

## Appendix for 15.247

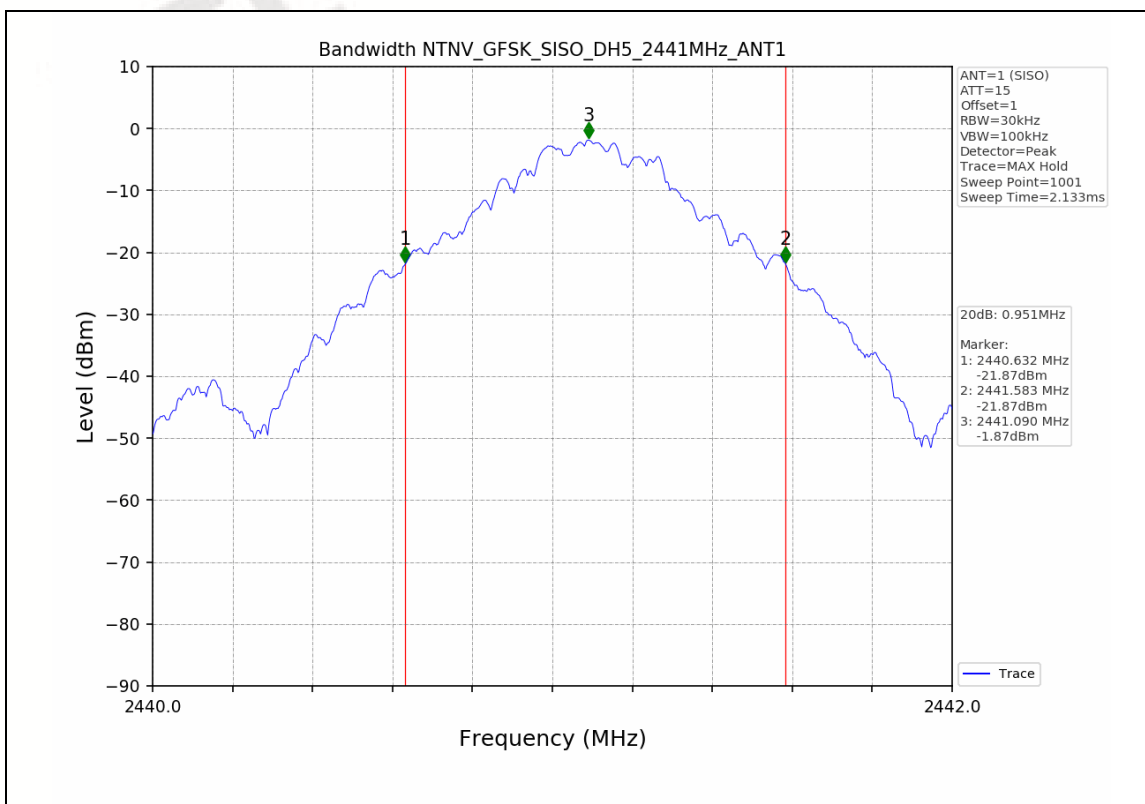
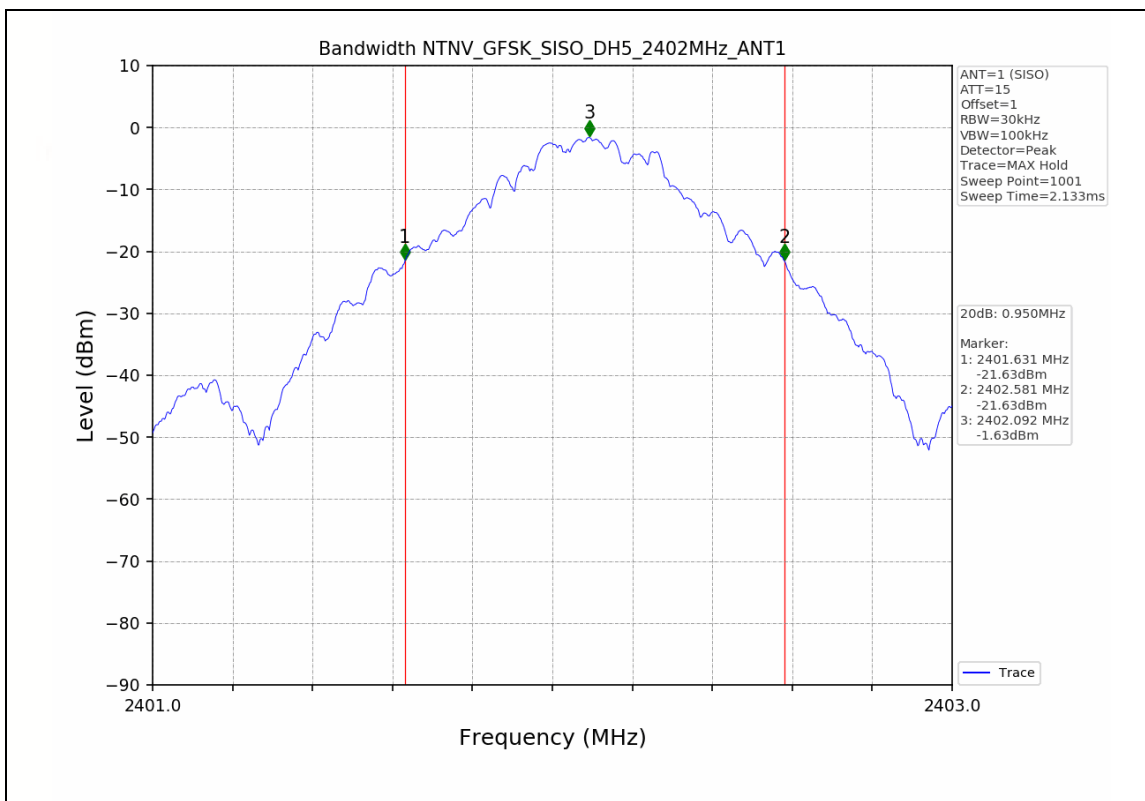
### 1. Bandwidth

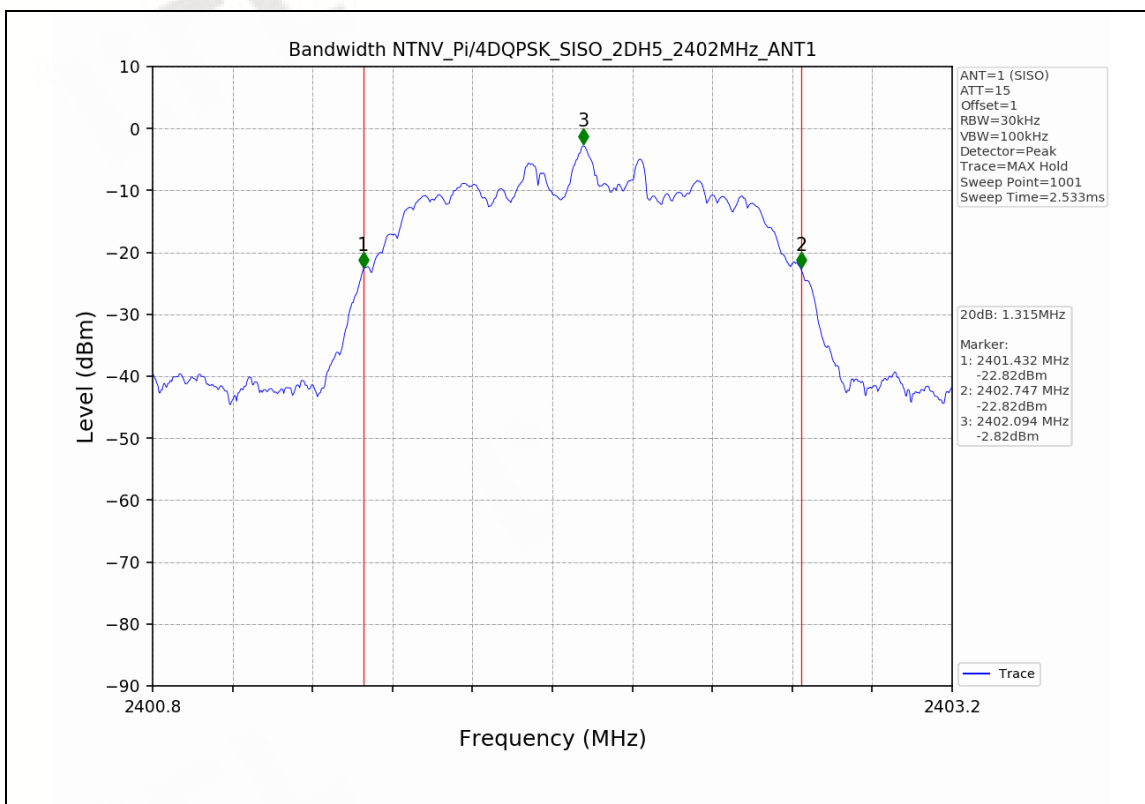
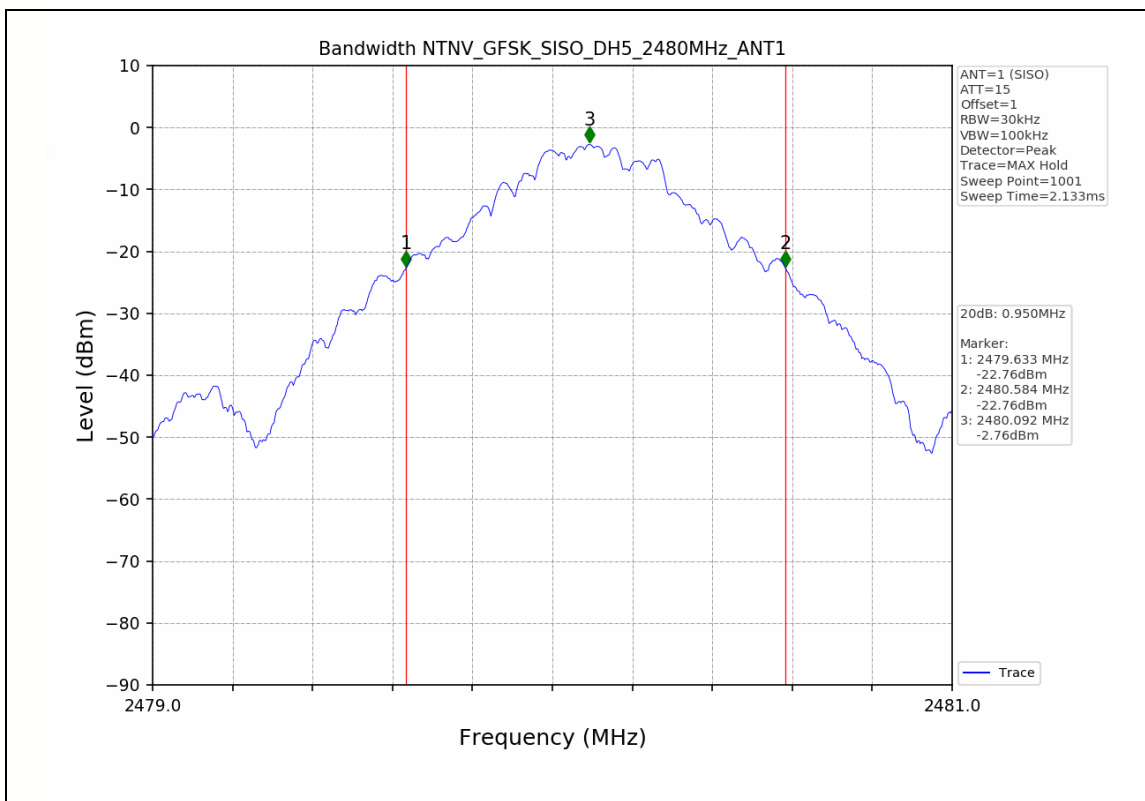
#### 1.1 Test Result

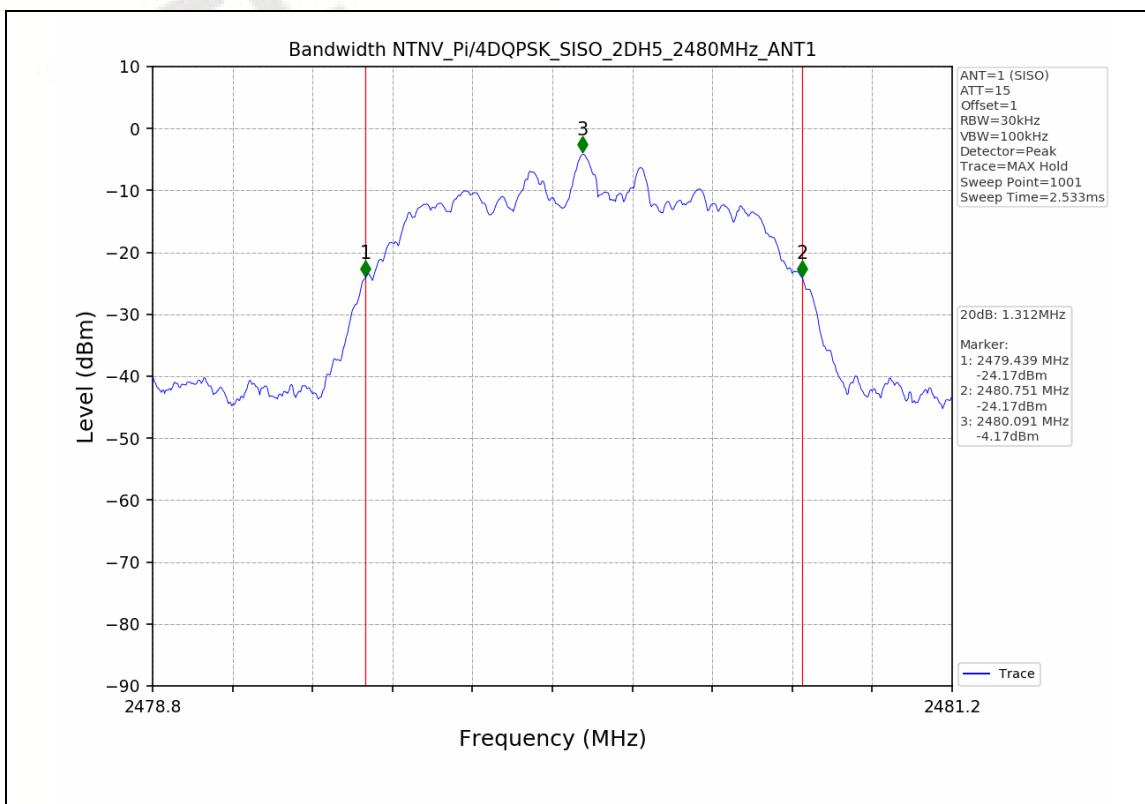
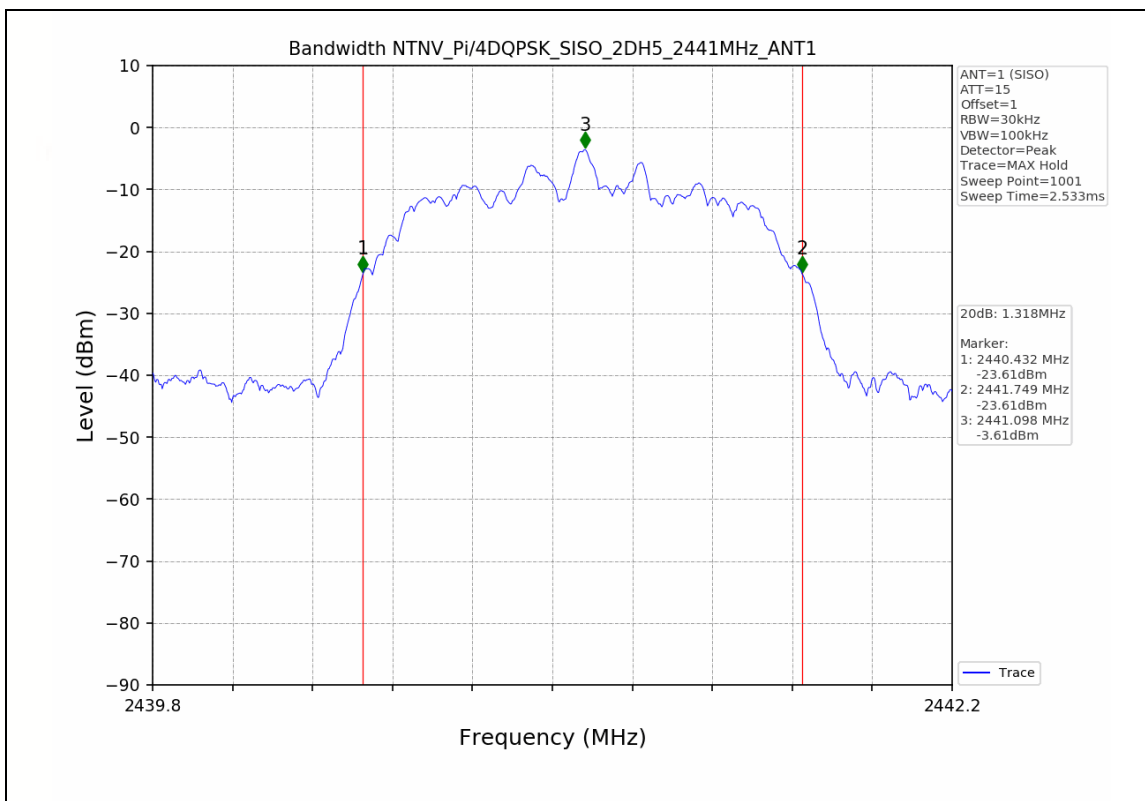
| Test Mode | Frequency (MHz) | TX Type | ANT No. | 20dB Bandwidth    | Verdict |
|-----------|-----------------|---------|---------|-------------------|---------|
|           |                 |         |         | Test Result (MHz) |         |
| GFSK      | 2402            | SISO    | 1       | 0.950             | PASS    |
|           | 2441            | SISO    | 1       | 0.951             | PASS    |
|           | 2480            | SISO    | 1       | 0.950             | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 1       | 1.315             | PASS    |
|           | 2441            | SISO    | 1       | 1.318             | PASS    |
|           | 2480            | SISO    | 1       | 1.312             | PASS    |
| 8DPSK     | 2402            | SISO    | 1       | 1.319             | PASS    |
|           | 2441            | SISO    | 1       | 1.316             | PASS    |
|           | 2480            | SISO    | 1       | 1.315             | PASS    |

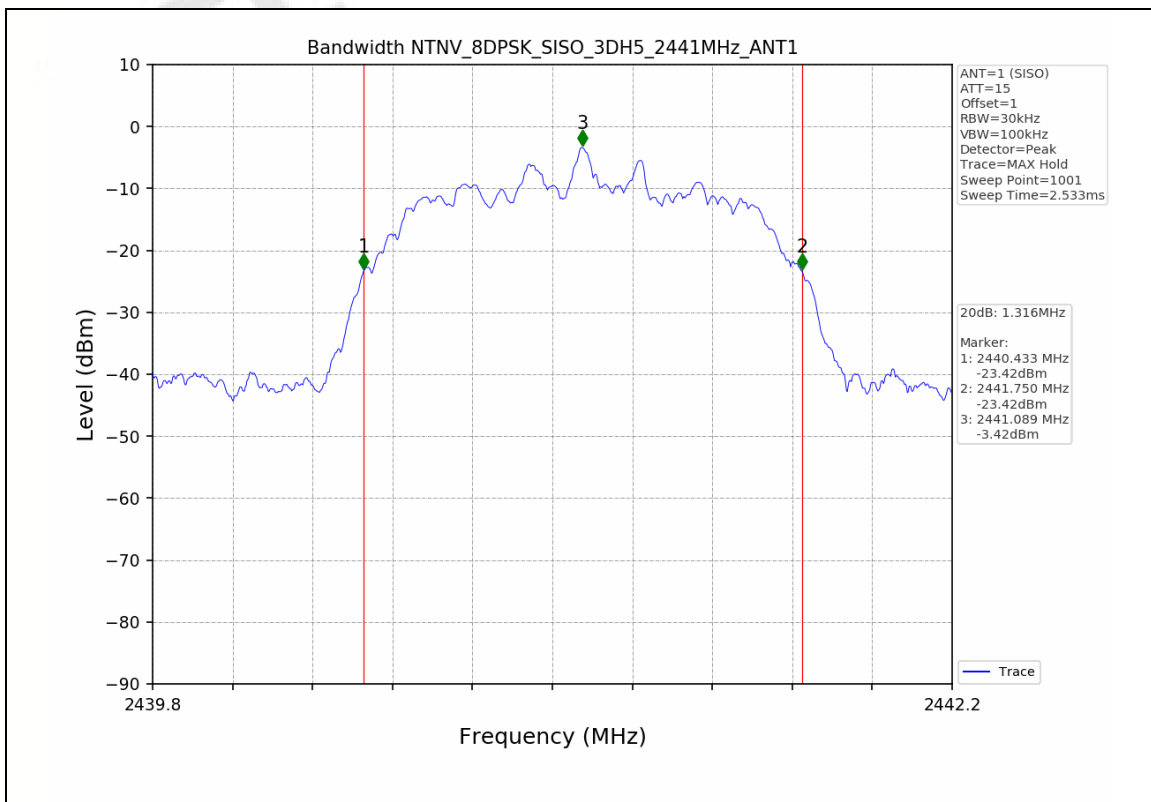
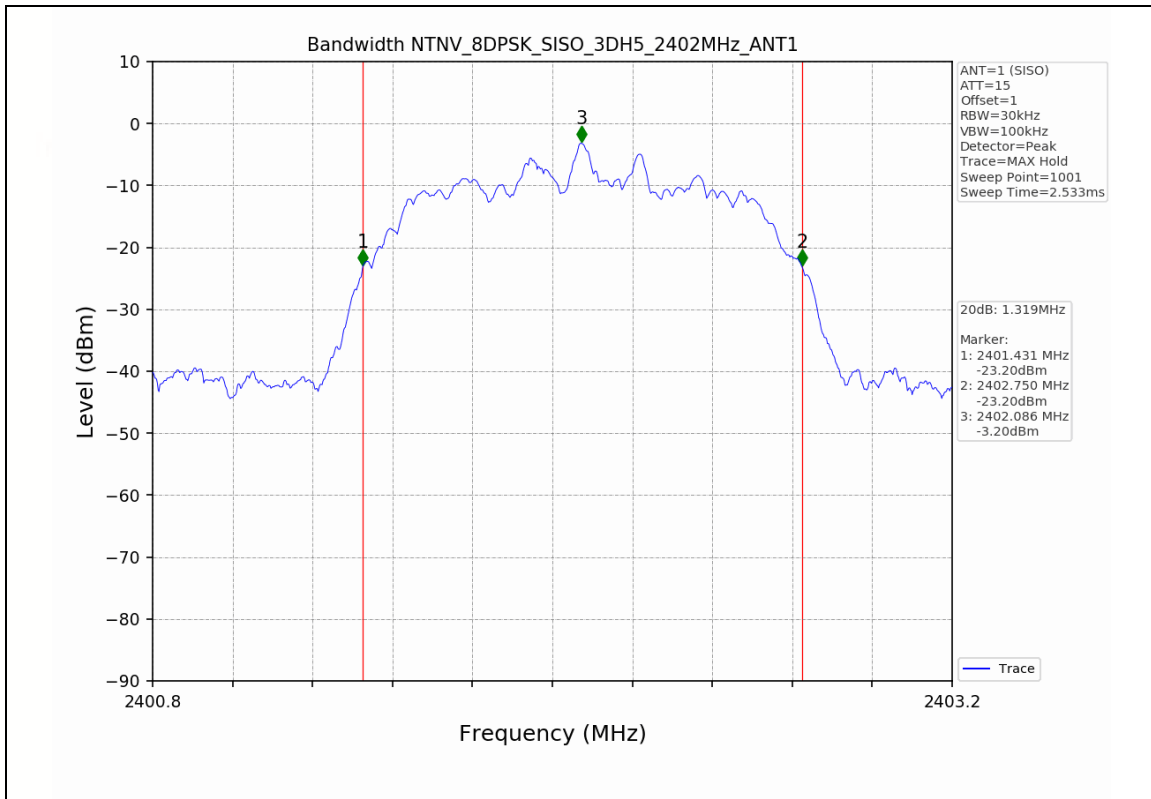
| Test Mode | Frequency (MHz) | TX Type | ANT No. | 99% Occupied Bandwidth |                     |
|-----------|-----------------|---------|---------|------------------------|---------------------|
|           |                 |         |         | Test Result (MHz)      |                     |
| GFSK      | 2402            | SISO    | 1       | 0.853                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 0.854                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 0.854                  | Only for Report Use |
| Pi/4DQPSK | 2402            | SISO    | 1       | 1.185                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 1.193                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 1.190                  | Only for Report Use |
| 8DPSK     | 2402            | SISO    | 1       | 1.189                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 1.185                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 1.188                  | Only for Report Use |

