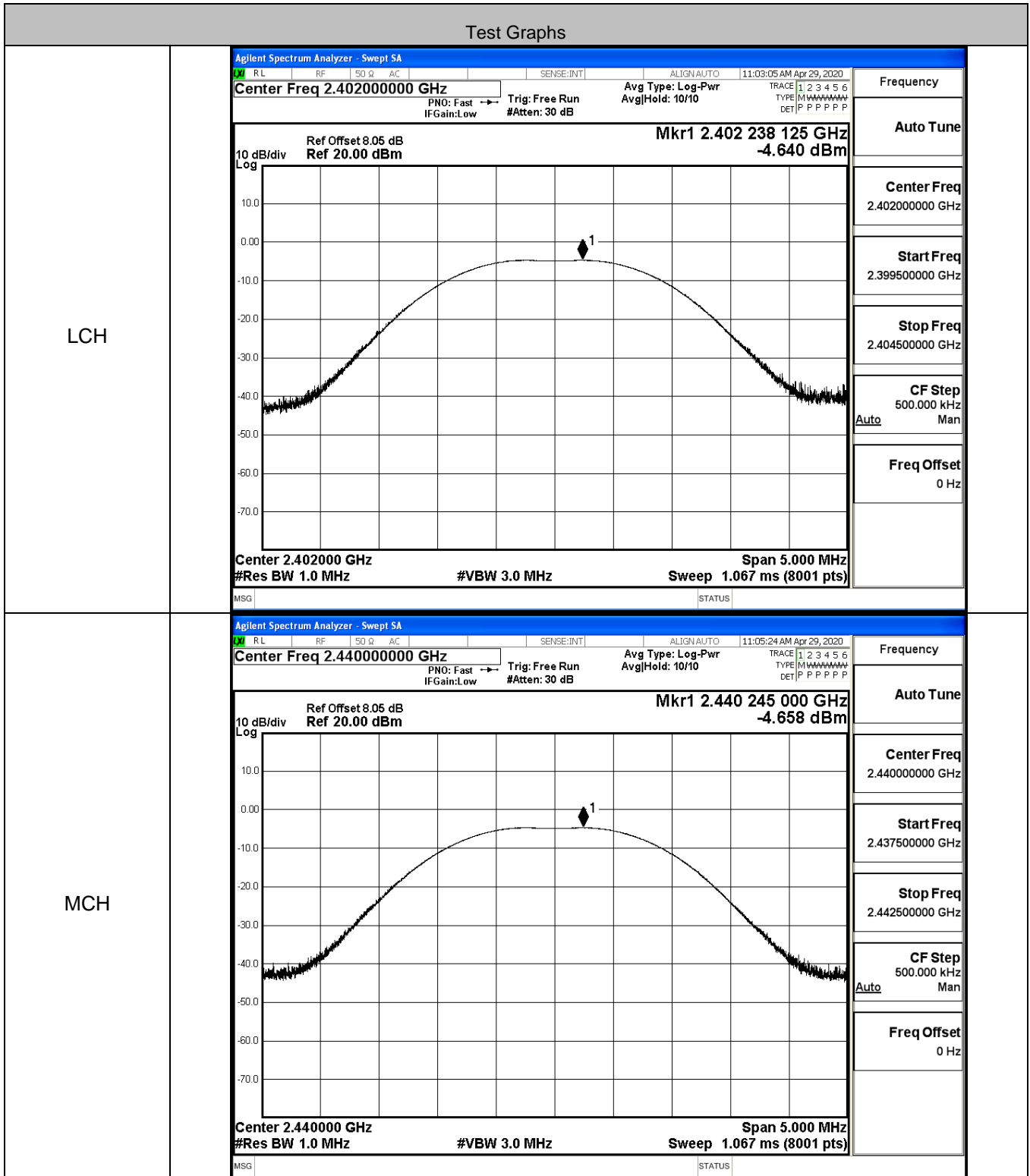
B.1 Duty Cycle

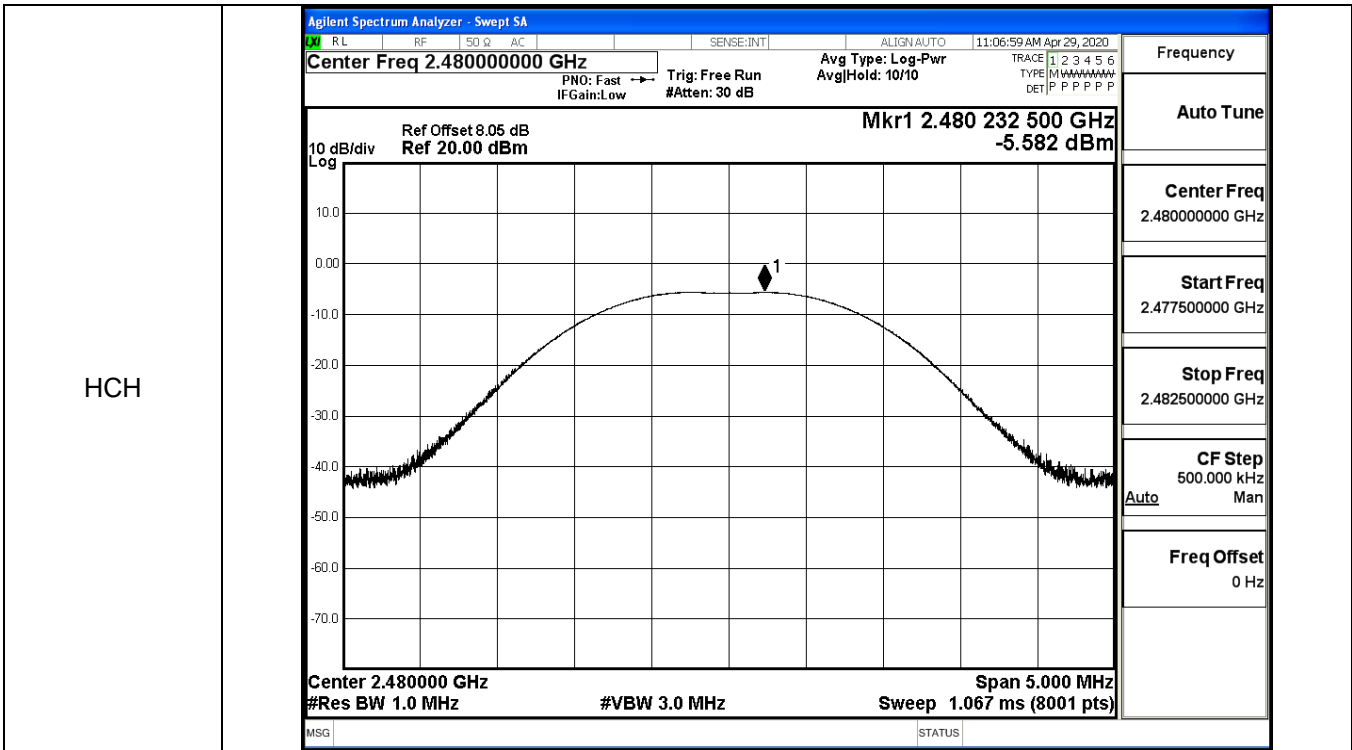
| Test Mode | Test Channel | Ant | Duty Cycle[%] | Verdict |
|-----------|--------------|------|---------------|---------|
| BT LE | 2440 | Ant1 | 100 | PASS |



