# Appendix A

## RF Test Data for BT(BDR/EDR) (Conducted Measurement)

**Product Name: Bluetooth headset**

**Trade Mark: Yincine**

**Test Model: JL-12**

**Environmental Conditions**

| | |
|---|---|
| Temperature: | 24.3℃ |
| Relative Humidity: | 52.1% |
| ATM Pressure: | 101Kpa |
| Test Engineer: | Emiya lin |
| Supervised by: | Simba Haung |

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# 1 Duty Cycle

## 1.1 Test Result

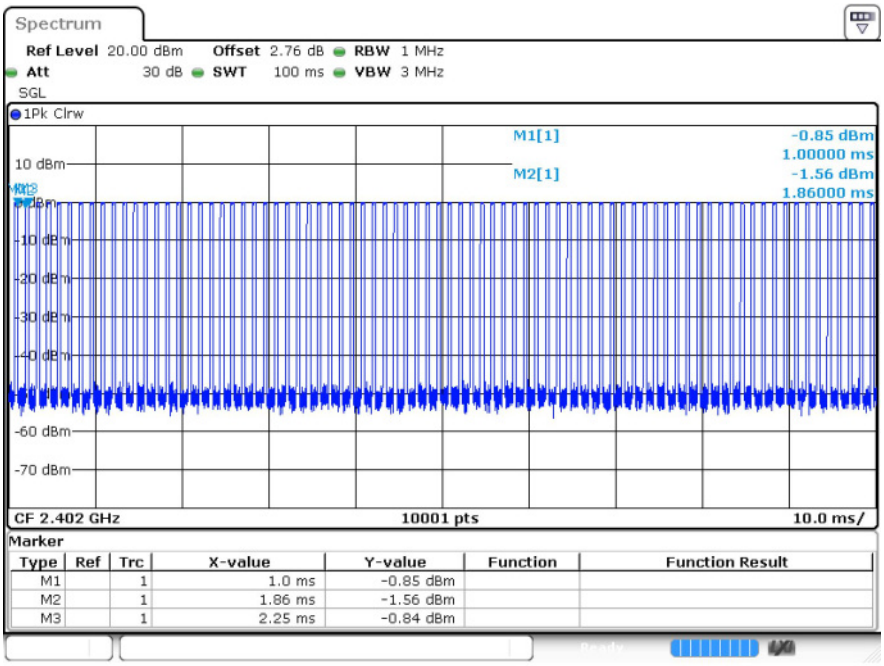
| Mode | Frequency (MHz) | Duty Cycle (%) | Correction Factor | 1/T (kHz) |
|---|---|---|---|---|
| 1-DH1 | 2402 | 31.86 | 4.97 | 2.56 |
| 1-DH1 | 2441 | 31.21 | 5.06 | 2.63 |
| 1-DH1 | 2480 | 31.69 | 4.99 | 2.56 |
| 2-DH1 | 2402 | 32.45 | 4.89 | 2.56 |
| 2-DH1 | 2441 | 32.67 | 4.86 | 2.5 |
| 2-DH1 | 2480 | 32 | 4.95 | 2.56 |

Note:Left and right ear have been tested and the only shows the worst case mode.

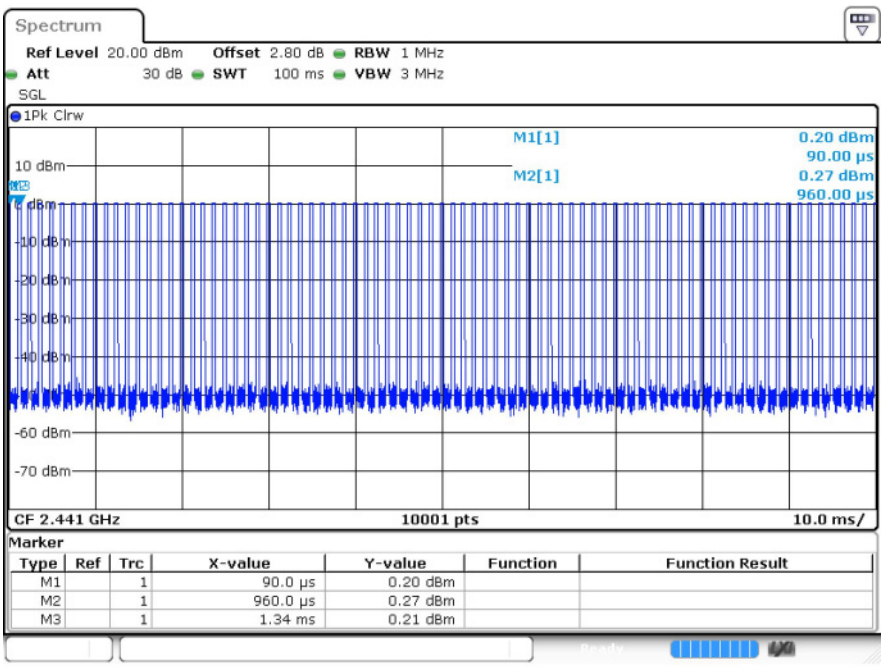
## 1.2 Test Graphs

Test Graphs

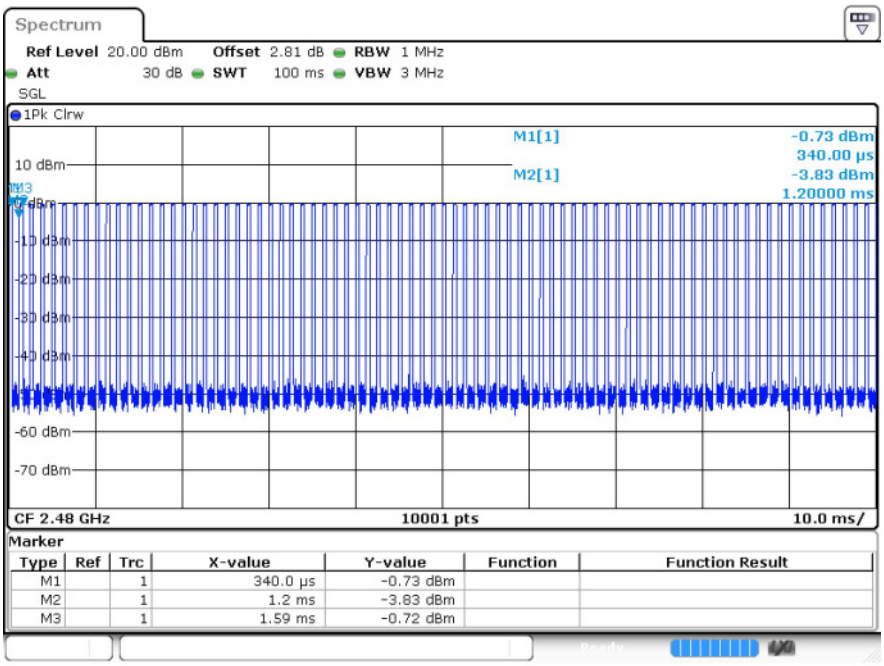
1-DH1 2402MHz



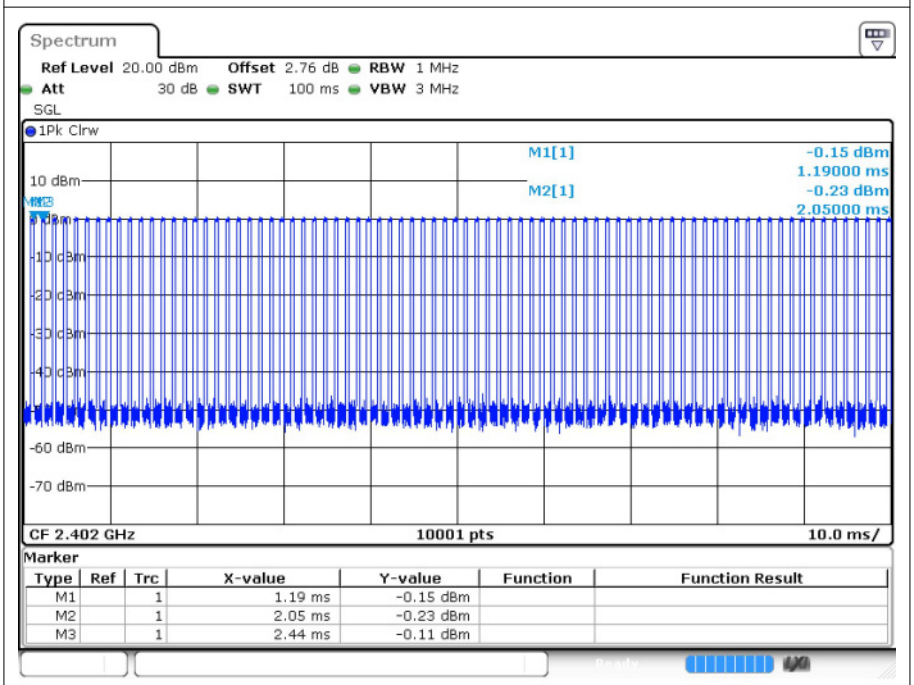

1-DH1 2441MHz



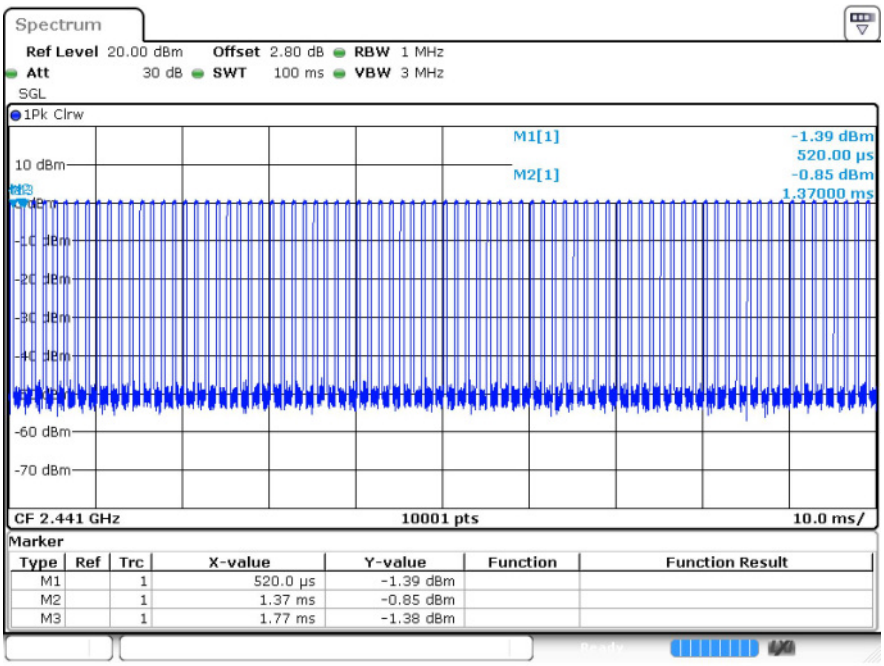
1-DH1 2480MHz



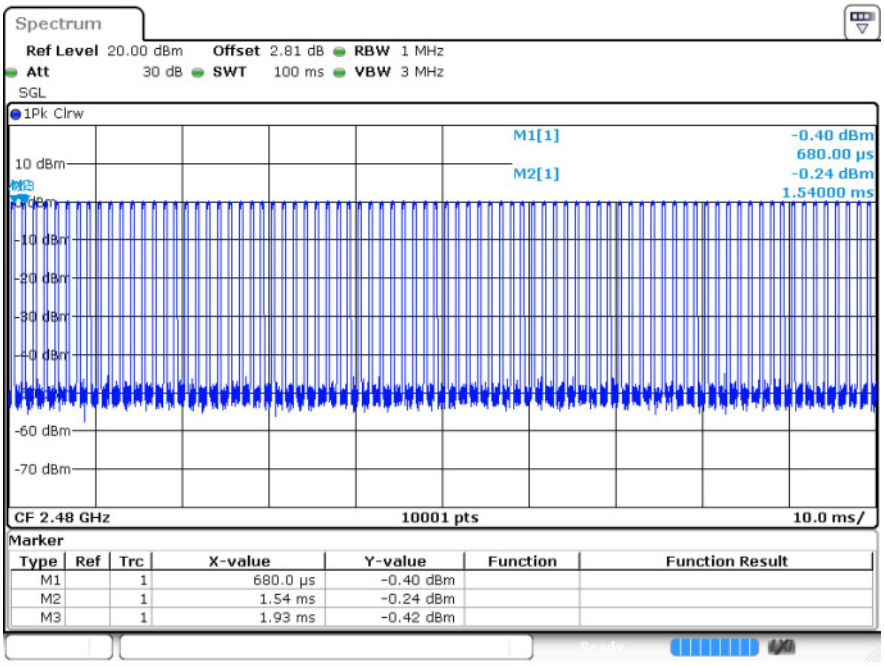

2-DH1 2402MHz



2-DH1 2441MHz




2-DH1 2480MHz



# 2 Maximum Conducted Peak Output Power

## 2.1 Test Result

Left:

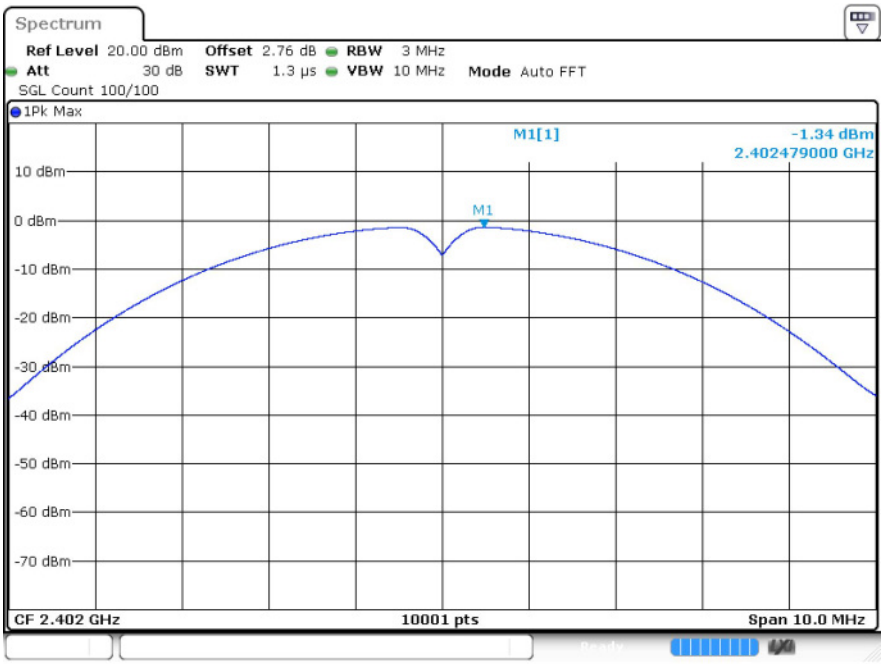
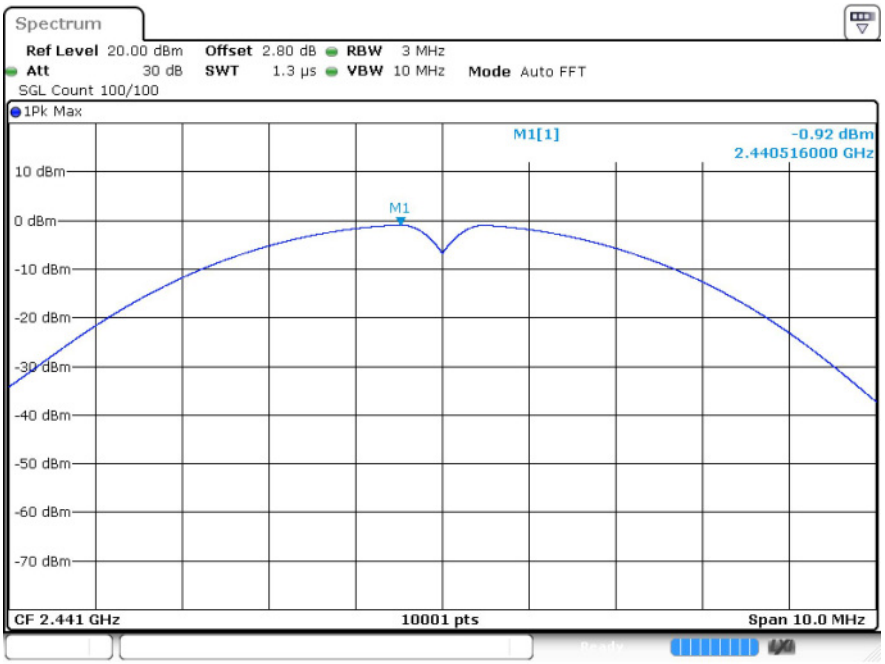
| Mode | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|
| GFSK | LCH | -1.34 | 21 | Pass |
| | MCH | -0.92 | 21 | Pass |
| | HCH | -1.65 | 21 | Pass |
| π/4DQPSK | LCH | -0.9 | 21 | Pass |
| | MCH | -0.33 | 21 | Pass |
| | HCH | -1 | 21 | Pass |

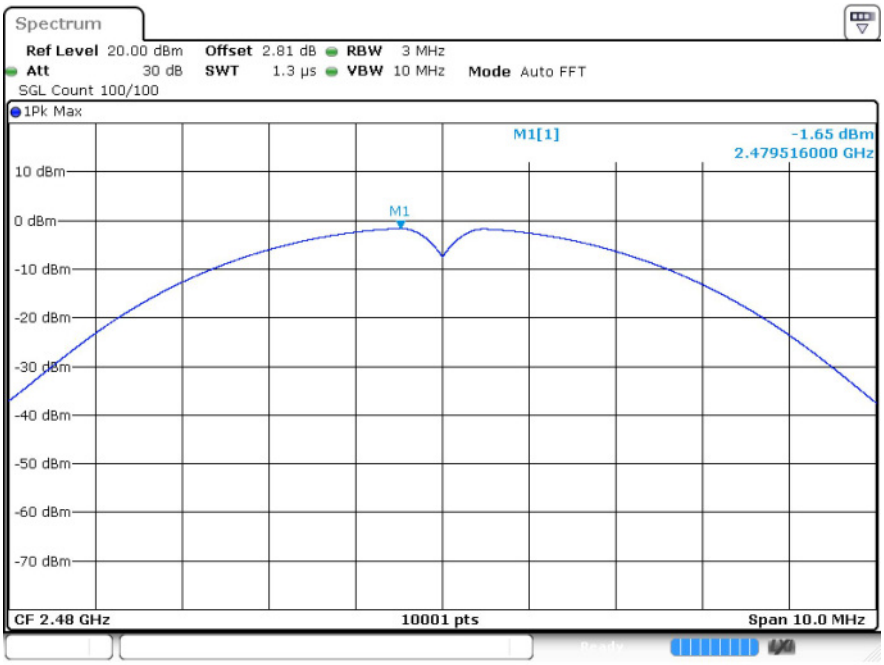
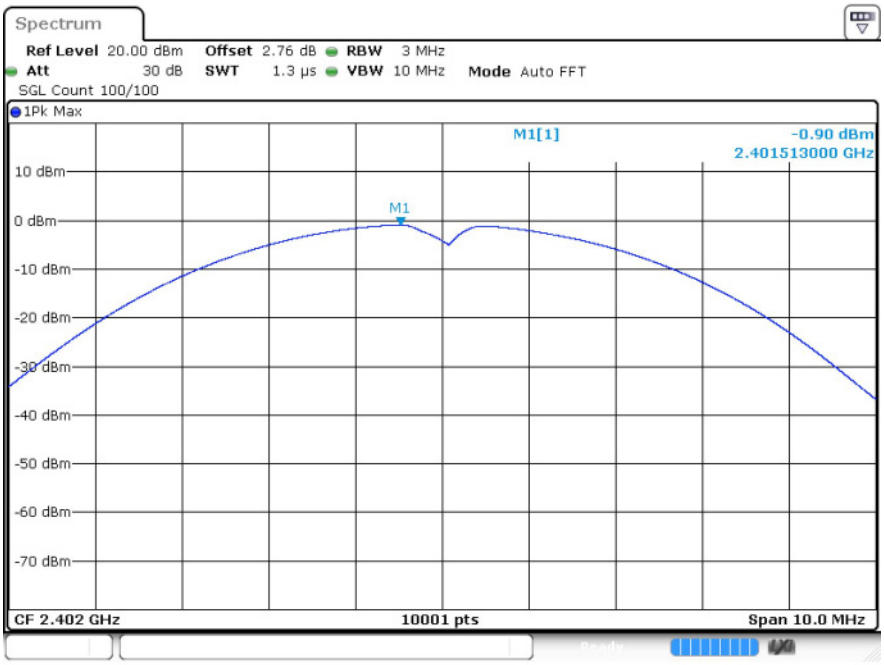
Right:

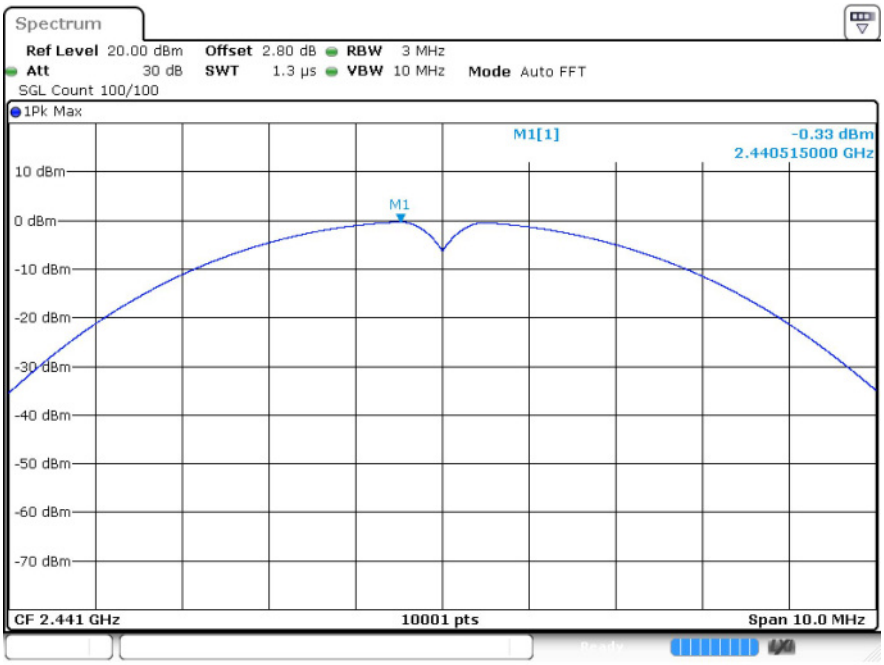
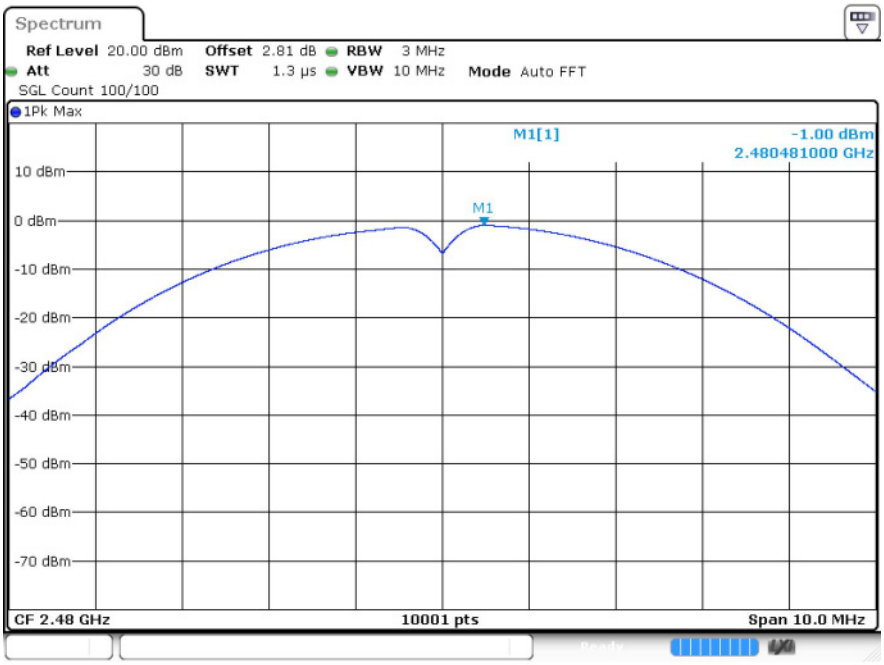
| Mode | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|
| GFSK | LCH | -0.34 | 21 | Pass |
| | MCH | 0.15 | 21 | Pass |
| | HCH | -0.39 | 21 | Pass |
| π/4DQPSK | LCH | 0.26 | 21 | Pass |
| | MCH | 0.82 | 21 | Pass |
| | HCH | 0.09 | 21 | Pass |

## 2.2 Test Graphs

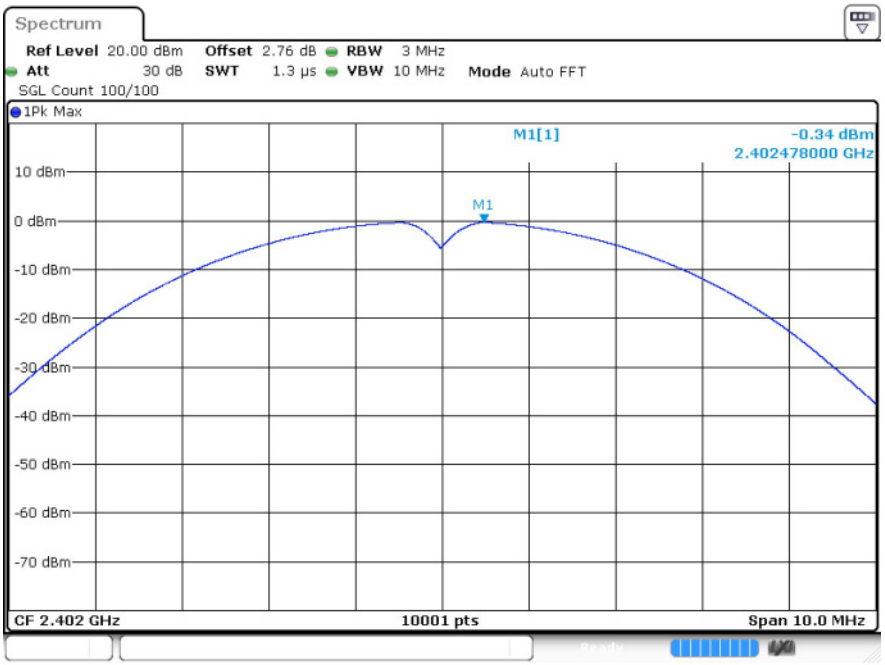
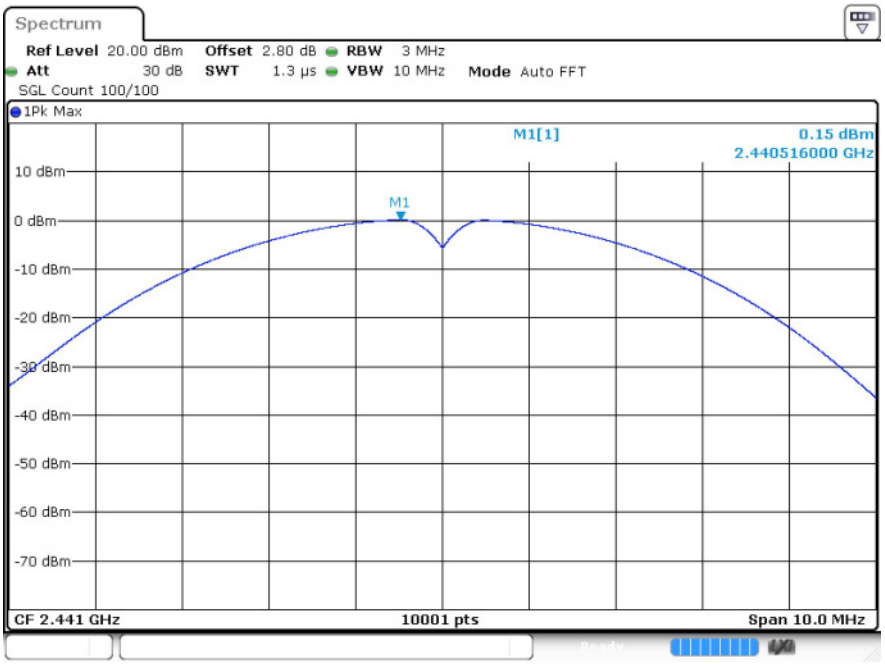
**Left**:

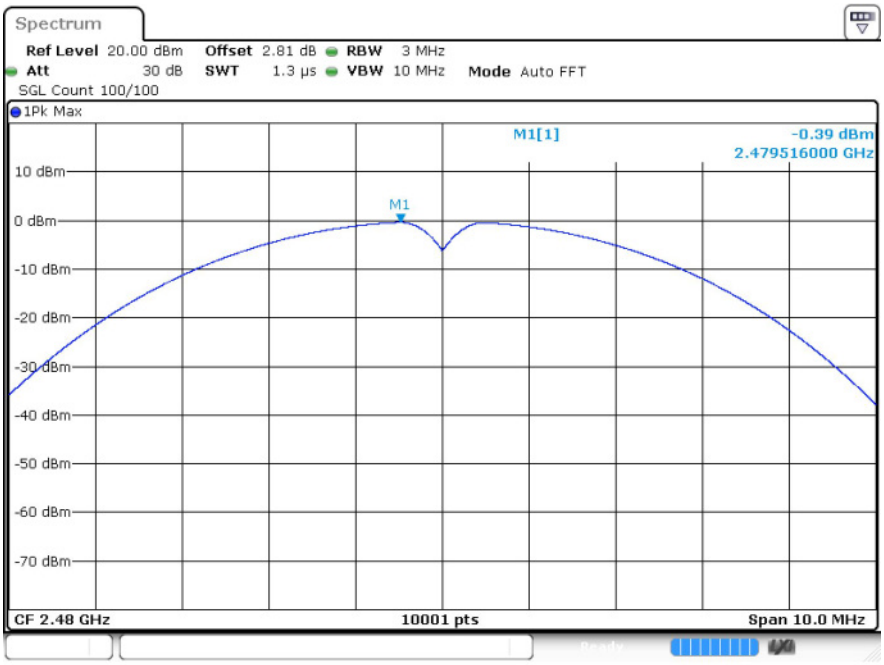
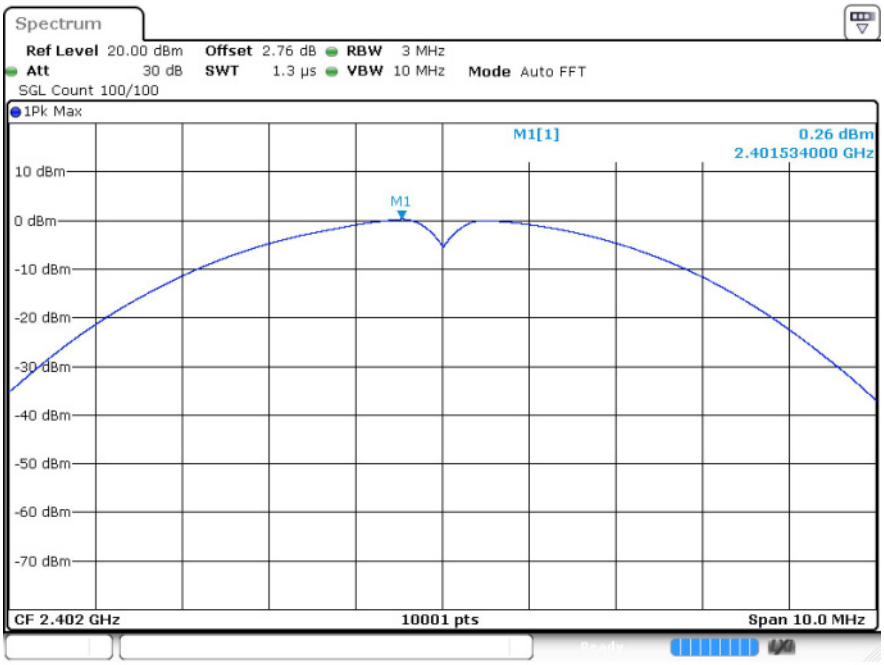
| Test Graphs | |
|---|---|
| GFSK/LCH |  |
| GFSK/MCH |  |