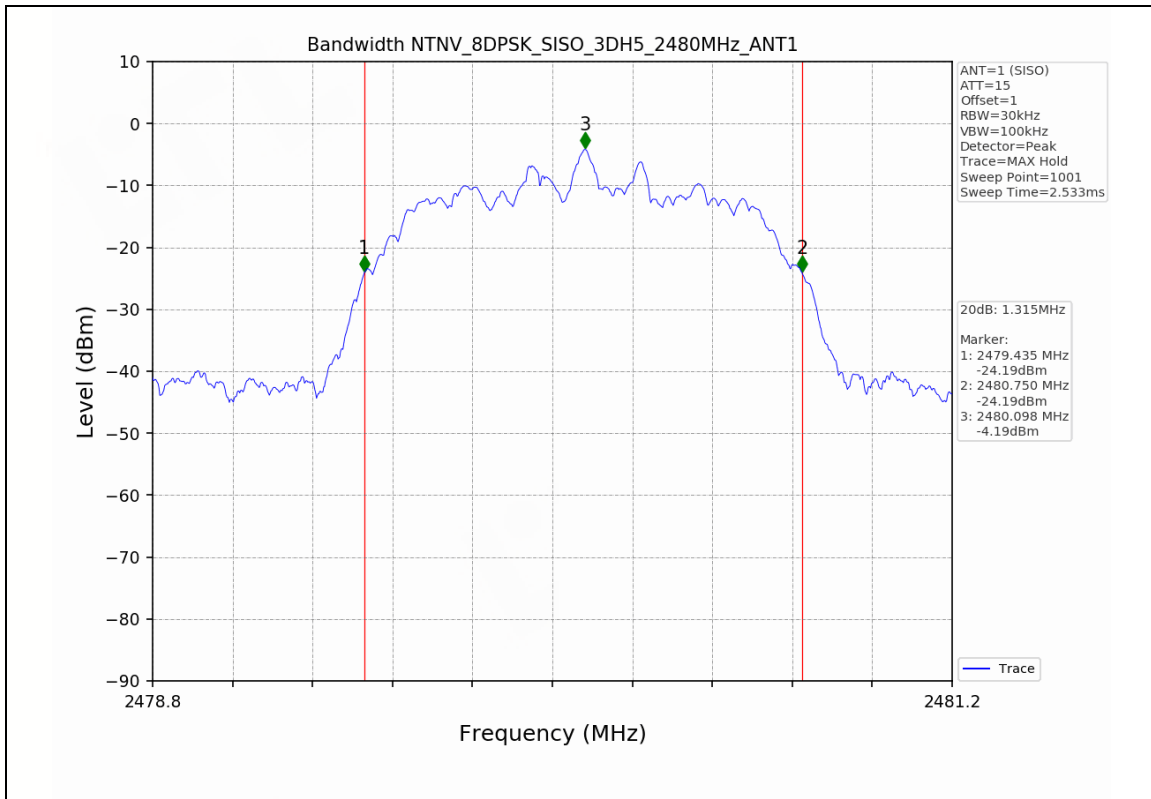
#### 1.2 Test Graph - 20dB Bandwidth



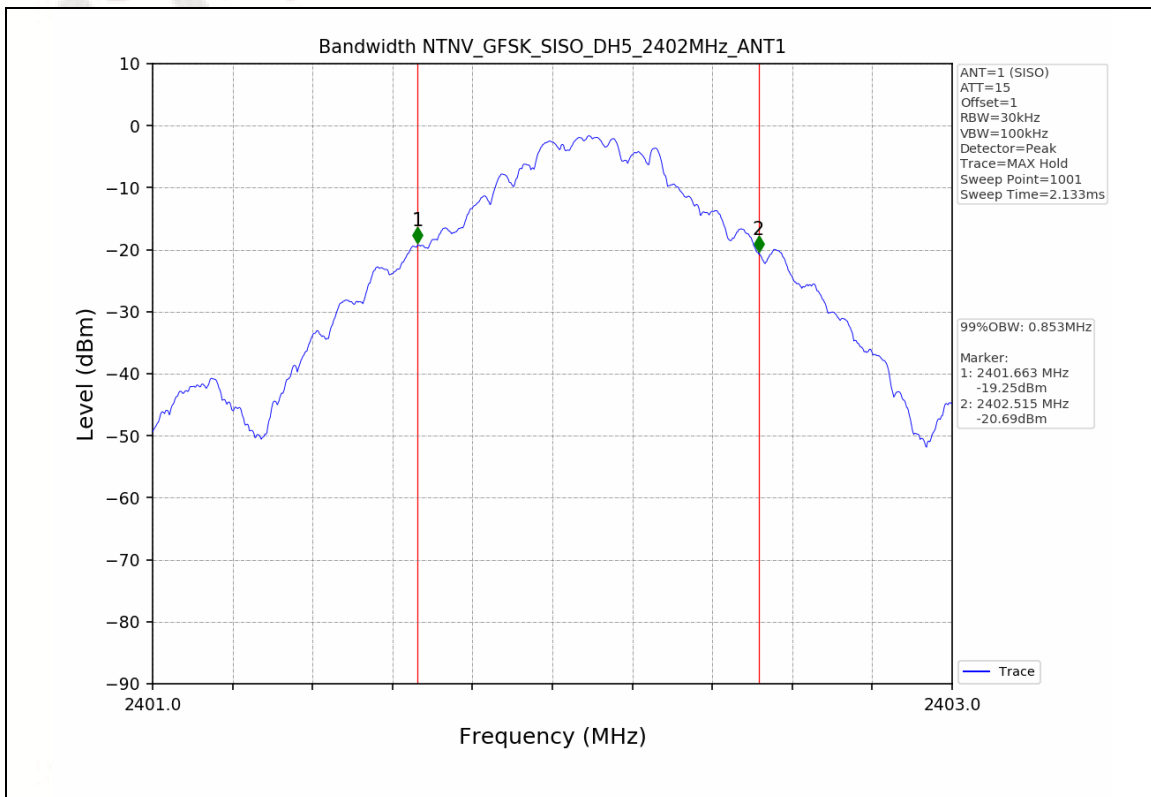


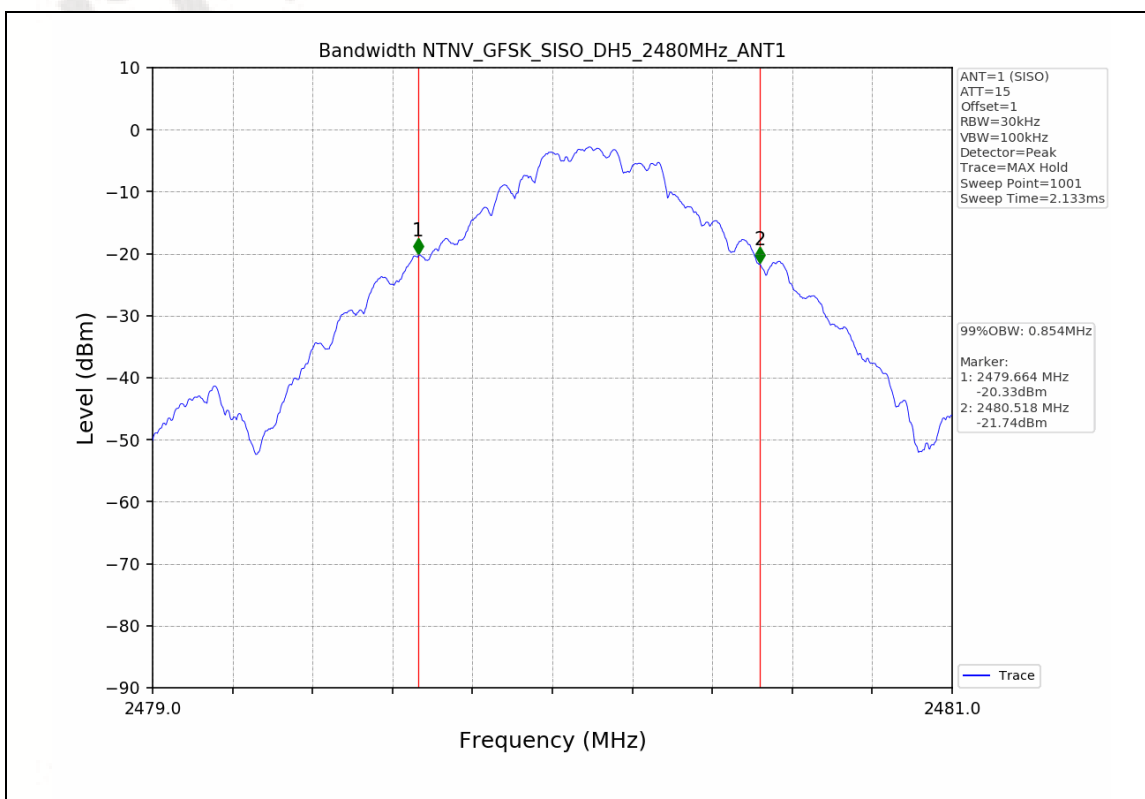
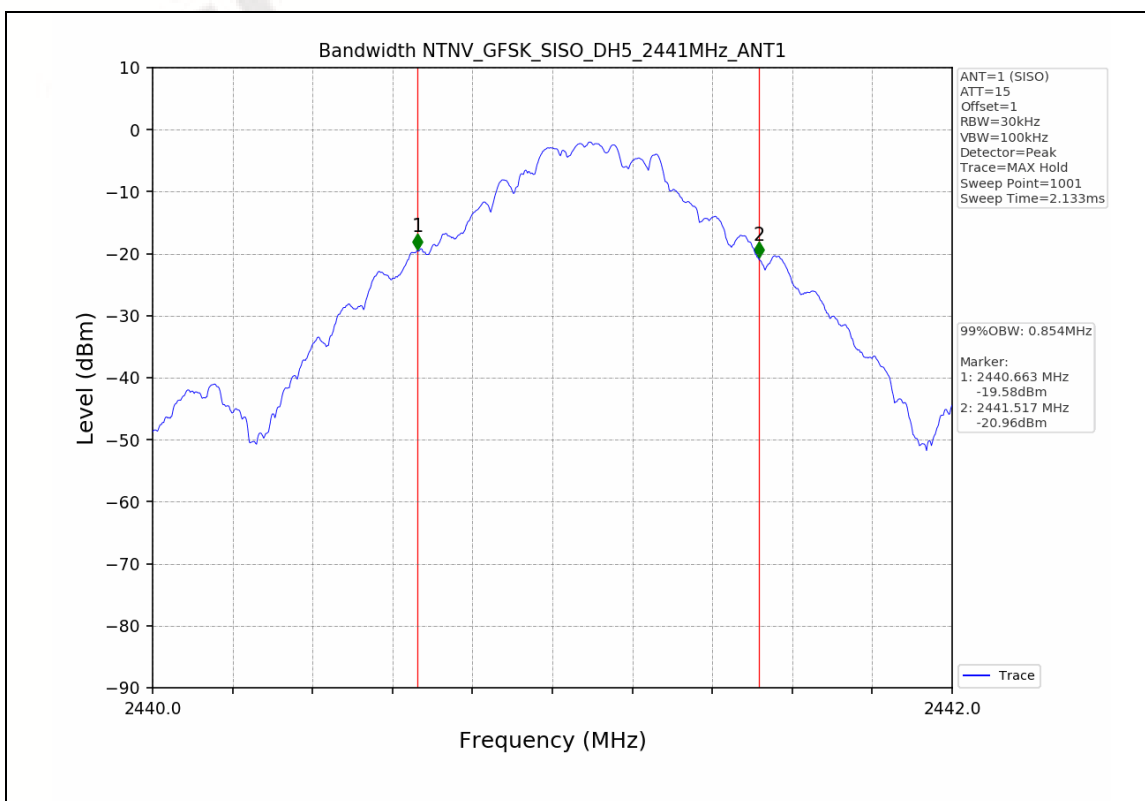


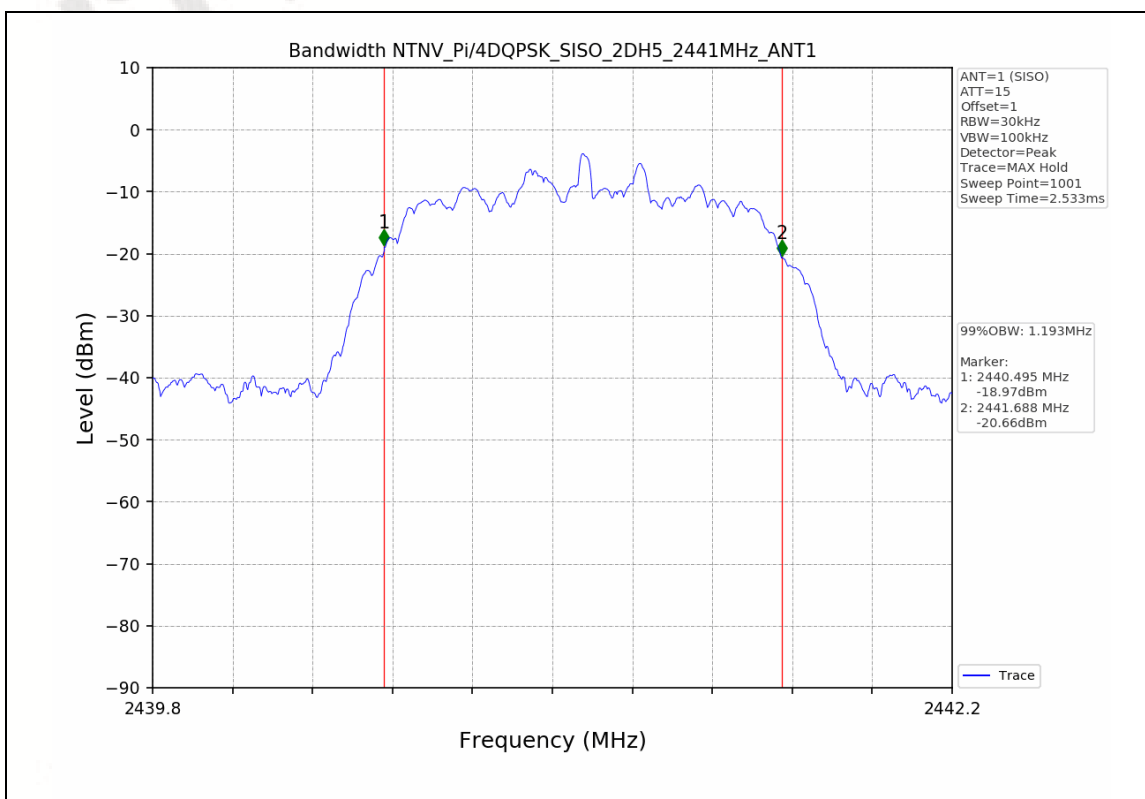
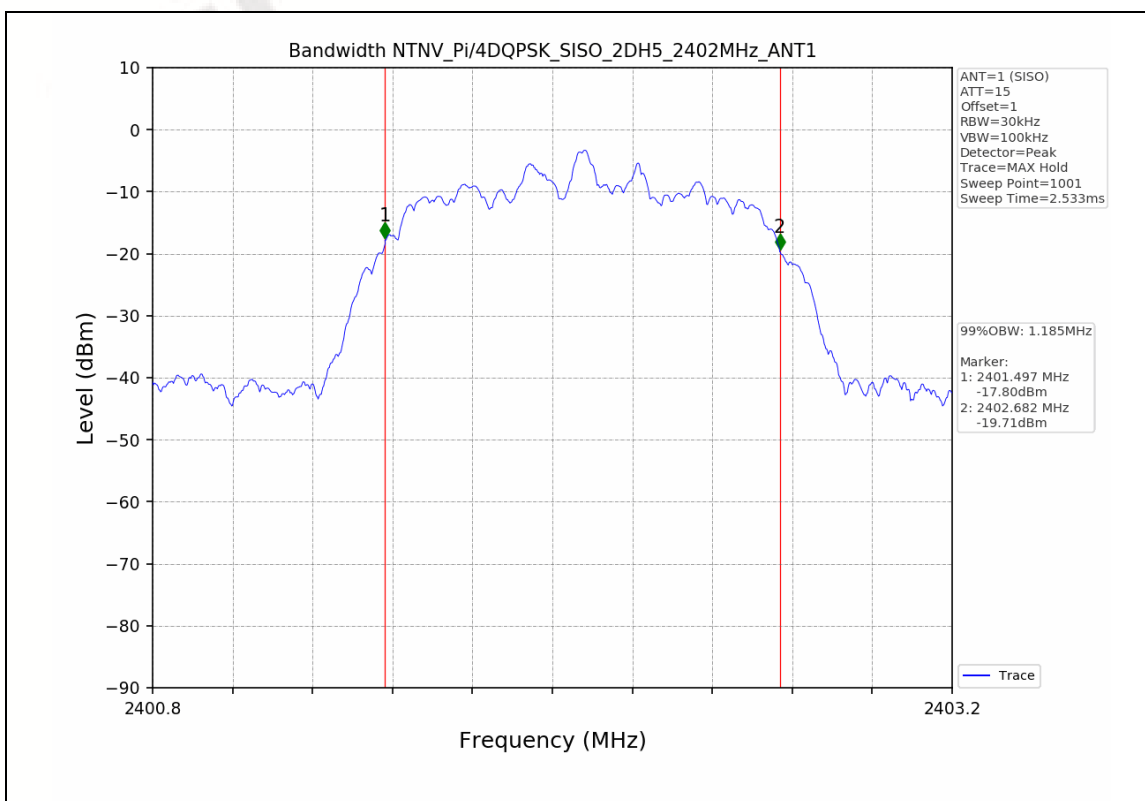




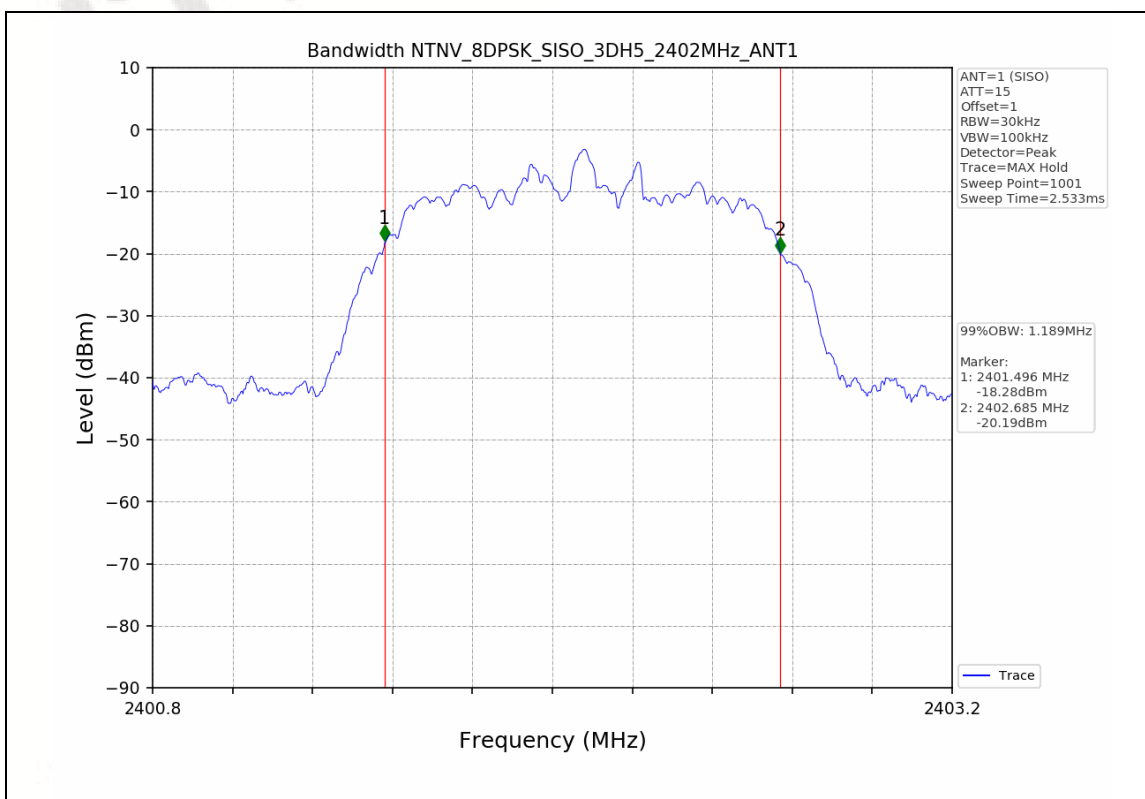
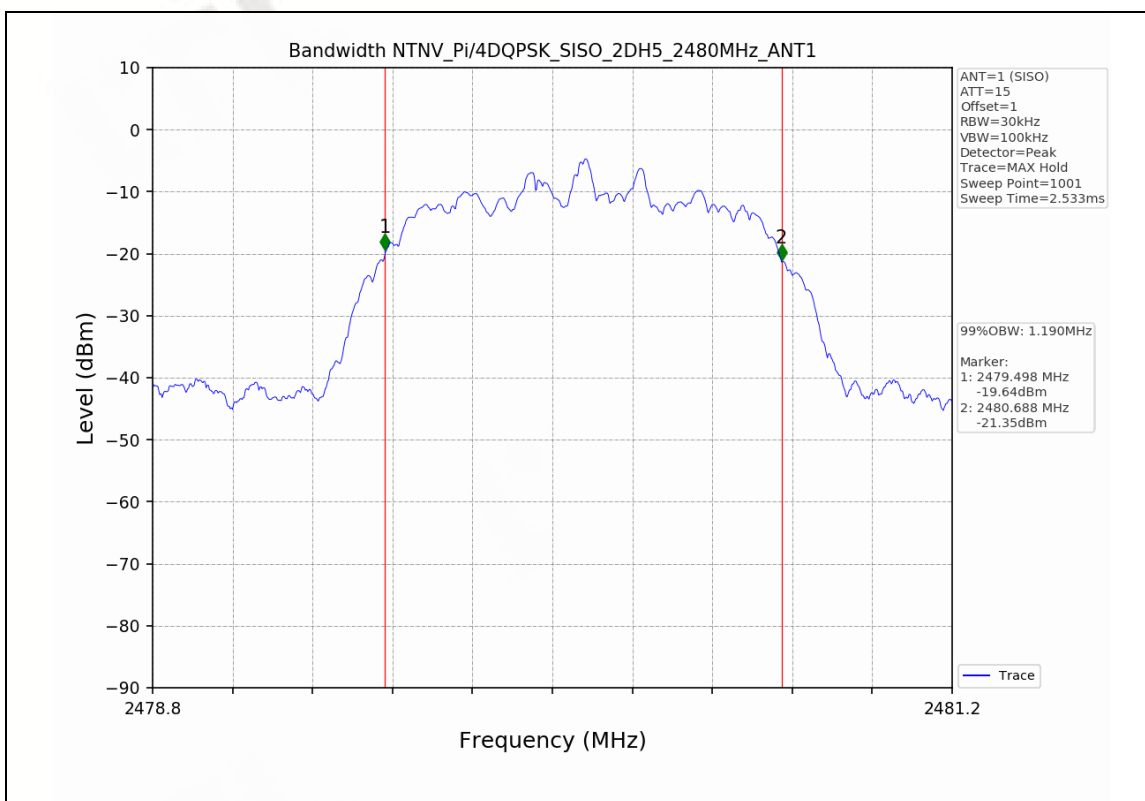
### 1.3 Test Graph - 99% Occupied Bandwidth

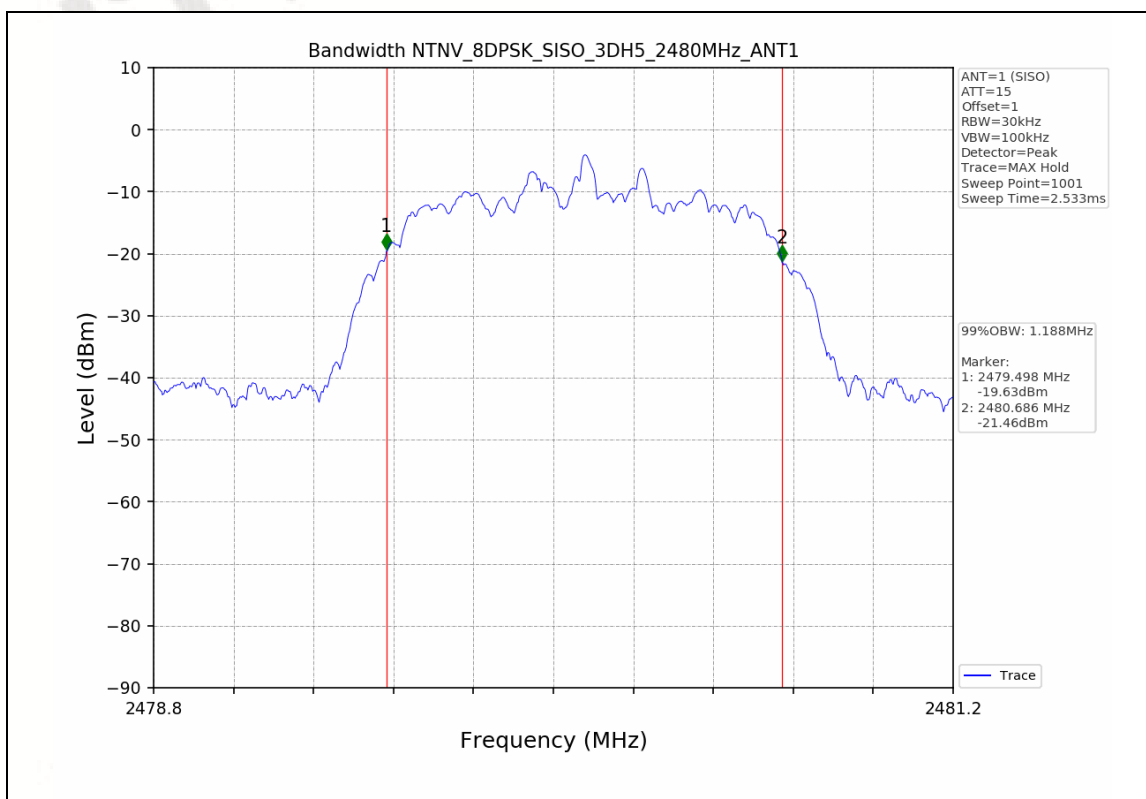
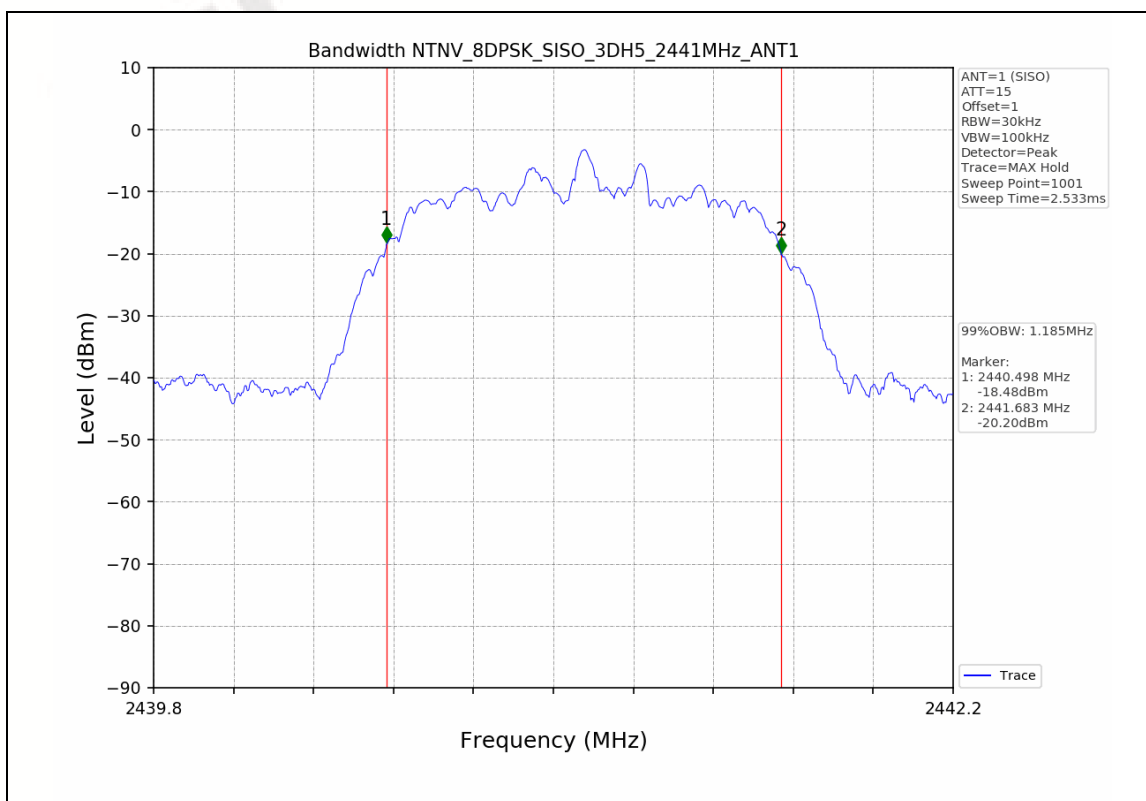