B.2 Maximum Conducted Peak Output Power

| Mode | Channel | Conduct Peak Power[dBm] | Limit [dBm] | Verdict |
|-------|---------|-------------------------|-------------|---------|
| BT LE | LCH | -4.64 | 30 | PASS |
| BT LE | MCH | -4.658 | 30 | PASS |
| BT LE | HCH | -5.582 | 30 | PASS |

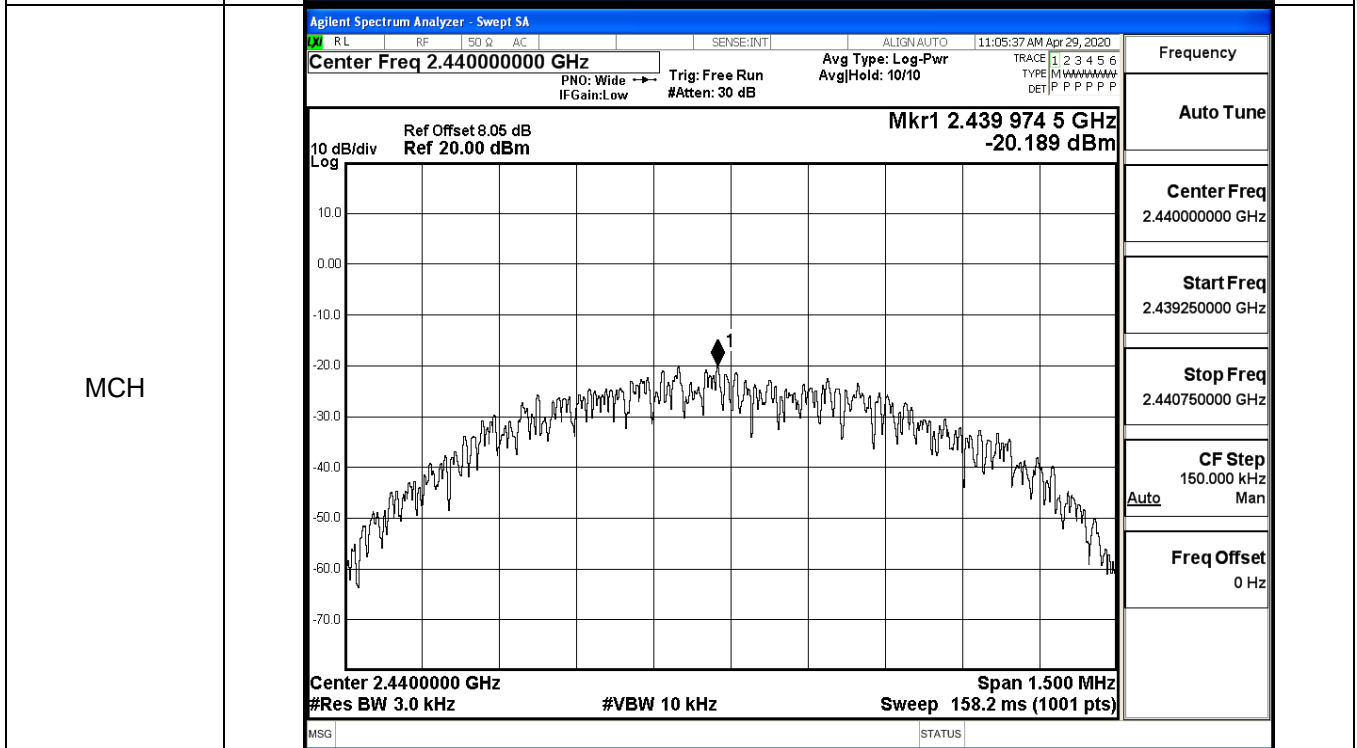
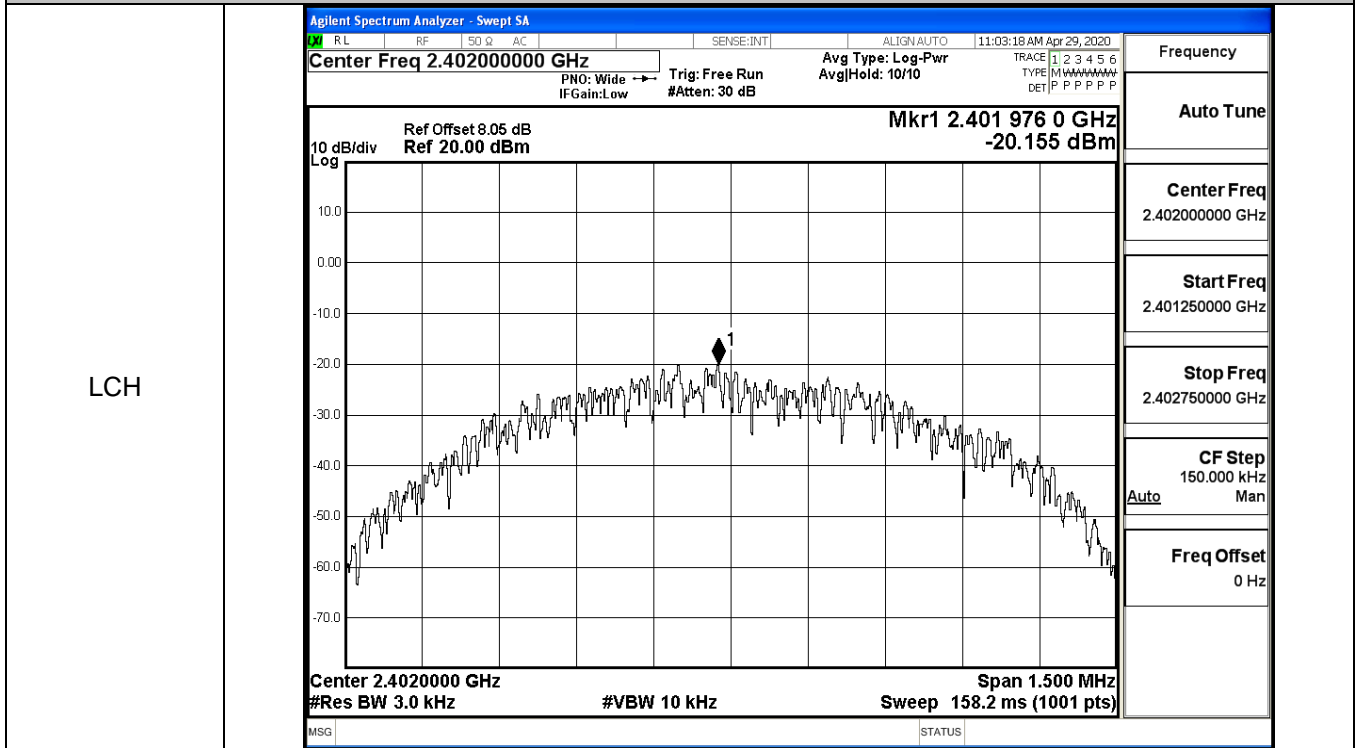


