



Appendix A

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

Product Name: Portable Mesh Wireless Speaker

Trade Mark: MINISO

Test Model: EBS1001

Environmental Conditions

| | |
|--------------------|-------------|
| Temperature: | 24.2°C |
| Relative Humidity: | 51.2% |
| ATM Pressure: | 101Kpa |
| Test Engineer: | Simba Huang |
| Supervised by: | Seal Chen |

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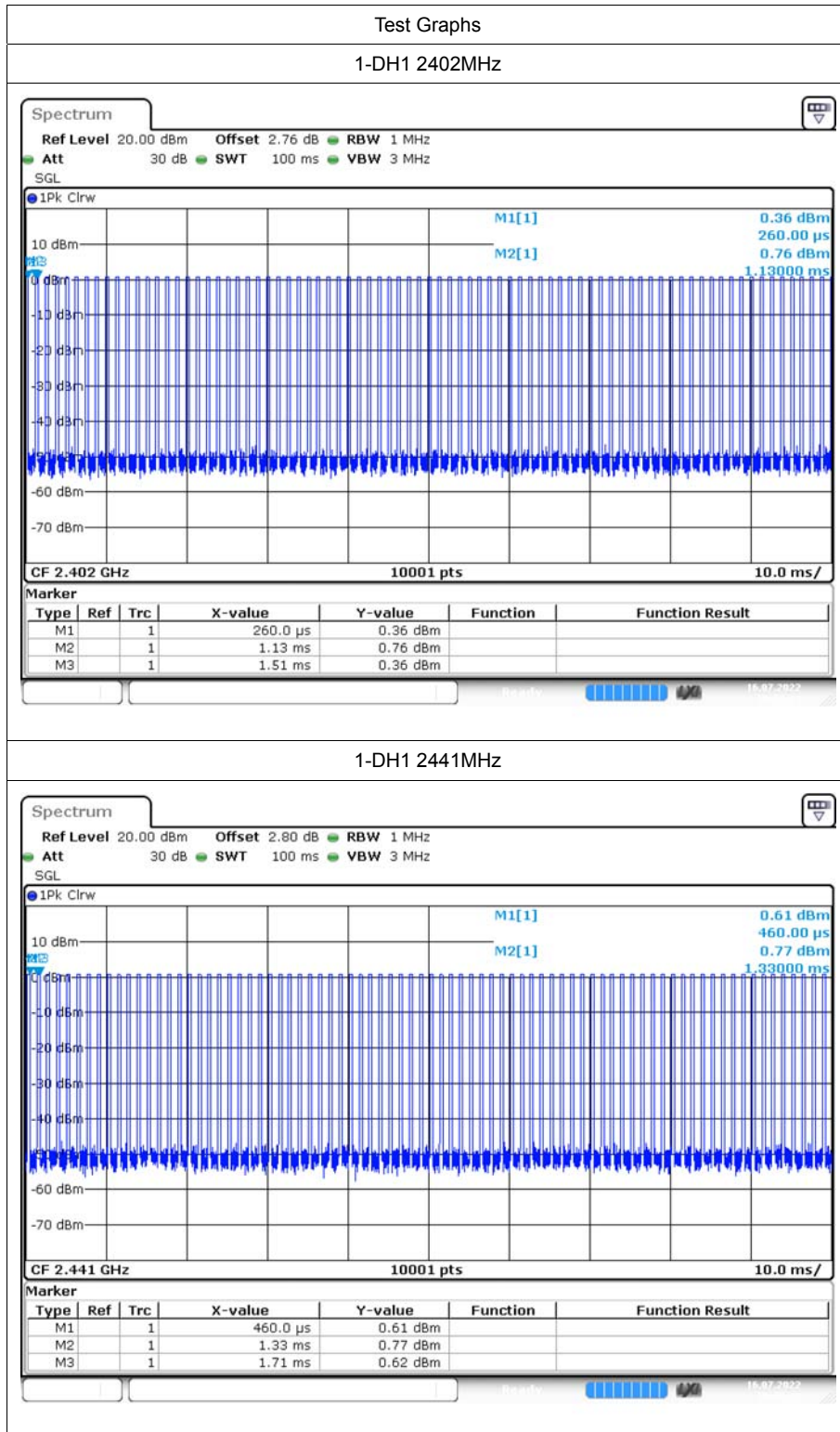
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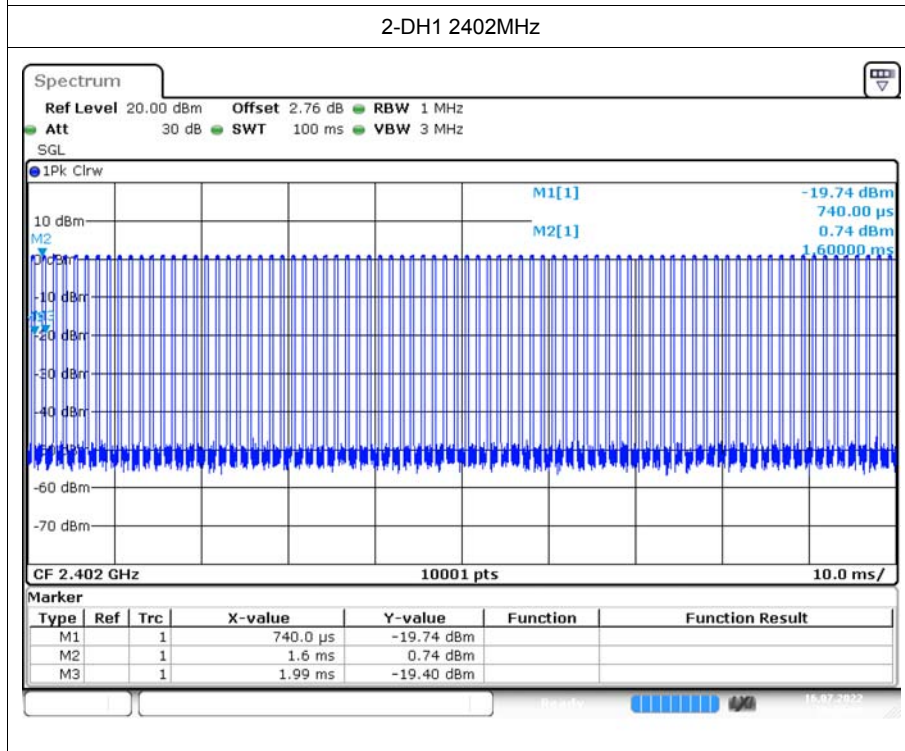
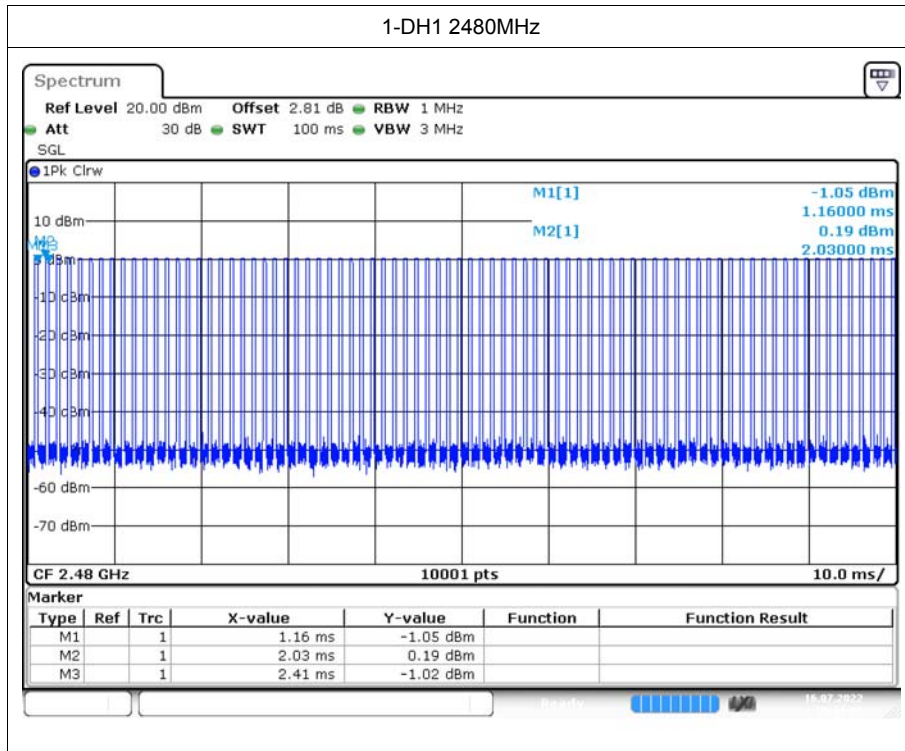
1 Duty Cycle

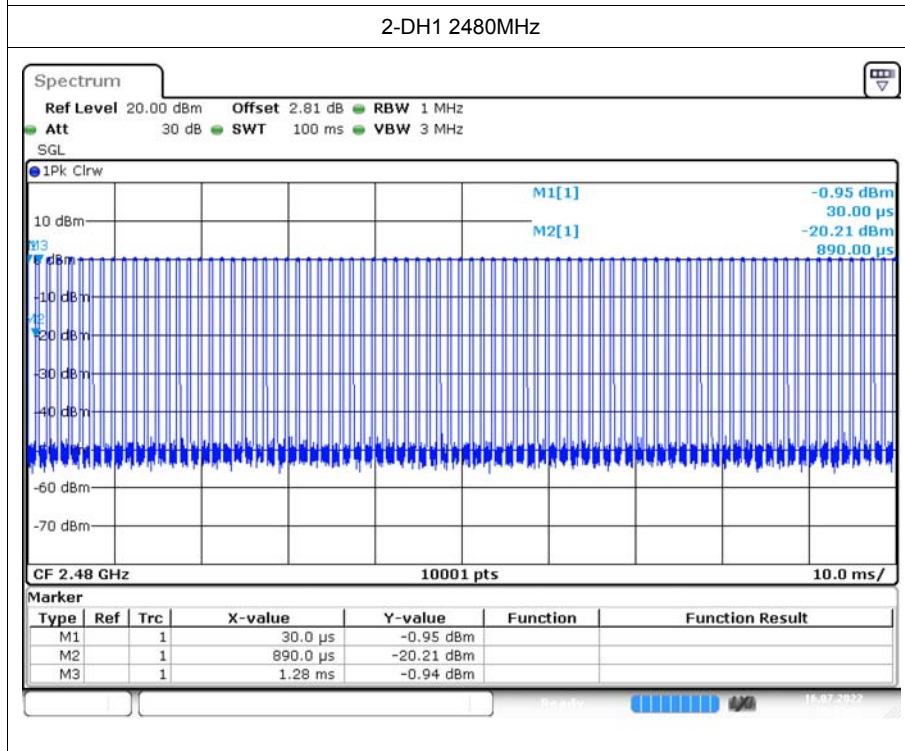
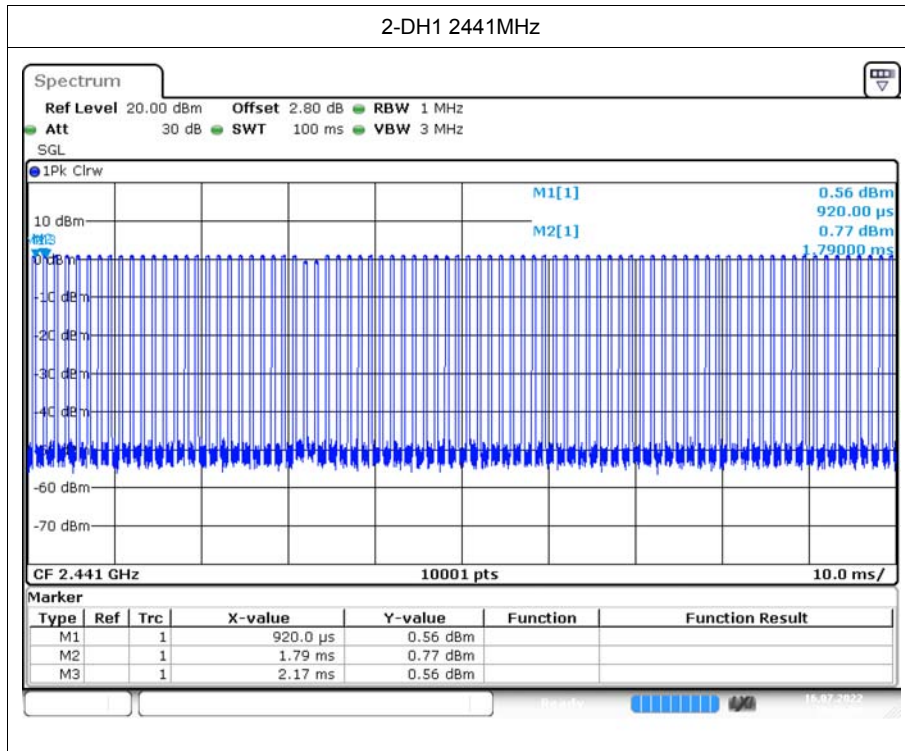
1.1 Test Result

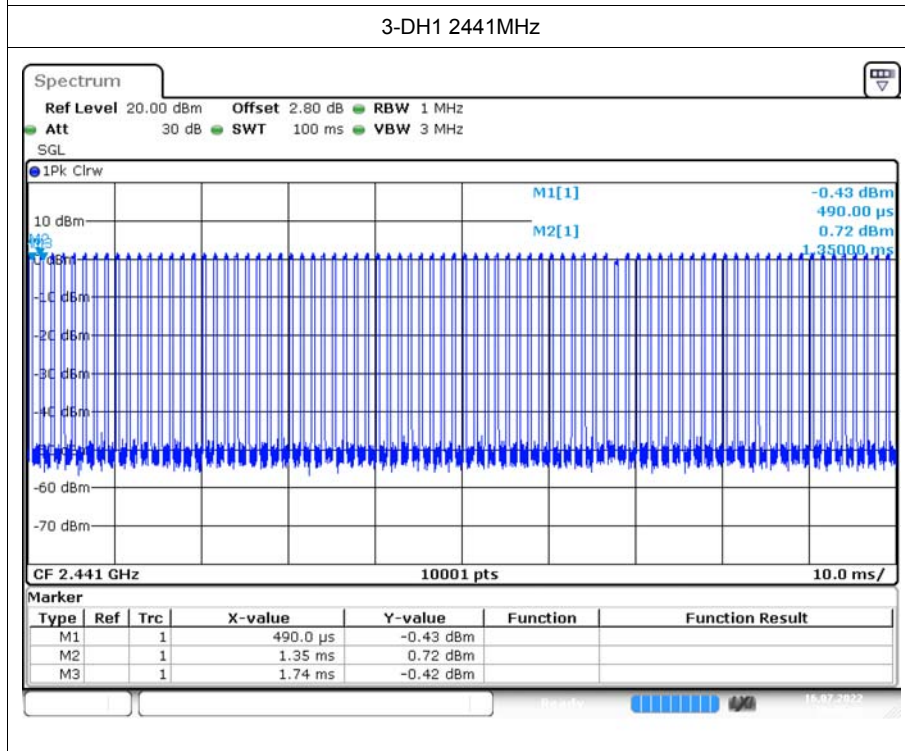
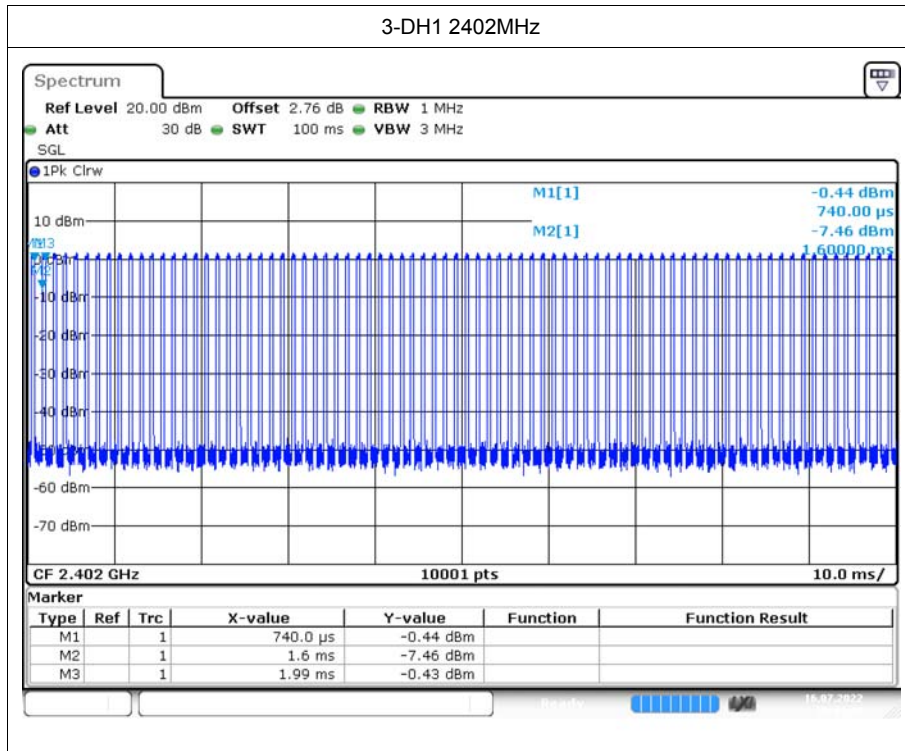
| Mode | Frequency (MHz) | Duty Cycle (%) | 1/T (kHz) |
|-------|-----------------|----------------|-----------|
| 1-DH1 | 2402 | 31.21 | 2.63 |
| 1-DH1 | 2441 | 31.2 | 2.63 |
| 1-DH1 | 2480 | 31.2 | 2.63 |
| 2-DH1 | 2402 | 32 | 2.56 |
| 2-DH1 | 2441 | 31.2 | 2.63 |
| 2-DH1 | 2480 | 31.39 | 2.56 |
| 3-DH1 | 2402 | 32 | 2.56 |
| 3-DH1 | 2441 | 32 | 2.56 |
| 3-DH1 | 2480 | 32 | 2.56 |

