

## Appendix for 15.247

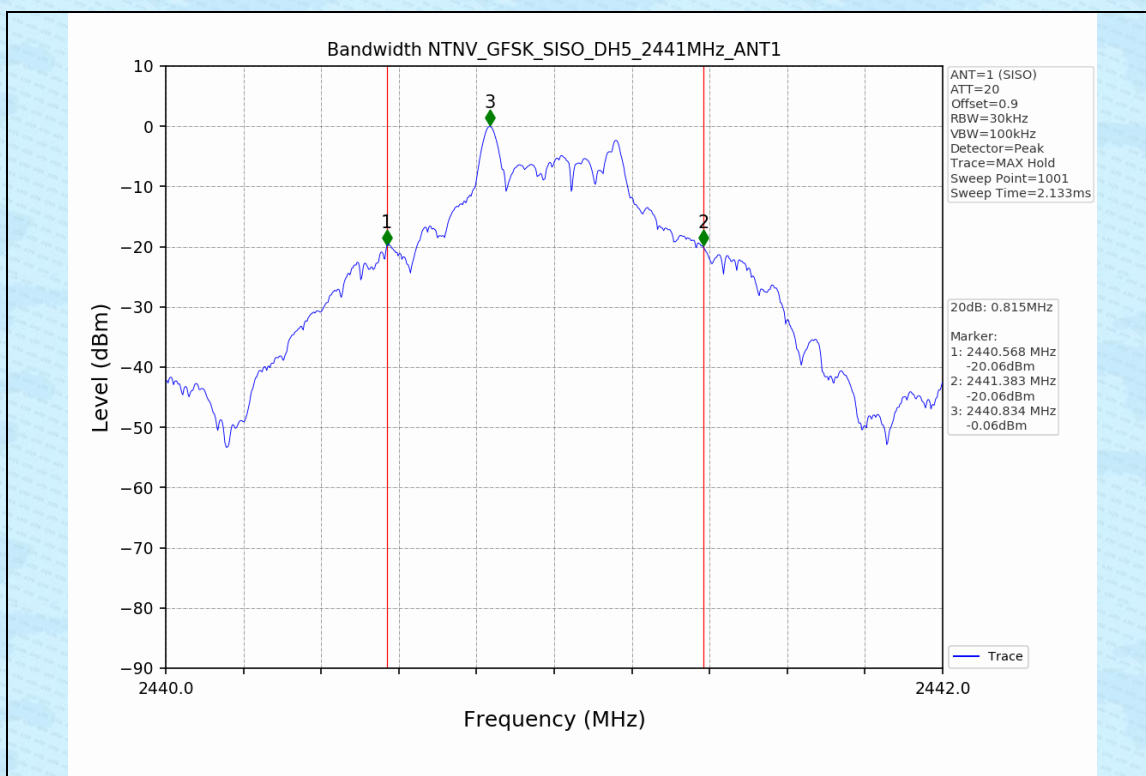
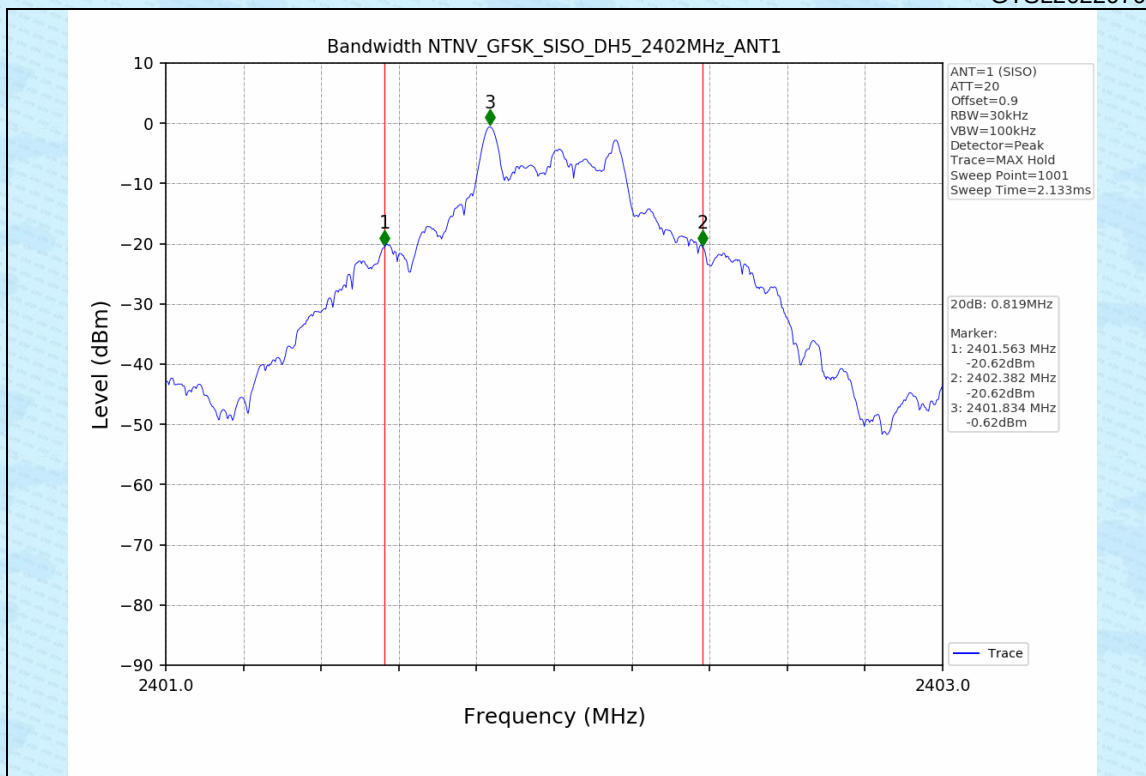
### 1. Bandwidth

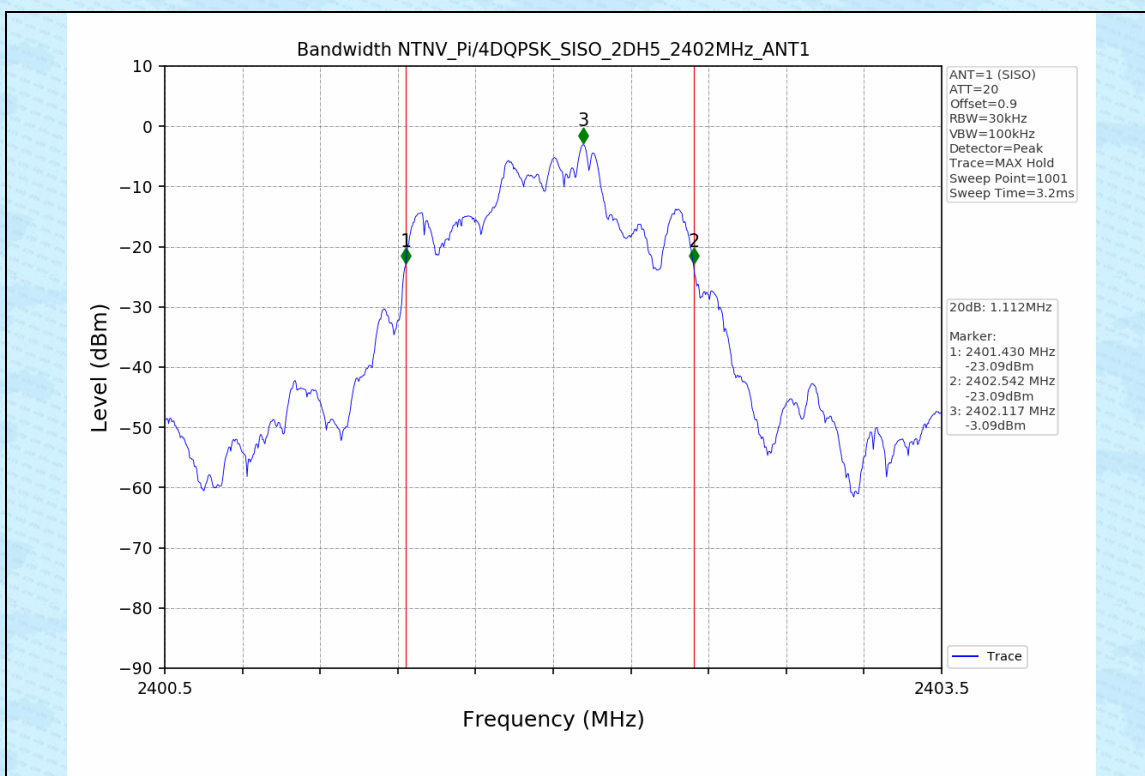
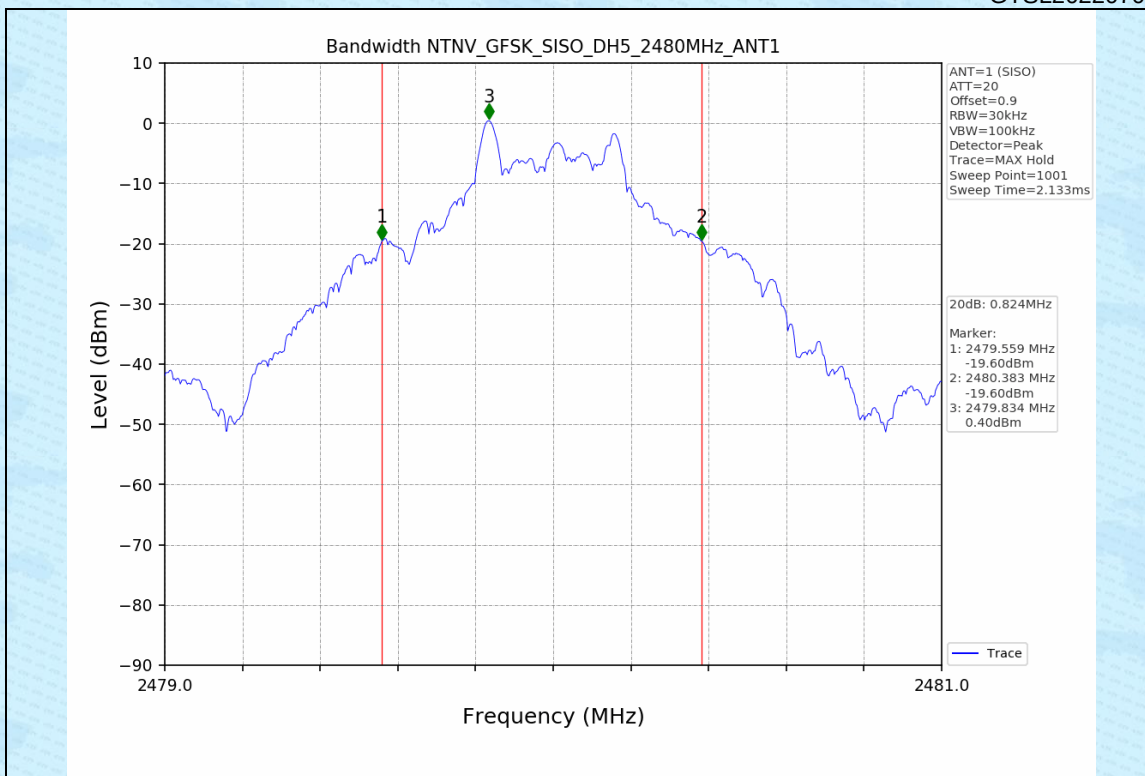
#### 1.1 Test Result

| Test Mode | Frequency (MHz) | TX Type | ANT No. | 20dB Bandwidth    | Verdict |
|-----------|-----------------|---------|---------|-------------------|---------|
|           |                 |         |         | Test Result (MHz) |         |
| GFSK      | 2402            | SISO    | 1       | 0.819             | PASS    |
|           | 2441            | SISO    | 1       | 0.815             | PASS    |
|           | 2480            | SISO    | 1       | 0.824             | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 1       | 1.112             | PASS    |
|           | 2441            | SISO    | 1       | 1.113             | PASS    |
|           | 2480            | SISO    | 1       | 1.117             | PASS    |
| 8DPSK     | 2402            | SISO    | 1       | 1.128             | PASS    |
|           | 2441            | SISO    | 1       | 1.153             | PASS    |
|           | 2480            | SISO    | 1       | 1.151             | PASS    |

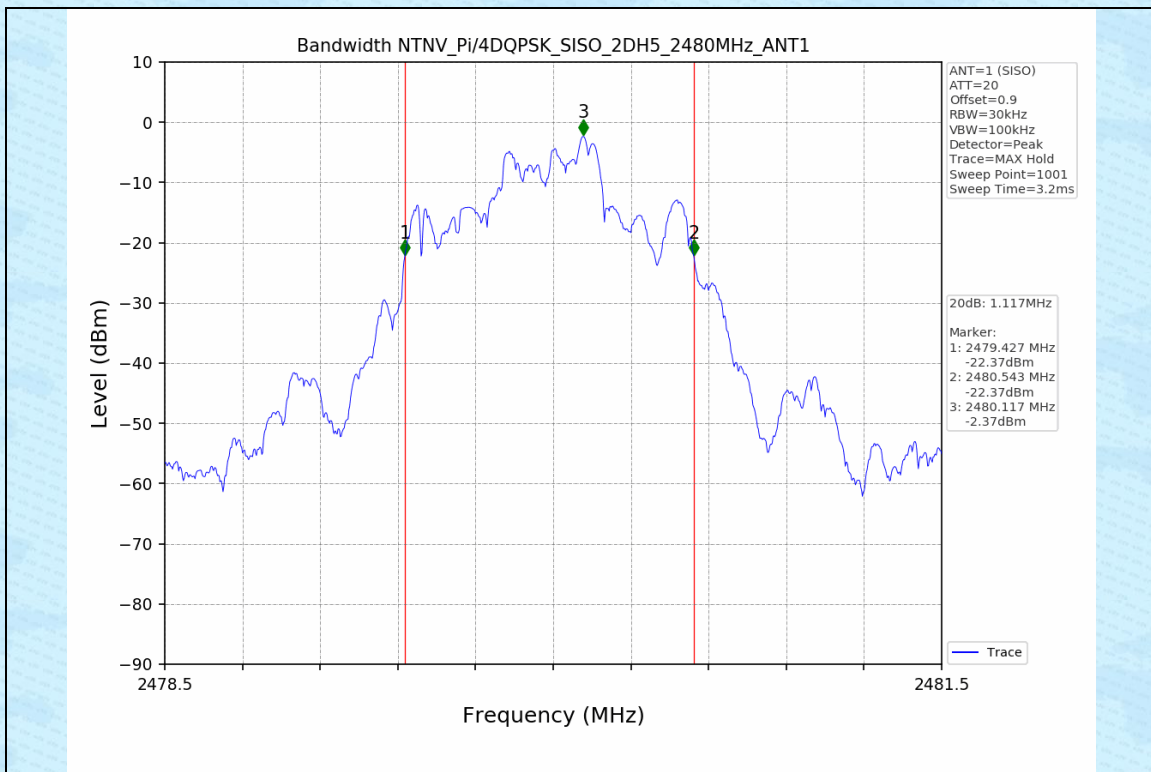
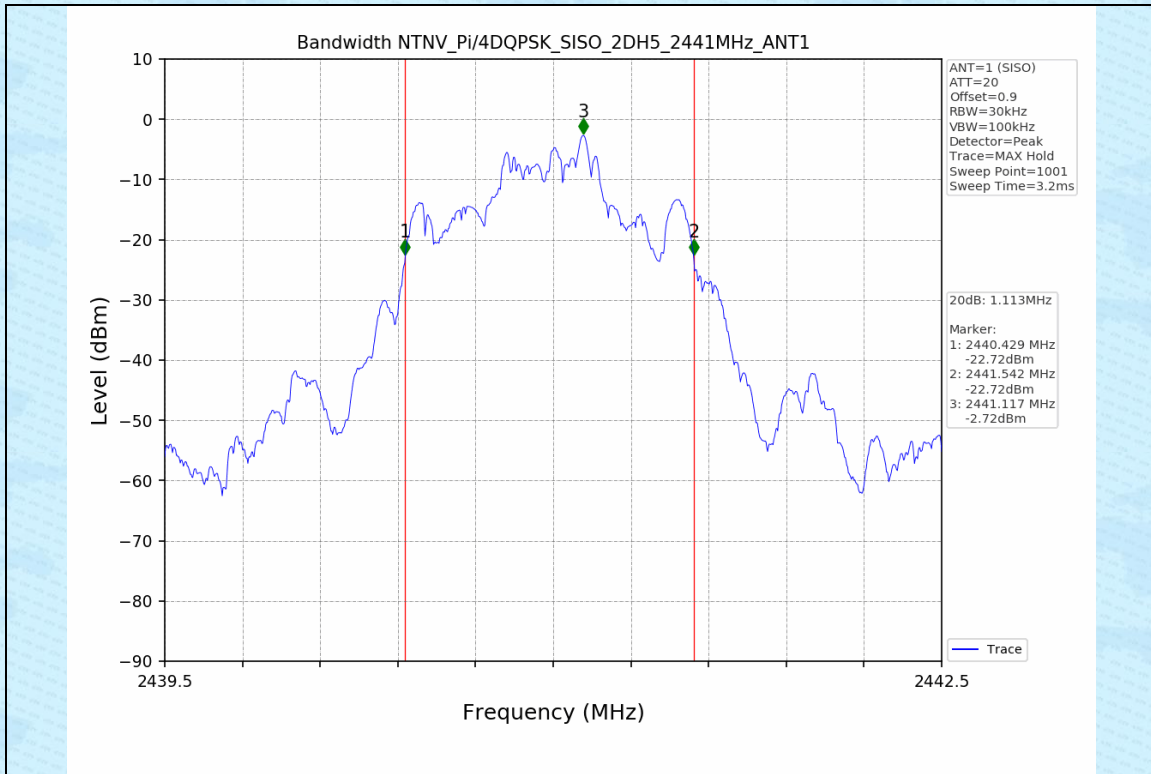
| Test Mode | Frequency (MHz) | TX Type | ANT No. | 99% Occupied Bandwidth |                     |
|-----------|-----------------|---------|---------|------------------------|---------------------|
|           |                 |         |         | Test Result (MHz)      |                     |
| GFSK      | 2402            | SISO    | 1       | 0.863                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 0.858                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 0.859                  | Only for Report Use |
| Pi/4DQPSK | 2402            | SISO    | 1       | 1.060                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 1.060                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 1.061                  | Only for Report Use |
| 8DPSK     | 2402            | SISO    | 1       | 1.072                  | Only for Report Use |
|           | 2441            | SISO    | 1       | 1.072                  | Only for Report Use |
|           | 2480            | SISO    | 1       | 1.067                  | Only for Report Use |

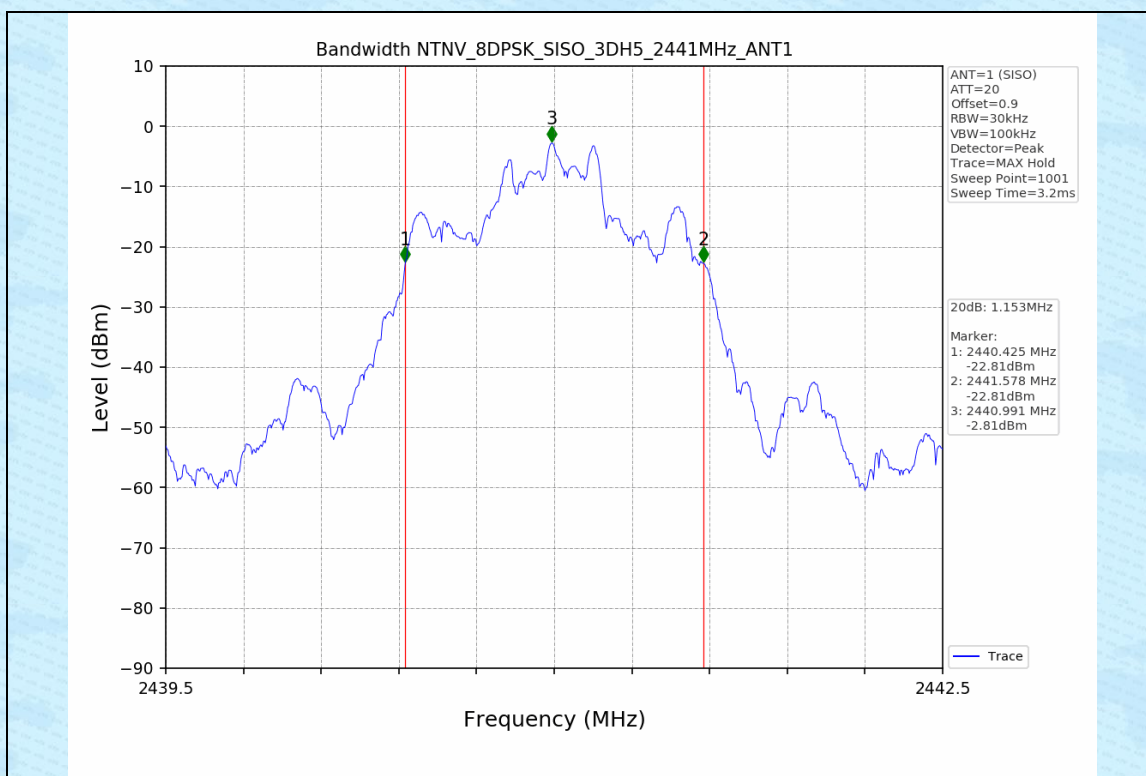
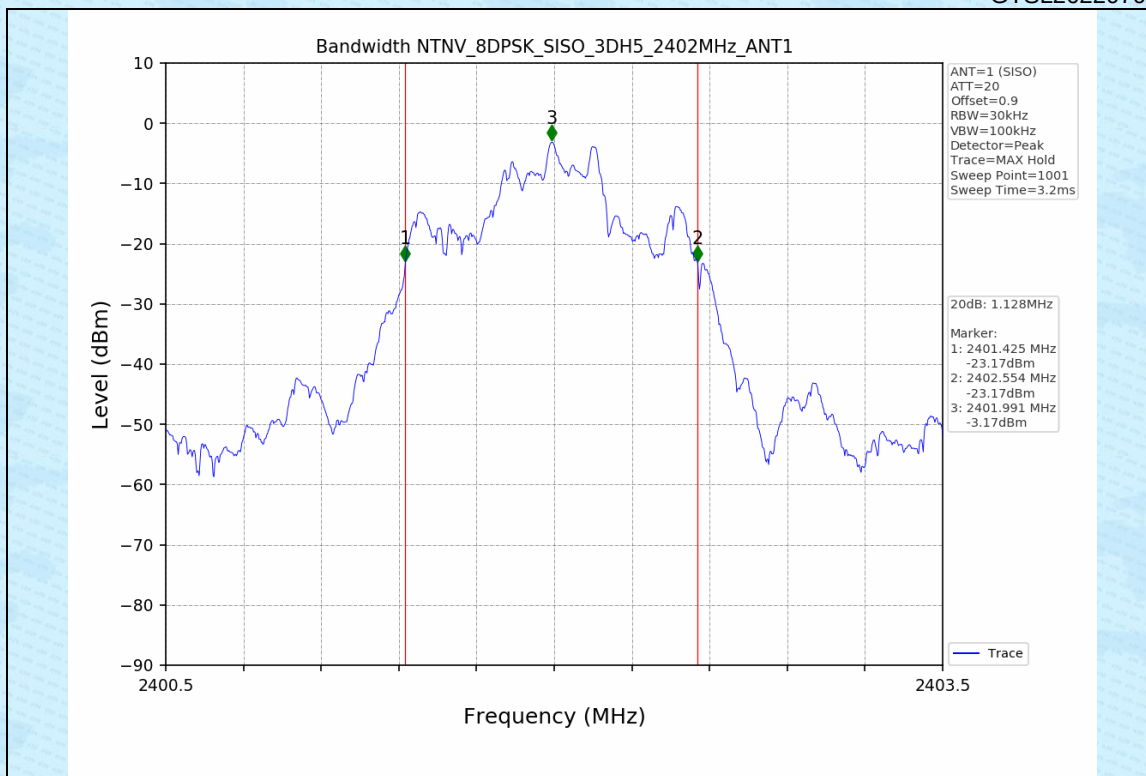
#### 1.2 Test Graph - 20dB Bandwidth