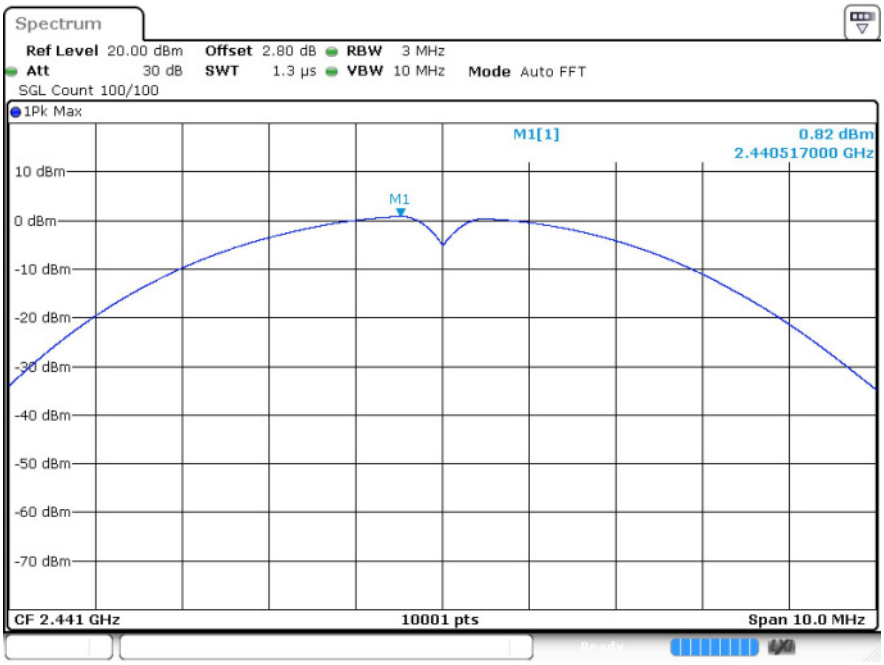
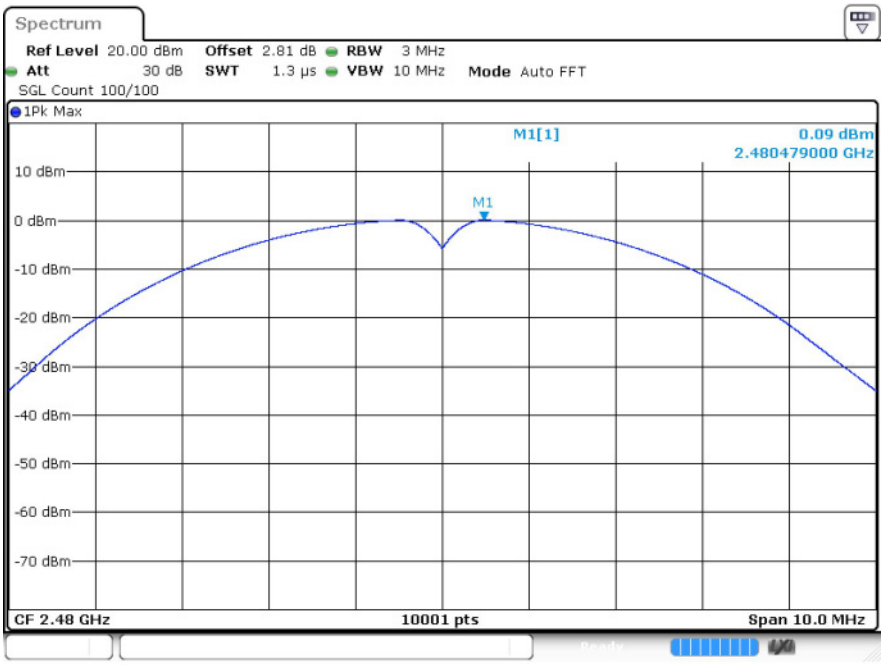
| | |
|---|---|
| GFSK/HCH |  |
| π/4DQPSK/LCH |  |

| | |
|---|---|
| π/4DQPSK/MCH |  |
| π/4DQPSK/HCH |  |

**Right**:

| Test Graphs | |
|---|---|
| GFSK/LCH |  |
| GFSK/MCH |  |

| | |
|---|---|
| GFSK/HCH |  |
| π/4DQPSK/LCH |  |

| | |
|---|---|
| π/4DQPSK/MCH |  |
| π/4DQPSK/HCH |  |

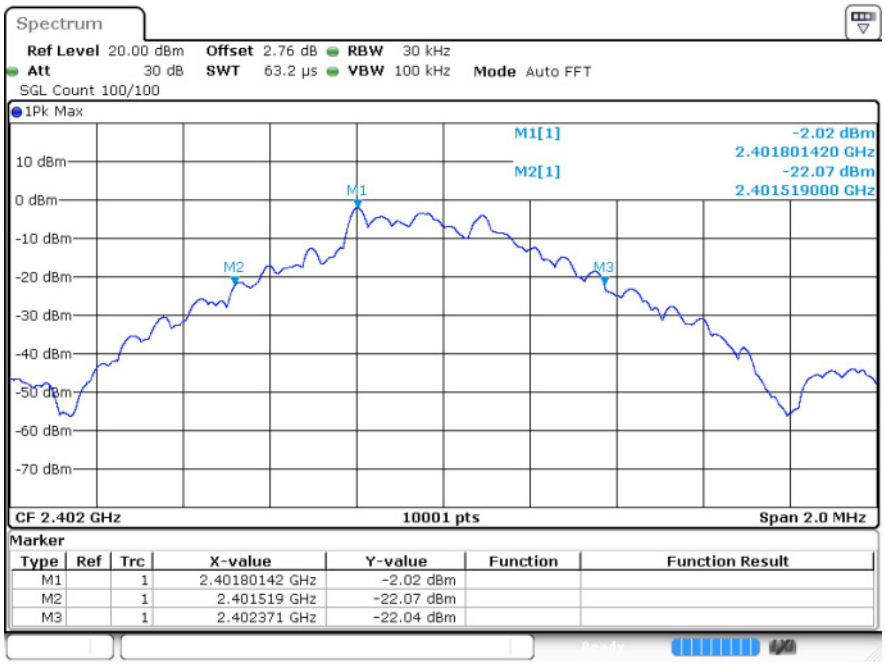
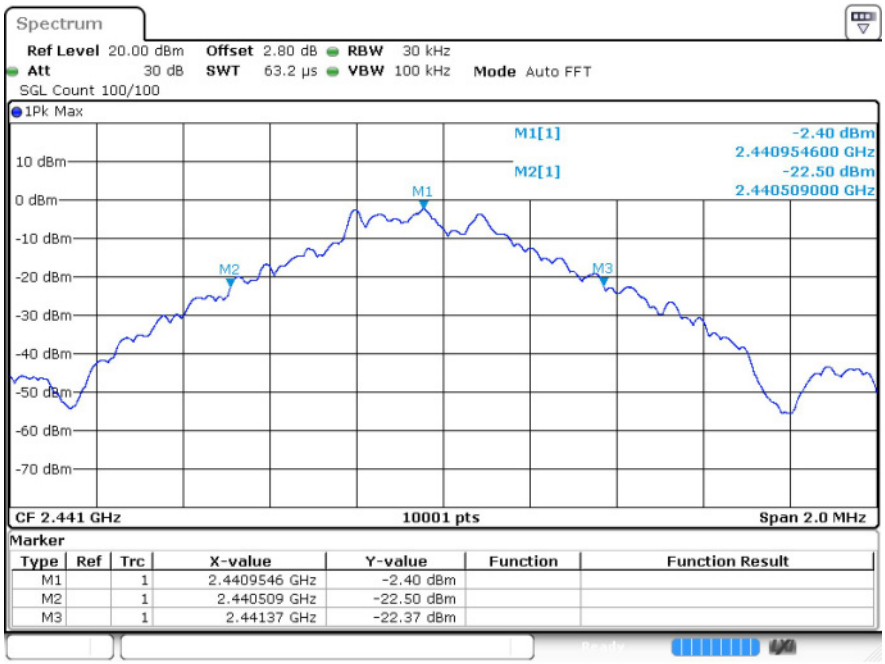
# 3 20dB Bandwidth

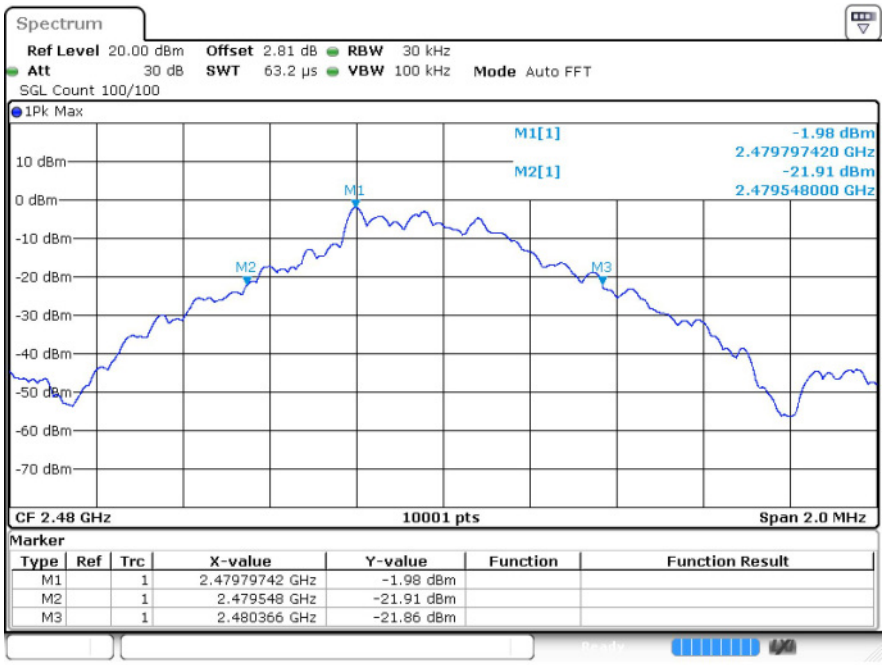
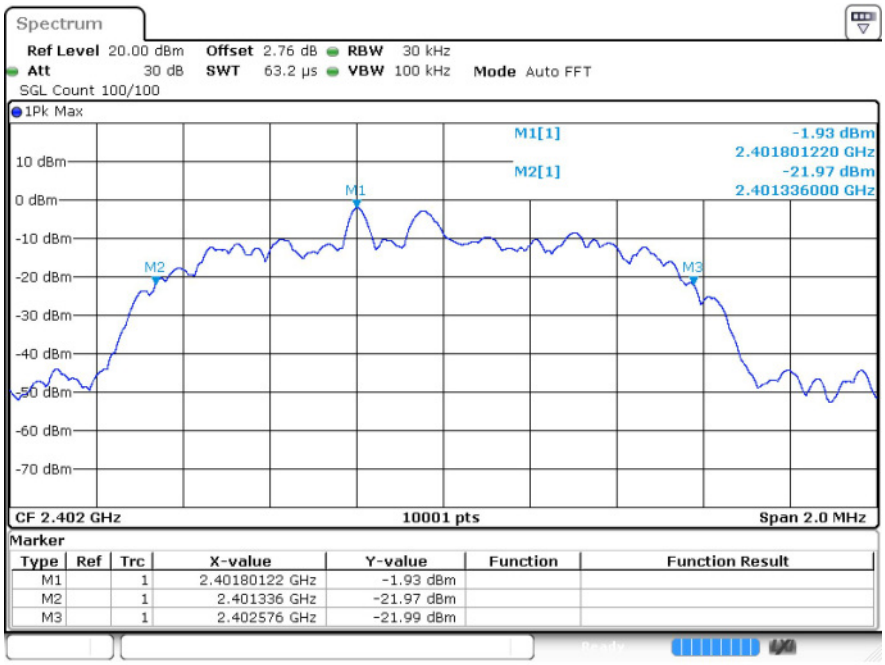
## 3.1 Test Result

| Mode | Channel. | 20dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|---|---|---|---|---|
| GFSK | LCH | 0.851 | Not Specified | Pass |
| | MCH | 0.861 | Not Specified | Pass |
| | HCH | 0.819 | Not Specified | Pass |
| π/4DQPSK | LCH | 1.239 | Not Specified | Pass |
| | MCH | 1.219 | Not Specified | Pass |
| | HCH | 1.223 | Not Specified | Pass |