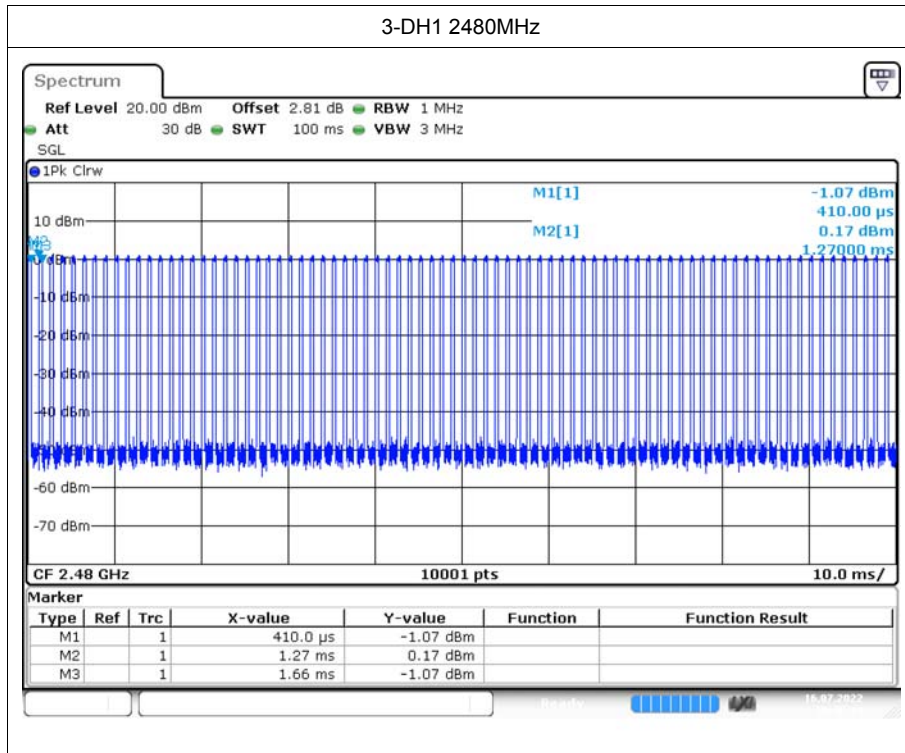
1.2 Test Graphs









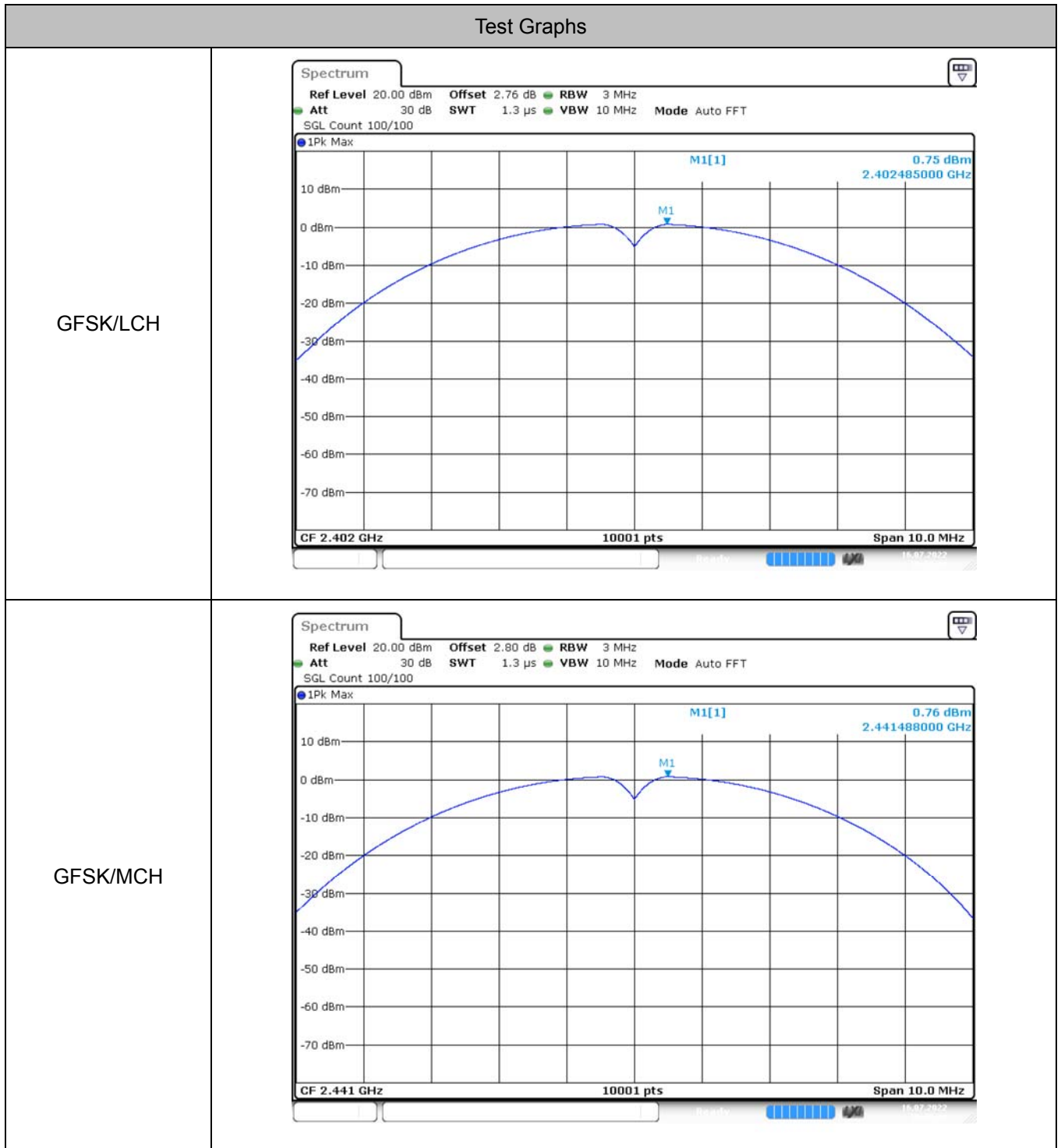


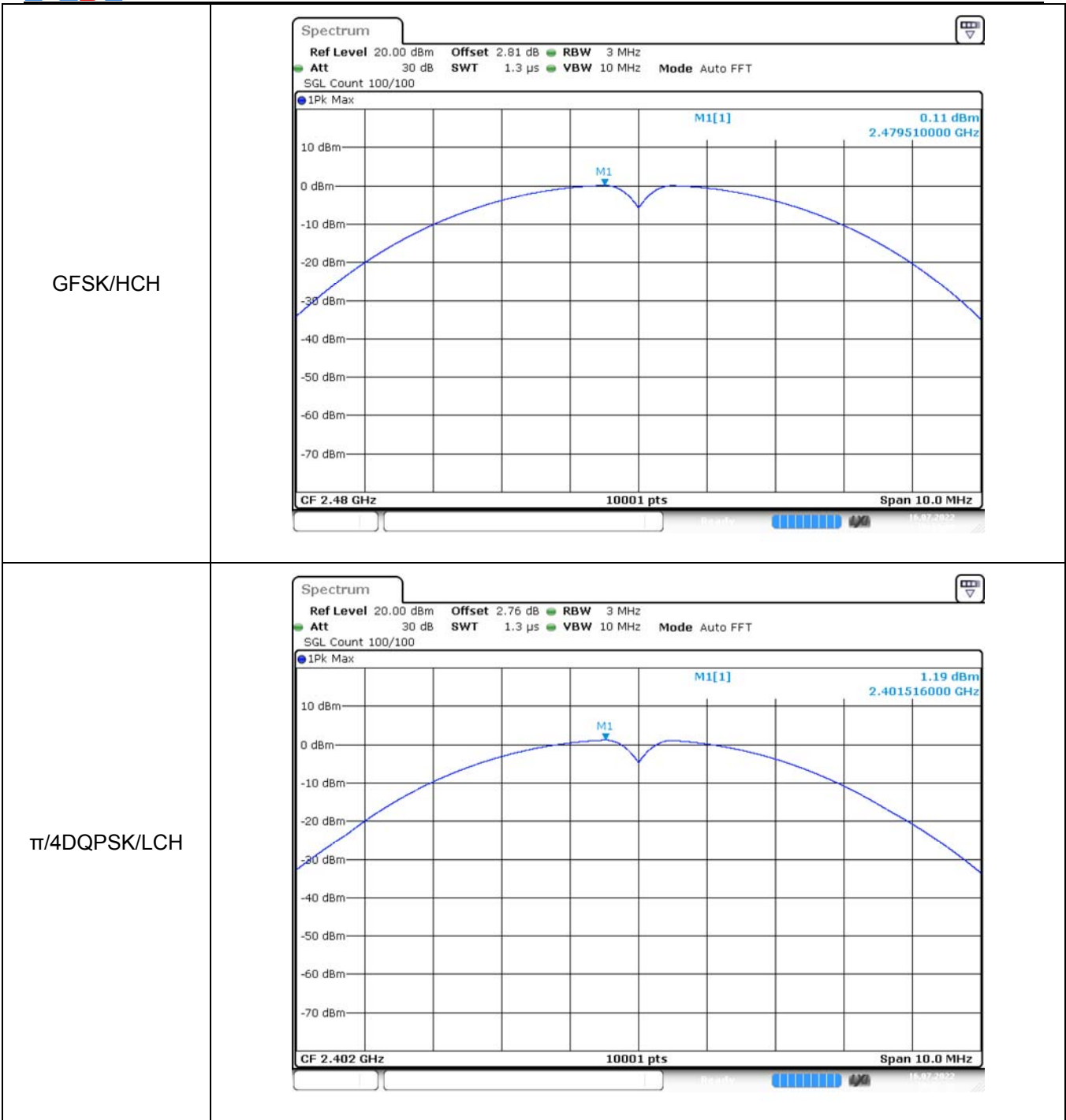
2 Maximum Conducted Peak Output Power

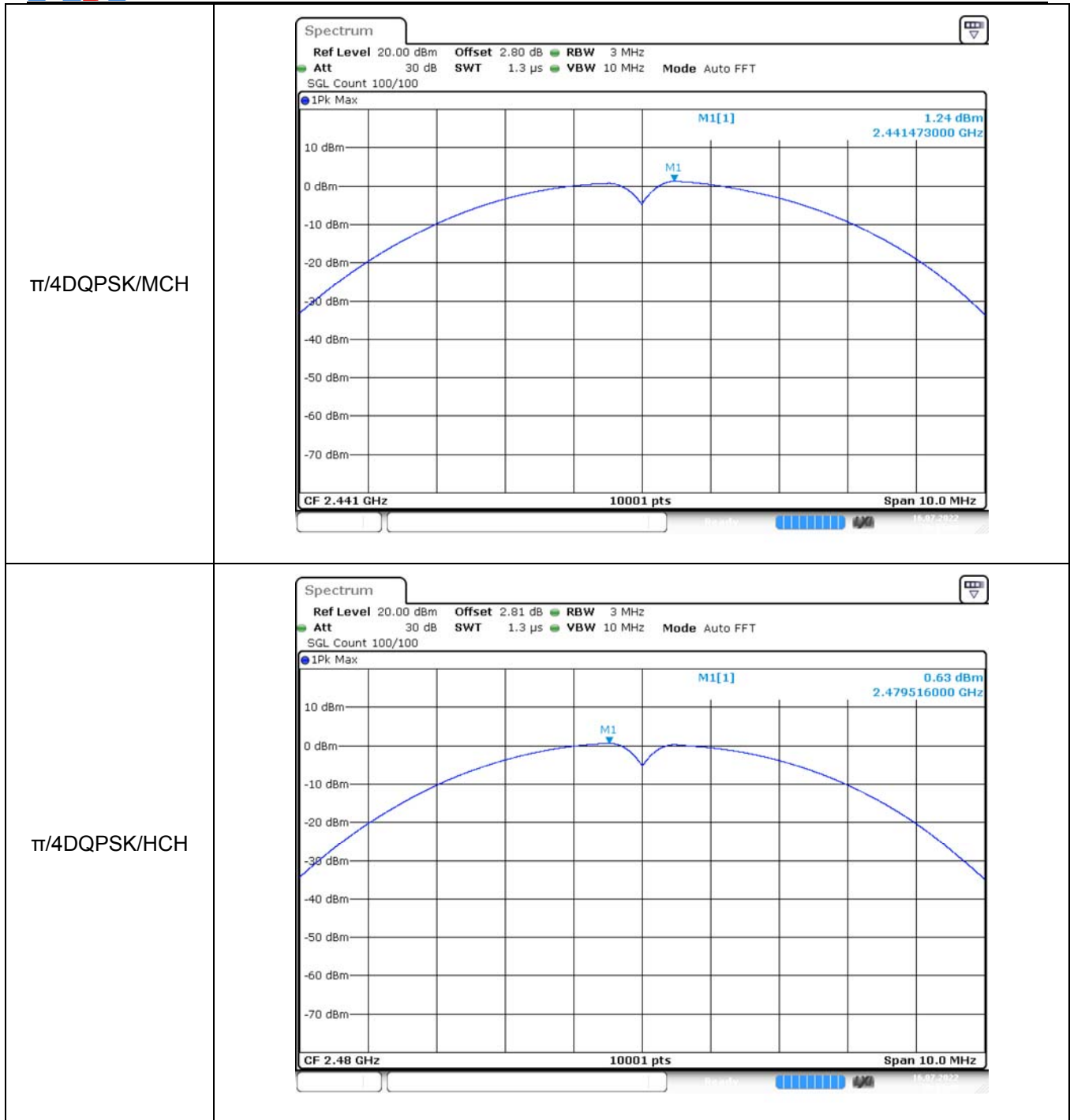
2.1 Test Result

| Mode | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK | LCH | 0.75 | 21 | Pass |
| | MCH | 0.76 | 21 | Pass |
| | HCH | 0.11 | 21 | Pass |
| $\pi/4$ DQPSK | LCH | 1.19 | 21 | Pass |
| | MCH | 1.24 | 21 | Pass |
| | HCH | 0.63 | 21 | Pass |
| 8DPSK | LCH | 1.61 | 21 | Pass |
| | MCH | 1.41 | 21 | Pass |
| | HCH | 0.39 | 21 | Pass |

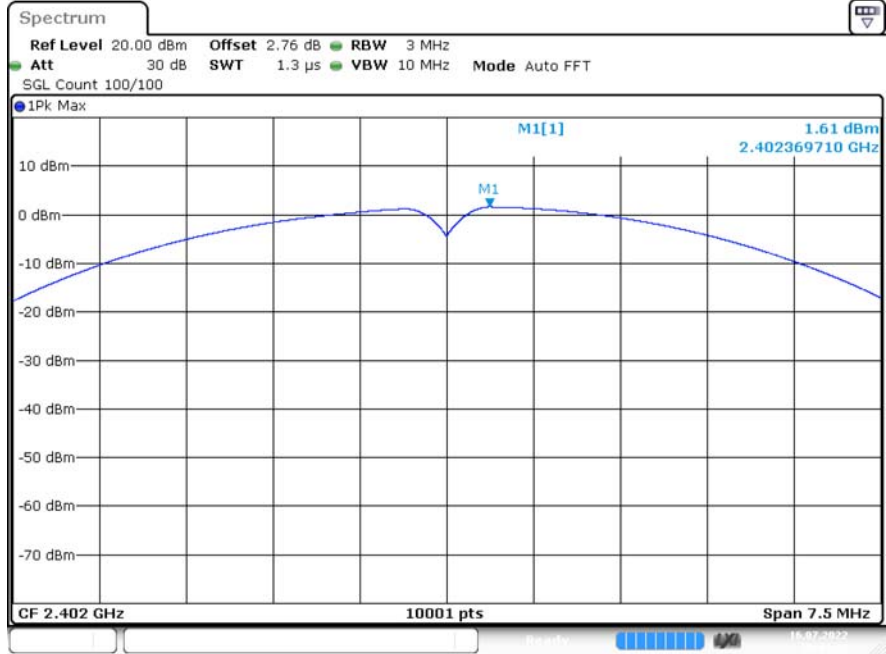
2.2 Test Graphs



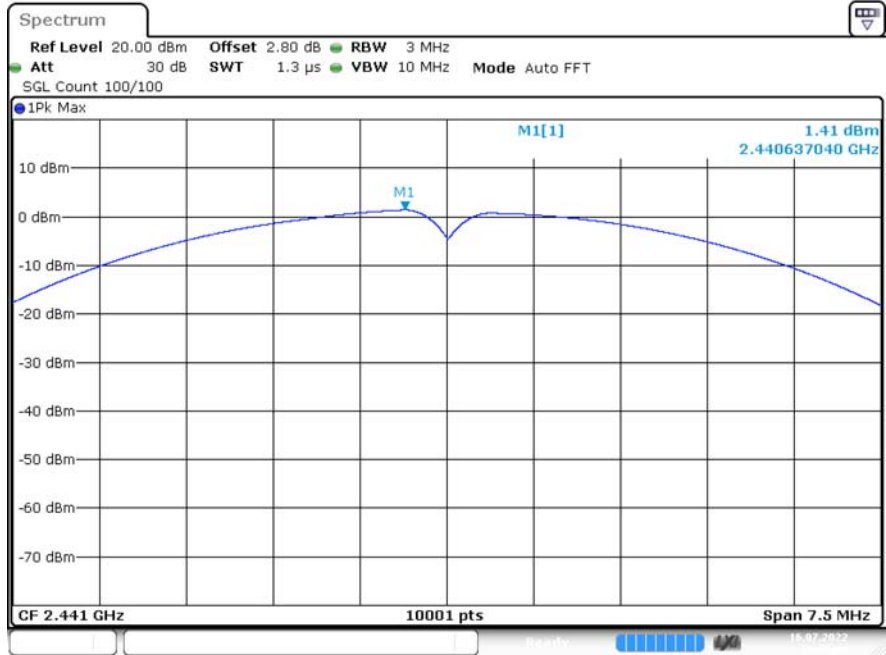




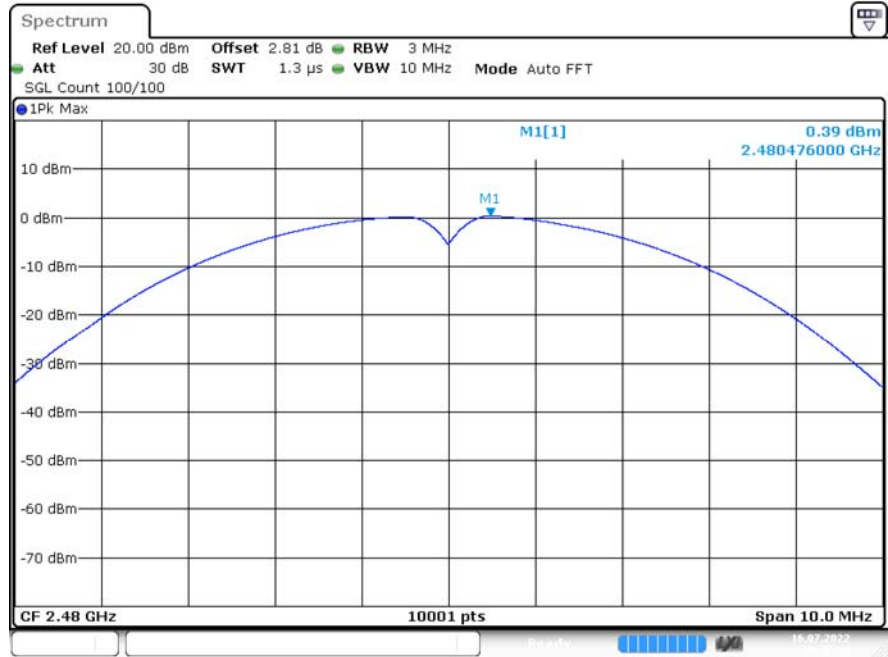
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

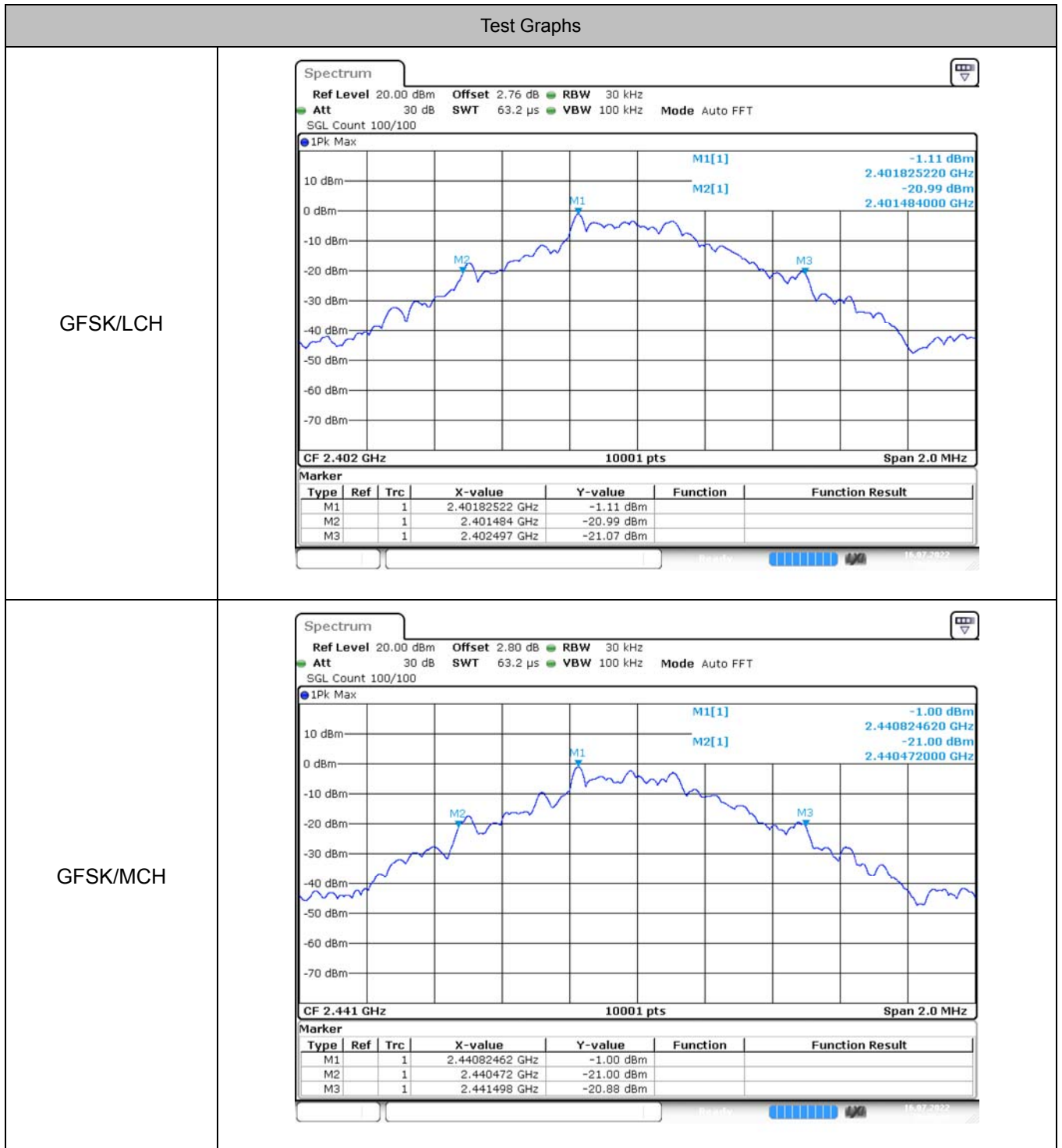


3 20dB Bandwidth

3.1 Test Result

| Mode | Channel. | 20dB Bandwidth [MHz] | Limit [MHz] | Verdict |
|---------------|----------|----------------------|---------------|---------|
| GFSK | LCH | 1.014 | Not Specified | Pass |
| | MCH | 1.026 | Not Specified | Pass |
| | HCH | 1.02 | Not Specified | Pass |
| $\pi/4$ DQPSK | LCH | 1.276 | Not Specified | Pass |
| | MCH | 1.28 | Not Specified | Pass |
| | HCH | 1.241 | Not Specified | Pass |
| 8DPSK | LCH | 1.263 | Not Specified | Pass |
| | MCH | 1.214 | Not Specified | Pass |
| | HCH | 1.236 | Not Specified | Pass |