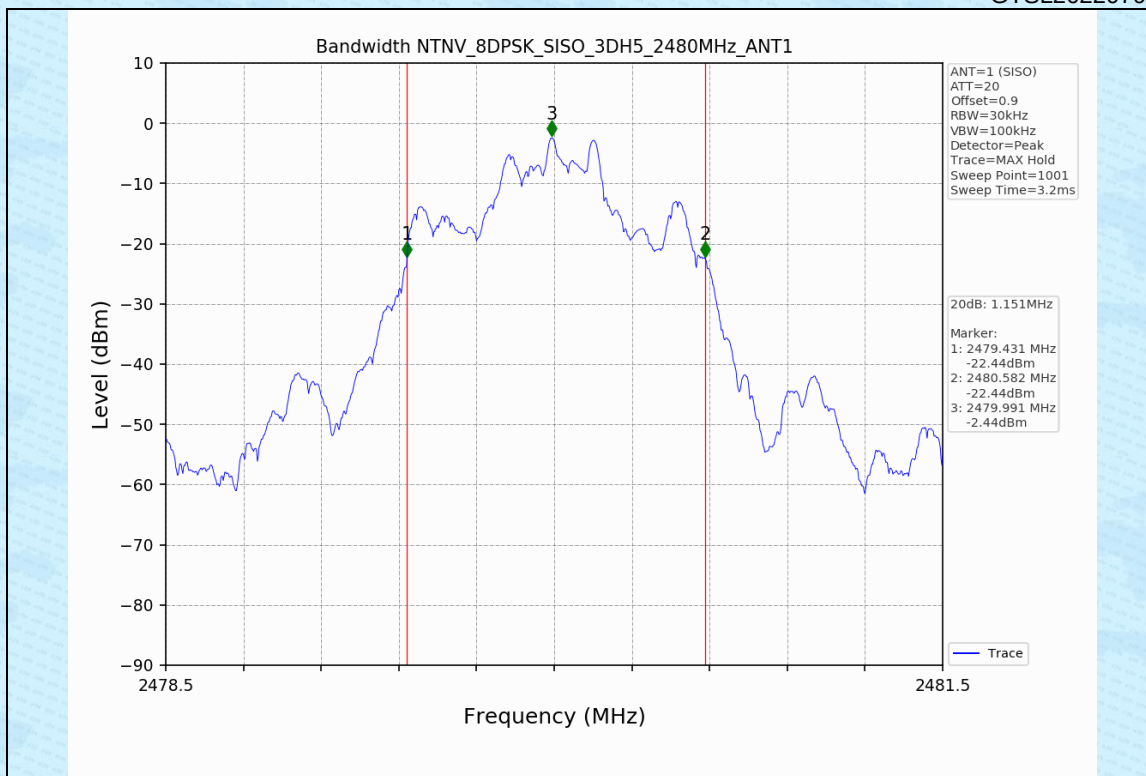




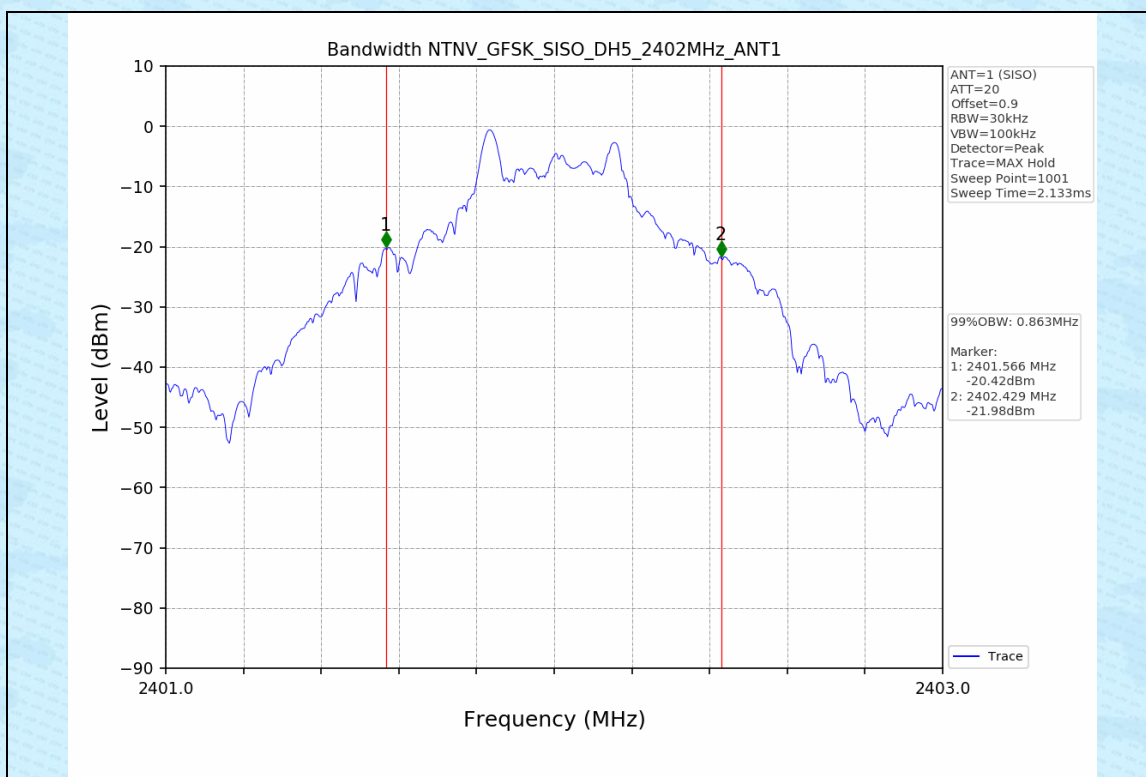




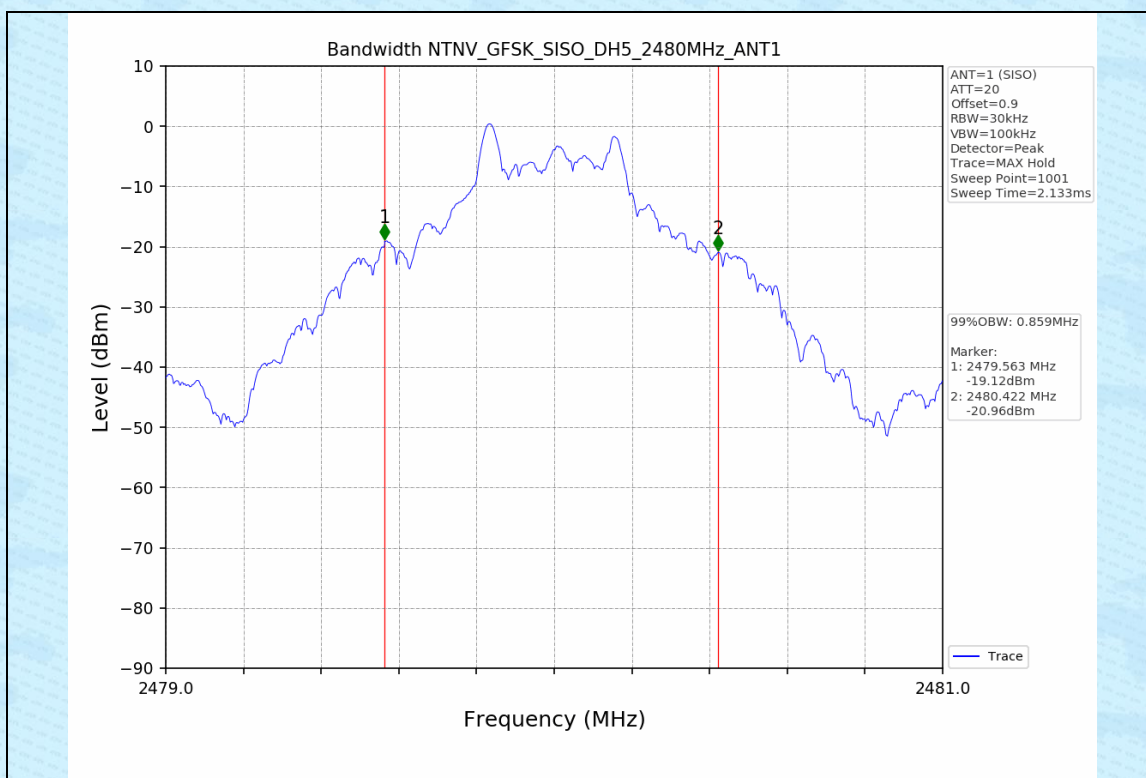
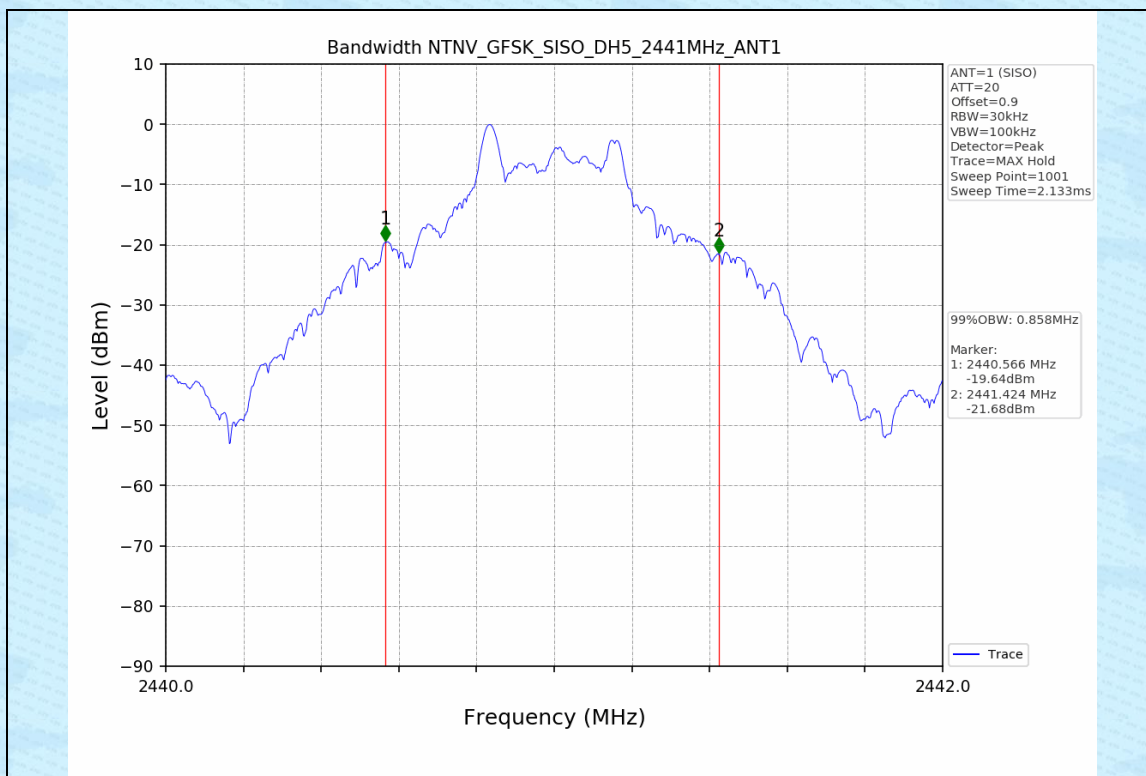


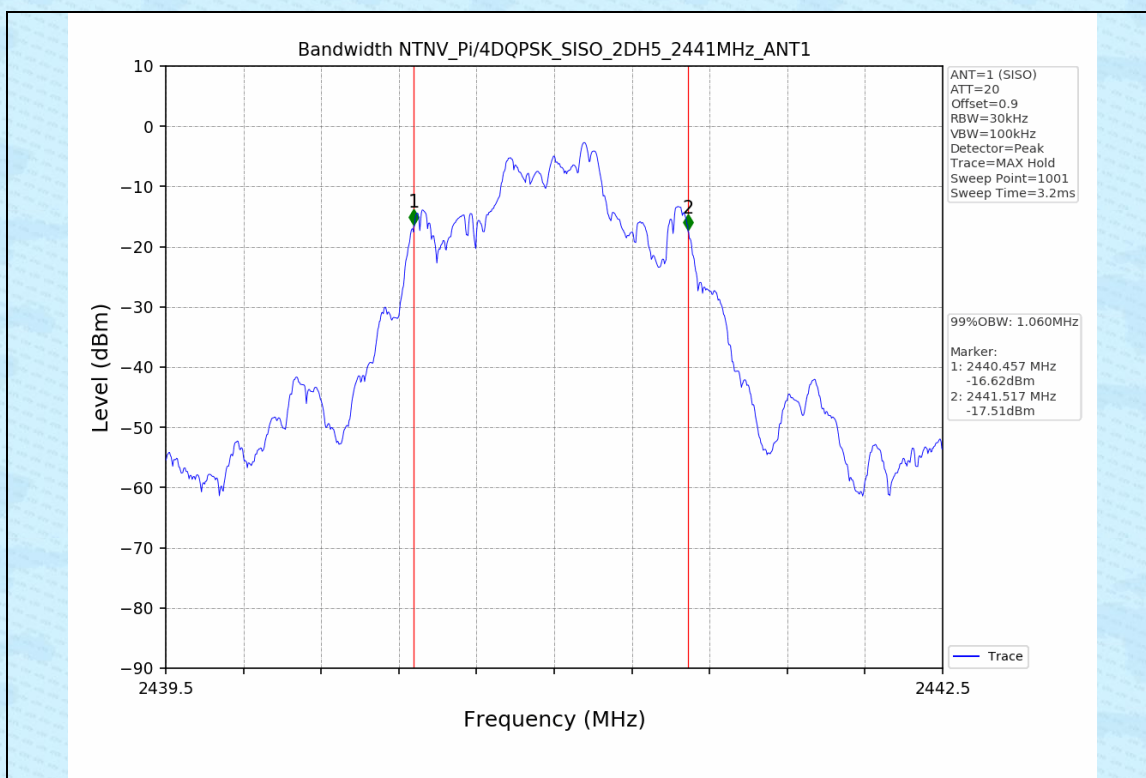
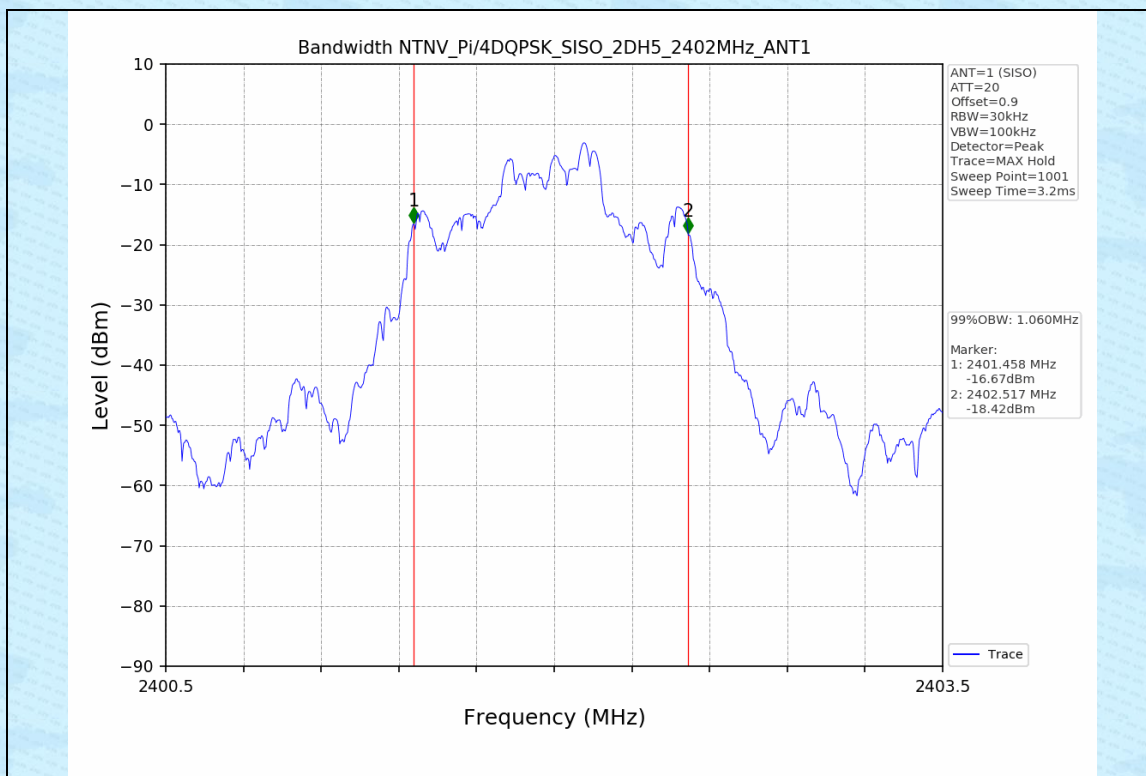


## 1.3 Test Graph - 99% Occupied Bandwidth

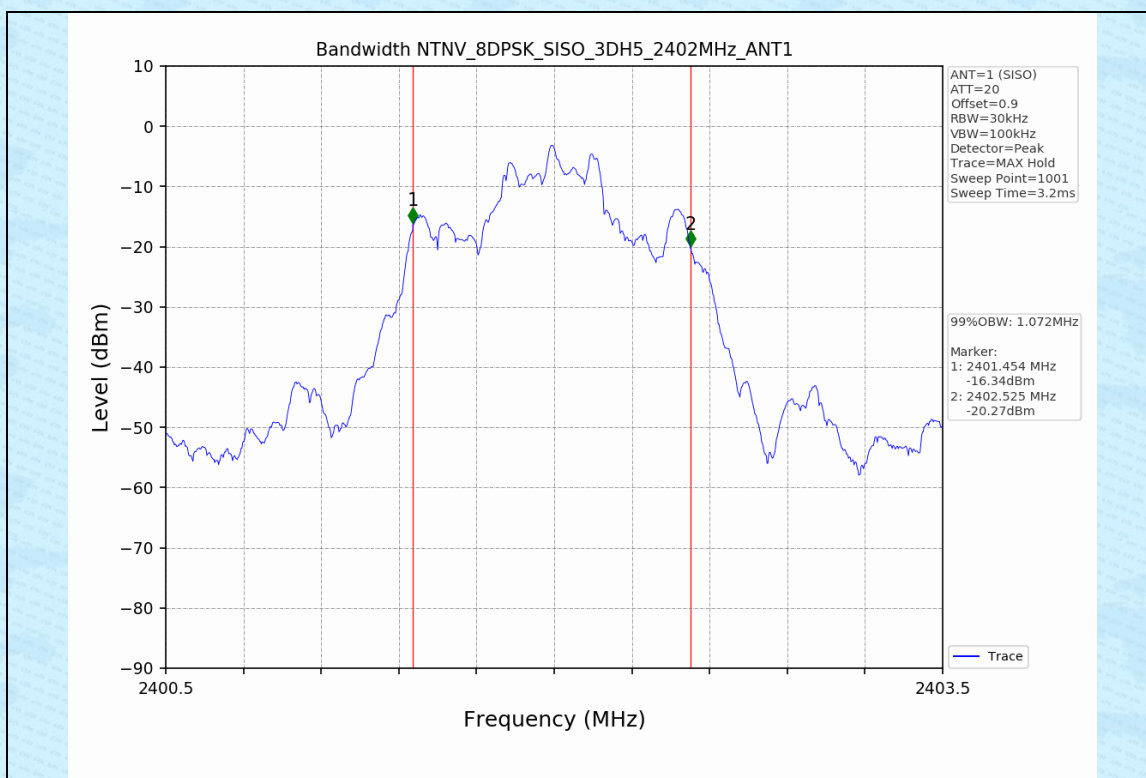
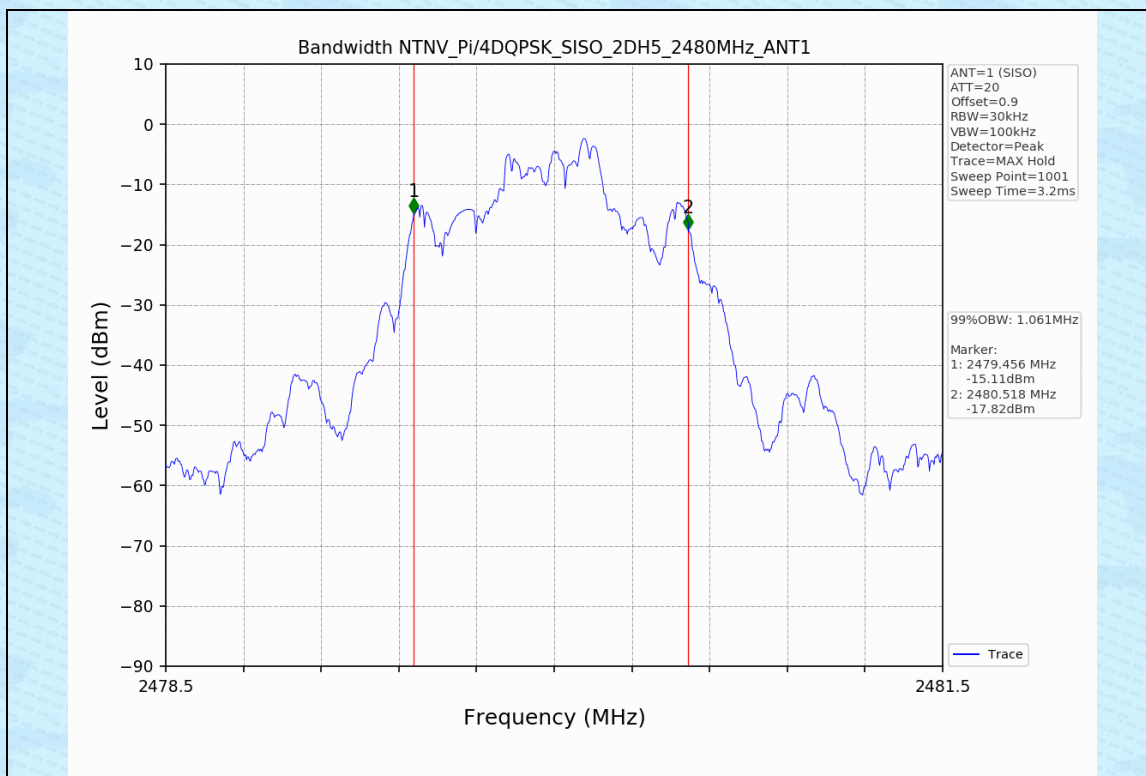


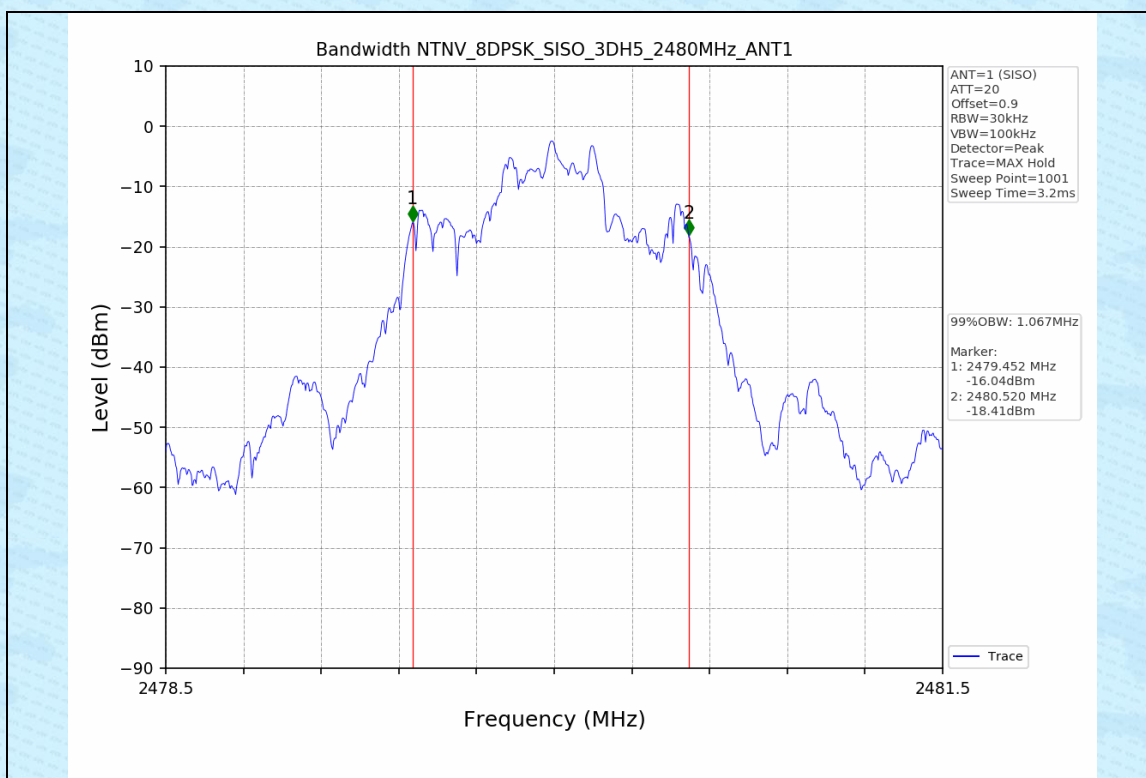
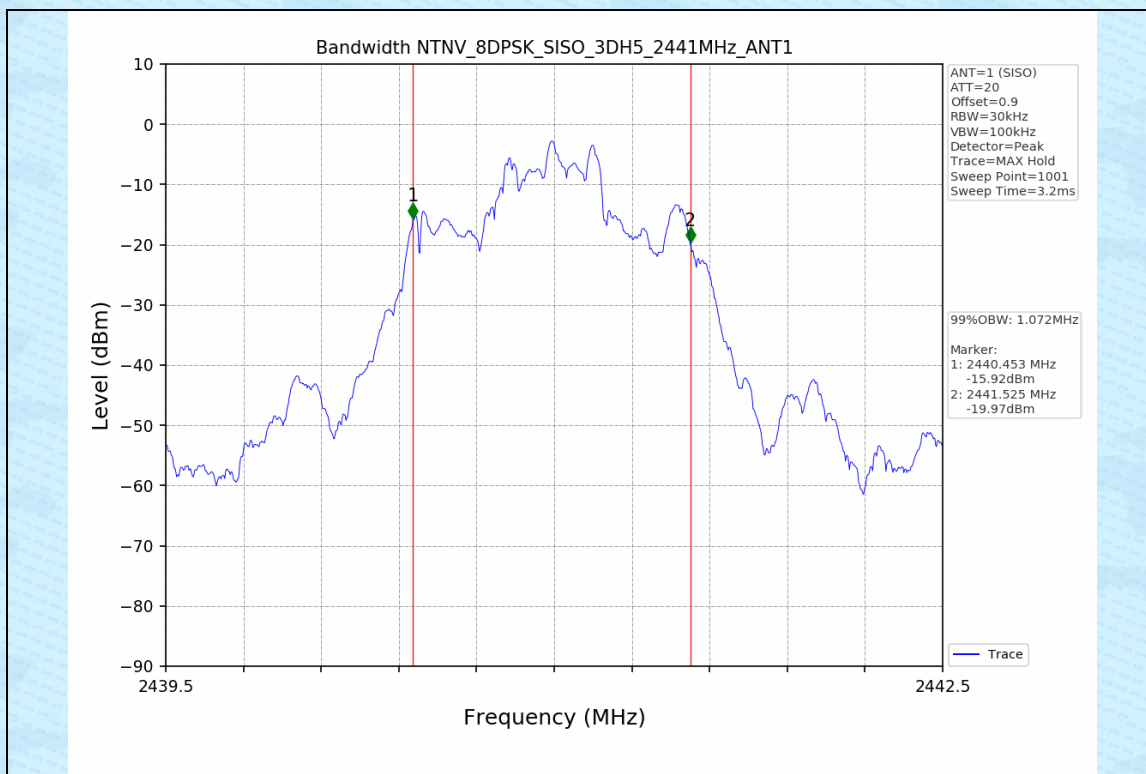










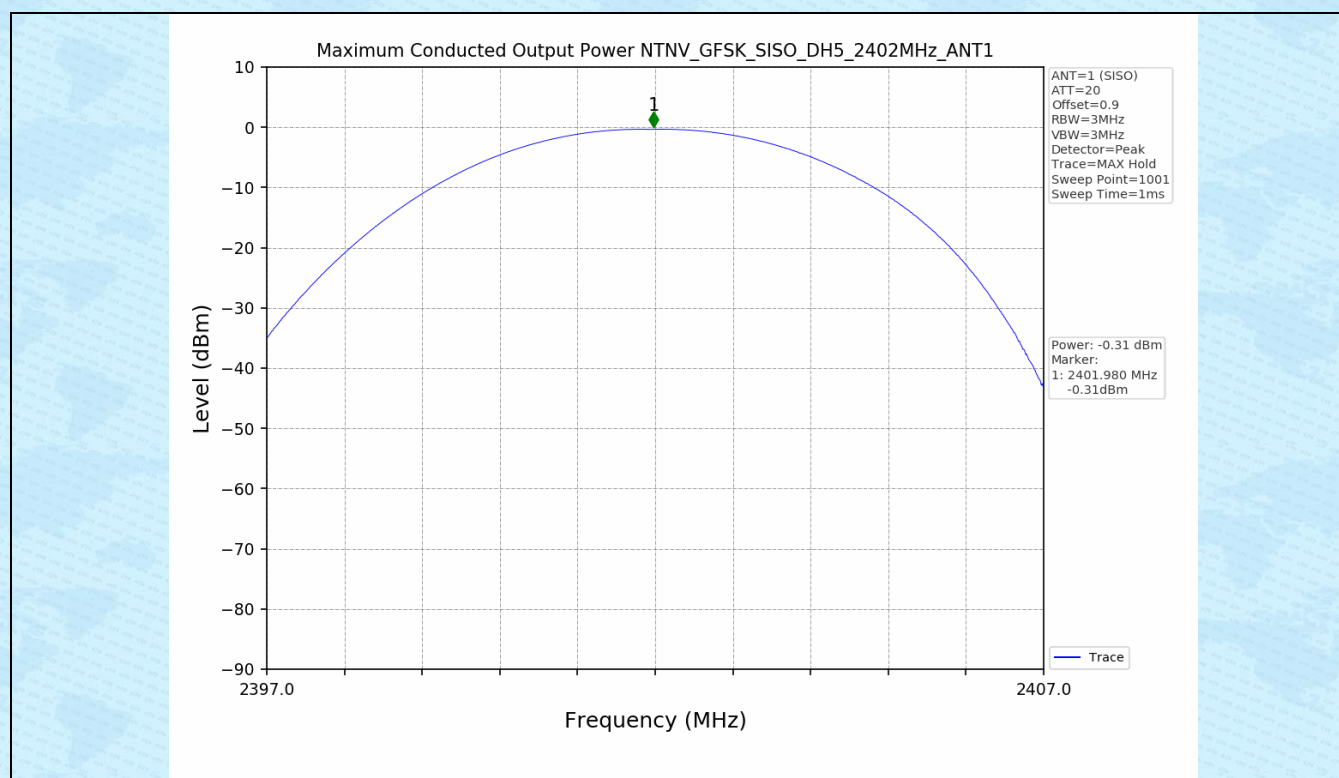


## 2. Maximum Conducted Output Power

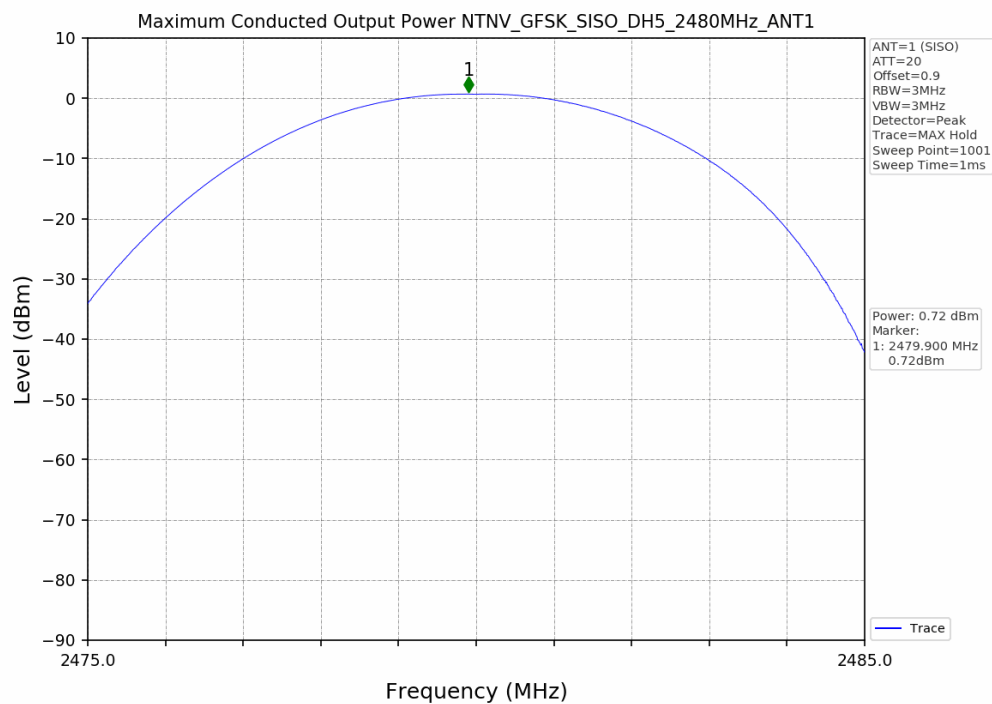
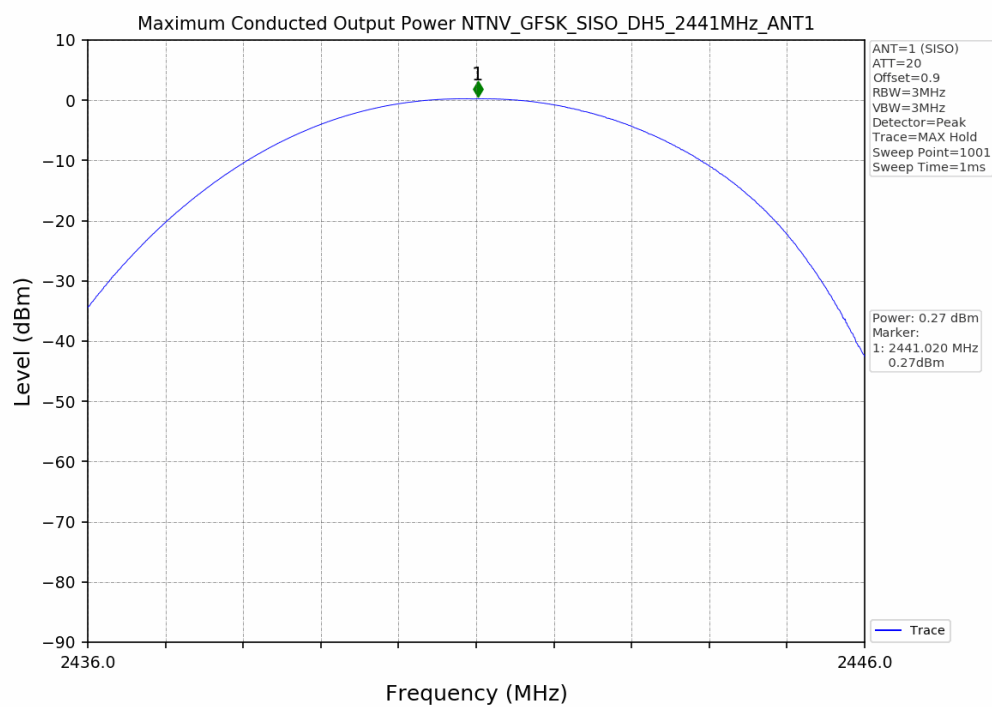
### 2.1 Test Result