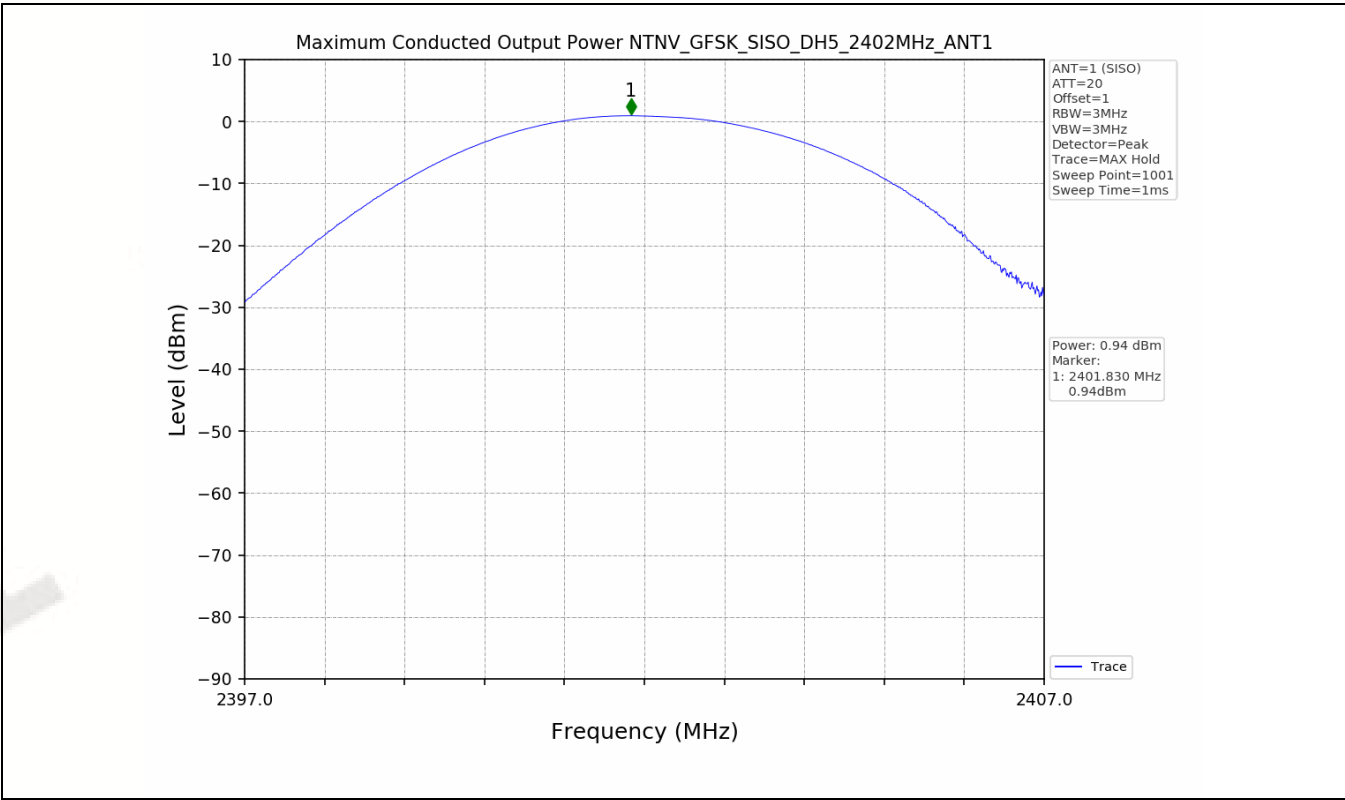


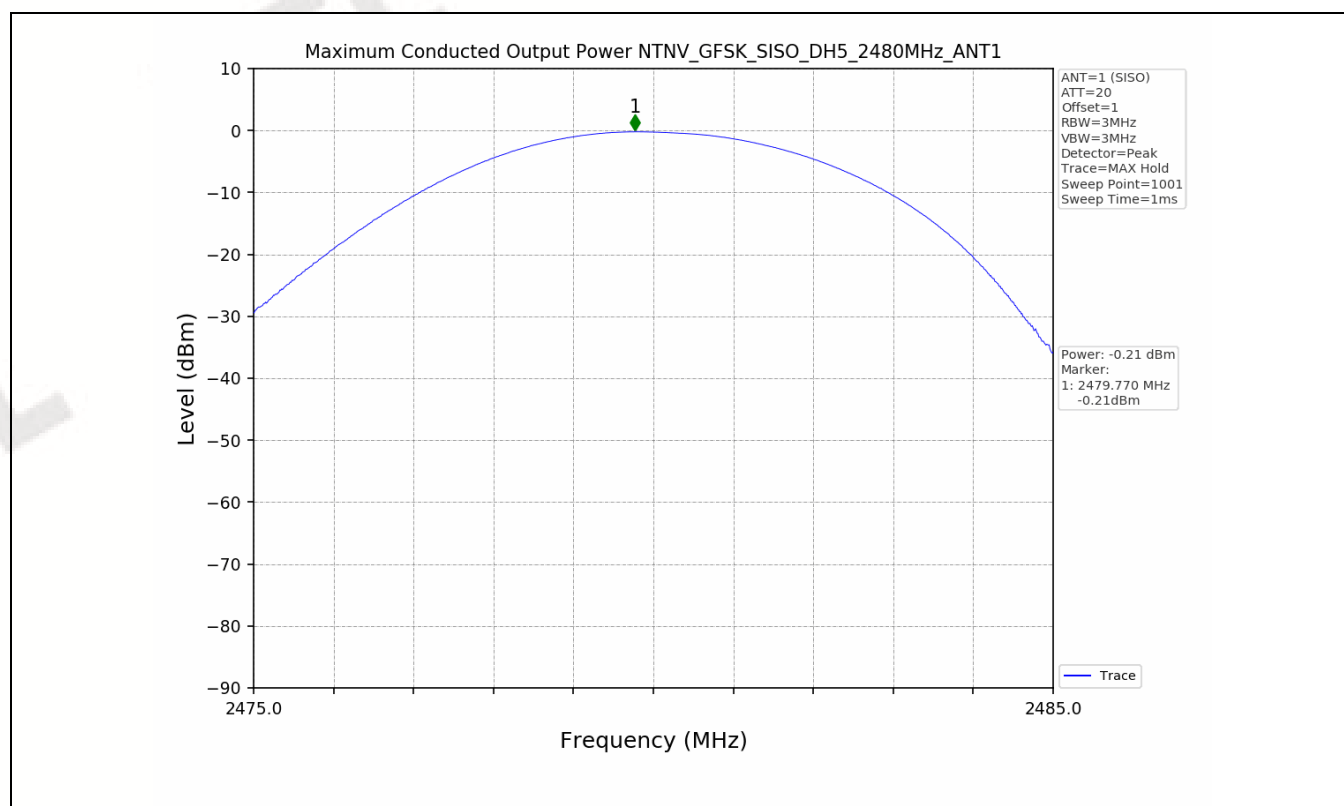
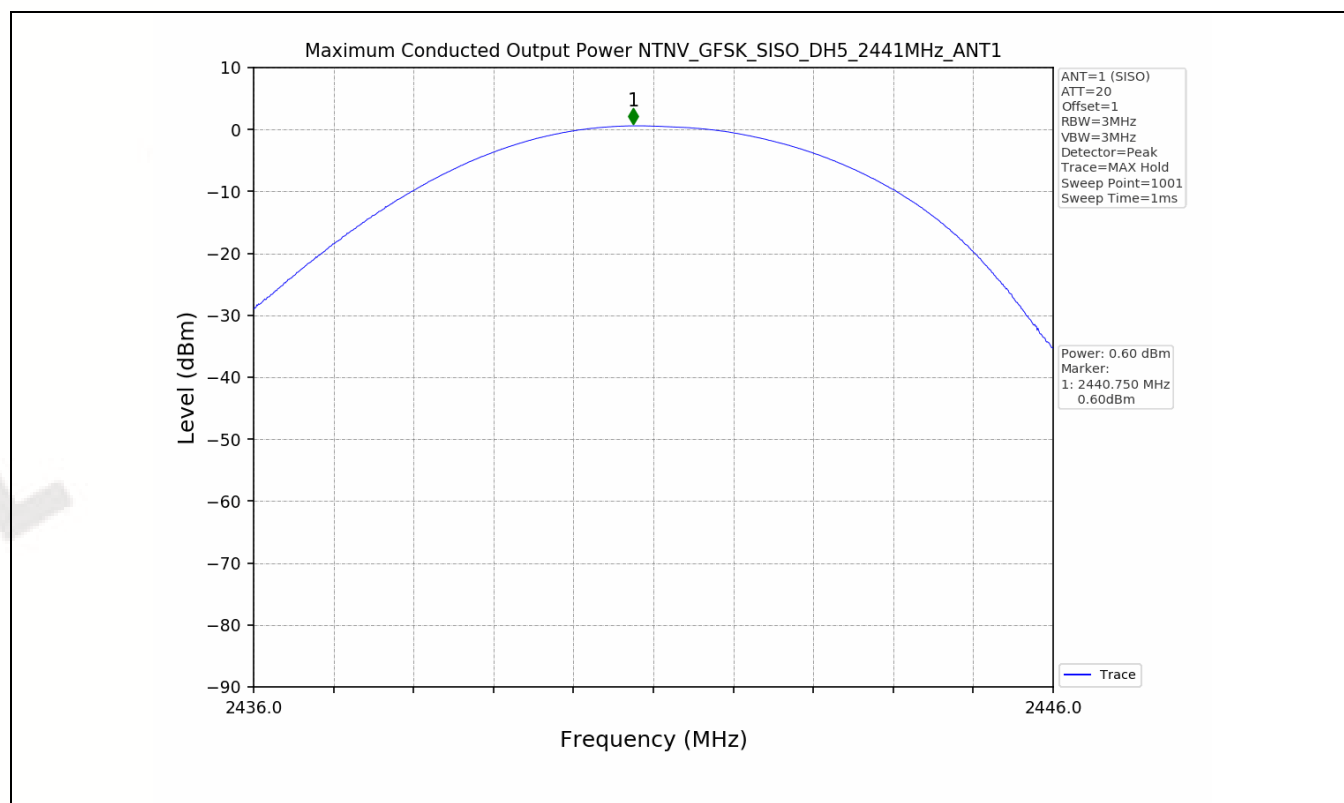
2. Maximum Conducted Output Power

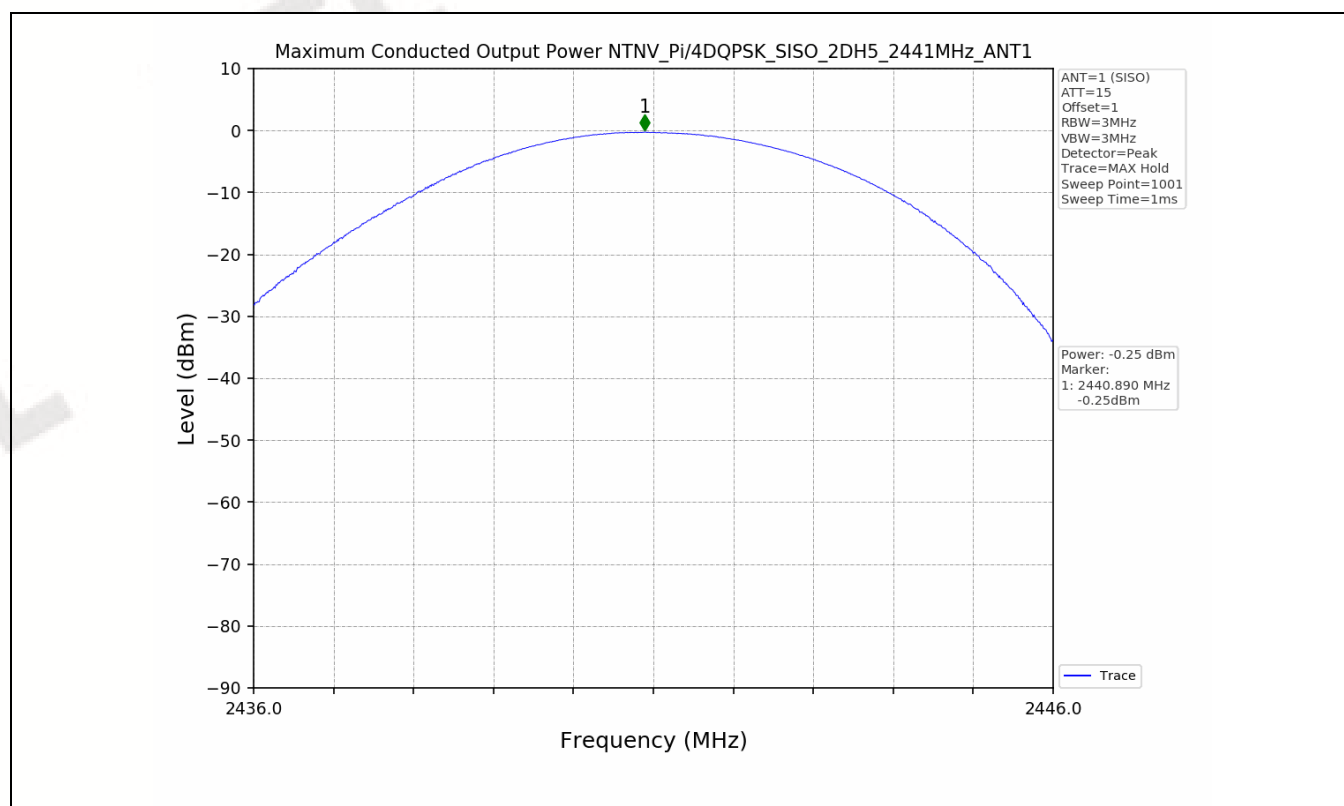
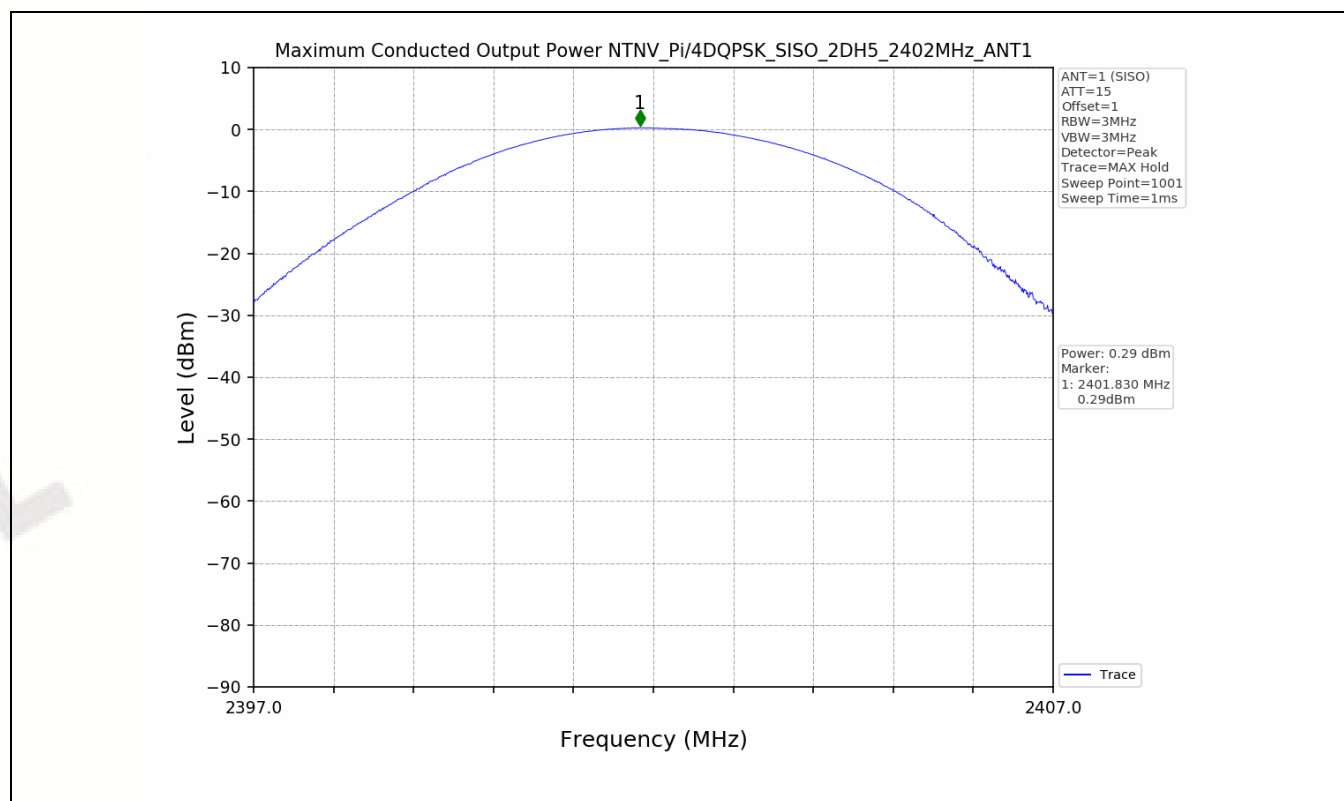
2.1 Test Result

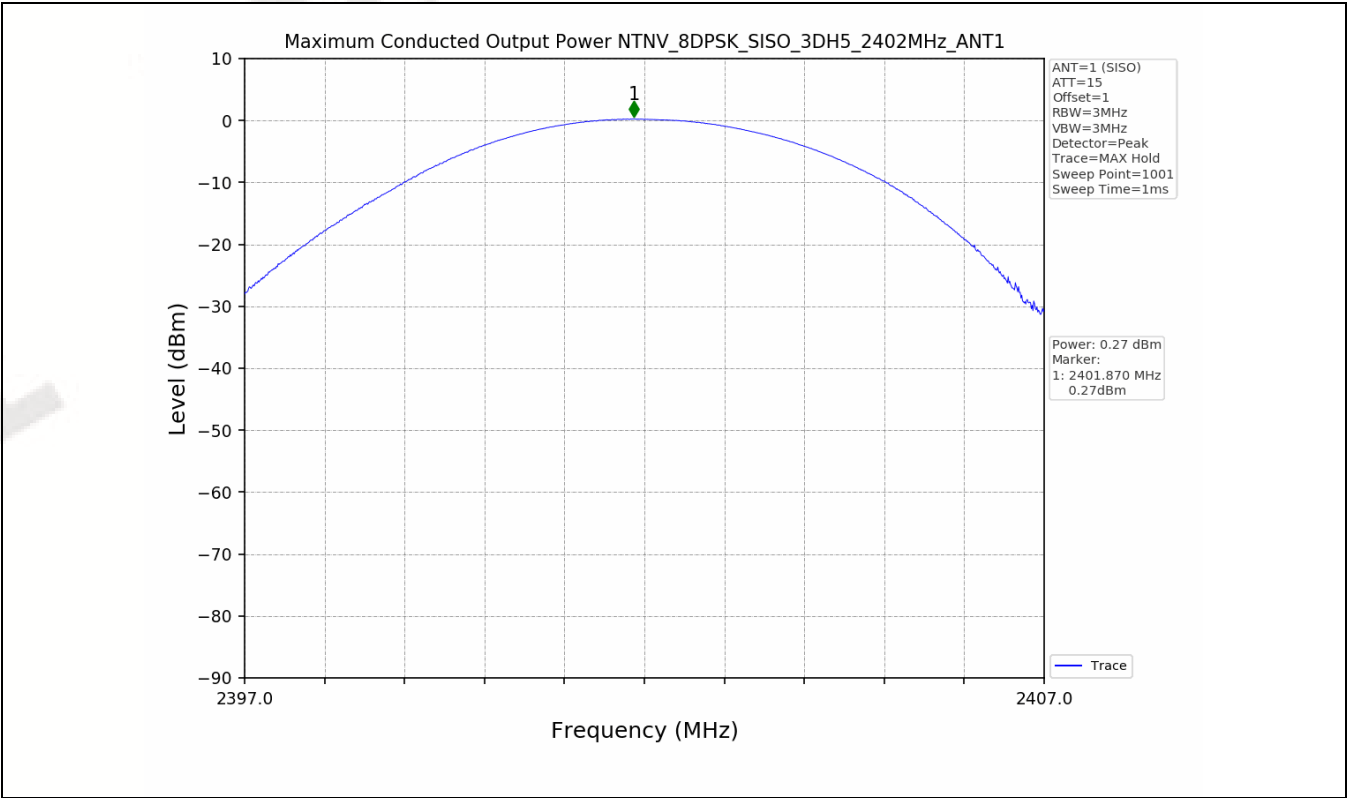
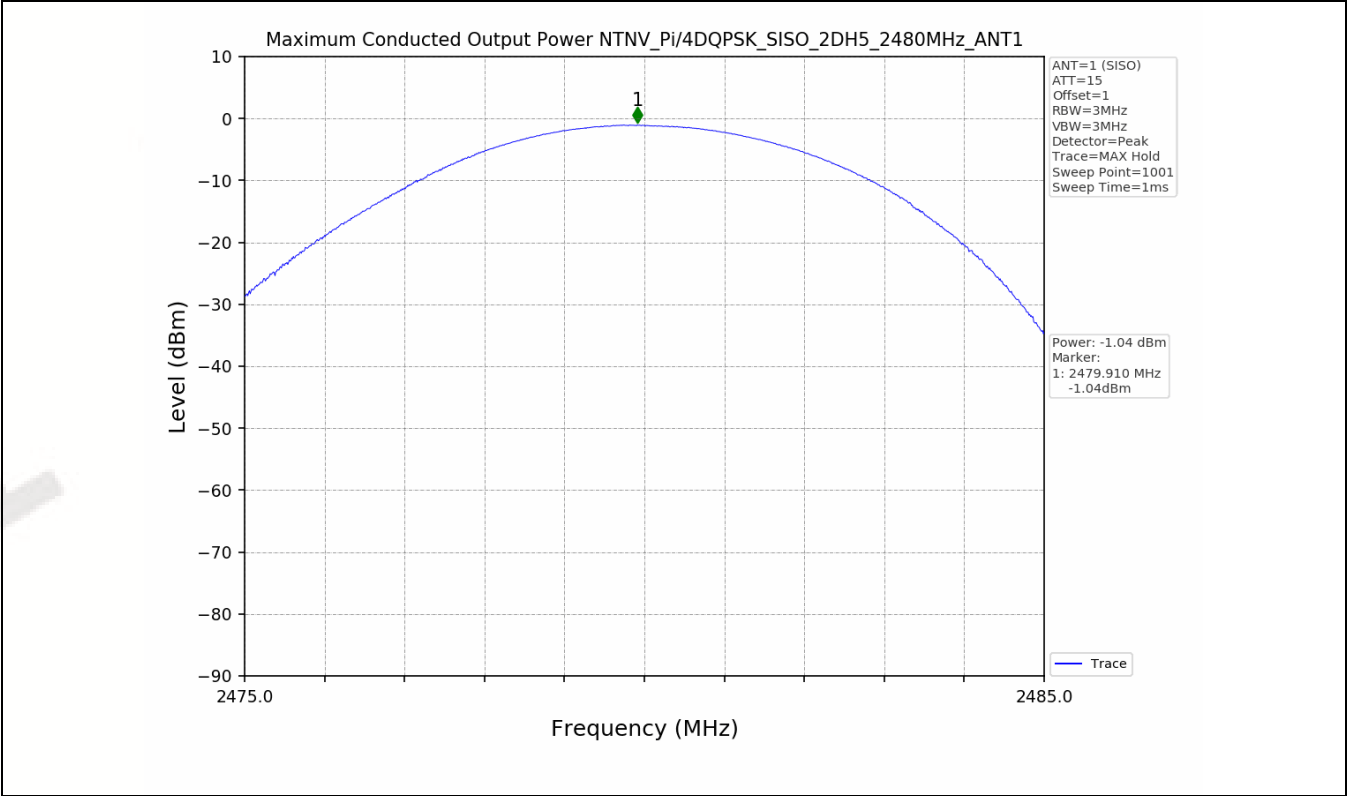
| Test Mode | Frequency (MHz) | Tx Type | Measured Peak Output Power (dBm) | Limits (dBm) | Verdict |
|-----------|-----------------|---------|----------------------------------|--------------|---------|
|           |                 |         | Ant 1                            |              |         |
| GFSK      | 2402            | SISO    | 0.94                             | 30           | PASS    |
|           | 2441            | SISO    | 0.60                             | 30           | PASS    |
|           | 2480            | SISO    | -0.21                            | 30           | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 0.29                             | 20.97        | PASS    |
|           | 2441            | SISO    | -0.25                            | 20.97        | PASS    |
|           | 2480            | SISO    | -1.04                            | 20.97        | PASS    |
| 8DPSK     | 2402            | SISO    | 0.27                             | 20.97        | PASS    |
|           | 2441            | SISO    | -0.21                            | 20.97        | PASS    |
|           | 2480            | SISO    | -0.97                            | 20.97        | PASS    |

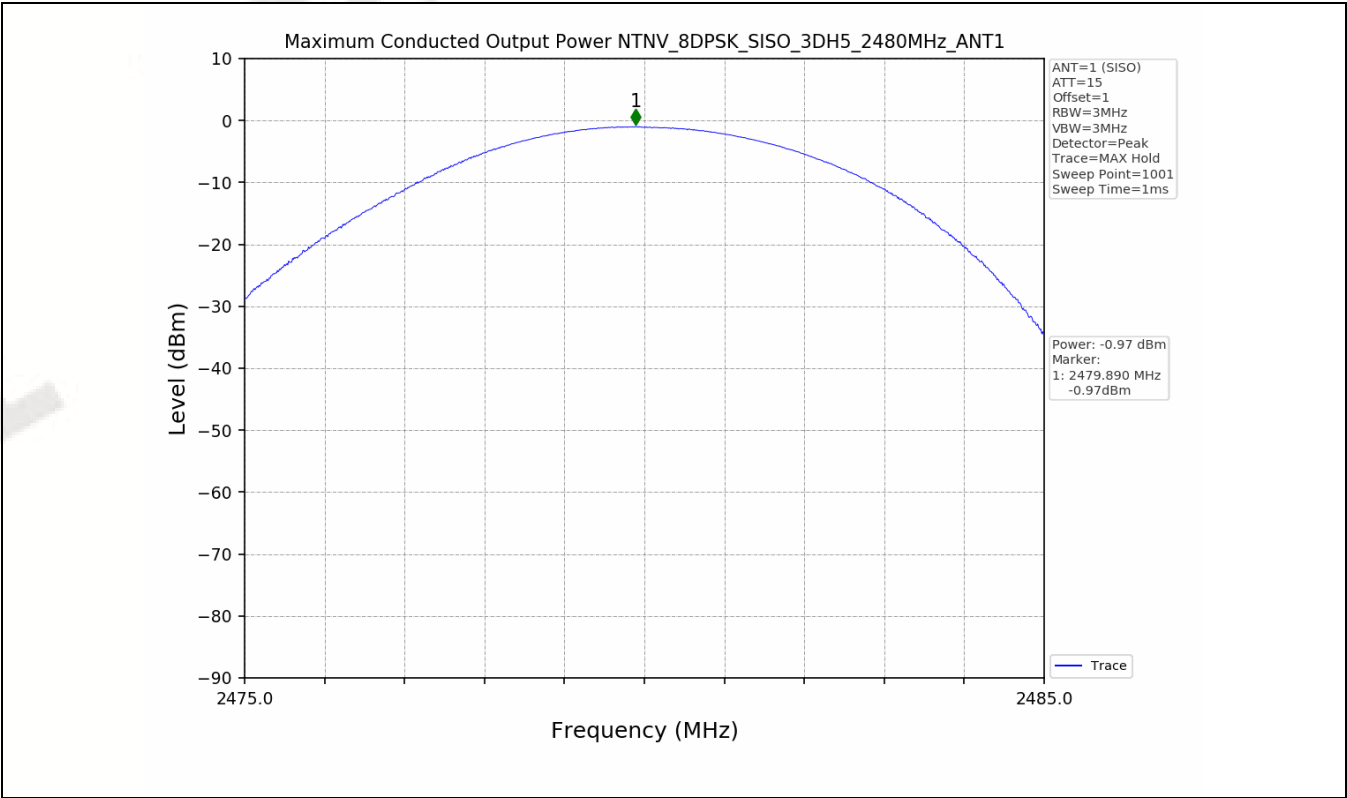
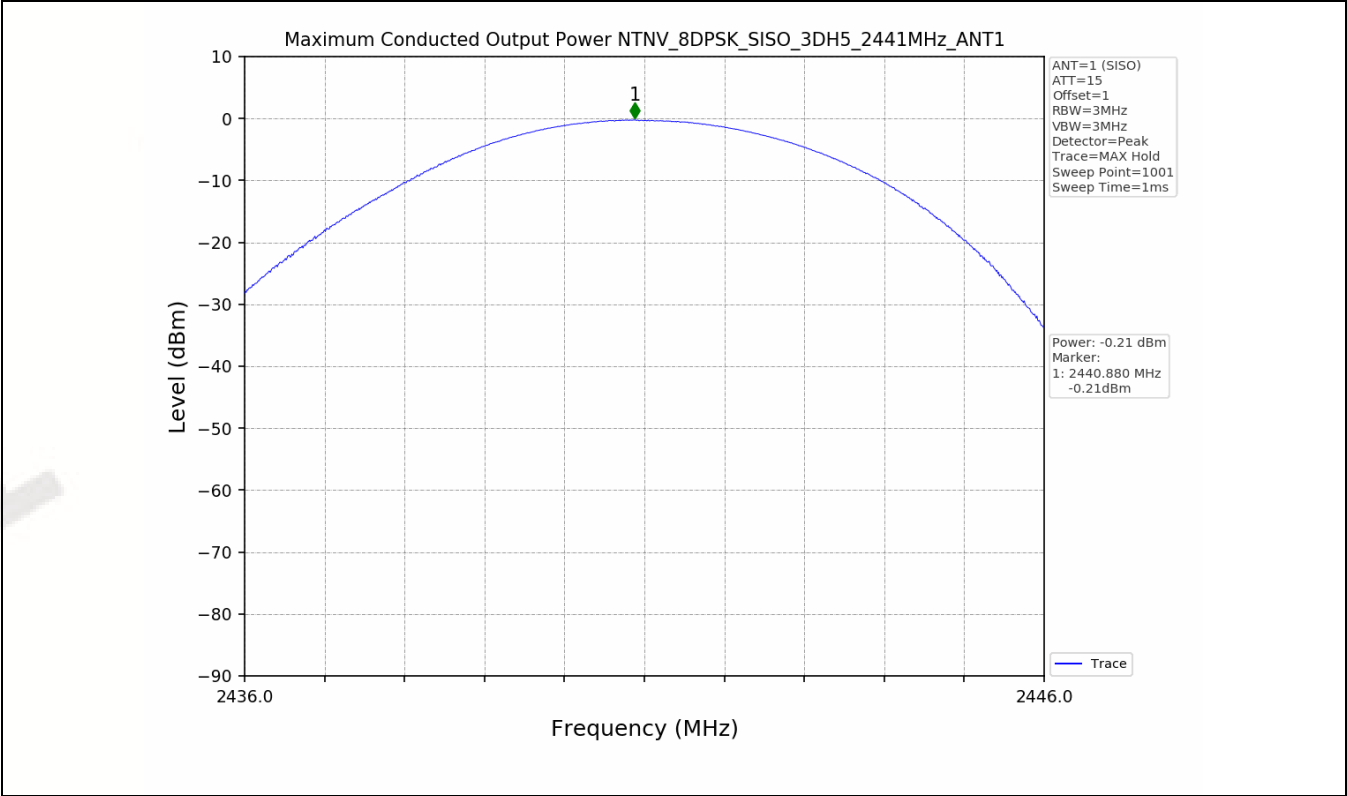
2.2 Test Graph