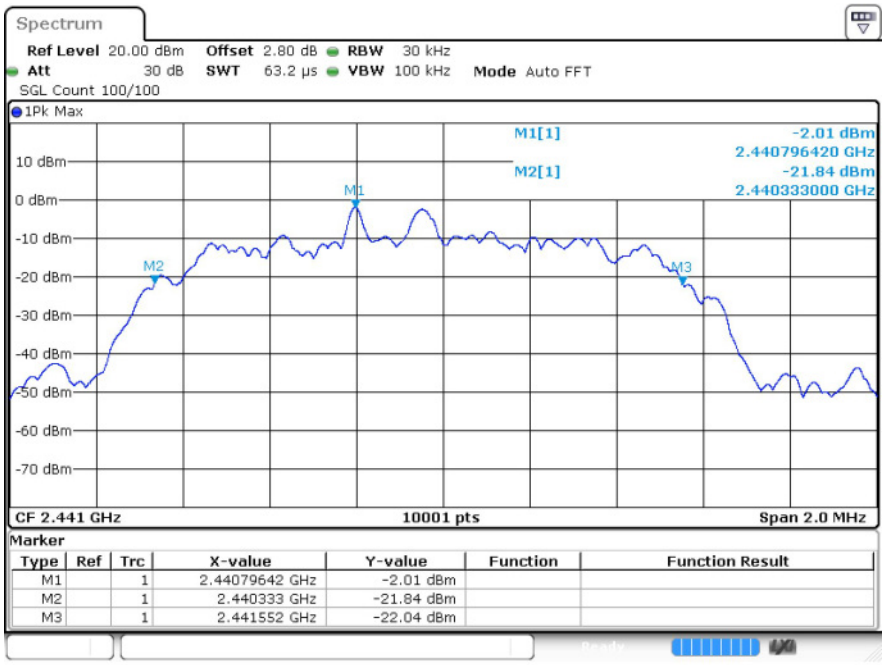
Note:Left and right ear have been tested and the only shows the worst case mode.

## 3.2 Test Graphs

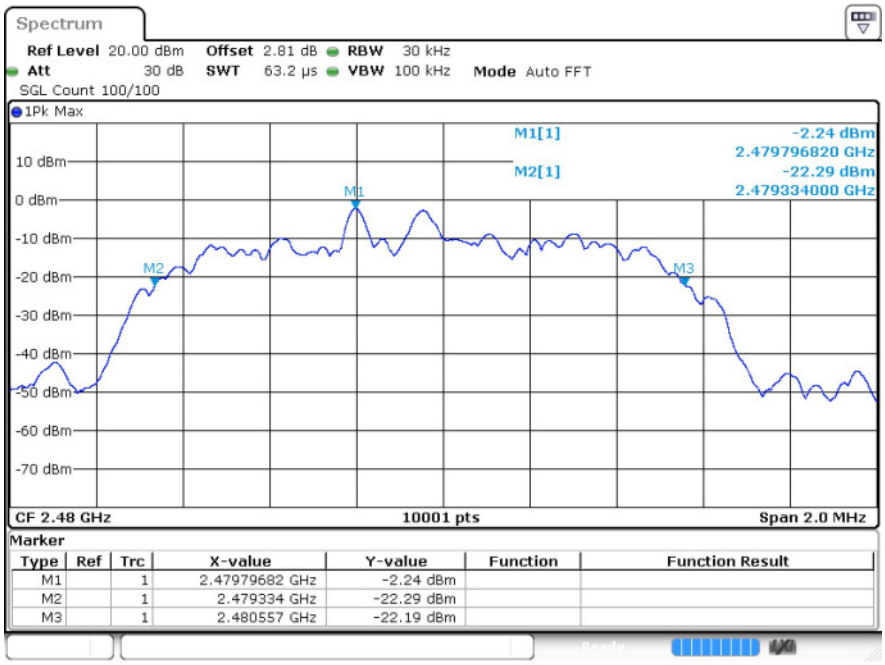
| Test Graphs | |
|---|---|
| GFSK/LCH |  |
| GFSK/MCH |  |

| | |
|---|---|
| GFSK/HCH |  |
| π/4DQPSK/LCH |  |

π/4DQPSK/MCH




π/4DQPSK/HCH



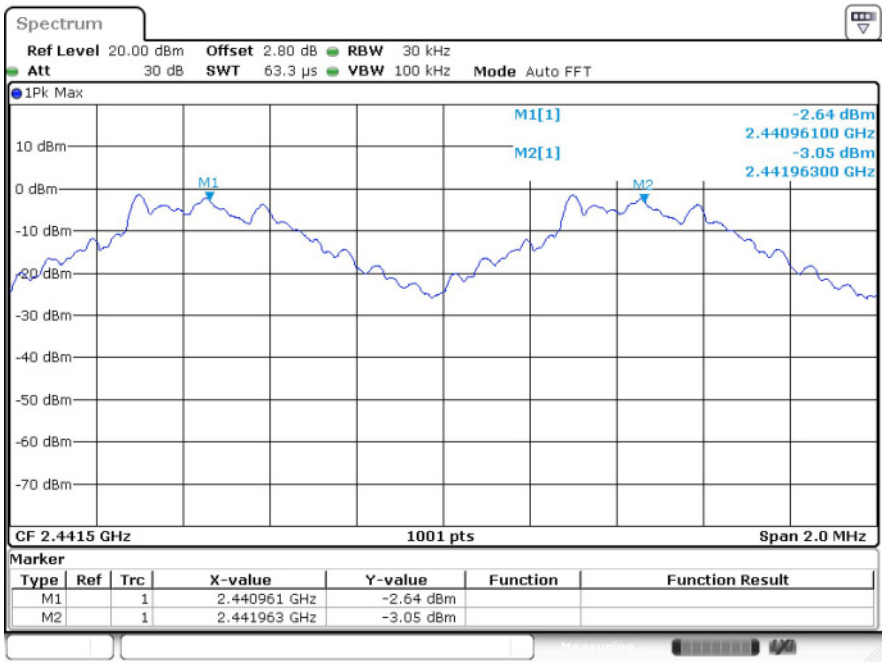
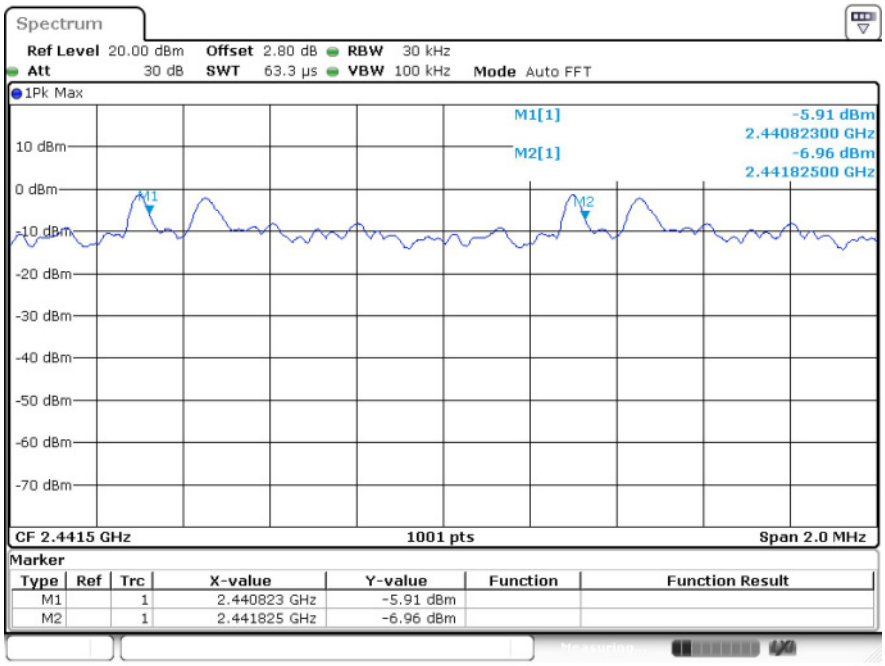
# 4 Carrier Frequency Separation

## 4.1 Test Result

| Mode | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---|---|---|---|---|
| GFSK | MCH | 1.002 | 0.574 | Pass |
| π/4DQPSK | MCH | 1.002 | 0.813 | Pass |

Note:Left and right ear have been tested and the only shows the worst case mode.

## 4.2 Test Graphs

| Test Graphs | |
|---|---|
| GFSK/MCH |  |
| π/4DQPSK/MCH |  |

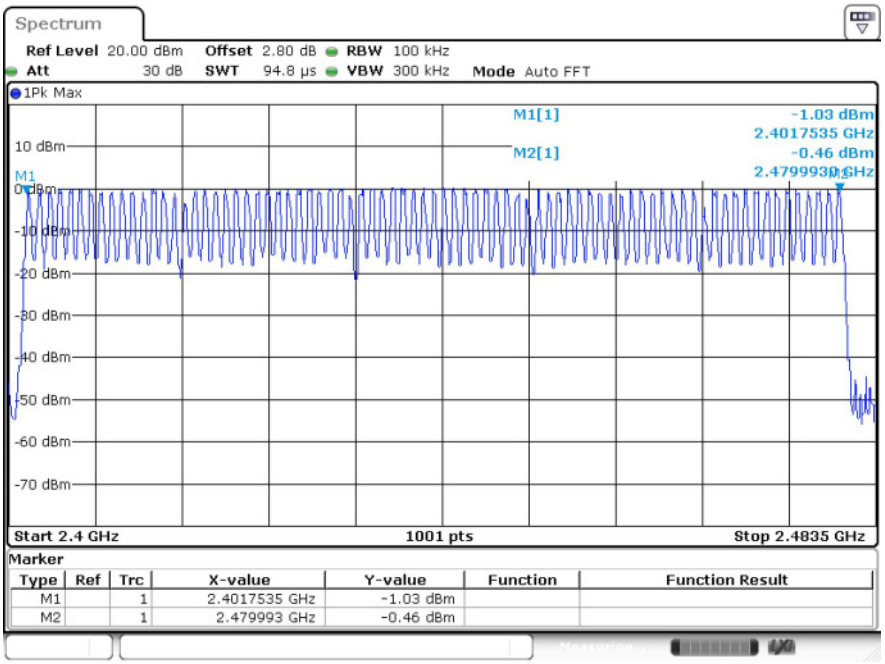
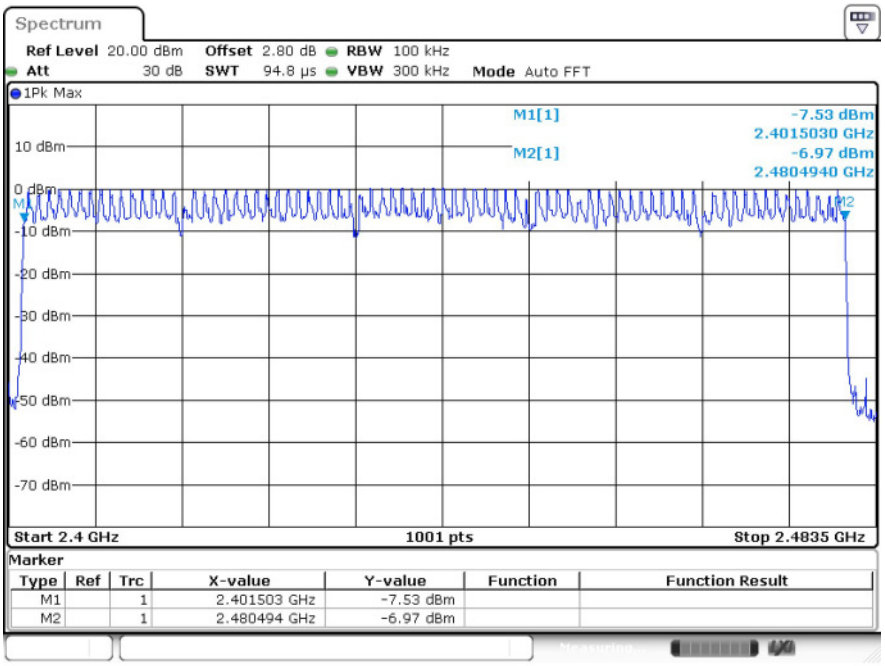
# 5 Hopping Channel Number

## 5.1 Test Result

| Mode | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---|---|---|---|---|
| GFSK | Hop | 79 | >=15 | PASS |
| π/4DQPSK | Hop | 79 | >=15 | PASS |

Note:Left and right ear have been tested and the only shows the worst case mode.