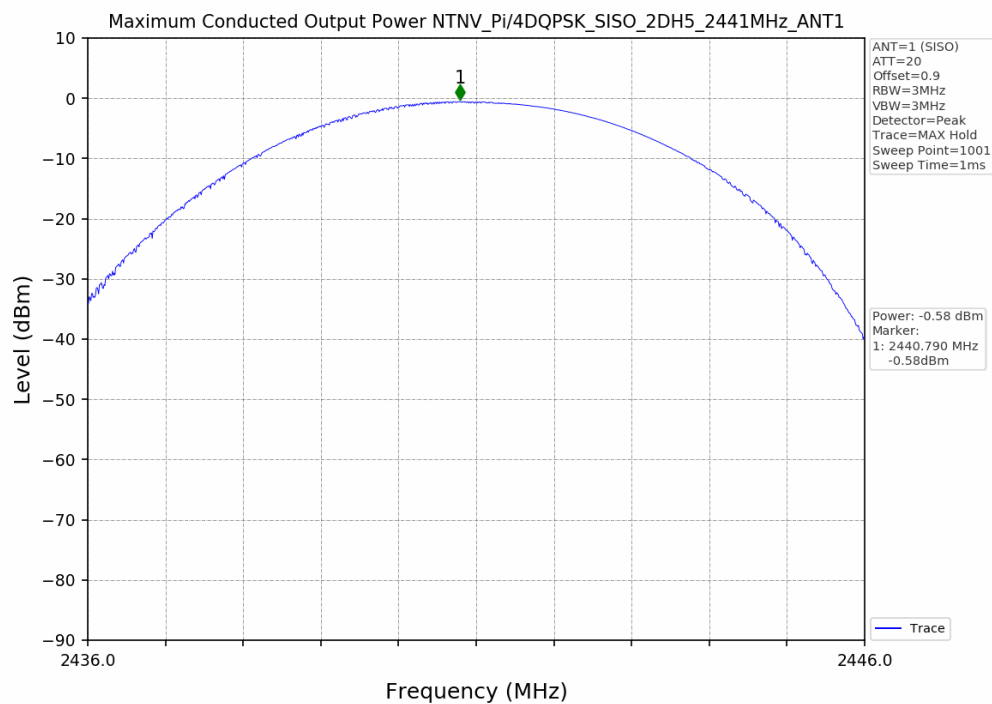
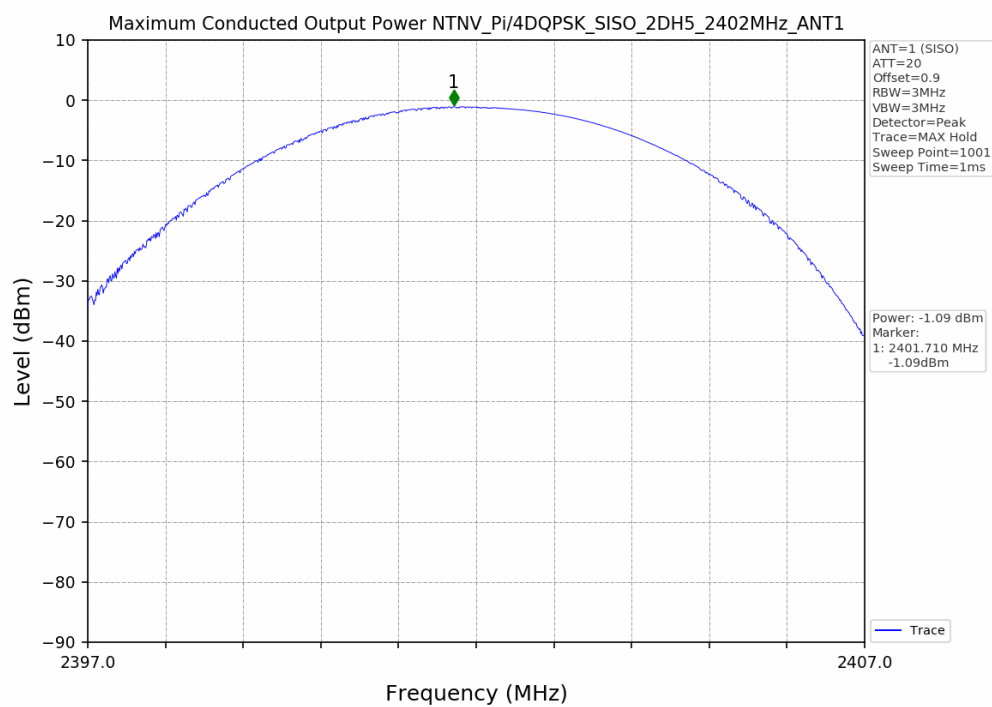
| Test Mode | Frequency (MHz) | Tx Type | Measured Peak Output Power (dBm) | Limits (dBm) | Verdict |
|-----------|-----------------|---------|----------------------------------|--------------|---------|
|           |                 |         | Ant 1                            |              |         |
| GFSK      | 2402            | SISO    | -0.31                            | 30           | PASS    |
|           | 2441            | SISO    | 0.27                             | 30           | PASS    |
|           | 2480            | SISO    | 0.72                             | 30           | PASS    |
| Pi/4DQPSK | 2402            | SISO    | -1.09                            | 20.97        | PASS    |
|           | 2441            | SISO    | -0.58                            | 20.97        | PASS    |
|           | 2480            | SISO    | -0.17                            | 20.97        | PASS    |
| 8DPSK     | 2402            | SISO    | -1.05                            | 20.97        | PASS    |
|           | 2441            | SISO    | -0.50                            | 20.97        | PASS    |
|           | 2480            | SISO    | -0.07                            | 20.97        | PASS    |

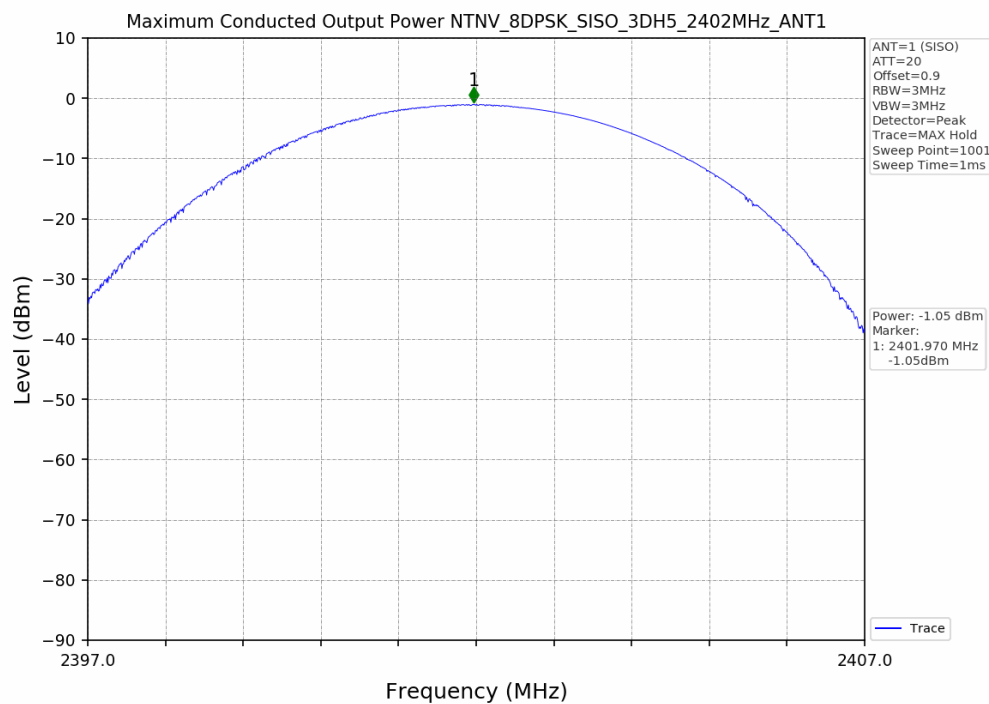
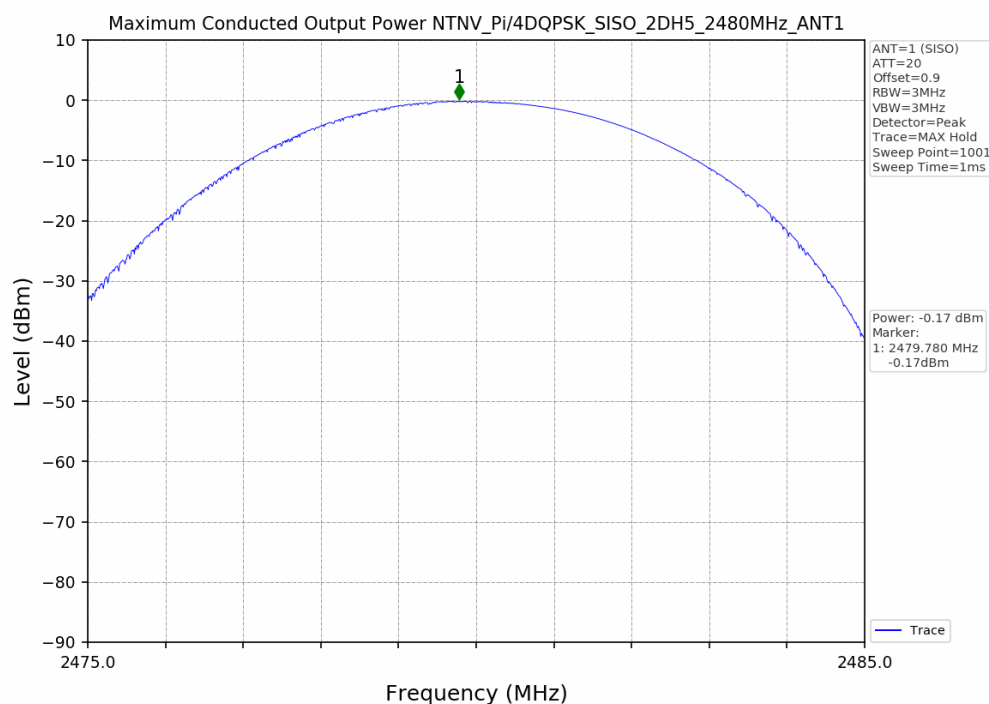
### 2.2 Test Graph



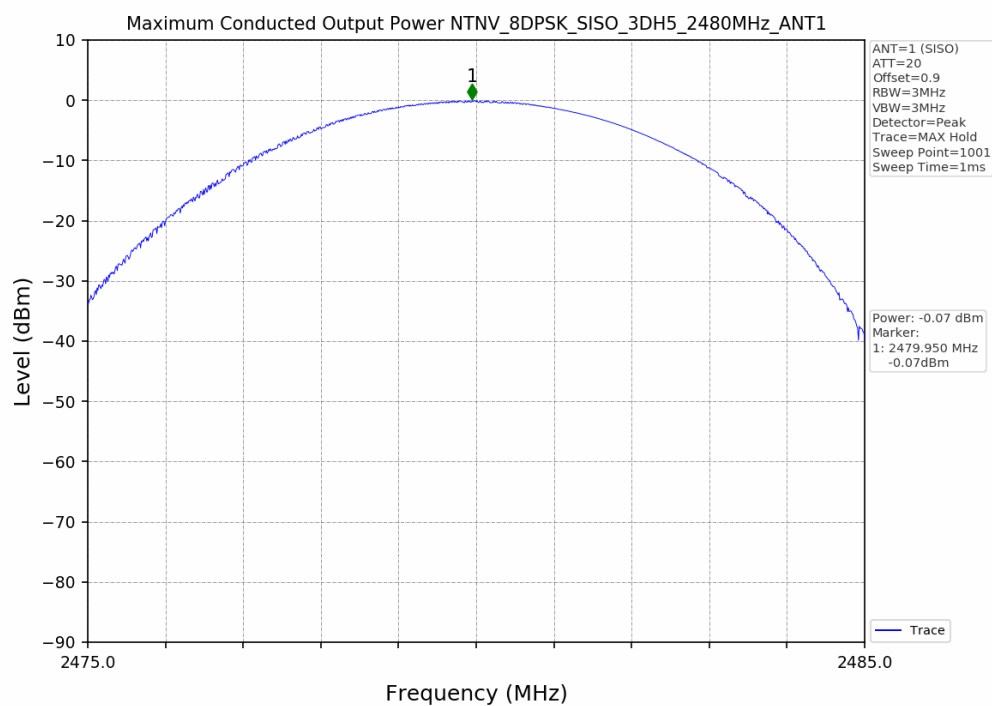
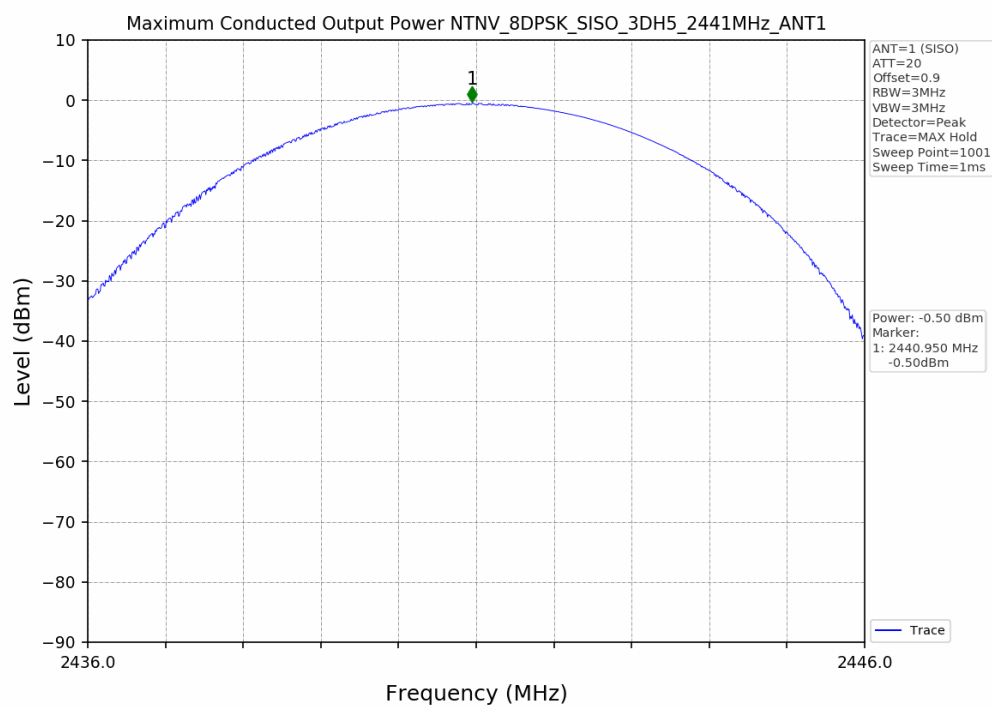










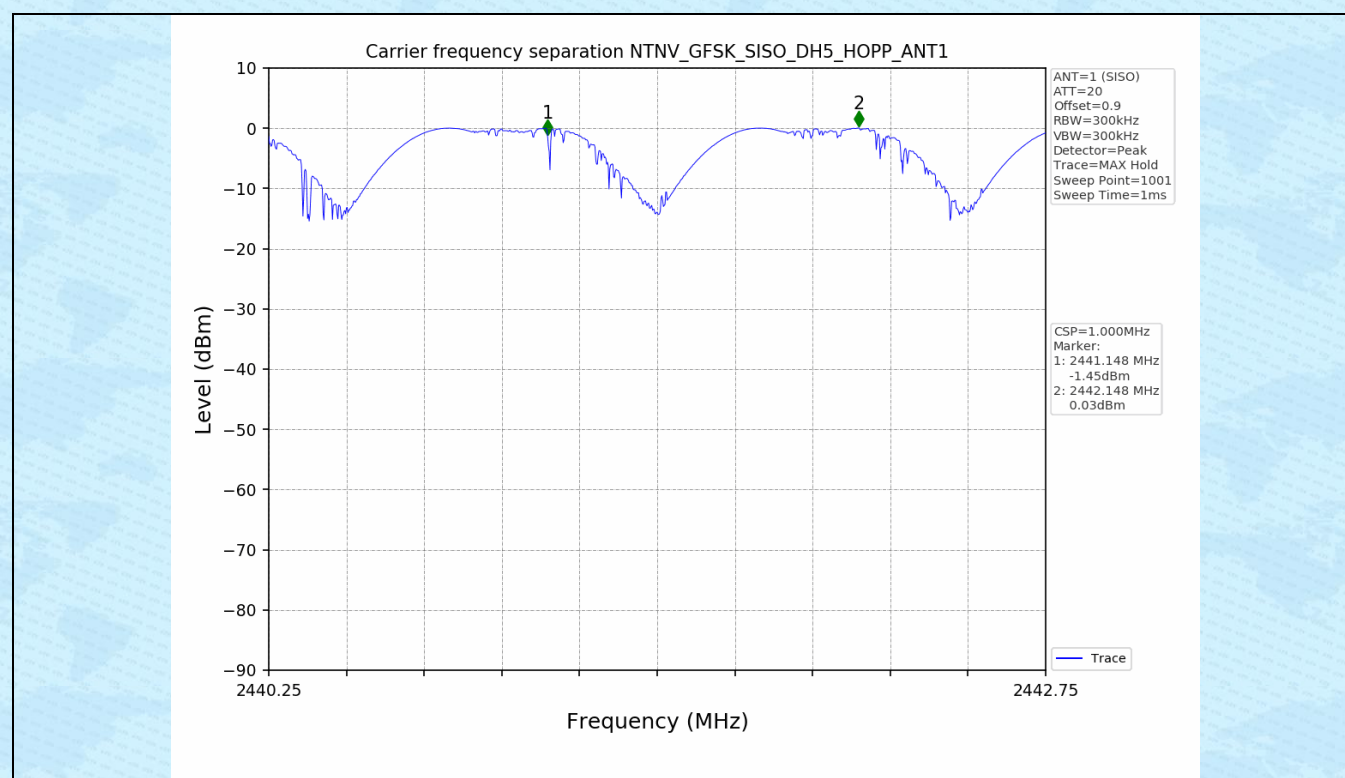


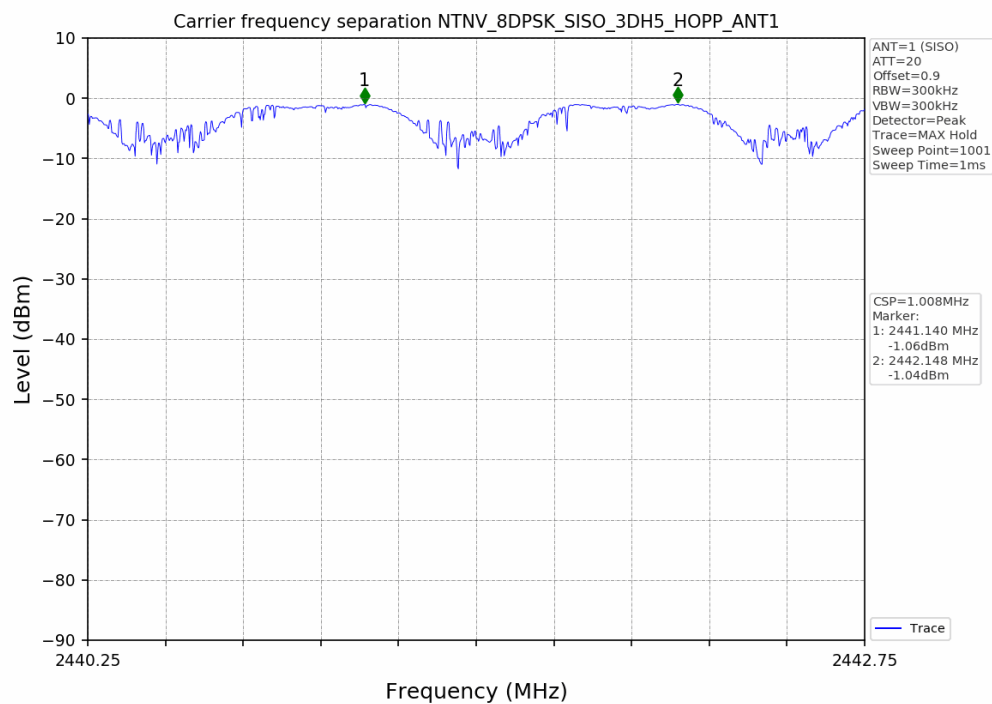
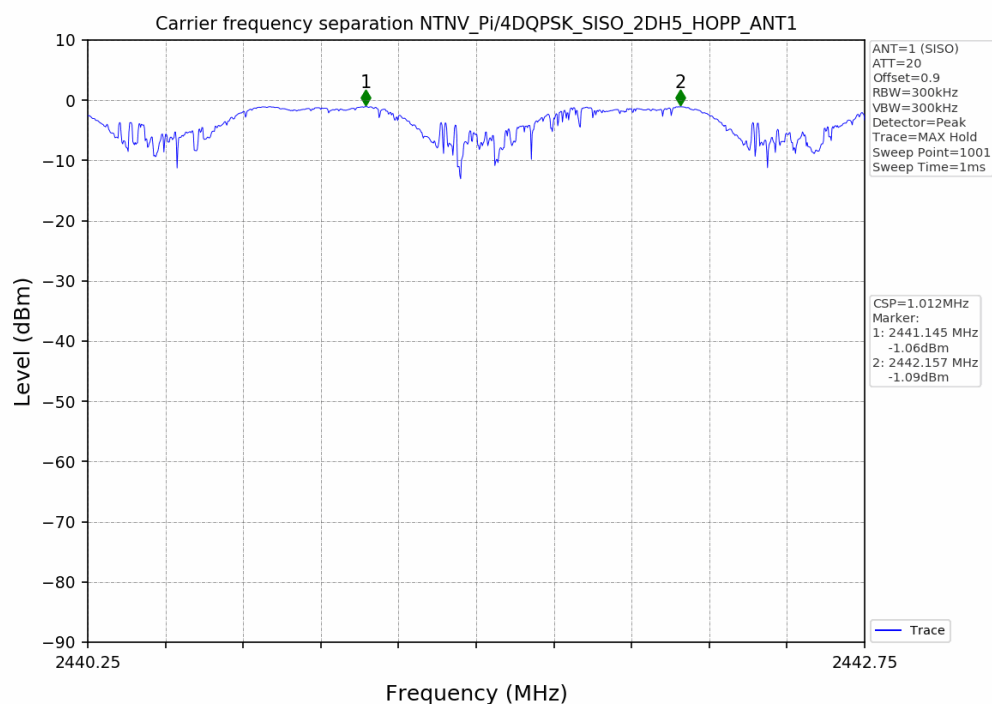
## 3. Carrier frequency separation

### 3.1 Test Result

| Test Mode | TX Type | ANT No. | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limits (MHz) | Verdict |
|-----------|---------|---------|--------------------------|----------------------|--------------|---------|
| GFSK      | SISO    | 1       | 1.000                    | 0.824                | $\geq 0.824$ | PASS    |
| Pi/4DQPSK | SISO    | 1       | 1.012                    | 1.117                | $\geq 0.745$ | PASS    |
| 8DPSK     | SISO    | 1       | 1.008                    | 1.153                | $\geq 0.769$ | PASS    |