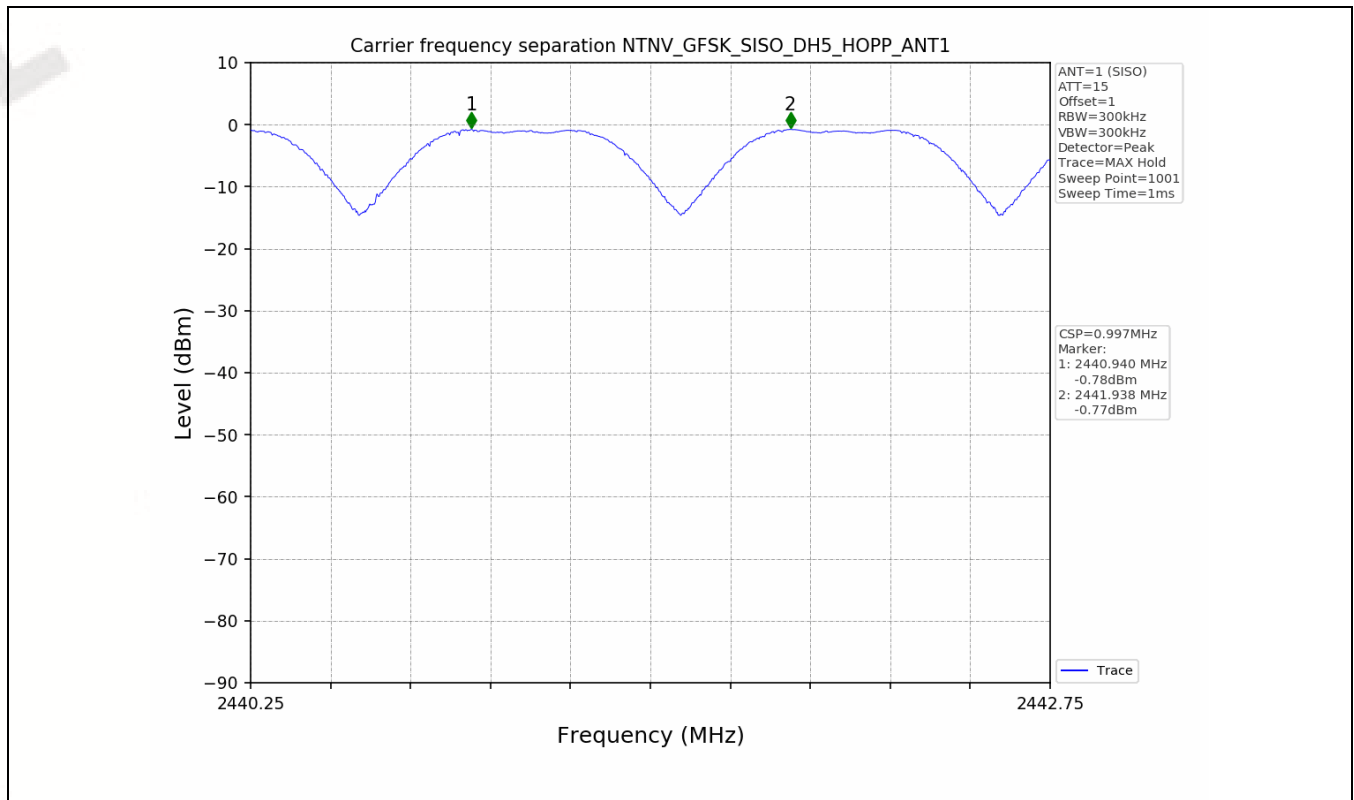


### 3. Carrier frequency separation

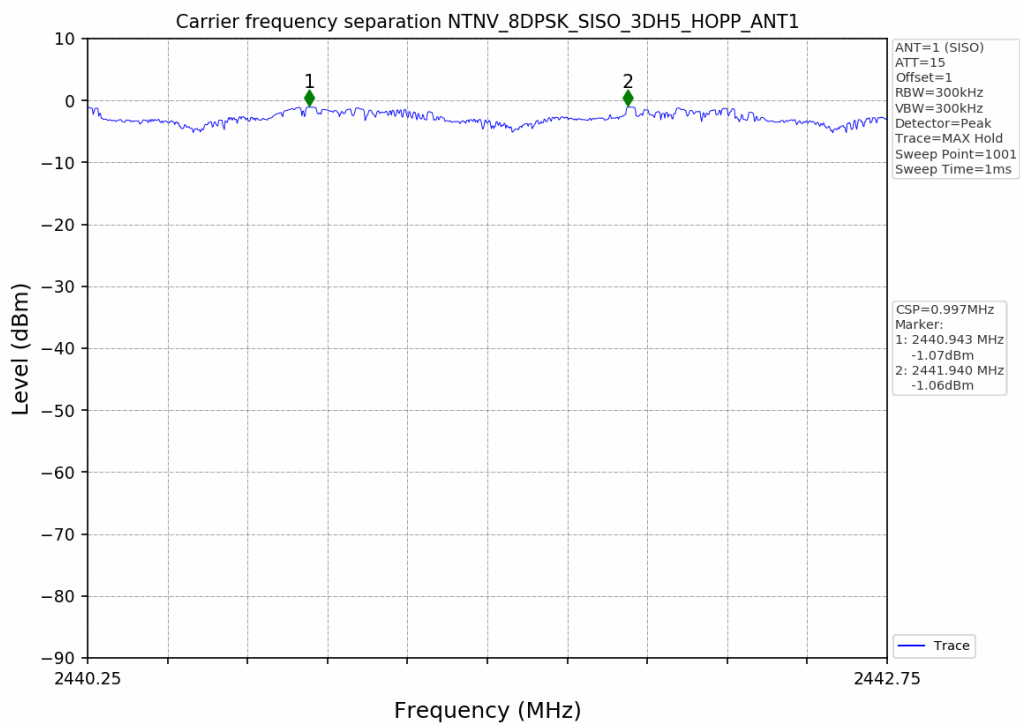
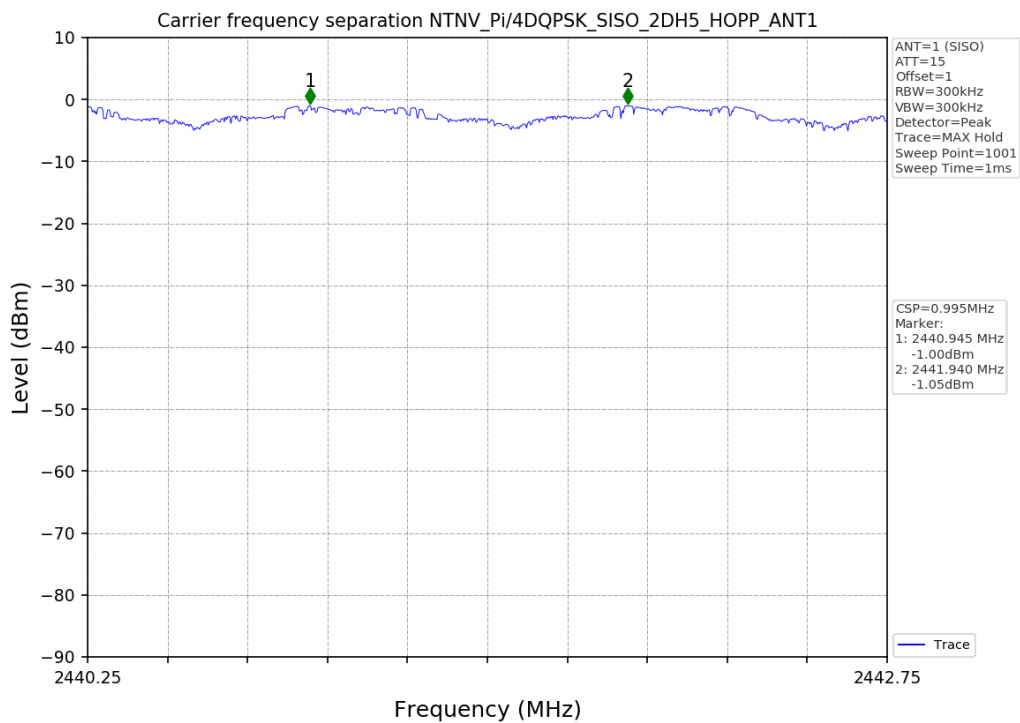
#### 3.1 Test Result

| Test Mode | TX Type | ANT No. | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limits (MHz) | Verdict |
|-----------|---------|---------|--------------------------|----------------------|--------------|---------|
| GFSK      | SISO    | 1       | 0.997                    | 0.951                | $\geq 0.951$ | PASS    |
| Pi/4DQPSK | SISO    | 1       | 0.995                    | 1.318                | $\geq 0.879$ | PASS    |
| 8DPSK     | SISO    | 1       | 0.997                    | 1.319                | $\geq 0.879$ | PASS    |

#### 3.2 Test Graph





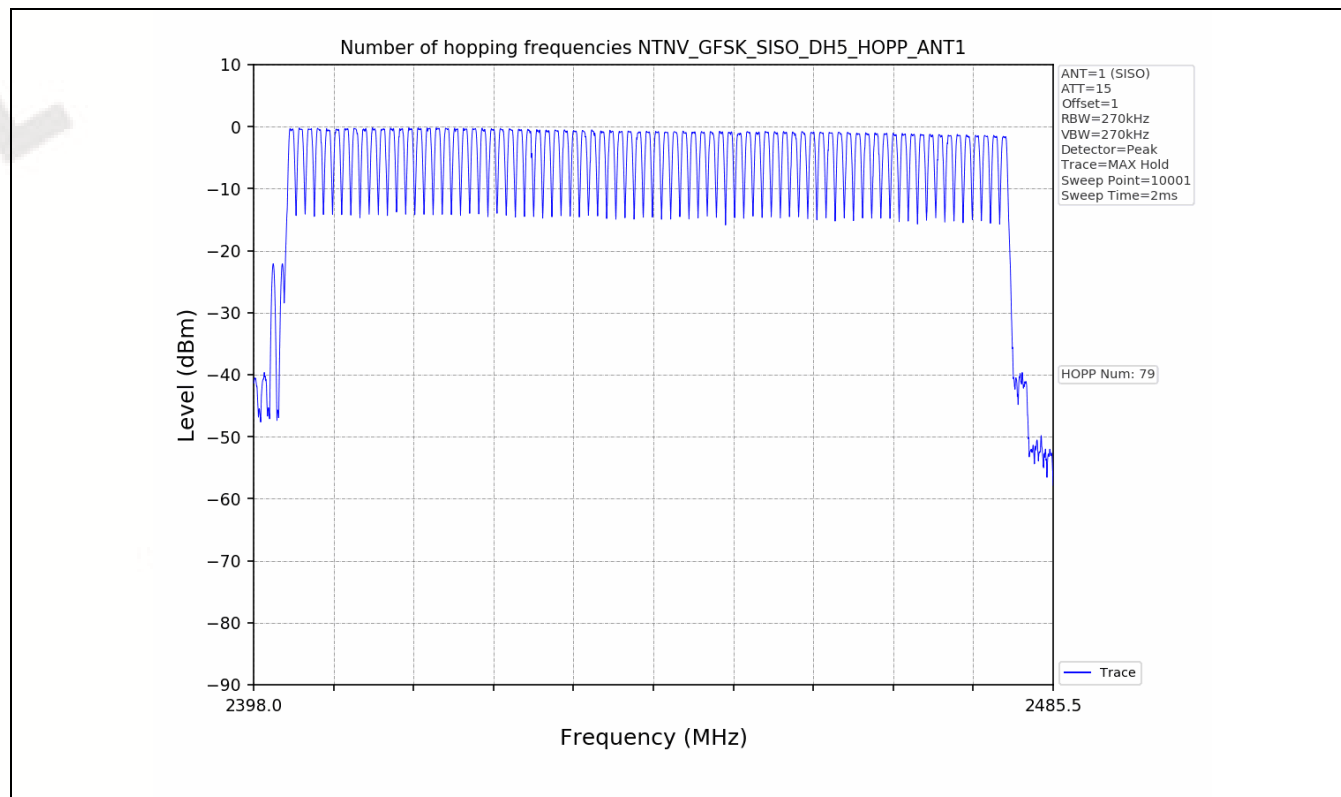


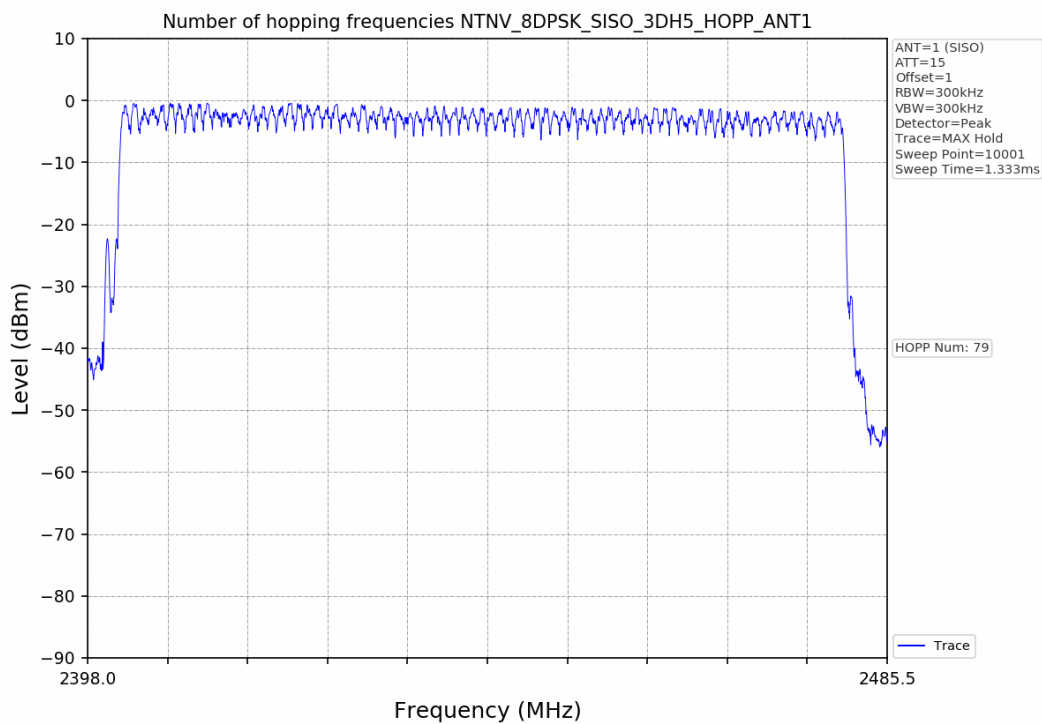
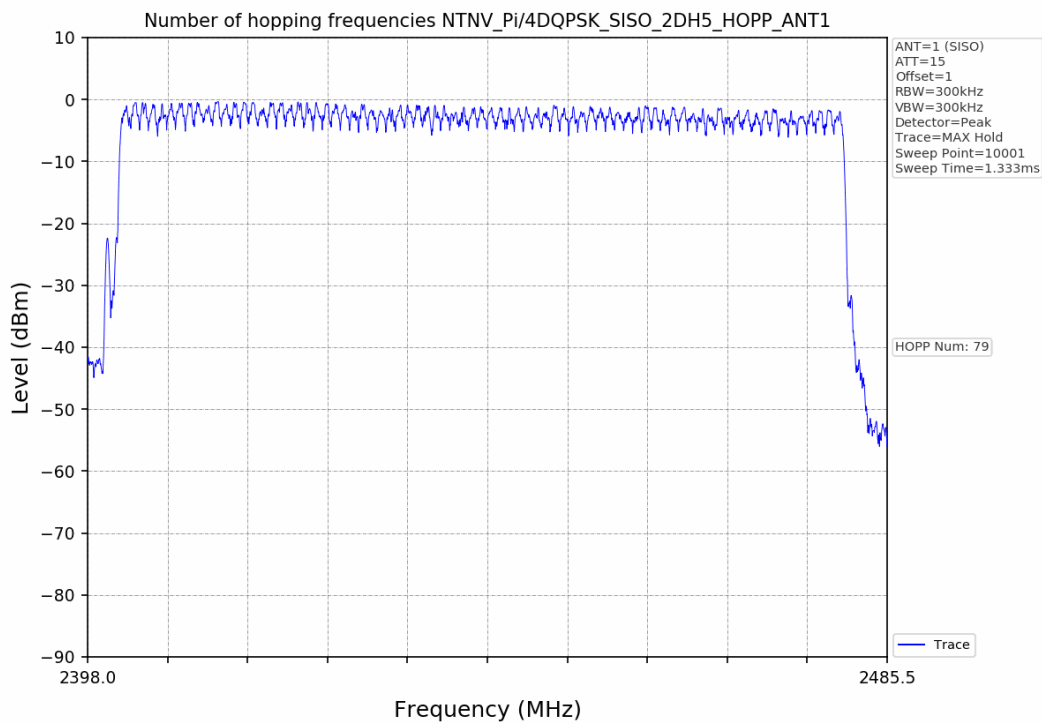
## 4. Number of hopping frequencies

### 4.1 Test Result

| Test Mode | TX Type | ANT No. | Num of Hopping Frequencies | Limits    | Verdict |
|-----------|---------|---------|----------------------------|-----------|---------|
| GFSK      | SISO    | 1       | 79                         | $\geq 15$ | PASS    |
| Pi/4DQPSK | SISO    | 1       | 79                         | $\geq 15$ | PASS    |
| 8DPSK     | SISO    | 1       | 79                         | $\geq 15$ | PASS    |

### 4.2 Test Graph



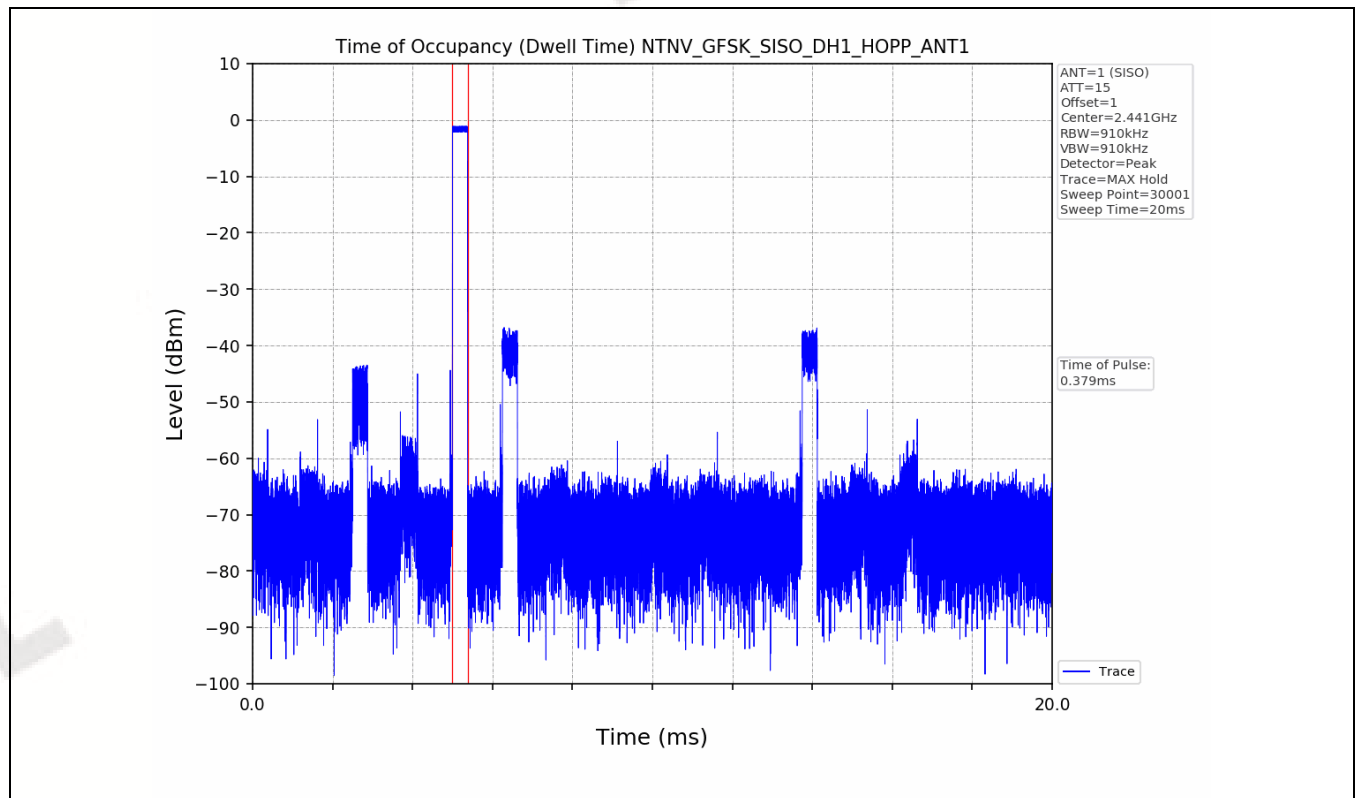


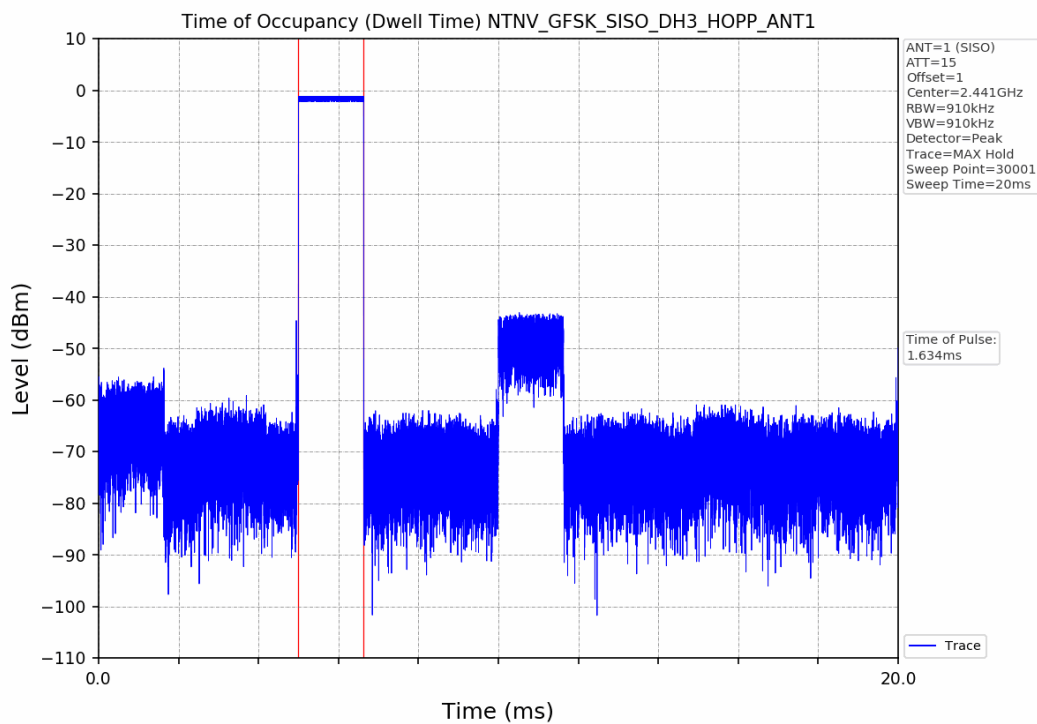
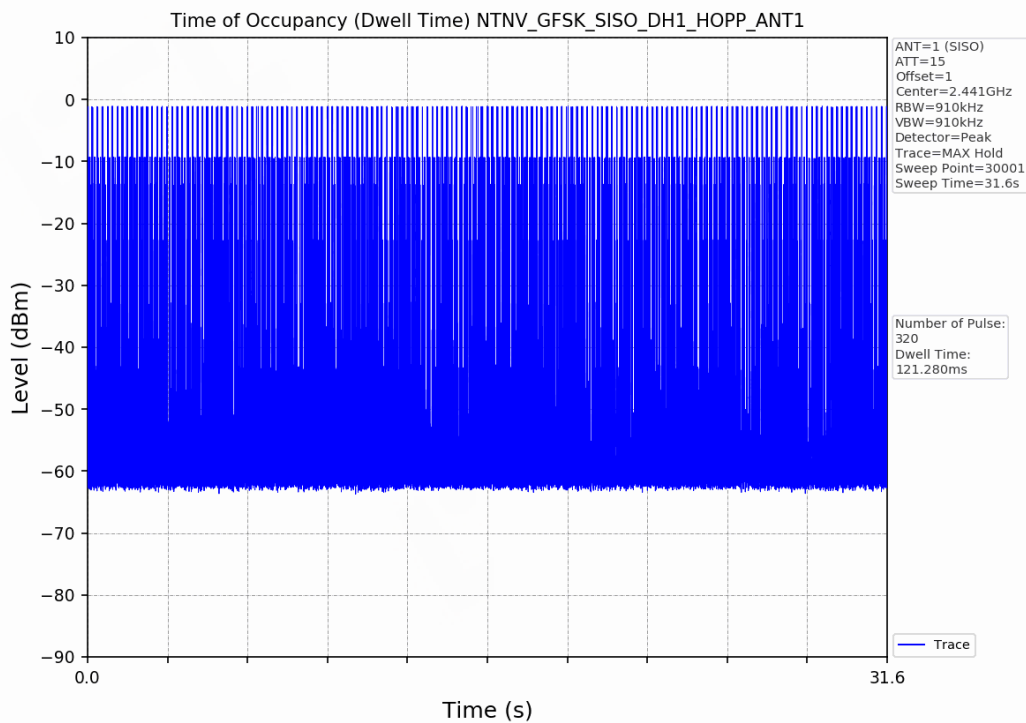
## 5. Time of Occupancy (Dwell Time)

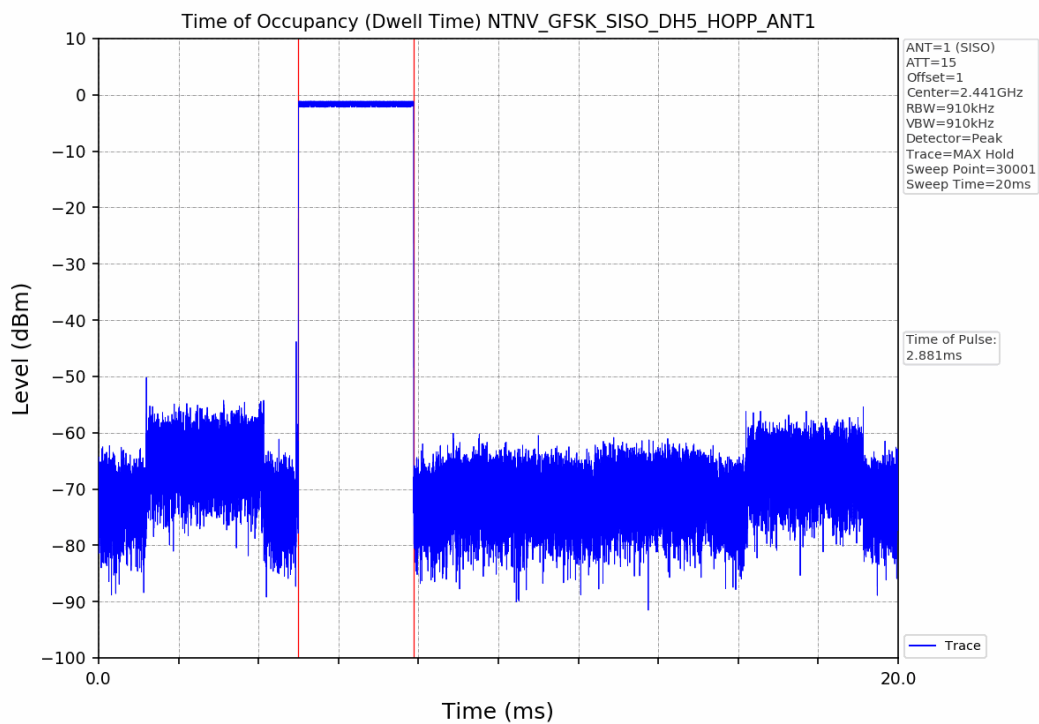
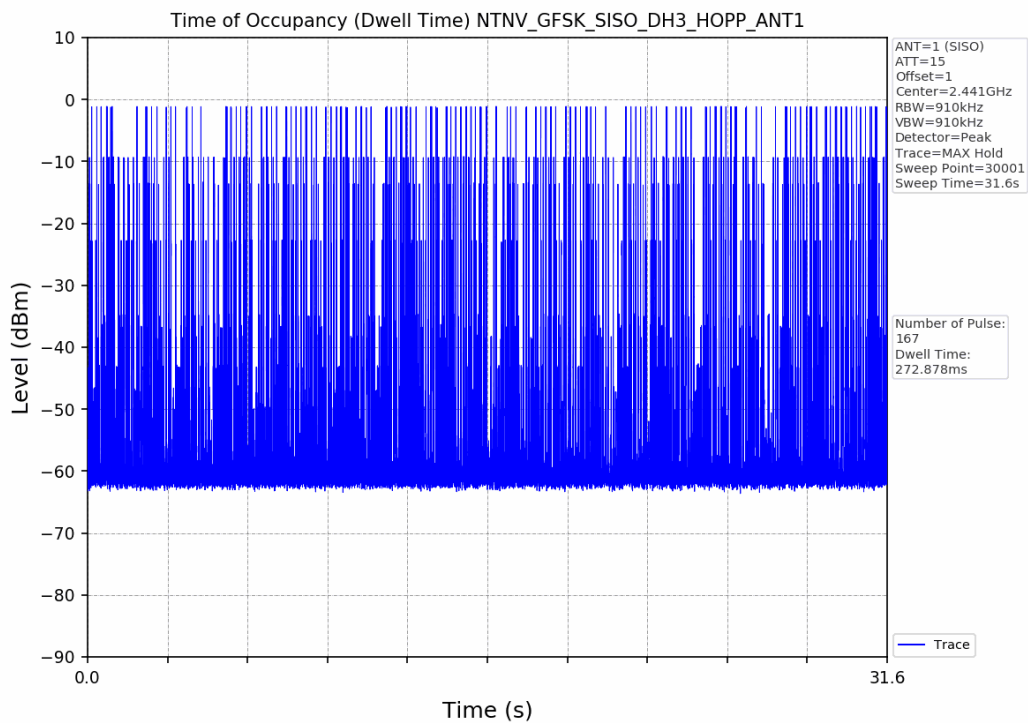
### 5.1 Test Result

