

1. Bandwidth

1.1 Test Result

1.1.1 OBW

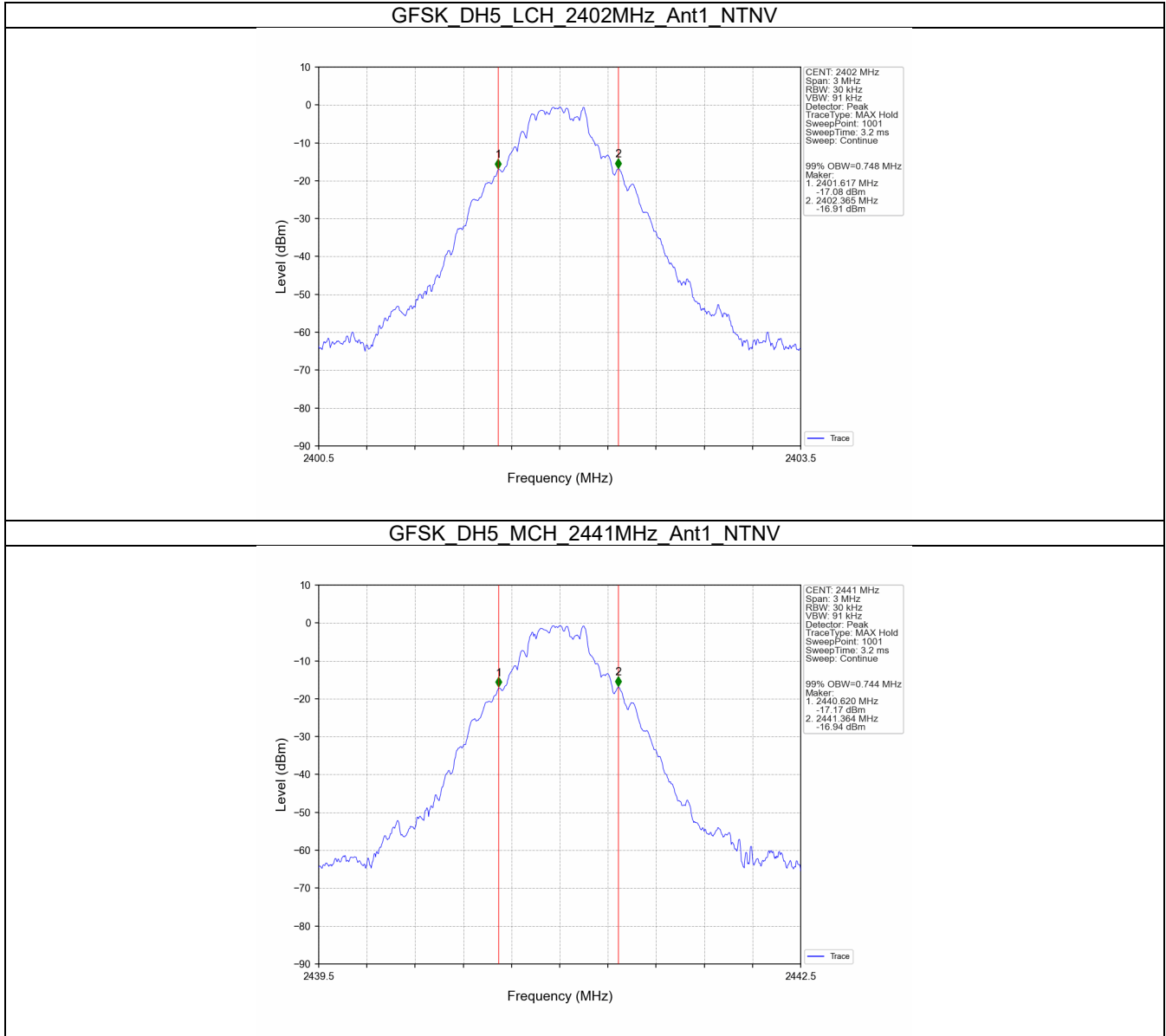
| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) | | Verdict |
|-----------|---------|-----------------|-------------|-----|------------------------------|-------|---------|
| | | | | | Result | Limit | |
| GFSK | SISO | 2402 | DH5 | 1 | 0.748 | / | Pass |
| | | 2441 | DH5 | 1 | 0.744 | / | Pass |
| | | 2480 | DH5 | 1 | 0.743 | / | Pass |
| Pi/4DQPSK | SISO | 2402 | 2DH5 | 1 | 1.177 | / | Pass |
| | | 2441 | 2DH5 | 1 | 1.175 | / | Pass |
| | | 2480 | 2DH5 | 1 | 1.171 | / | Pass |
| 8DPSK | SISO | 2402 | 3DH5 | 1 | 1.186 | / | Pass |
| | | 2441 | 3DH5 | 1 | 1.184 | / | Pass |
| | | 2480 | 3DH5 | 1 | 1.185 | / | Pass |

1.1.2 20dB BW

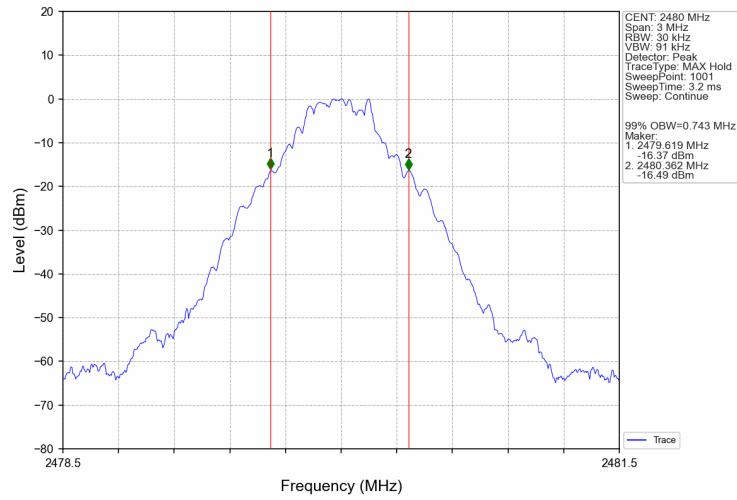
| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) | | Verdict |
|-----------|---------|-----------------|-------------|-----|----------------------|-------|---------|
| | | | | | Result | Limit | |
| GFSK | SISO | 2402 | DH5 | 1 | 0.848 | / | Pass |
| | | 2441 | DH5 | 1 | 0.843 | / | Pass |
| | | 2480 | DH5 | 1 | 0.848 | / | Pass |
| Pi/4DQPSK | SISO | 2402 | 2DH5 | 1 | 1.329 | / | Pass |
| | | 2441 | 2DH5 | 1 | 1.331 | / | Pass |
| | | 2480 | 2DH5 | 1 | 1.327 | / | Pass |
| 8DPSK | SISO | 2402 | 3DH5 | 1 | 1.311 | / | Pass |
| | | 2441 | 3DH5 | 1 | 1.316 | / | Pass |
| | | 2480 | 3DH5 | 1 | 1.316 | / | Pass |

1.2 Test Graph

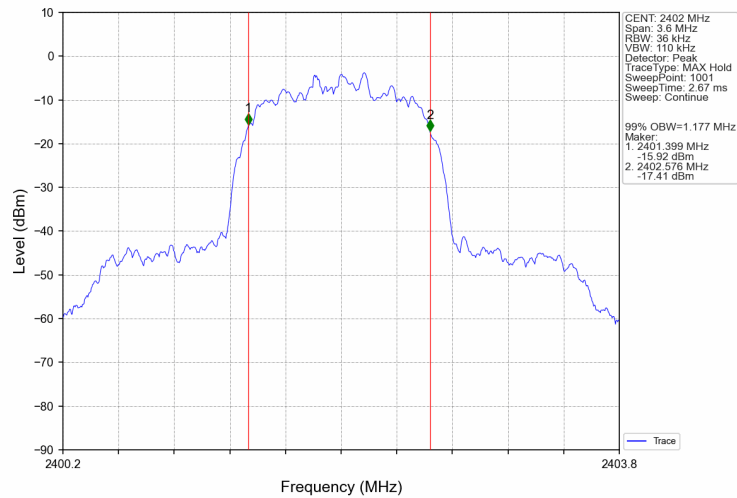
1.2.1 OBW



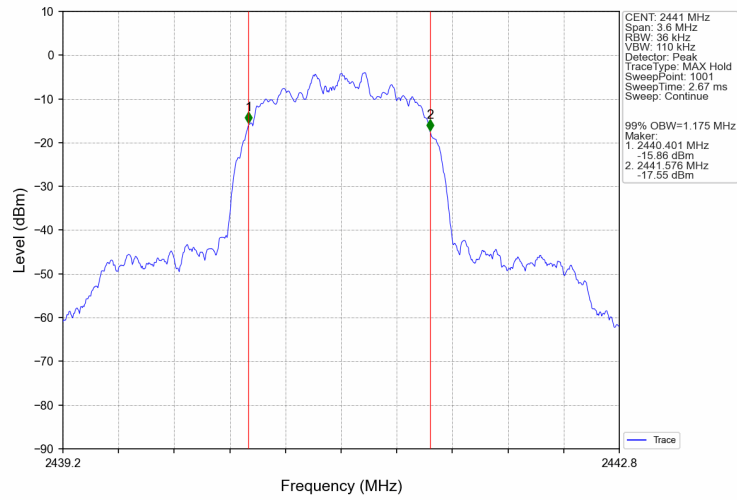
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



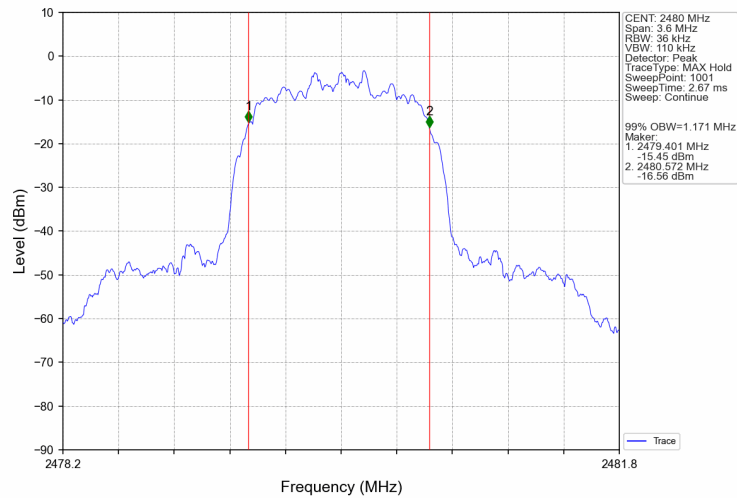
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



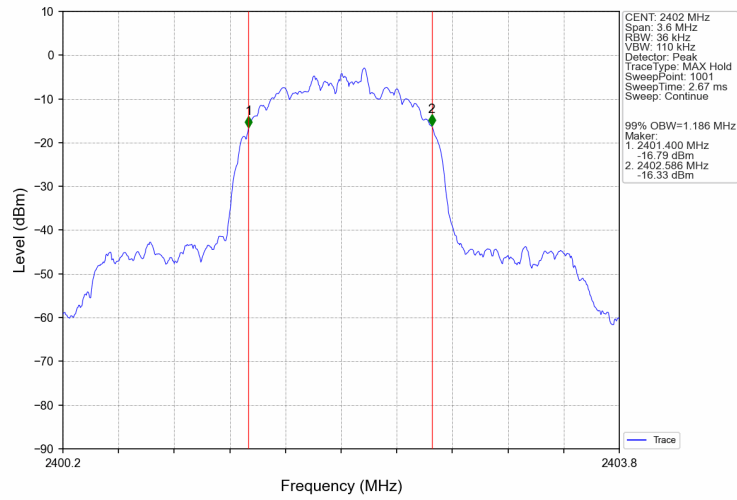
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



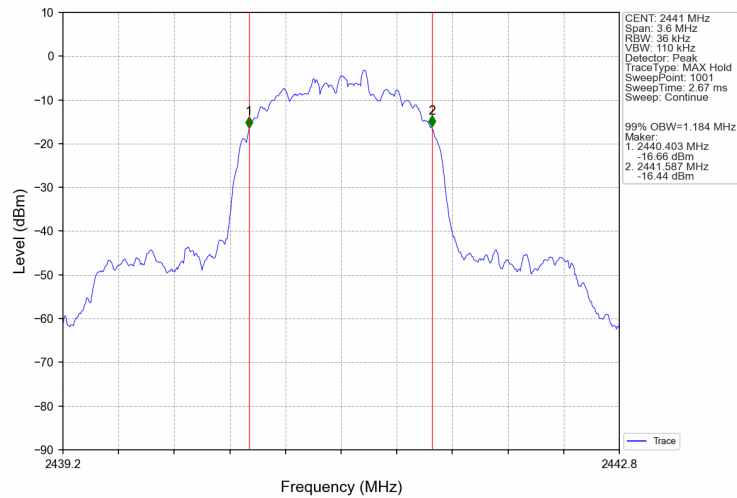
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



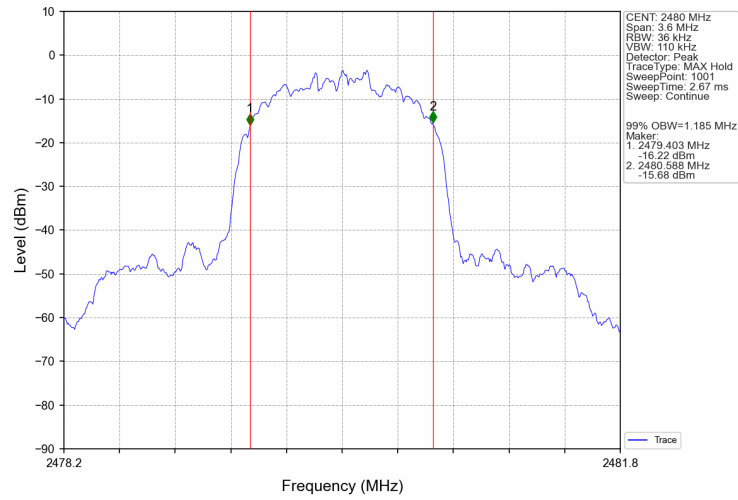
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