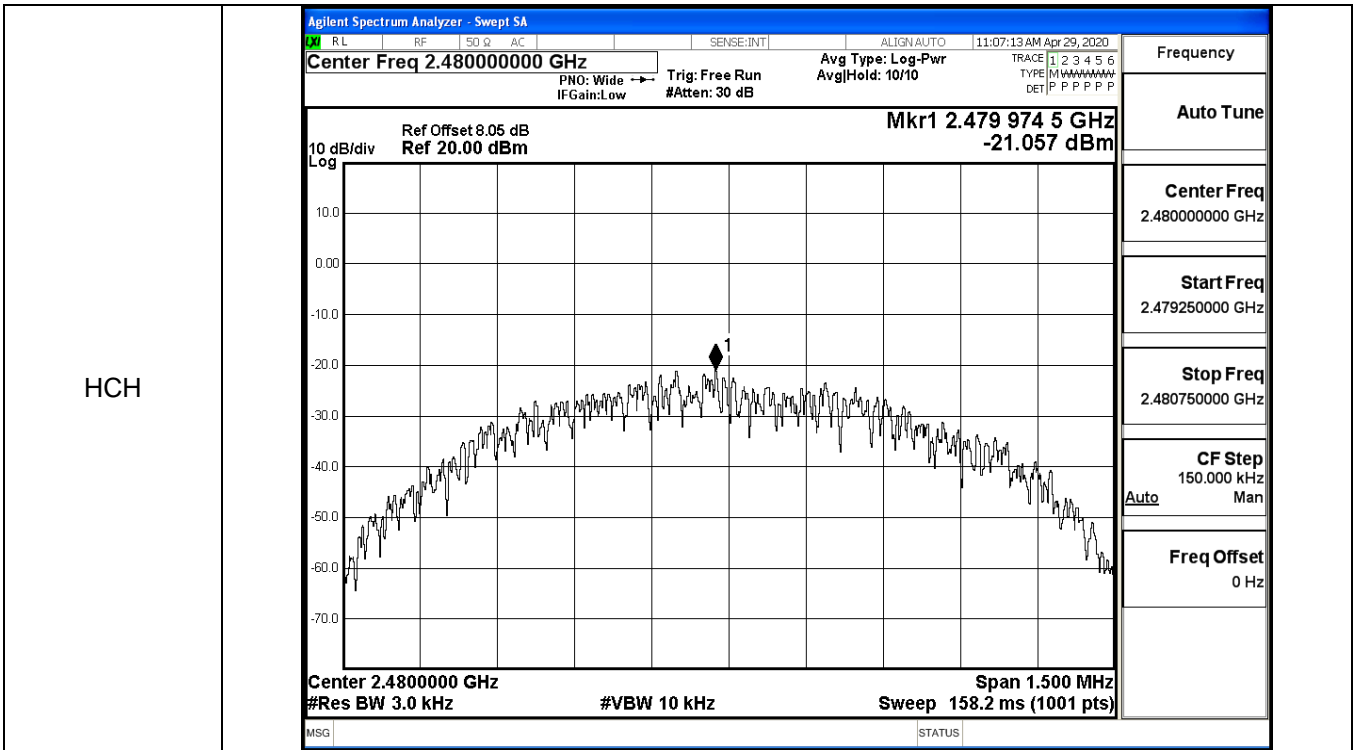


B.3 Maximum Power Spectral Density

| Mode | Channel | PSD [dBm/3KHz] | Limit [dBm/3KHz] | Verdict |
|-------|---------|----------------|------------------|---------|
| BT LE | LCH | -20.155 | 8 | PASS |
| BT LE | MCH | -20.189 | 8 | PASS |
| BT LE | HCH | -21.057 | 8 | PASS |