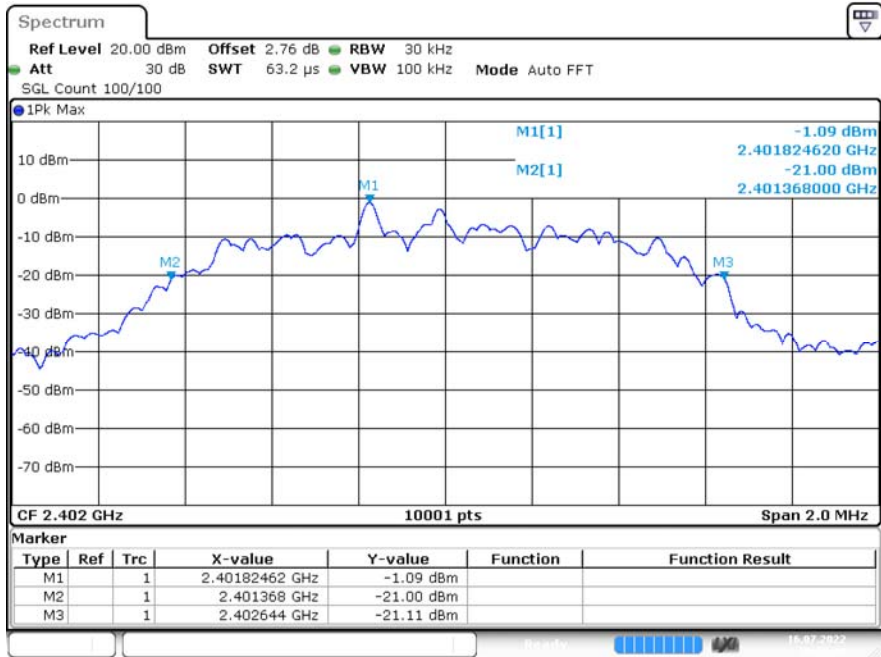
3.2 Test Graphs



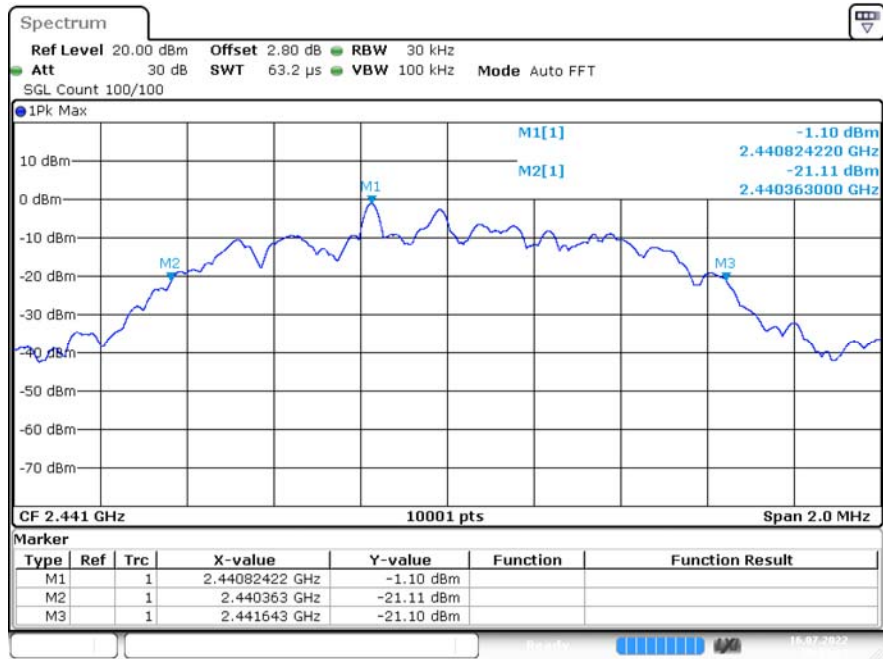
GFSK/HCH



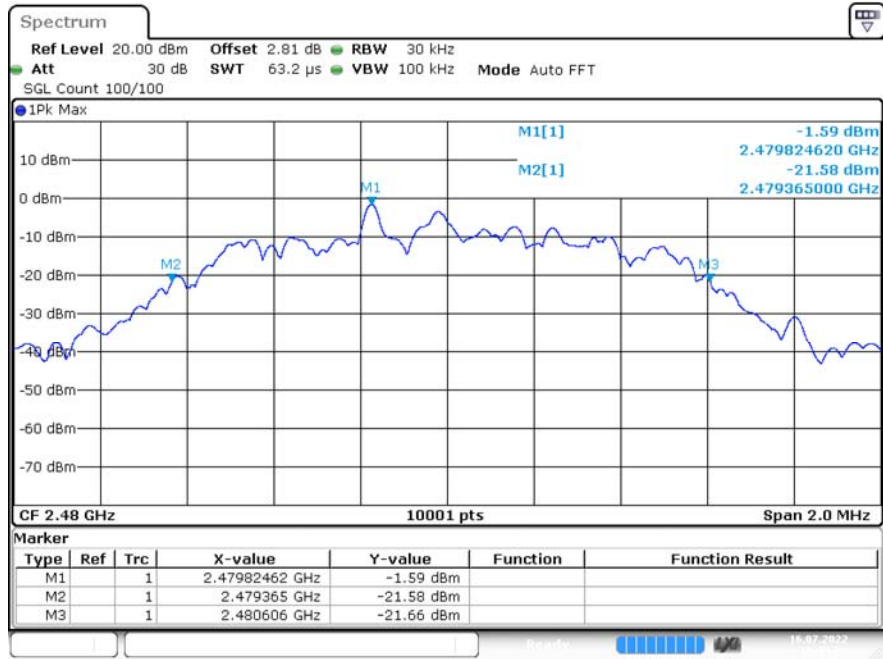
$\pi/4$ DQPSK/LCH



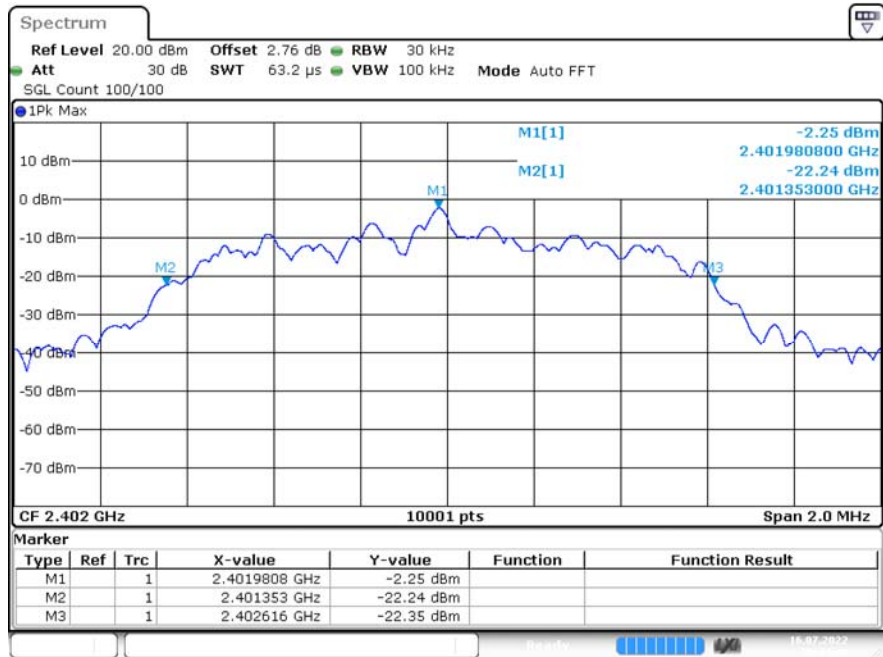
$\pi/4$ DQPSK/MCH



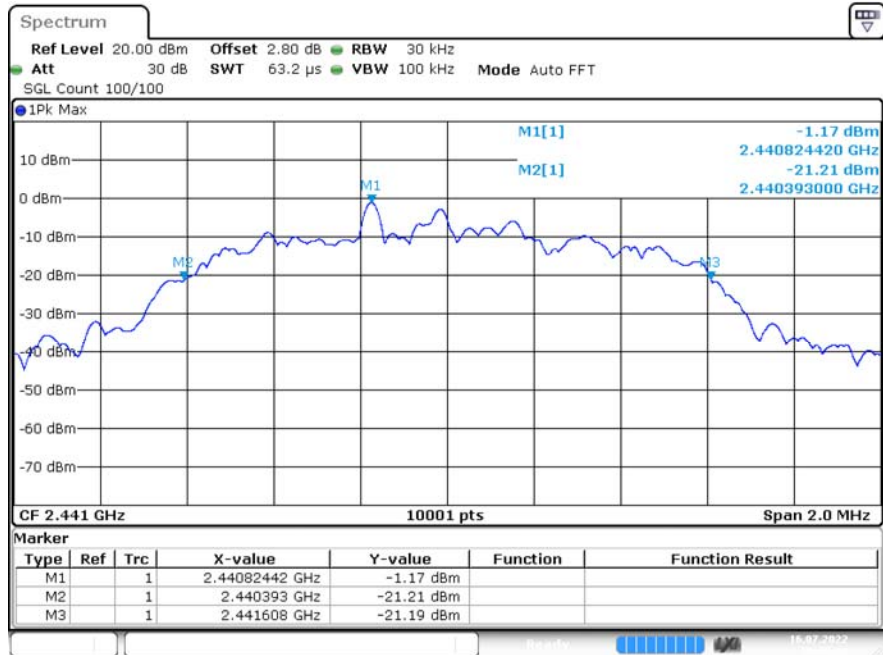
$\pi/4$ DQPSK/HCH



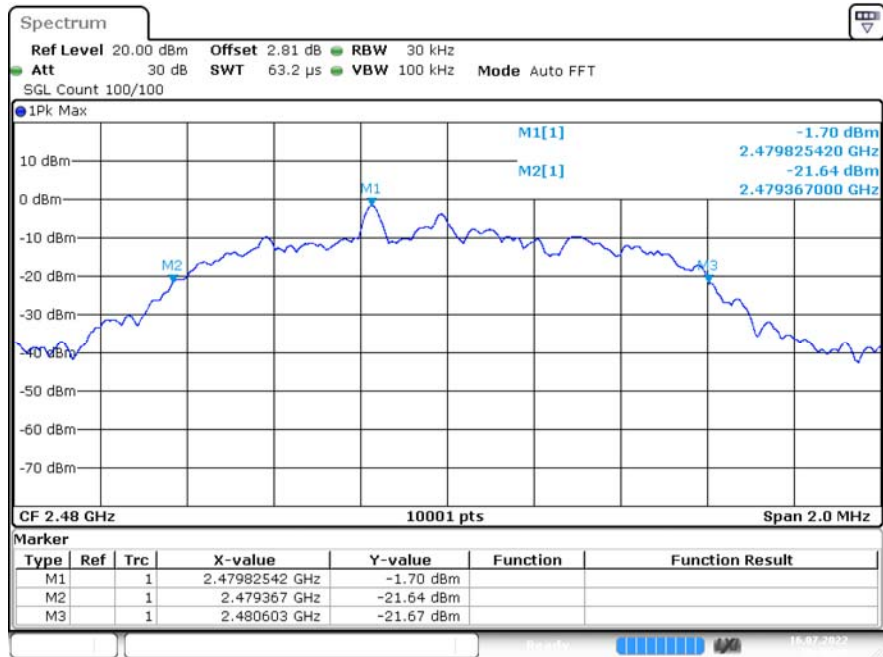
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

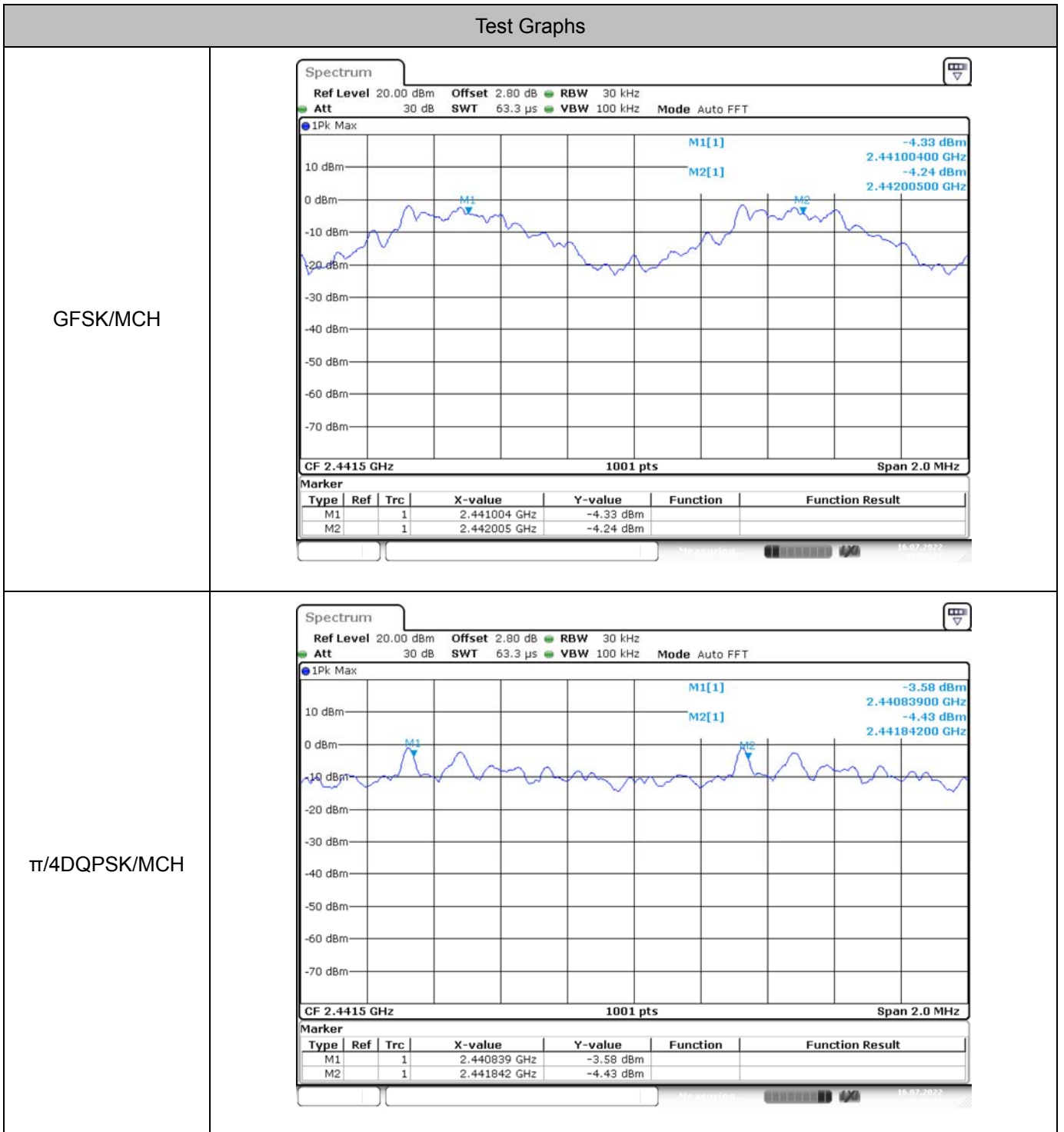


4 Carrier Frequency Separation

4.1 Test Result

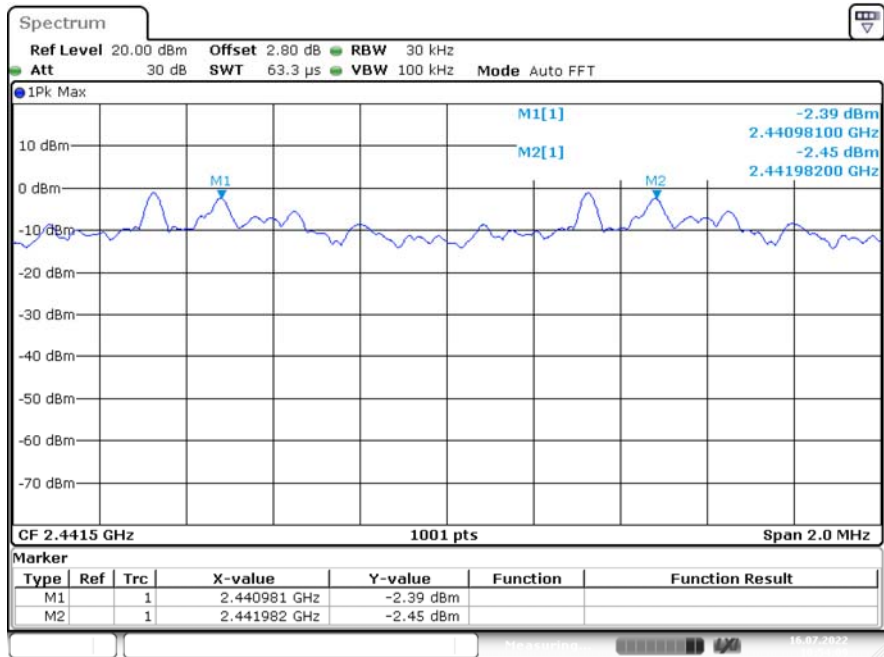
| Mode | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK | MCH | 1.001 | 0.684 | Pass |
| $\pi/4$ DQPSK | MCH | 1.003 | 0.853 | Pass |
| 8DPSK | MCH | 1.001 | 0.809 | Pass |

4.2 Test Graphs





8DPSK/MCH

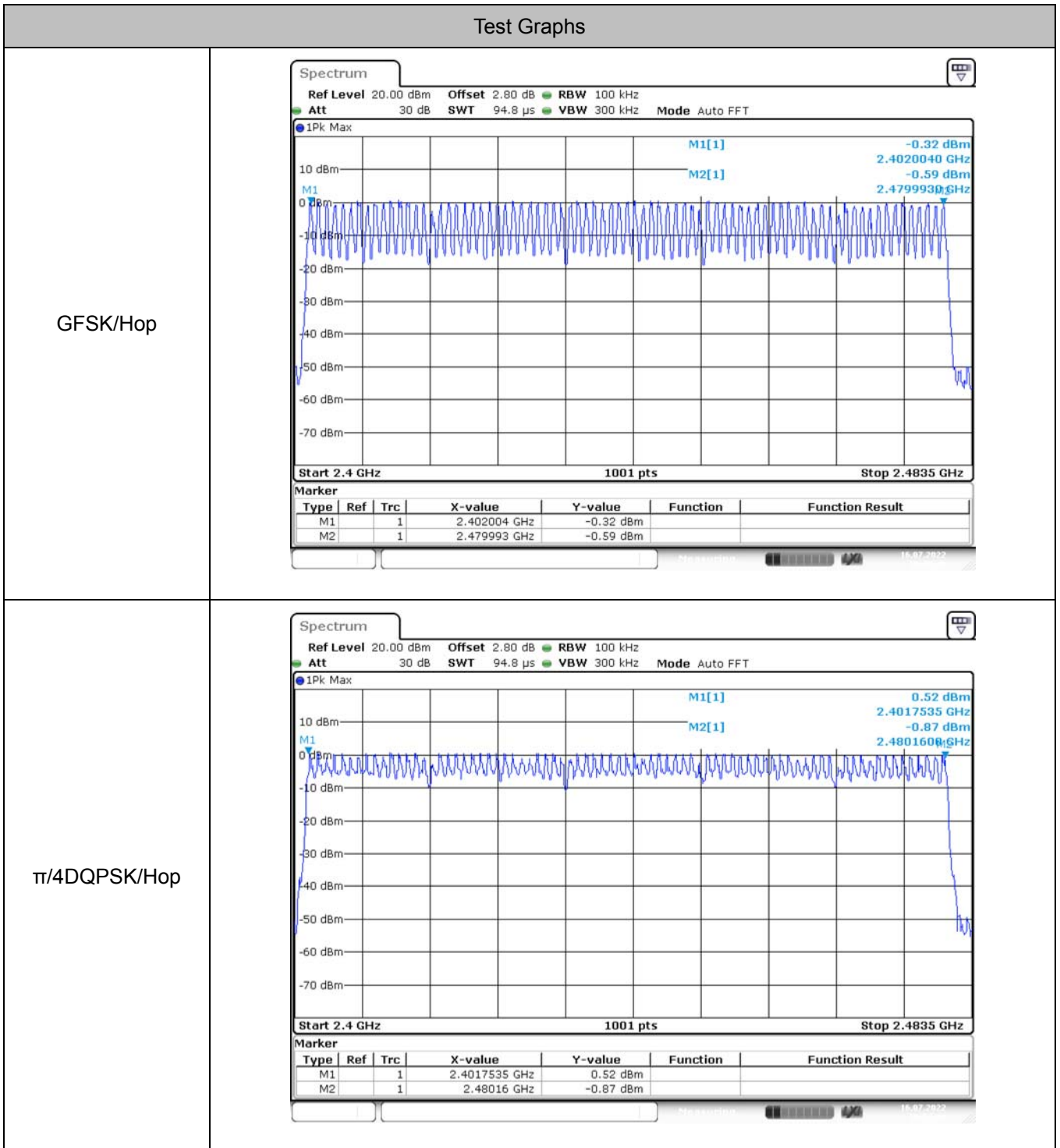


5 Hopping Channel Number

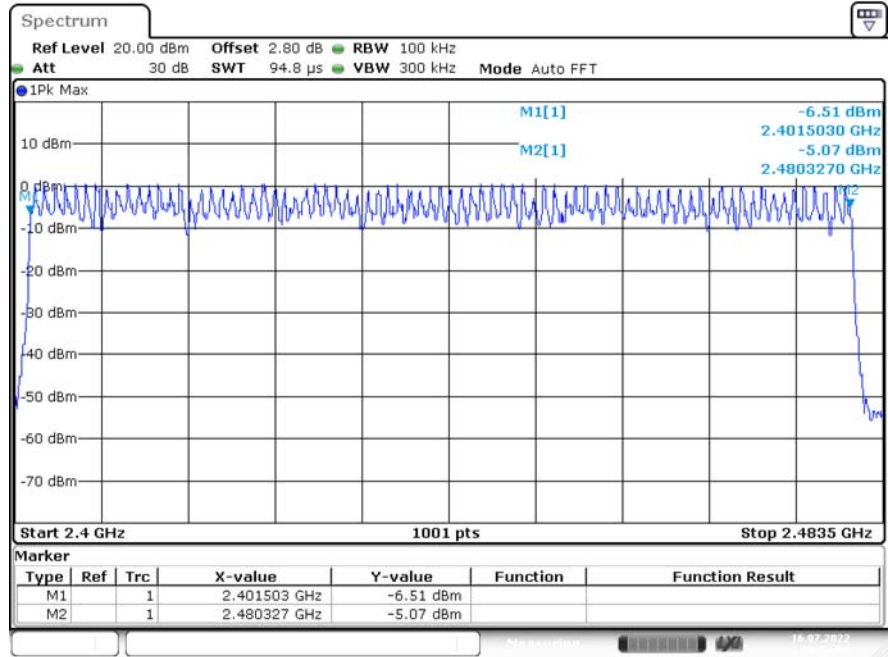
5.1 Test Result

| Mode | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---------------|----------|-------------------------------|-----------|---------|
| GFSK | Hop | 79 | ≥ 15 | PASS |
| $\pi/4$ DQPSK | Hop | 79 | ≥ 15 | PASS |
| 8DPSK | Hop | 79 | ≥ 15 | PASS |