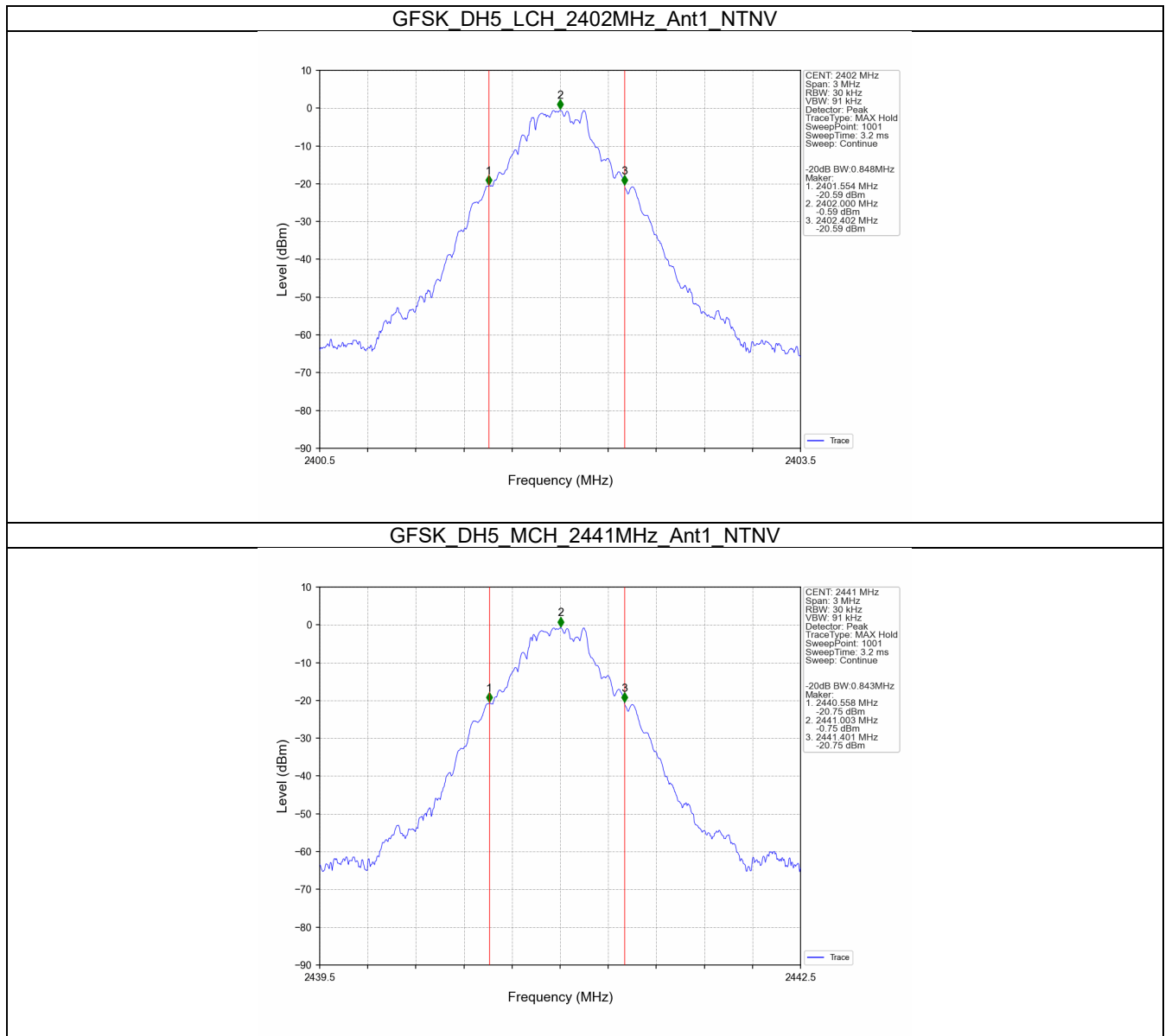
8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



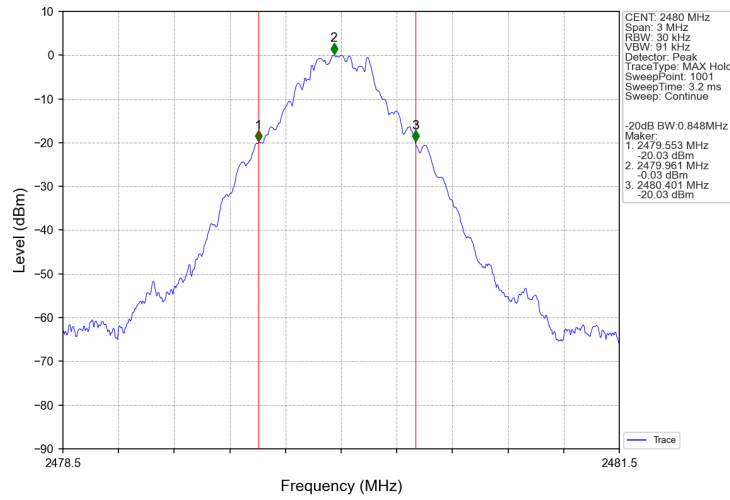
8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



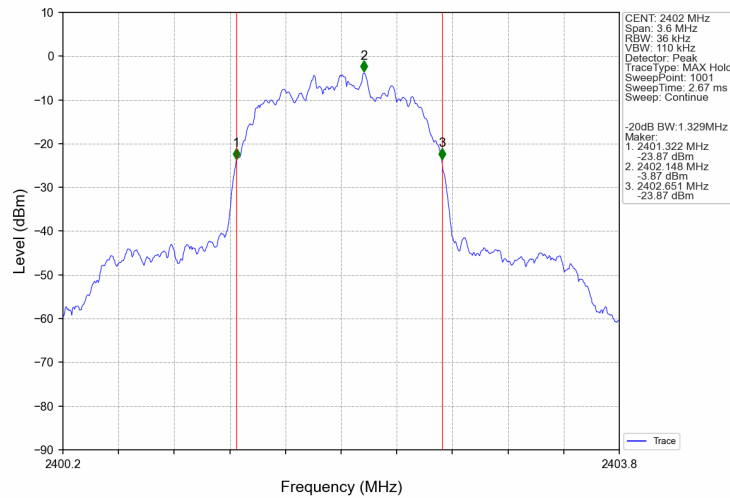
1.2.2 20dB BW



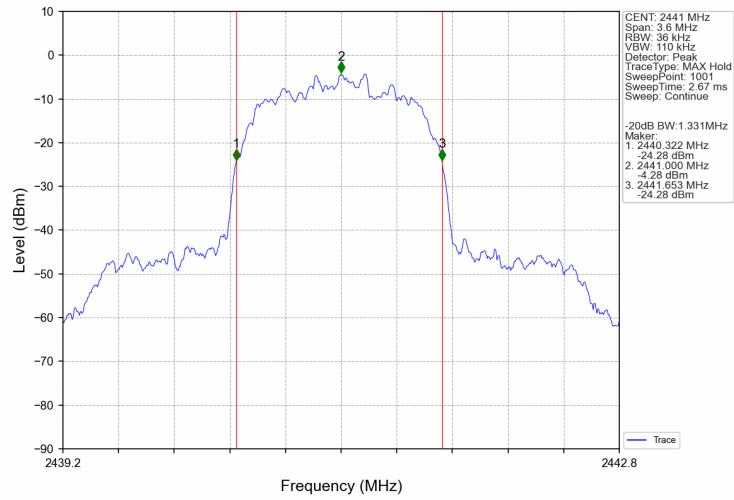
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



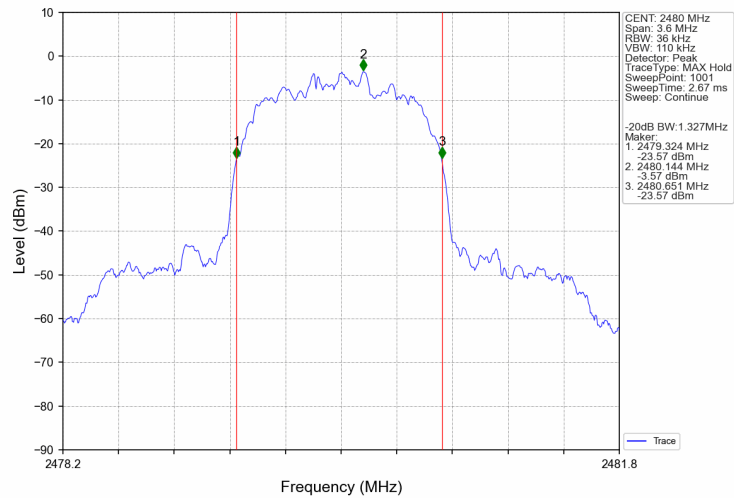
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



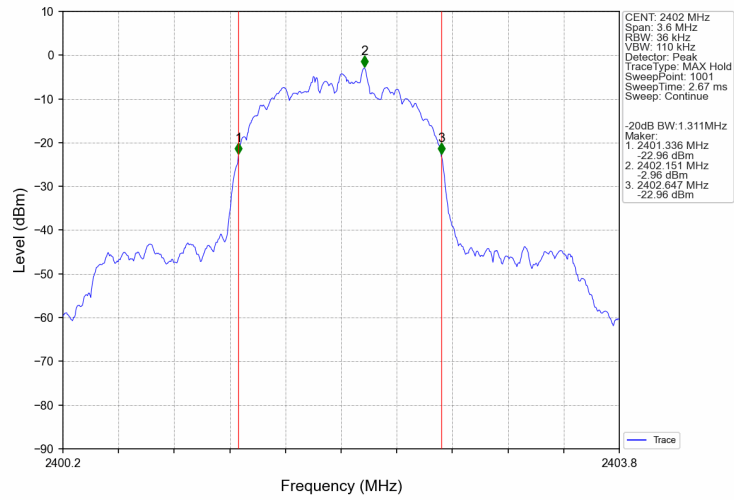
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



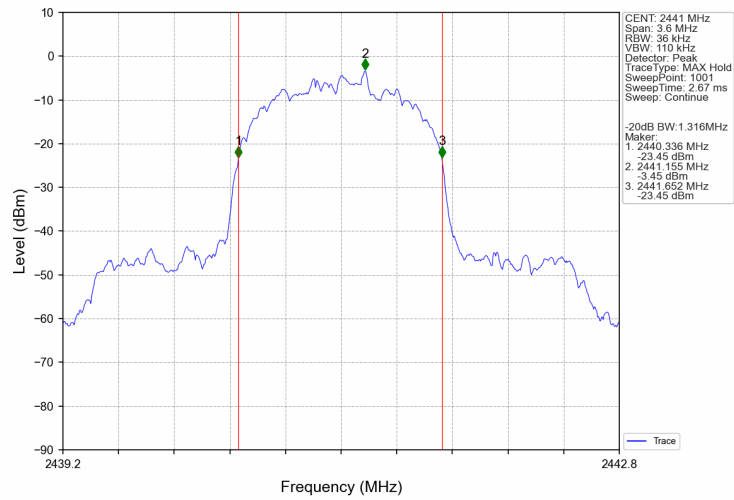
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



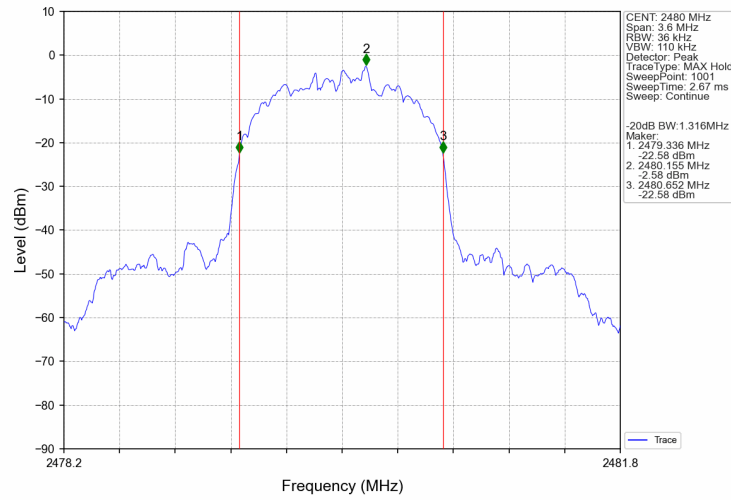
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



2. Maximum Conducted Output Power

2.1 Test Result

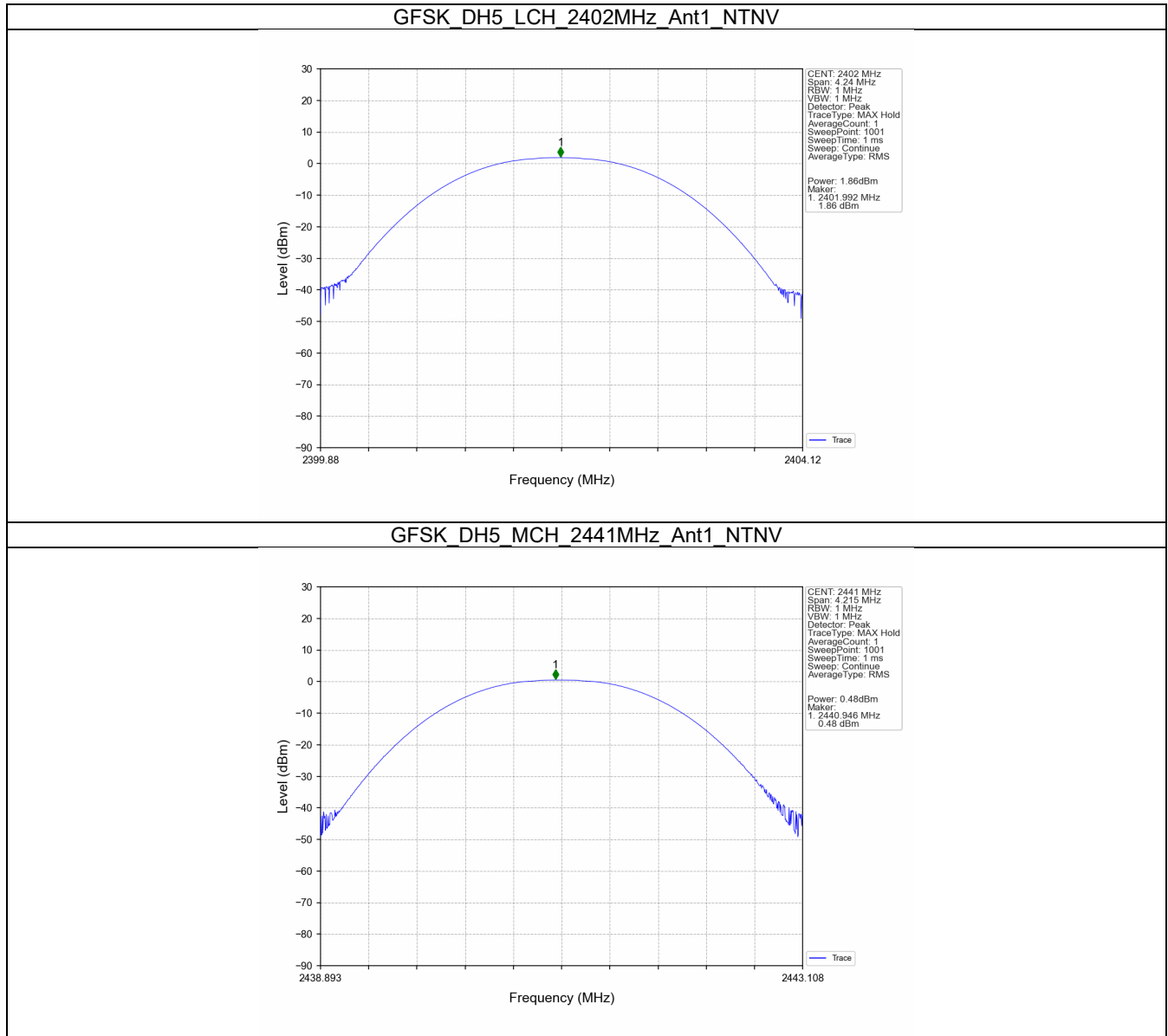
2.1.1 Power

| Mode | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) | | Verdict |
|-----------|---------|-----------------|-------------|---|---------|---------|
| | | | | ANT1 | Limit | |
| GFSK | SISO | 2402 | DH5 | 1.86 | <=30 | Pass |
| | | 2441 | DH5 | 0.49 | <=30 | Pass |
| | | 2480 | DH5 | 2.39 | <=30 | Pass |
| Pi/4DQPSK | SISO | 2402 | 2DH5 | 1.54 | <=20.97 | Pass |
| | | 2441 | 2DH5 | 1.55 | <=20.97 | Pass |
| | | 2480 | 2DH5 | 2.06 | <=20.97 | Pass |
| 8DPSK | SISO | 2402 | 3DH5 | 2.05 | <=20.97 | Pass |
| | | 2441 | 3DH5 | 2.05 | <=20.97 | Pass |
| | | 2480 | 3DH5 | 2.66 | <=20.97 | Pass |