### 3.2 Test Graph





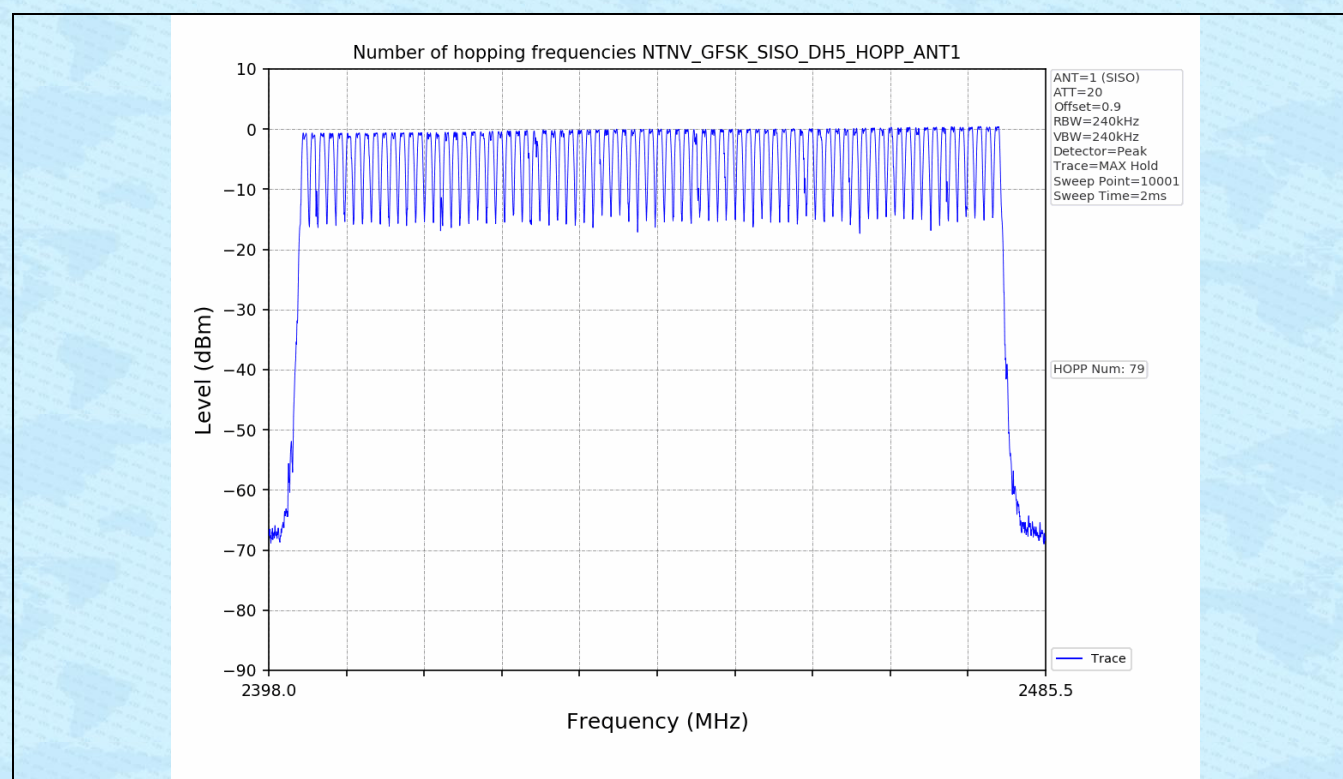


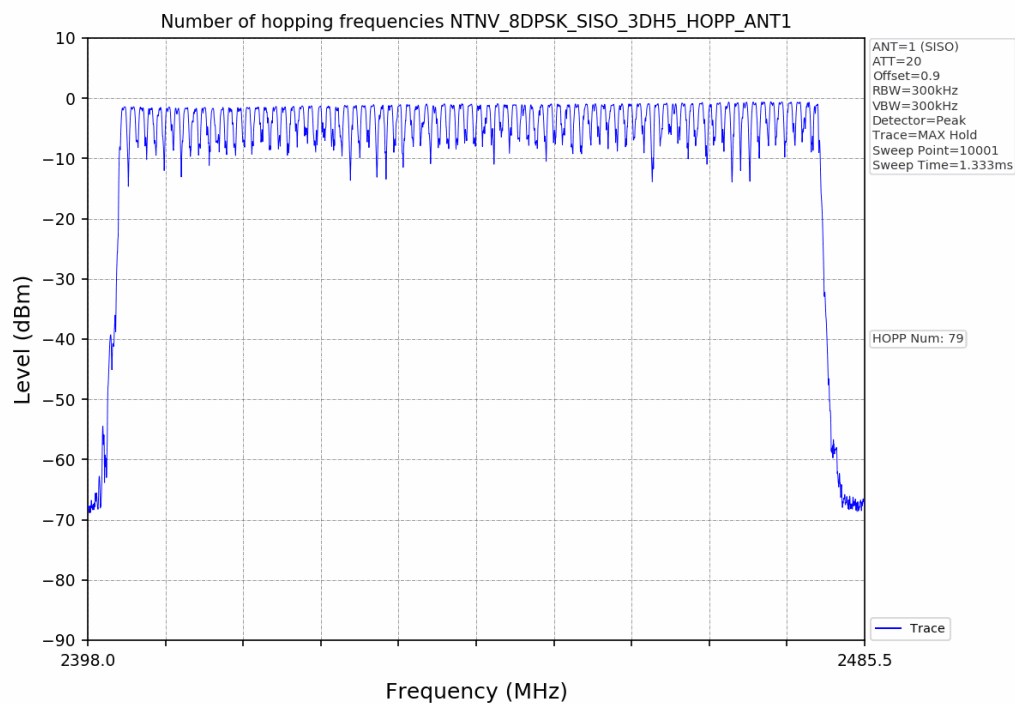
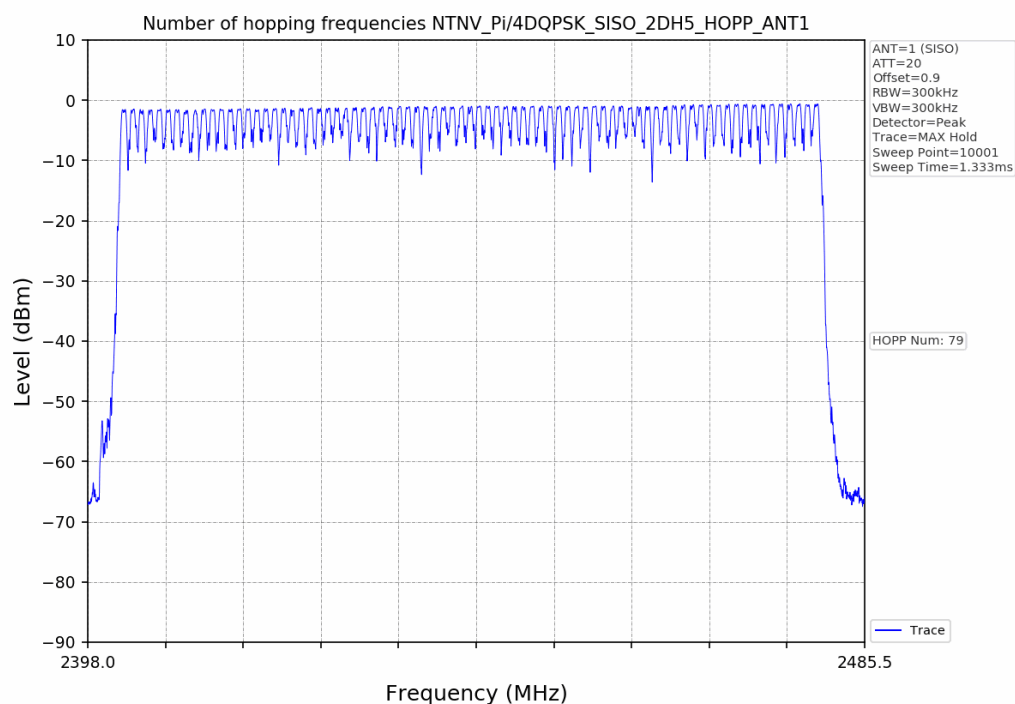
## 4. Number of hopping frequencies

### 4.1 Test Result

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

### 4.2 Test Graph



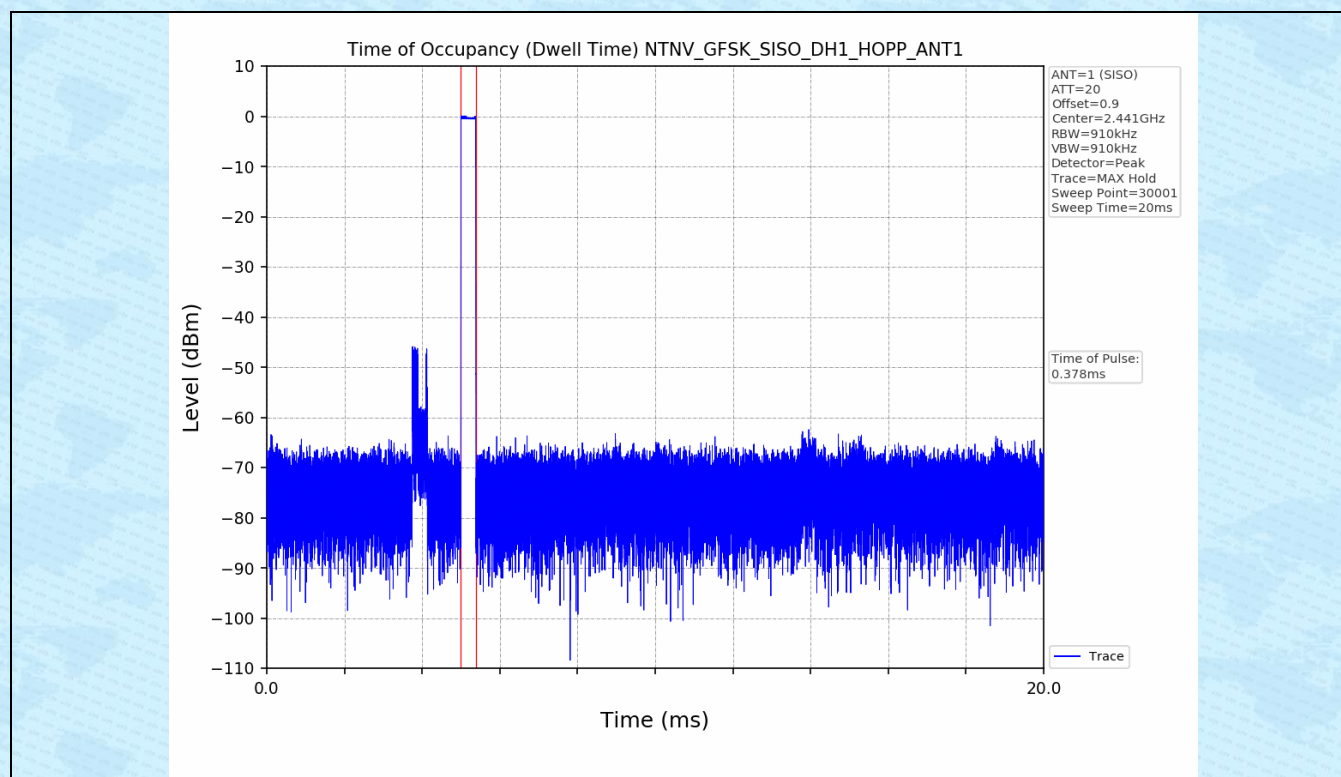


## 5. Time of occupancy (dwell time)

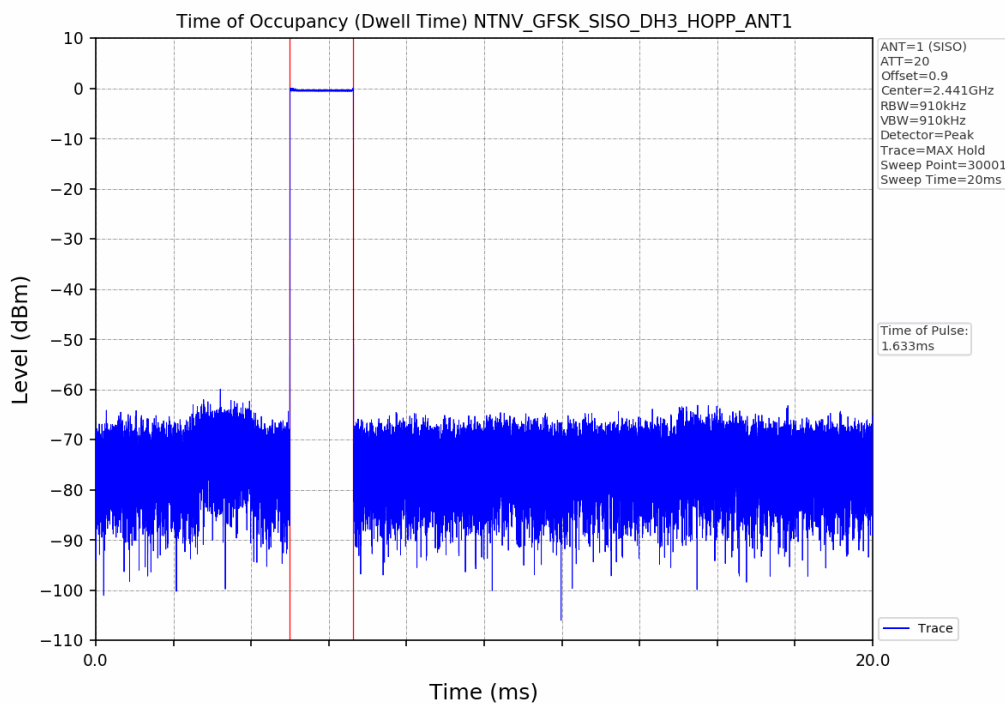
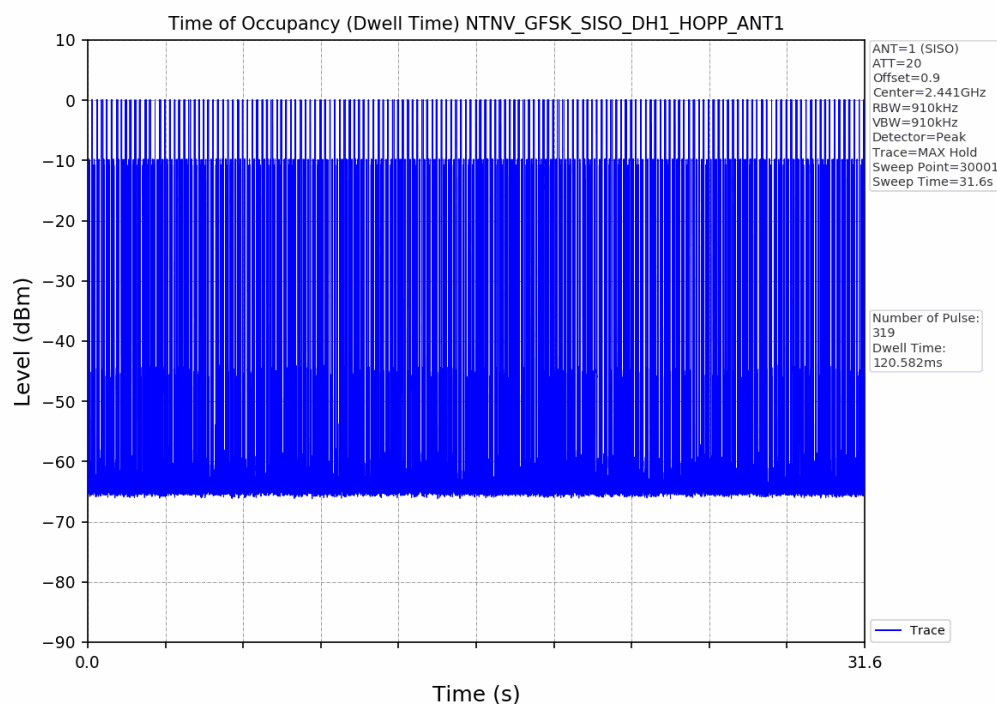
### 5.1 Test Result

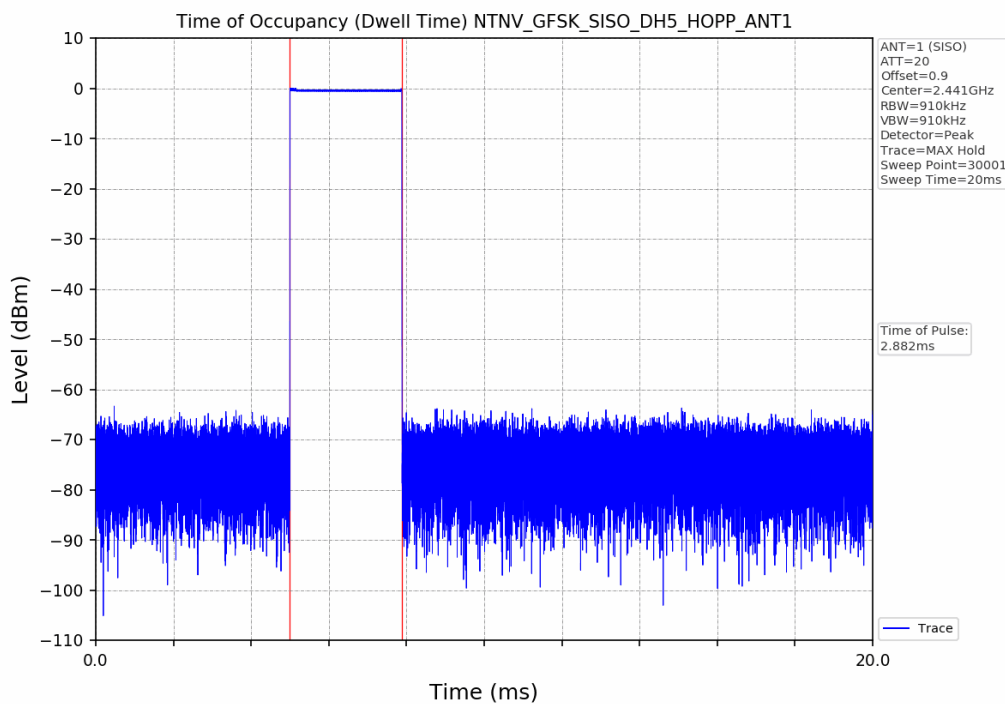
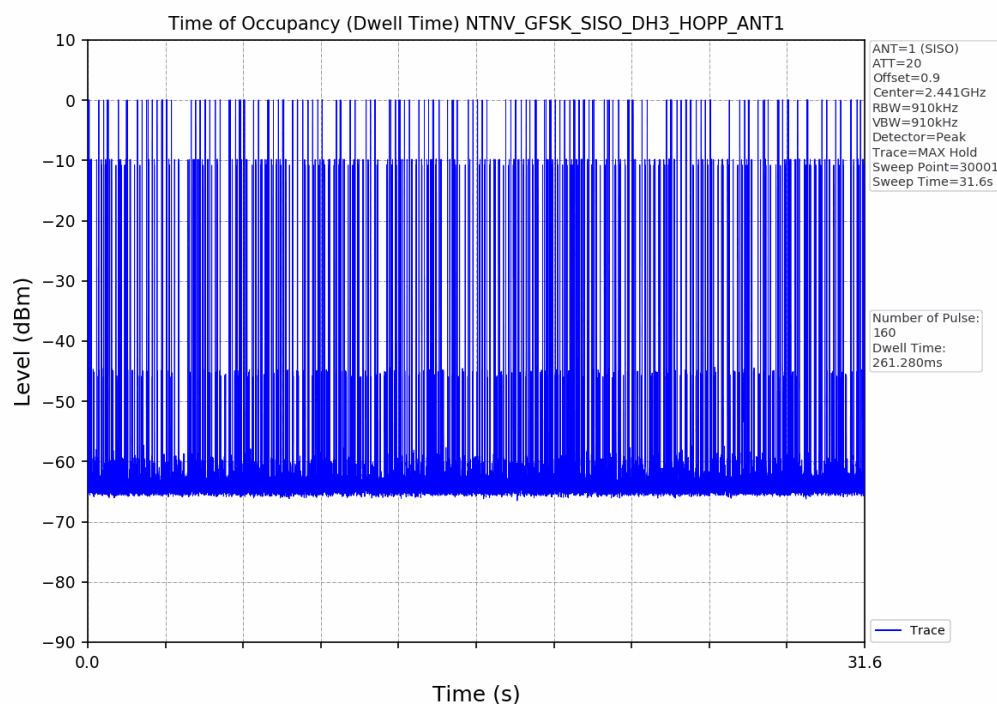
| Test Mode  | Packet Type | TX Type | ANT No. | Duration of Single Pulse (ms) | Obeservation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limits (ms) | Verdict |
|------------|-------------|---------|---------|-------------------------------|-------------------------|------------------------------------|-----------------|-------------|---------|
| GFSK       | DH1         | SISO    | 1       | 0.378                         | 31.6                    | 319                                | 120.582         | ≤400        | PASS    |
|            | DH3         | SISO    | 1       | 1.633                         | 31.6                    | 160                                | 261.280         | ≤400        | PASS    |
|            | DH5         | SISO    | 1       | 2.882                         | 31.6                    | 108                                | 311.256         | ≤400        | PASS    |
| Pi/4DQ PSK | 2DH1        | SISO    | 1       | 0.387                         | 31.6                    | 320                                | 123.840         | ≤400        | PASS    |
|            | 2DH3        | SISO    | 1       | 1.638                         | 31.6                    | 160                                | 262.080         | ≤400        | PASS    |
|            | 2DH5        | SISO    | 1       | 2.883                         | 31.6                    | 107                                | 308.481         | ≤400        | PASS    |
| 8DPSK      | 3DH1        | SISO    | 1       | 0.387                         | 31.6                    | 320                                | 123.840         | ≤400        | PASS    |
|            | 3DH3        | SISO    | 1       | 1.638                         | 31.6                    | 160                                | 262.080         | ≤400        | PASS    |
|            | 3DH5        | SISO    | 1       | 2.889                         | 31.6                    | 111                                | 320.679         | ≤400        | PASS    |

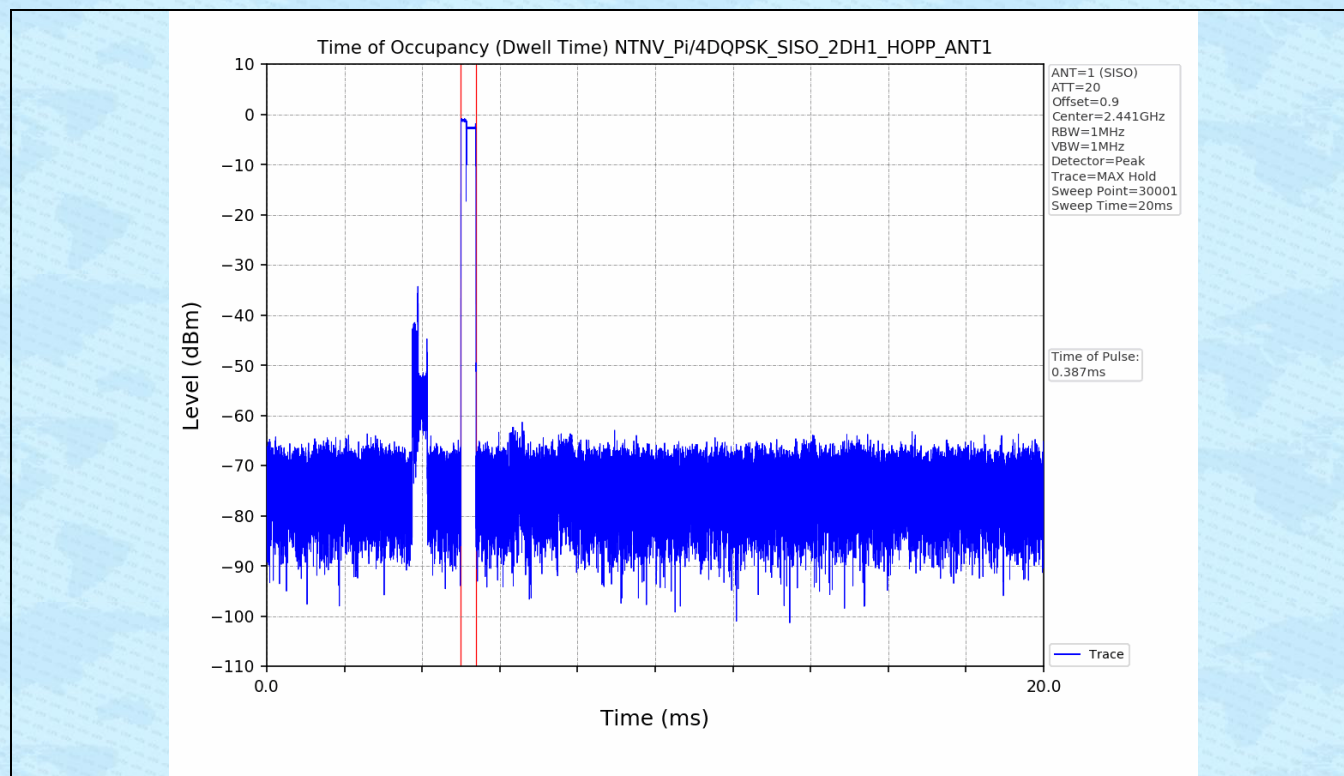
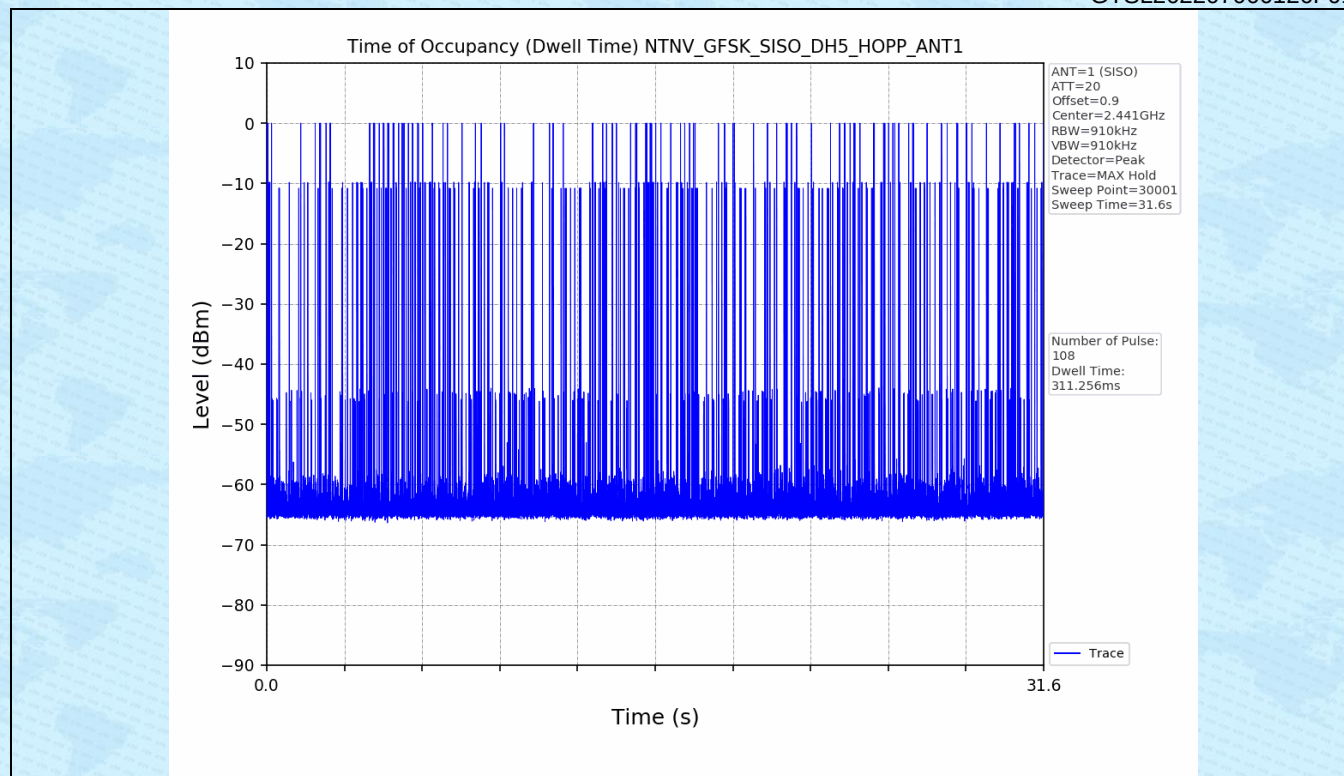
### 5.2 Test Graph