Test Graphs



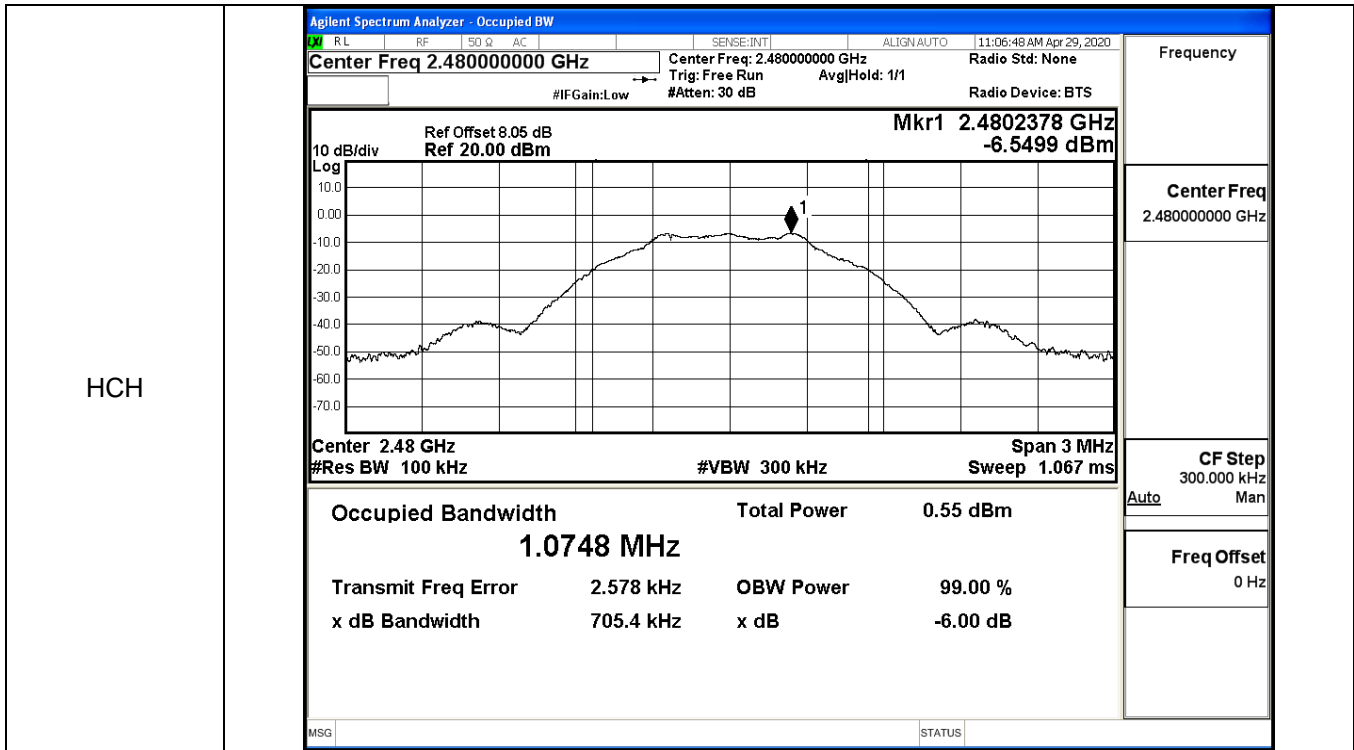


B.4 6dB Bandwidth

| Mode | Channel | 6dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|-------|---------|---------------------|-------------|---------|
| BT LE | LCH | 0.7038 | ≥0.5 | PASS |
| BT LE | MCH | 0.7024 | ≥0.5 | PASS |
| BT LE | HCH | 0.7054 | ≥0.5 | PASS |