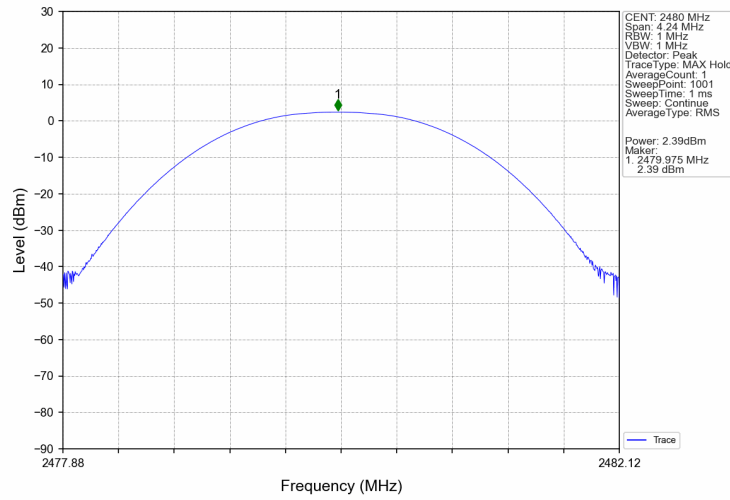
Note1: Antenna Gain: Ant1: 3.18dBi;

2.2 Test Graph

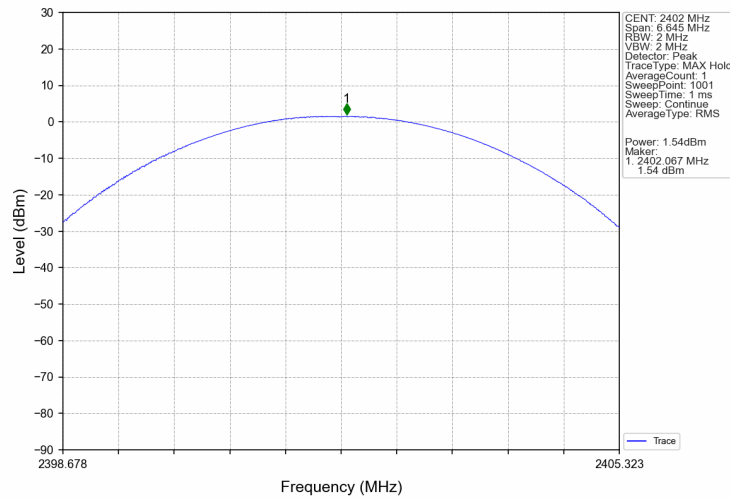
2.2.1 Power



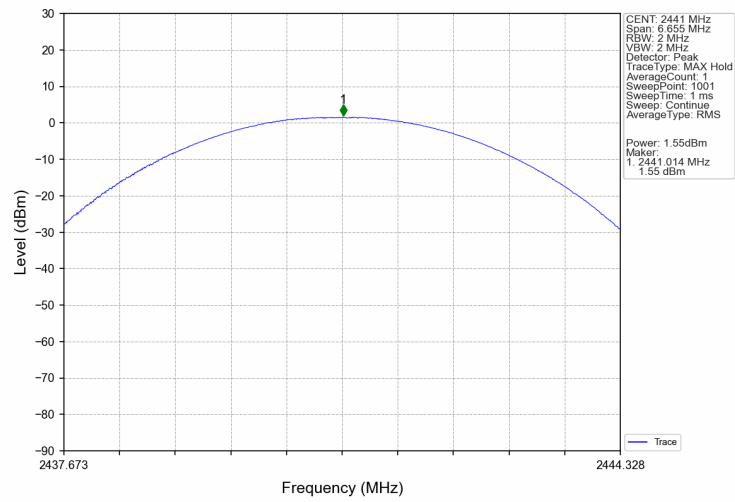
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



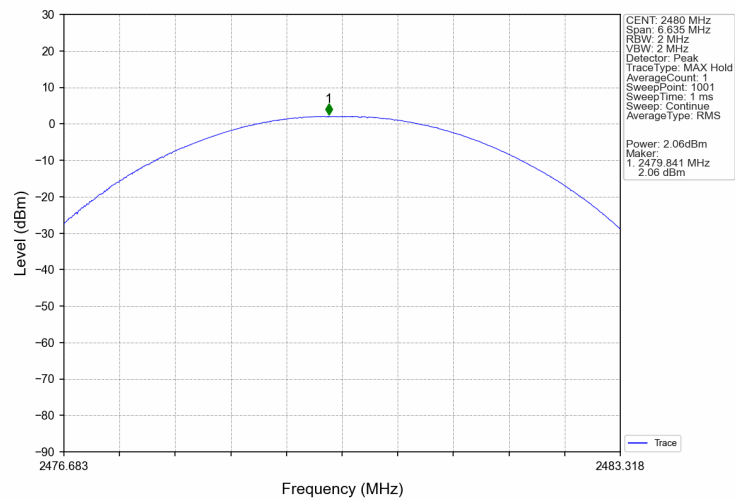
PI/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



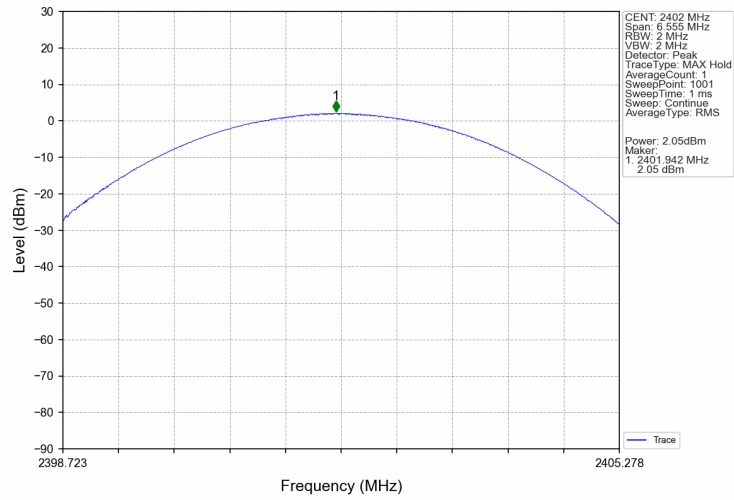
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



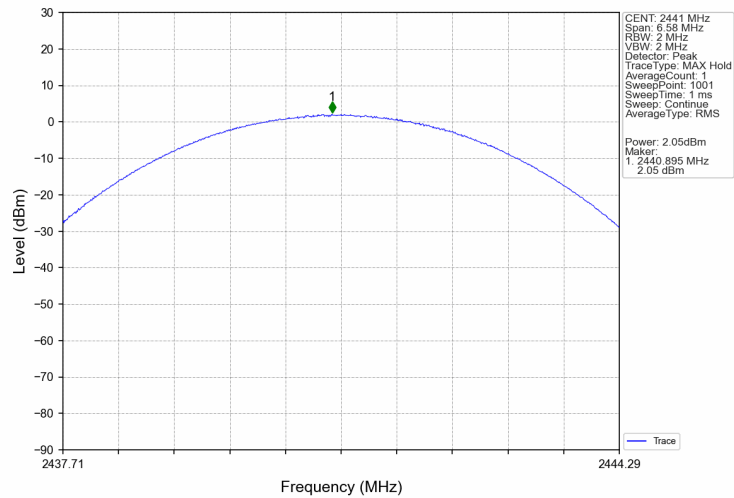
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



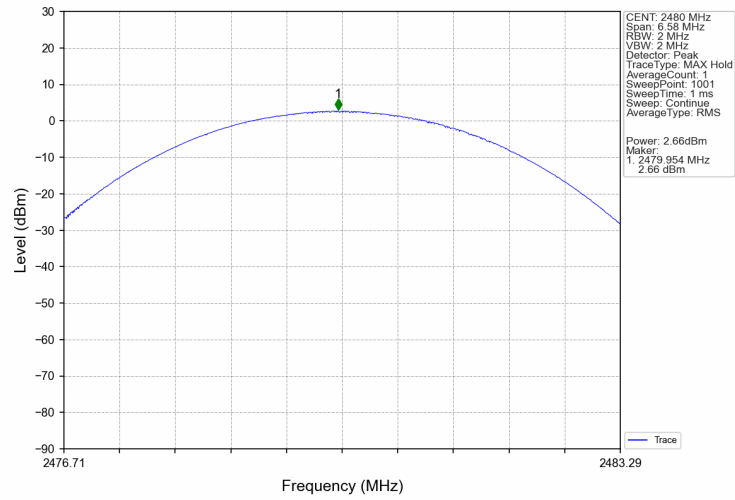
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



3. Carrier Frequency Separation

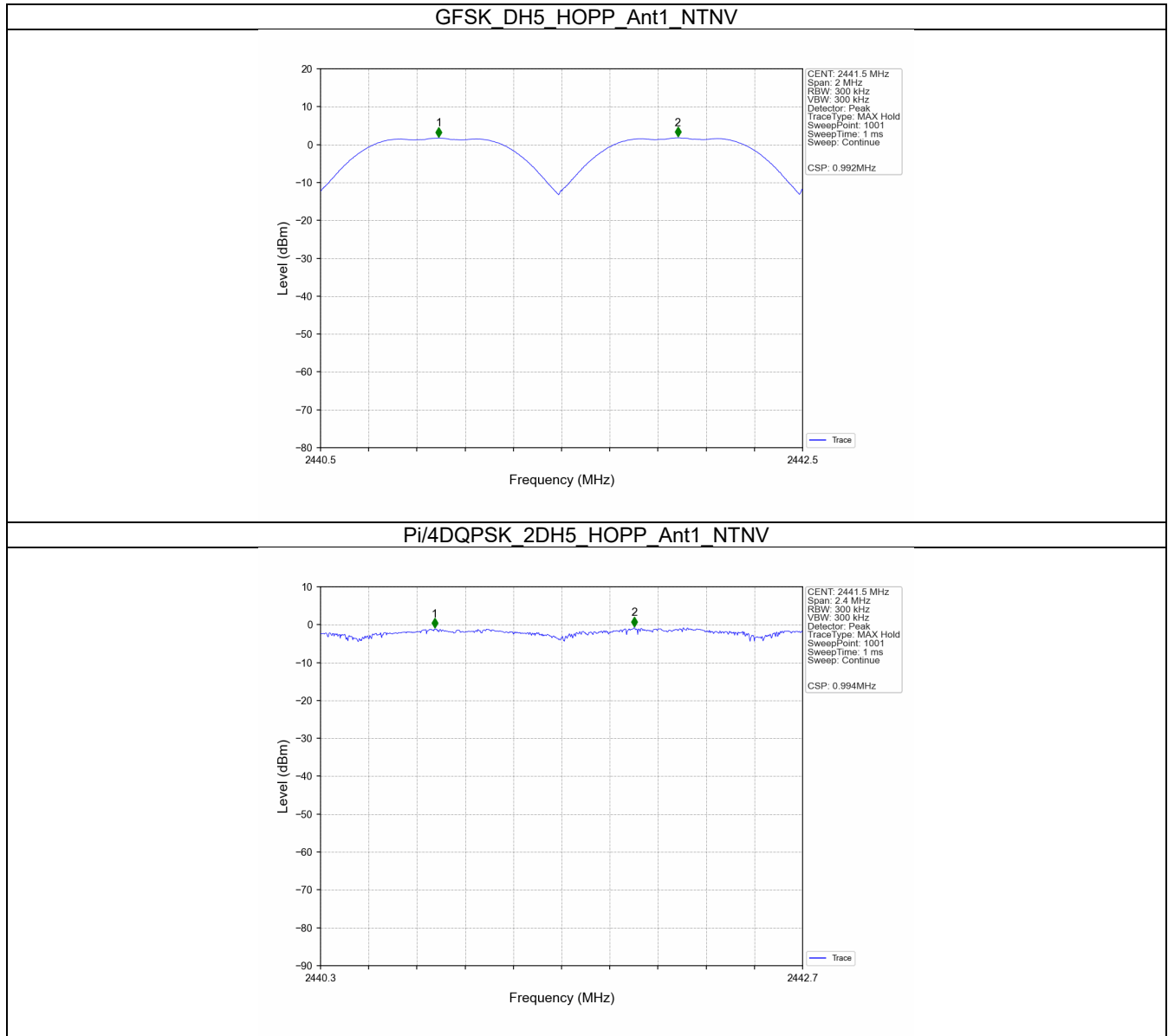
3.1 Test Result

3.1.1 Ant1

| Ant1 | | | | | | | |
|-----------|---------|-----------------|-------------|--------------------------|----------------------|--------------|---------|
| Mode | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz) | Verdict |
| GFSK | SISO | HOPP | DH5 | 0.992 | 0.848 | ≥ 0.848 | Pass |
| Pi/4DQPSK | SISO | HOPP | 2DH5 | 0.994 | 1.331 | ≥ 0.887 | Pass |
| 8DPSK | SISO | HOPP | 3DH5 | 1.010 | 1.316 | ≥ 0.877 | Pass |