5.2 Test Graphs



8DPSK/Hop

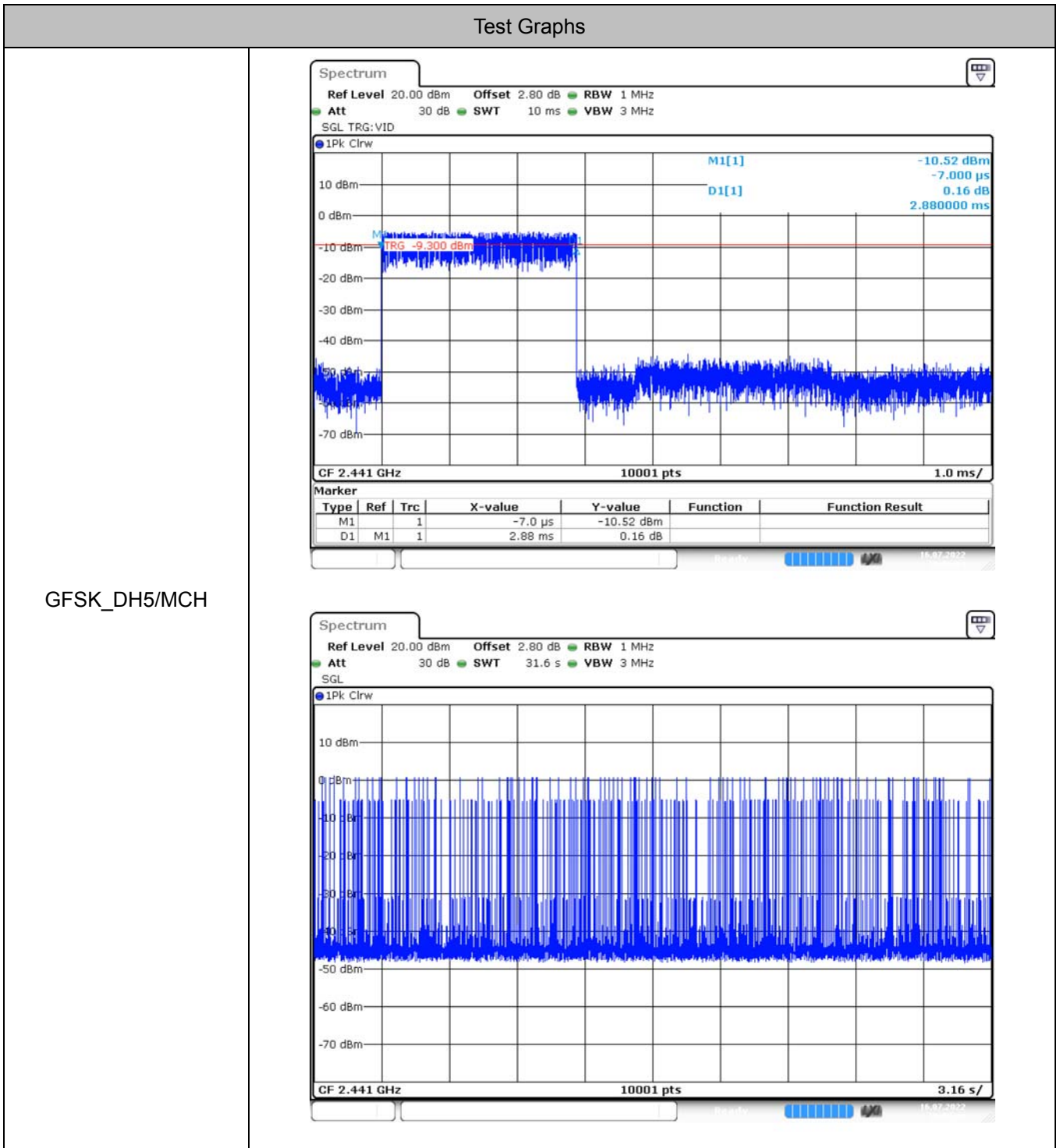


6 Dwell Time

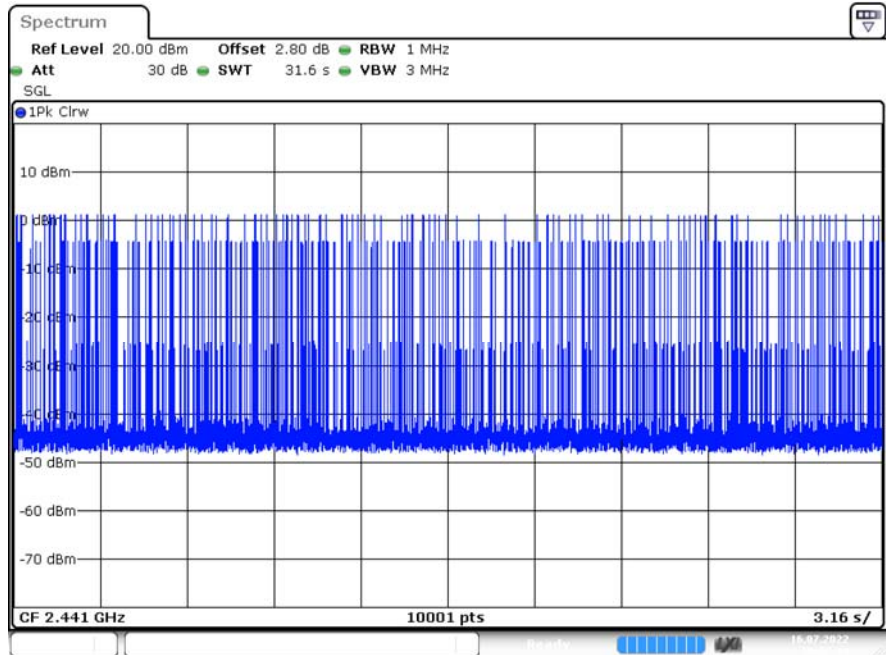
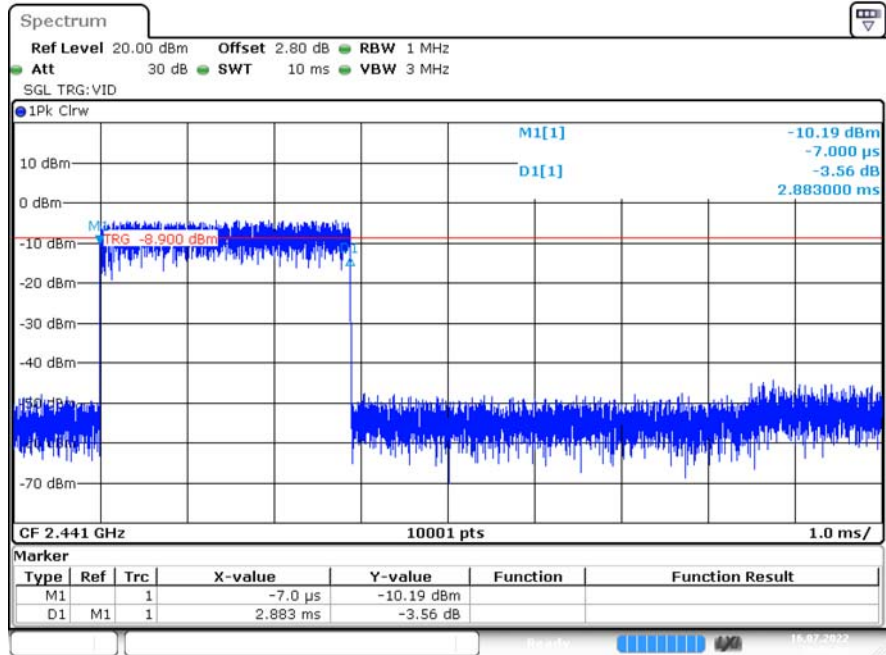
6.1 Test Result

| Mode | Packet | Channel | Burst Width [ms/hop/ch] | Total Hops[hop*ch] | Dwell Time[ms] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|----------------|-----------|---------|
| GFSK | DH5 | MCH | 2.88 | 100 | 288 | 0.4 | Pass |
| $\pi/4$ DQPSK | 2DH5 | MCH | 2.883 | 113 | 325.779 | 0.4 | Pass |
| 8DPSK | 3DH5 | MCH | 2.888 | 111 | 320.568 | 0.4 | Pass |

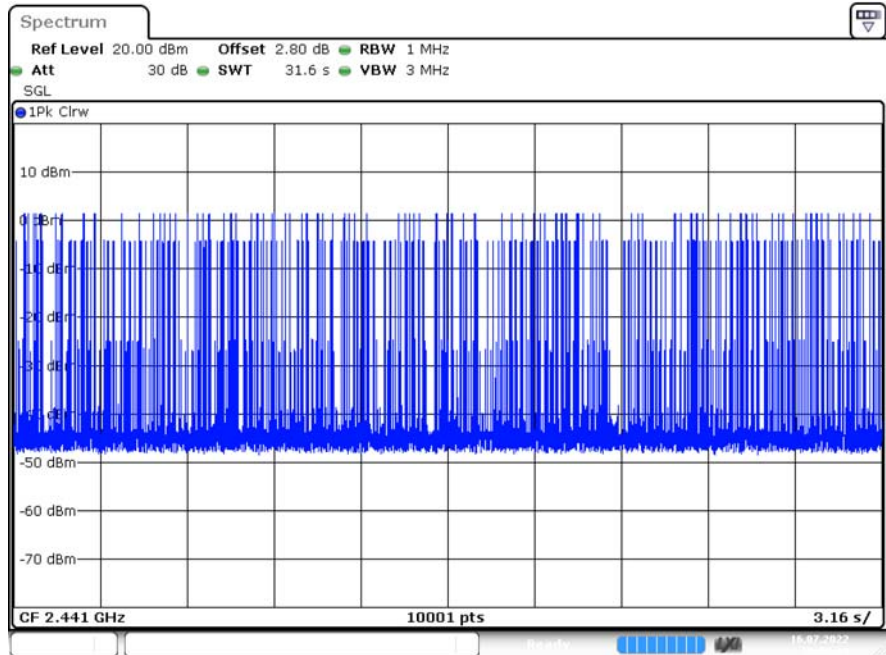
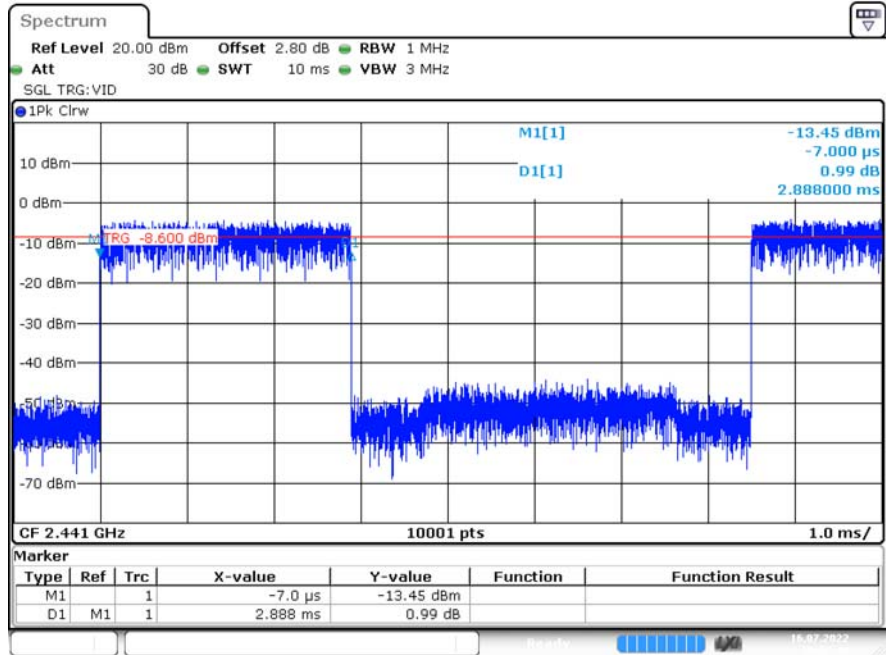
6.2 Test Graphs



$\pi/4$ DQPSK
_2DH5/MCH



8DPSK_3DH5/MCH

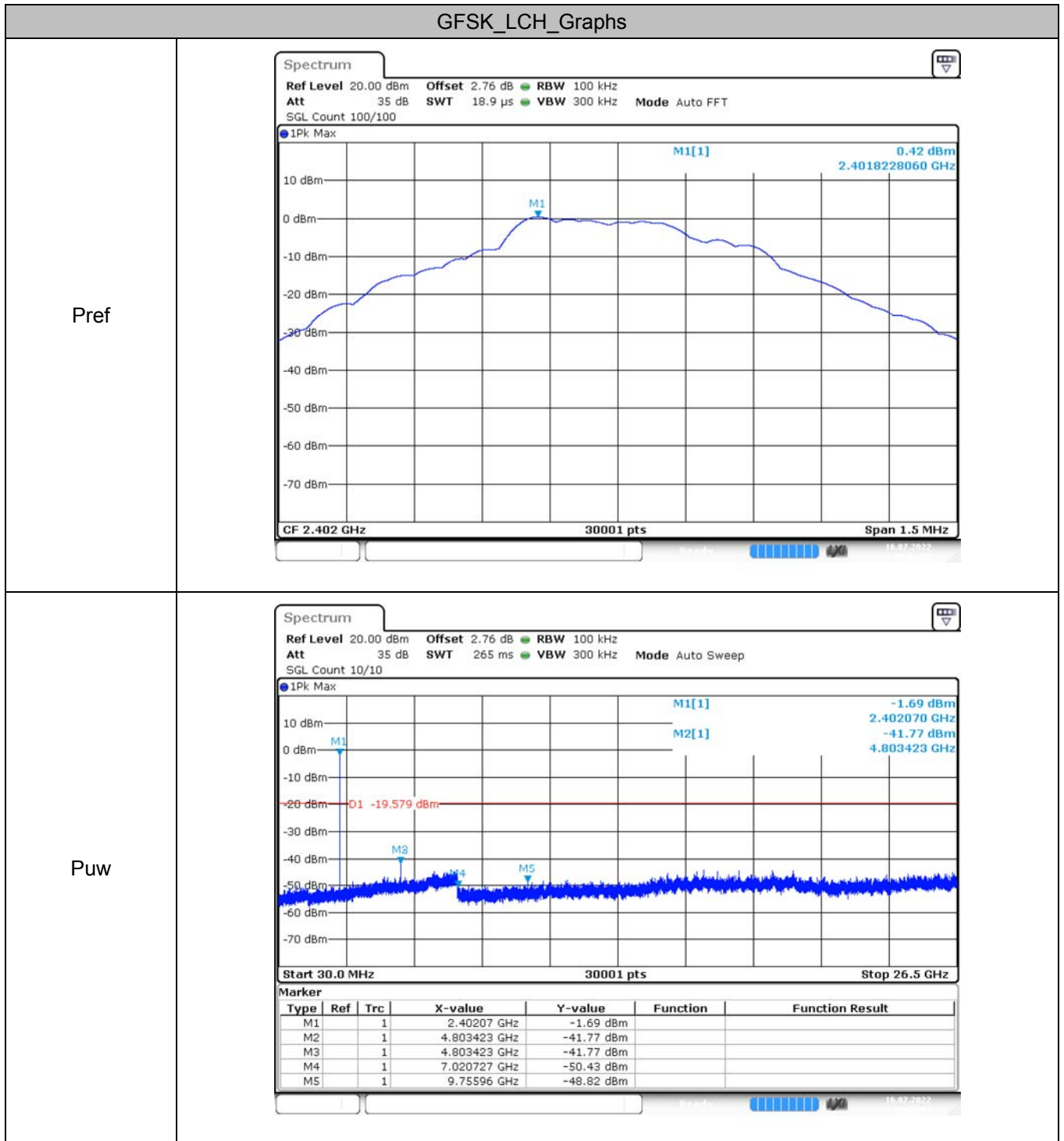


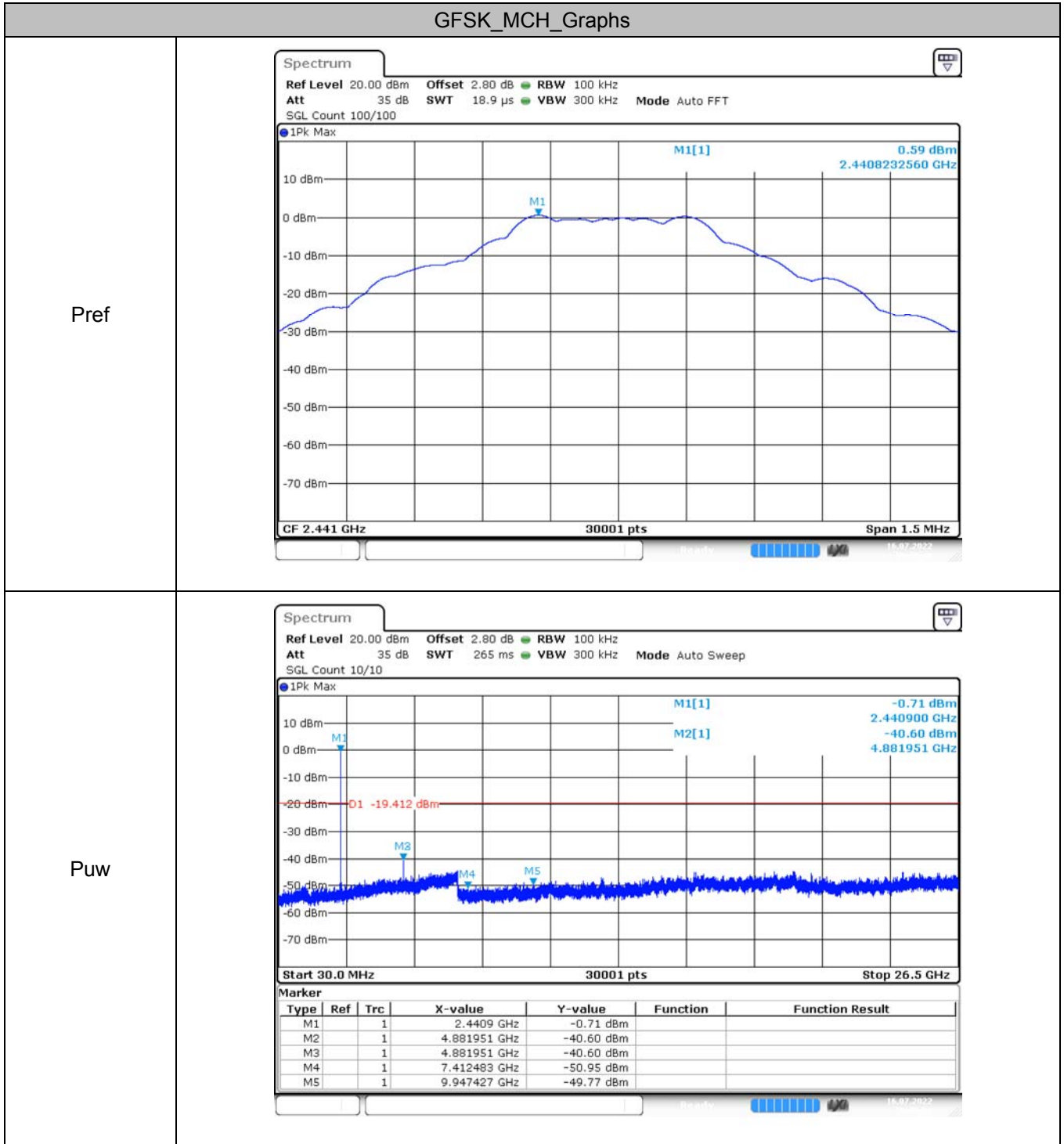
7 RF Conducted Spurious Emissions

7.1 Test Result

| Mode | Channel | Max. Level [dBc] | Limit [dBc] | Verdict |
|---------------|---------|------------------|-------------|---------|
| GFSK | LCH | -42.18 | -20 | Pass |
| | MCH | -41.19 | -20 | Pass |
| | HCH | -40.15 | -20 | Pass |
| $\pi/4$ DQPSK | LCH | -42.99 | -20 | Pass |
| | MCH | -42.66 | -20 | Pass |
| | HCH | -42.04 | -20 | Pass |
| 8DPSK | LCH | -42.52 | -20 | Pass |
| | MCH | -43.67 | -20 | Pass |
| | HCH | -44.02 | -20 | Pass |