## 5.2 Test Graphs

| Test Graphs | |
|---|---|
| GFSK/Hop |  |
| π/4DQPSK/Hop |  |

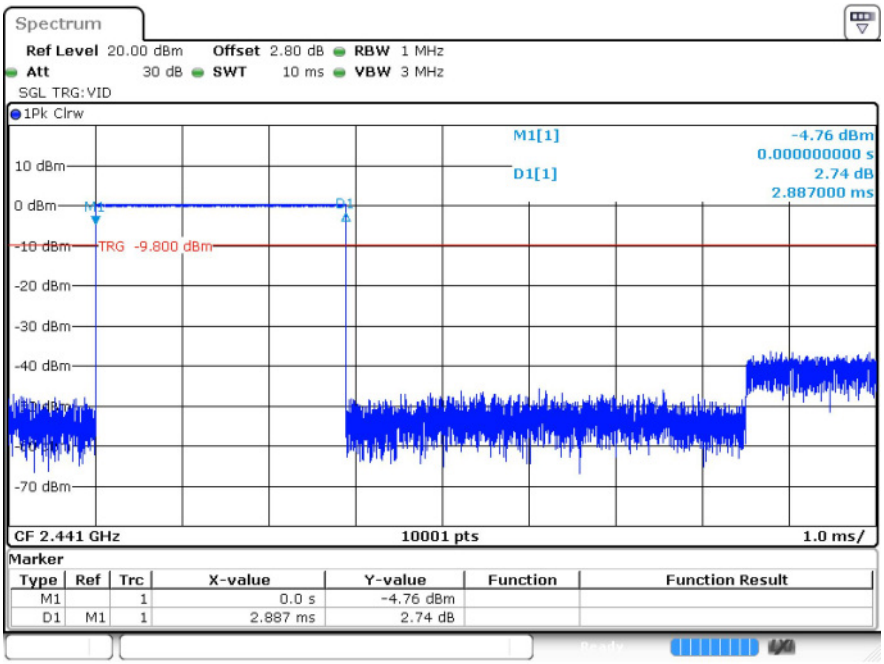
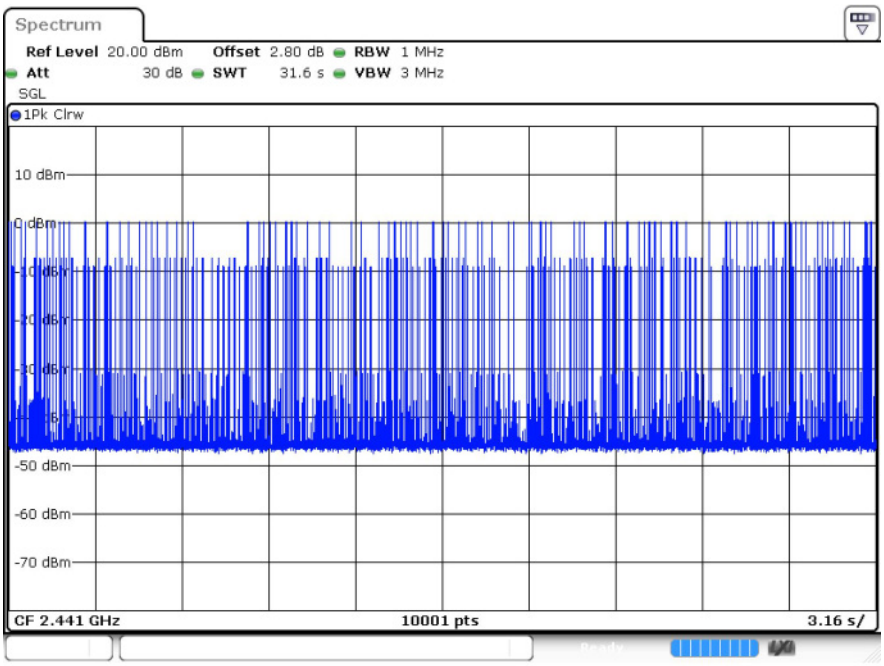
# 6 Dwell Time

## 6.1 Test Result

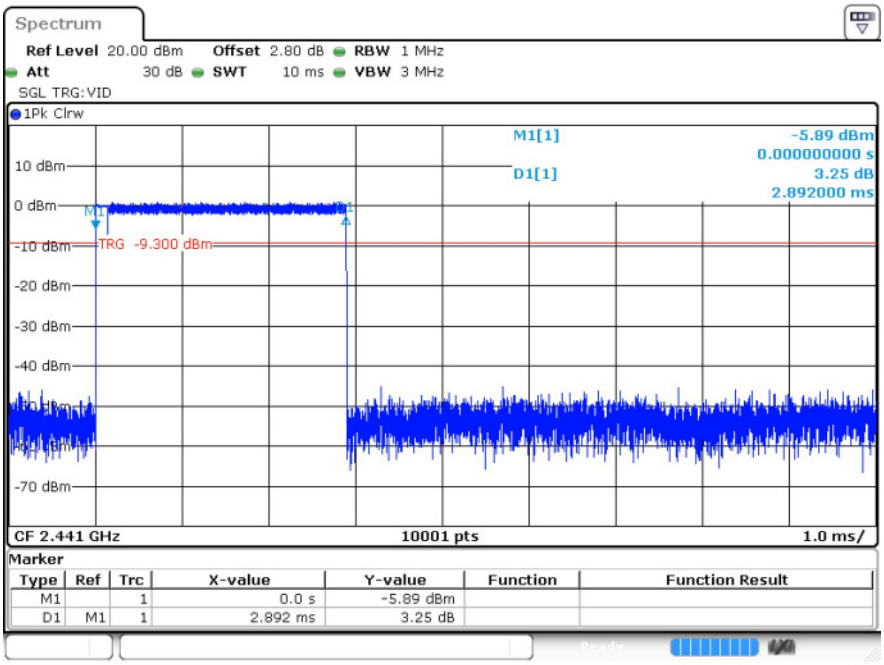
| Mode | Packet | Channel | Burst Width [ms/hop/ch] | Total Hops[hop*ch] | Dwell Time[ms] | Limit [s] | Verdict |
|---|---|---|---|---|---|---|---|
| GFSK | DH5 | MCH | 2.887 | 114 | 329.118 | 0.4 | Pass |
| π/4DQPSK | 2DH5 | MCH | 2.892 | 124 | 358.608 | 0.4 | Pass |

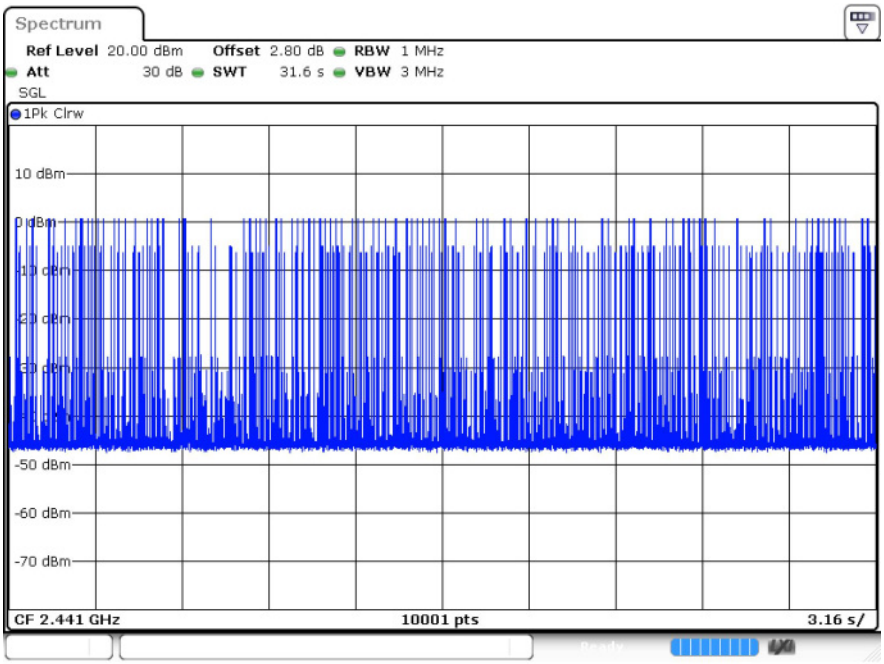
Note:Left and right ear have been tested and the only shows the worst case mode.