Test Graphs

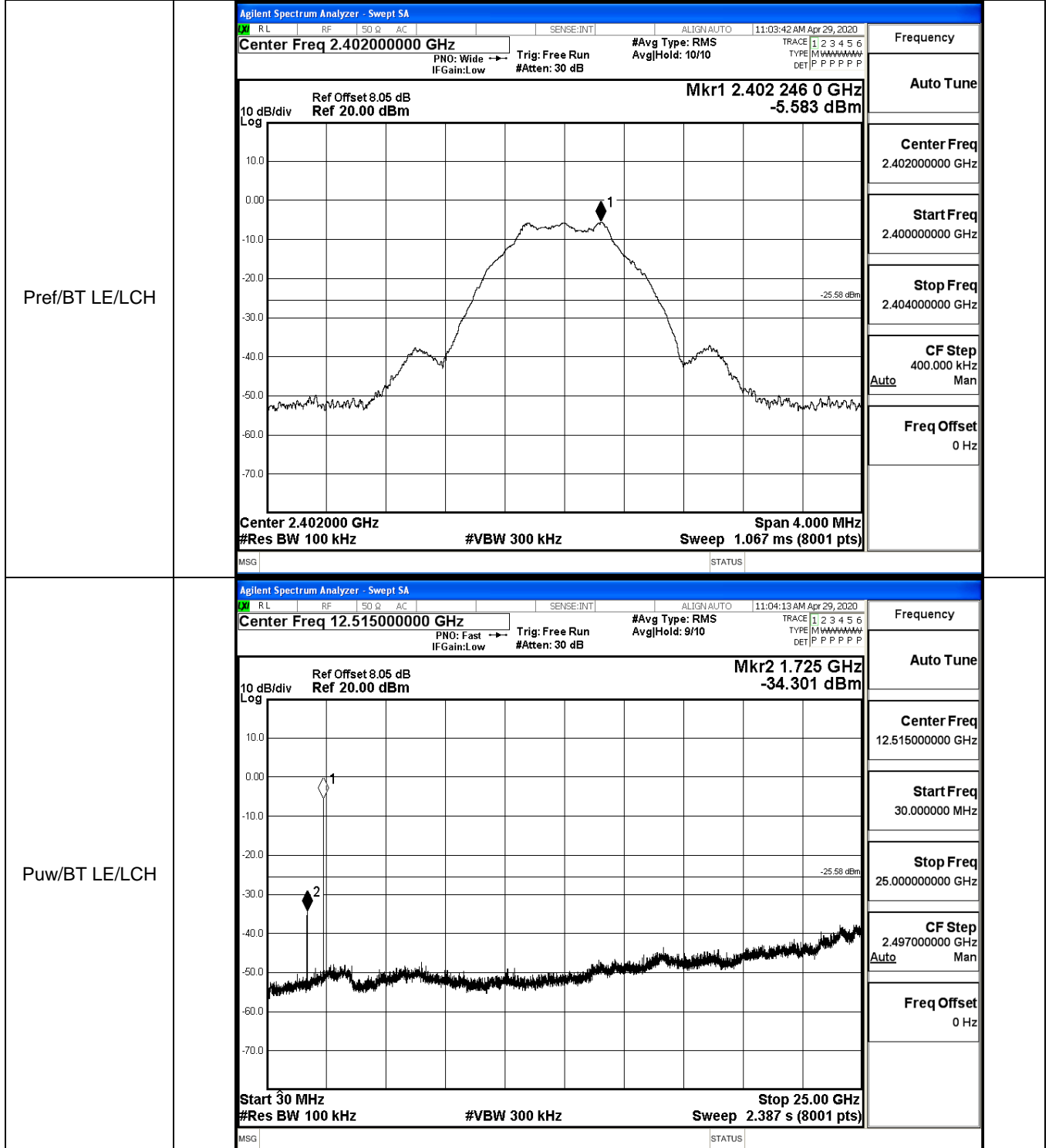
| | | |
|-----|--|---|
| LCH | <p>Agilent Spectrum Analyzer - Occupied BW Center Freq 2.402000000 GHz Mkr1 2.402381 GHz -5.6338 dBm Occupied Bandwidth 1.0755 MHz Total Power 1.51 dBm</p> | Frequency 2.402000000 GHz CF Step 300.000 kHz Freq Offset 0 Hz |
| | <p>Agilent Spectrum Analyzer - Occupied BW Center Freq 2.440000000 GHz Mkr1 2.440246 GHz -5.6132 dBm Occupied Bandwidth 1.0754 MHz Total Power 1.48 dBm</p> | Frequency 2.440000000 GHz CF Step 300.000 kHz Freq Offset 0 Hz |



B.5 RF Conducted Spurious Emissions

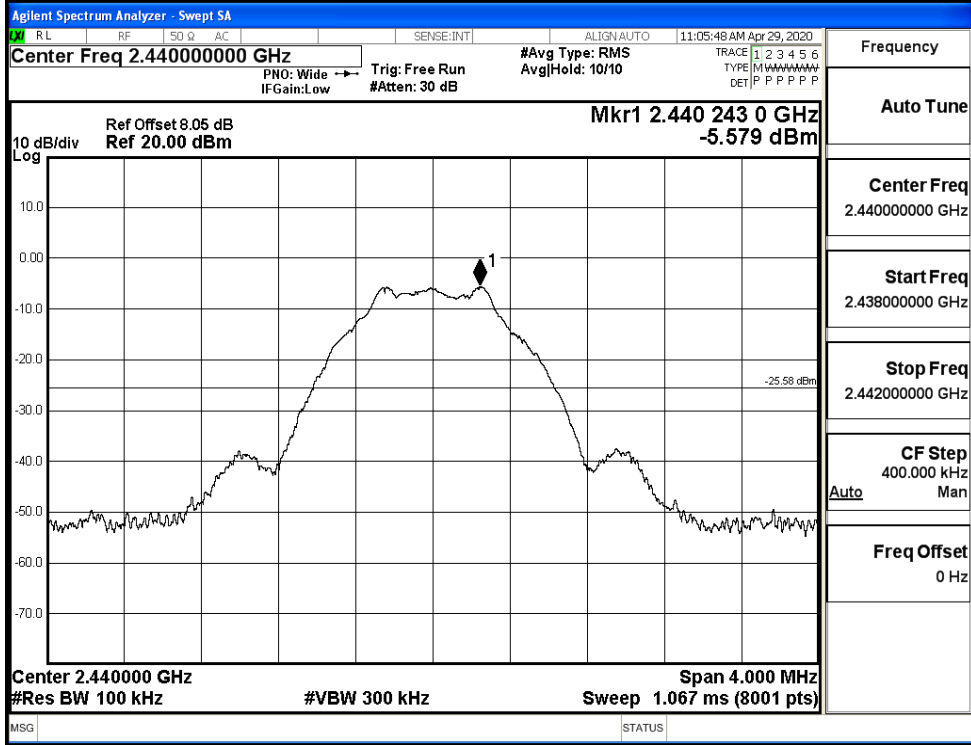
| Mode | Channel | Pref [dBm] | Max. Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|------------|------------------|-------------|---------|
| BT LE | LCH | -5.583 | -34.301 | -25.583 | PASS |
| BT LE | MCH | -5.579 | -30.278 | -25.579 | PASS |
| BT LE | HCH | -6.525 | -36.679 | -26.525 | PASS |