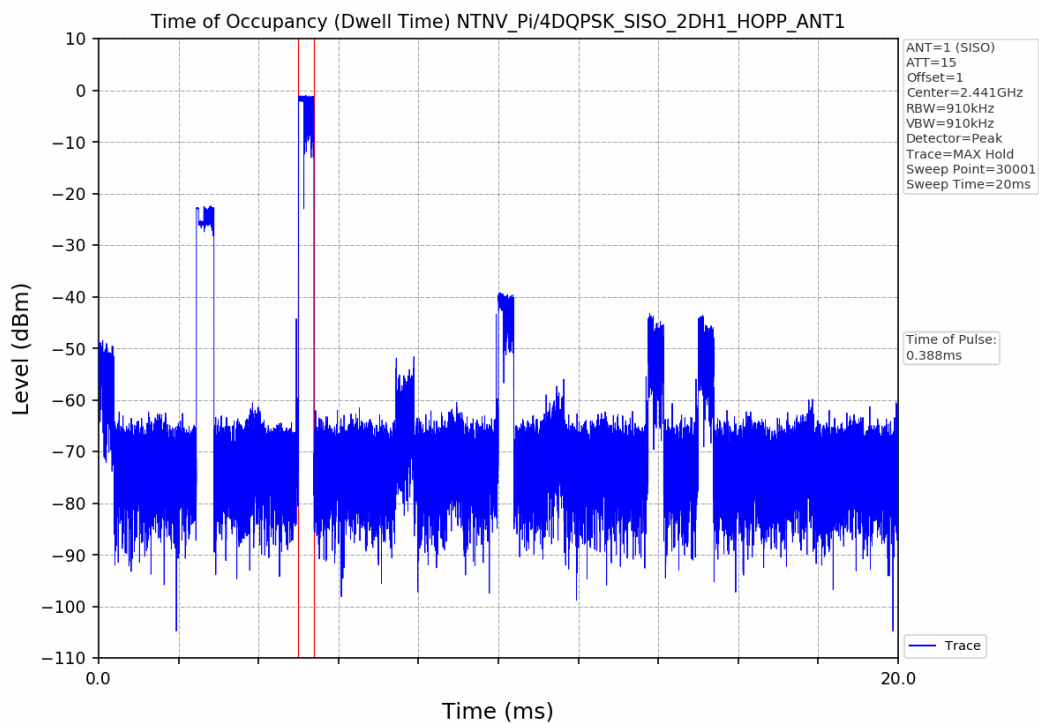
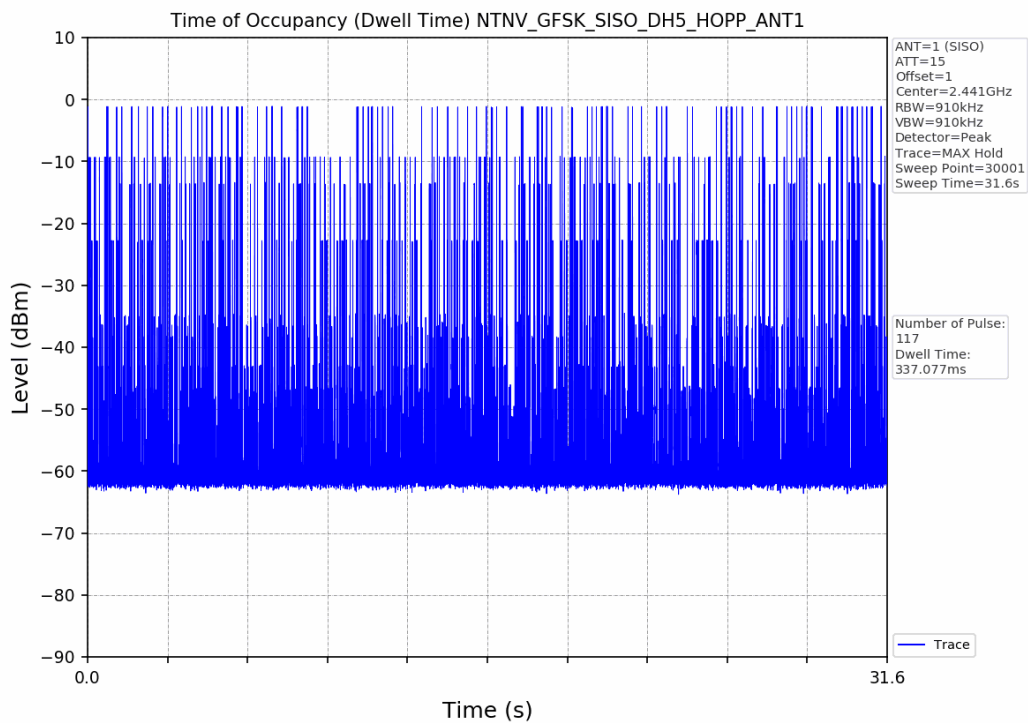
| Test Mode  | Packet Type | TX Type | ANT No. | Duration of Single Pulse (ms) | Observation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limits (ms) | Verdict |
|------------|-------------|---------|---------|-------------------------------|------------------------|------------------------------------|-----------------|-------------|---------|
| GFSK       | DH1         | SISO    | 1       | 0.379                         | 31.6                   | 320                                | 121.280         | ≤400        | PASS    |
|            | DH3         | SISO    | 1       | 1.634                         | 31.6                   | 167                                | 272.878         | ≤400        | PASS    |
|            | DH5         | SISO    | 1       | 2.881                         | 31.6                   | 117                                | 337.077         | ≤400        | PASS    |
| Pi/4DQ PSK | 2DH1        | SISO    | 1       | 0.388                         | 31.6                   | 319                                | 123.772         | ≤400        | PASS    |
|            | 2DH3        | SISO    | 1       | 1.639                         | 31.6                   | 164                                | 268.796         | ≤400        | PASS    |
|            | 2DH5        | SISO    | 1       | 2.888                         | 31.6                   | 107                                | 309.016         | ≤400        | PASS    |
| 8DPSK      | 3DH1        | SISO    | 1       | 0.388                         | 31.6                   | 320                                | 124.160         | ≤400        | PASS    |
|            | 3DH3        | SISO    | 1       | 1.640                         | 31.6                   | 157                                | 257.480         | ≤400        | PASS    |
|            | 3DH5        | SISO    | 1       | 2.887                         | 31.6                   | 106                                | 306.022         | ≤400        | PASS    |

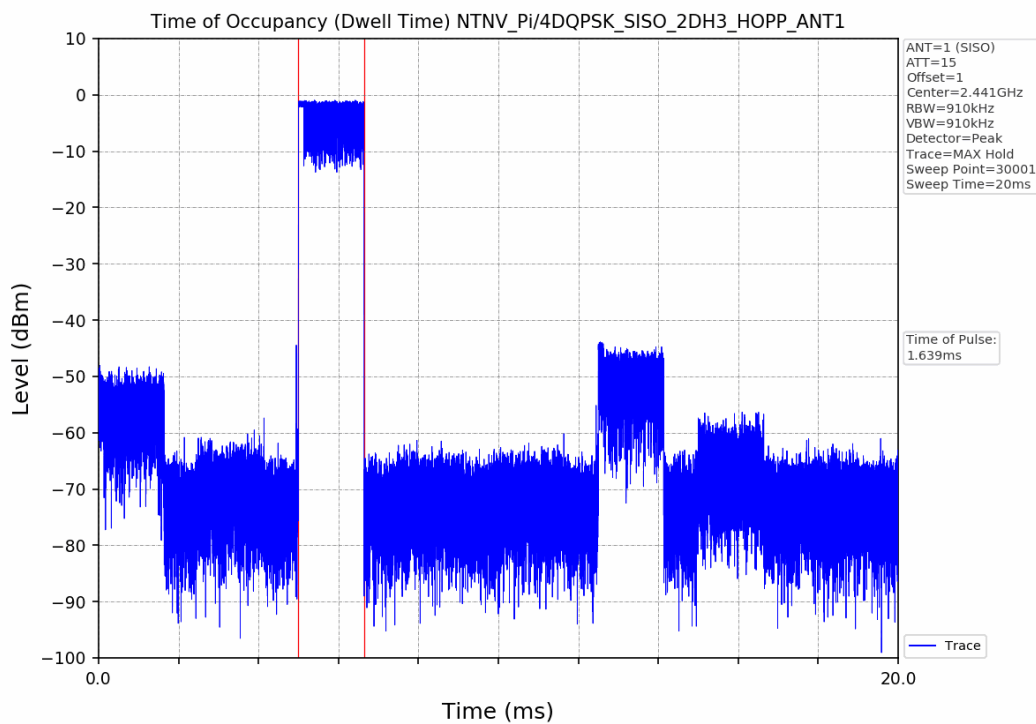
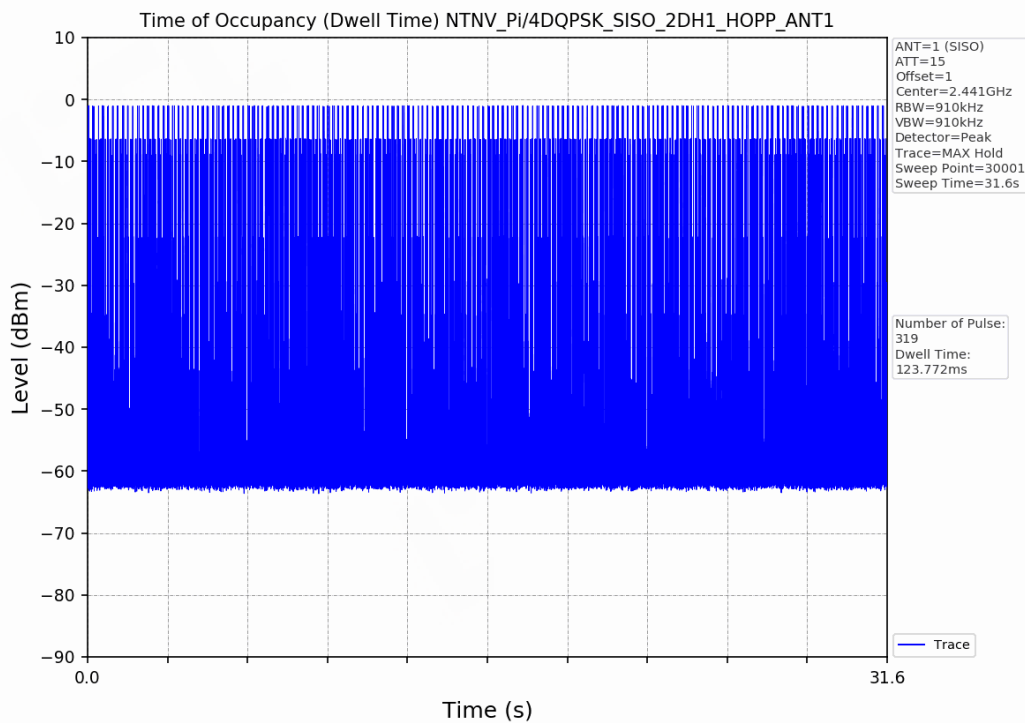
### 5.2 Test Graph



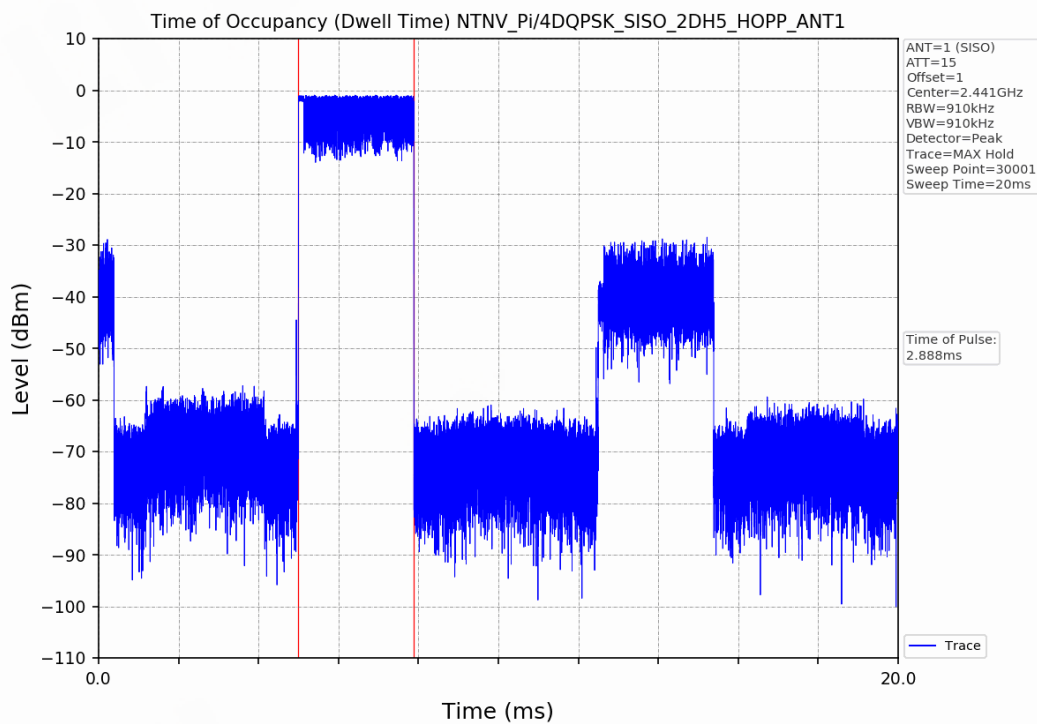
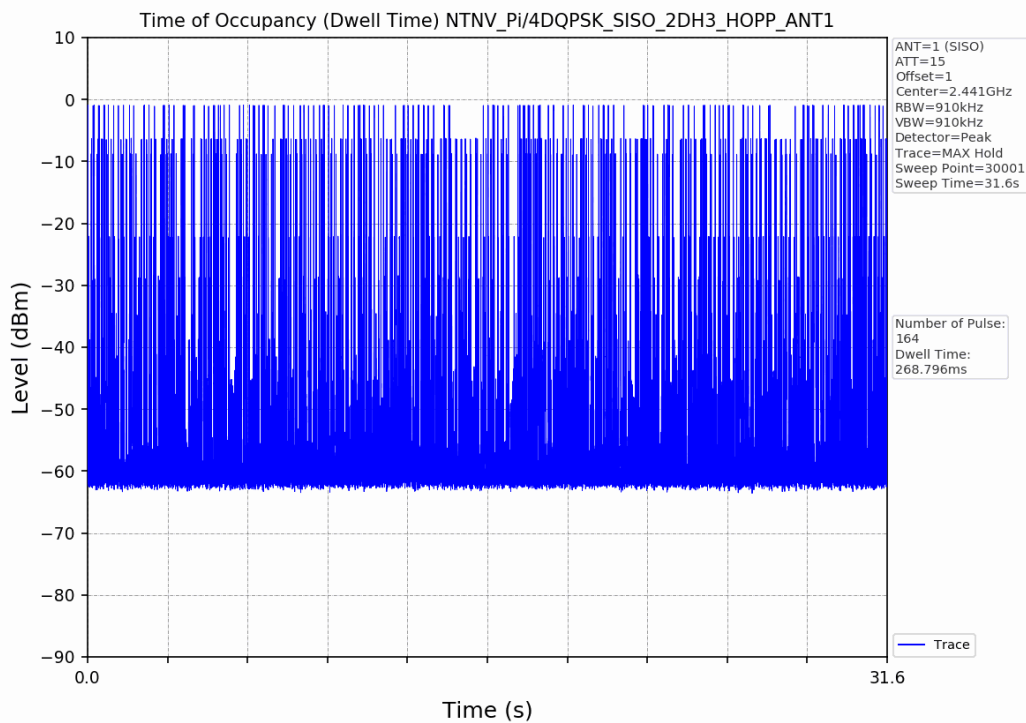


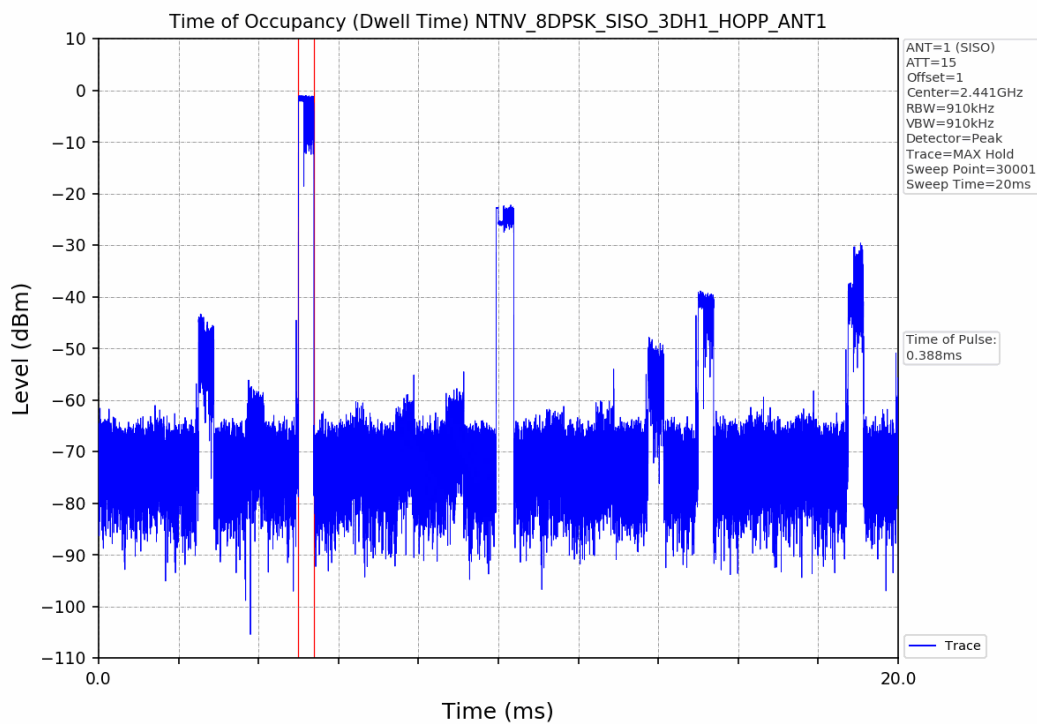
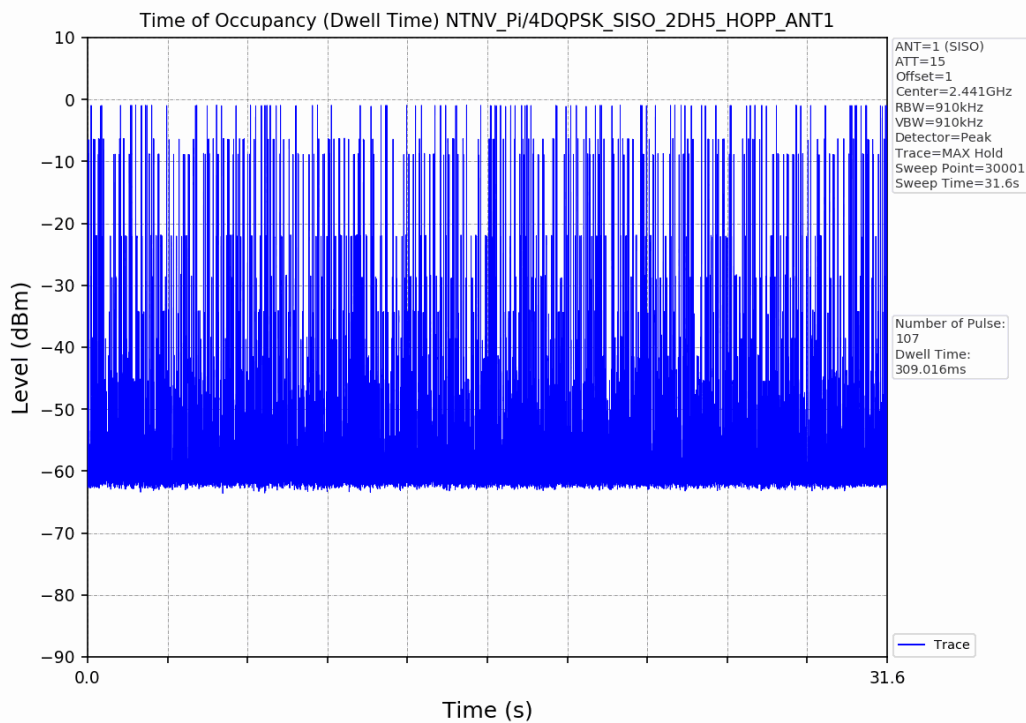


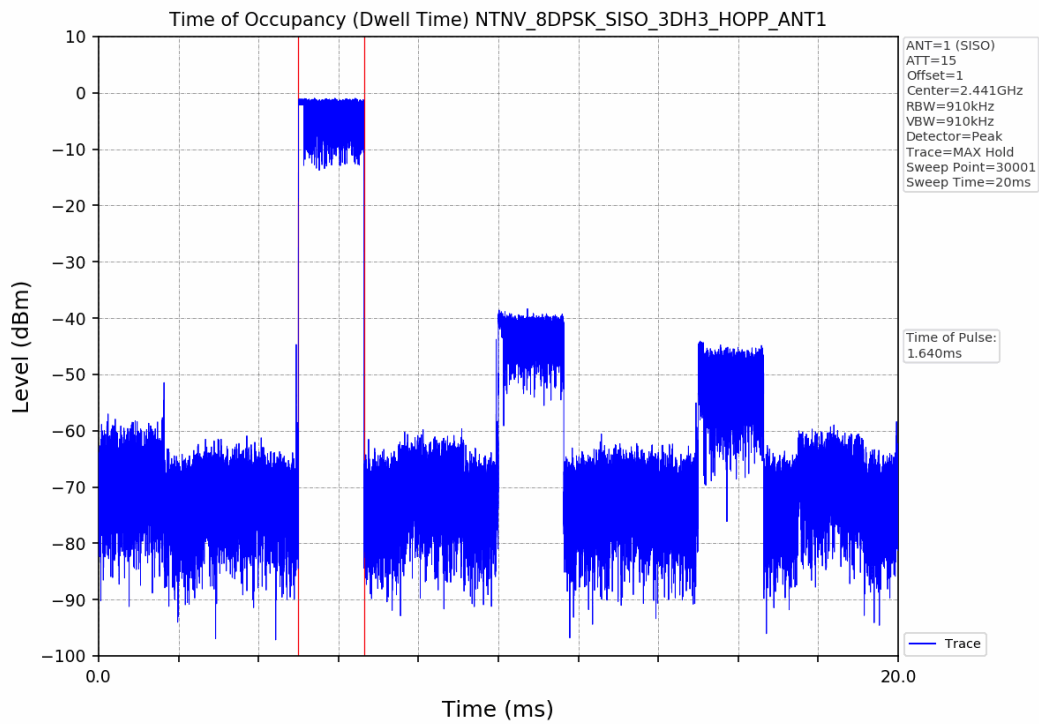
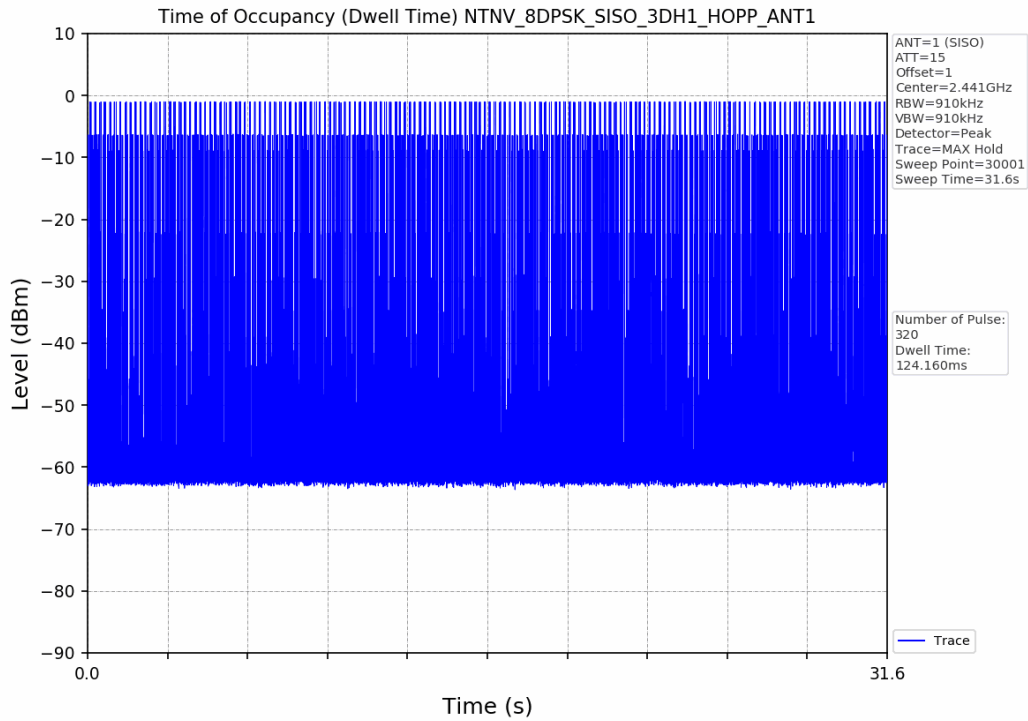


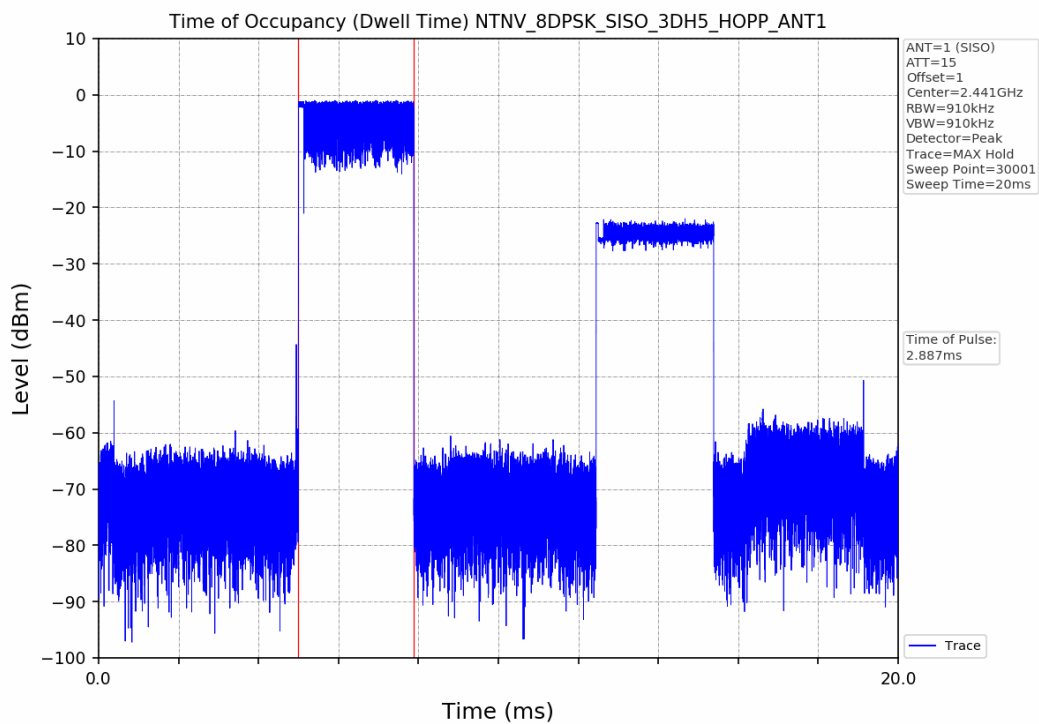
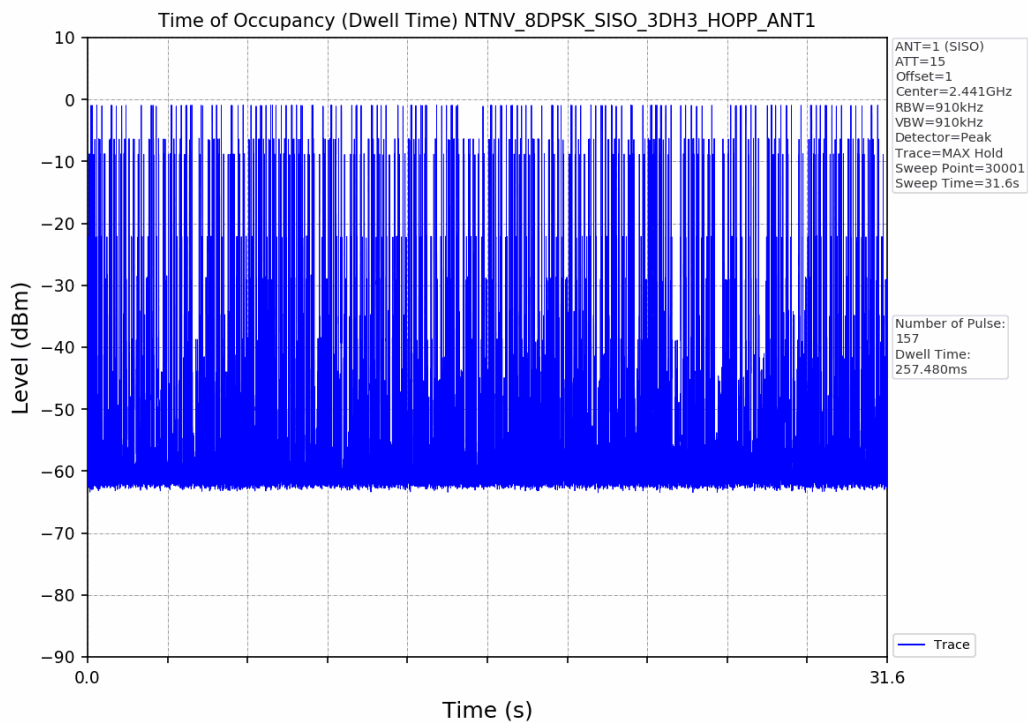