## 6.2 Test Graphs

| Test Graphs | |
|---|---|
| GFSK_DH5/MCH |  <br>  |

π/4DQPSK
_2DH5/MCH



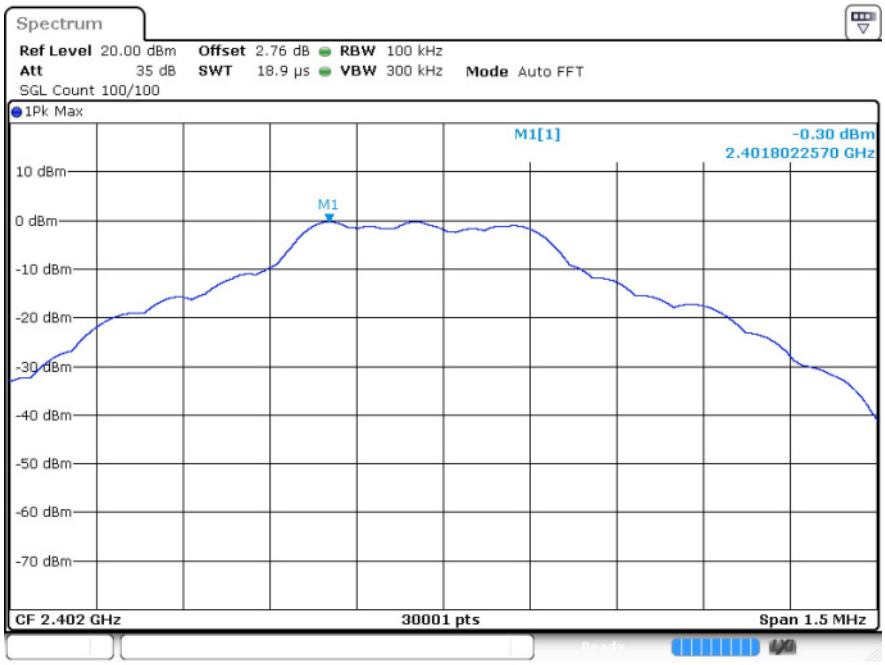
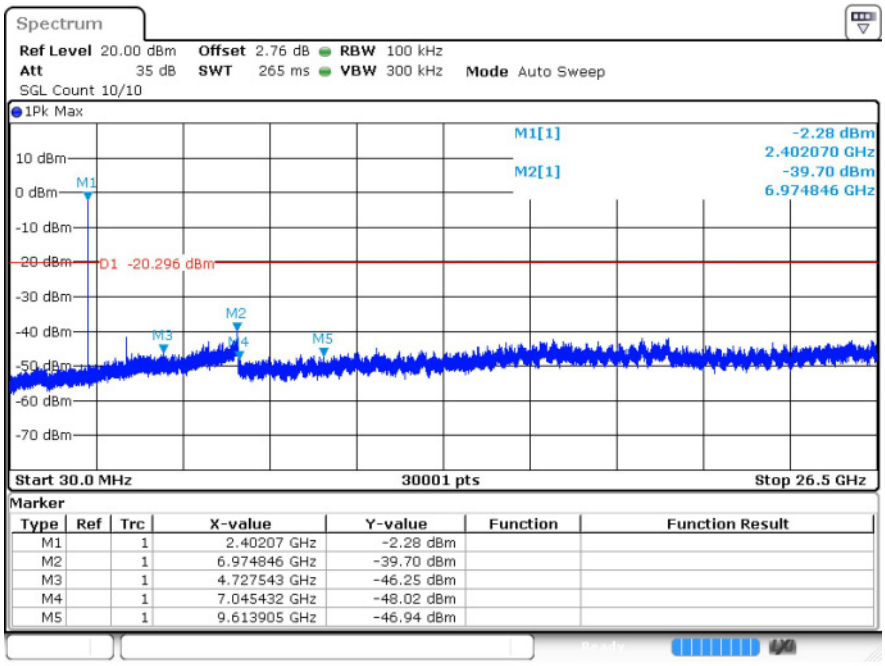
# 7 RF Conducted Spurious Emissions

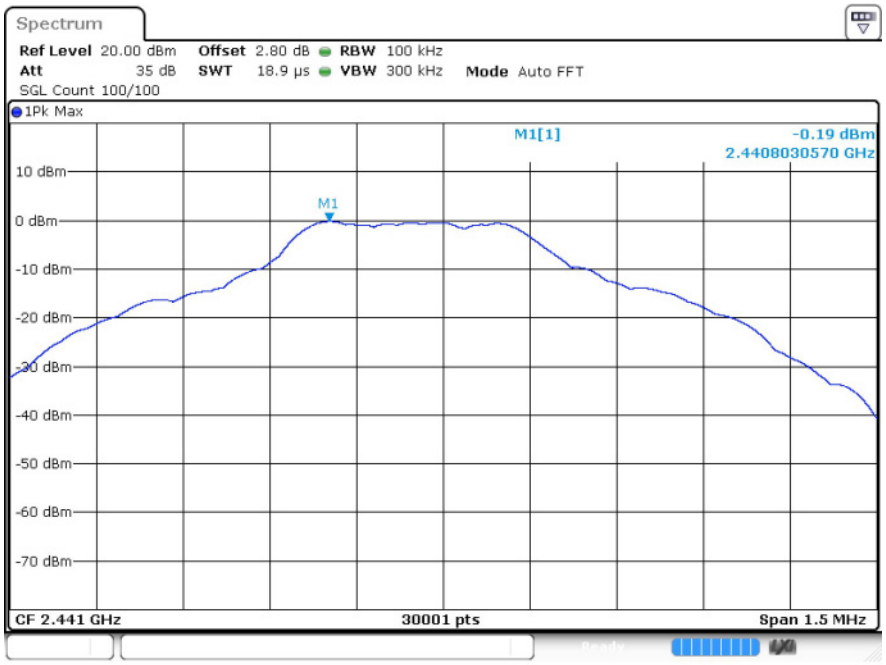
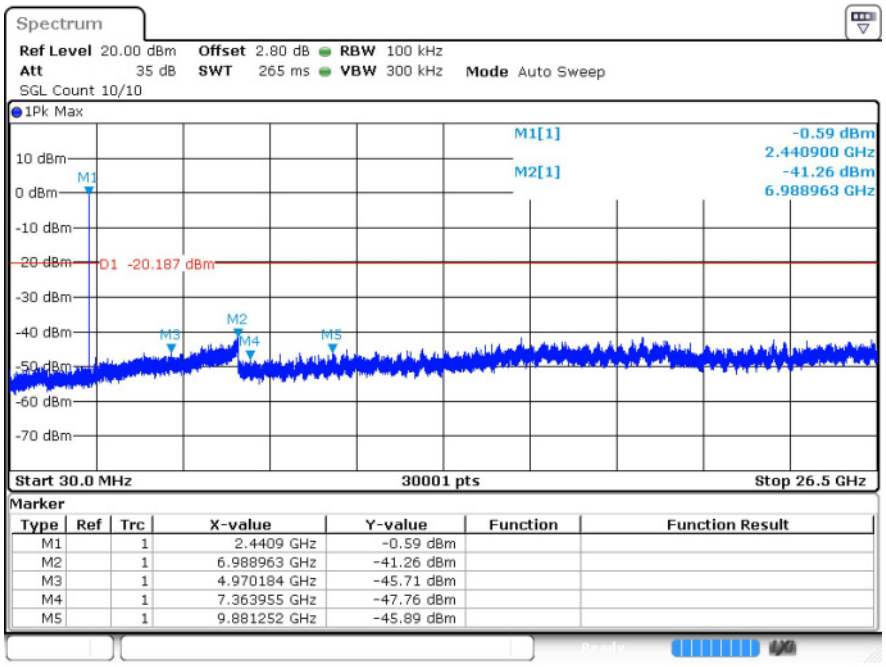
## 7.1 Test Result

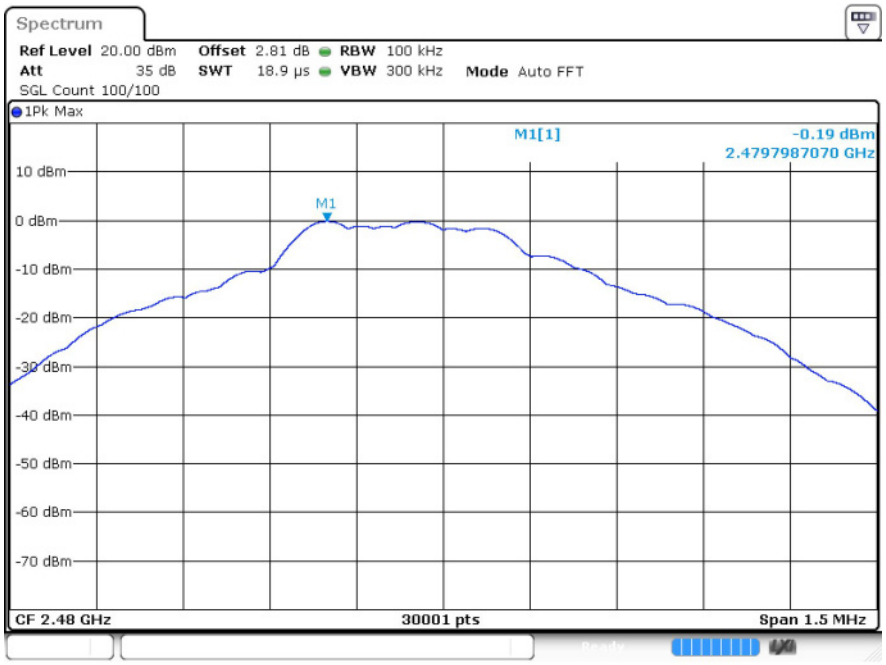
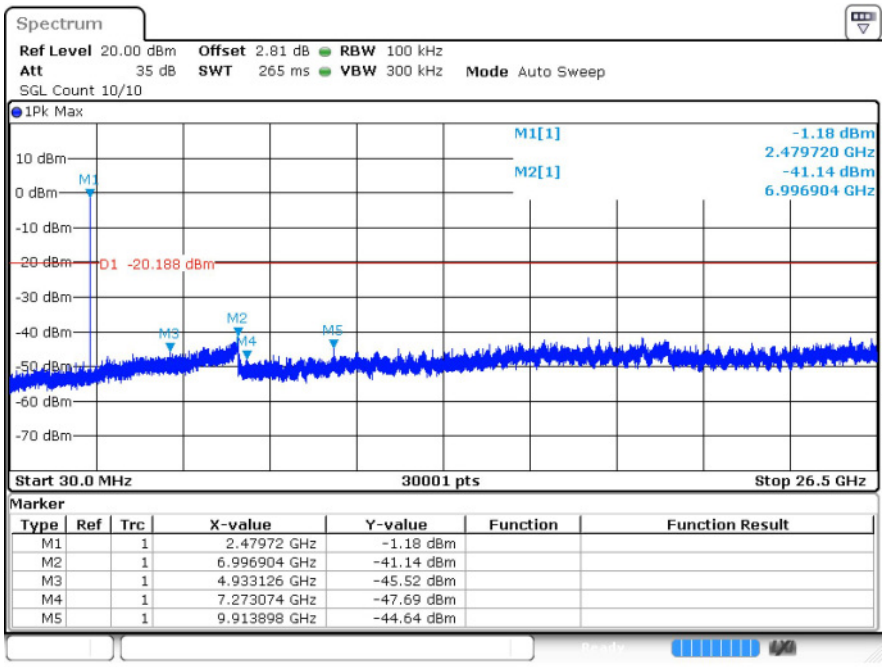
| Mode | Channel | Max. Level [dBc] | Limit [dBc] | Verdict |
|---|---|---|---|---|
| GFSK | LCH | -39.4 | -20 | Pass |
| | MCH | -41.07 | -20 | Pass |
| | HCH | -40.95 | -20 | Pass |
| π/4DQPSK | LCH | -40.83 | -20 | Pass |
| | MCH | -41.49 | -20 | Pass |
| | HCH | -41.06 | -20 | Pass |