BT LE_LCH_Graphs

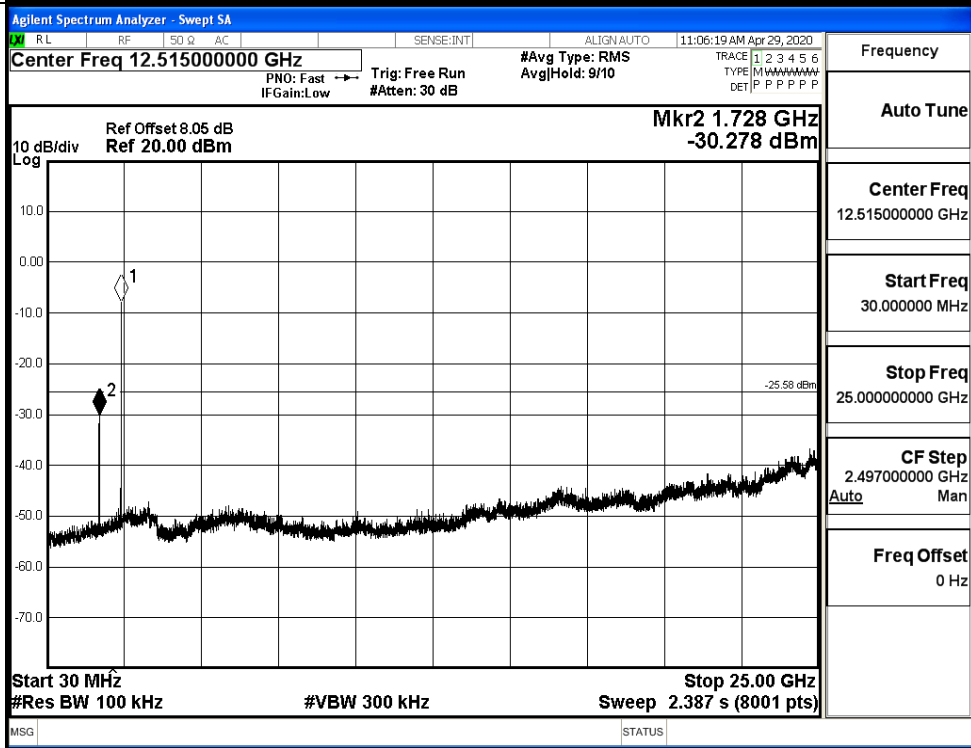


BT LE_MCH_Graphs

Pref/BT LE/MCH

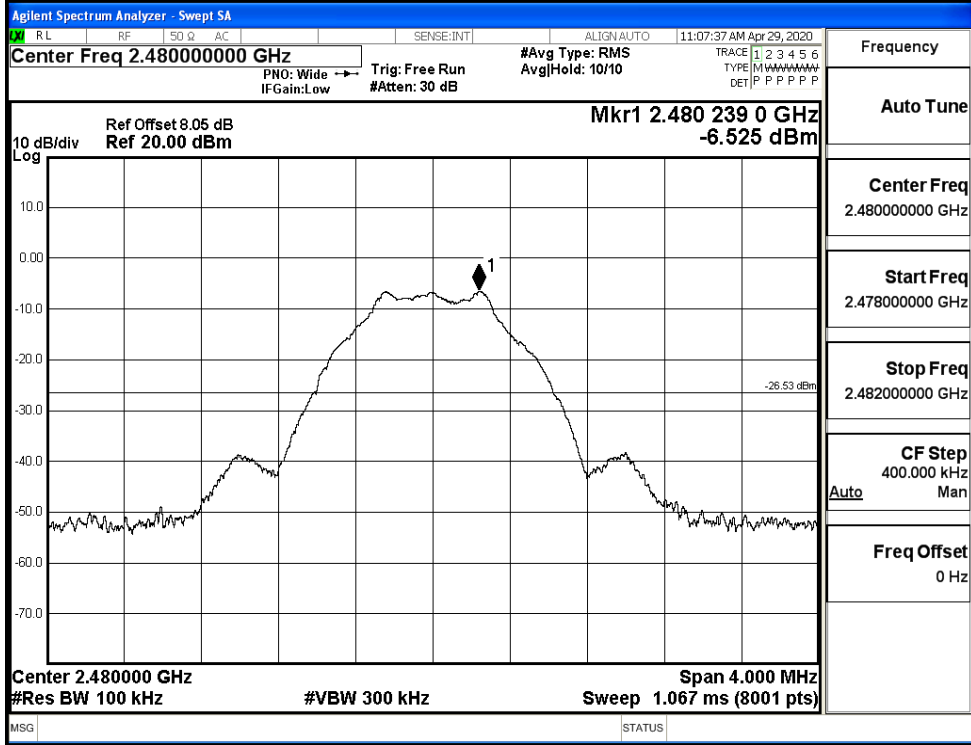


Puw/BT LE/MCH

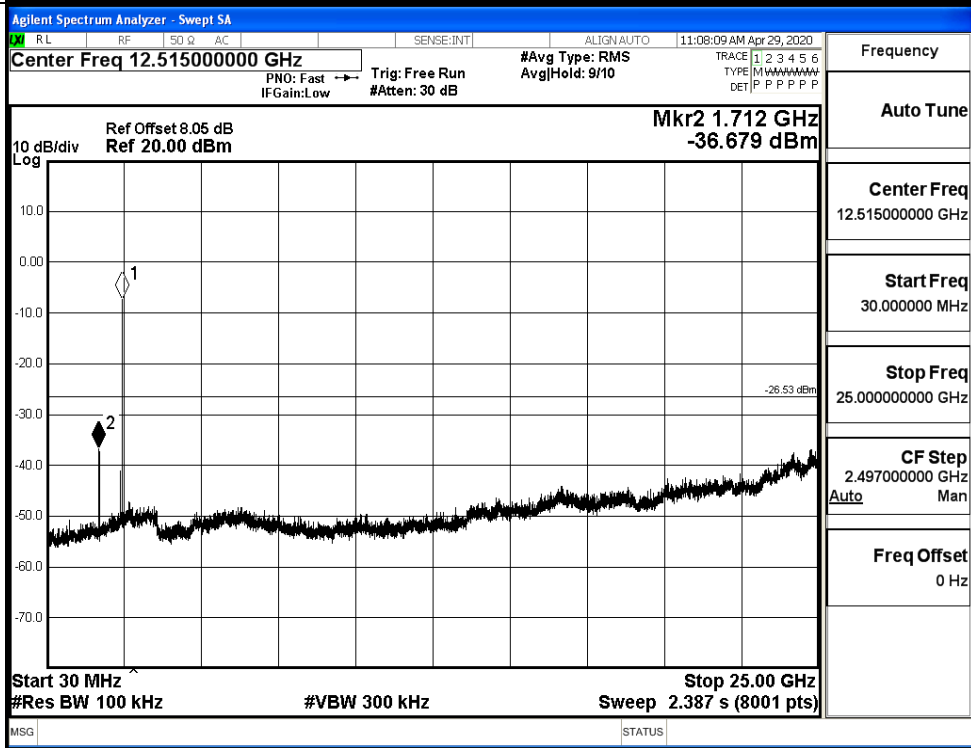


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



B.6 Band-edge for RF Conducted Emissions

| Mode | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-------|---------|--------------------|--------------------------|-------------|---------|
| BT LE | LCH | -5.636 | -49.902 | -25.64 | PASS |
| BT LE | HCH | -6.306 | -49.854 | -26.31 | PASS |

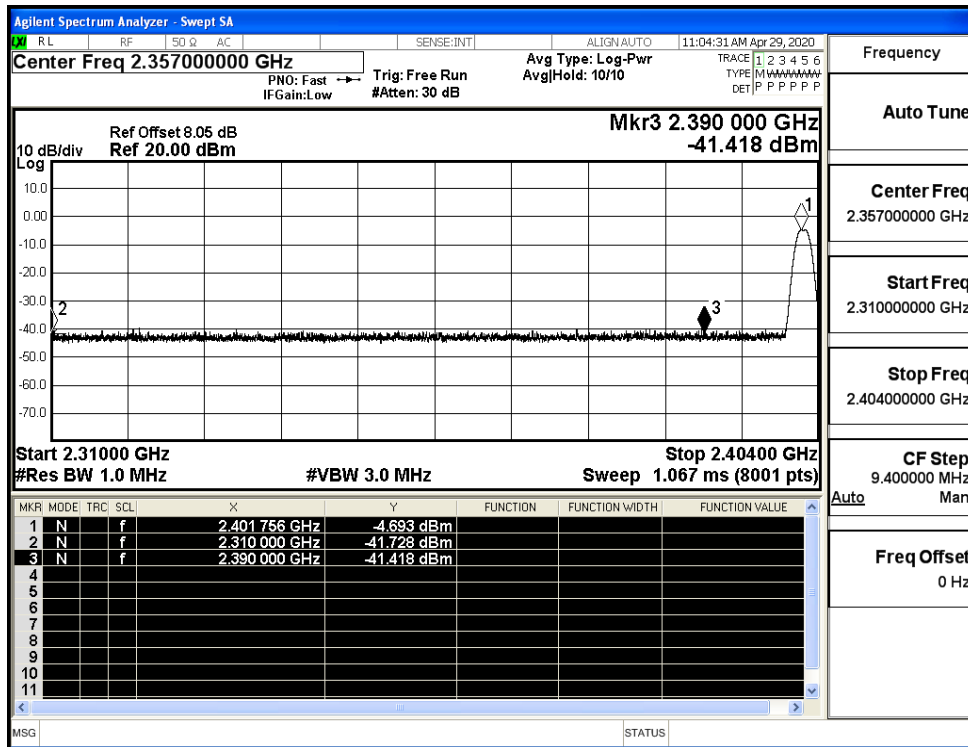
Test Graphs

| LCH | <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.35700000 GHz Ref Offset 8.05 dB, Ref 20.00 dBm Mkr4 2.367 387 GHz -49.902 dBm Start 2.31000 GHz, Stop 2.40400 GHz #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>2.402 003 GHz</td><td>-5.636 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>-53.270 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>-53.807 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.367 387 GHz</td><td>-49.902 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 | | 2.402 003 GHz | -5.636 dBm | | | | 2 | N | f | | 2.400 000 GHz | -53.270 dBm | | | | 3 | N | f | | 2.390 000 GHz | -53.807 dBm | | | | 4 | N | f | | 2.367 387 GHz | -49.902 dBm | | | | Frequency Auto Tune Center Freq 2.35700000 GHz Start Freq 2.31000000 GHz Stop Freq 2.40400000 GHz CF Step 9.400000 MHz Freq Offset 0 Hz |
|-----|---|-----|------|------------------|-------------|----------|----------------|----------------|----------------|----------------|---|---|---|--|------------------|------------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|---|---|---|--|------------------|-------------|--|--|--|--|
| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | N | f | | 2.402 003 GHz | -5.636 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | N | f | | 2.400 000 GHz | -53.270 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | N | f | | 2.390 000 GHz | -53.807 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | N | f | | 2.367 387 GHz | -49.902 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HCH | <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.48900000 GHz Ref Offset 8.05 dB, Ref 20.00 dBm Mkr4 2.490 518 00 GHz -49.854 dBm Start 2.47800 GHz, Stop 2.50000 GHz #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>2.479 762 75 GHz</td><td>-6.306 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>-53.350 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>-52.226 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.490 518 00 GHz</td><td>-49.854 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 | | 2.479 762 75 GHz | -6.306 dBm | | | | 2 | N | f | | 2.483 500 00 GHz | -53.350 dBm | | | | 3 | N | f | | 2.500 000 00 GHz | -52.226 dBm | | | | 4 | N | f | | 2.490 518 00 GHz | -49.854 dBm | | | | Frequency Auto Tune Center Freq 2.48900000 GHz Start Freq 2.47800000 GHz Stop Freq 2.50000000 GHz CF Step 2.200000 MHz Freq Offset 0 Hz |
| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | N | f | | 2.479 762 75 GHz | -6.306 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | N | f | | 2.483 500 00 GHz | -53.350 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | N | f | | 2.500 000 00 GHz | -52.226 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | N | f | | 2.490 518 00 GHz | -49.854 dBm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