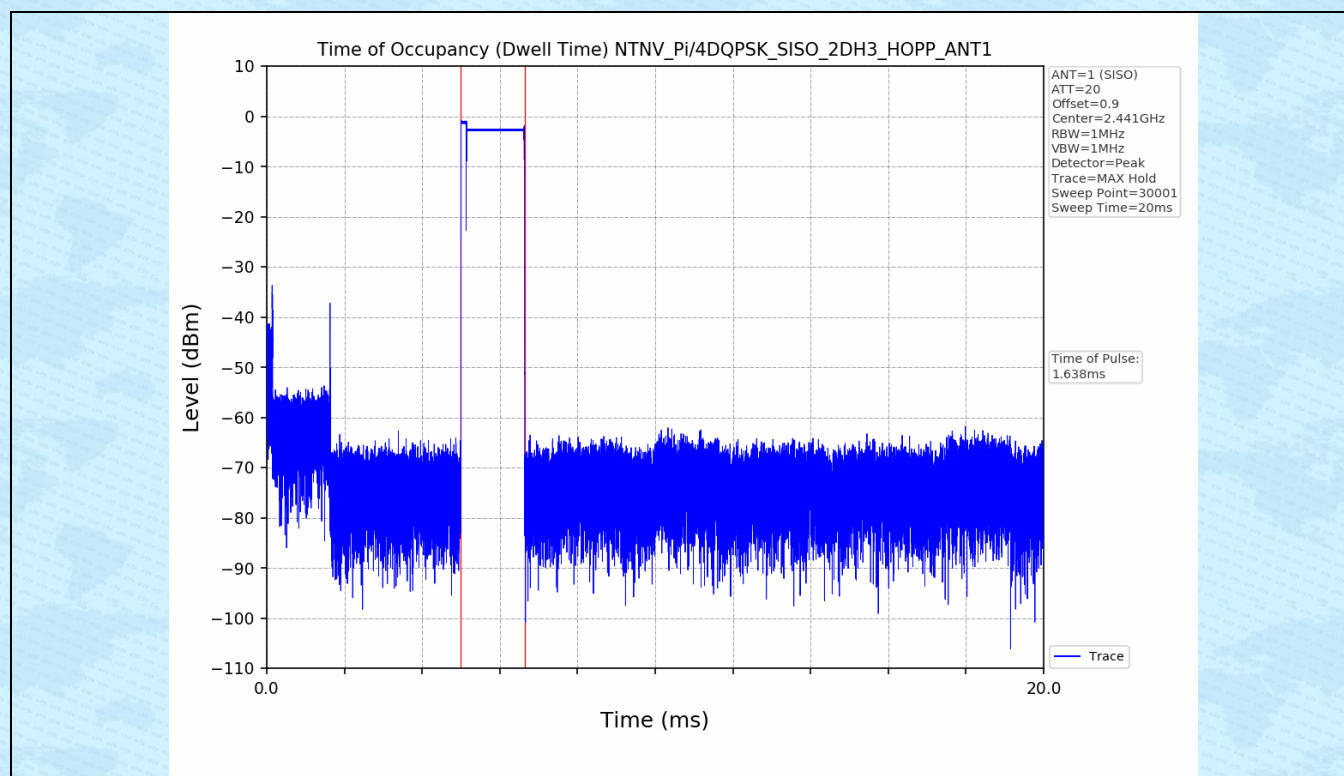
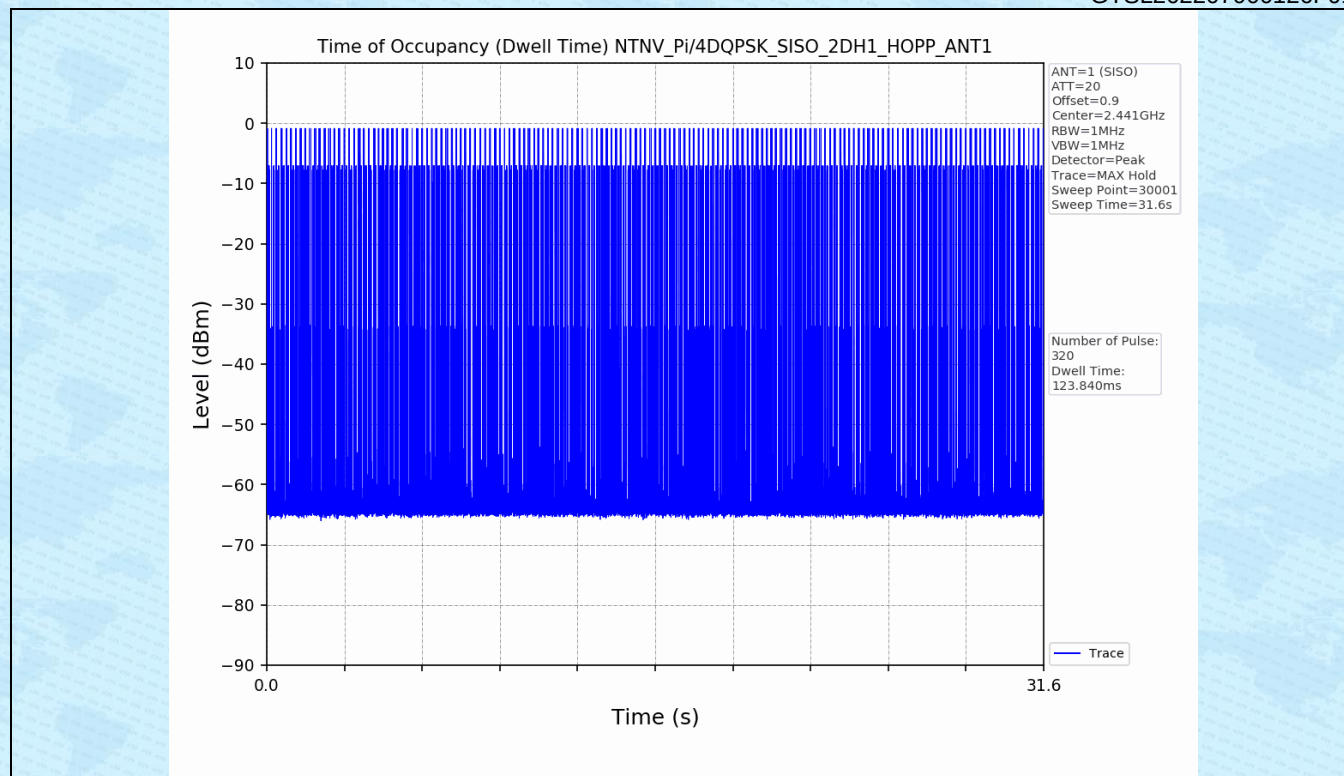


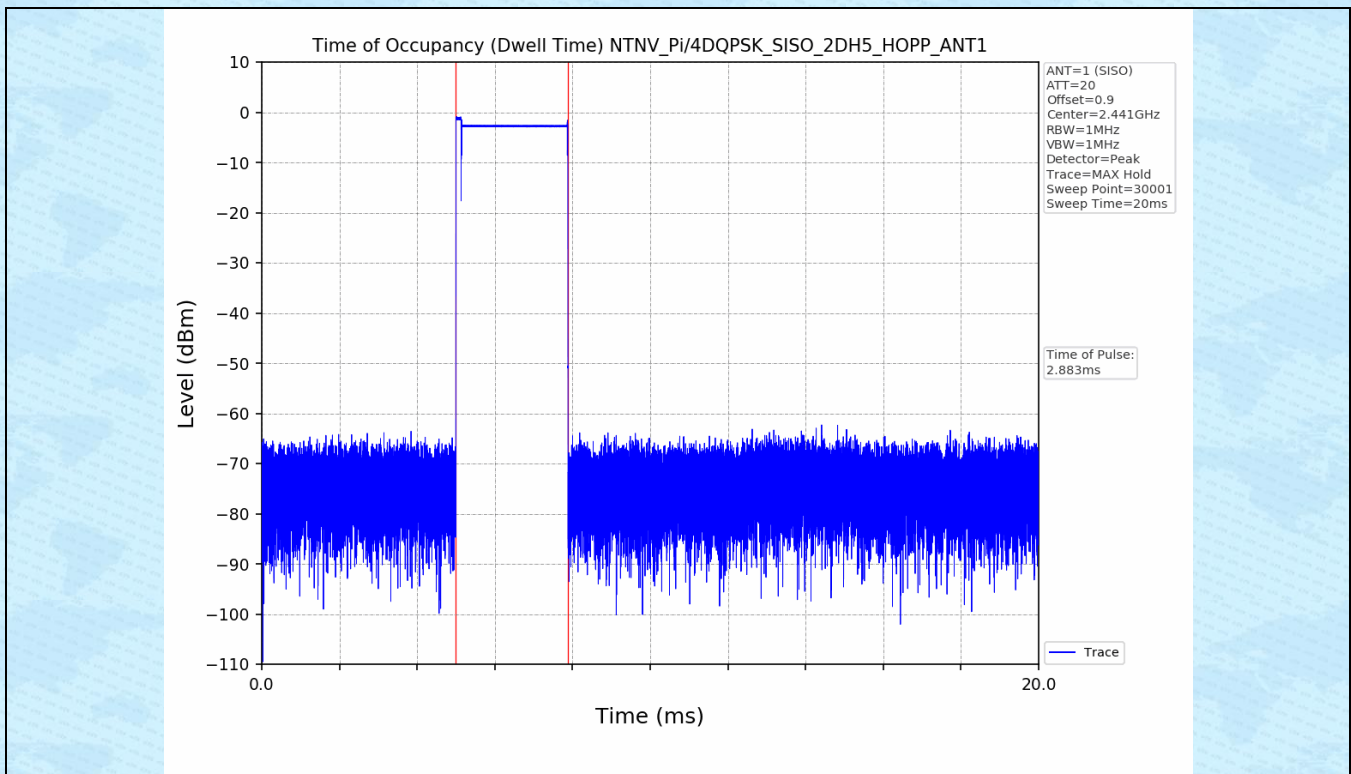
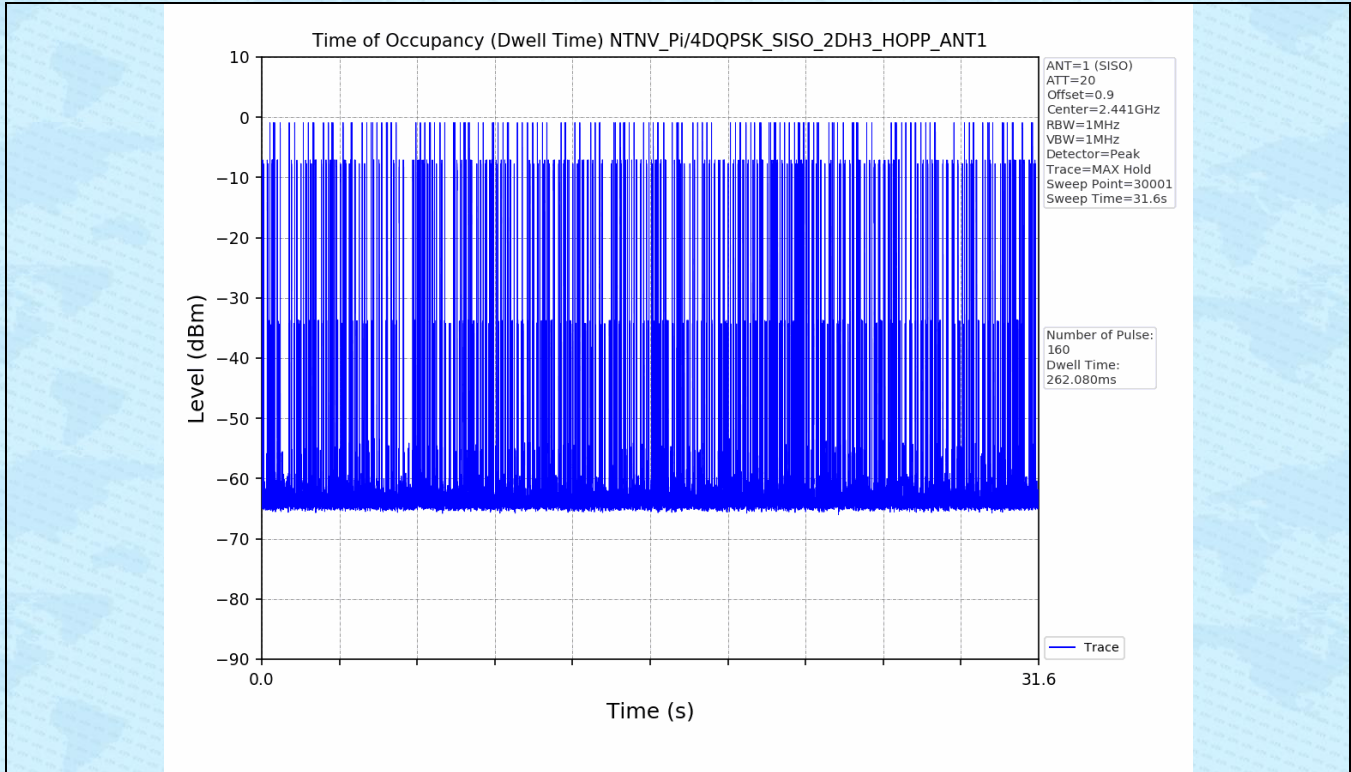


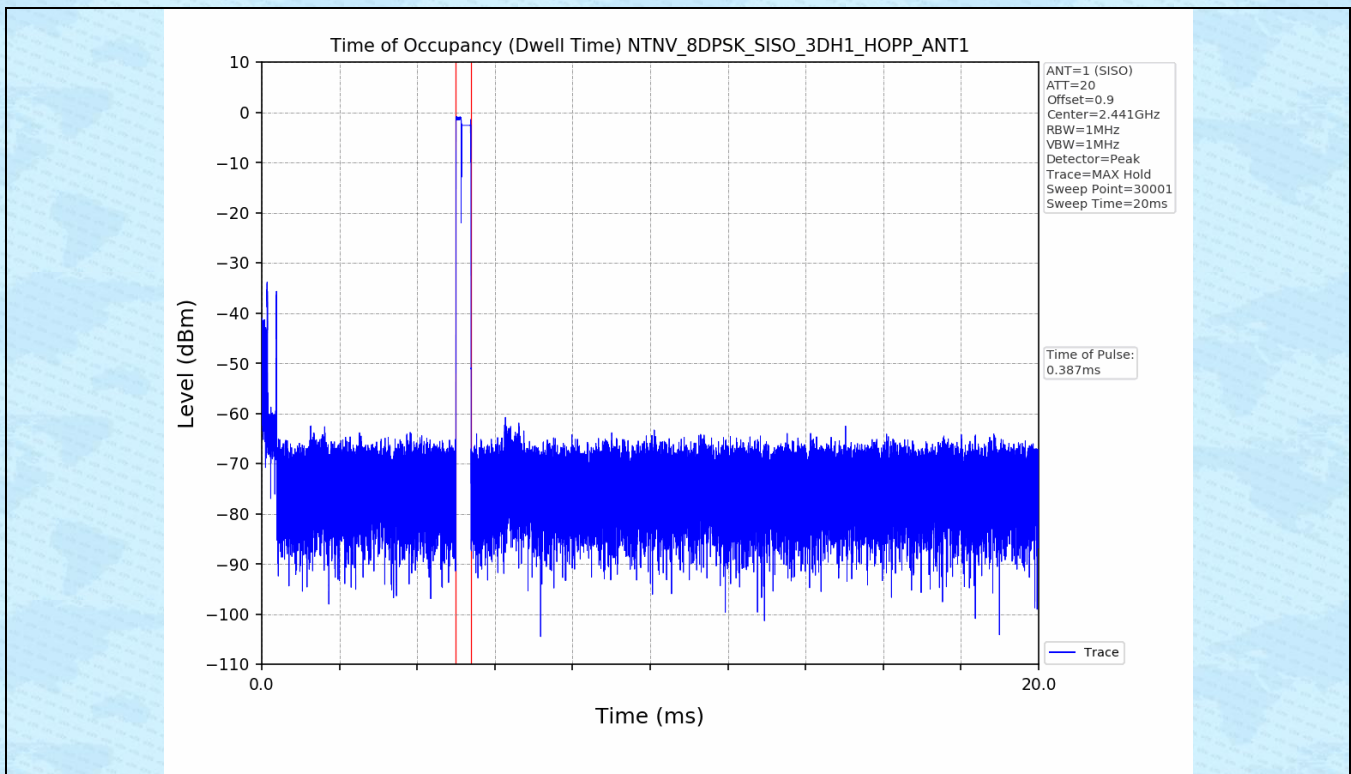
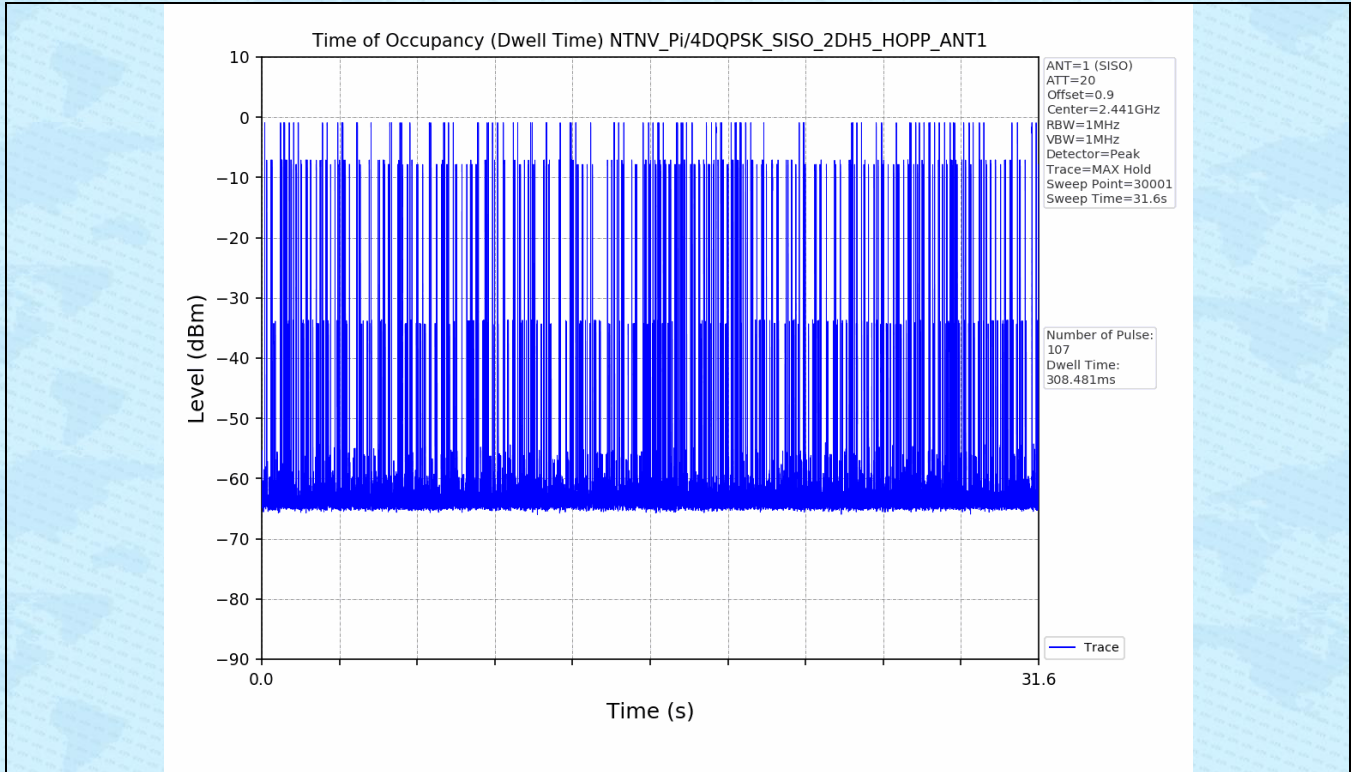




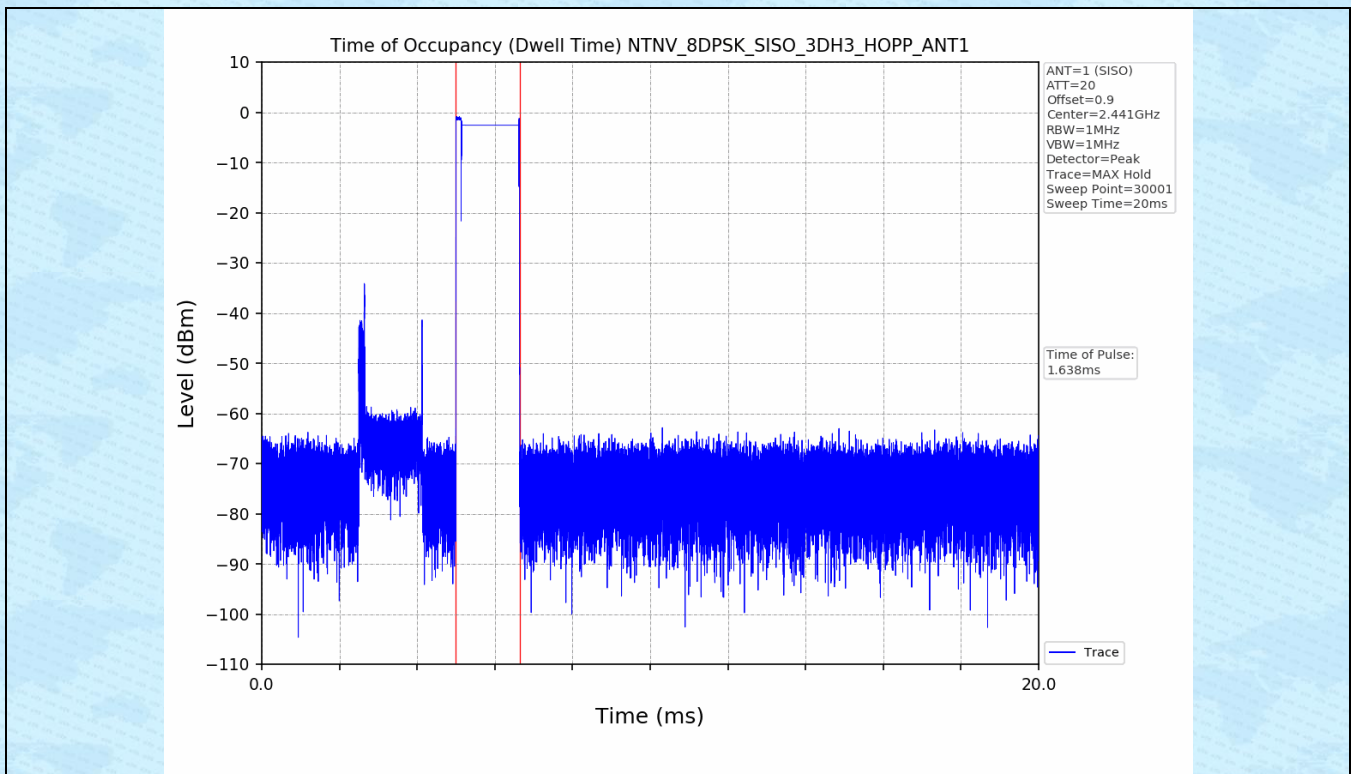
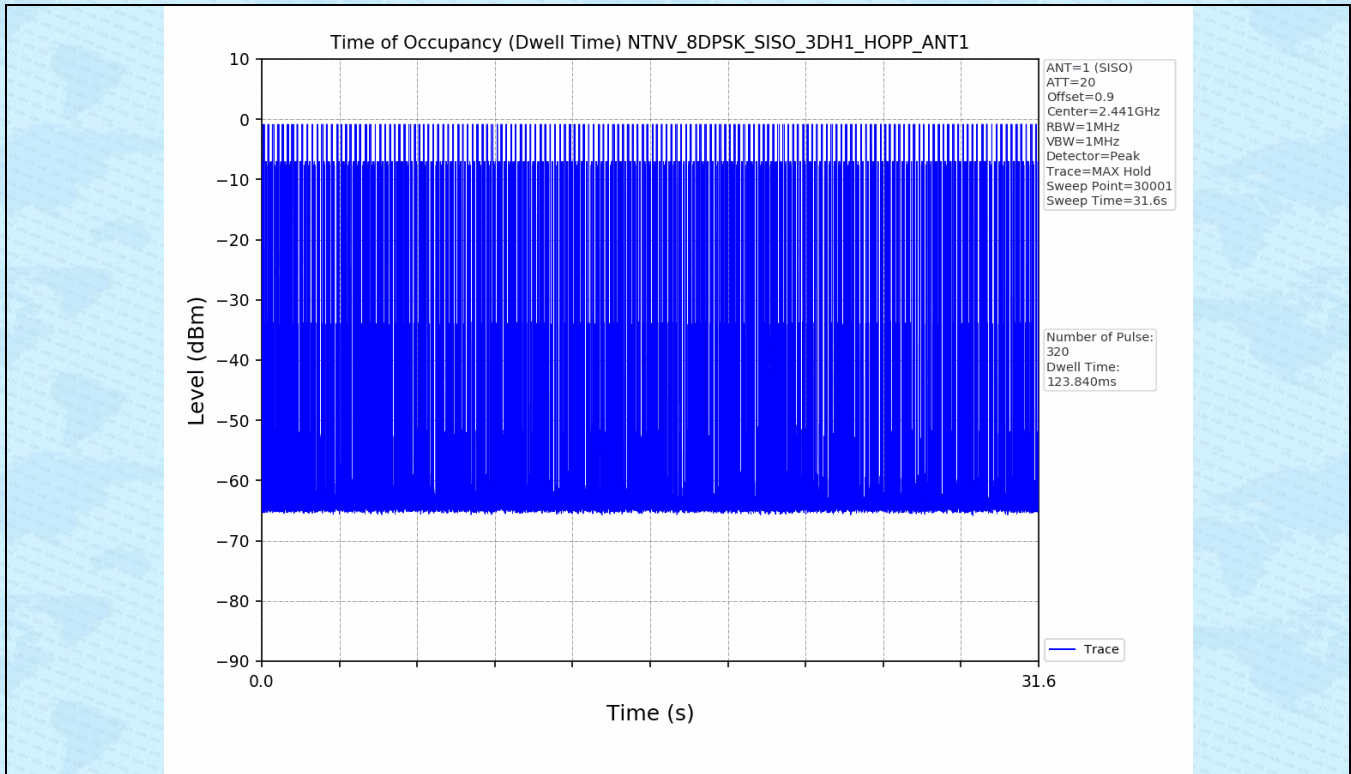