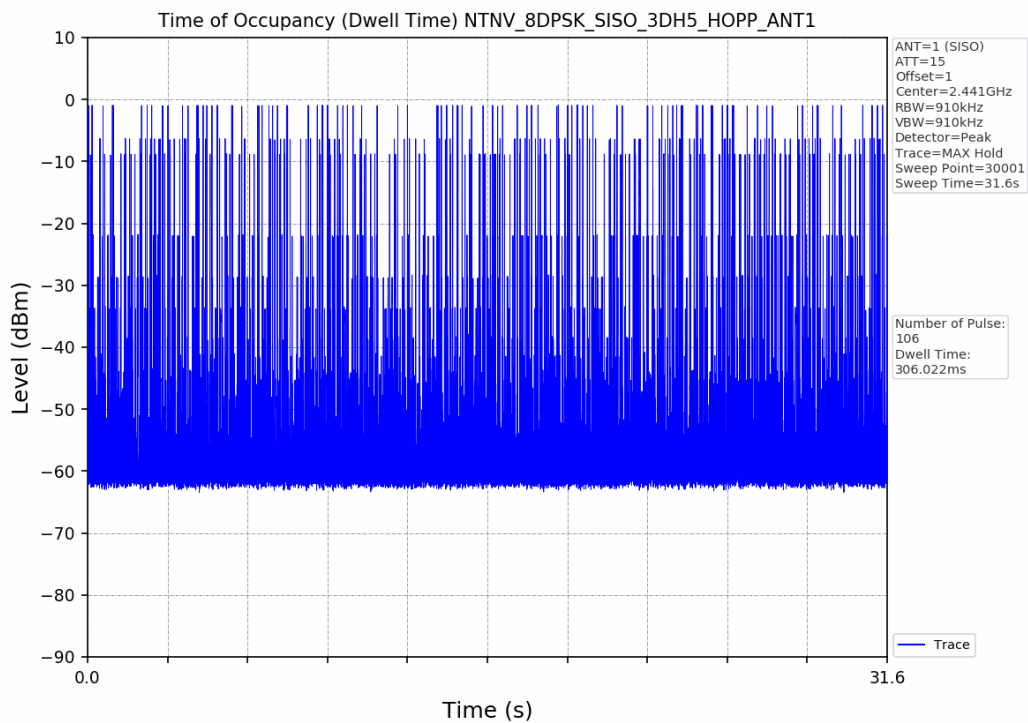










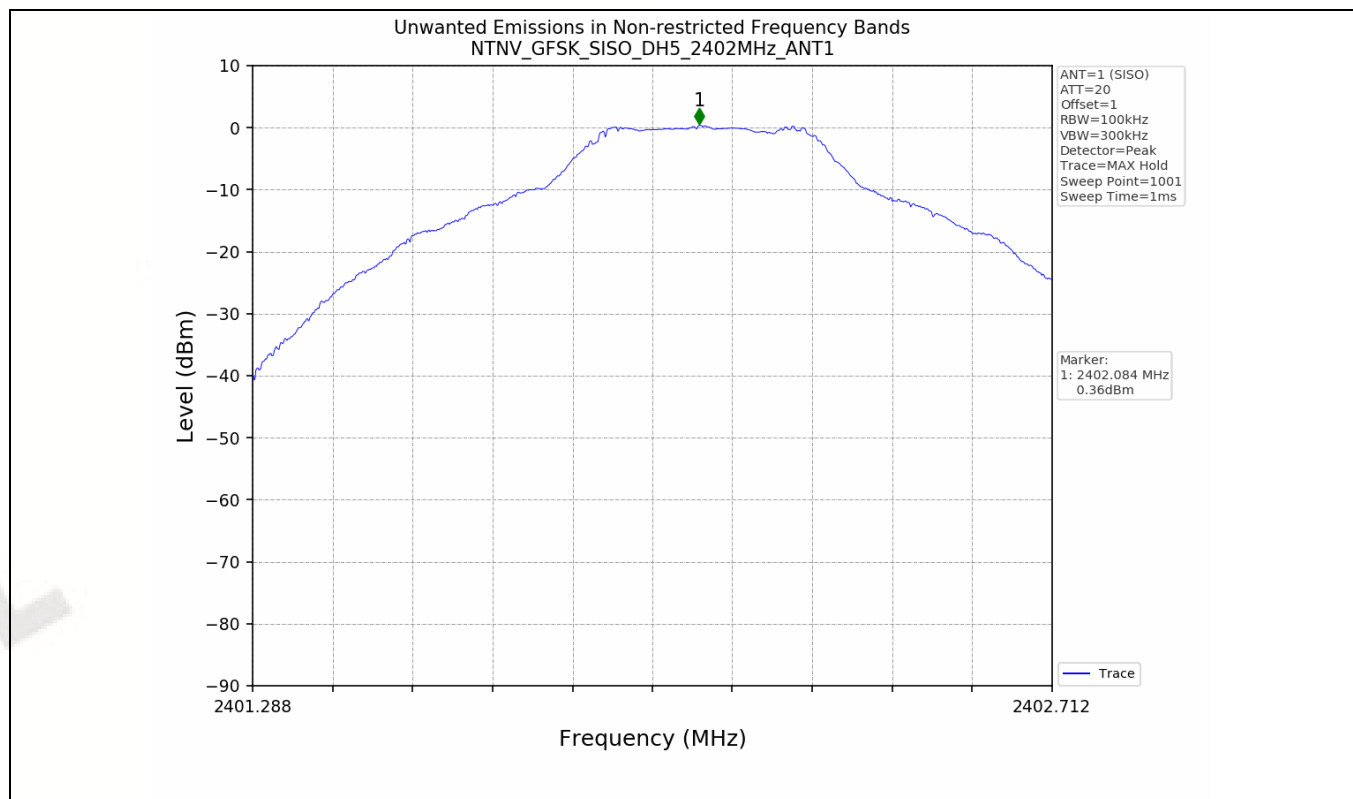


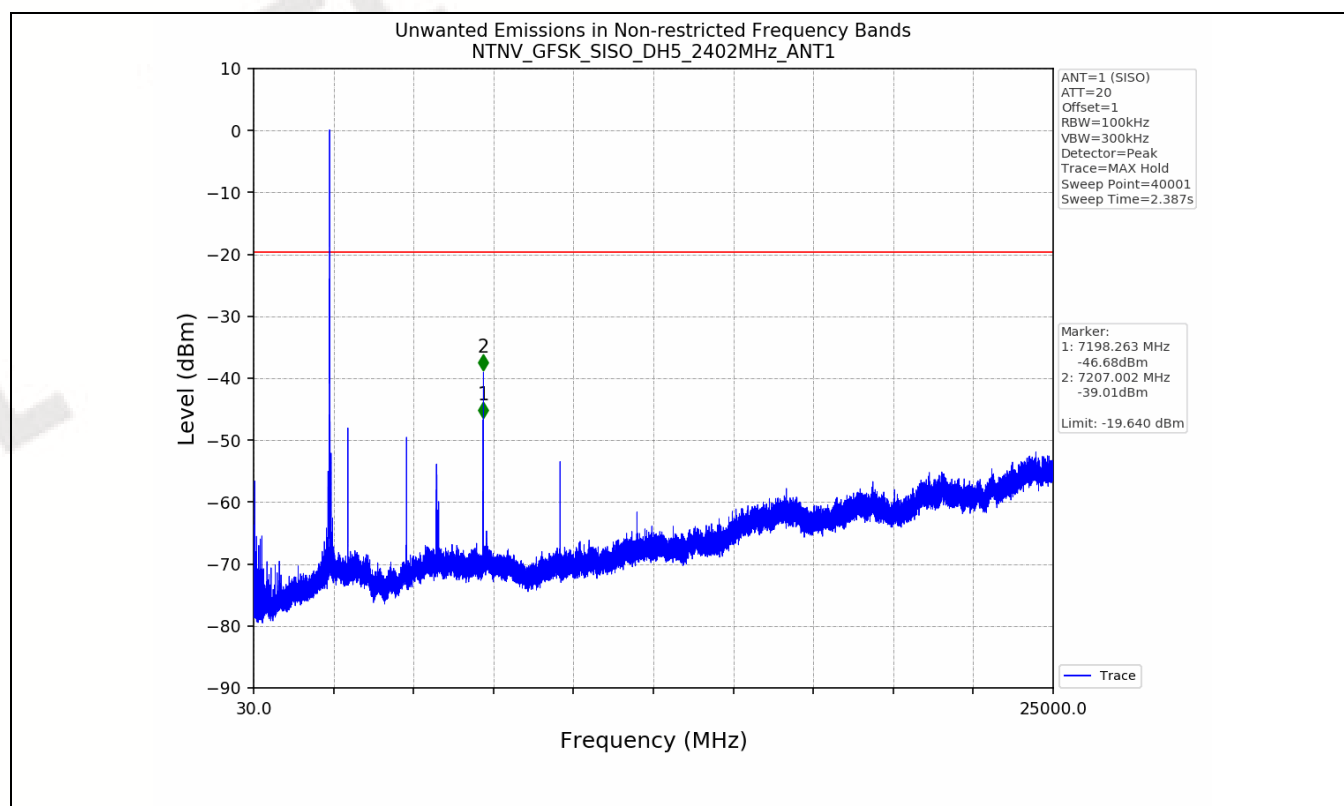
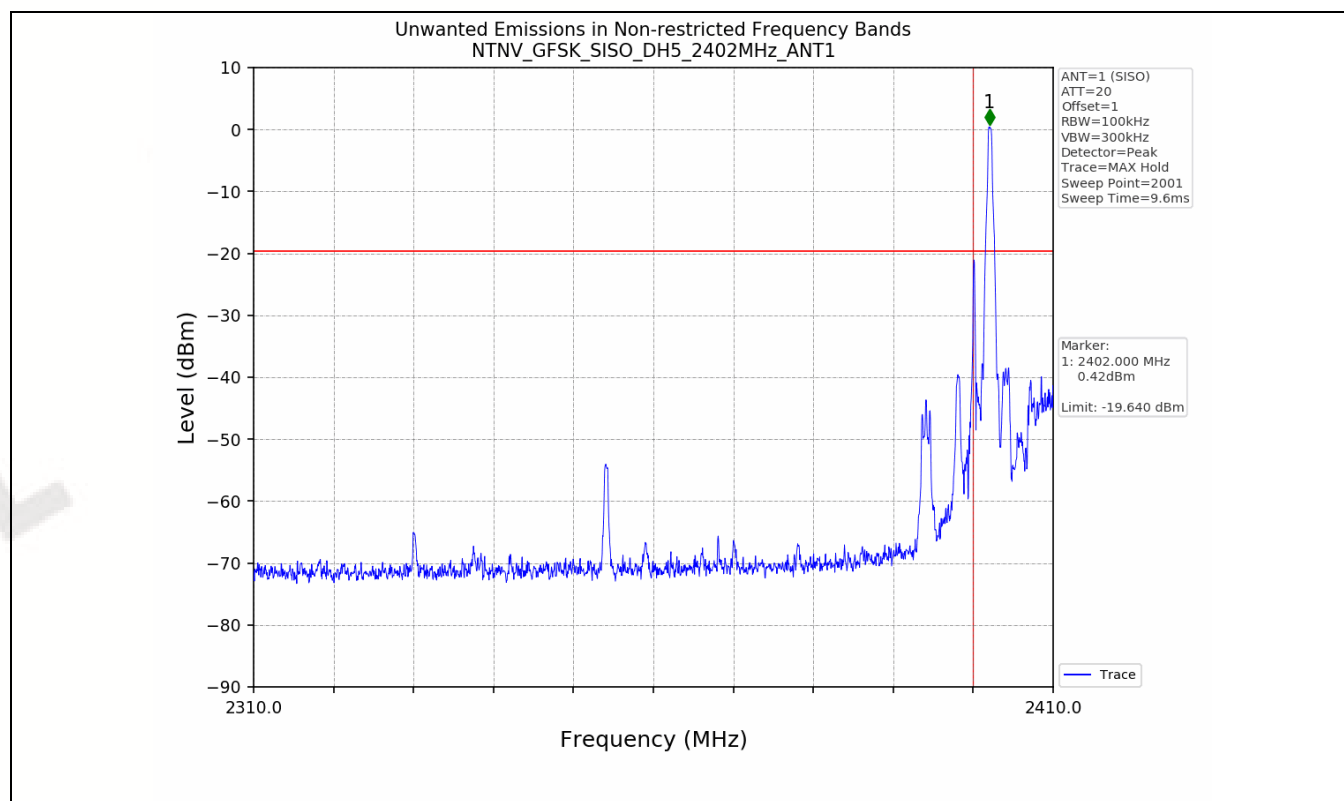
## 6. Unwanted Emissions in Non-restricted Frequency Bands

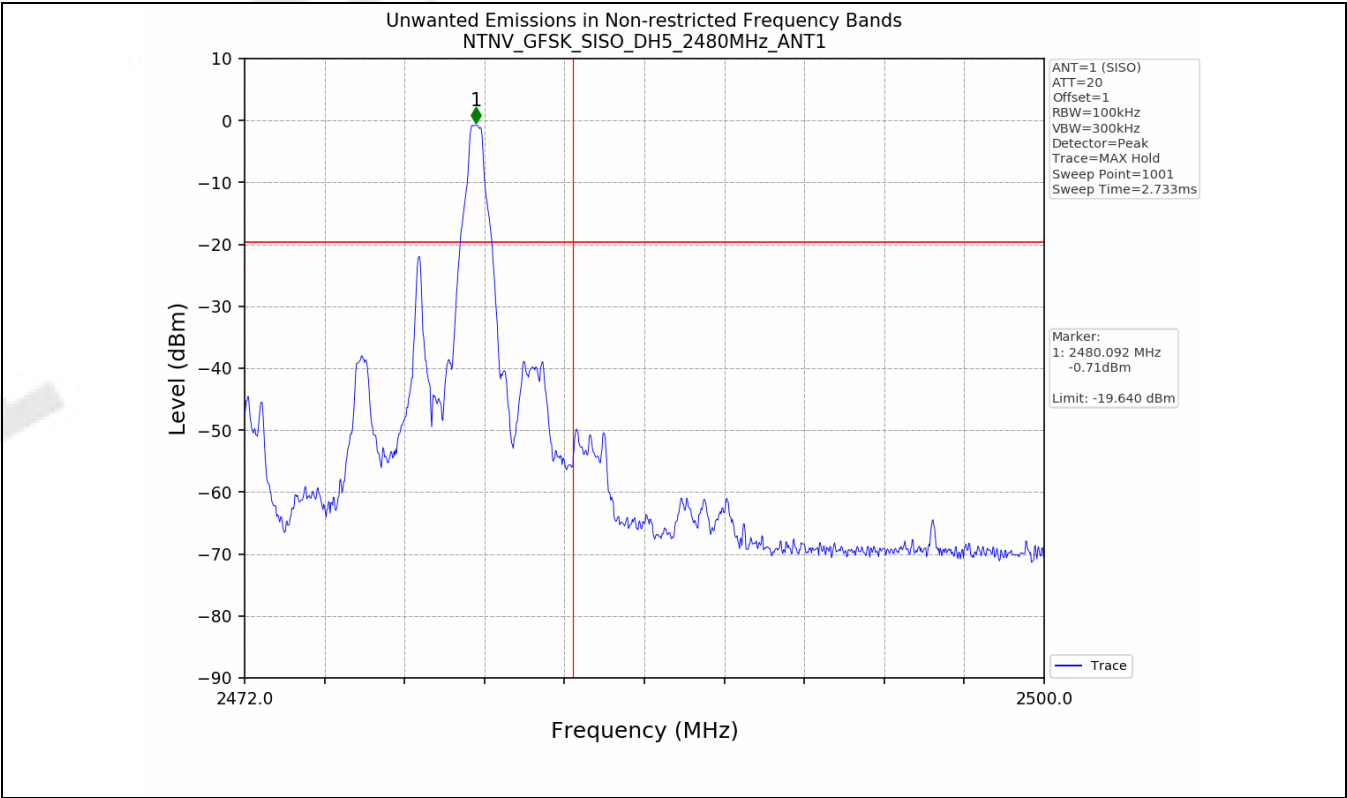
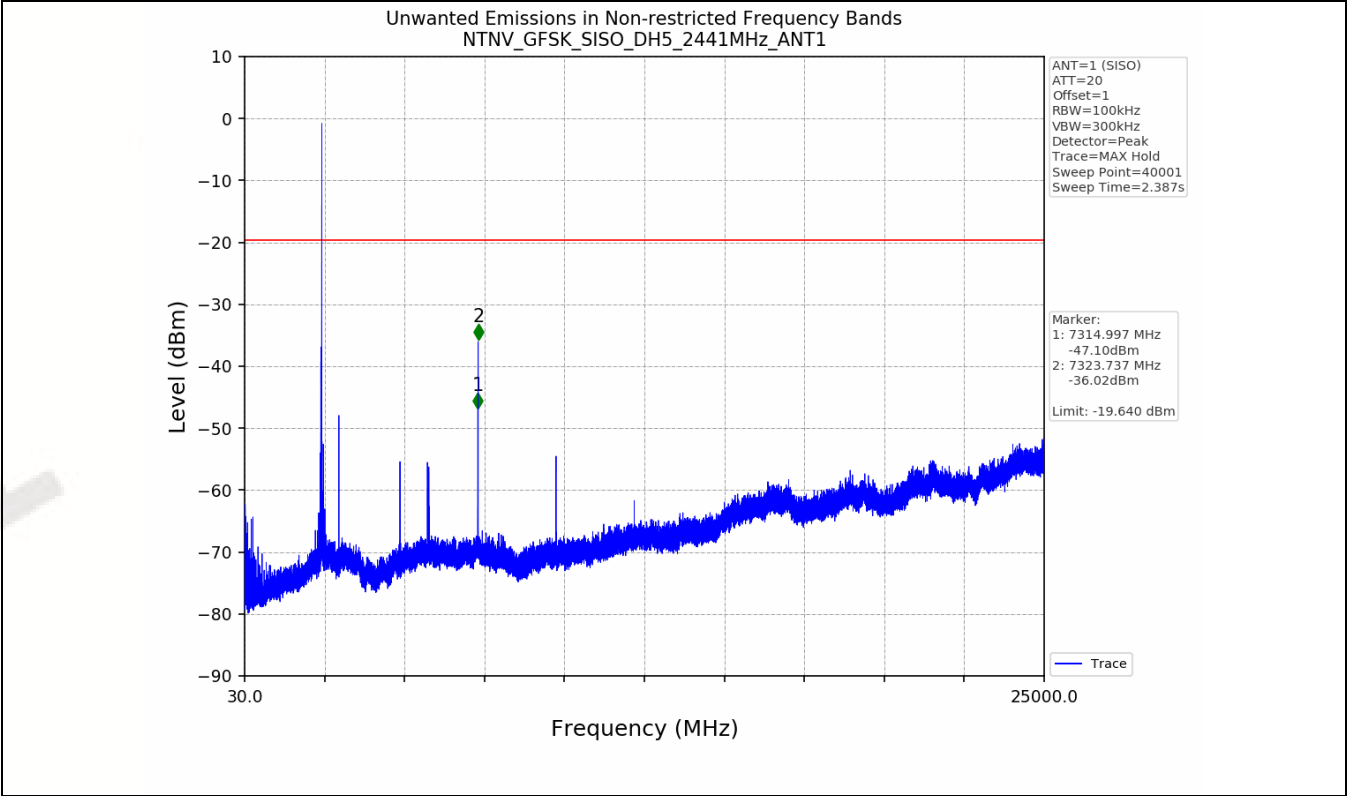
### 6.1 Test Result

| Test Mode | Frequency (MHz) | TX Type | ANT No. | Spurious Conducted Emission (dBm) | Limits (dBm) | Verdict |
|-----------|-----------------|---------|---------|-----------------------------------|--------------|---------|
| GFSK      | 2402            | SISO    | 1       | Refer to test graph               | -19.64       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -19.64       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -19.64       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -19.64       | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 1       | Refer to test graph               | -20.74       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -20.74       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -20.74       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -20.74       | PASS    |
| 8DPSK     | 2402            | SISO    | 1       | Refer to test graph               | -20.76       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -20.76       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -20.76       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -20.76       | PASS    |

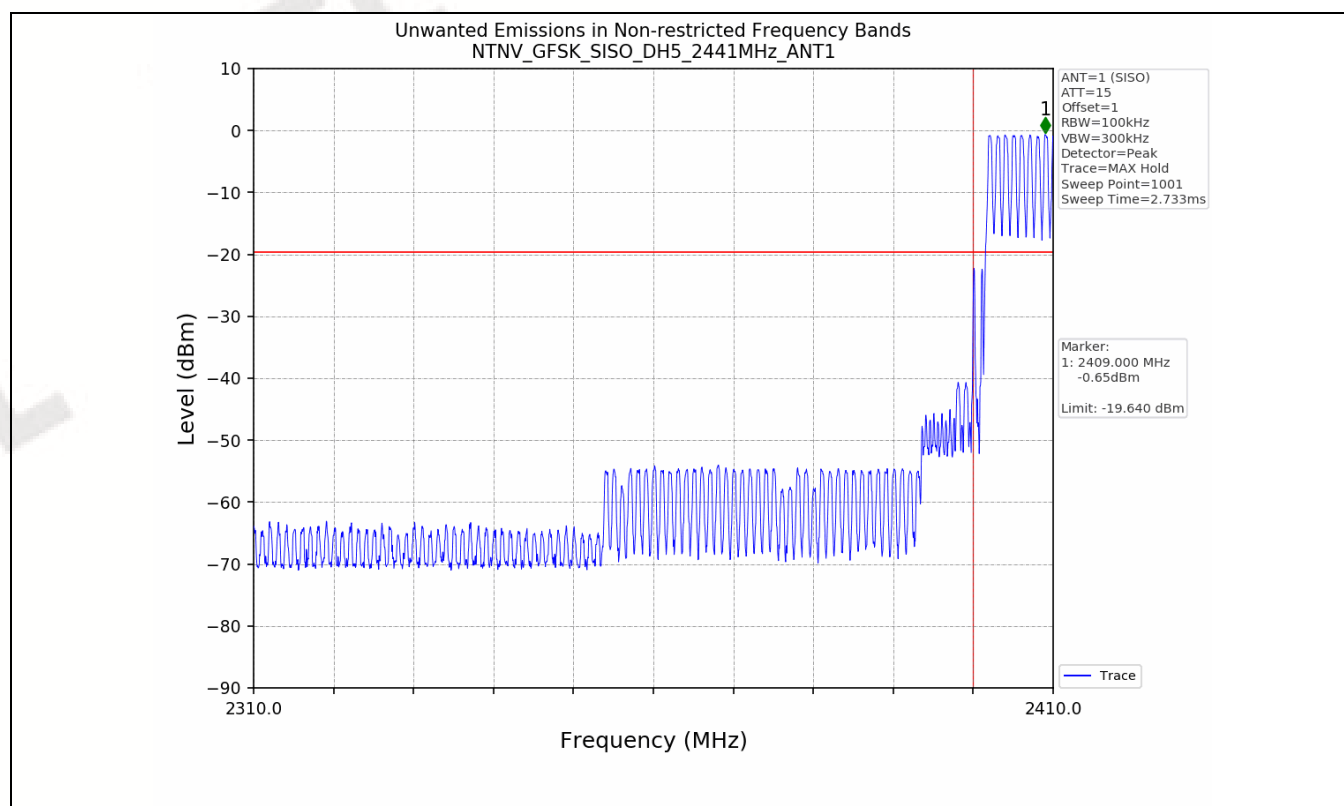
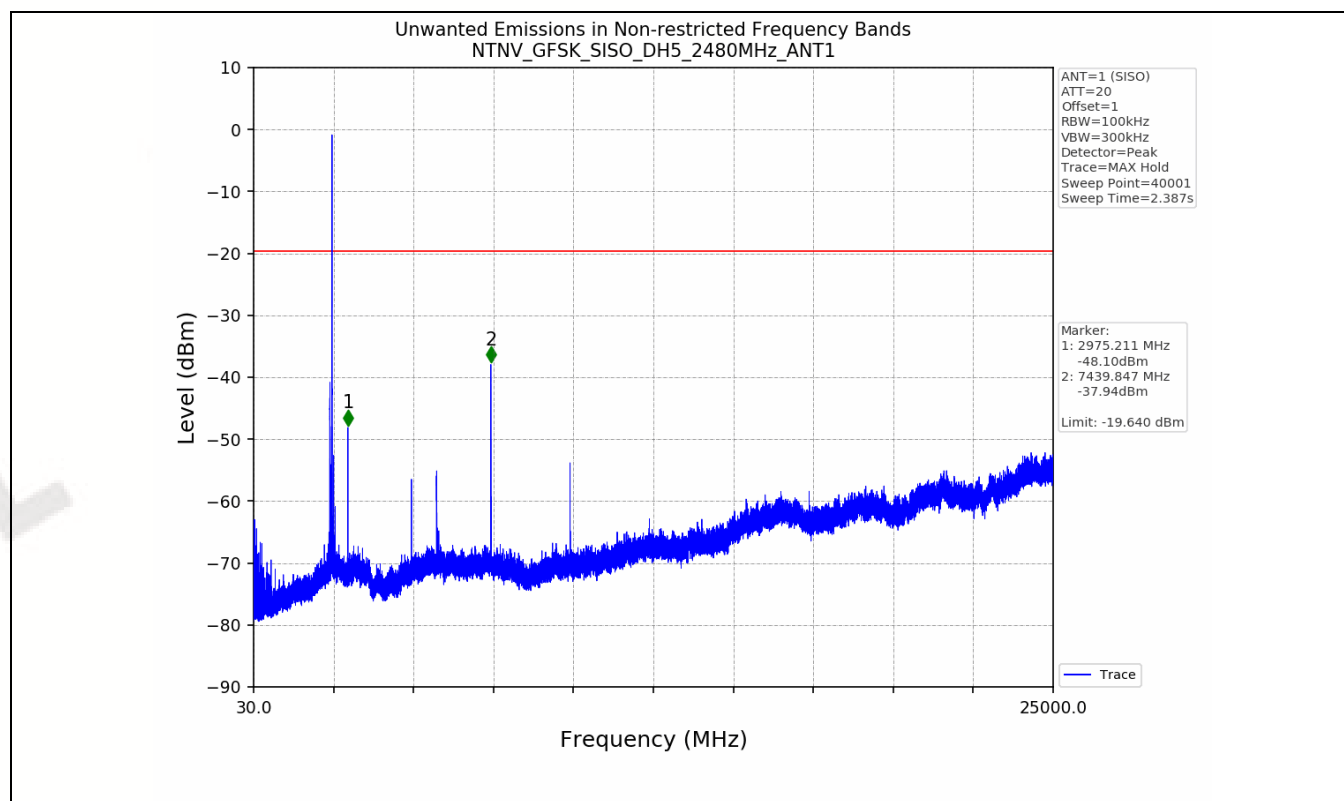
### 6.2 Test Graph