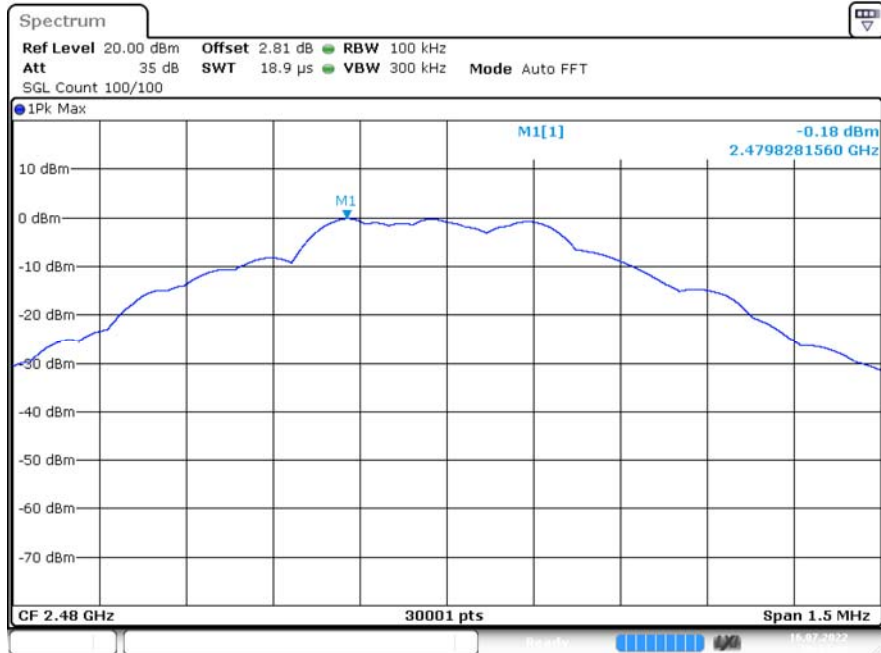
7.2 Test Graphs



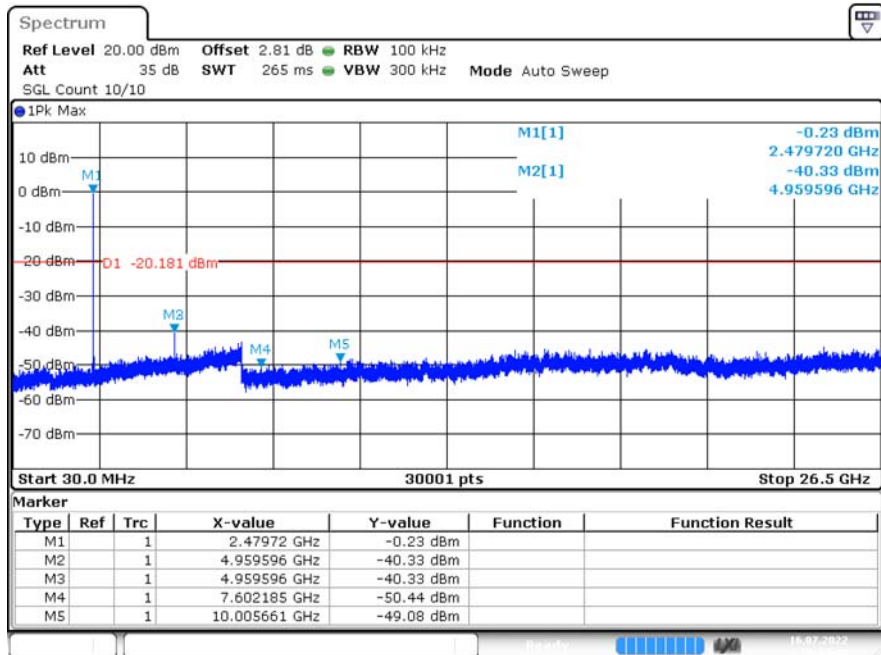


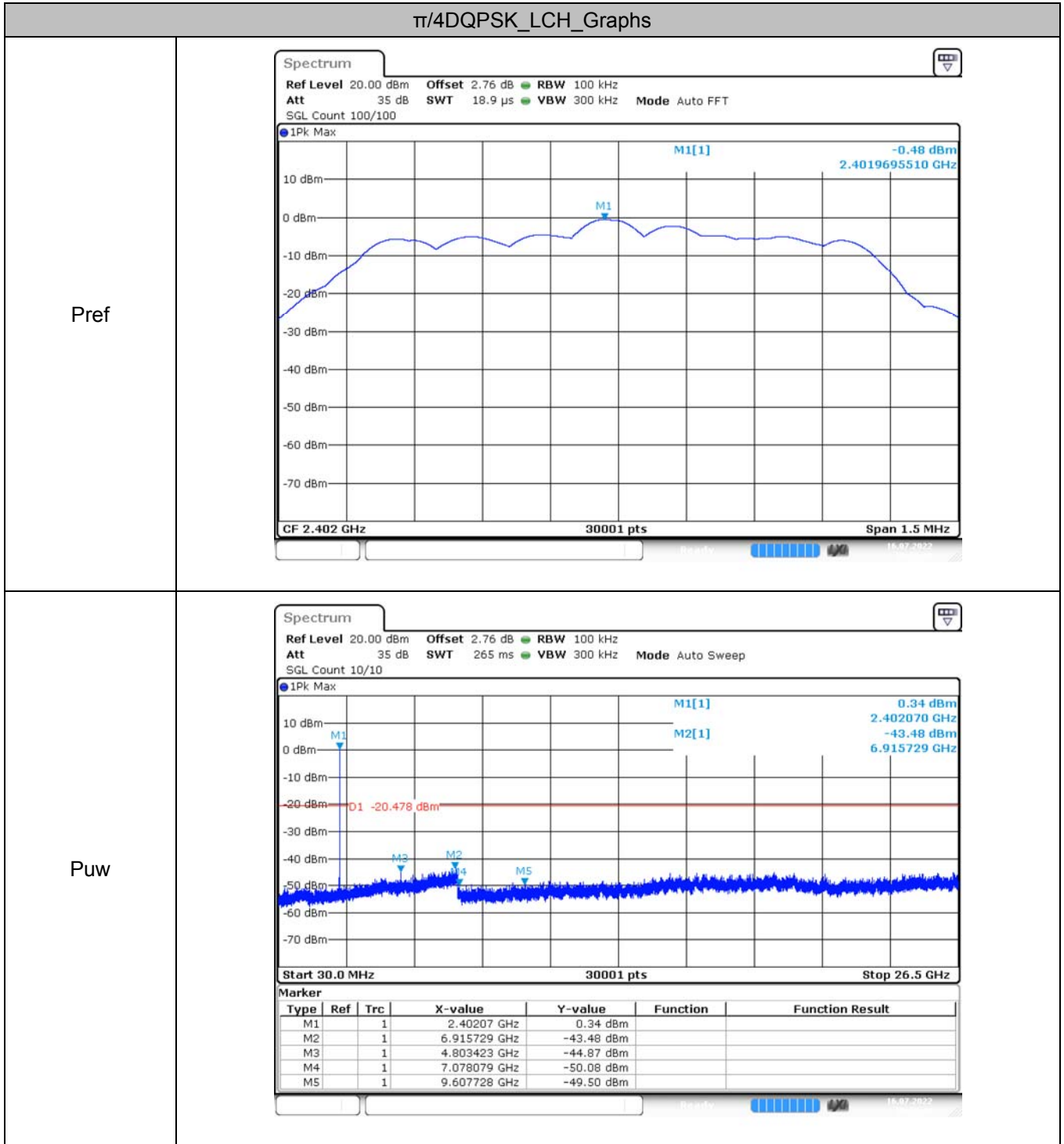
GFSK_HCH_Graphs

Pref



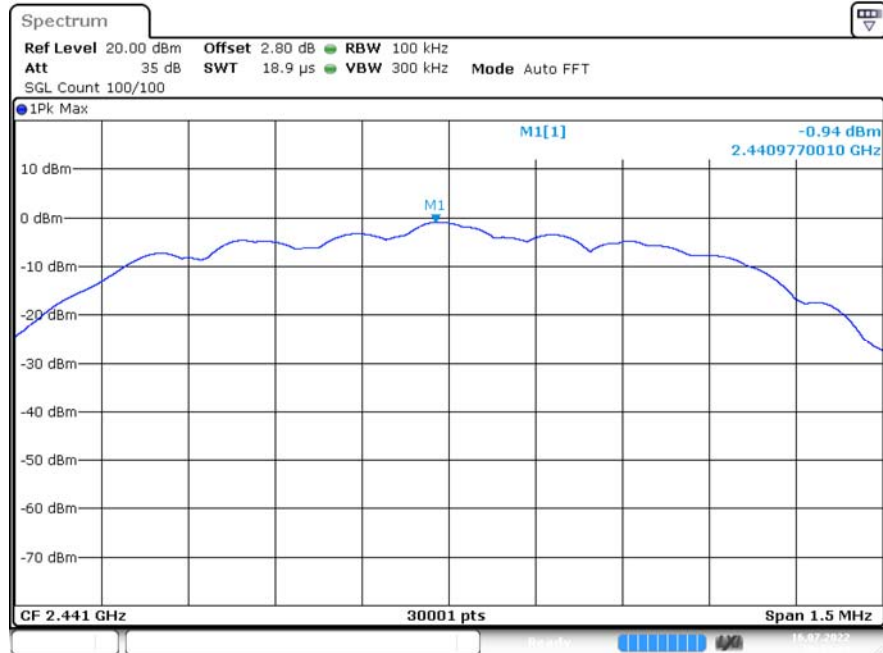
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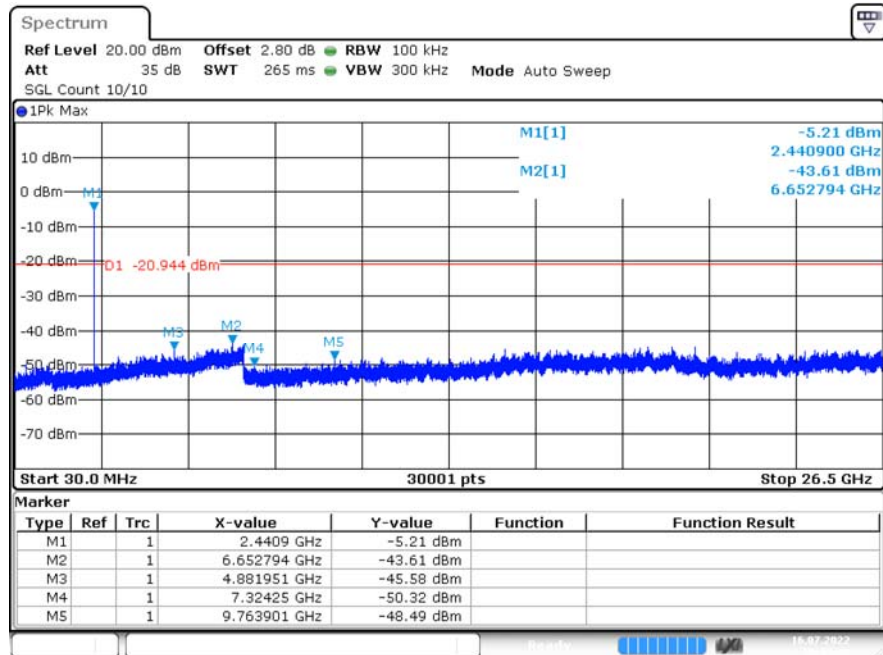


π /4DQPSK_MCH_Graphs

Pref

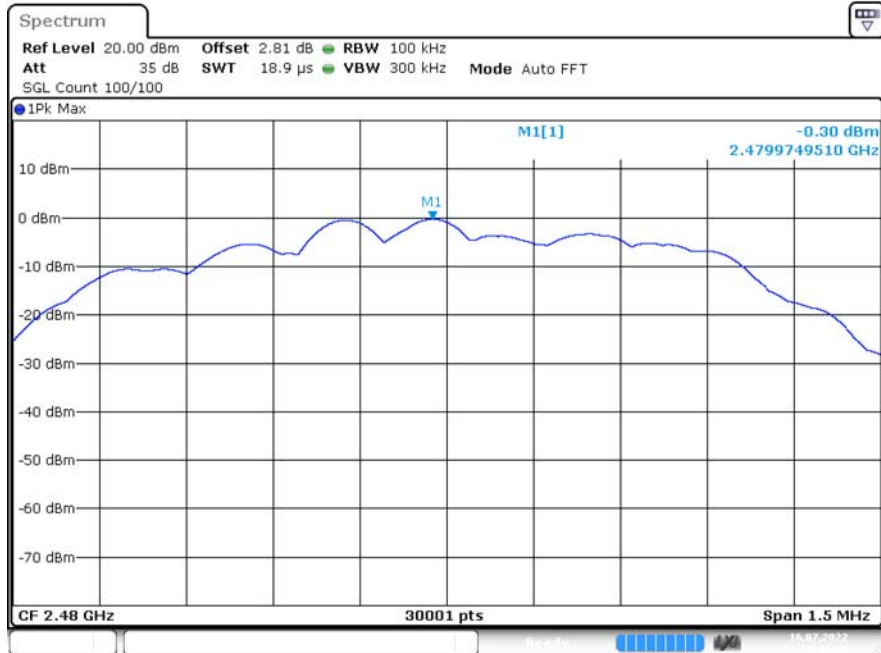


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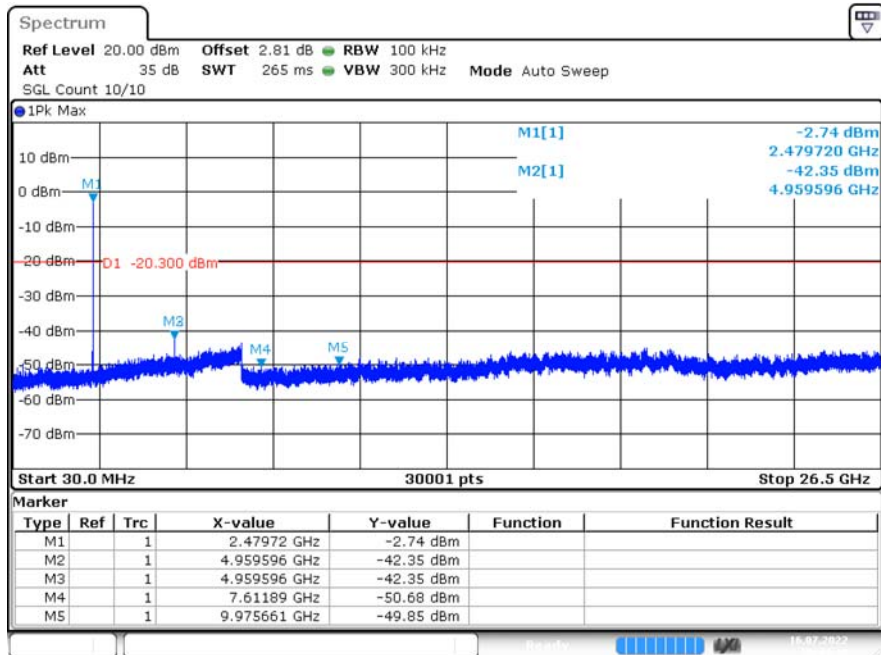


$\pi/4$ DQPSK_HCH_Graphs

Pref

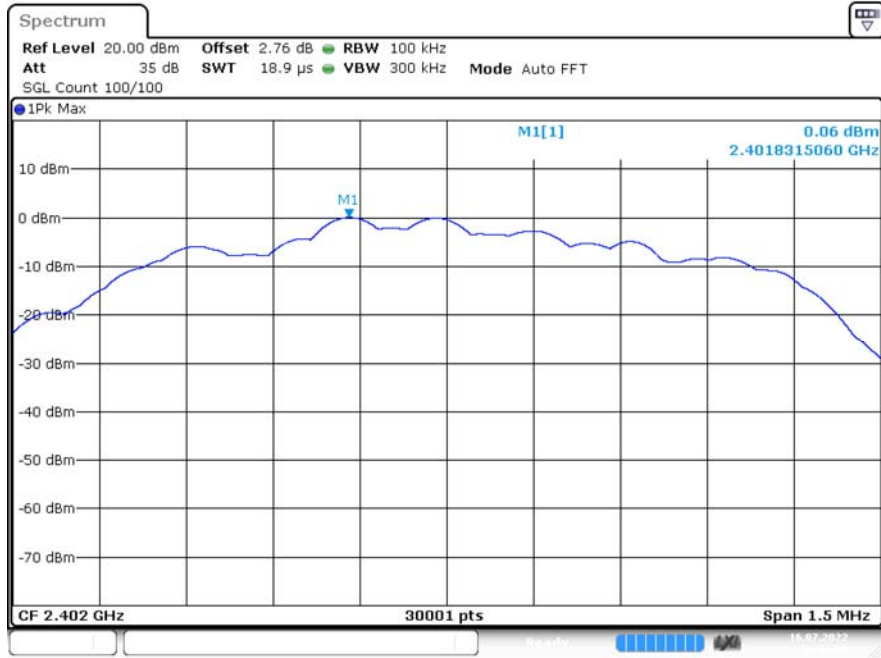


Puw

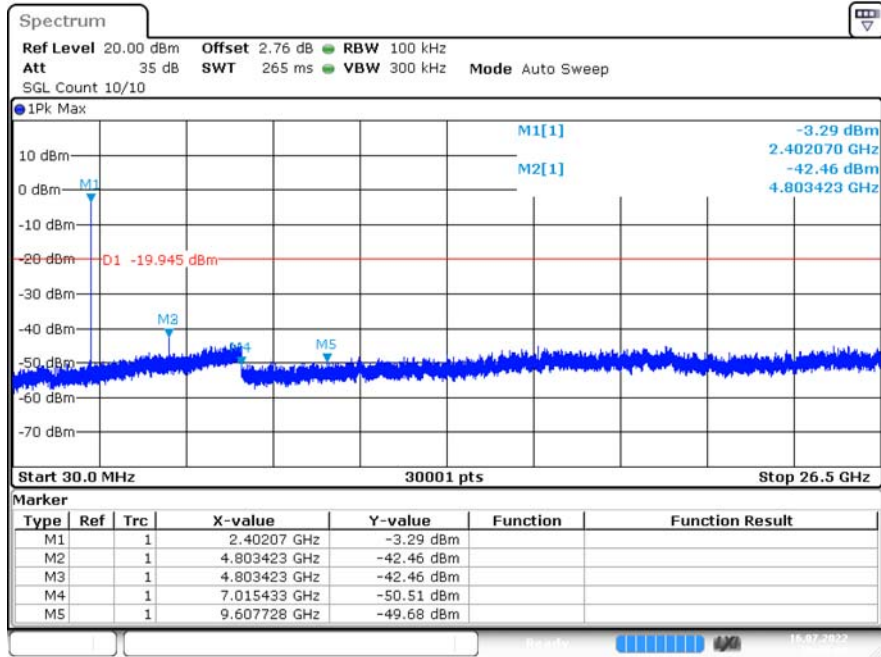


8DPSK_LCH_Graphs

Pref

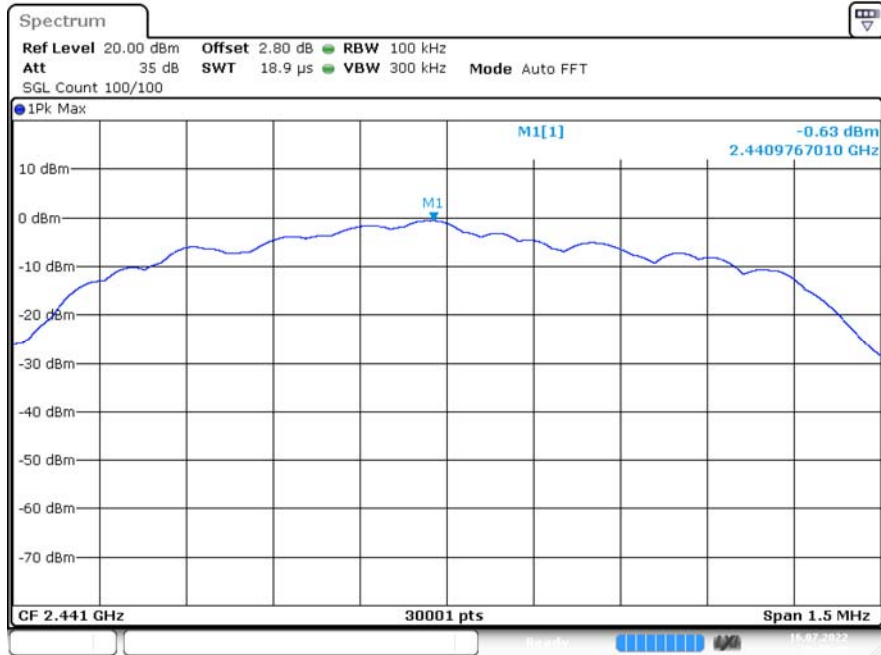


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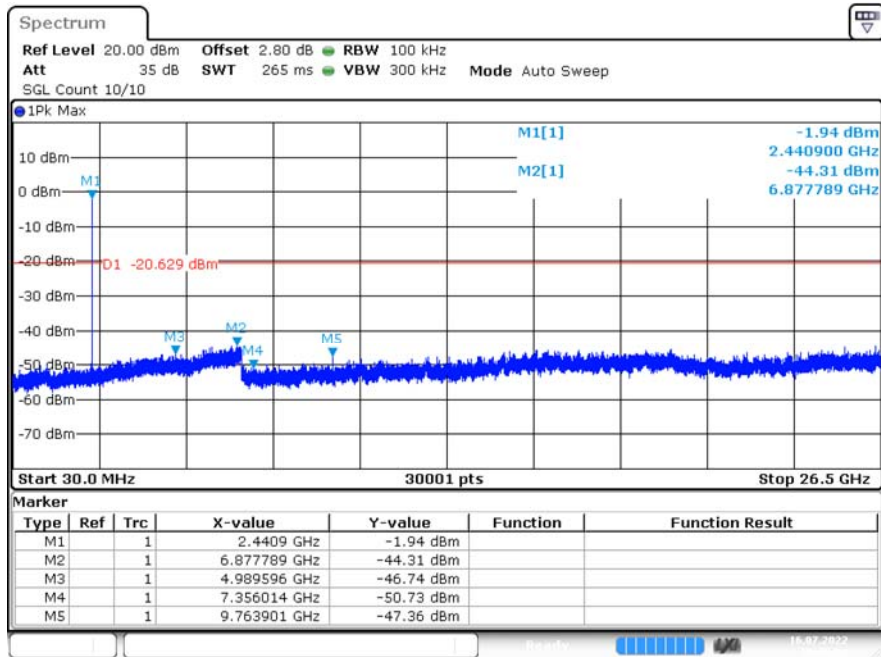