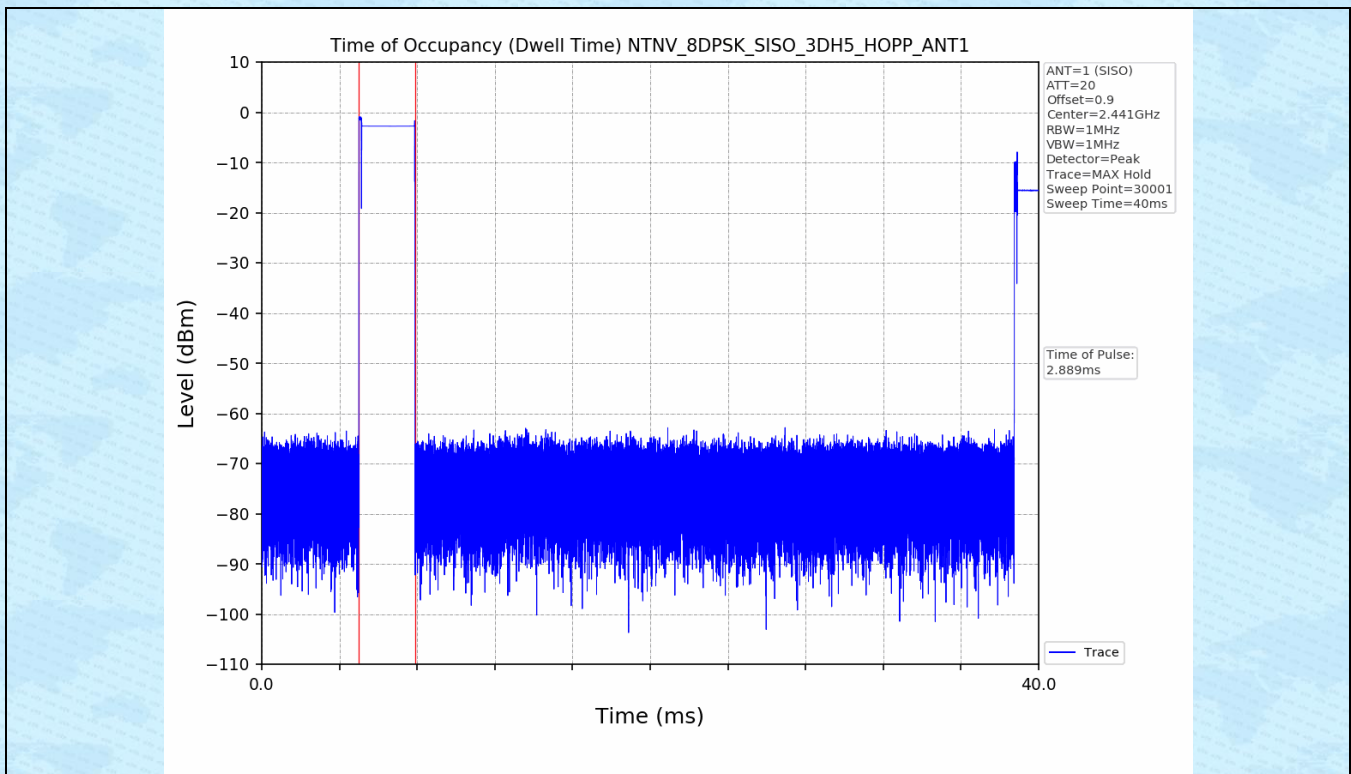
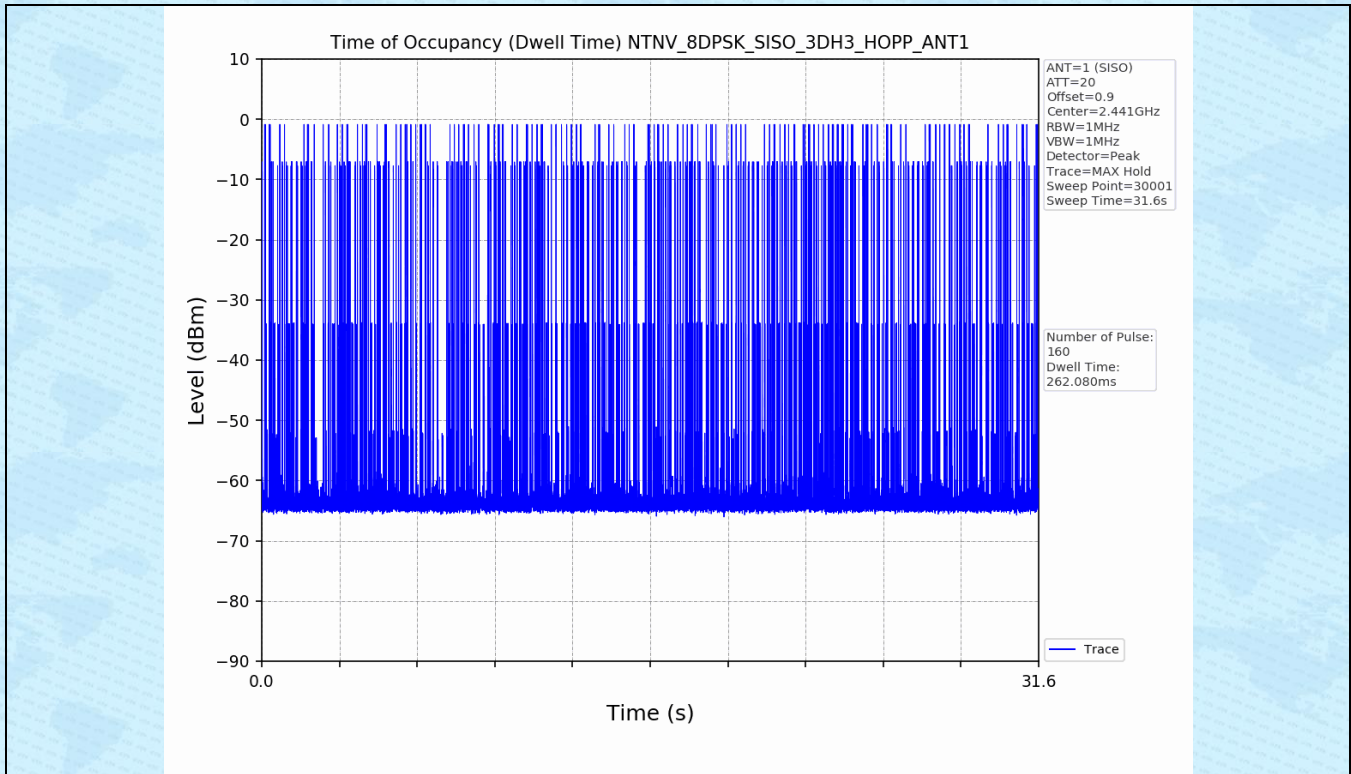


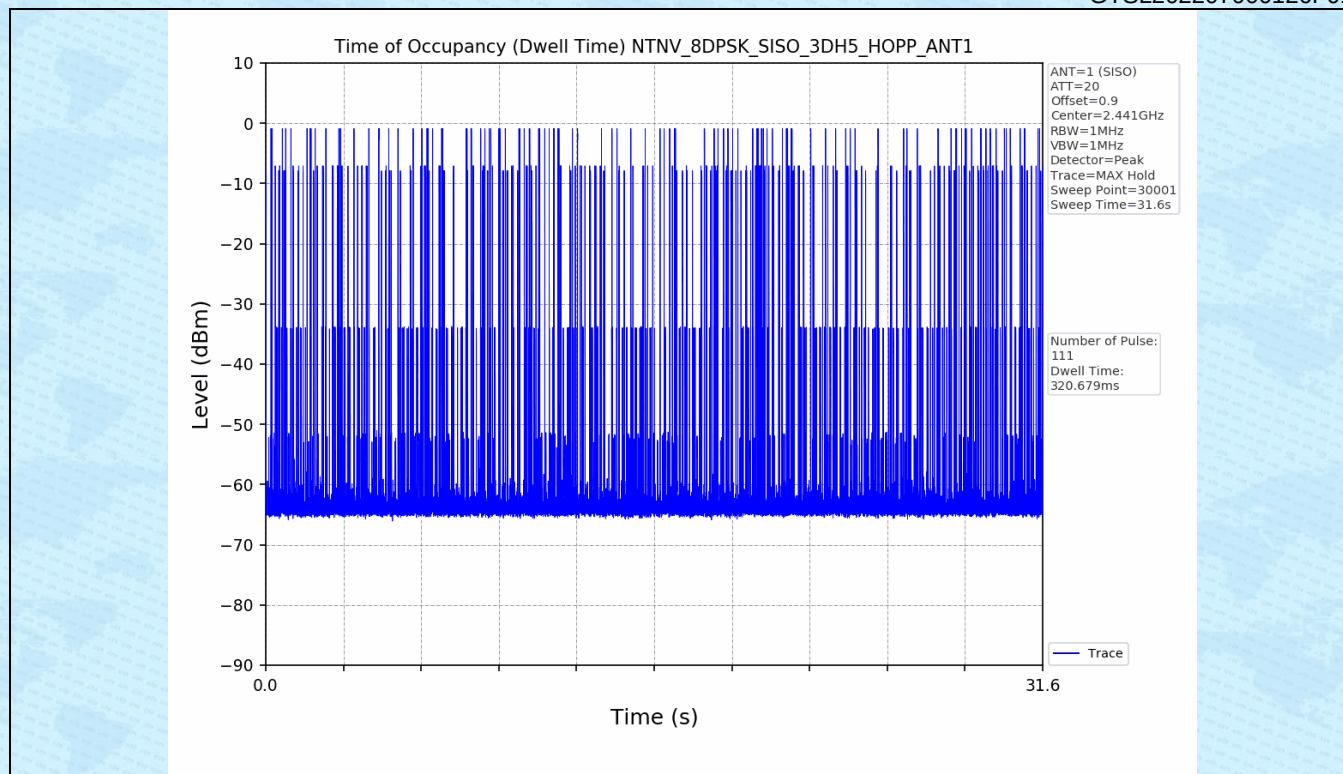












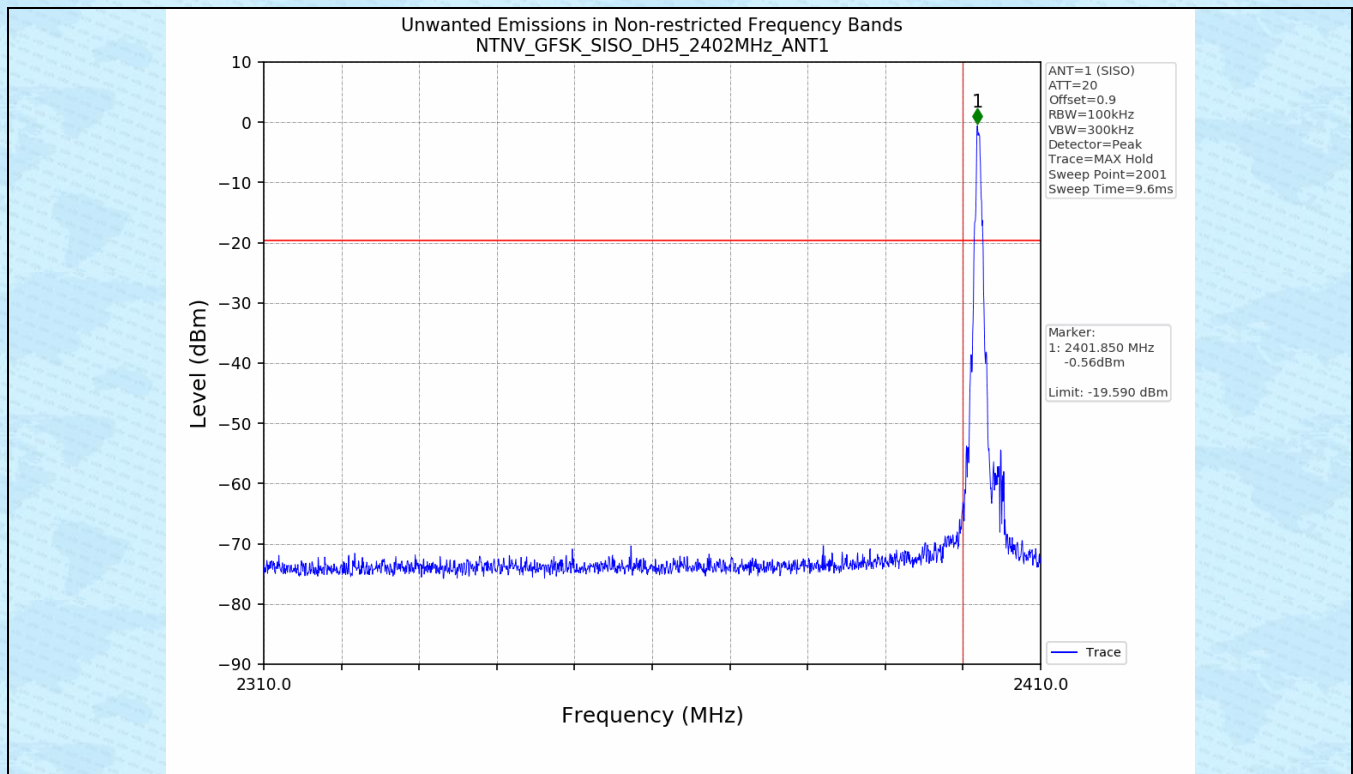
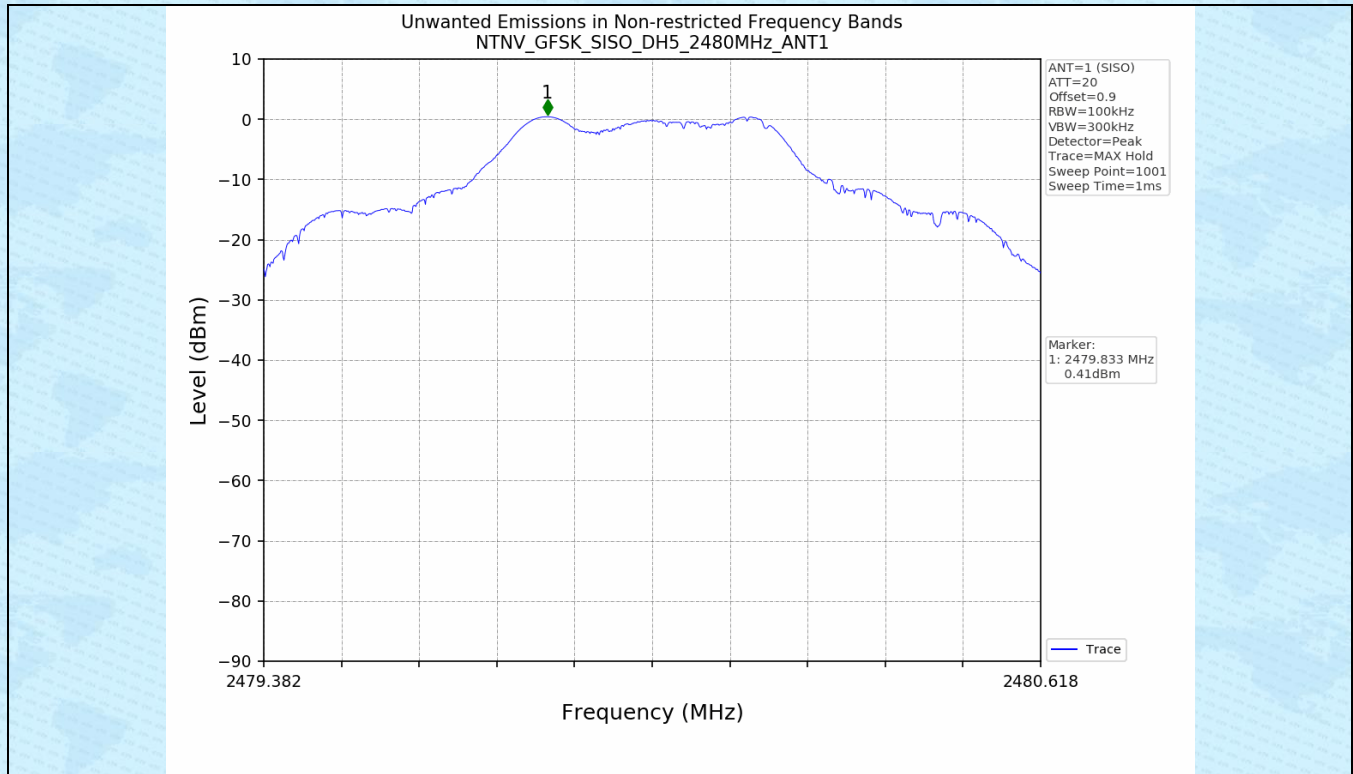
## 6. Unwanted Emissions in Non-restricted Frequency Bands

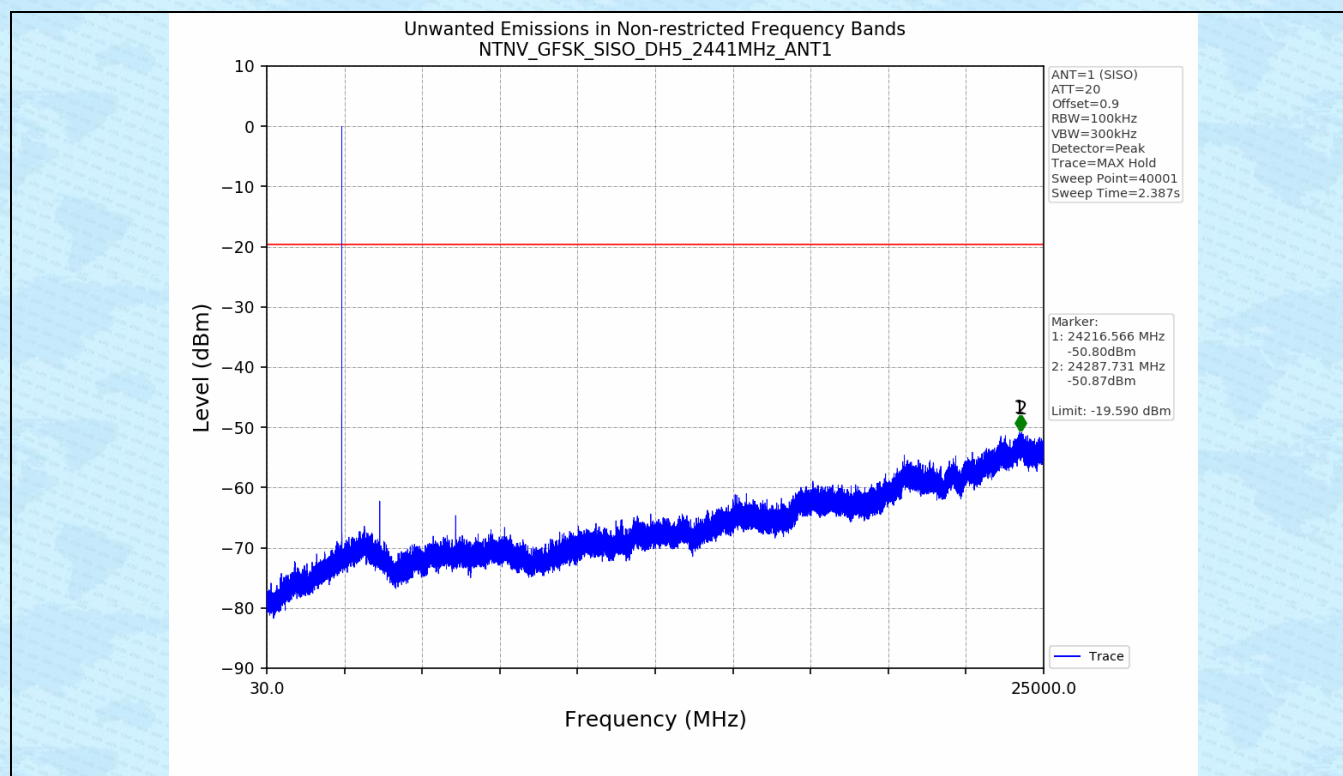
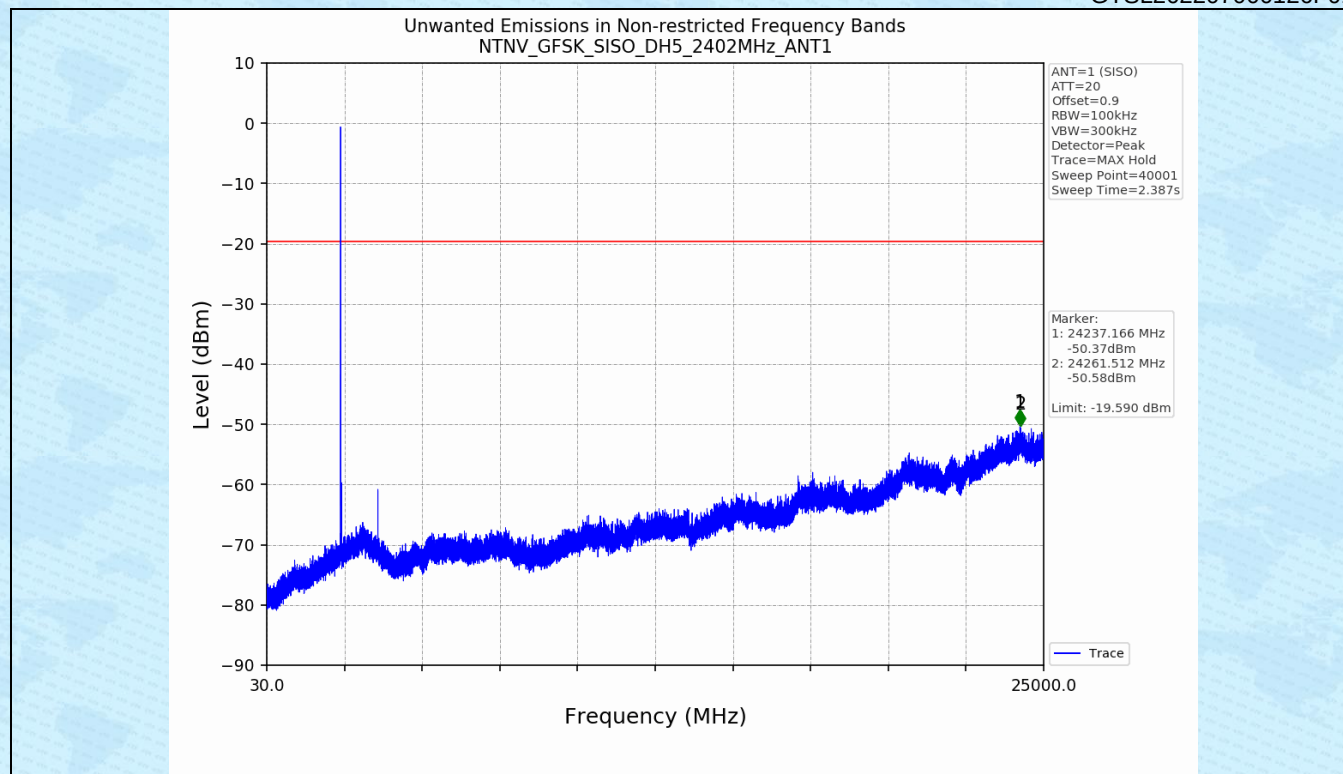
### 6.1 Test Result

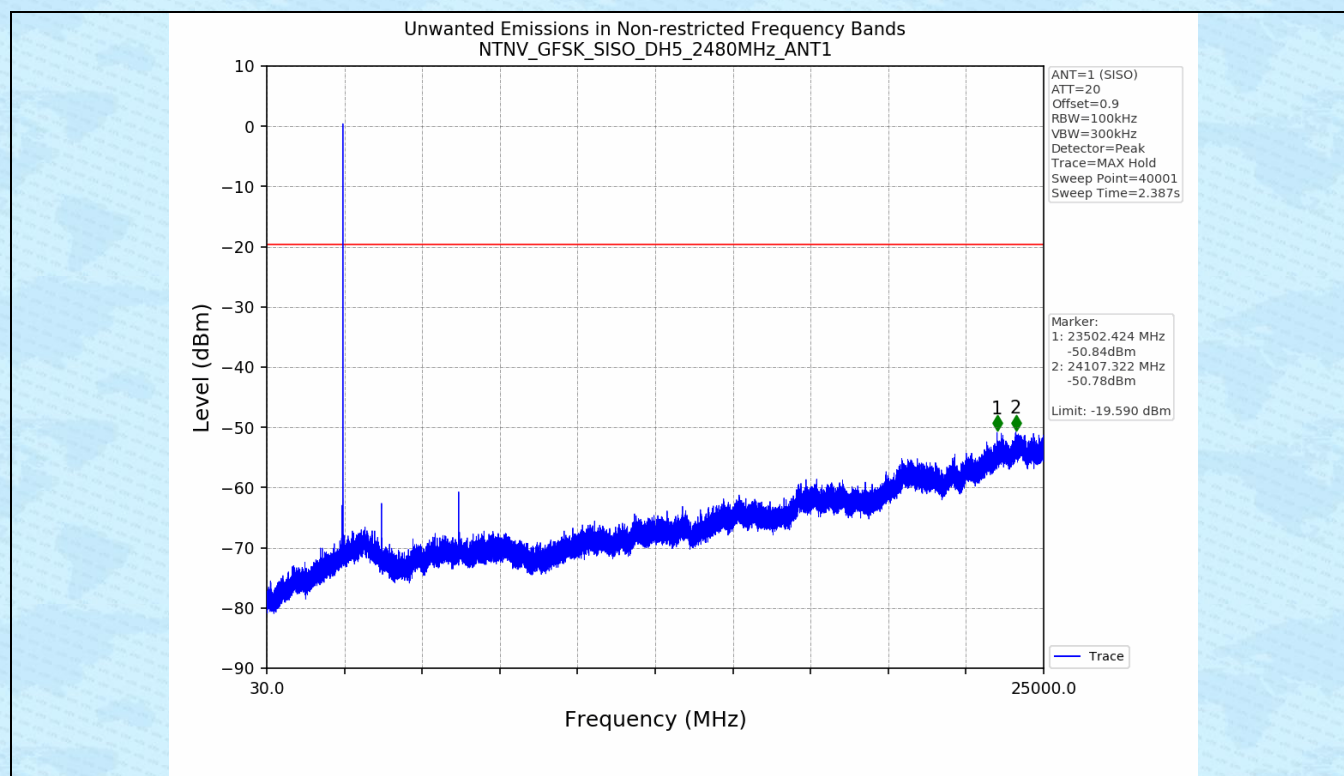
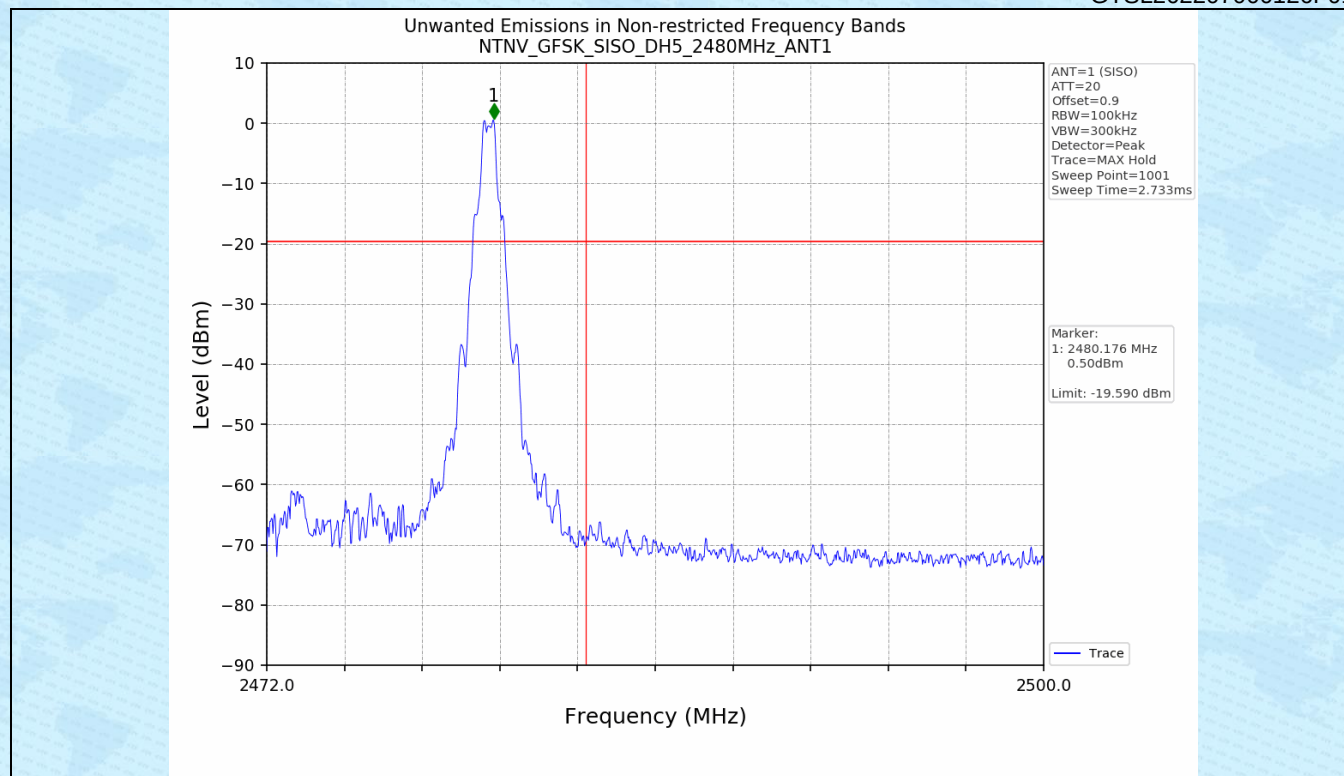
| Test Mode | Frequency (MHz) | TX Type | ANT No. | Spurious Conducted Emission (dBm) | Limits (dBm) | Verdict |
|-----------|-----------------|---------|---------|-----------------------------------|--------------|---------|
| GFSK      | 2402            | SISO    | 1       | Refer to test graph               | -19.59       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -19.59       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -19.59       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -19.59       | PASS    |
| Pi/4DQPSK | 2402            | SISO    | 1       | Refer to test graph               | -20.80       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -20.80       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -20.80       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -20.80       | PASS    |
| 8DPSK     | 2402            | SISO    | 1       | Refer to test graph               | -20.75       | PASS    |
|           | 2441            | SISO    | 1       | Refer to test graph               | -20.75       | PASS    |
|           | 2480            | SISO    | 1       | Refer to test graph               | -20.75       | PASS    |
|           | Hopping         | SISO    | 1       | Refer to test graph               | -20.75       | PASS    |