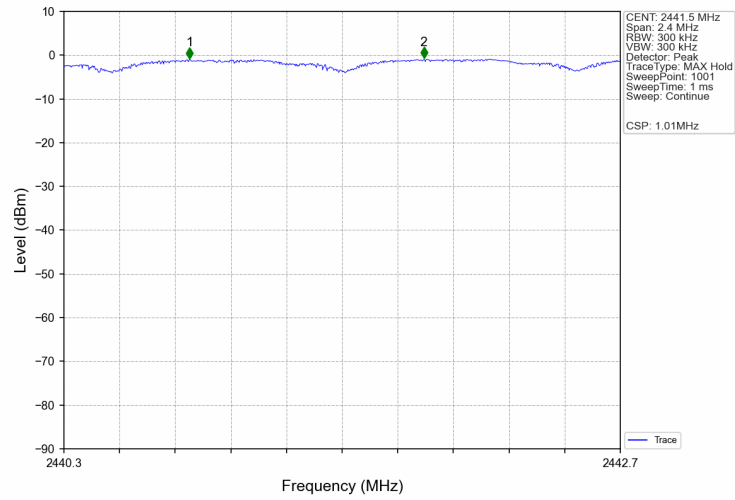
3.2 Test Graph

3.2.1 Ant1





8DPSK_3DH5_HOPP_Ant1_NTNV



4. Number of Hopping Frequencies

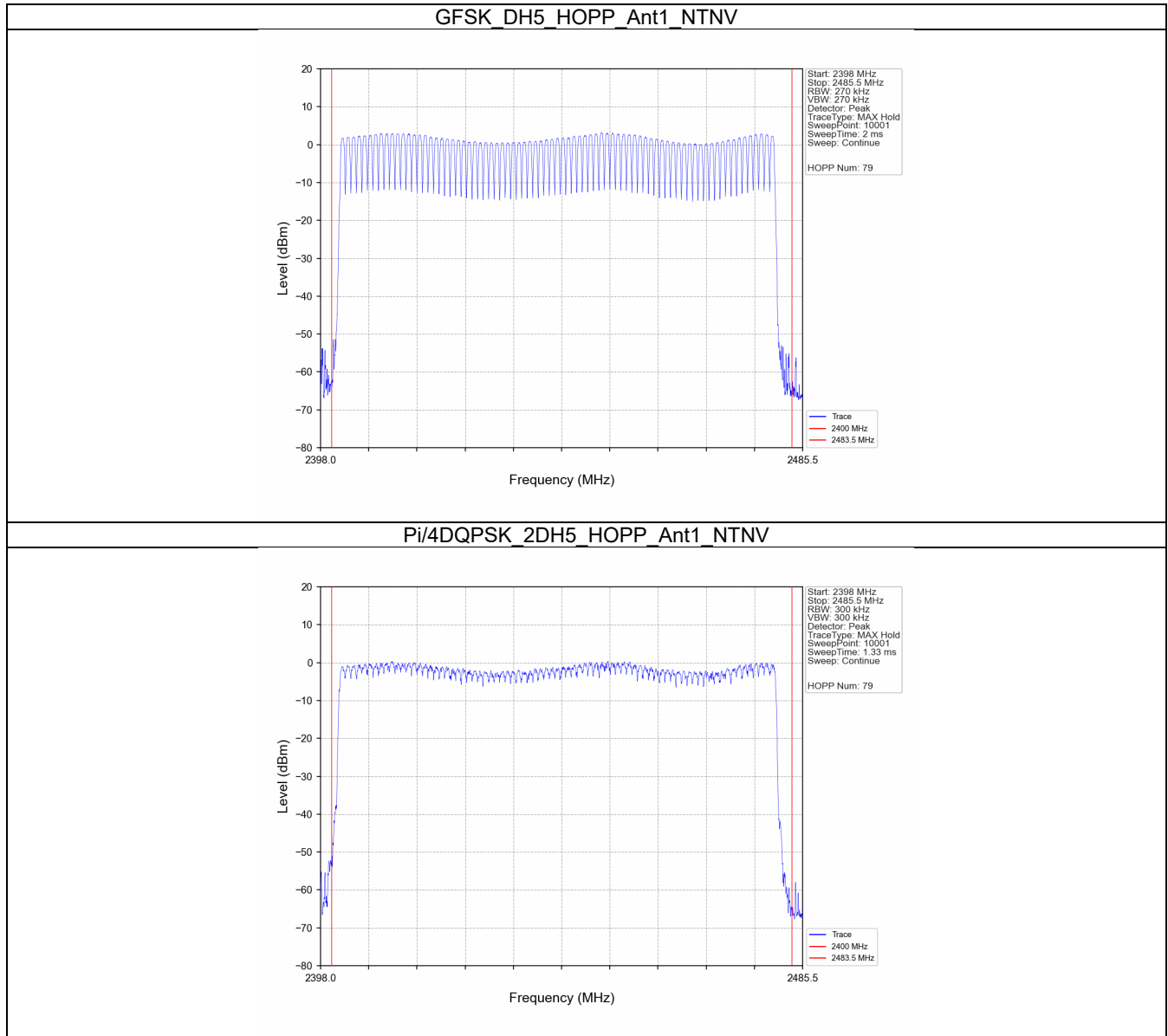
4.1 Test Result

4.1.1 HoppNum

| Mode | TX Type | Frequency (MHz) | Packet Type | Num of Hopping Frequencies | | Verdict |
|-----------|---------|-----------------|-------------|----------------------------|-------|---------|
| | | | | ANT1 | Limit | |
| GFSK | SISO | HOPP | DH5 | 79 | >=15 | Pass |
| Pi/4DQPSK | SISO | HOPP | 2DH5 | 79 | >=15 | Pass |
| 8DPSK | SISO | HOPP | 3DH5 | 79 | >=15 | Pass |

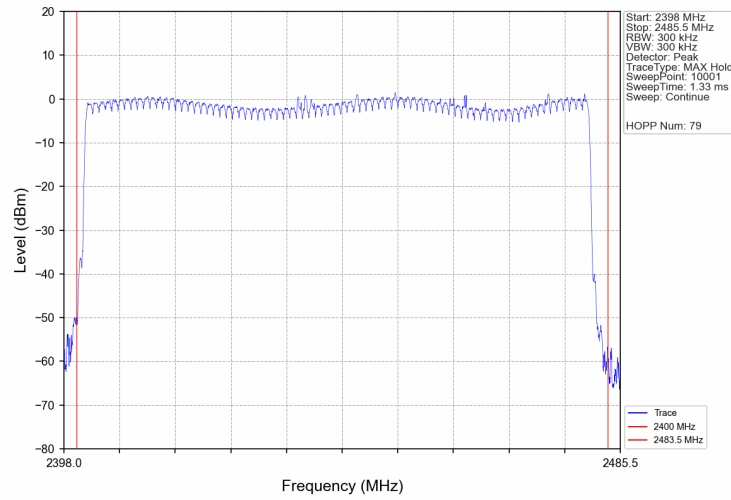
4.2 Test Graph

4.2.1 HoppNum





8DPSK_3DH5_HOPP_Ant1_NTNV



5. Time of Occupancy (Dwell Time)

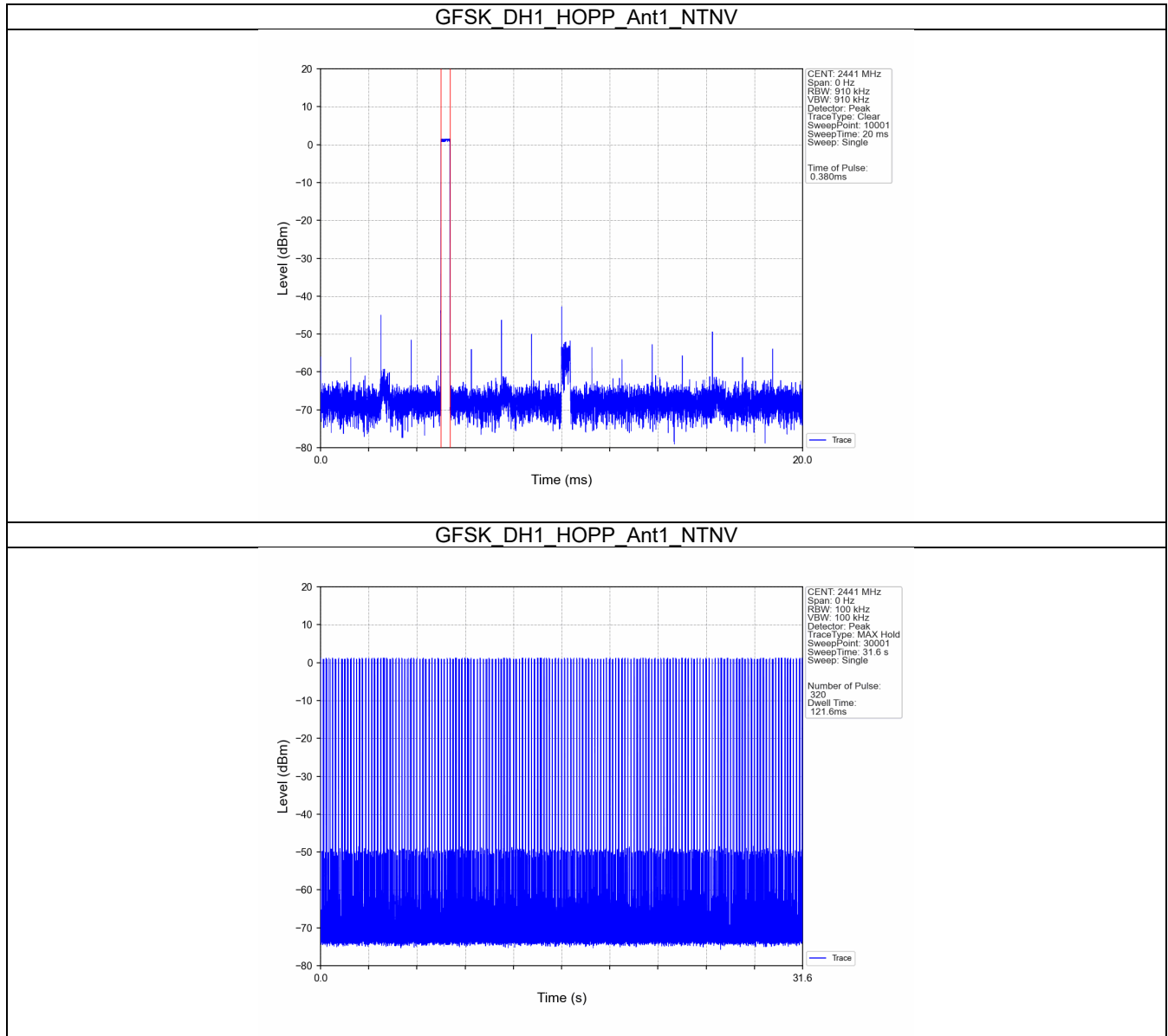
5.1 Test Result

5.1.1 Ant1

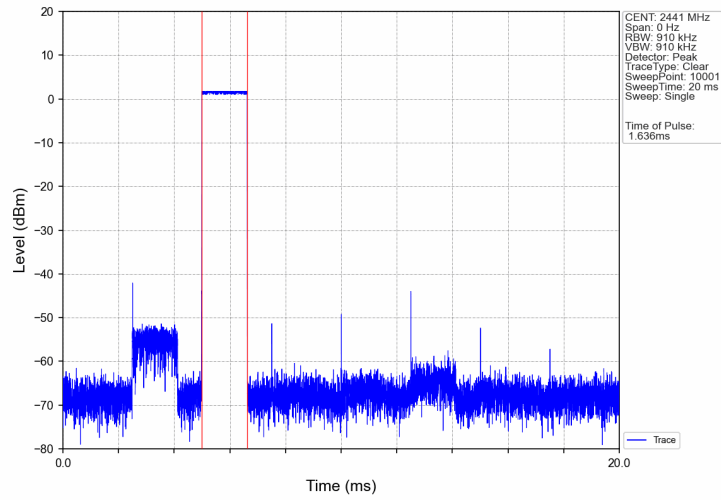
| Ant1 | | | | | | | | | |
|-----------|---------|-----------------|-------------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| Mode | TX Type | Frequency (MHz) | Packet Type | Duration of Single Pulse (ms) | Observation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limit (ms) | Verdict |
| GFSK | SISO | HOPP | DH1 | 0.380 | 31.600 | 320 | 121.600 | <=400 | Pass |
| | | | DH3 | 1.636 | 31.600 | 161 | 263.396 | <=400 | Pass |
| | | | DH5 | 2.898 | 31.600 | 100 | 289.800 | <=400 | Pass |
| Pi/4DQPSK | SISO | HOPP | 2DH1 | 0.402 | 31.600 | 320 | 128.640 | <=400 | Pass |
| | | | 2DH3 | 1.652 | 31.600 | 160 | 264.320 | <=400 | Pass |
| | | | 2DH5 | 2.902 | 31.600 | 101 | 293.102 | <=400 | Pass |
| 8DPSK | SISO | HOPP | 3DH1 | 0.388 | 31.600 | 319 | 123.772 | <=400 | Pass |
| | | | 3DH3 | 1.638 | 31.600 | 161 | 263.718 | <=400 | Pass |
| | | | 3DH5 | 2.888 | 31.600 | 102 | 294.576 | <=400 | Pass |