8DPSK_MCH_Graphs

Pref

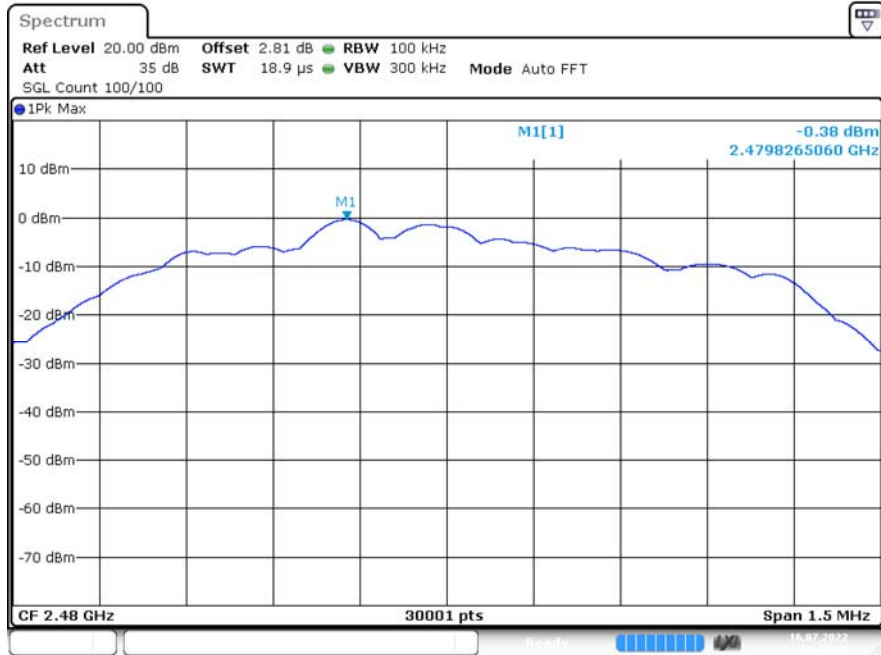


Puw

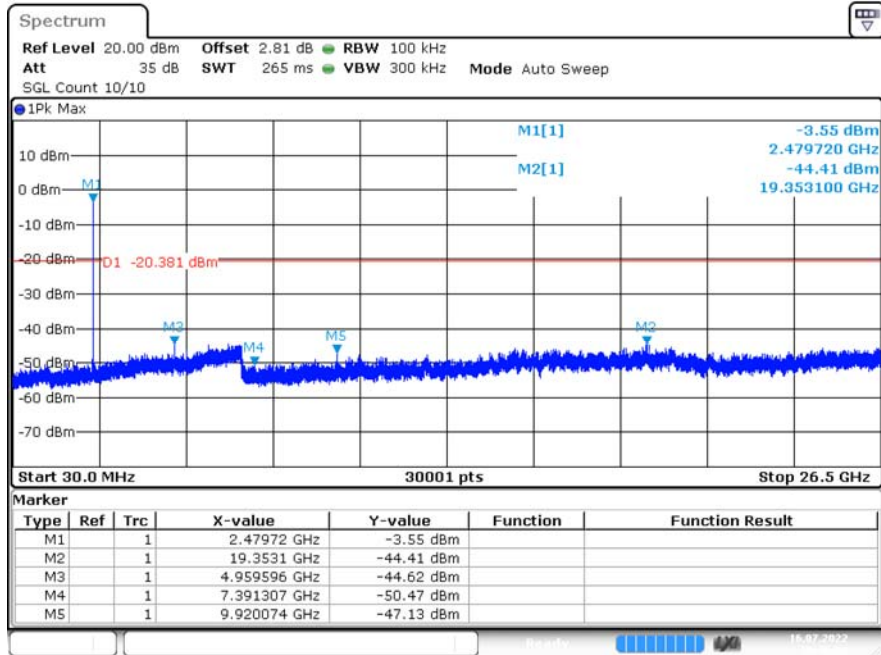


8DPSK_HCH_Graphs

Pref



Puw

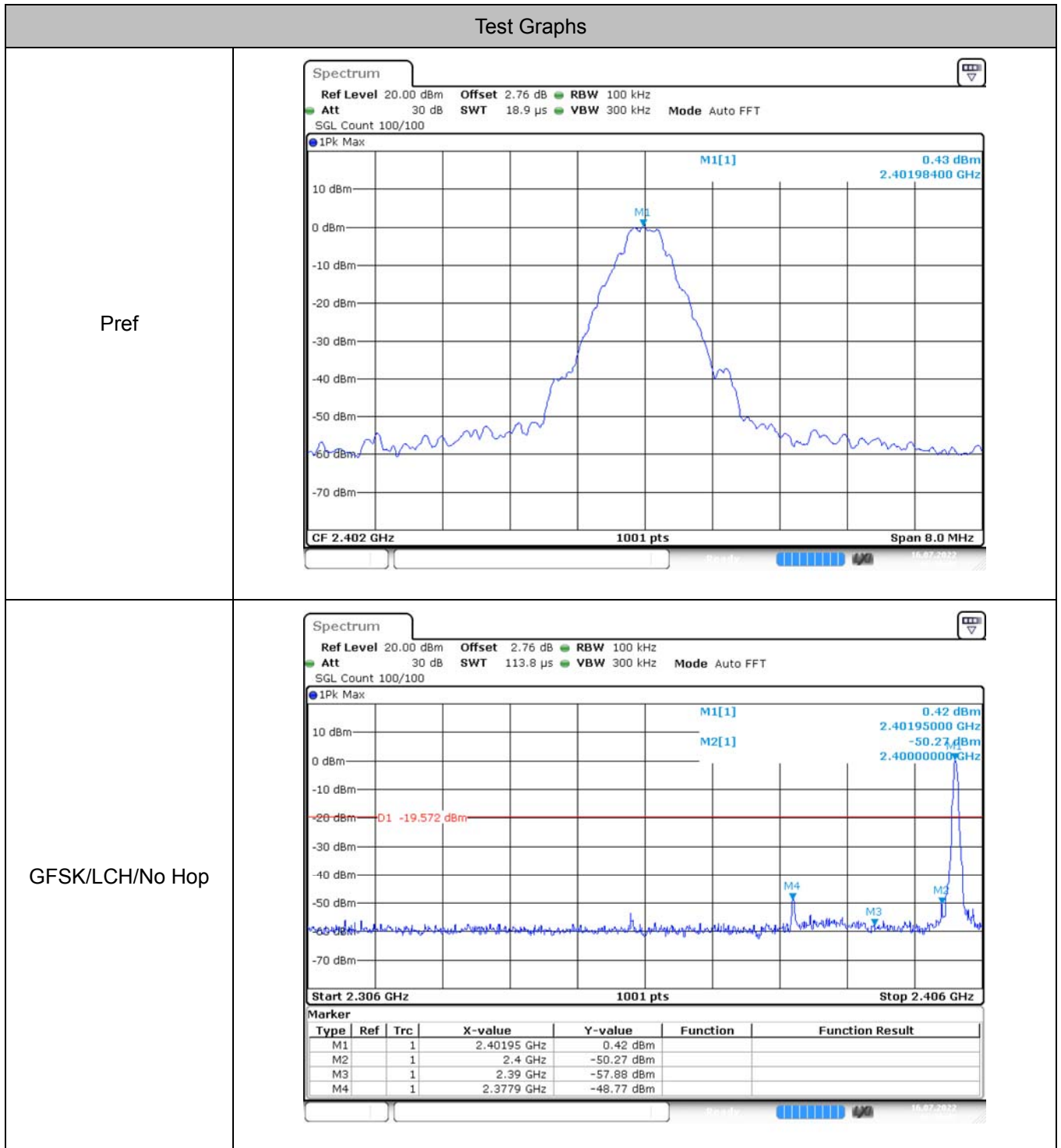


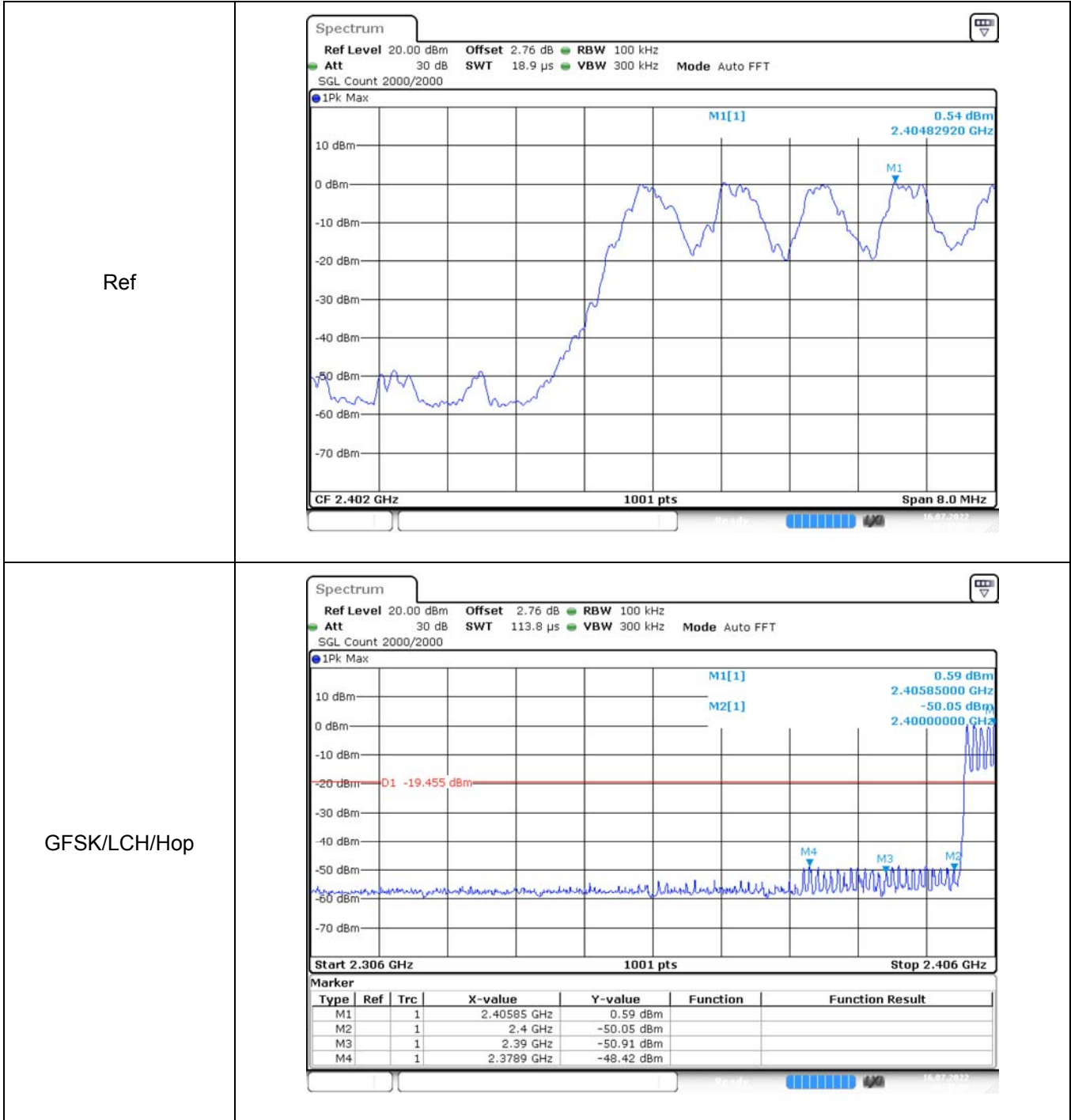
8 Band-edge for RF Conducted Emissions

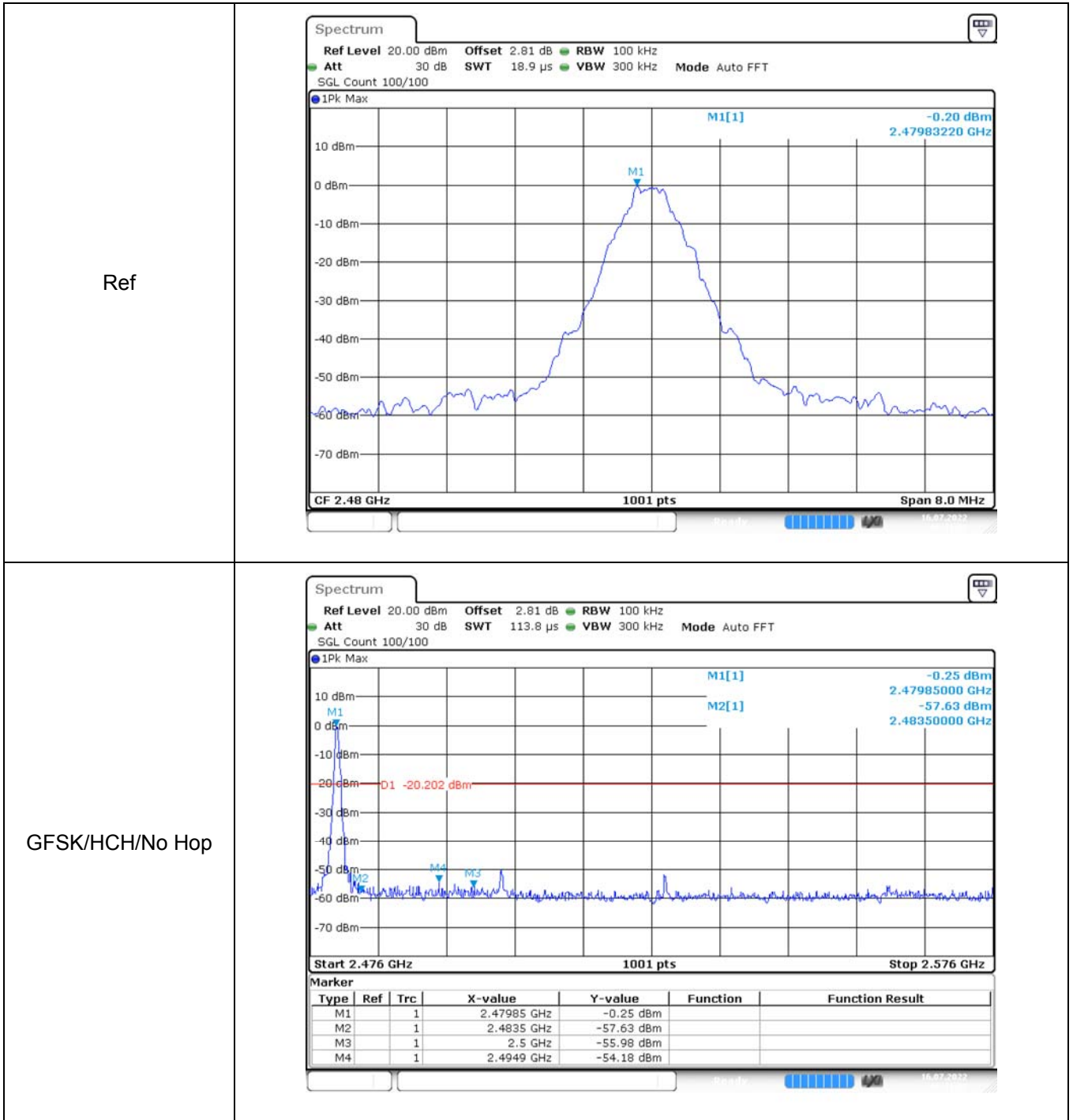
8.1 Test Result

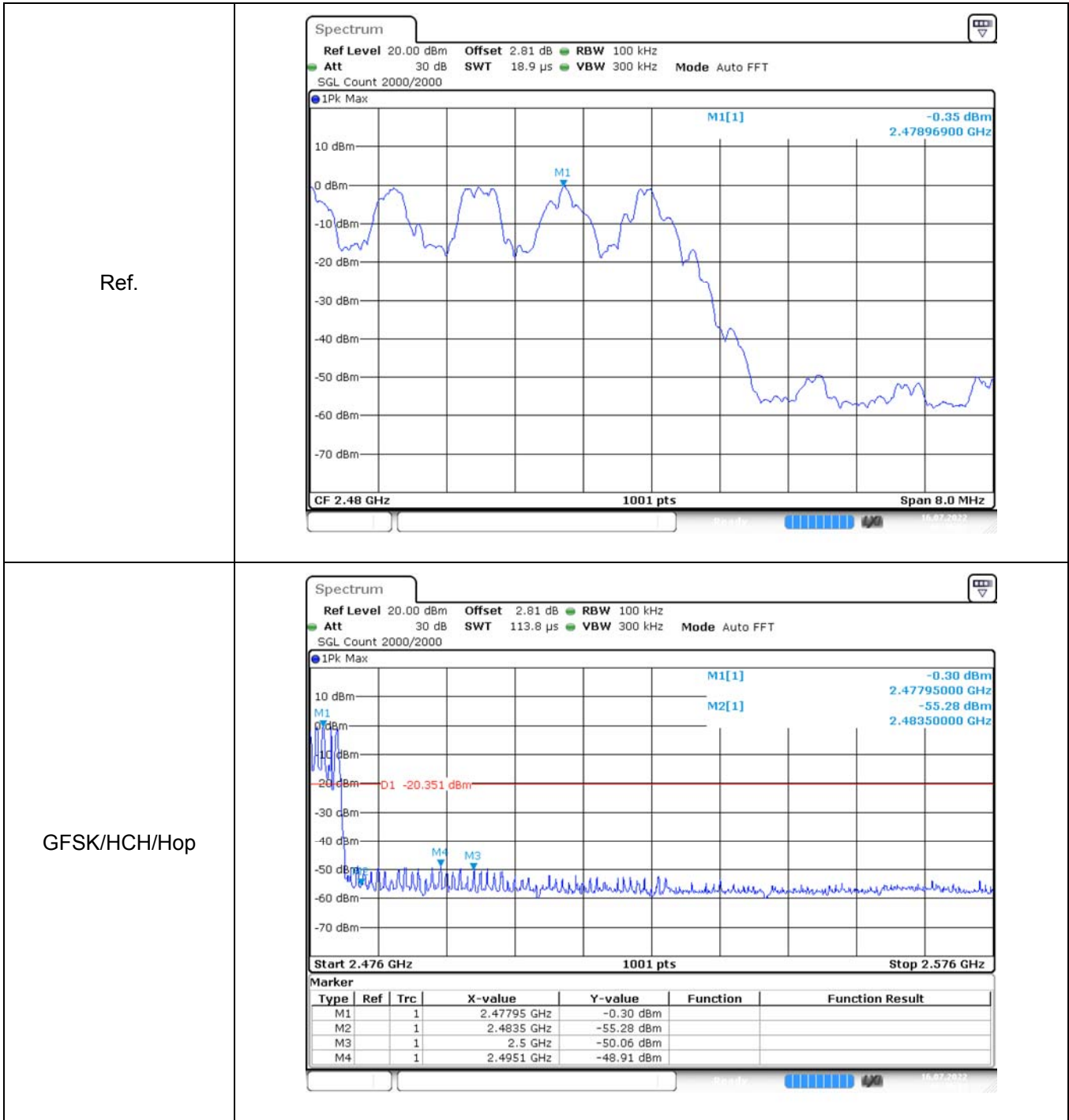
| Mode | Channel | Carrier Frequency [MHz] | Frequency Hopping | Max Spurious Level [dBc] | Limit [dBc] | Verdict |
|---------------|---------|-------------------------|-------------------|--------------------------|-------------|---------|
| GFSK | LCH | 2402 | Off | -49.2 | -20 | Pass |
| | | | On | -48.96 | -20 | Pass |
| | HCH | 2480 | Off | -53.98 | -20 | Pass |
| | | | On | -48.56 | -20 | Pass |
| $\pi/4$ DQPSK | LCH | 2402 | Off | -49.57 | -20 | Pass |
| | | | On | -48.89 | -20 | Pass |
| | HCH | 2480 | Off | -55.13 | -20 | Pass |
| | | | On | -48.58 | -20 | Pass |
| 8DPSK | LCH | 2402 | Off | -50.19 | -20 | Pass |
| | | | On | -50.16 | -20 | Pass |
| | HCH | 2480 | Off | -53.8 | -20 | Pass |
| | | | On | -47.92 | -20 | Pass |