### 6.2 Test Graph

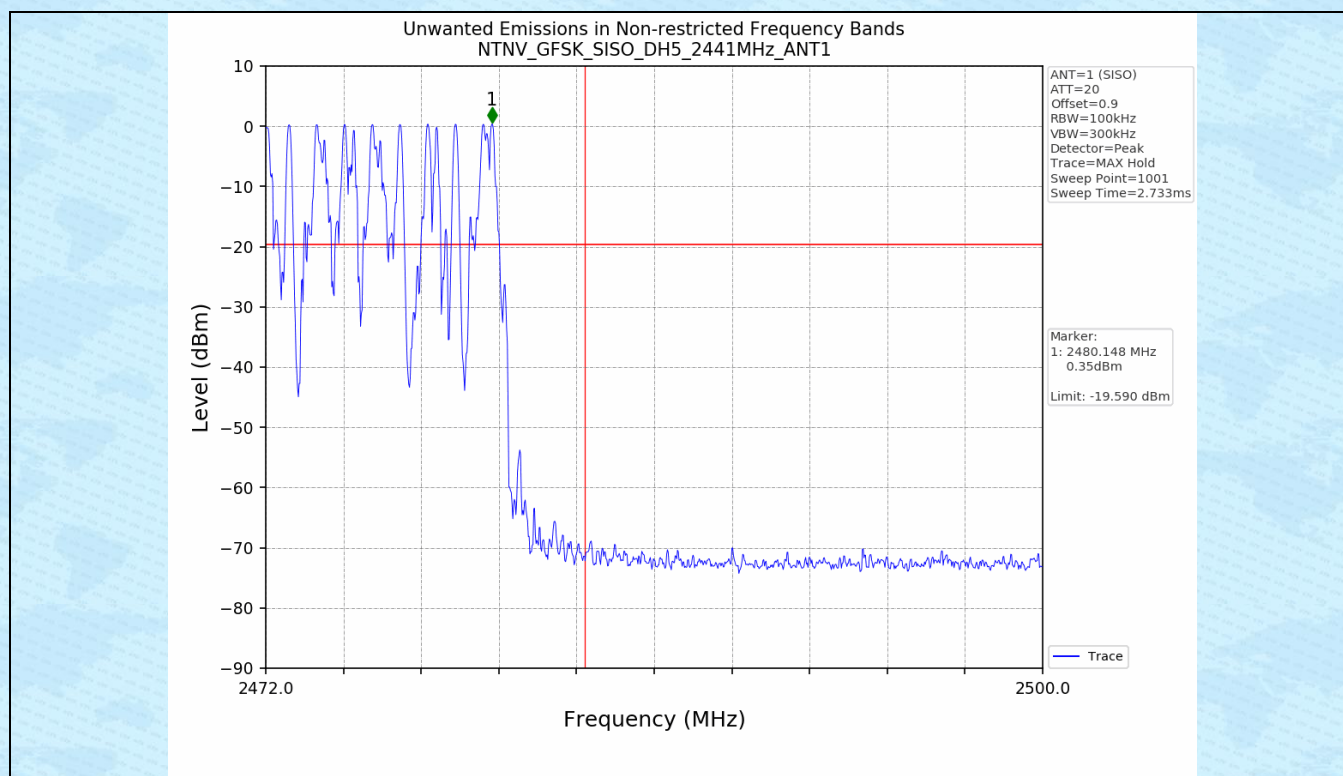
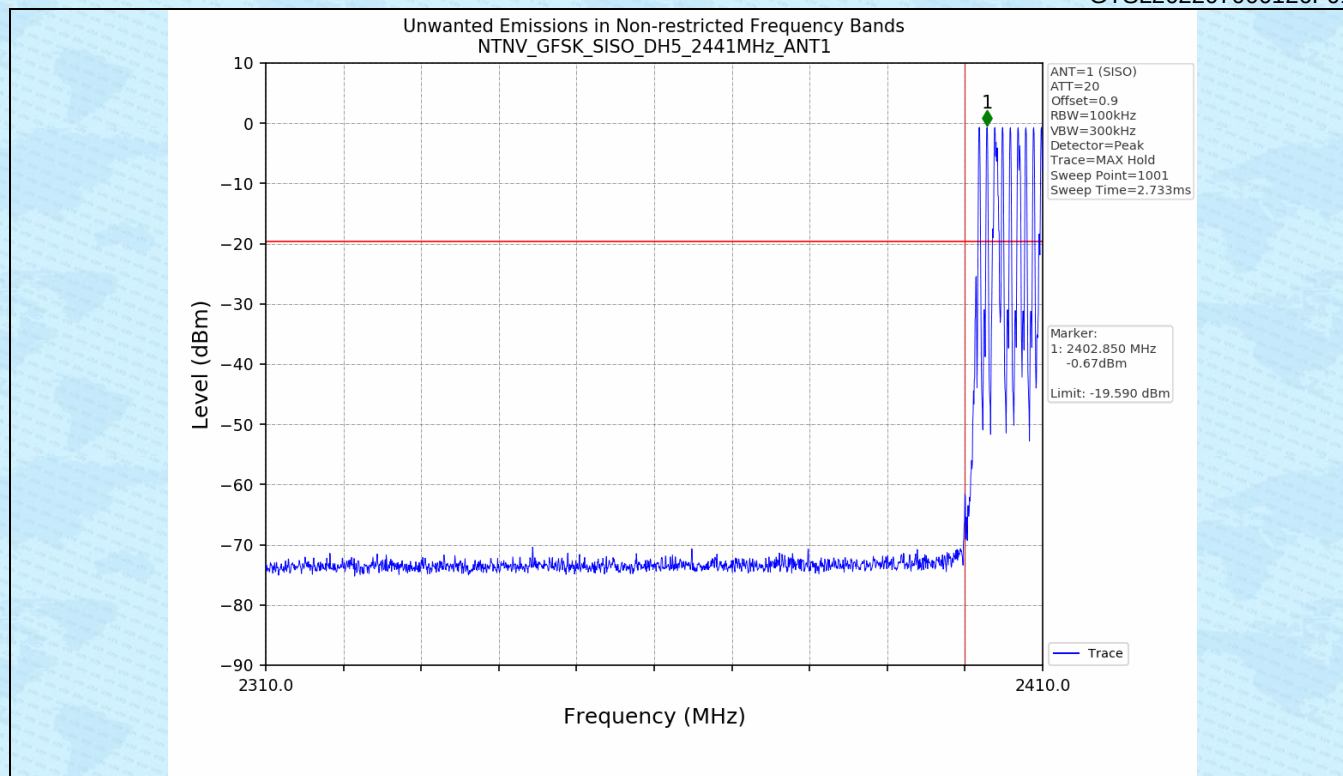


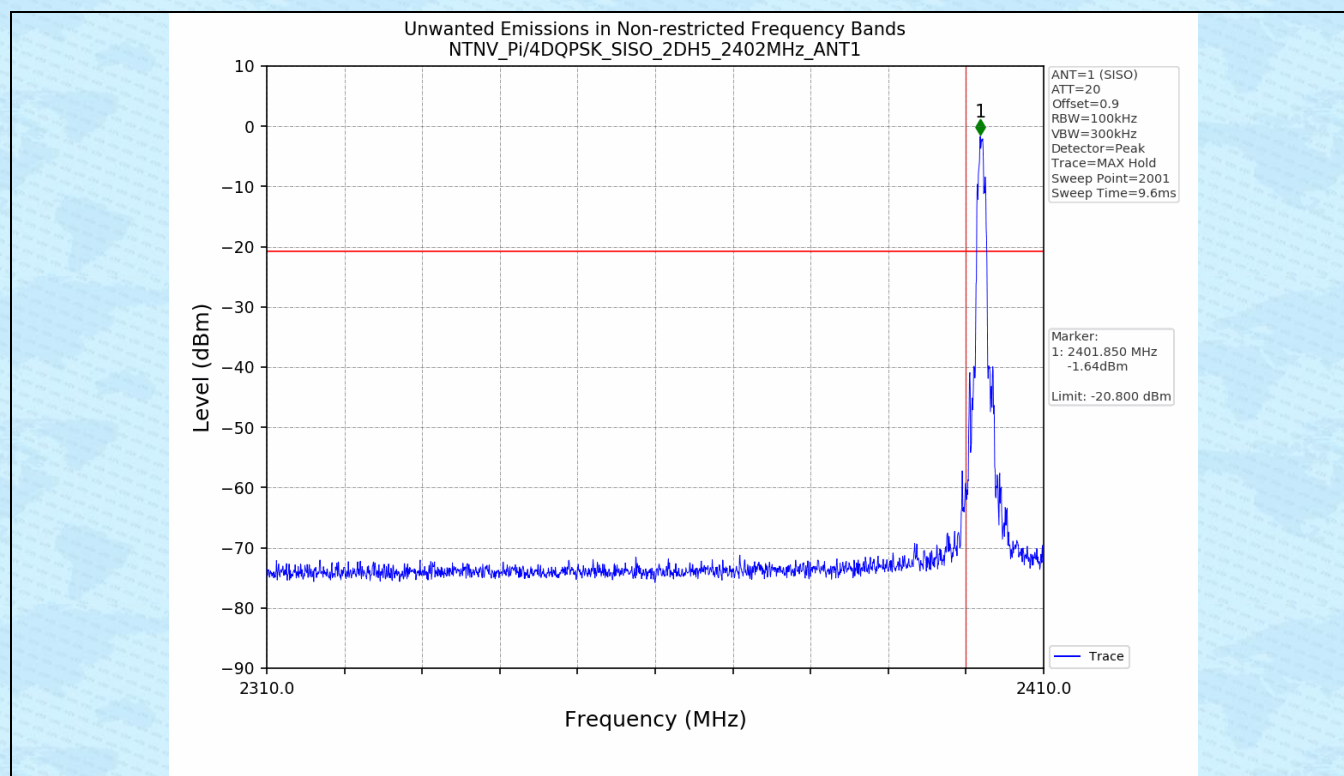
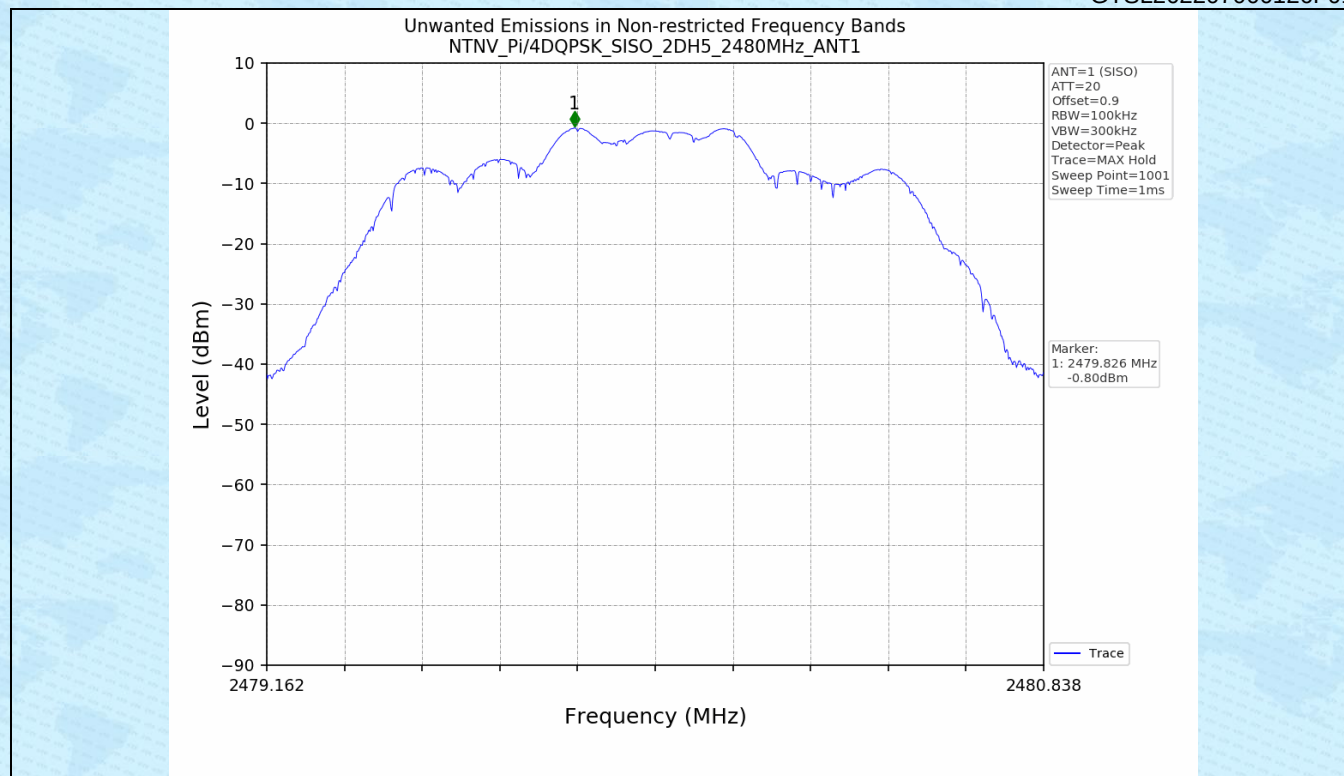


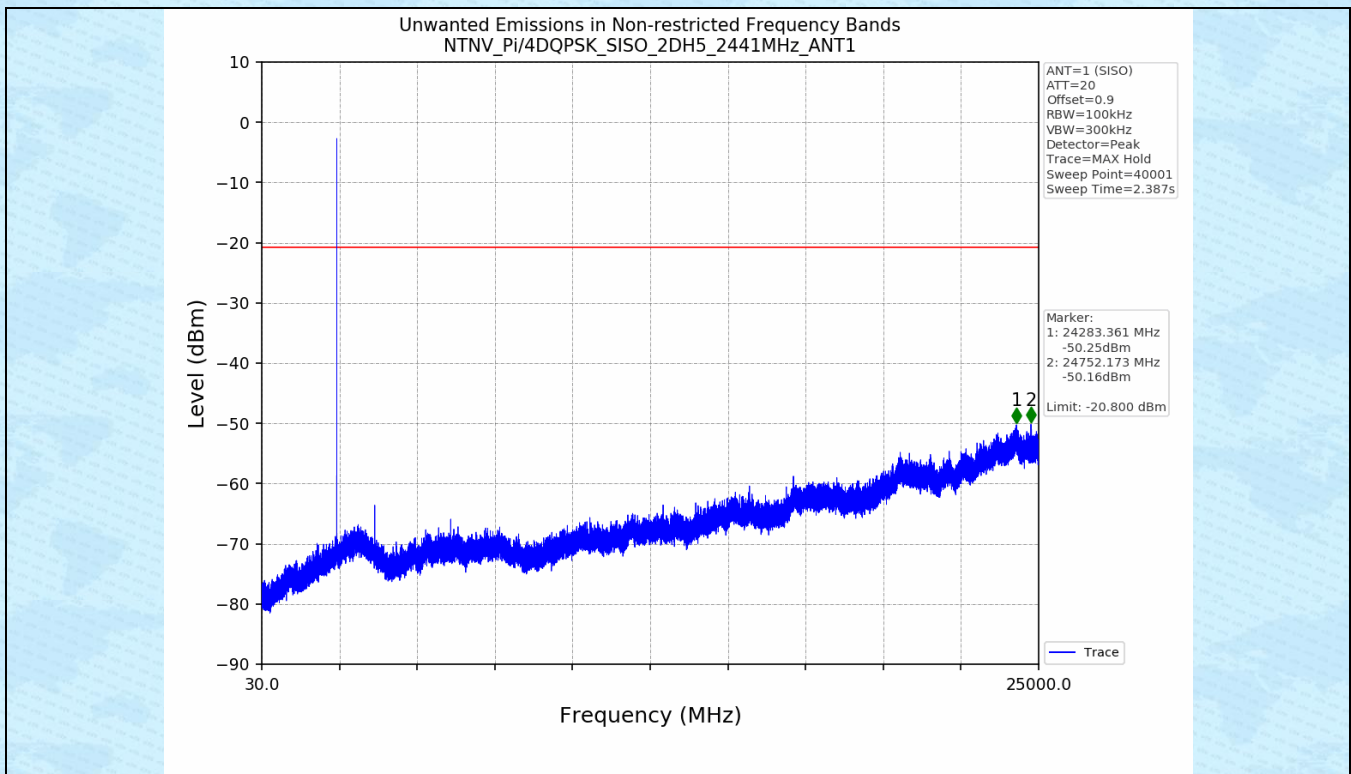
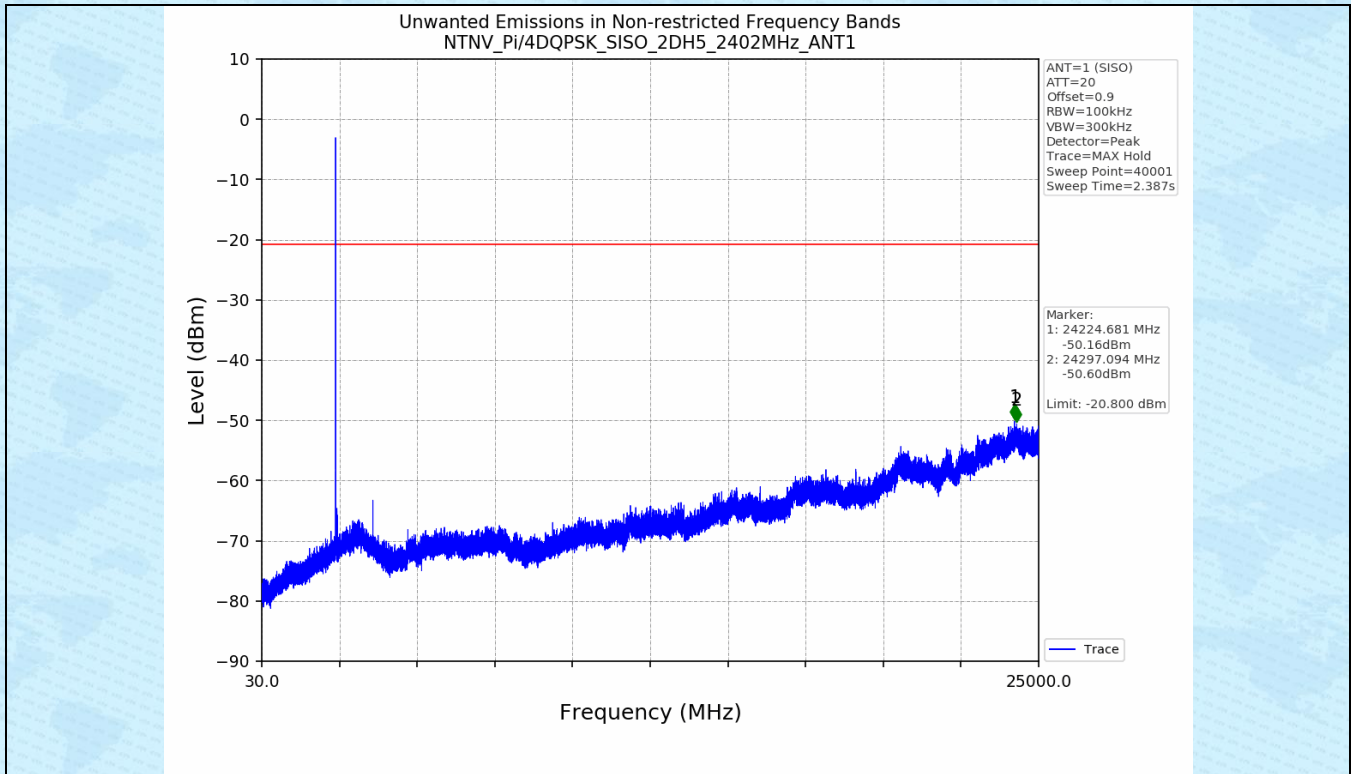




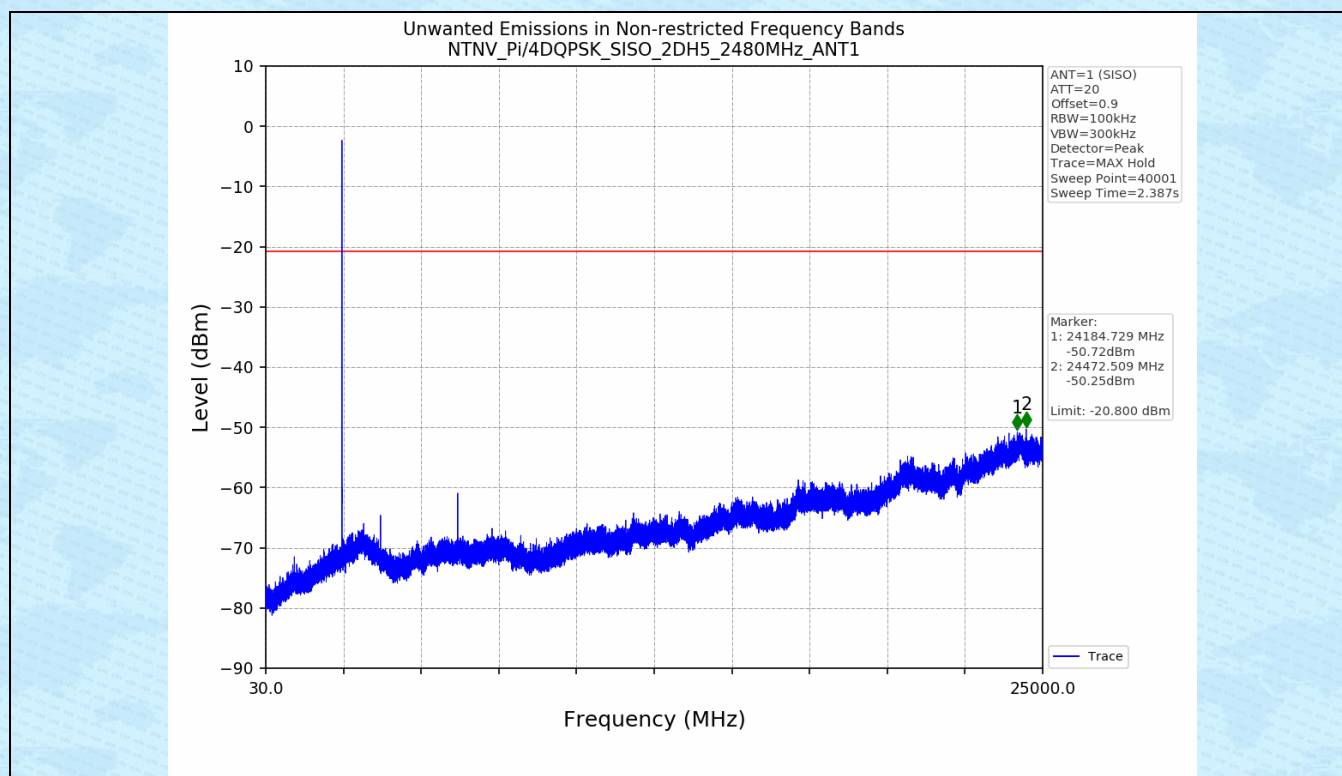
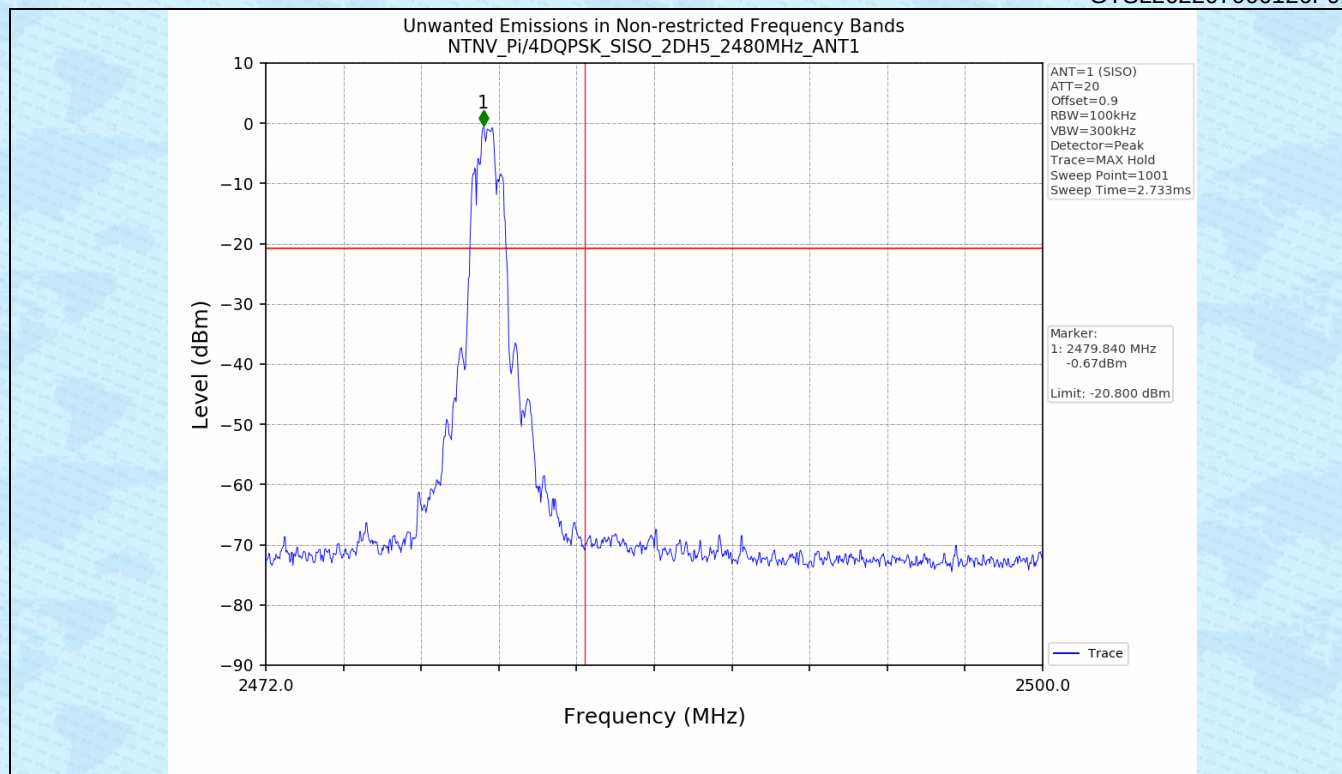