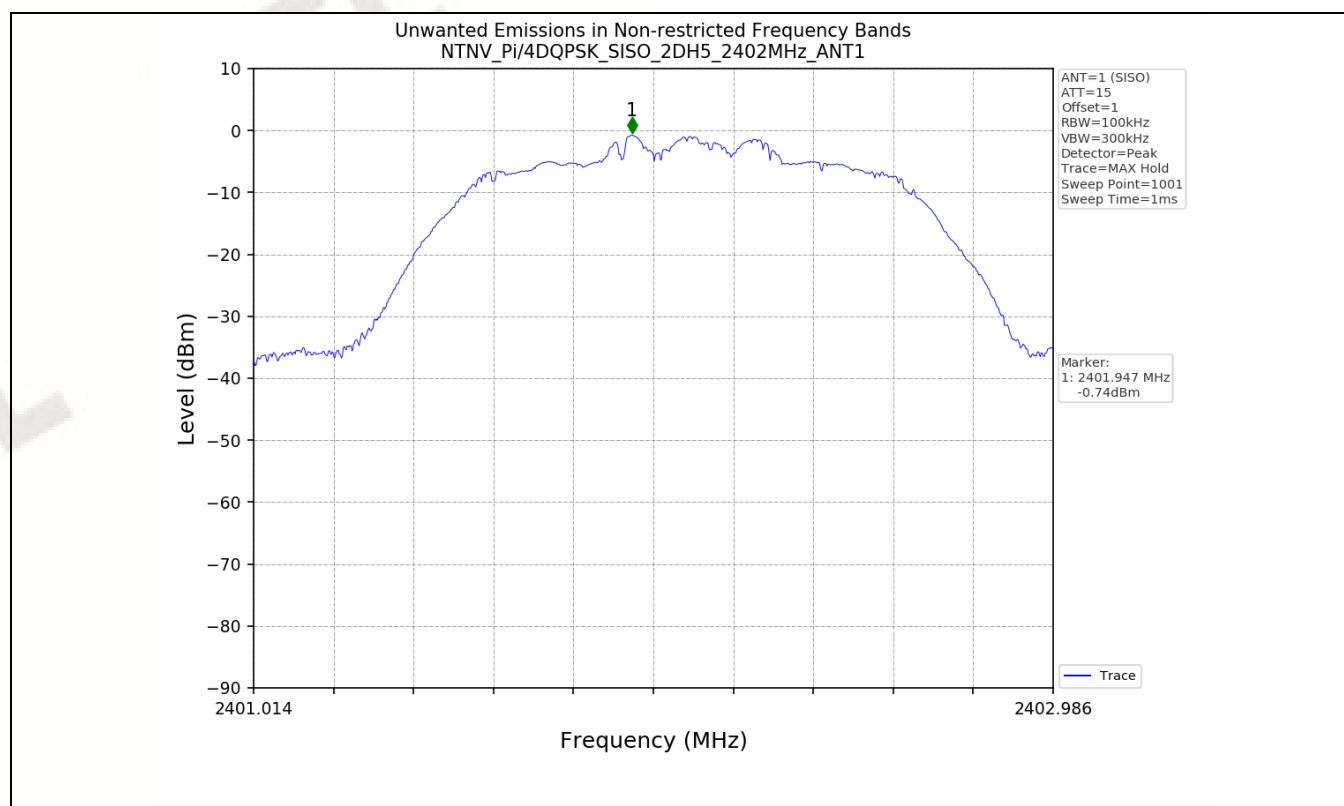
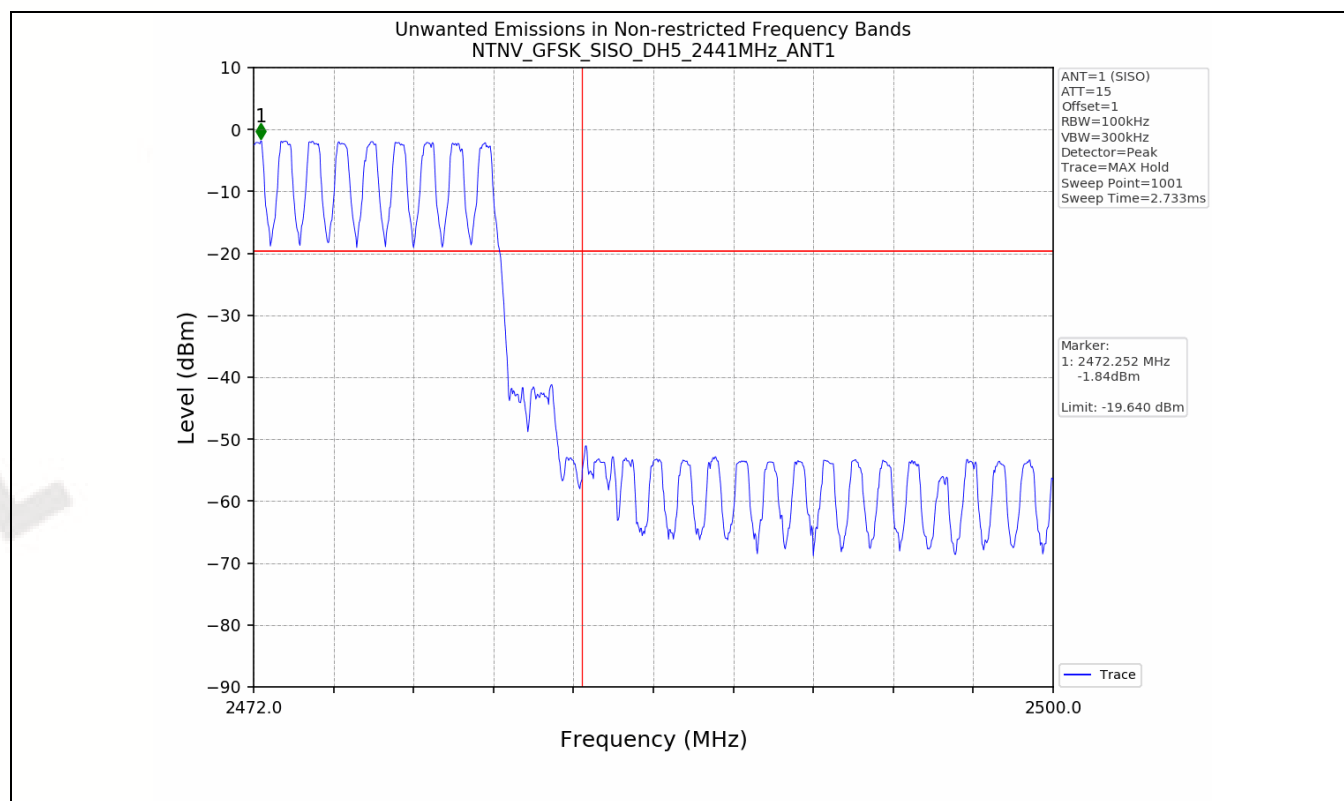


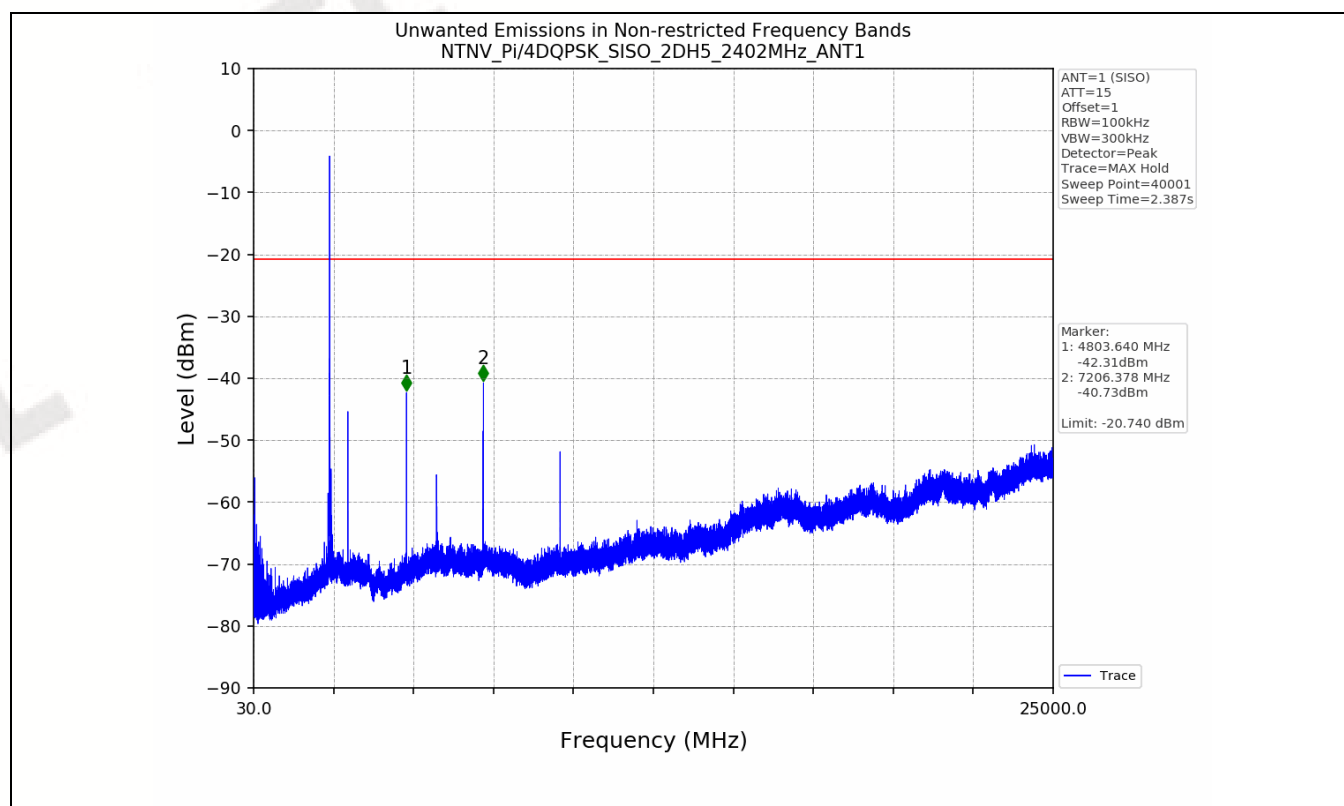
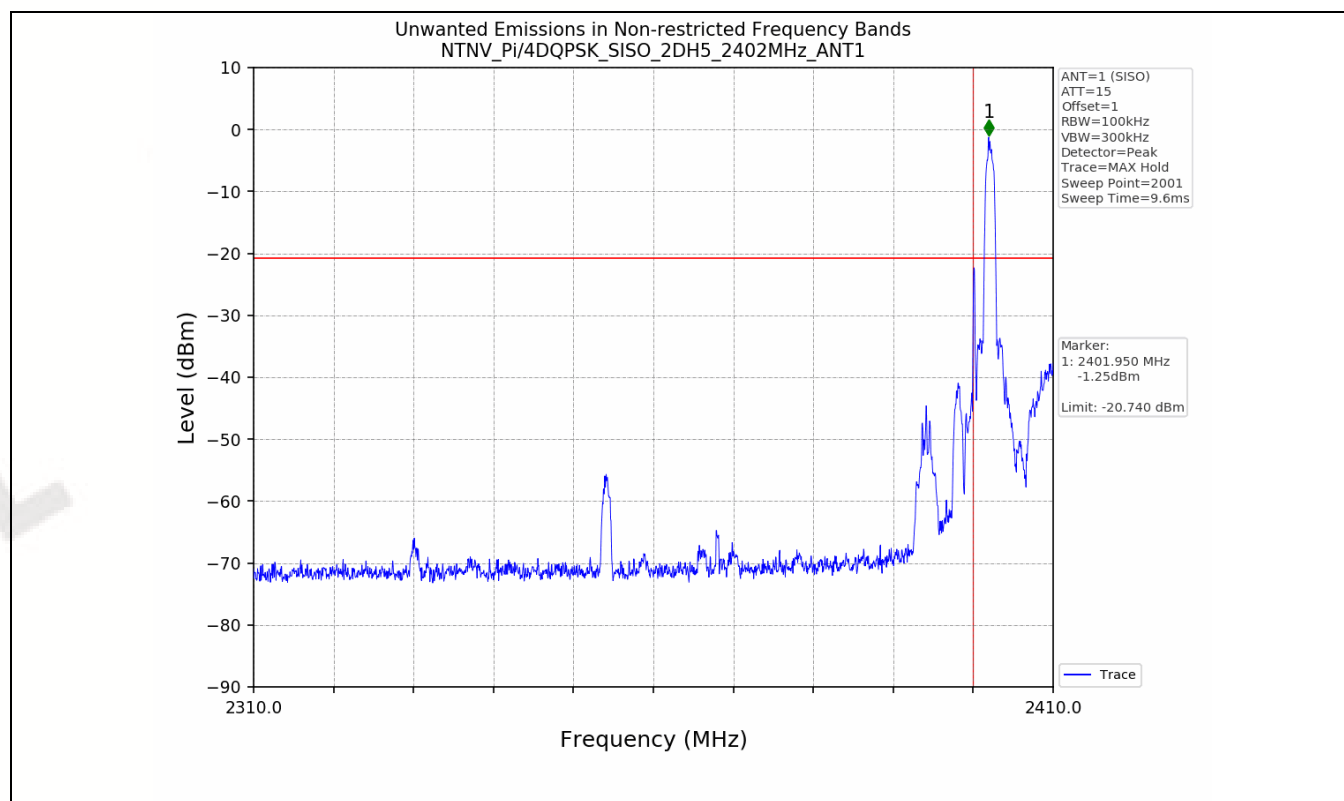


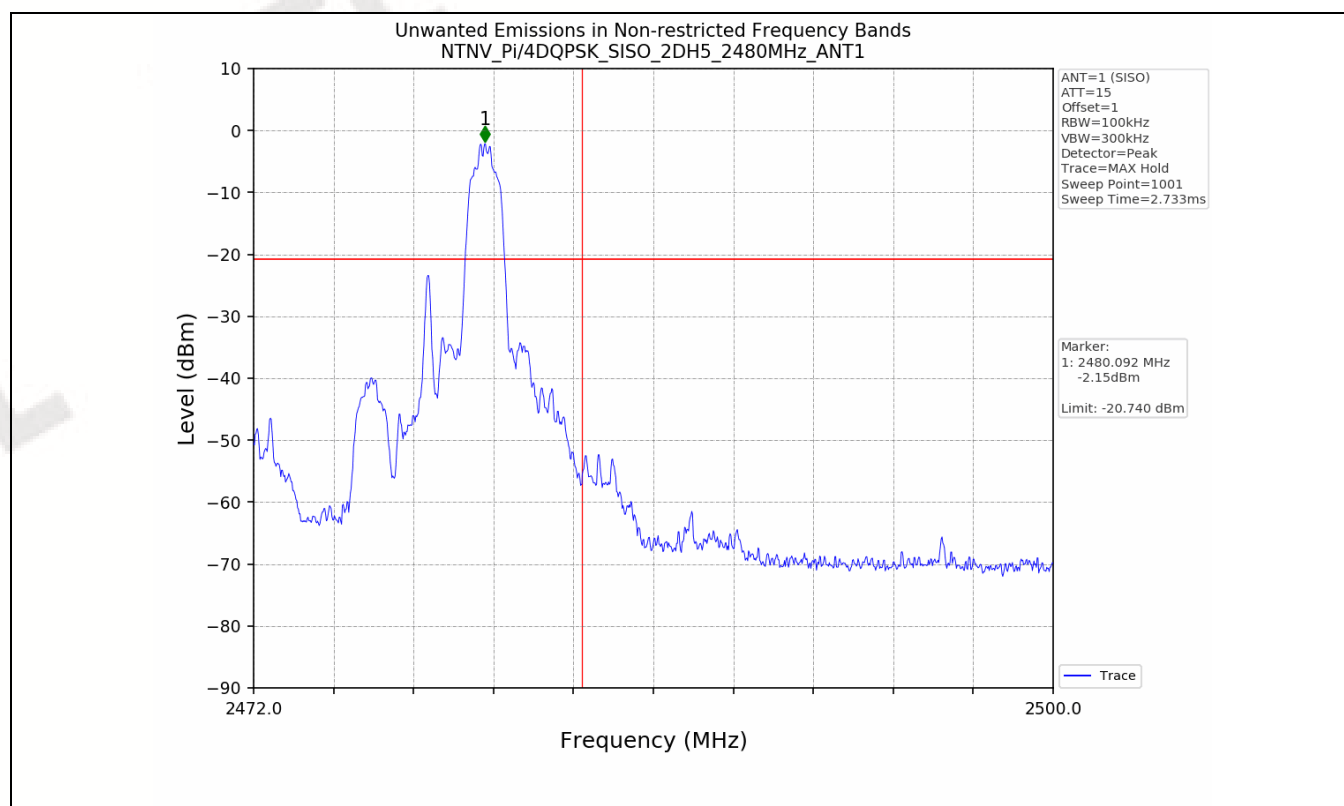
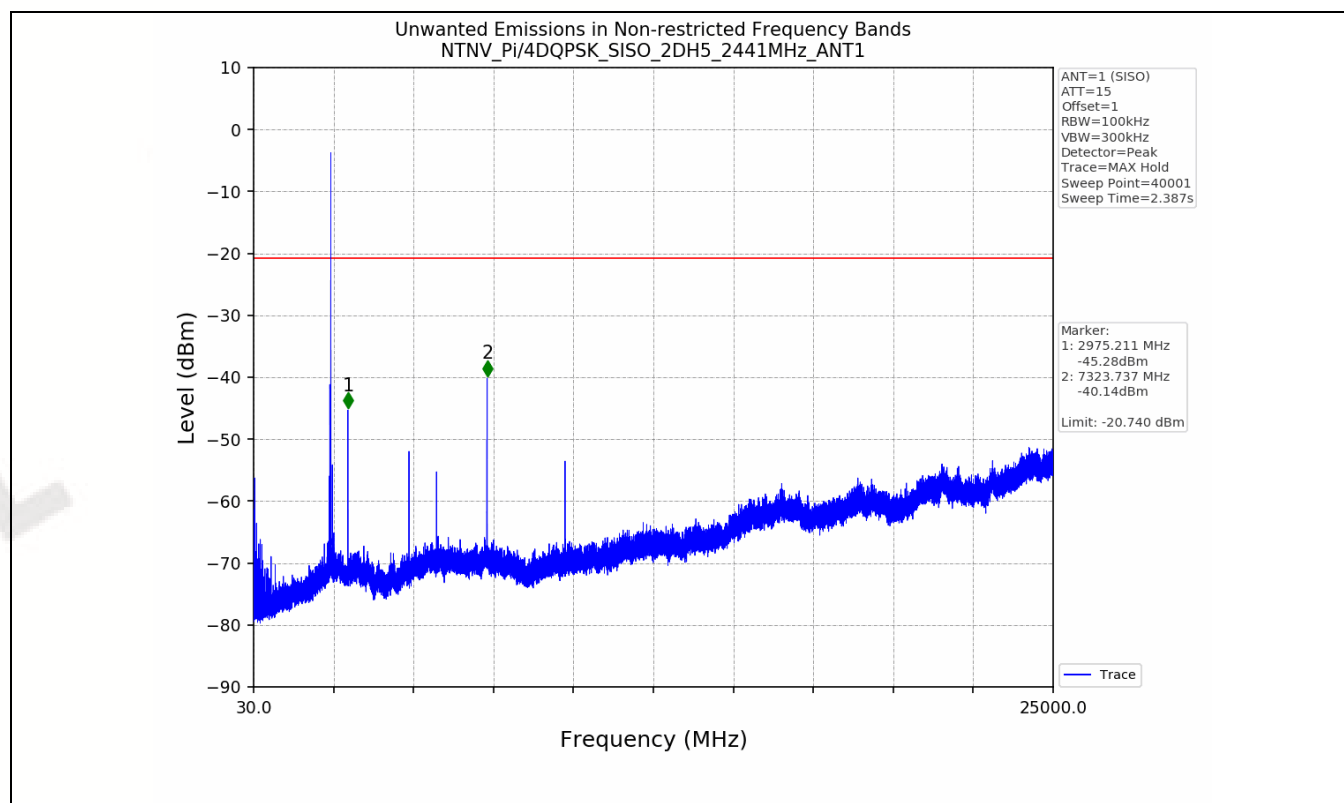


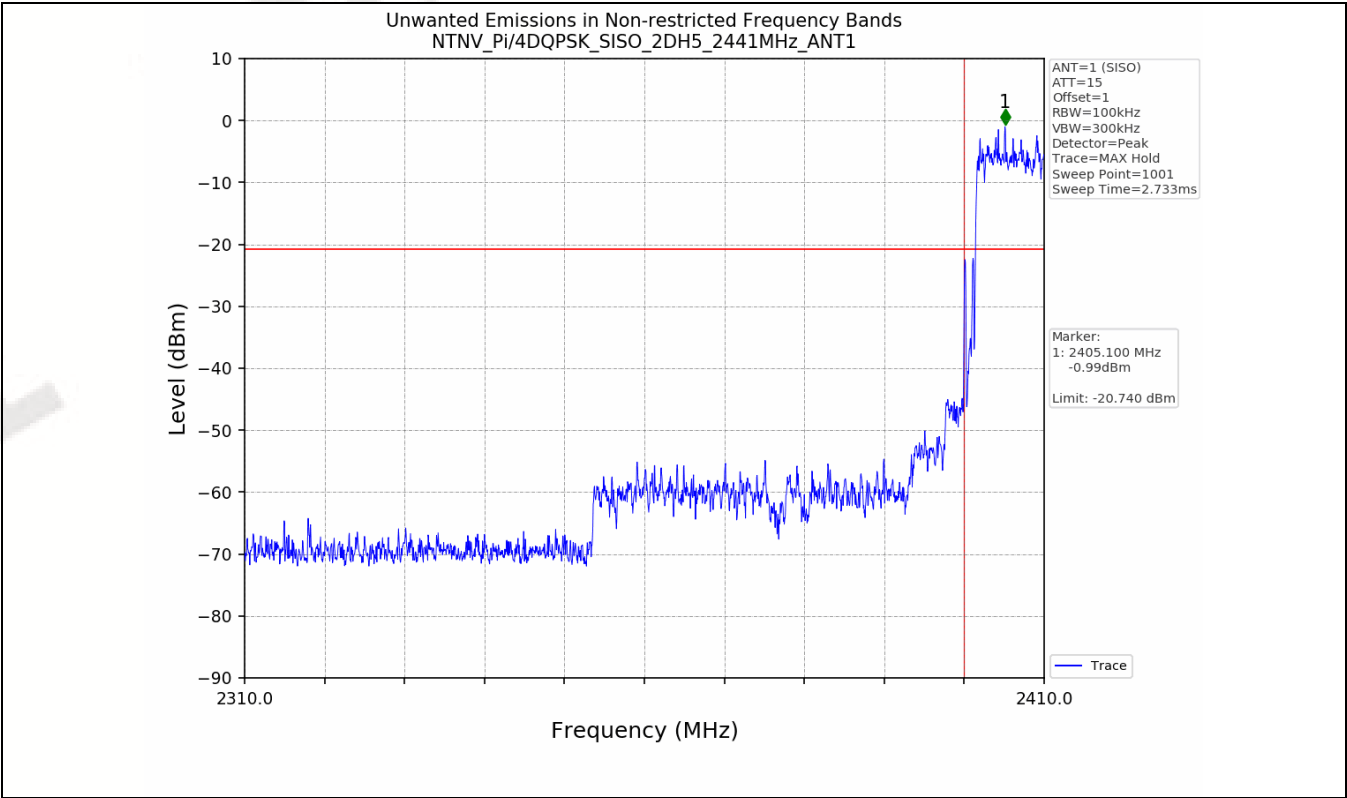
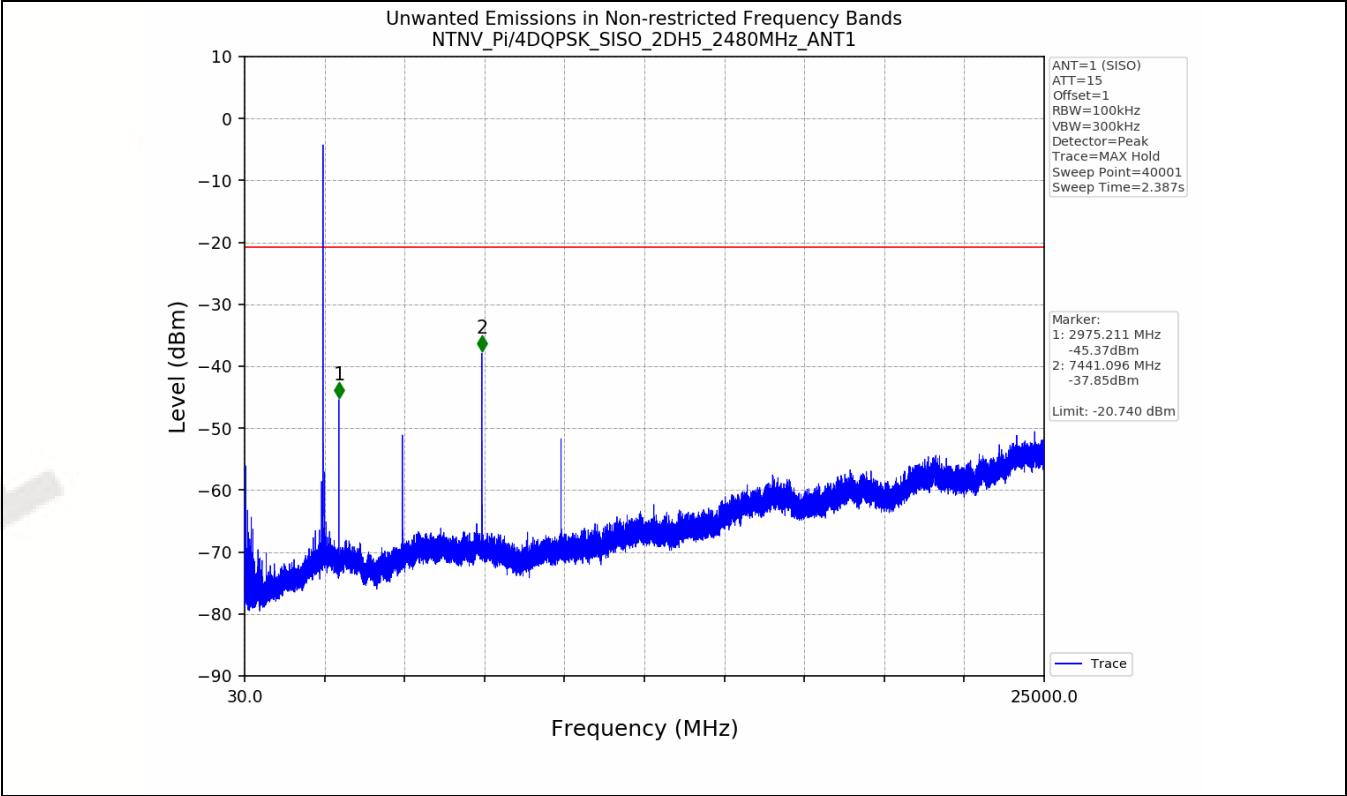