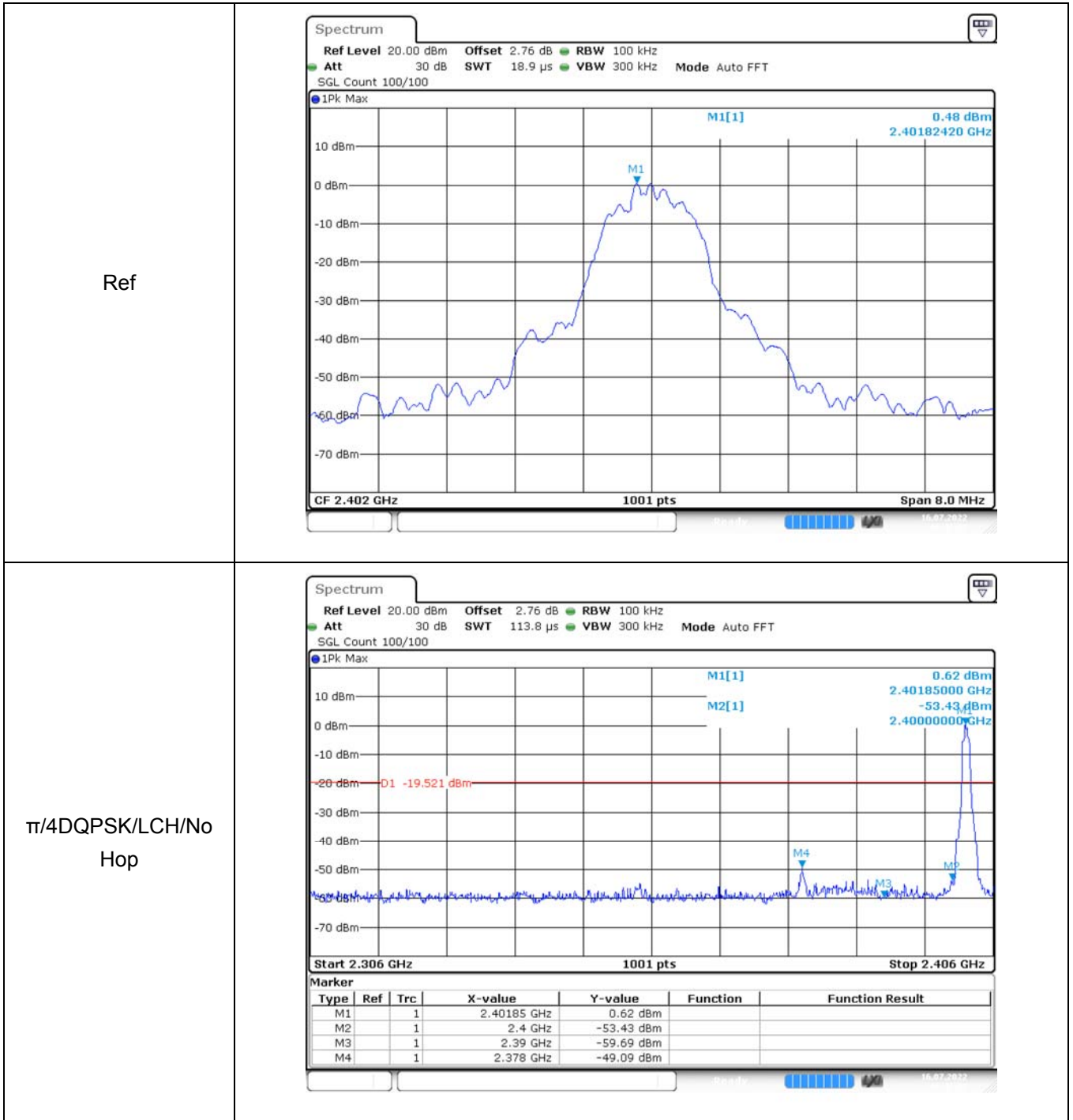
8.2 Test Graphs

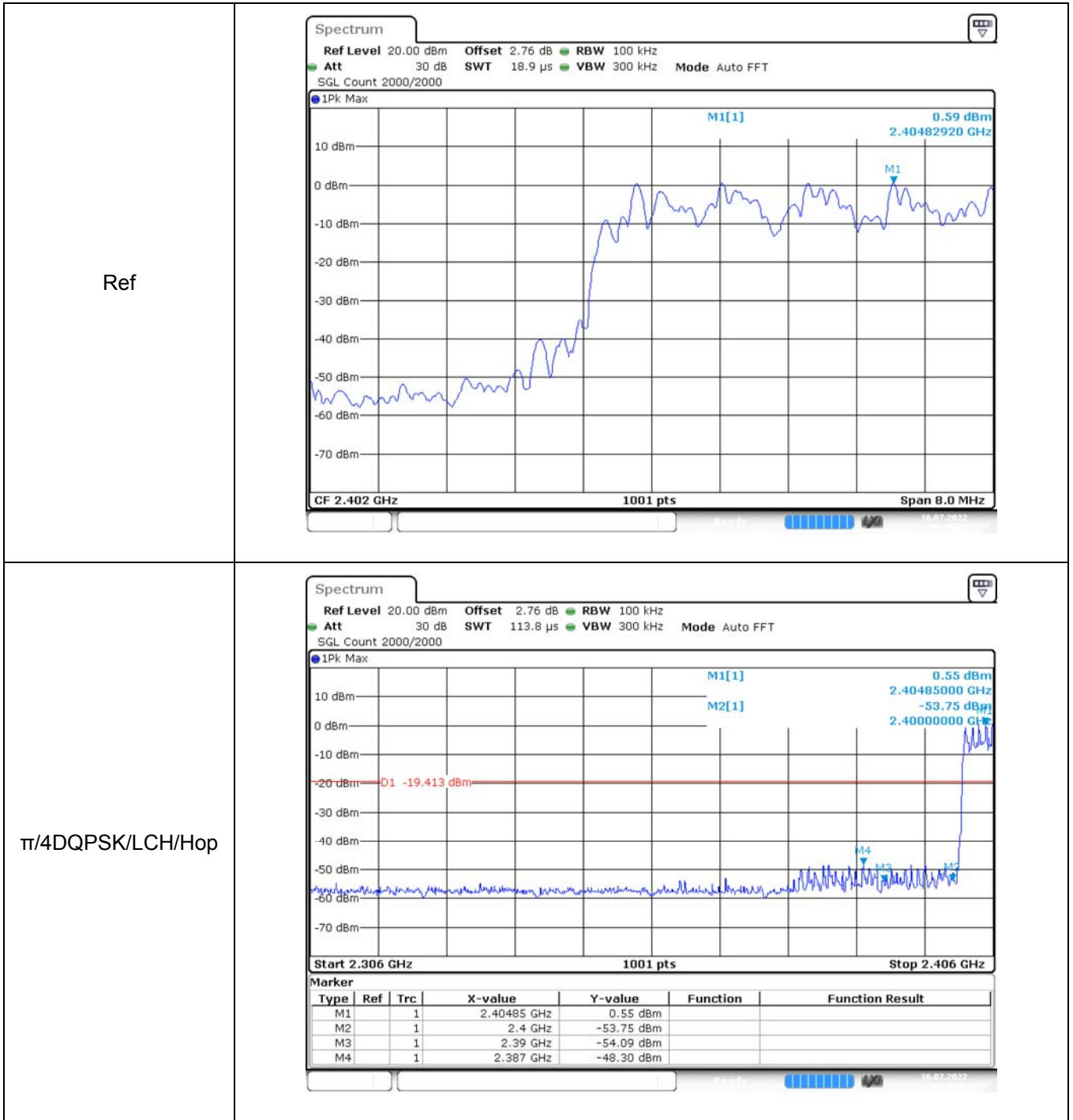


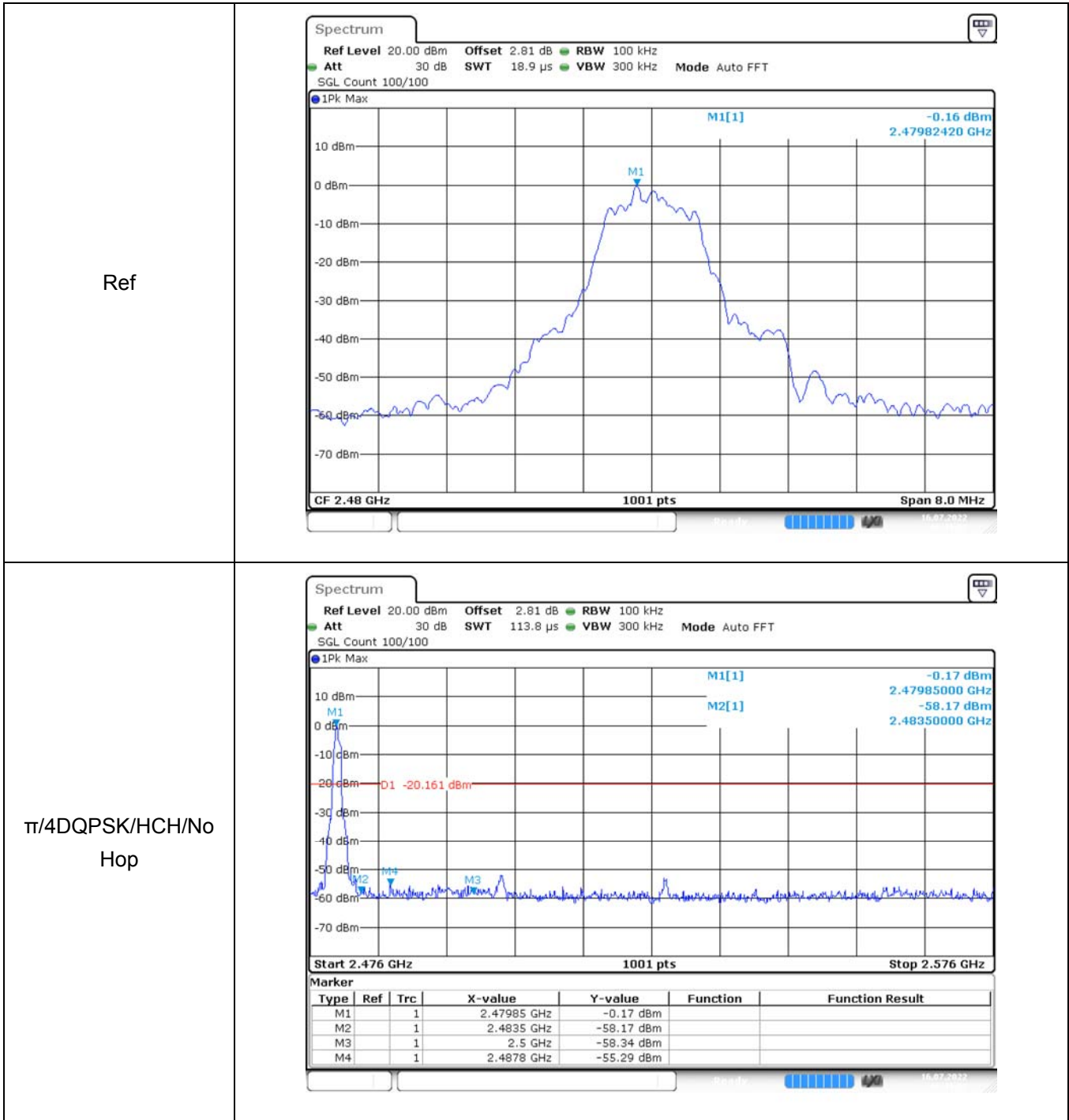


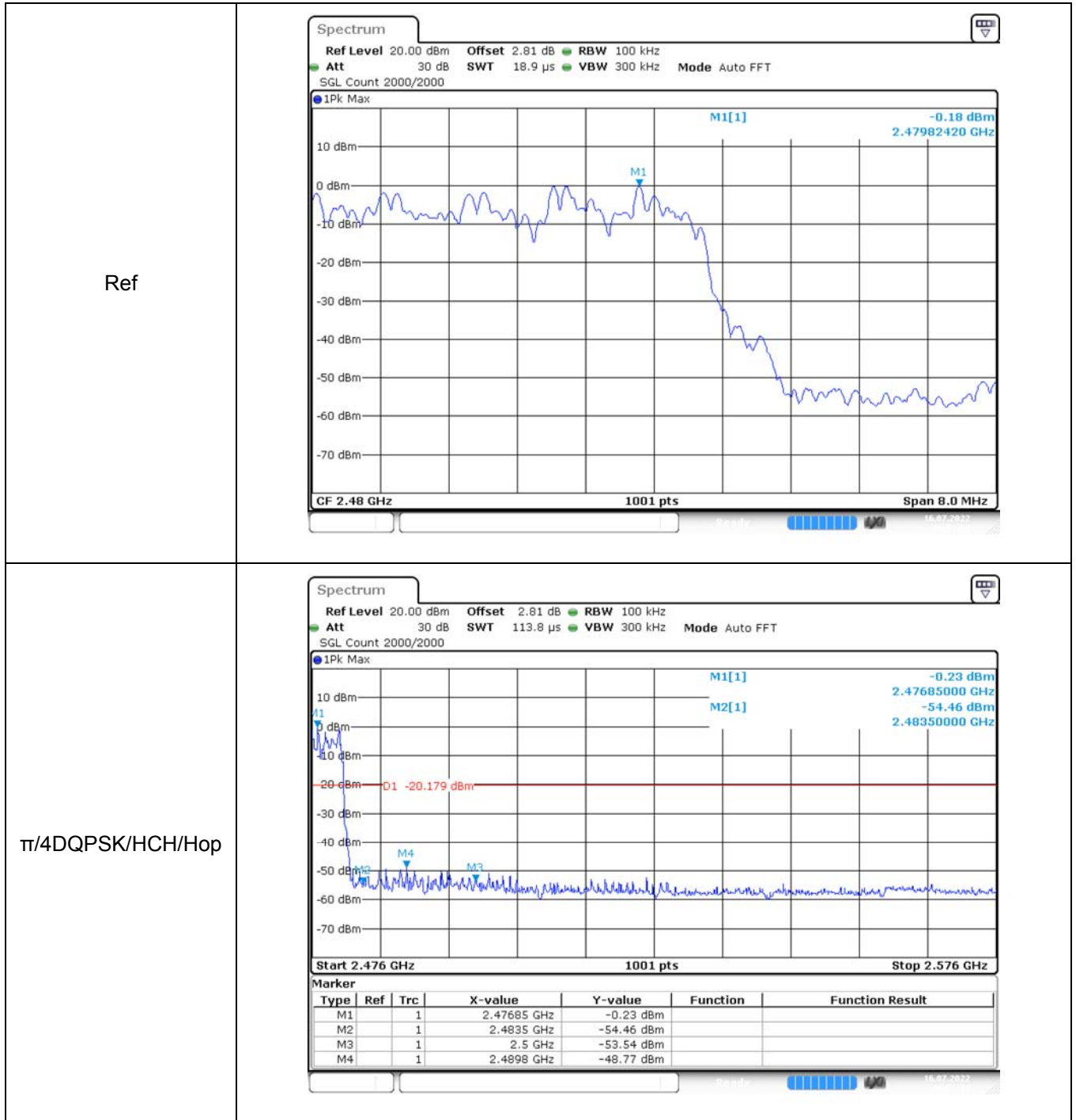


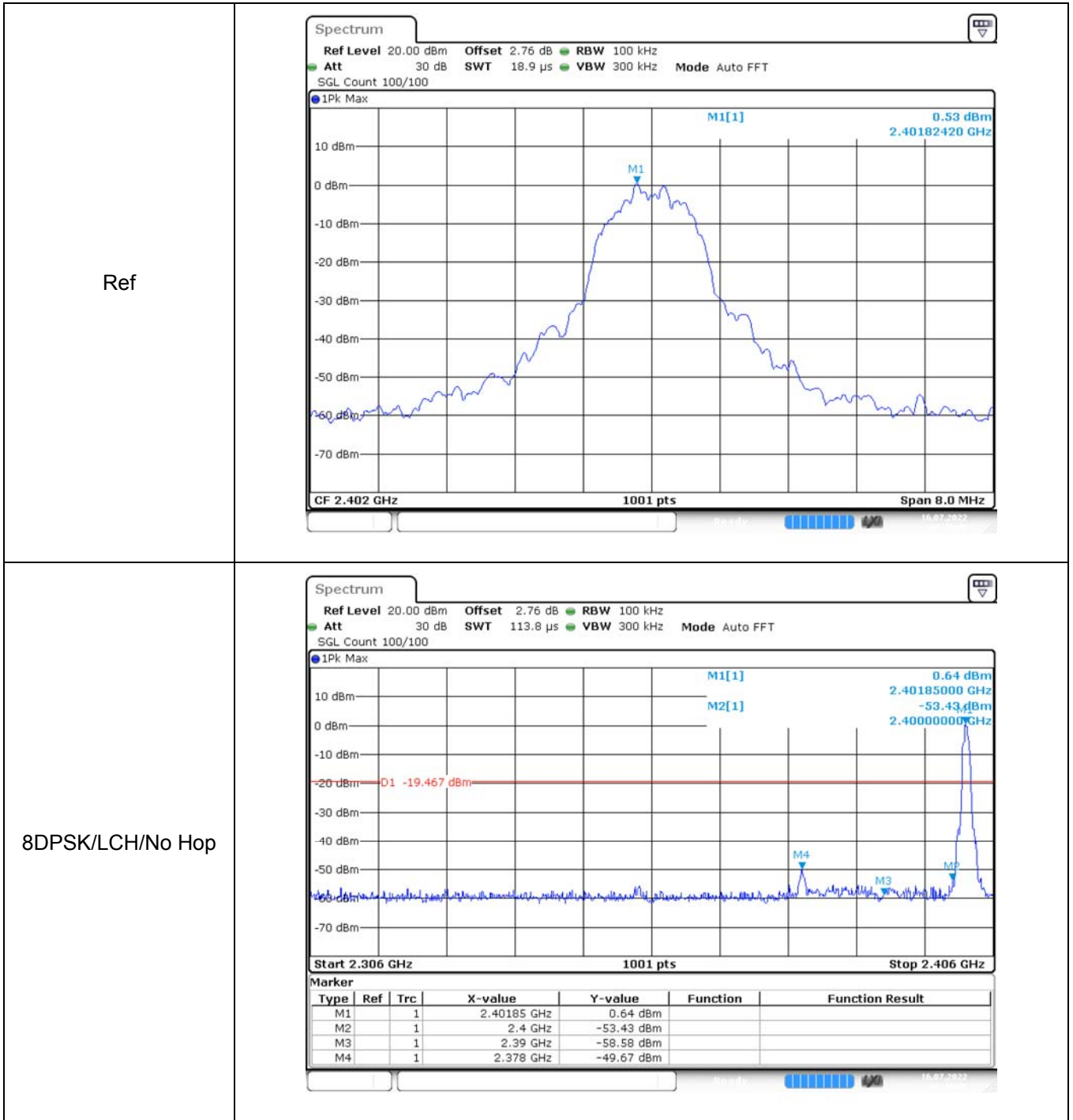


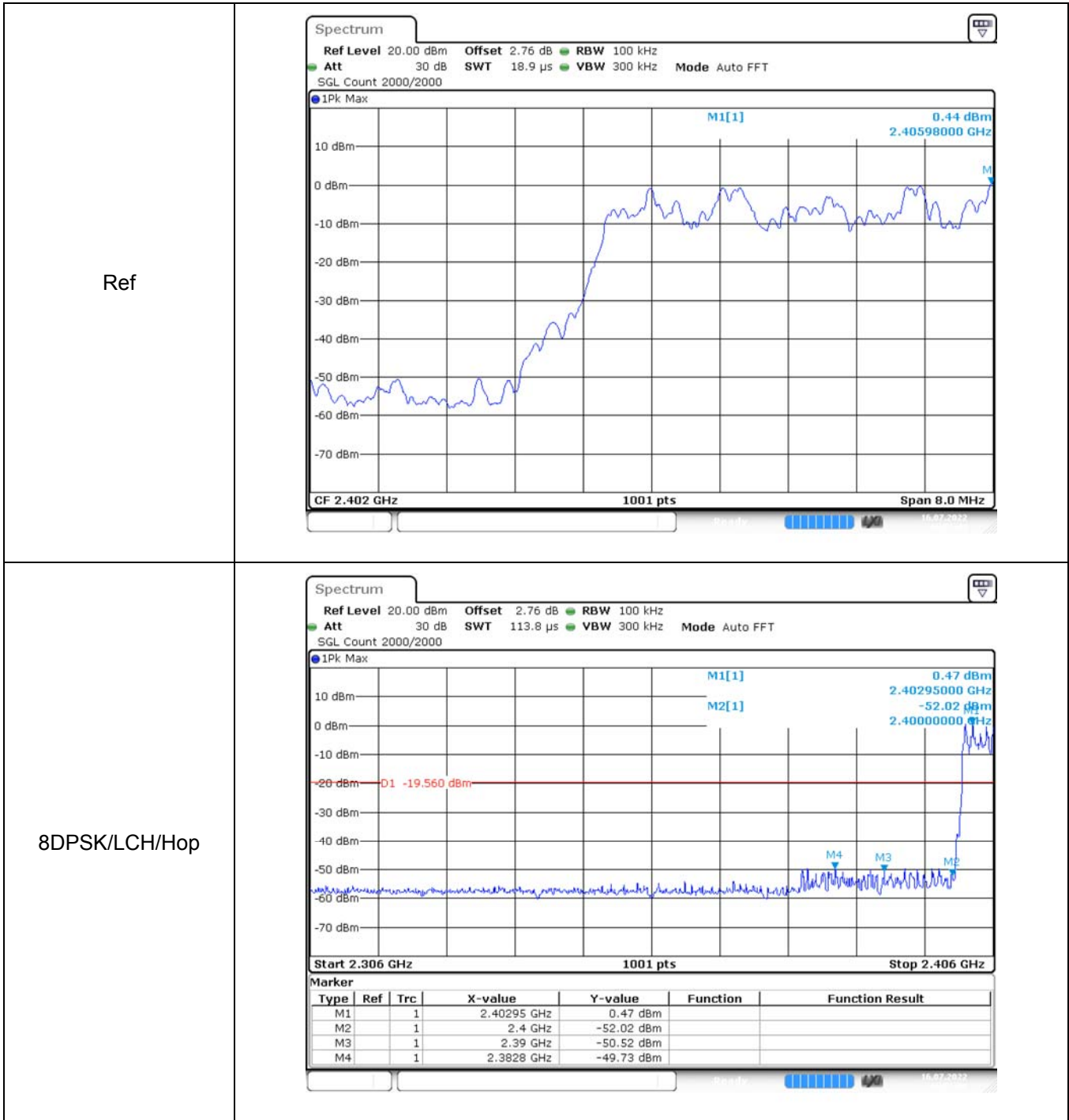


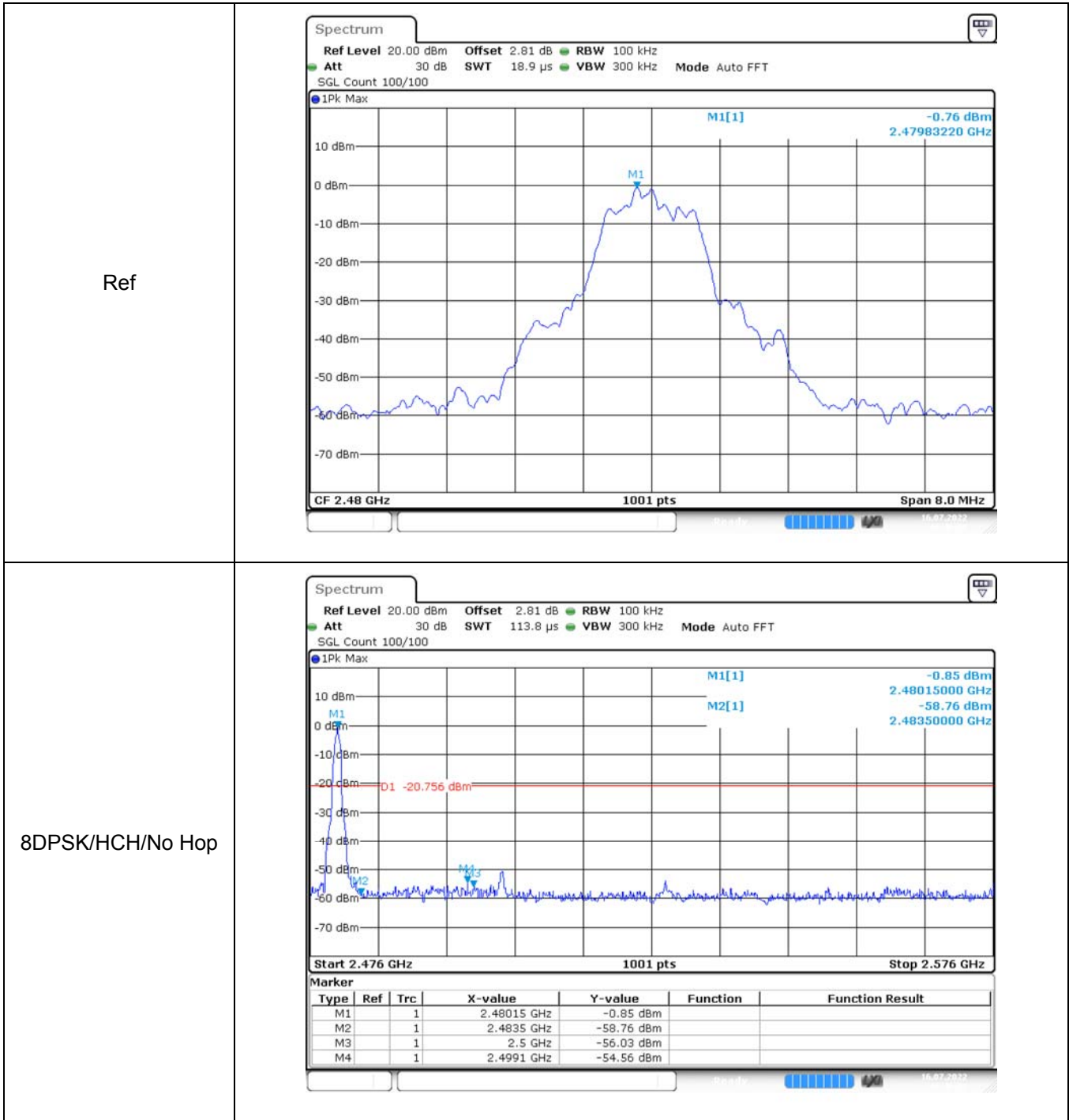


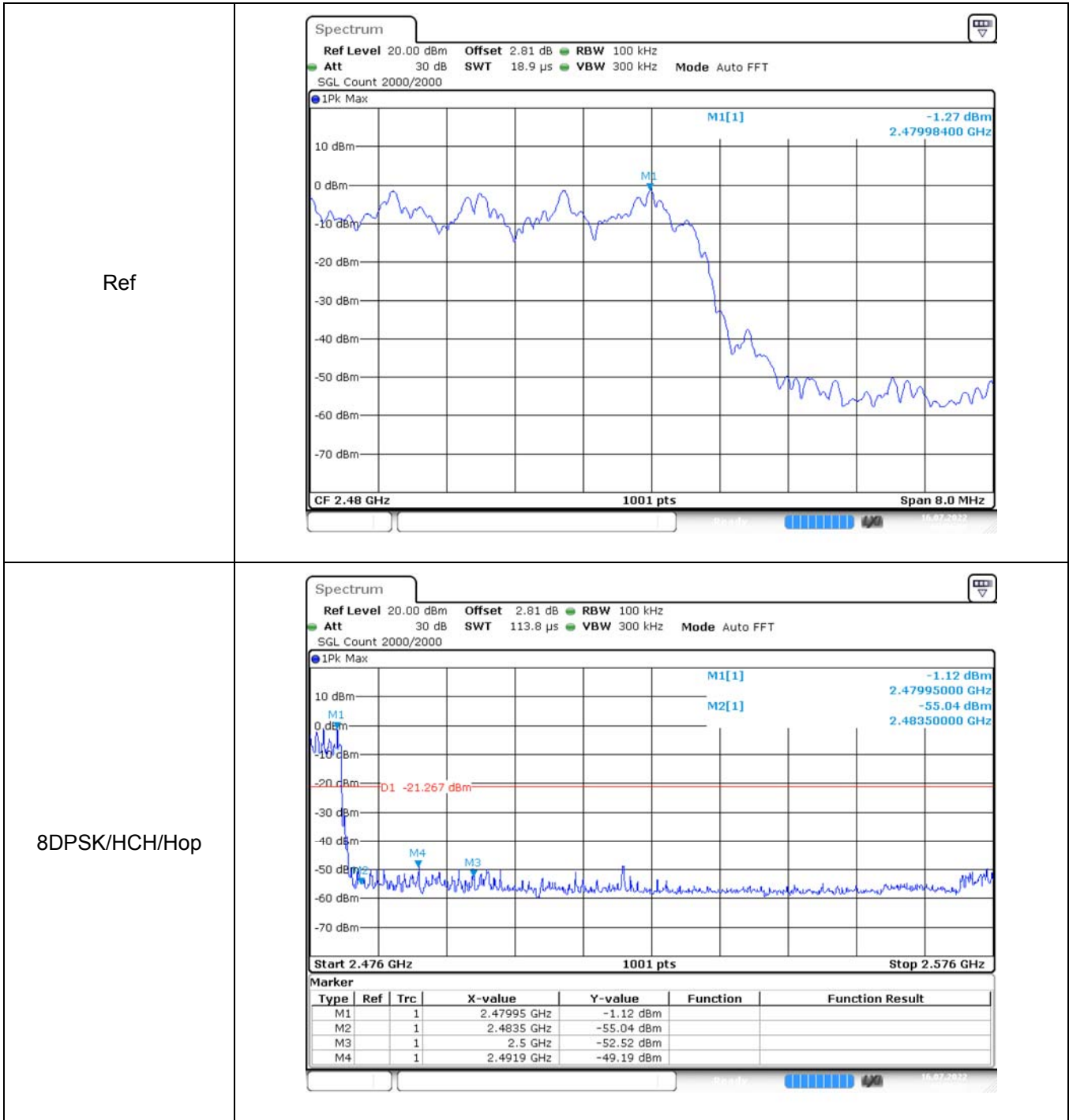












9 Restrict-band band-edge measurements

9.1 Test Result

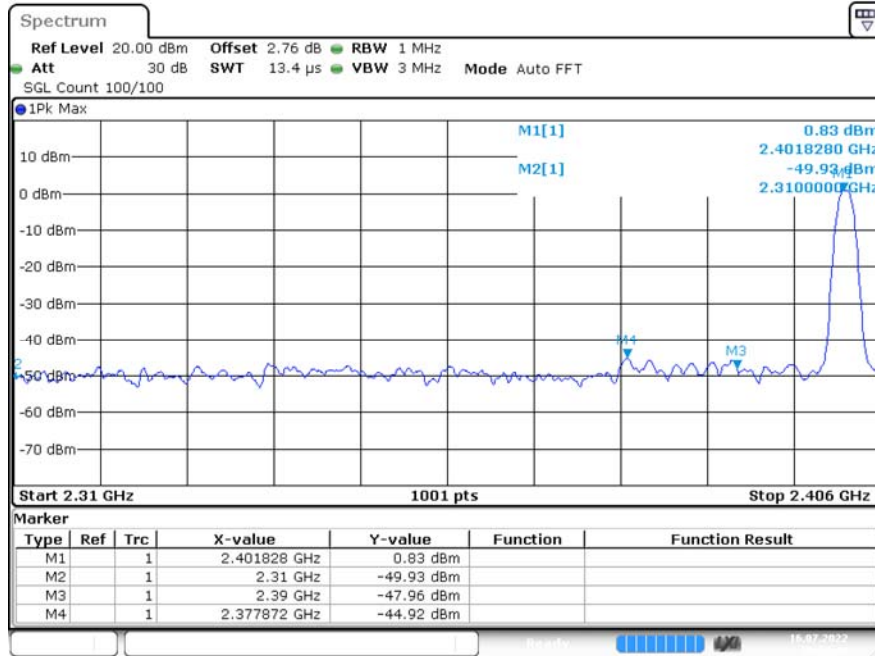
| Test Mode | Hopping | Freq. | Power [dBm] | Gain | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|----------|-------------|------|------------|----------|----------------|---------|
| GFSK | Off | 2310.0 | -49.93 | 2 | 47.33 | PEAK | 74 | Pass |
| | Off | 2310.0 | -57.96 | 2 | 39.3 | AV | 54 | Pass |
| | Off | 2377.872 | -44.91 | 2 | 52.35 | PEAK | 74 | Pass |
| | Off | 2377.968 | -49.26 | 2 | 48 | AV | 54 | Pass |
| | Off | 2390.0 | -47.95 | 2 | 49.31 | PEAK | 74 | Pass |
| | Off | 2390.0 | -56.49 | 2 | 40.77 | AV | 54 | Pass |
| | Off | 2483.5 | -49.6 | 2 | 47.66 | PEAK | 74 | Pass |
| | Off | 2483.5 | -55.95 | 2 | 41.31 | AV | 54 | Pass |
| | Off | 2499.28 | -43.66 | 2 | 53.6 | PEAK | 74 | Pass |
| | Off | 2496.808 | -55.4 | 2 | 41.86 | AV | 54 | Pass |
| | Off | 2500.0 | -45.85 | 2 | 51.41 | PEAK | 74 | Pass |
| | Off | 2500.0 | -55.73 | 2 | 41.53 | AV | 54 | Pass |
| $\pi/4$ DQPSK | Off | 2310.0 | -49.35 | 2 | 47.91 | PEAK | 74 | Pass |
| | Off | 2310.0 | -58.15 | 2 | 39.11 | AV | 54 | Pass |
| | Off | 2387.184 | -44.63 | 2 | 52.63 | PEAK | 74 | Pass |
| | Off | 2377.872 | -49.24 | 2 | 48.02 | AV | 54 | Pass |
| | Off | 2390.0 | -48.51 | 2 | 48.75 | PEAK | 74 | Pass |
| | Off | 2390.0 | -56.04 | 2 | 41.22 | AV | 54 | Pass |
| | Off | 2483.5 | -49.33 | 2 | 47.93 | PEAK | 74 | Pass |
| | Off | 2483.5 | -56.33 | 2 | 40.93 | AV | 54 | Pass |
| | Off | 2496.928 | -45.23 | 2 | 52.03 | PEAK | 74 | Pass |
| | Off | 2499.832 | -55.45 | 2 | 41.81 | AV | 54 | Pass |
| | Off | 2500.0 | -48.84 | 2 | 48.42 | PEAK | 74 | Pass |
| | Off | 2500.0 | -55.6 | 2 | 41.66 | AV | 54 | Pass |
| 8DPSK | Off | 2310.0 | -49.28 | 2 | 47.98 | PEAK | 74 | Pass |
| | Off | 2310.0 | -58.34 | 2 | 38.92 | AV | 54 | Pass |
| | Off | 2377.872 | -44.6 | 2 | 52.66 | PEAK | 74 | Pass |
| | Off | 2377.872 | -49.63 | 2 | 47.63 | AV | 54 | Pass |