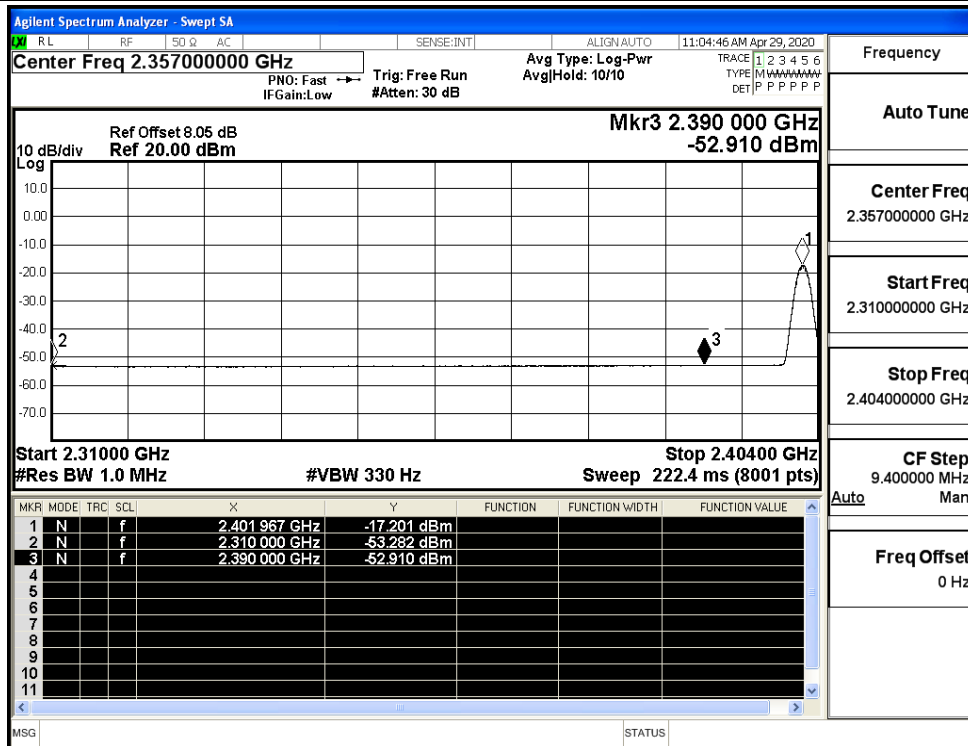
B.7 Restrict-band band-edge measurements

| 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 | -41.73 | 2.0 | 0 | 55.50 | PEAK | 74 | PASS |
| | | Ant1 | 2310.0 | -53.28 | 2.0 | 0 | 43.95 | AV | 54 | PASS |
| | | Ant1 | 2390.0 | -41.42 | 2.0 | 0 | 55.81 | PEAK | 74 | PASS |
| | | Ant1 | 2390.0 | -52.91 | 2.0 | 0 | 44.32 | AV | 54 | PASS |
| | 2480 | Ant1 | 2483.5 | -43.24 | 2.0 | 0 | 53.99 | PEAK | 74 | PASS |
| | | Ant1 | 2483.5 | -52.52 | 2.0 | 0 | 44.71 | AV | 54 | PASS |
| | | Ant1 | 2500.0 | -42.41 | 2.0 | 0 | 54.82 | PEAK | 74 | PASS |
| | | Ant1 | 2500.0 | -52.32 | 2.0 | 0 | 44.91 | AV | 54 | PASS |

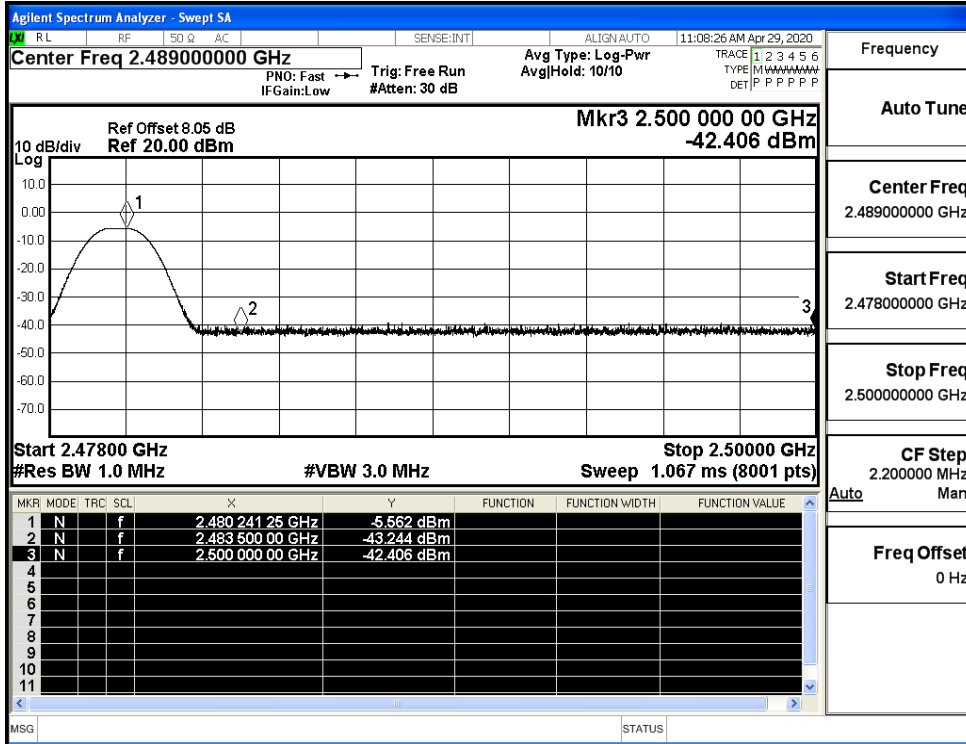
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