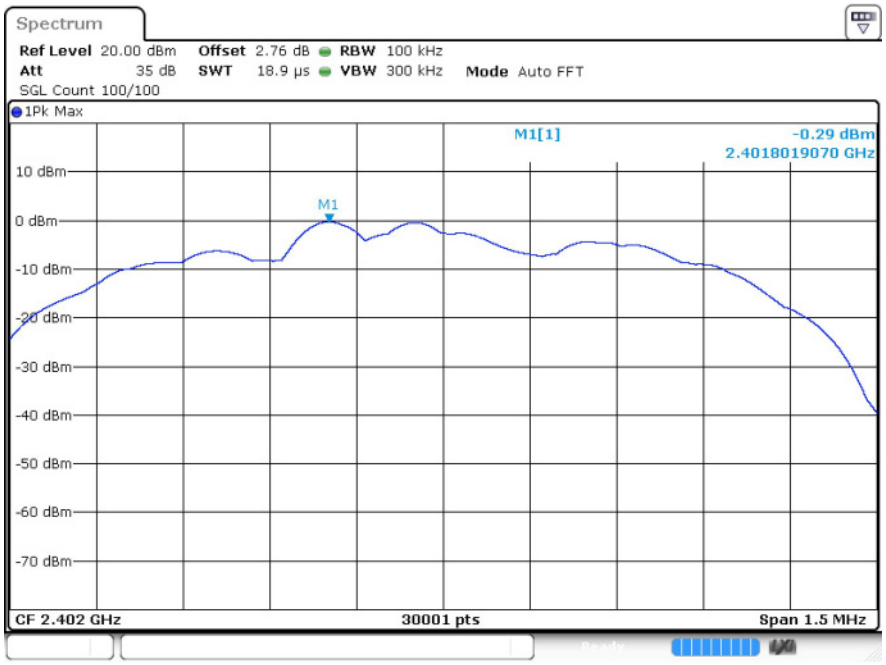
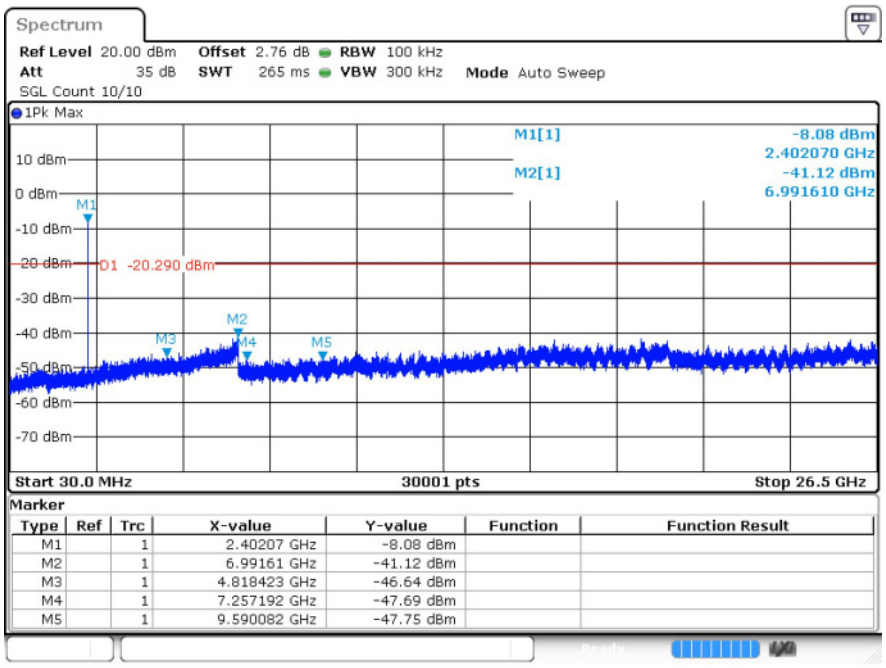
Note:Left and right ear have been tested and the only shows the worst case mode.

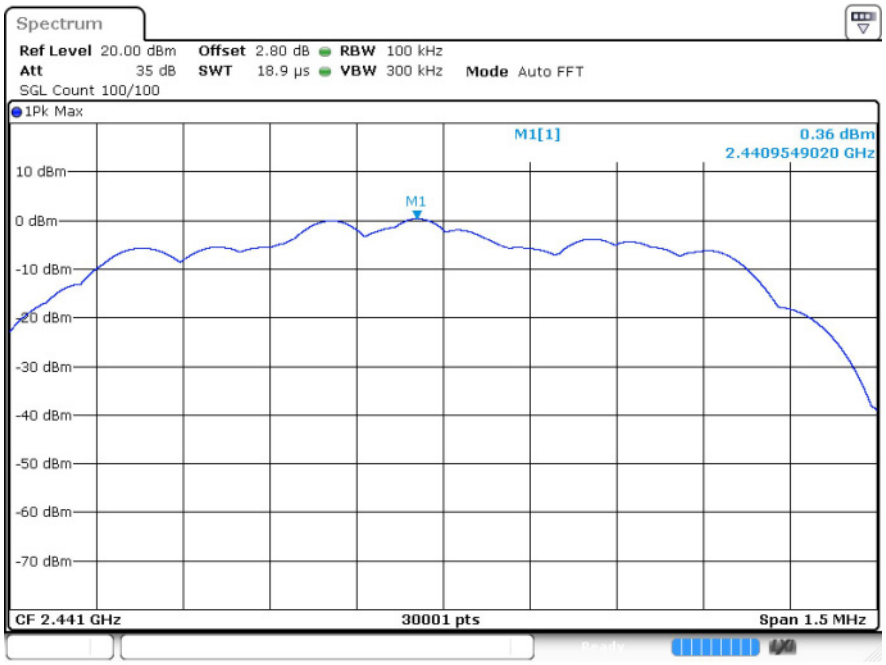
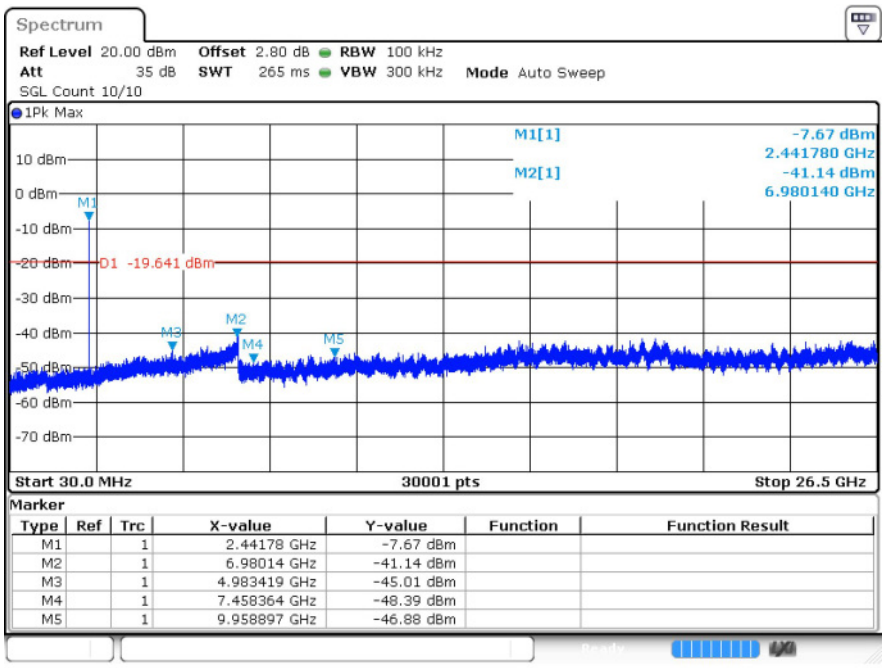
## 7.2 Test Graphs

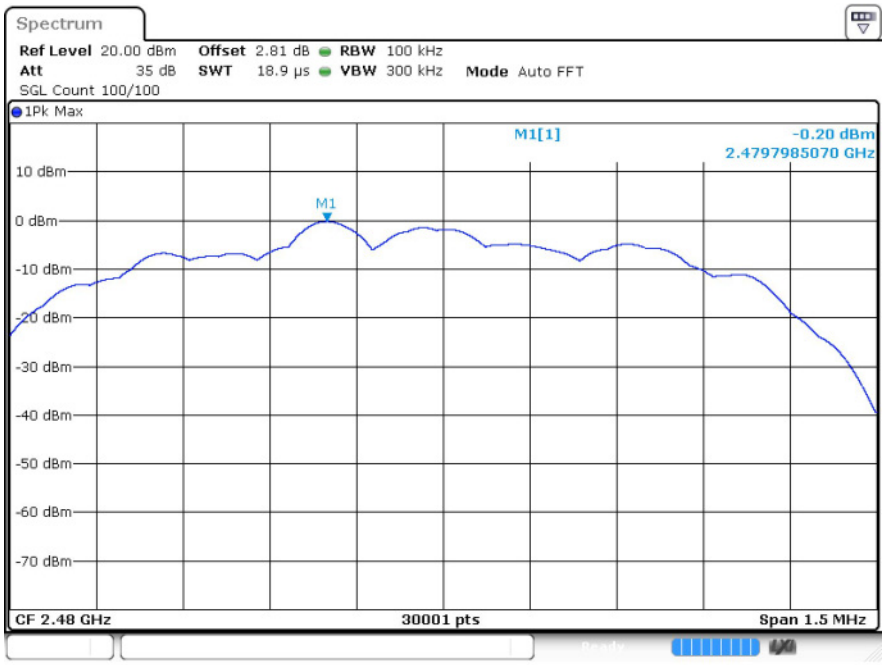
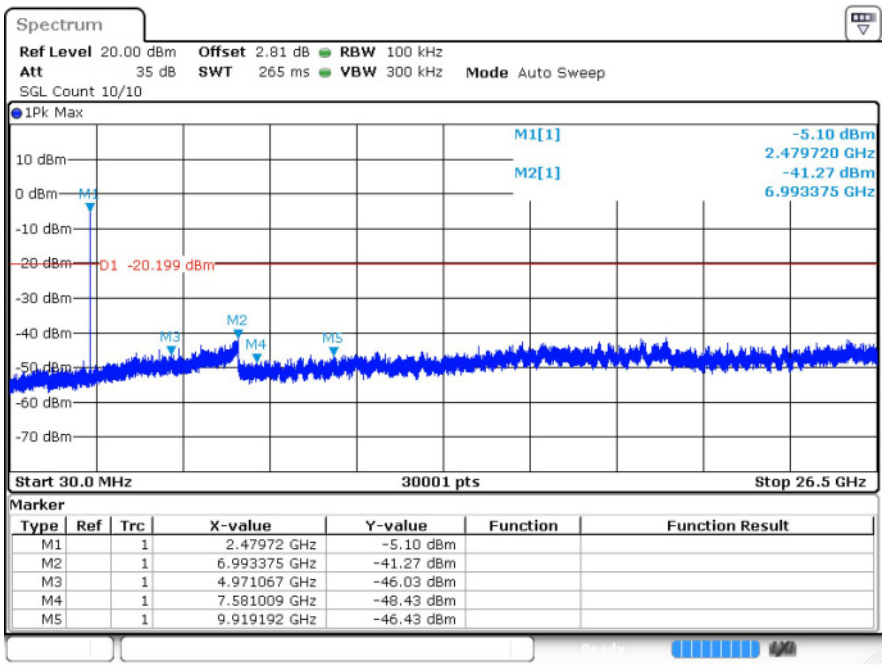
| GFSK_LCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

| GFSK_MCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

| GFSK_HCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

| π/4DQPSK_LCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

| π/4DQPSK_MCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

| π/4DQPSK_HCH_Graphs | |
|---|---|
| Pref |  |
| Puw |  |

# 8 Band-edge for RF Conducted Emissions

## 8.1 Test Result

| Mode | Channel | Carrier Frequency [MHz] | Frequency Hopping | Max Spurious Level [dBc] | Limit [dBc] | Verdict |
|---|---|---|---|---|---|---|
| GFSK | LCH | 2402 | Off | -54.97 | -20 | Pass |
| | | | On | -54.13 | -20 | Pass |
| | HCH | 2480 | Off | -51 | -20 | Pass |
| | | | On | -53.83 | -20 | Pass |
| π/4DQPSK | LCH | 2402 | Off | -55.78 | -20 | Pass |
| | | | On | -54.53 | -20 | Pass |
| | HCH | 2480 | Off | -54.56 | -20 | Pass |
| | | | On | -54.59 | -20 | Pass |

Note:Left and right ear have been tested and the only shows the worst case mode.