5.2 Test Graph

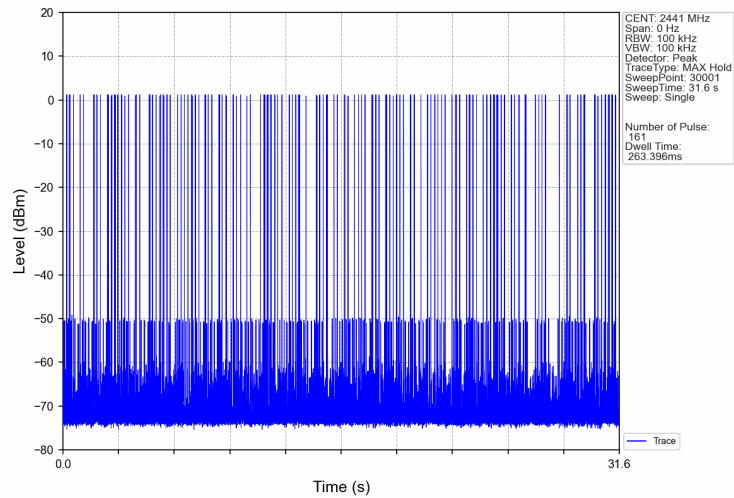
5.2.1 Ant1



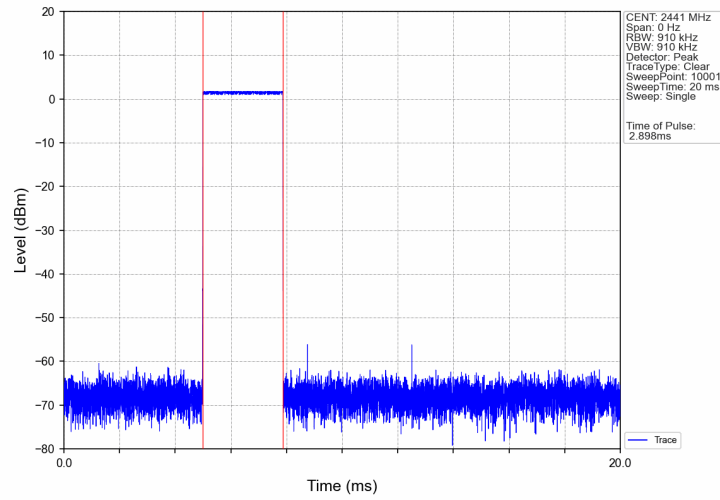
GFSK_DH3_HOPP_Ant1_NTNV



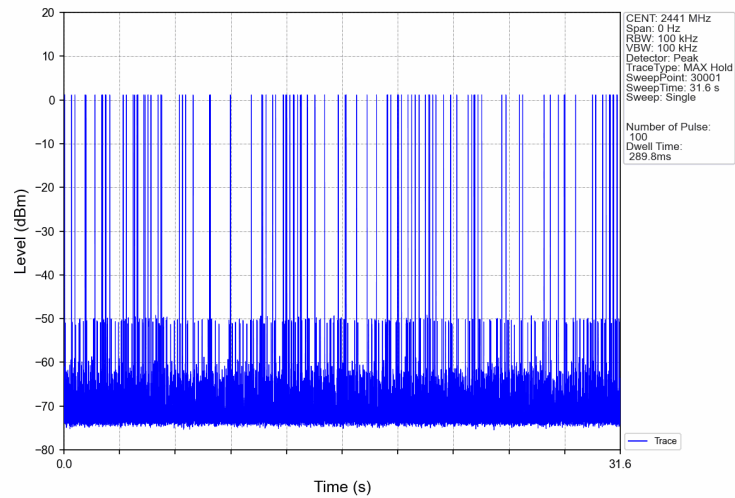
GFSK_DH3_HOPP_Ant1_NTNV



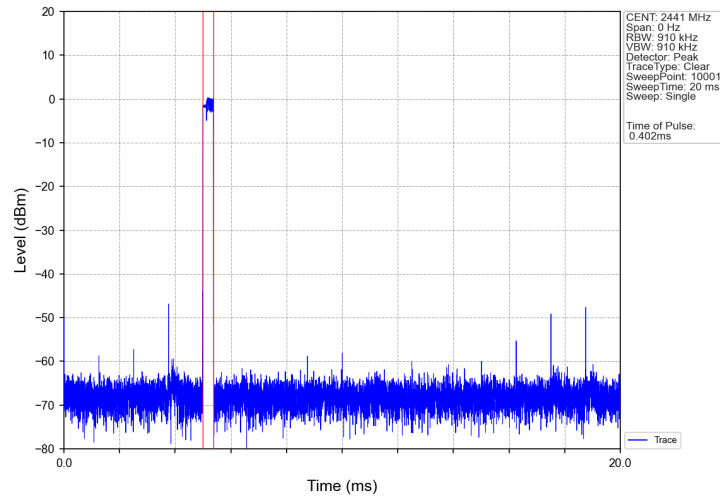
GFSK_DH5_HOPP_Ant1_NTNV



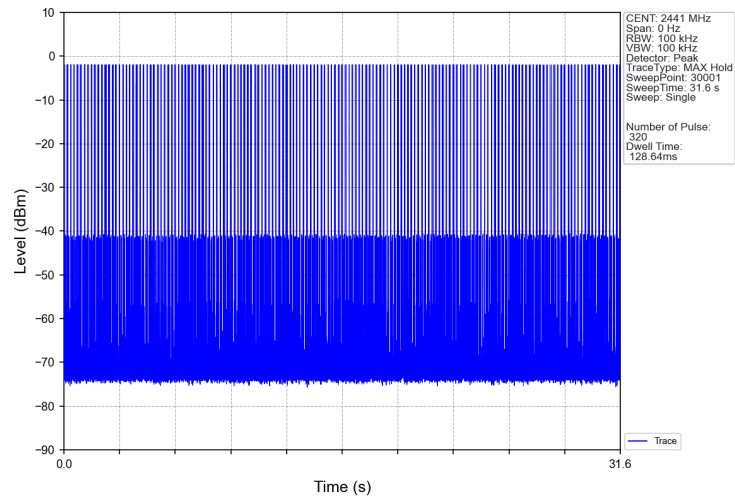
GFSK_DH5_HOPP_Ant1_NTNV



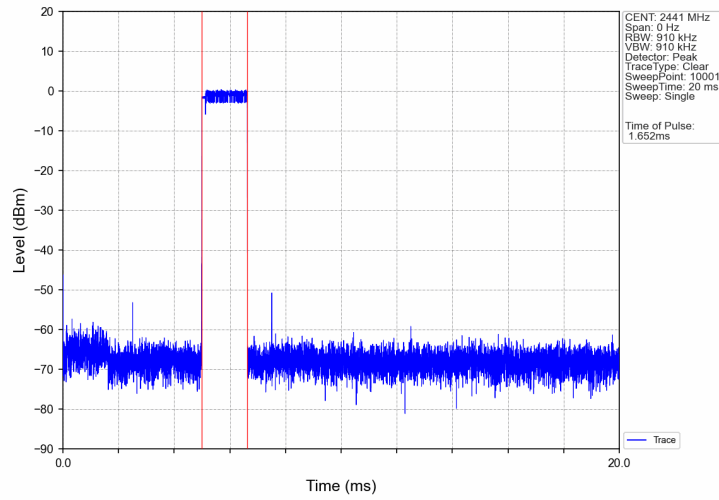
Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV



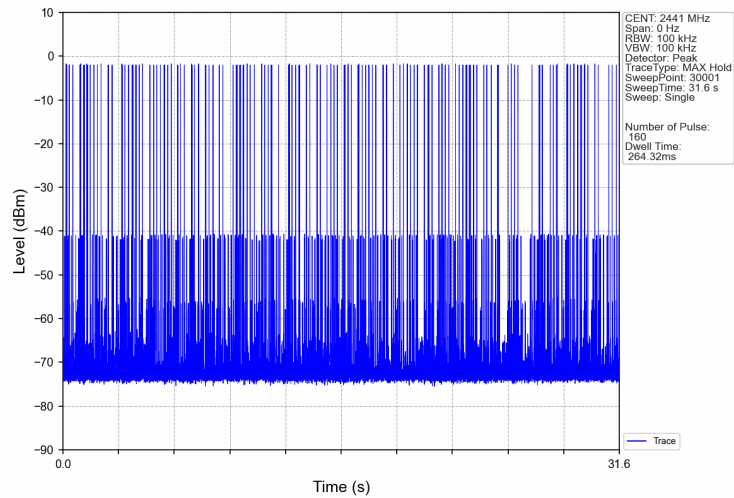
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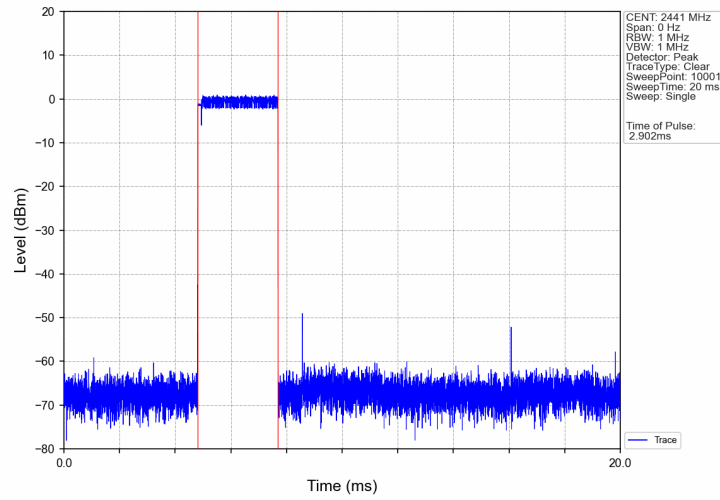
Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV



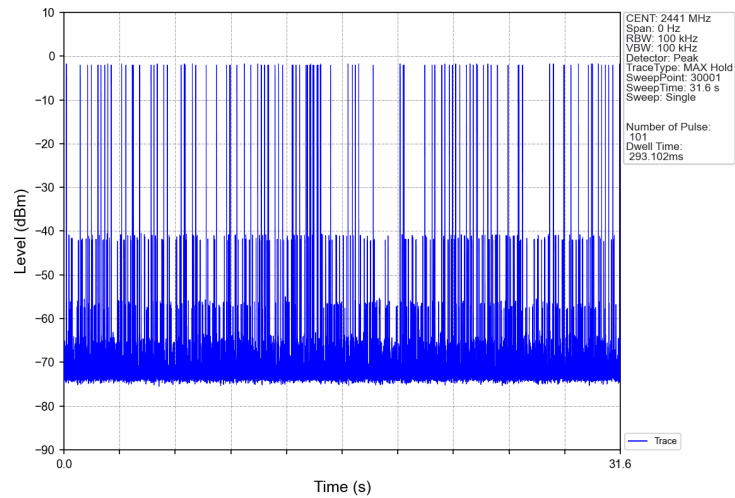
Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV



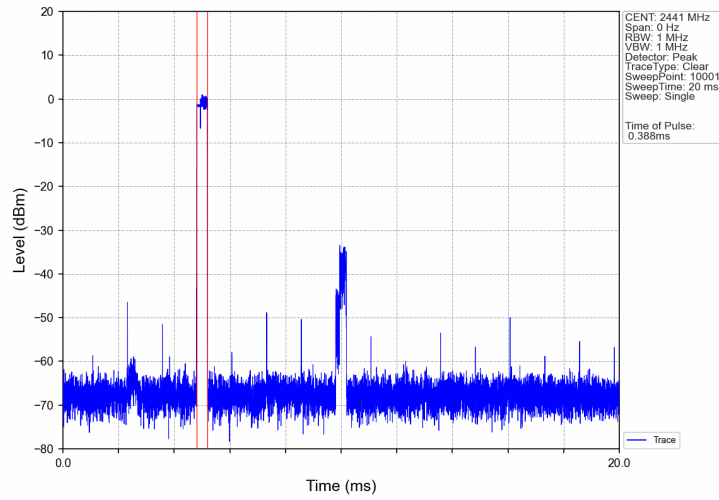
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



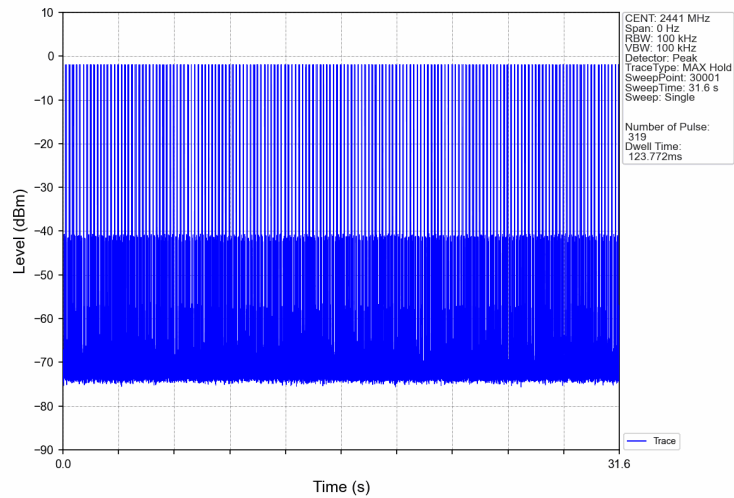
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



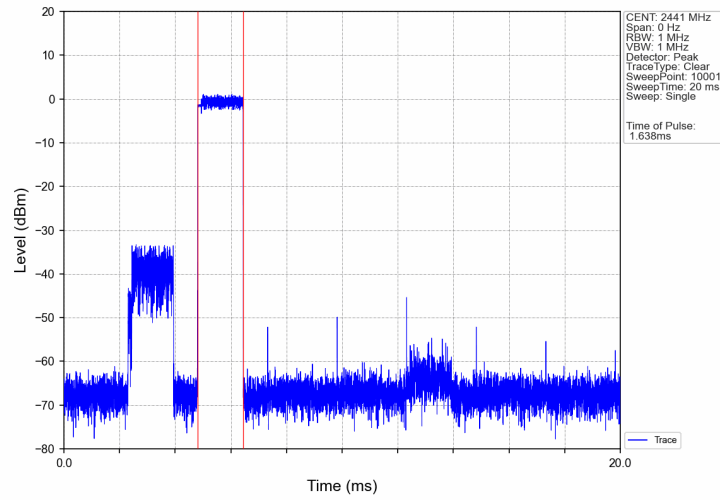
8DPSK_3DH1_HOPP_Ant1_NTNV



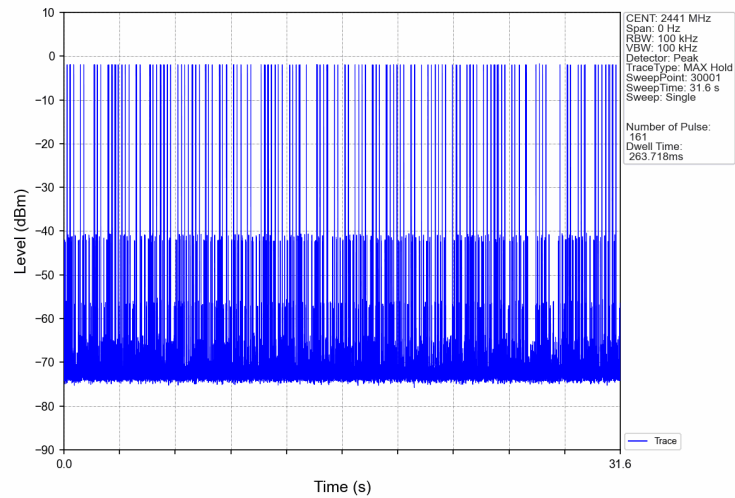
8DPSK_3DH1_HOPP_Ant1_NTNV



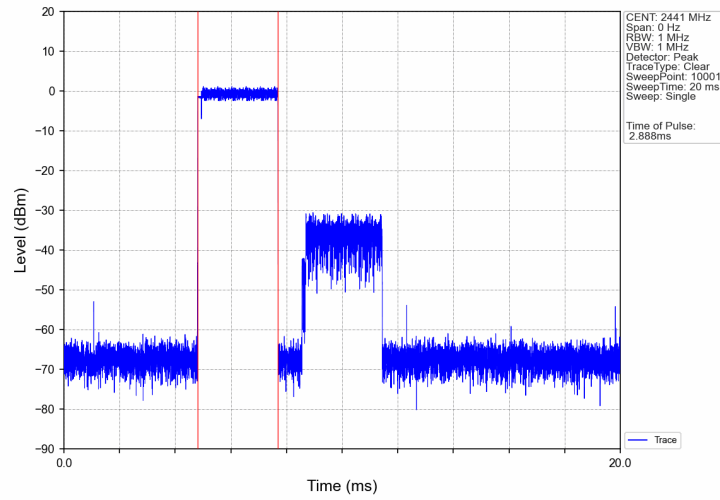
8DPSK_3DH3_HOPP_Ant1_NTNV



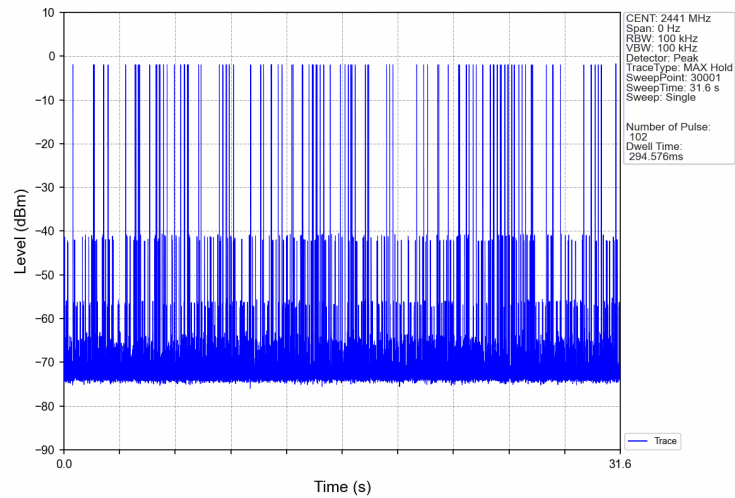
8DPSK_3DH3_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



6. Unwanted Emissions In Non-restricted Frequency Bands

6.1 Test Result

6.1.1 Ref

| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|-----------|---------|-----------------|-------------|-----|--------------------------|
| GFSK | SISO | 2402 | DH5 | 1 | 1.46 |
| | | 2441 | DH5 | 1 | 1.29 |
| | | 2480 | DH5 | 1 | 2.04 |
| | | HOPP | DH5 | 1 | 2.84 |
| | | | | | 2.84 |
| Pi/4DQPSK | SISO | 2402 | 2DH5 | 1 | -1.28 |
| | | 2441 | 2DH5 | 1 | -1.33 |
| | | 2480 | 2DH5 | 1 | -1.05 |
| | | HOPP | 2DH5 | 1 | 0.07 |
| | | | | | 0.07 |
| 8DPSK | SISO | 2402 | 3DH5 | 1 | -1.45 |
| | | 2441 | 3DH5 | 1 | -1.48 |
| | | 2480 | 3DH5 | 1 | -0.58 |
| | | HOPP | 3DH5 | 1 | 0.21 |
| | | | | | 0.21 |