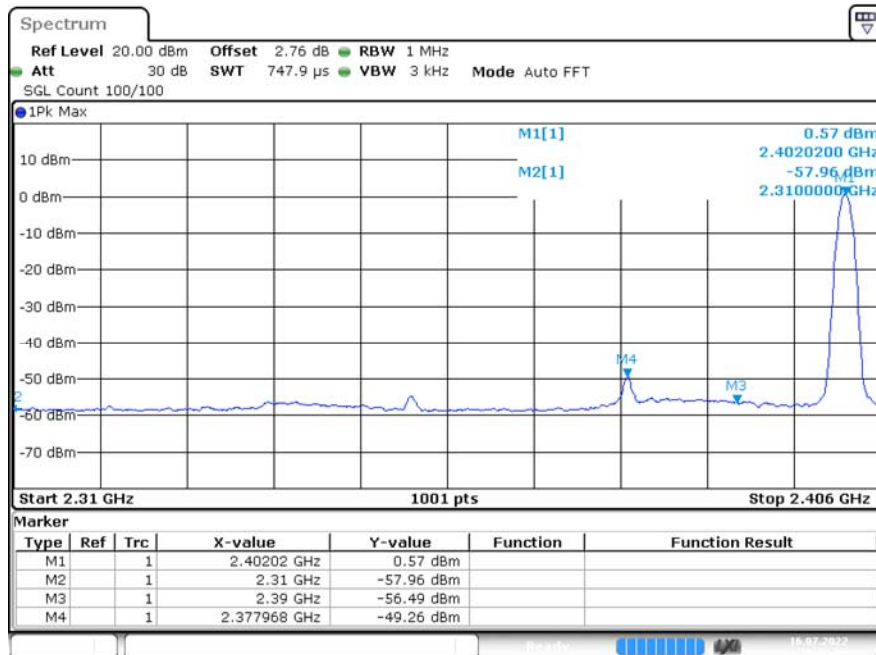
| | | | | | | | |
|-----|----------|--------|---|-------|------|----|------|
| Off | 2390.0 | -47.18 | 2 | 50.08 | PEAK | 74 | Pass |
| Off | 2390.0 | -55.67 | 2 | 41.59 | AV | 54 | Pass |
| Off | 2483.5 | -50.65 | 2 | 46.61 | PEAK | 74 | Pass |
| Off | 2483.5 | -56.66 | 2 | 40.6 | AV | 54 | Pass |
| Off | 2492.152 | -46.06 | 2 | 51.2 | PEAK | 74 | Pass |
| Off | 2496.832 | -55.55 | 2 | 41.71 | AV | 54 | Pass |
| Off | 2500.0 | -49.89 | 2 | 47.37 | PEAK | 74 | Pass |
| Off | 2500.0 | -55.81 | 2 | 41.45 | AV | 54 | Pass |

9.2 Test Graphs

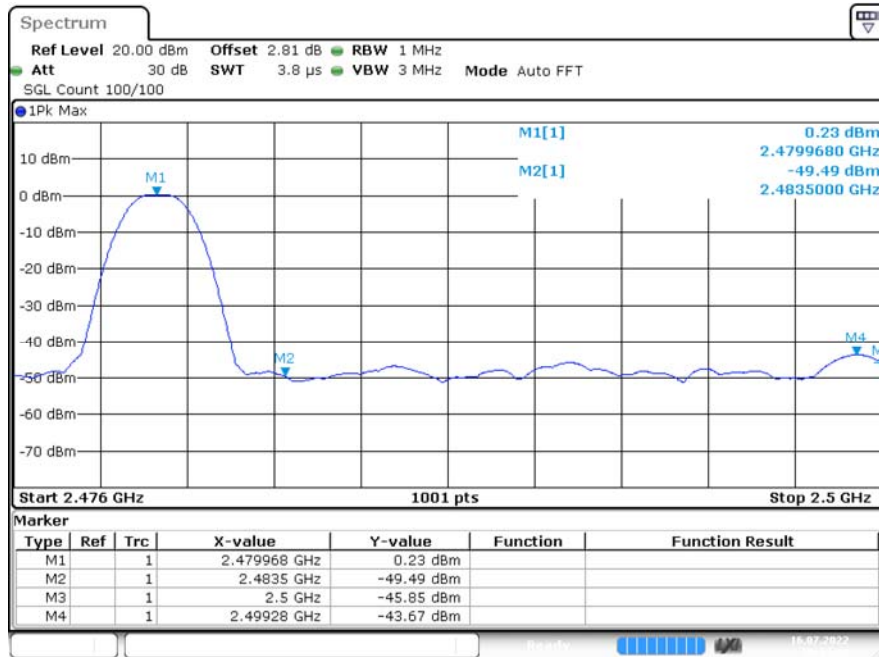
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



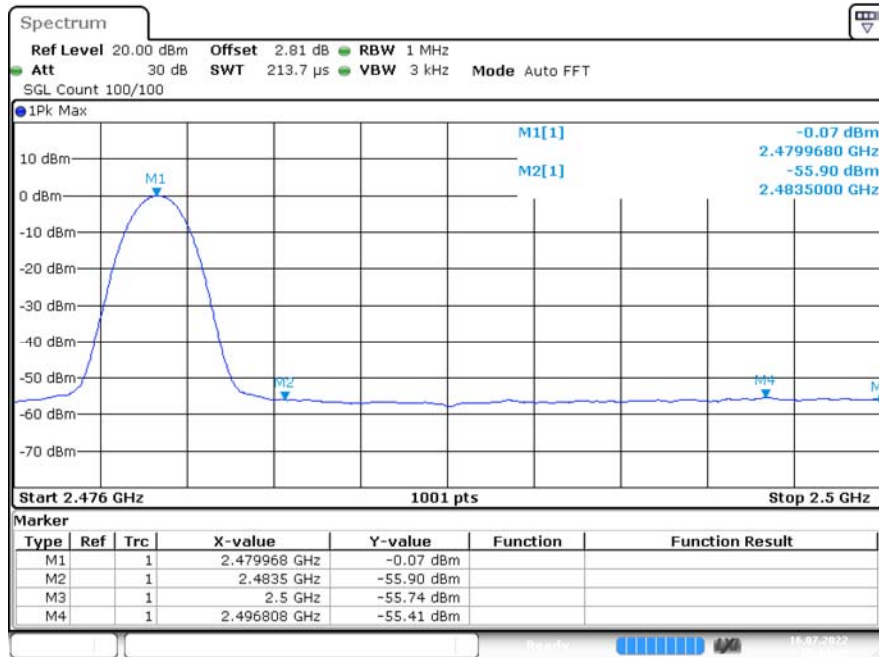
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)



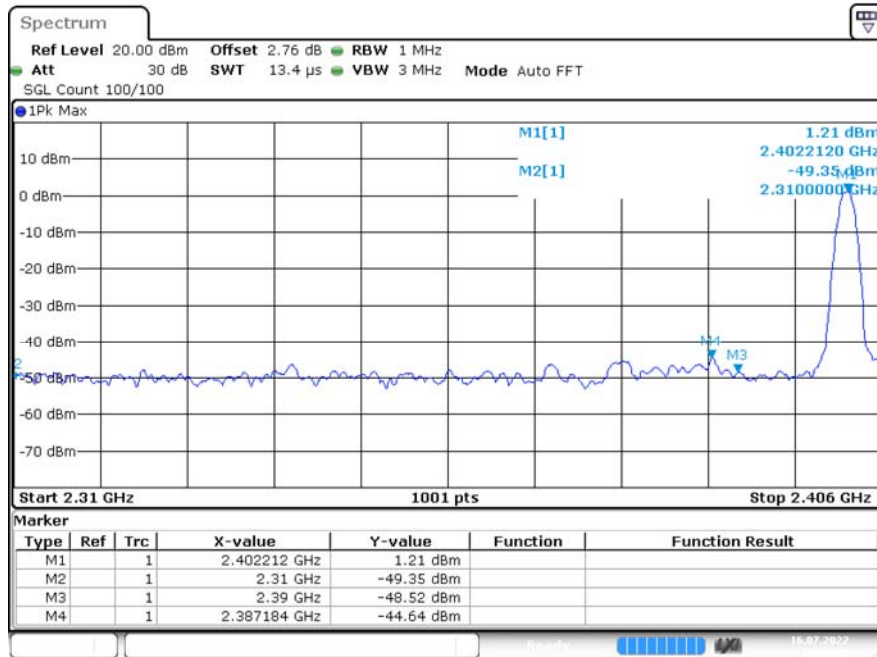
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



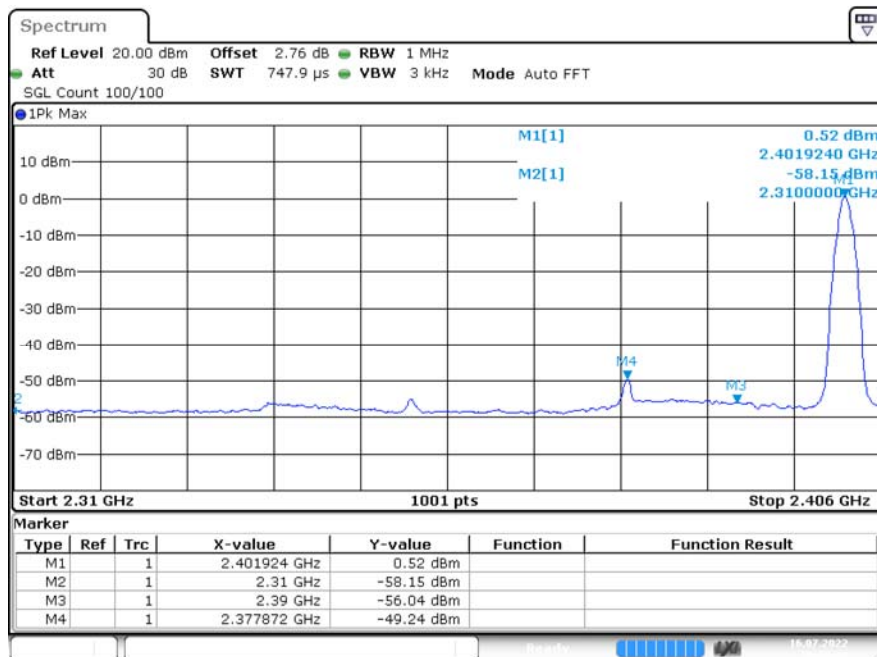
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



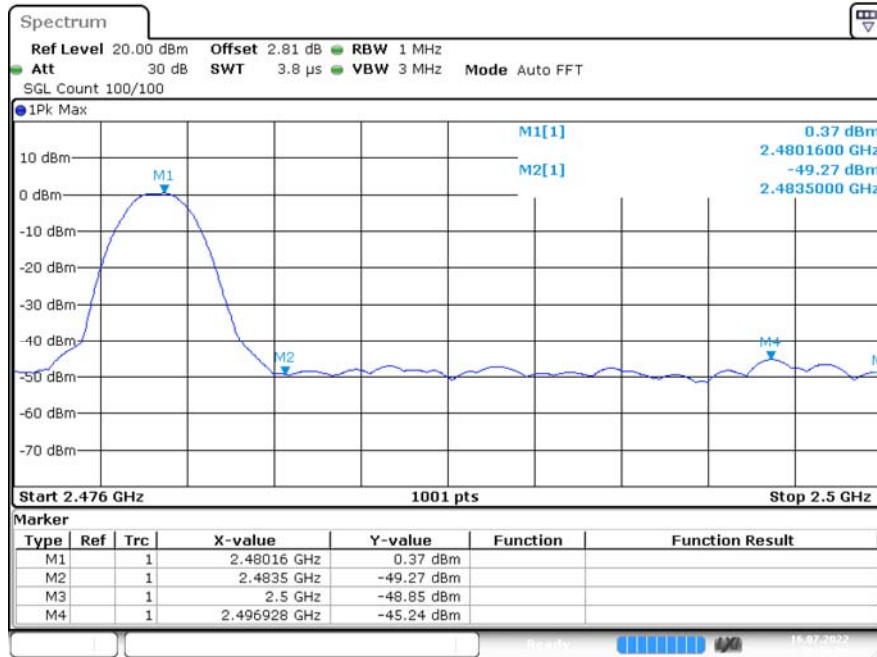
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



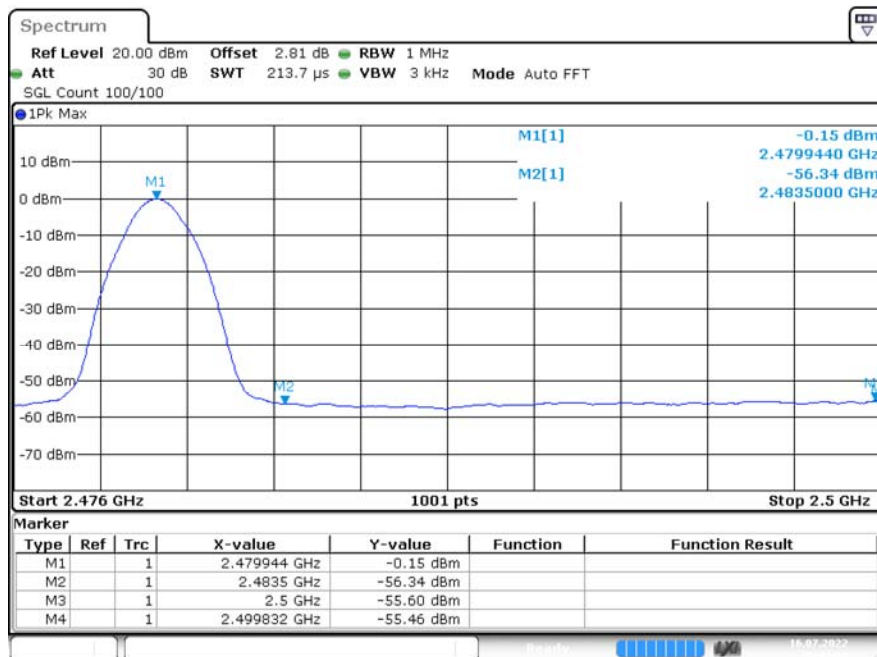
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



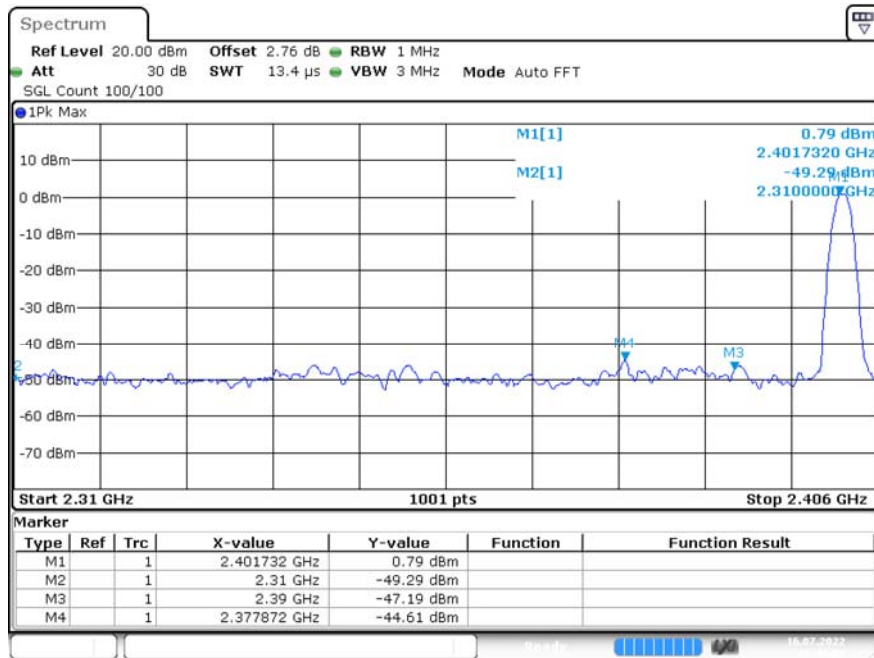
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



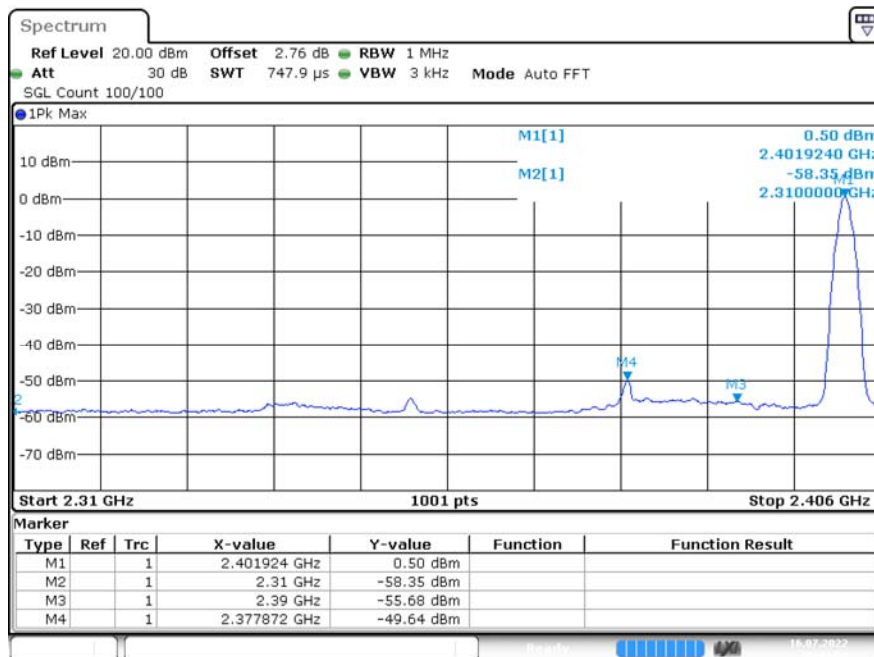
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)



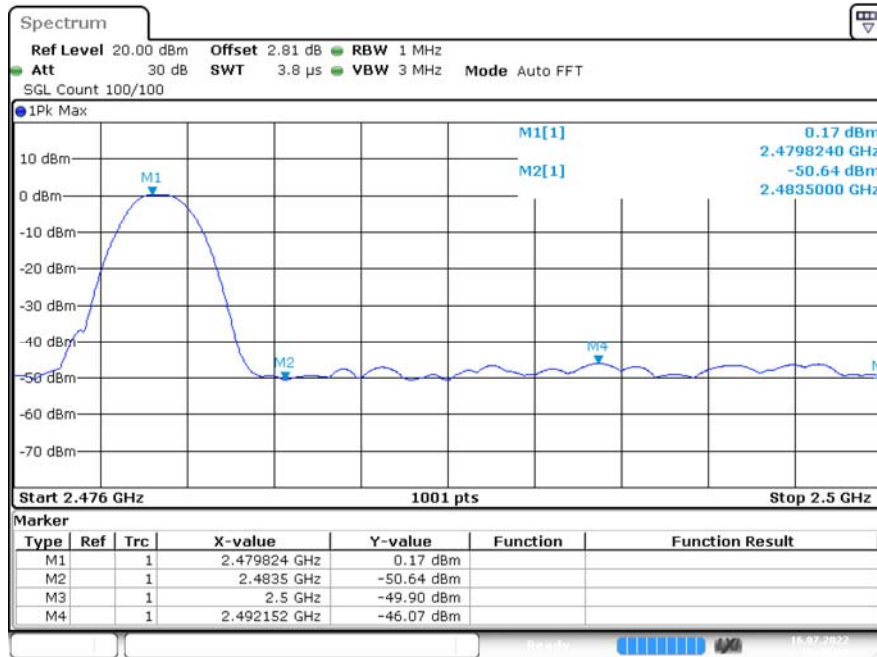
Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (Low Channel)



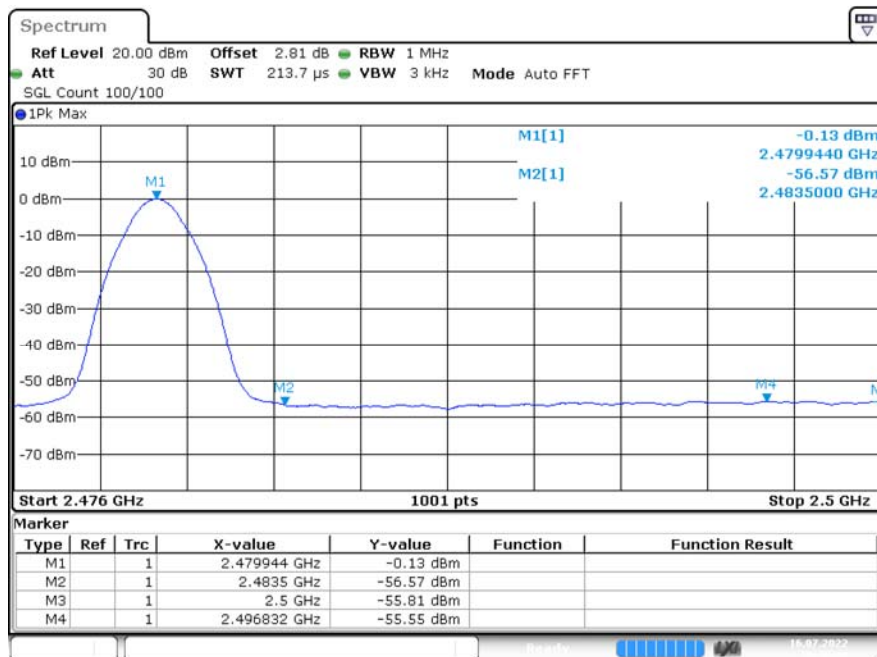
Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (Low Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_PEAK (High Channel)



Restrict-band band-edge measurements_Hopping Off_8DPSK_Average (High Channel)



---The End---