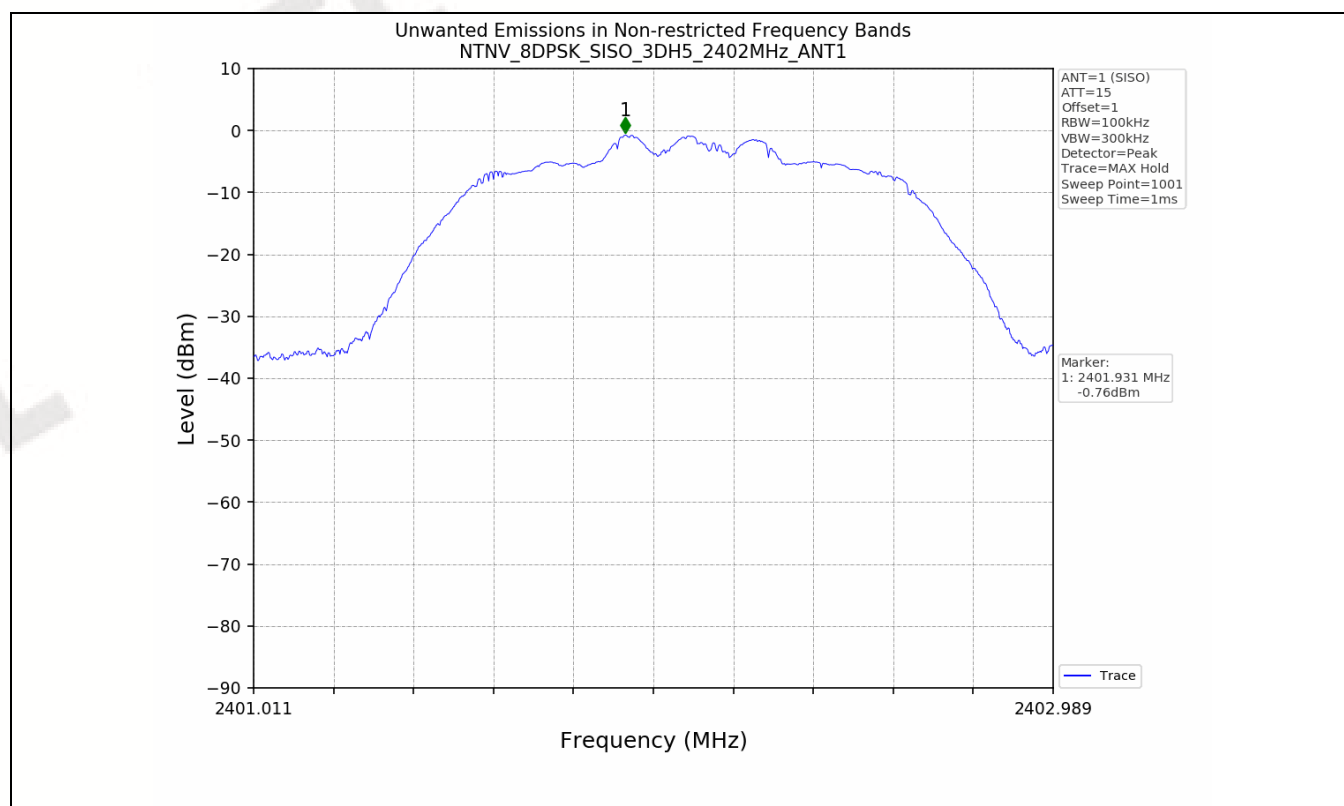
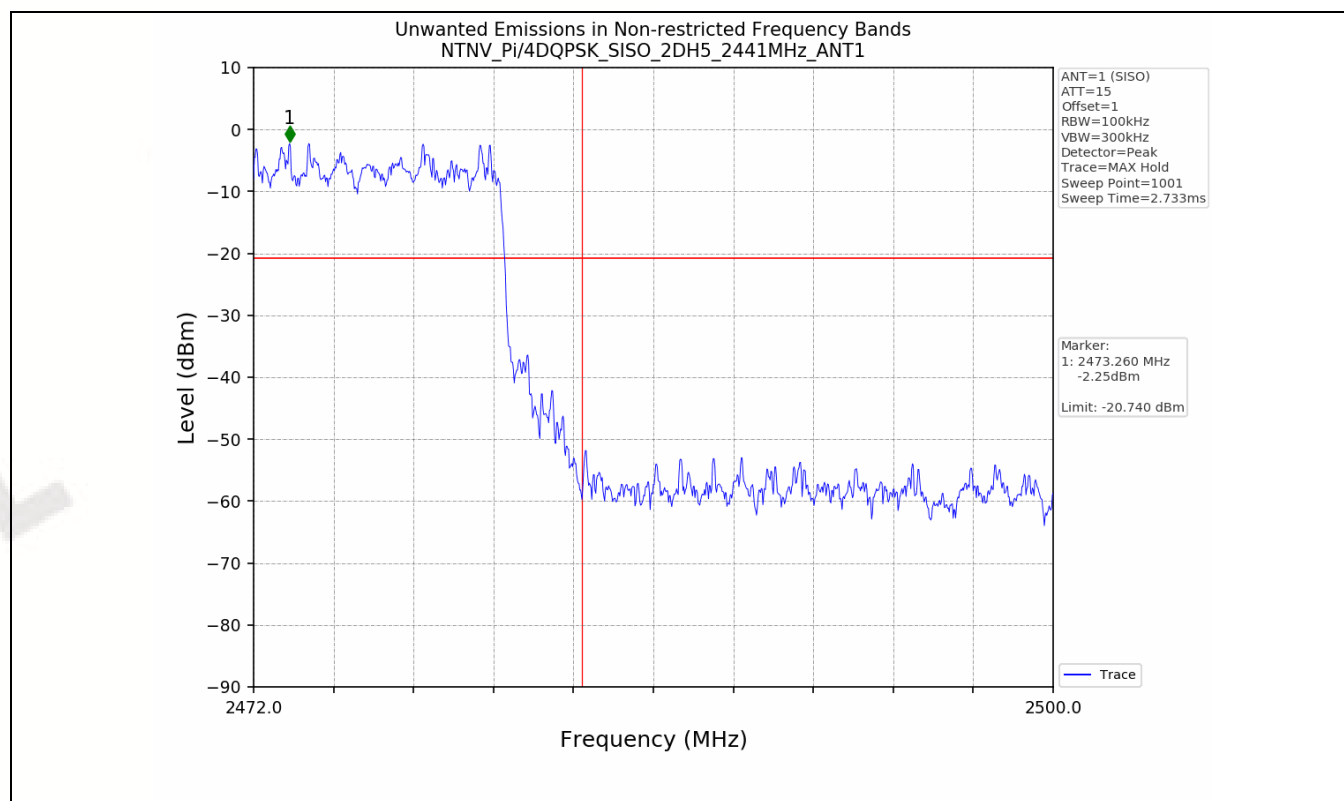


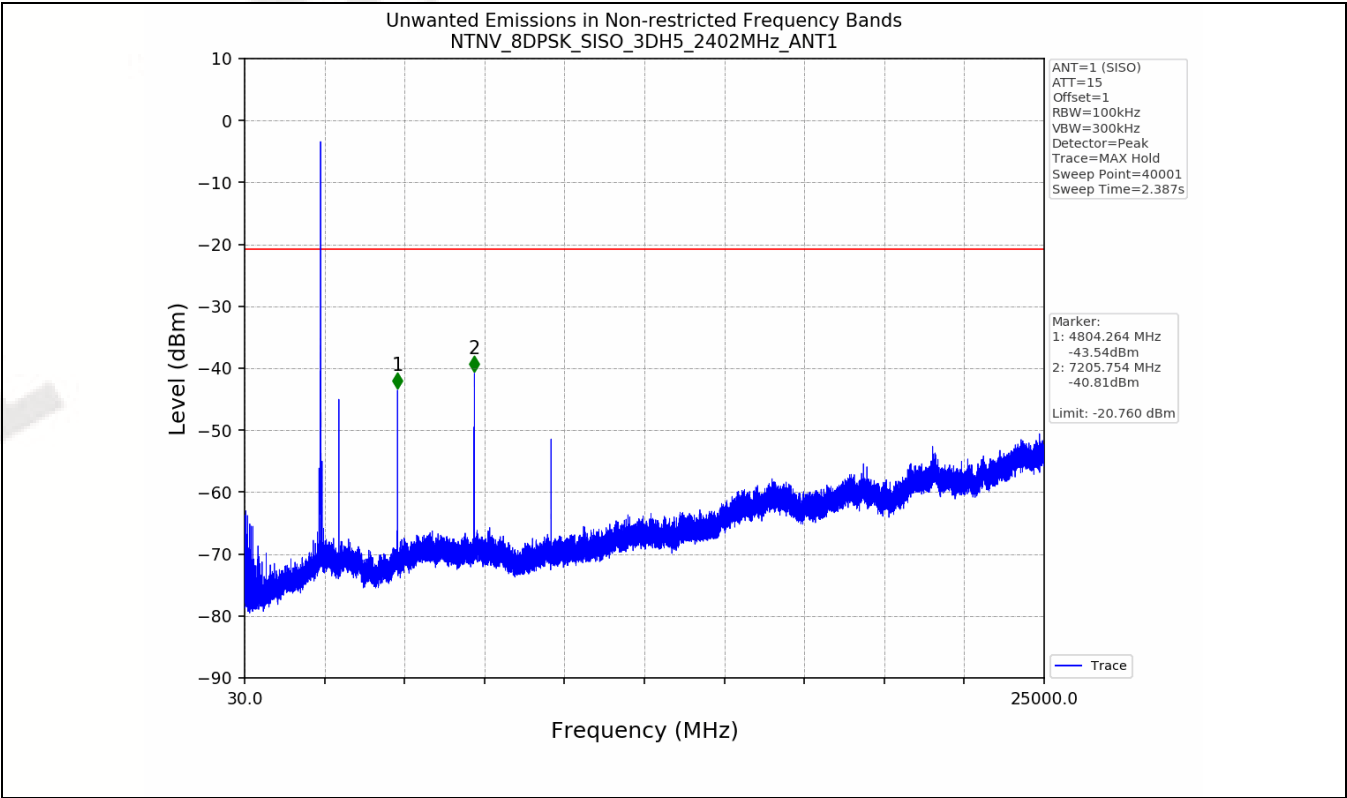
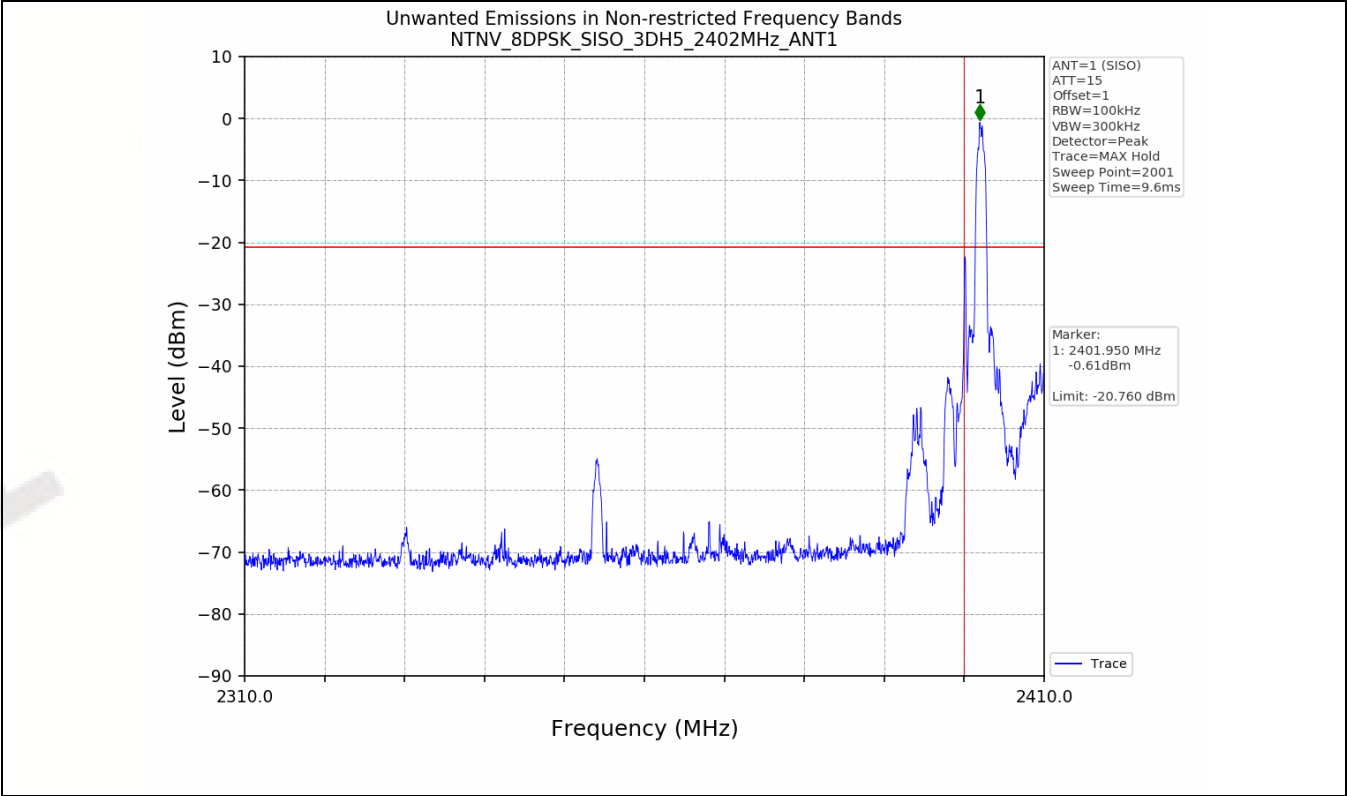


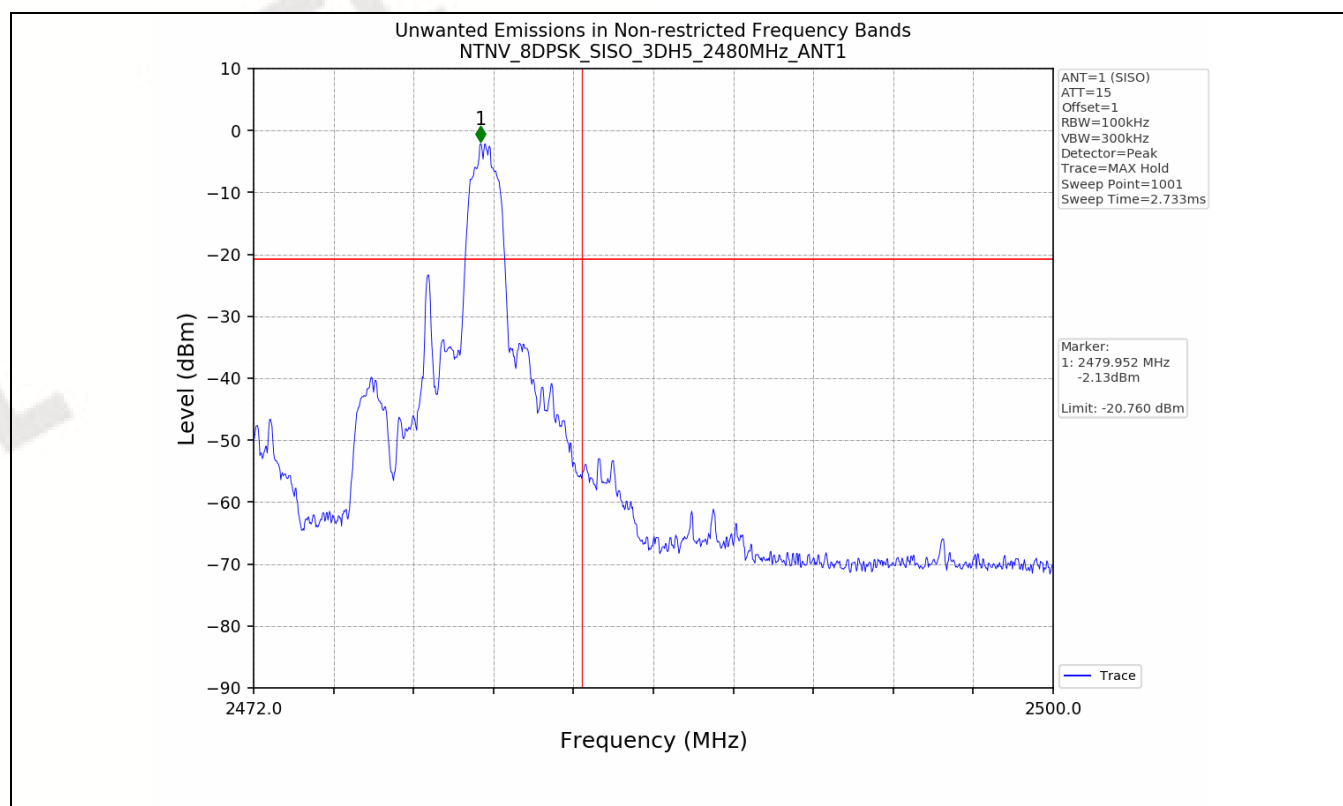
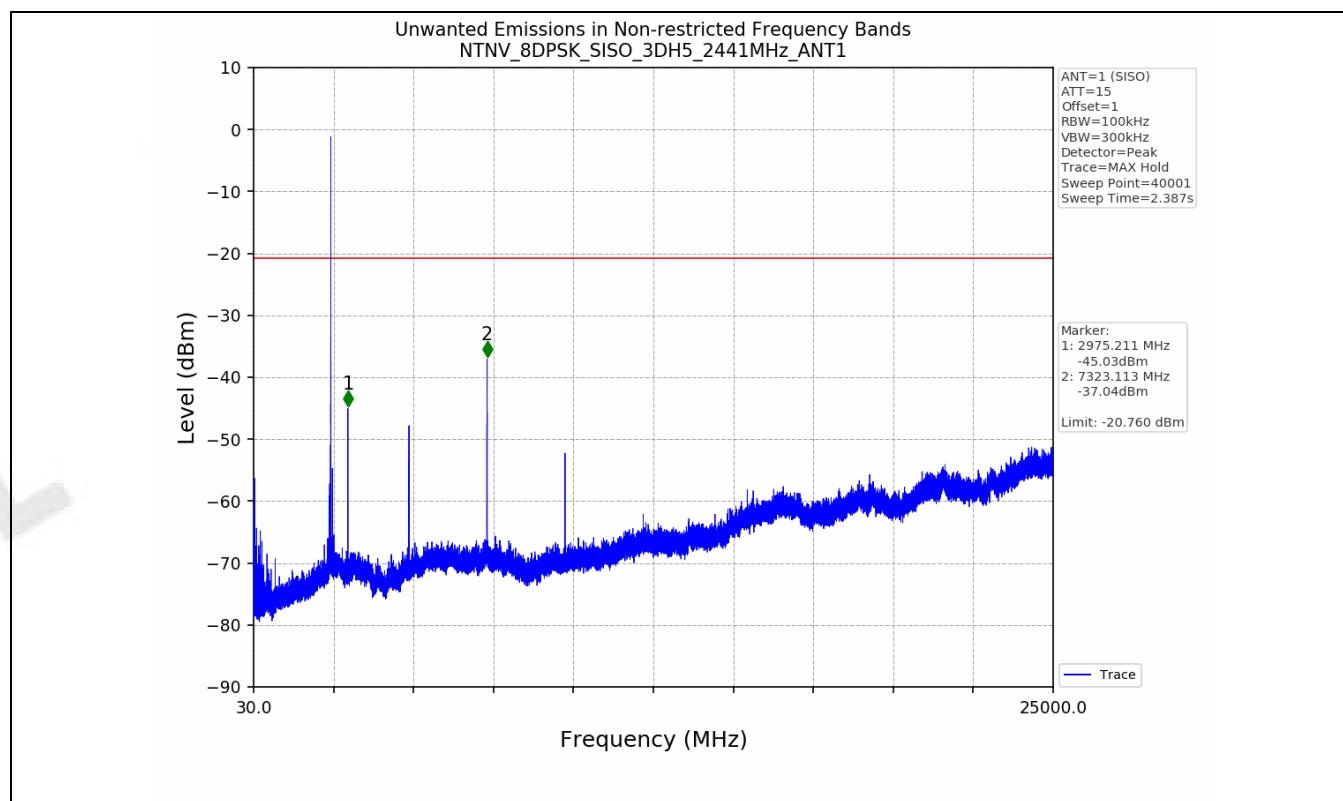




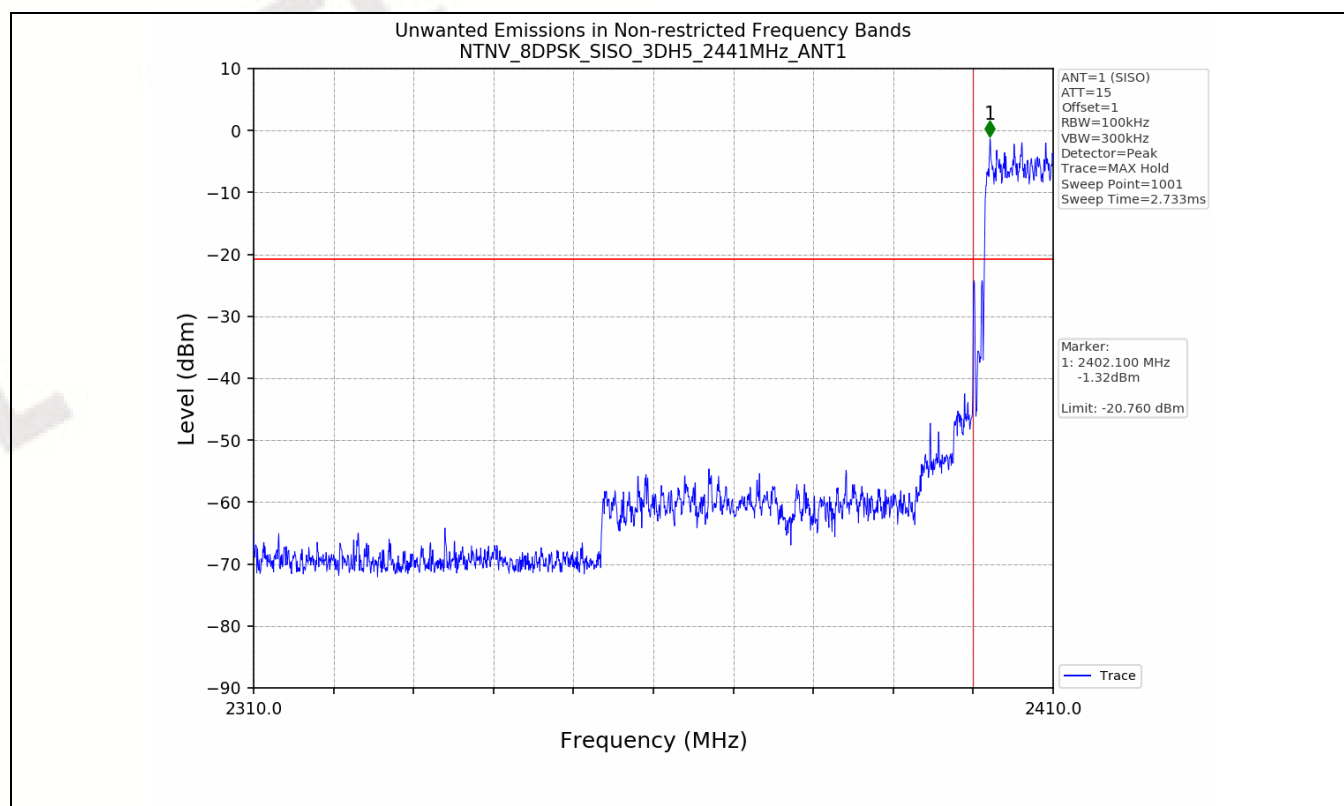
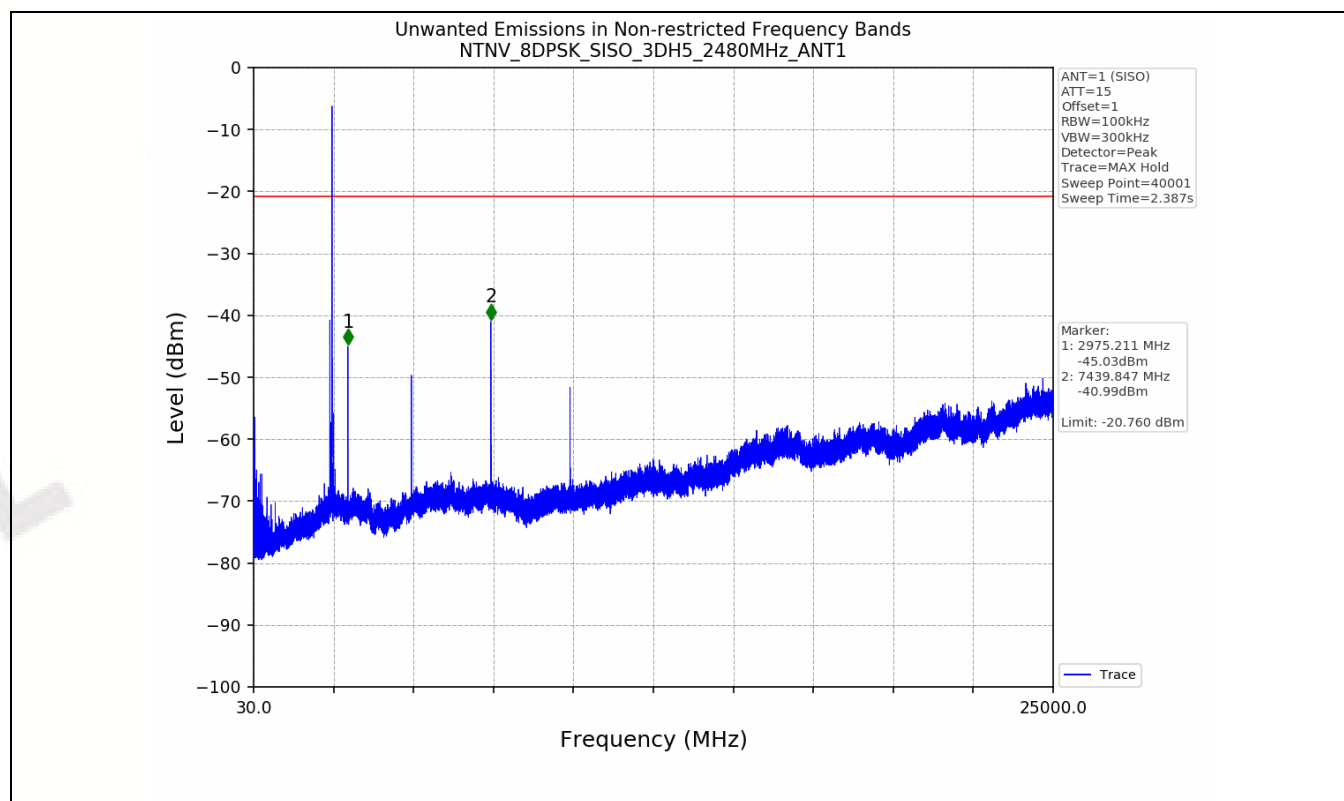


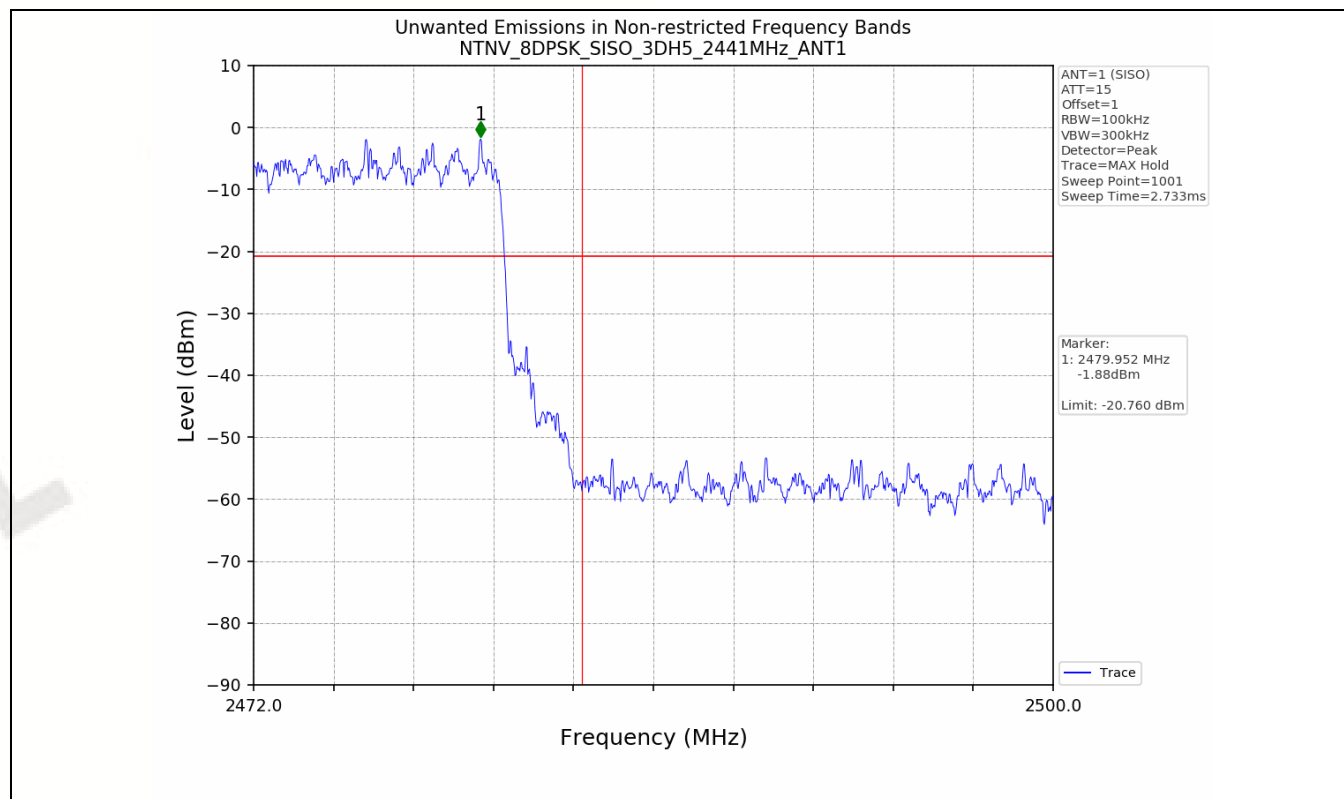












## 7. Frequency Error

### 7.1 Test Result

| Test Mode | Frequency (MHz) | TX Type | ANT | Measured Frequency (MHz) |             | Verdict |
|-----------|-----------------|---------|-----|--------------------------|-------------|---------|
|           |                 |         |     | Test Result              | Limit       |         |
| GFSK      | 2402            | SISO    | 1   | 2402.09                  | 2400-2483.5 | PASS    |
|           | 2441            | SISO    | 1   | 2441.09                  | 2400-2483.5 | PASS    |
|           | 2480            | SISO    | 1   | 2480.09                  | 2400-2483.5 | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 1   | 2402.09                  | 2400-2483.5 | PASS    |
|           | 2441            | SISO    | 1   | 2441.09                  | 2400-2483.5 | PASS    |
|           | 2480            | SISO    | 1   | 2480.09                  | 2400-2483.5 | PASS    |

### 7.2 Test Graph