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

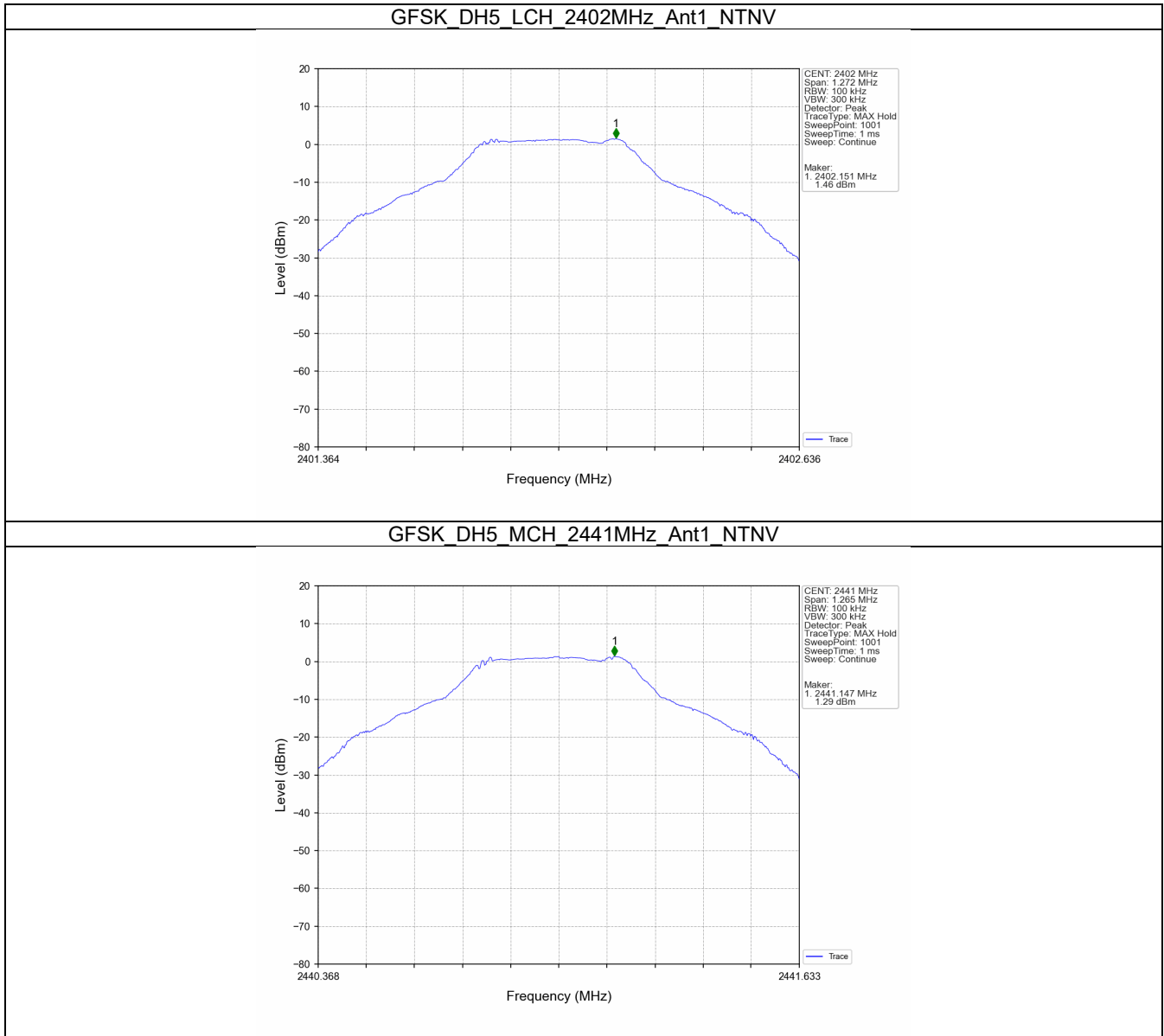
6.1.2 CSE

| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|-----------|---------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK | SISO | 2402 | DH5 | 1 | 1.46 | -18.54 | Pass |
| | | 2441 | DH5 | 1 | 1.29 | -18.71 | Pass |
| | | 2480 | DH5 | 1 | 2.04 | -17.96 | Pass |
| | | HOPP | DH5 | 1 | 2.84 | -17.16 | Pass |
| | | | | | 2.84 | -17.16 | Pass |
| Pi/4DQPSK | SISO | 2402 | 2DH5 | 1 | -1.28 | -21.28 | Pass |
| | | 2441 | 2DH5 | 1 | -1.33 | -21.33 | Pass |
| | | 2480 | 2DH5 | 1 | -1.05 | -21.05 | Pass |
| | | HOPP | 2DH5 | 1 | 0.07 | -19.93 | Pass |
| | | | | | 0.07 | -19.93 | Pass |
| 8DPSK | SISO | 2402 | 3DH5 | 1 | -1.45 | -21.45 | Pass |
| | | 2441 | 3DH5 | 1 | -1.48 | -21.48 | Pass |
| | | 2480 | 3DH5 | 1 | -0.58 | -20.58 | Pass |
| | | HOPP | 3DH5 | 1 | 0.21 | -19.79 | Pass |
| | | | | | 0.21 | -19.79 | Pass |

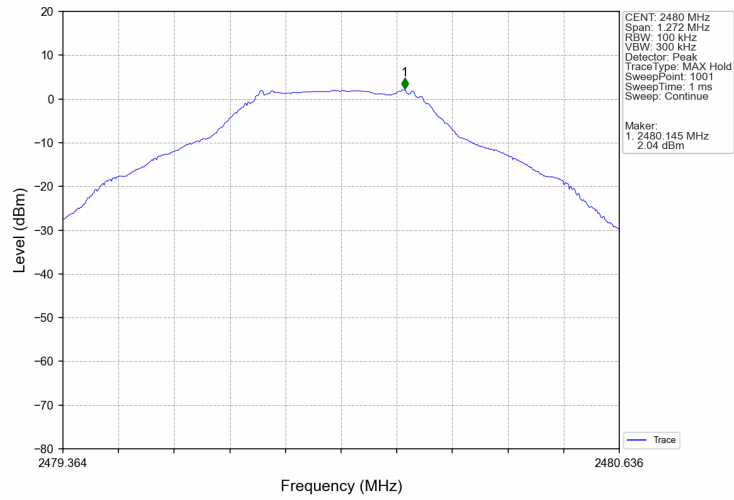
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

6.2 Test Graph

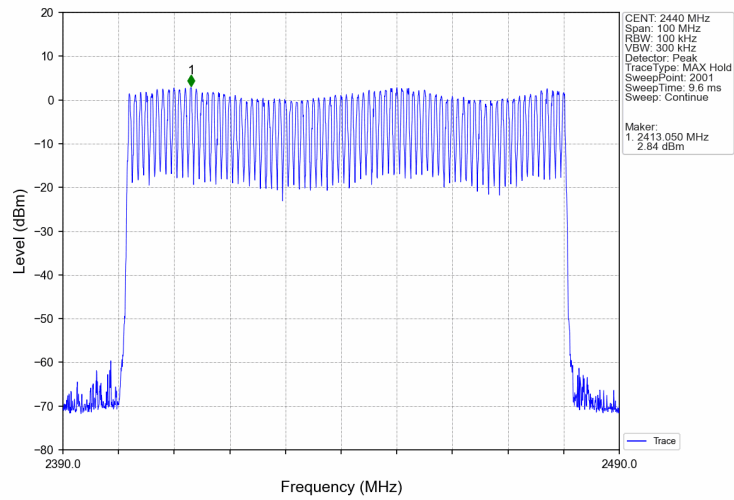
6.2.1 Ref



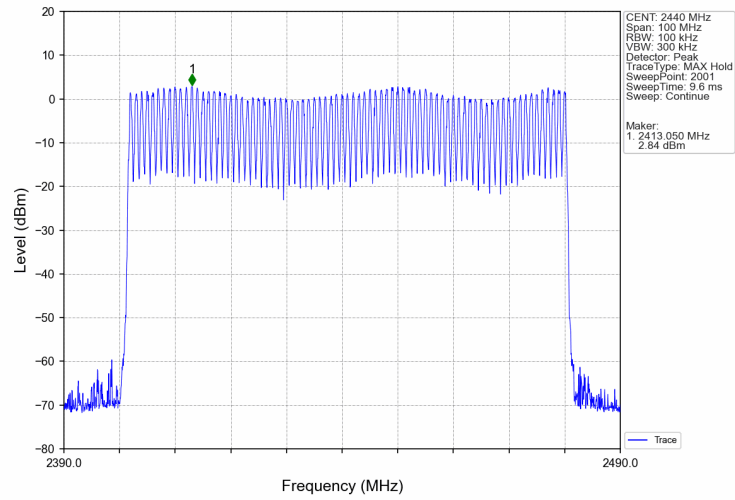
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



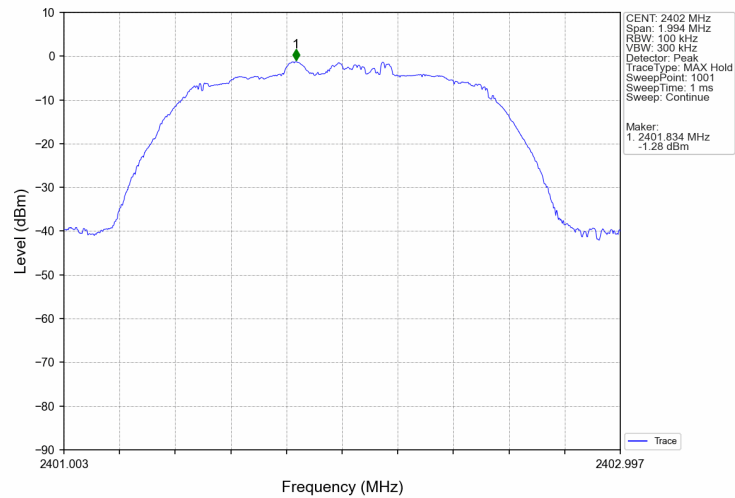
GFSK_DH5_HOPP_2440MHz_Ant1_NTNV



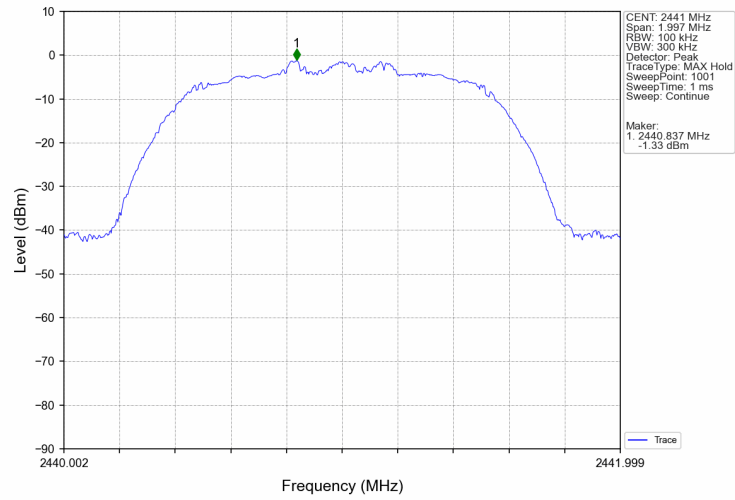
GFSK_DH5_HOPP_Ant1_NTNV



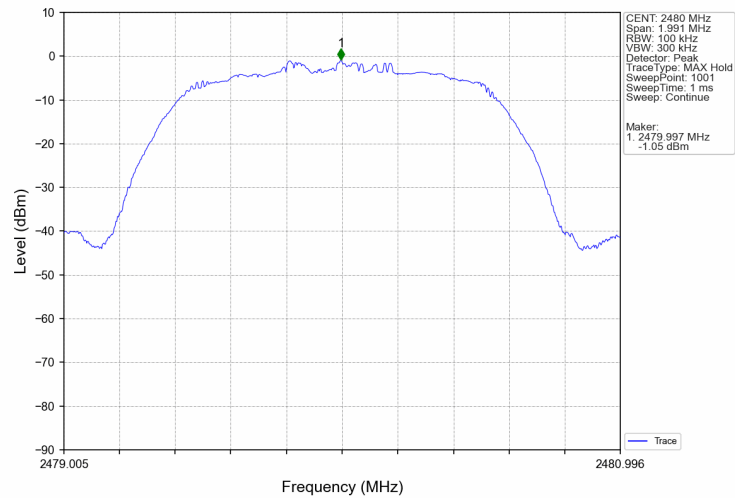
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



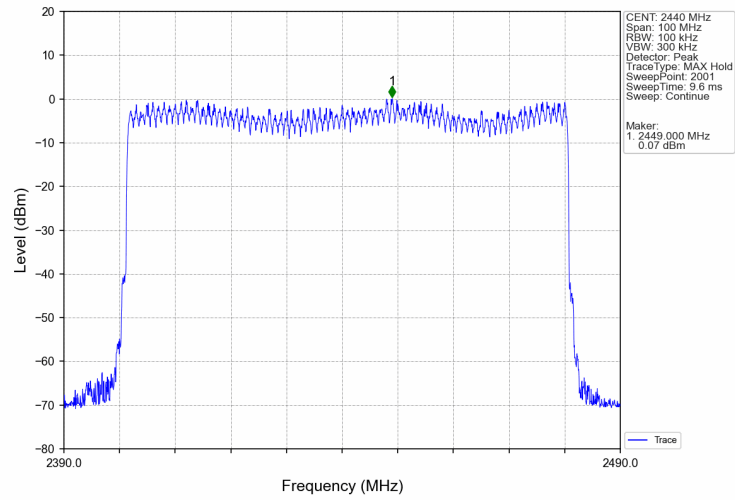
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



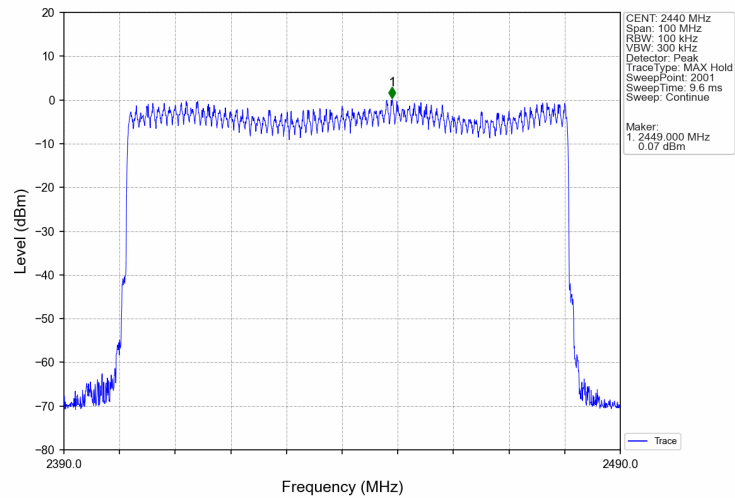
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



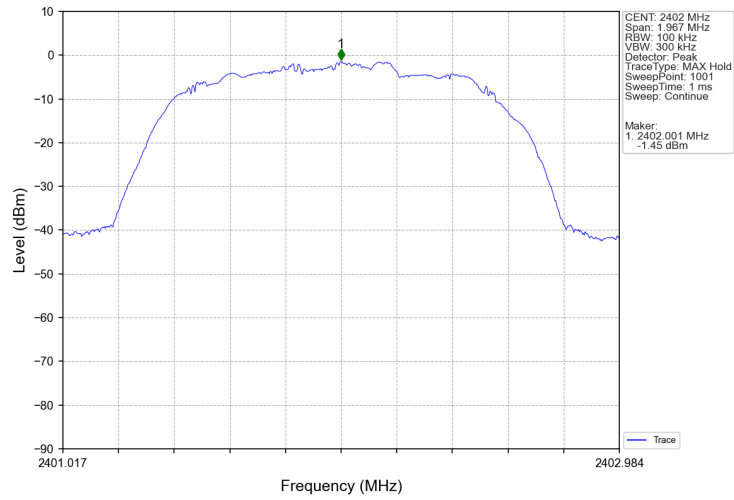
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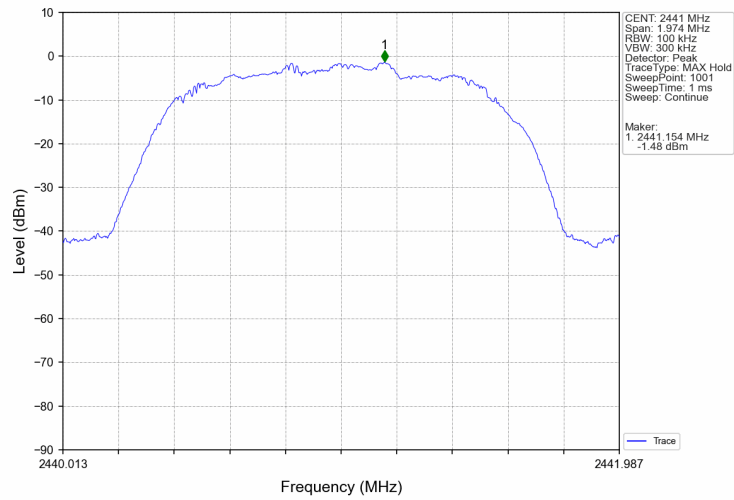
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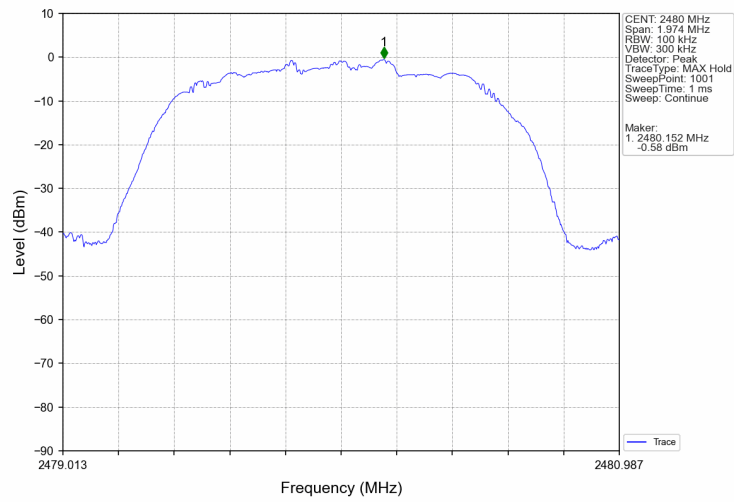
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



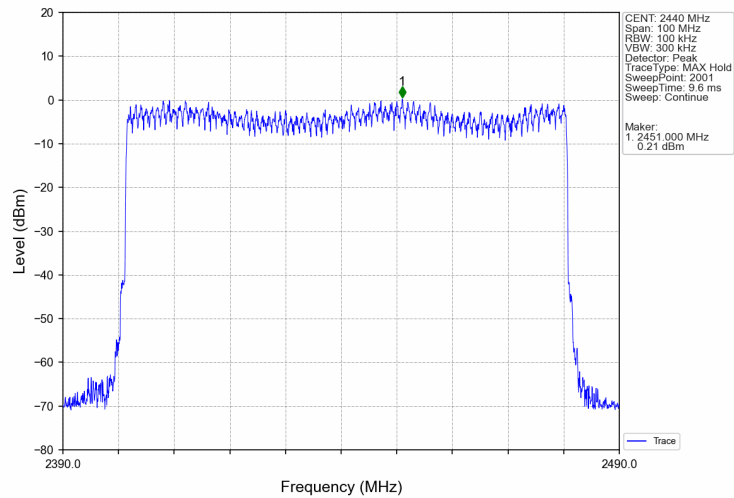
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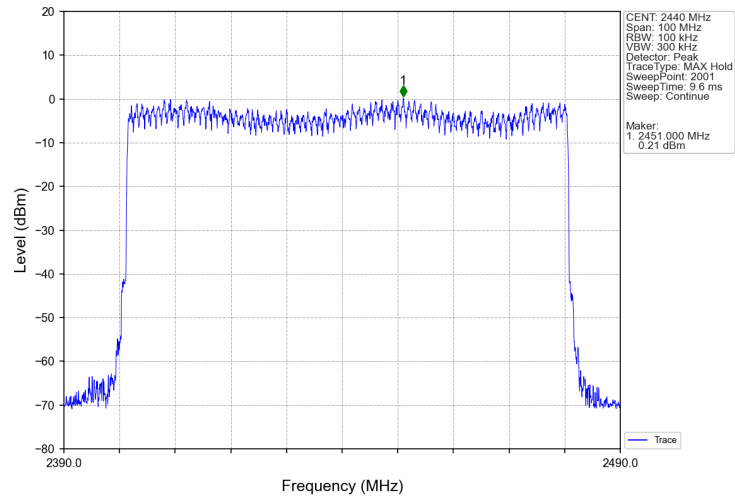
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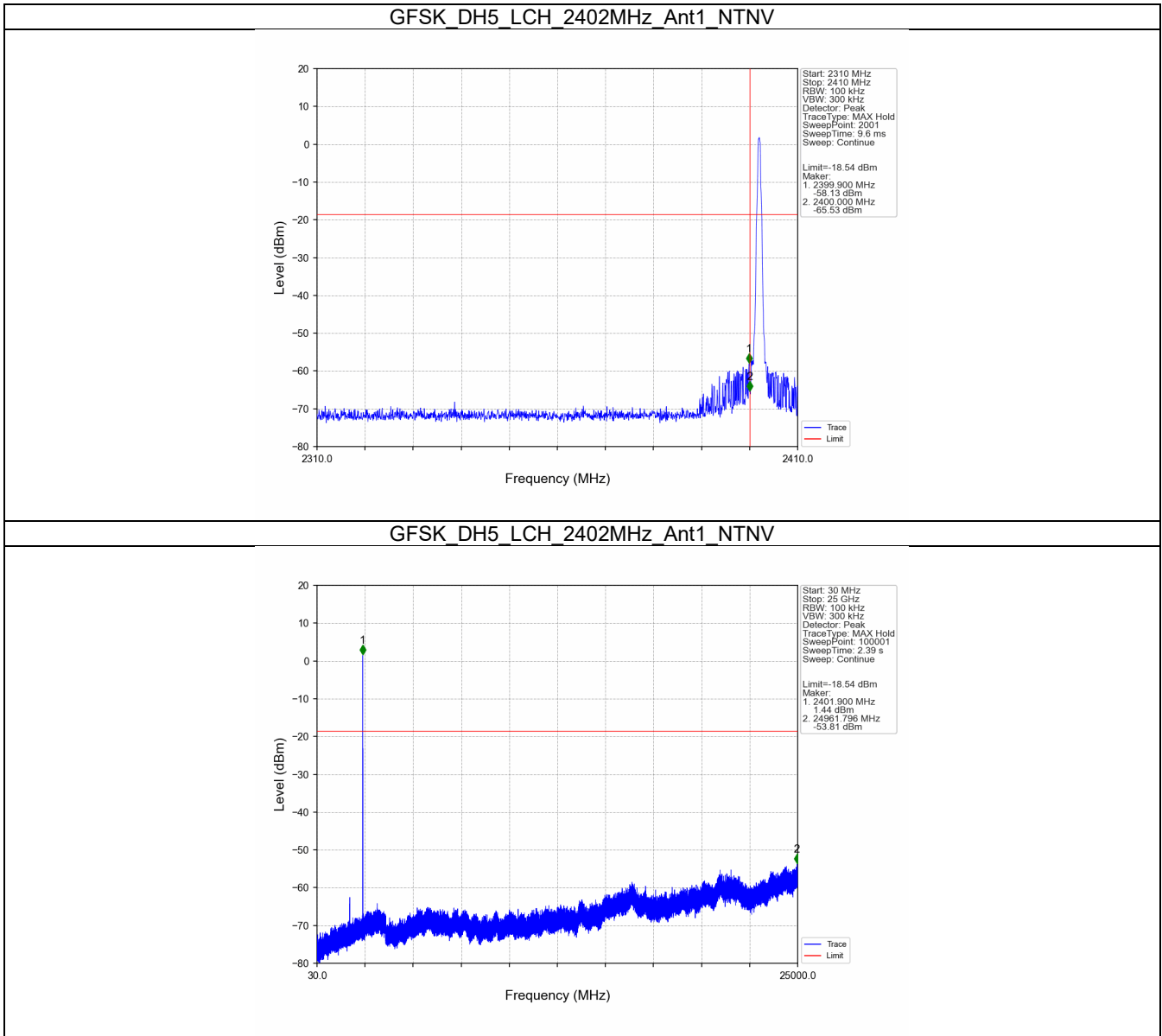
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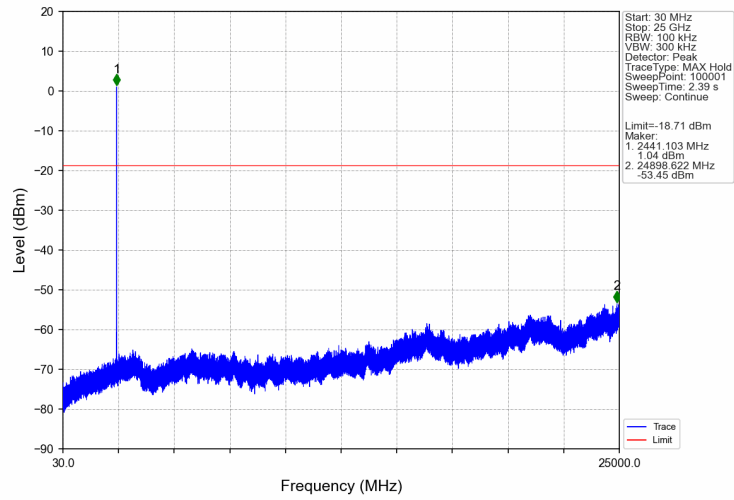
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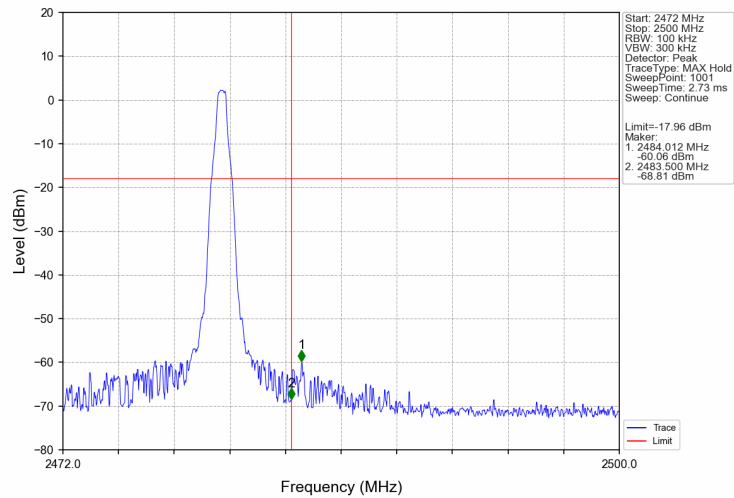
6.2.2 CSE



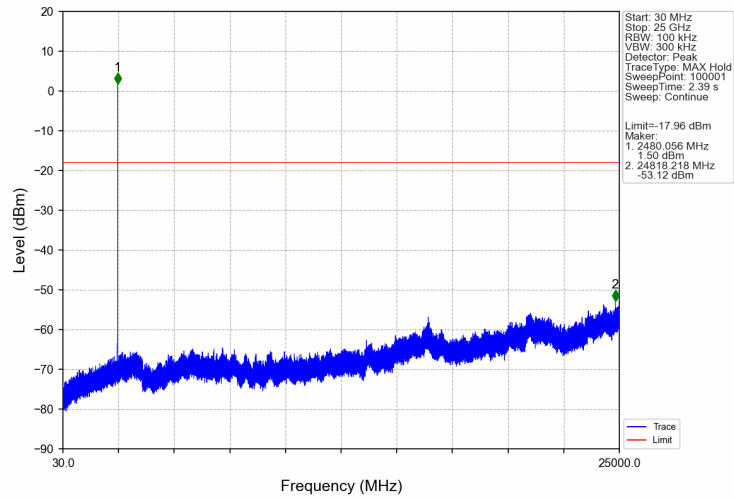
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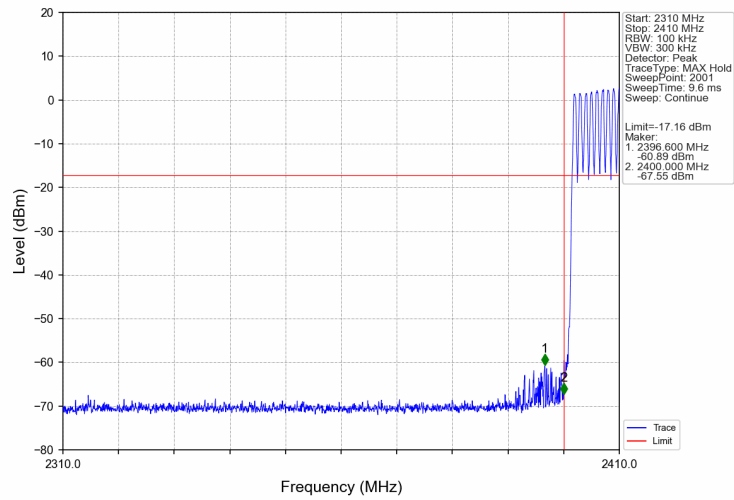
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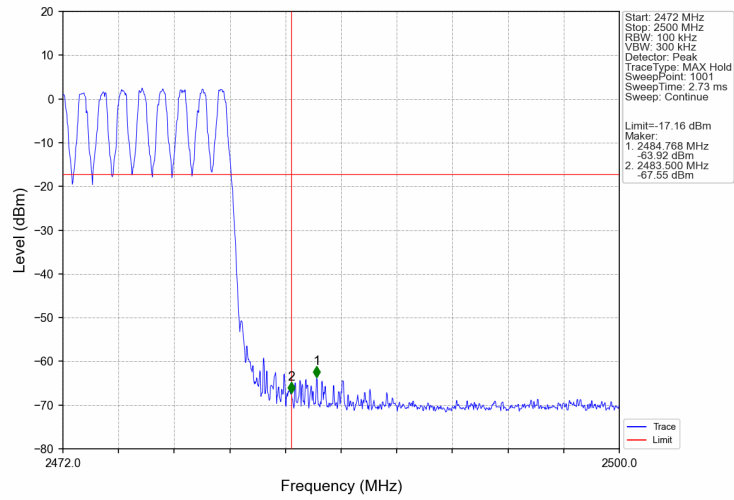
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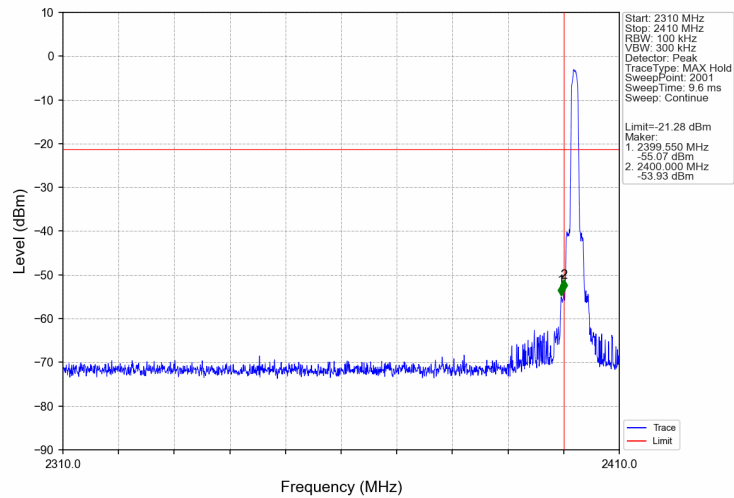
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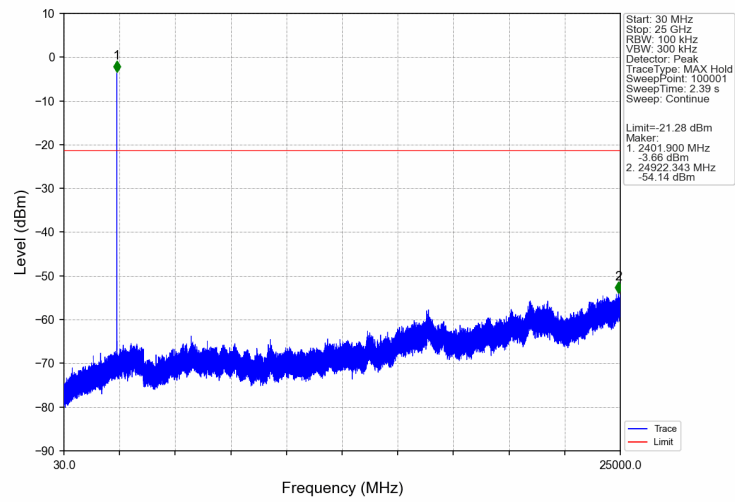
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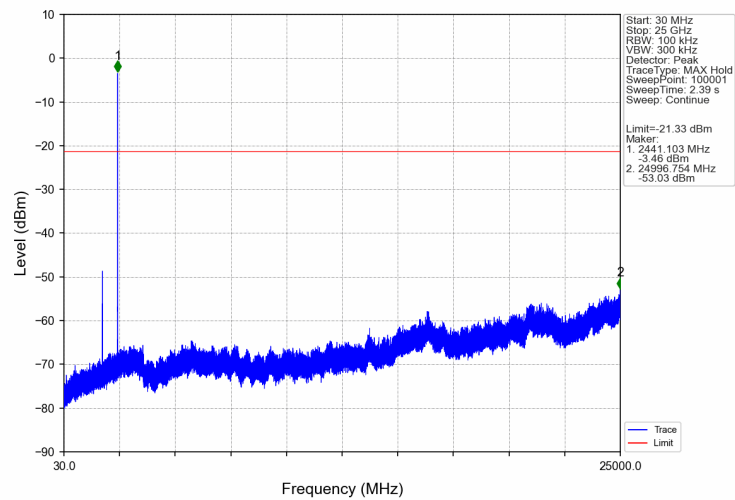
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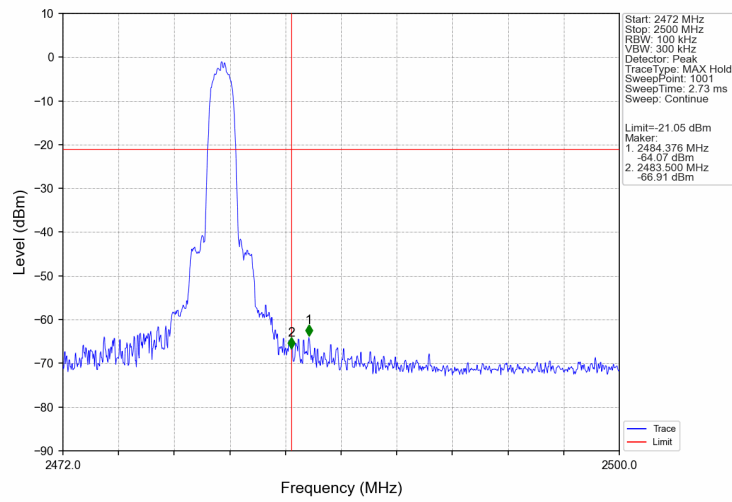
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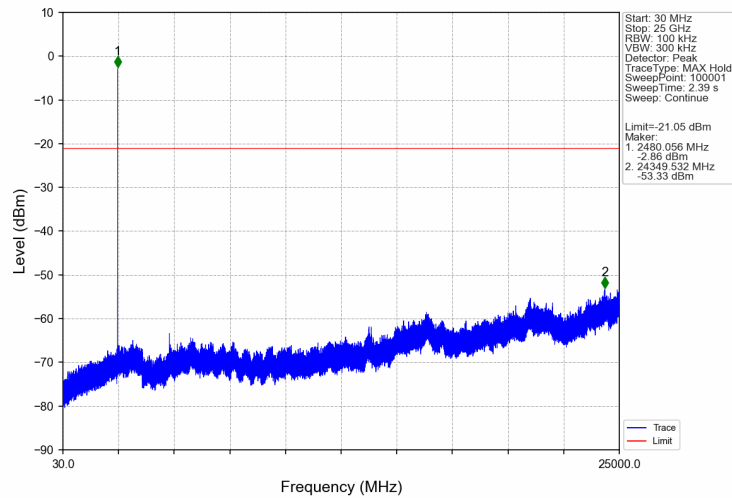
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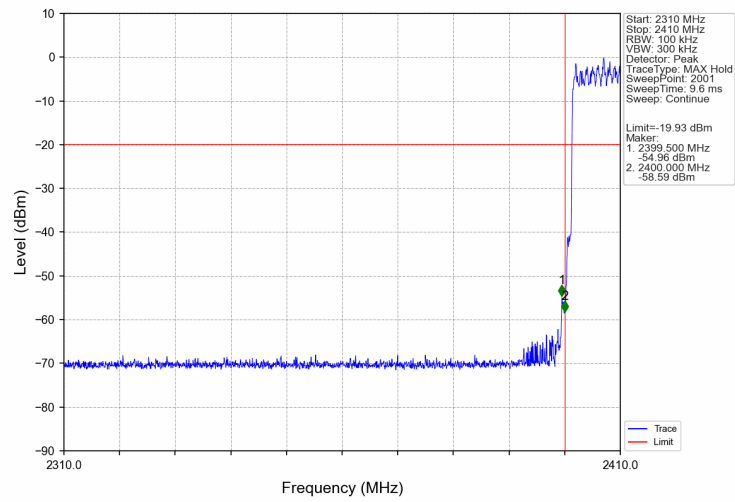
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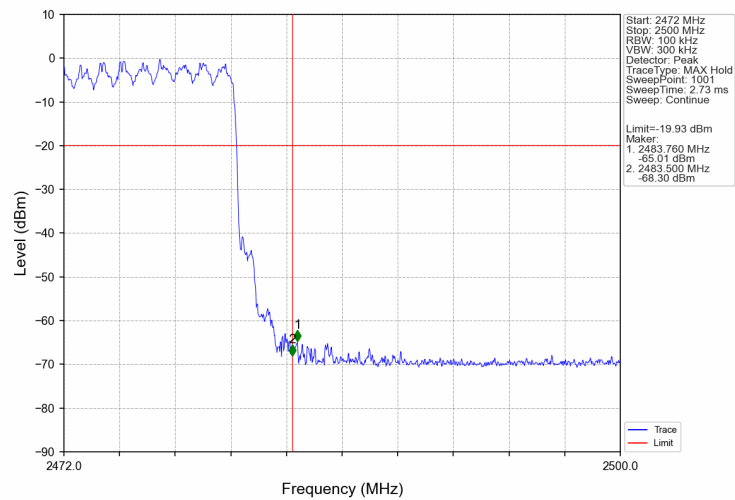
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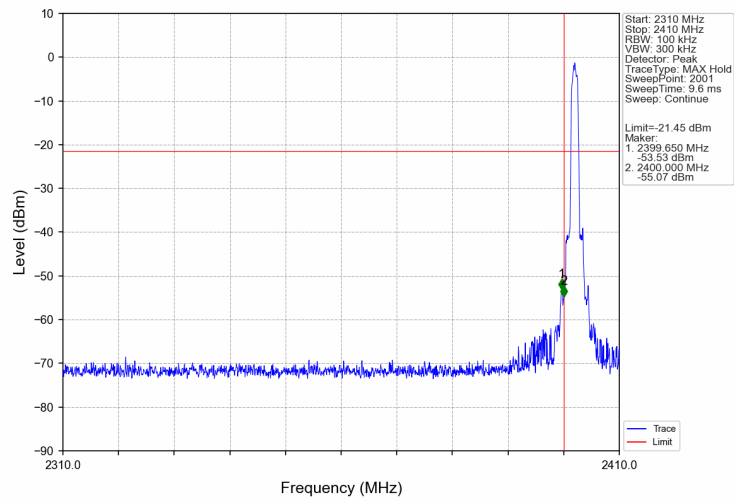
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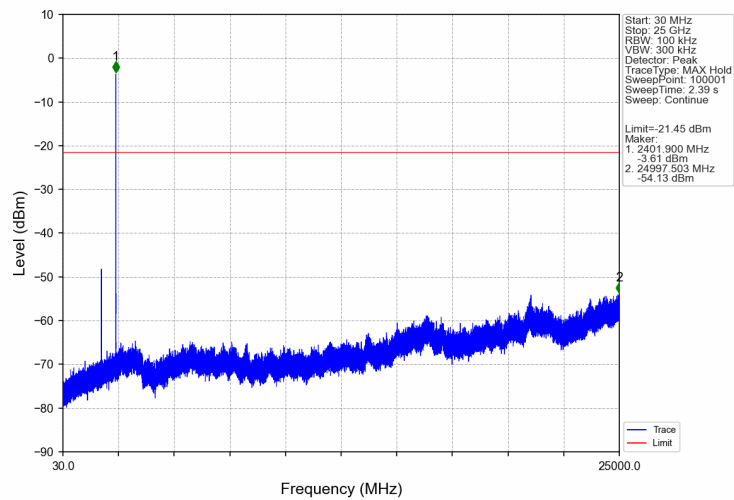
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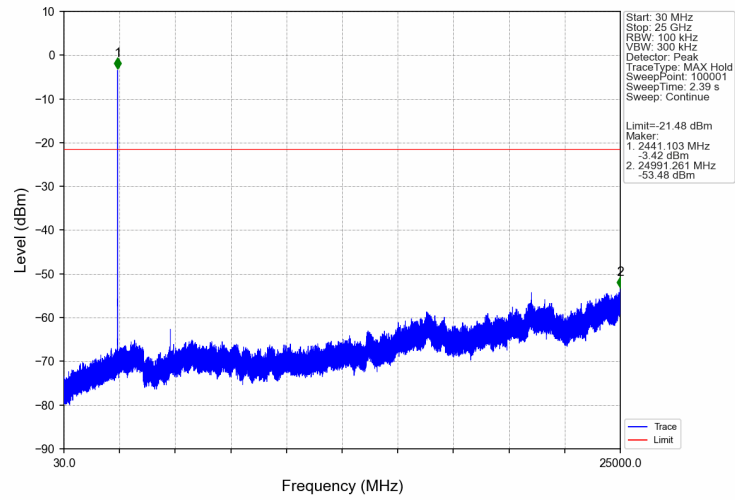
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



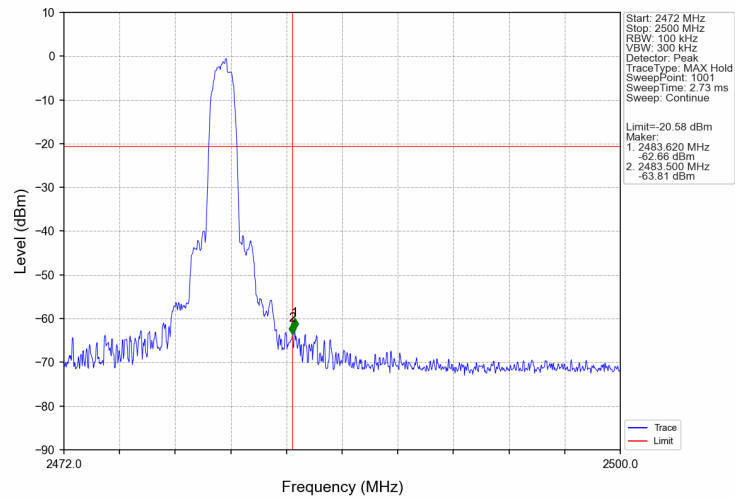
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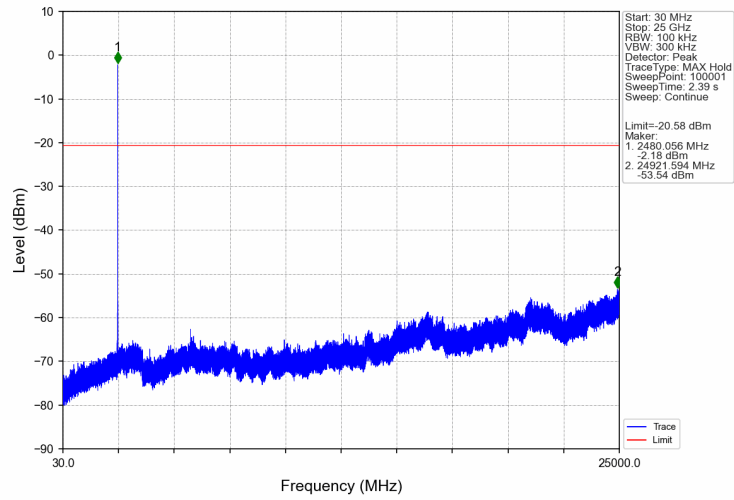
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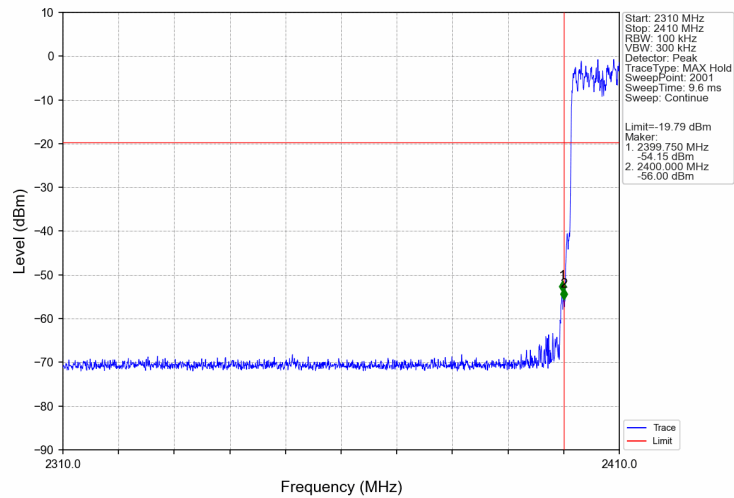
8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

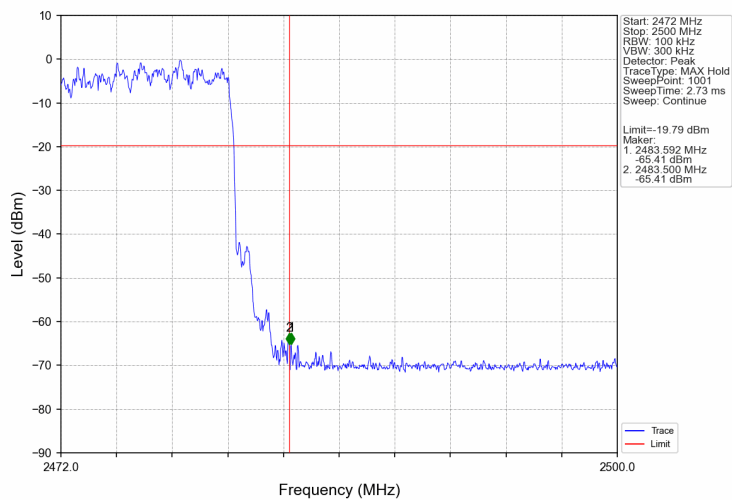


8DPSK_3DH5_HOPP_Ant1_NTNV





8DPSK_3DH5_HOPP_Ant1_NTNV





7. Form731

7.1 Test Result

7.1.1 Form731

| Lower Freq (MHz) | High Freq (MHz) | MAX Power (W) | MAX Power (dBm) |
|------------------|-----------------|---------------|-----------------|
| 2402 | 2480 | 0.0018 | 2.66 |