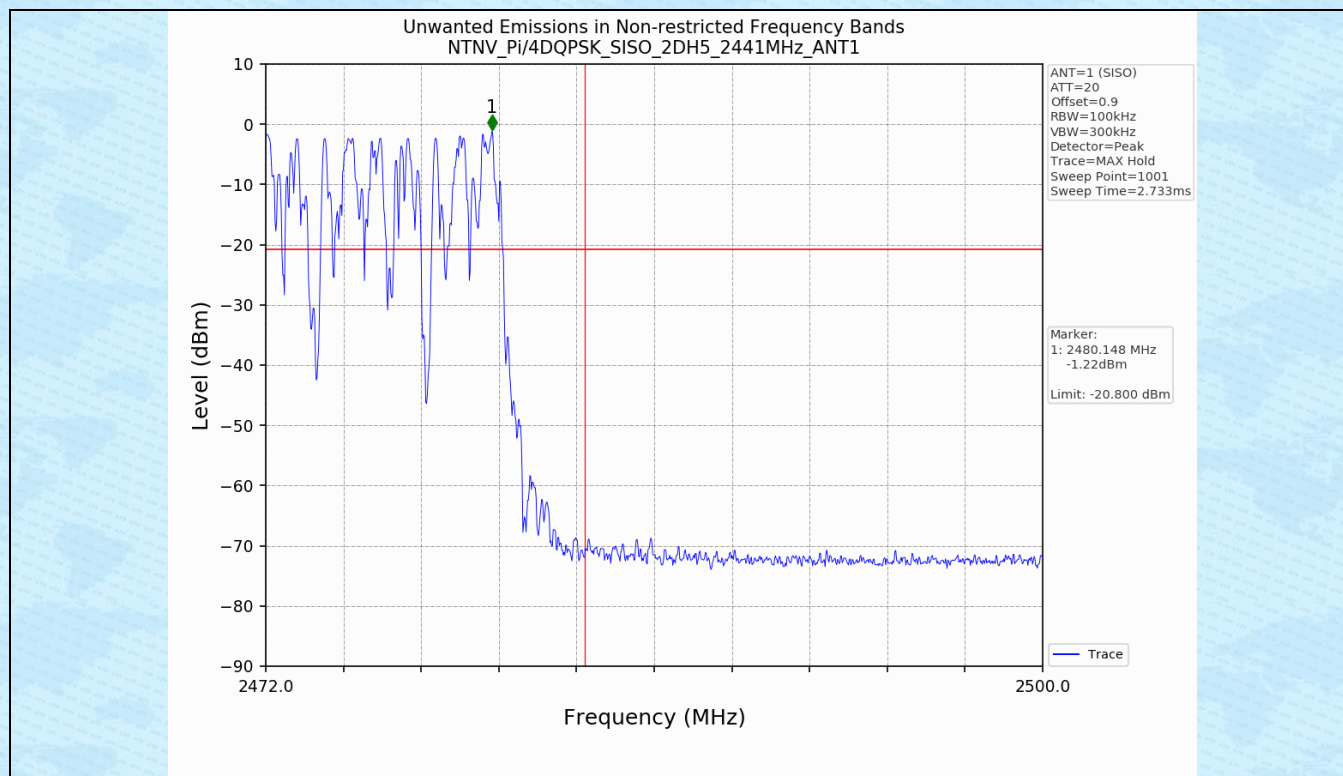
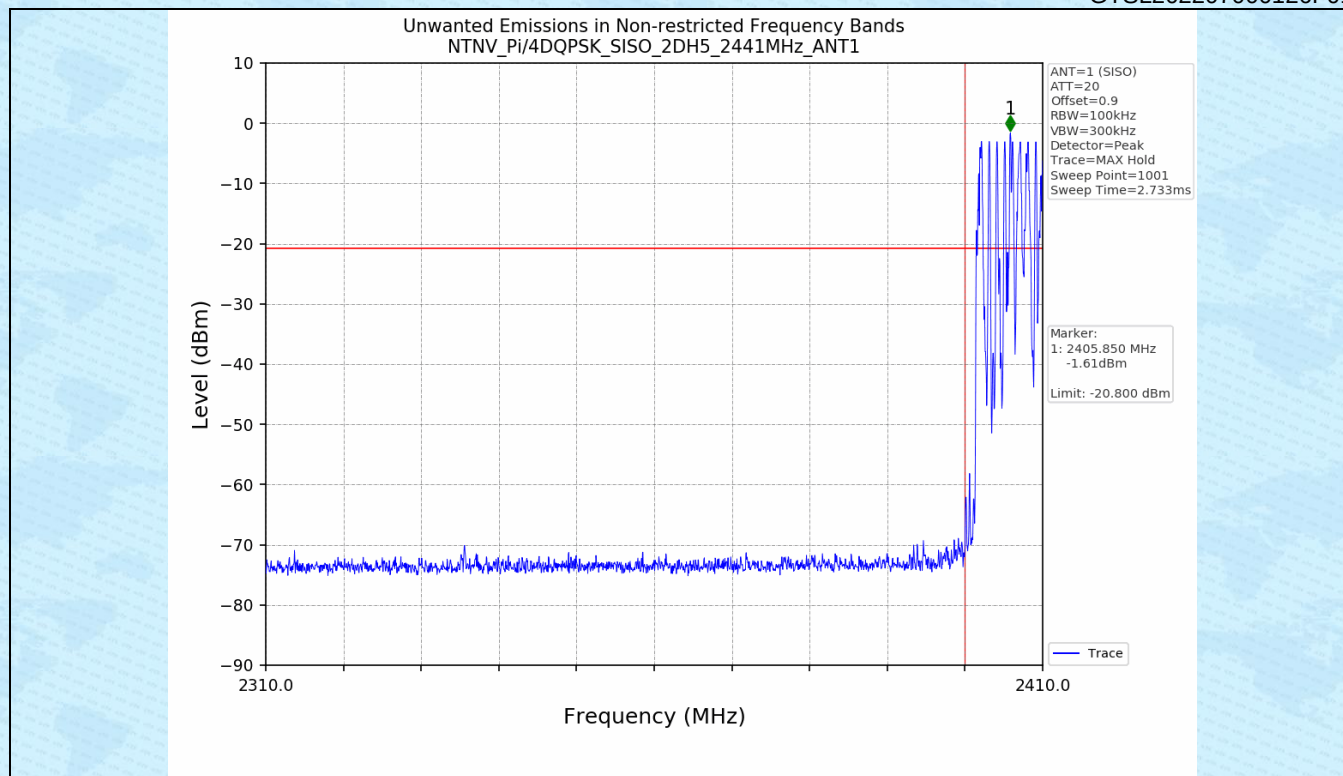


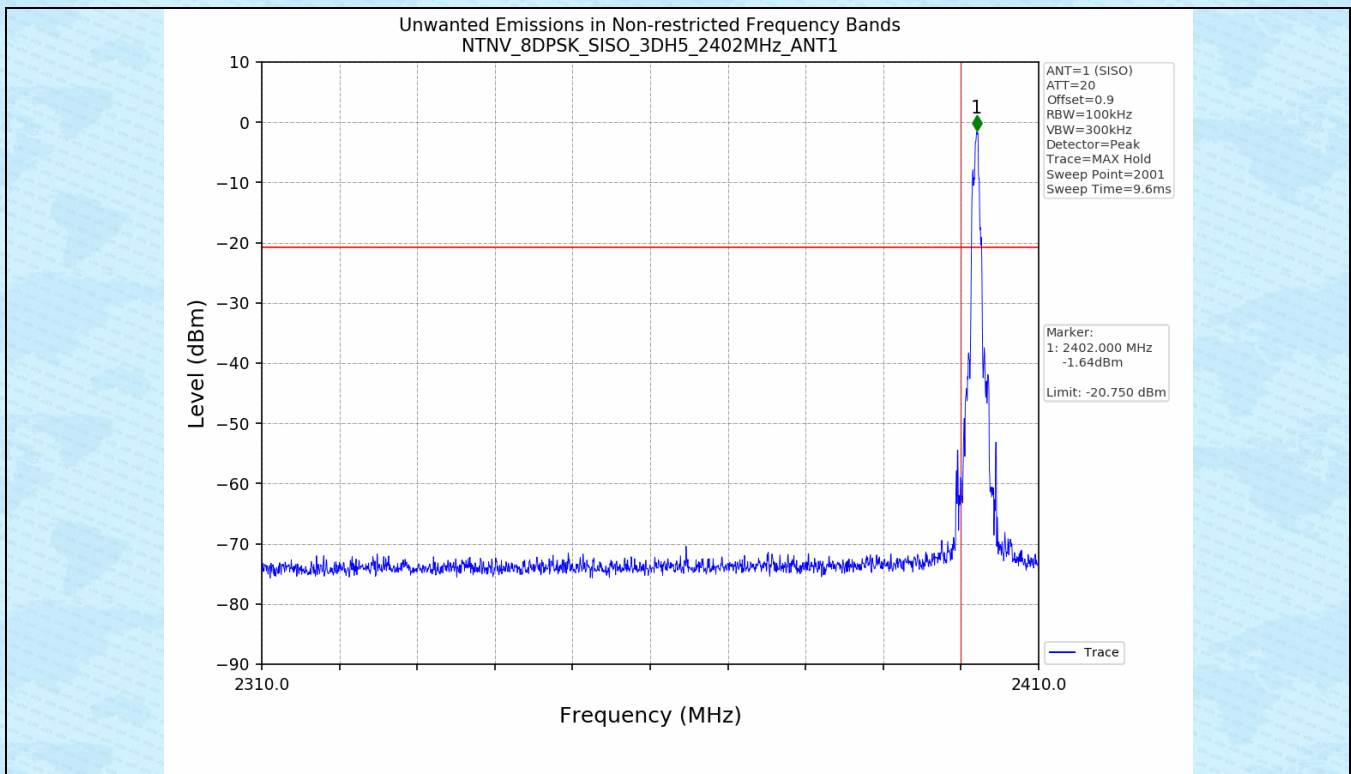
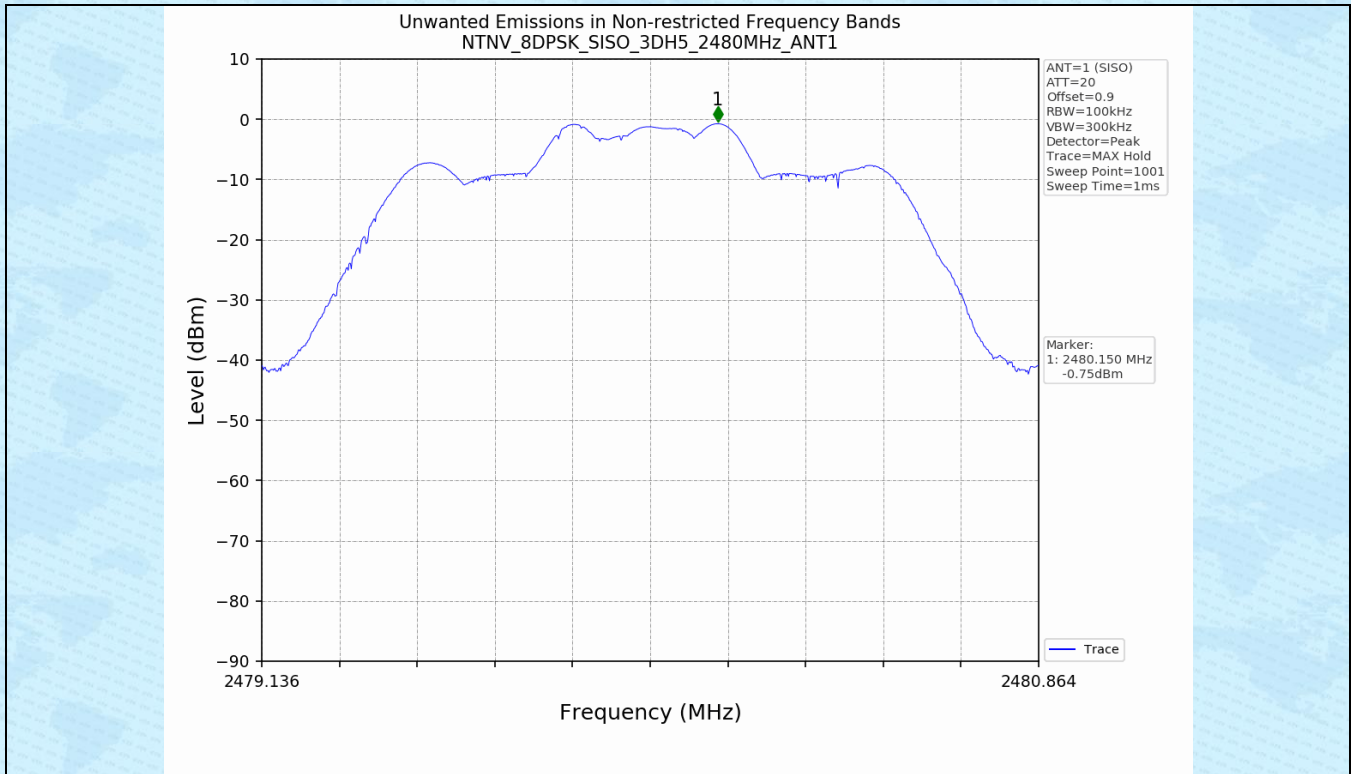




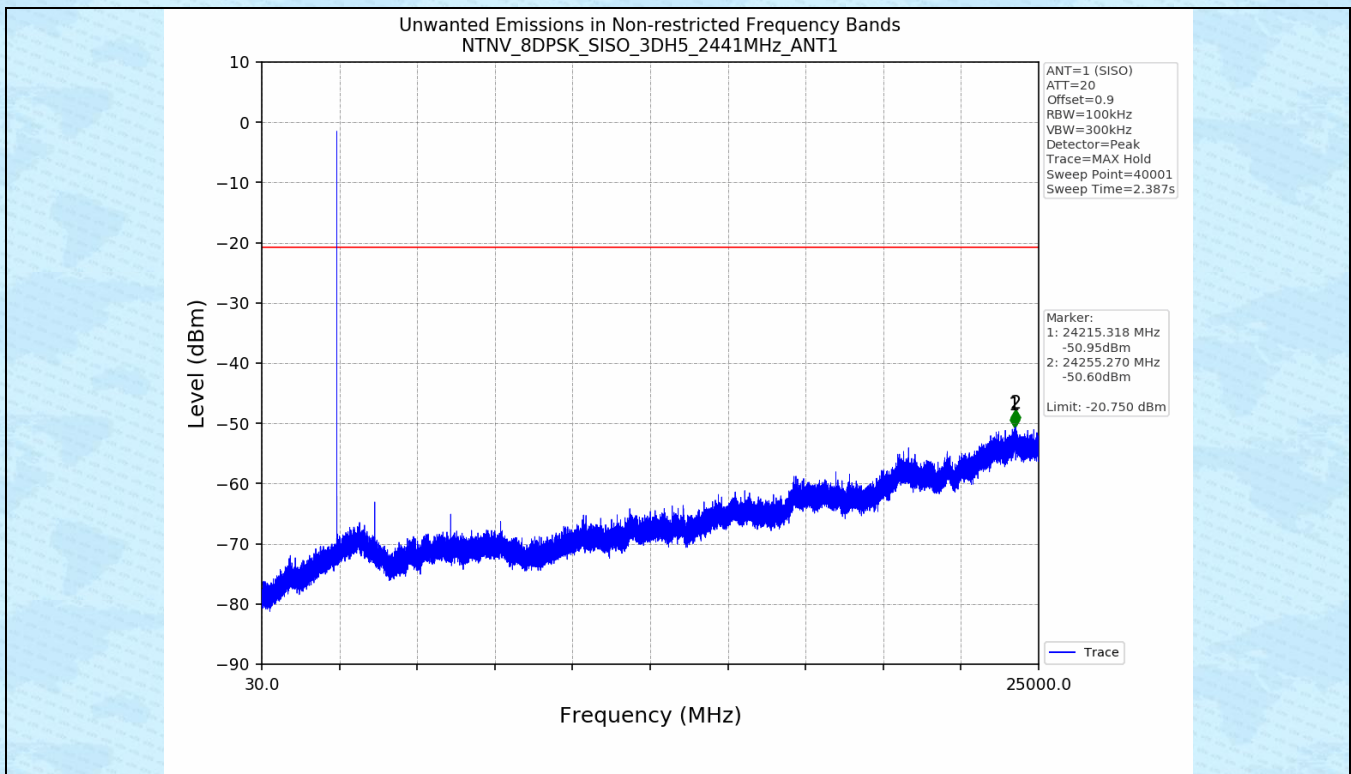
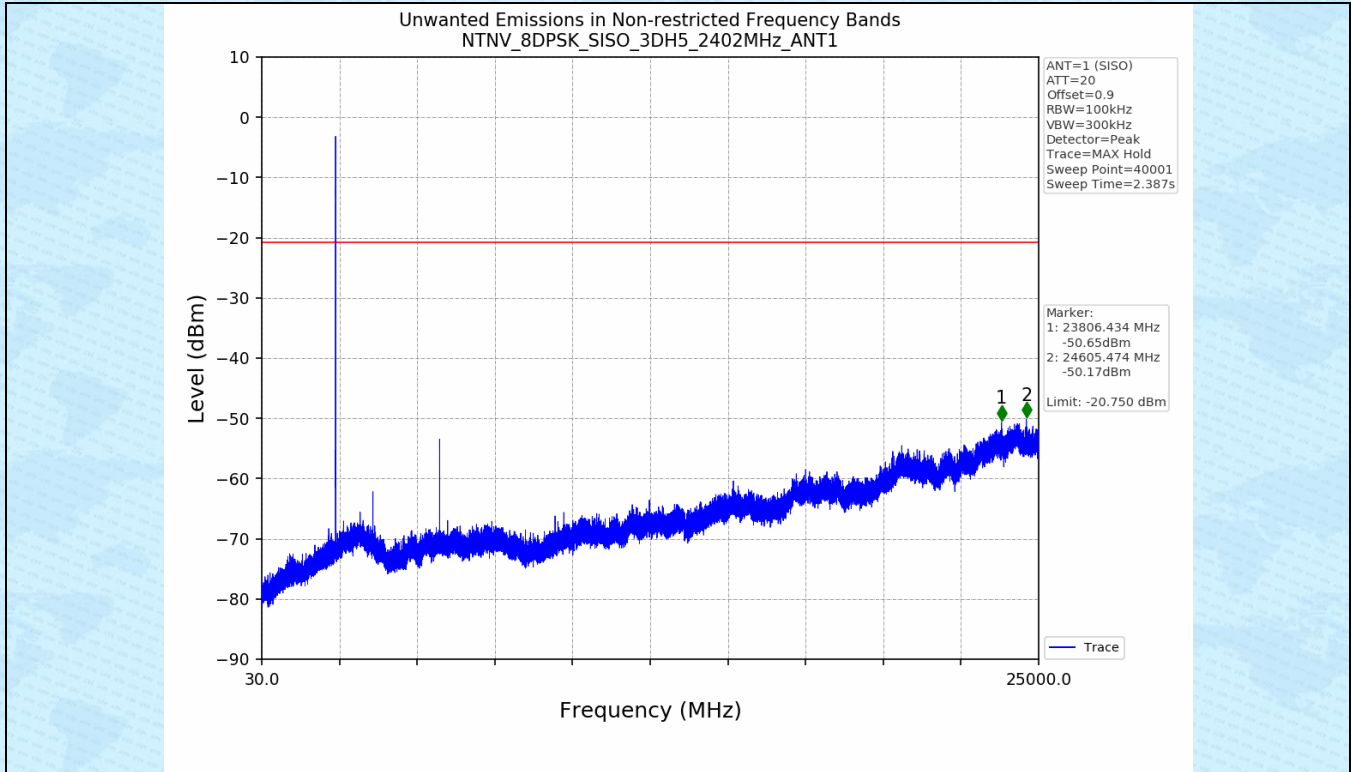


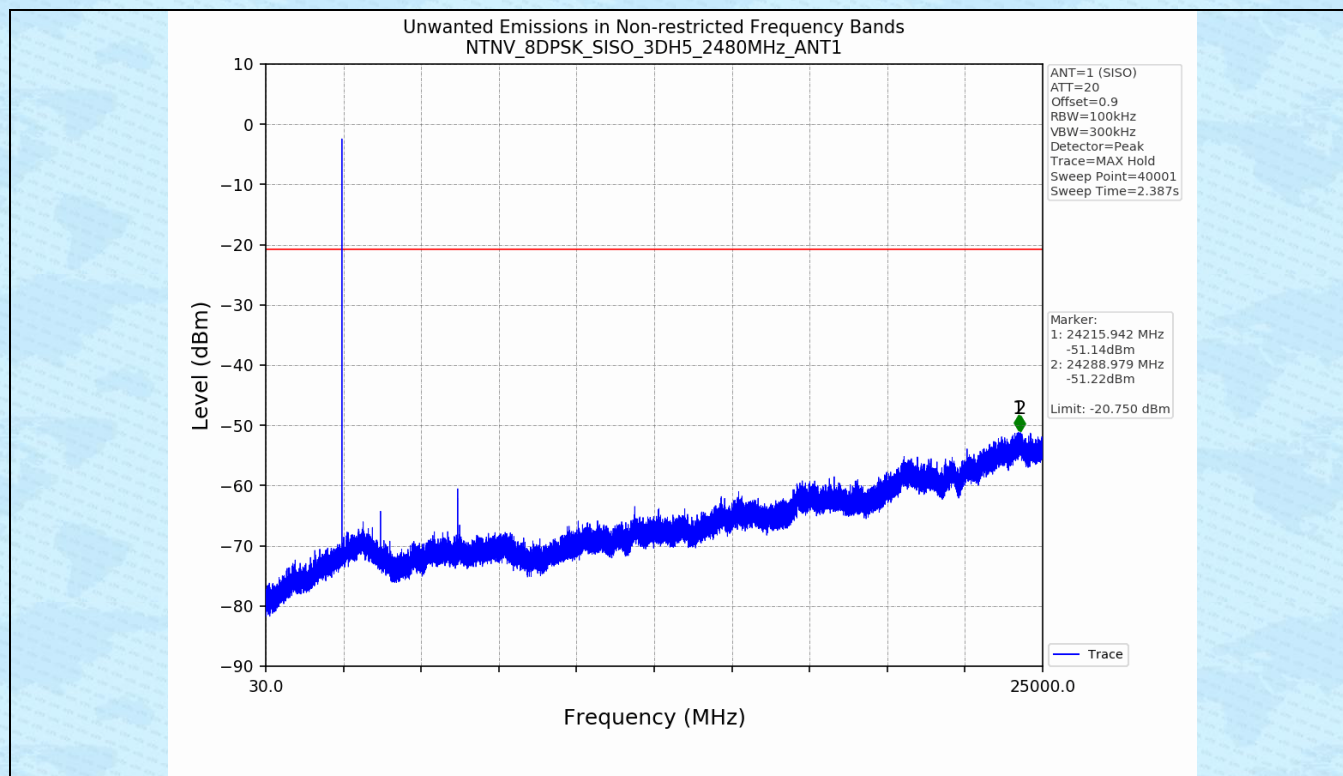
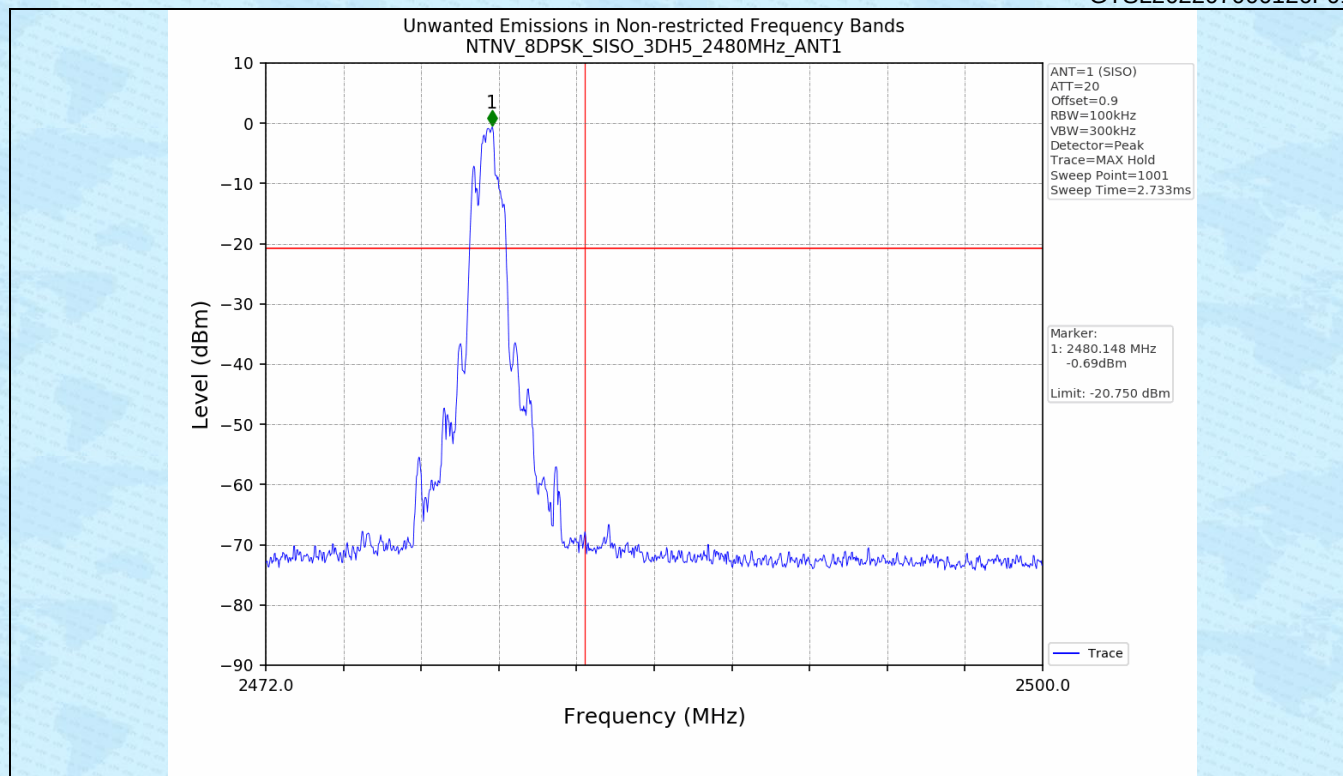


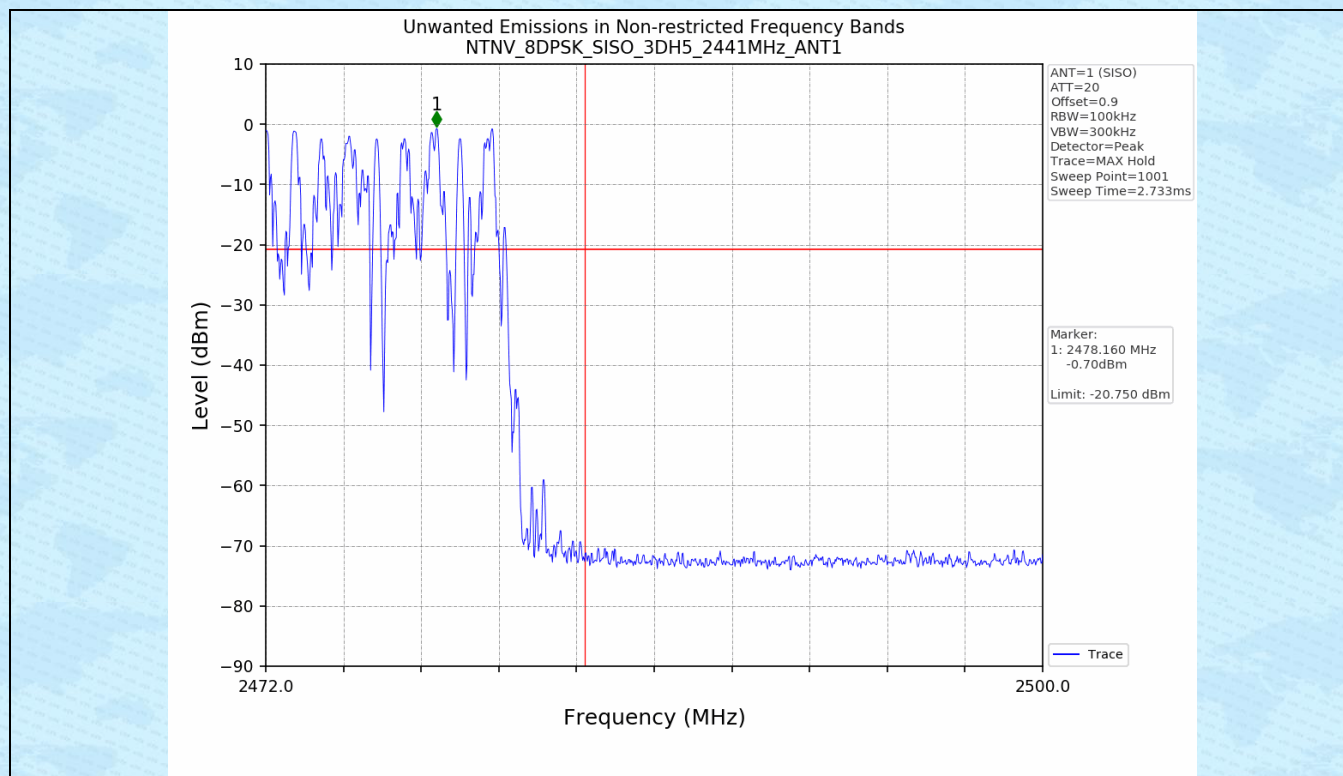
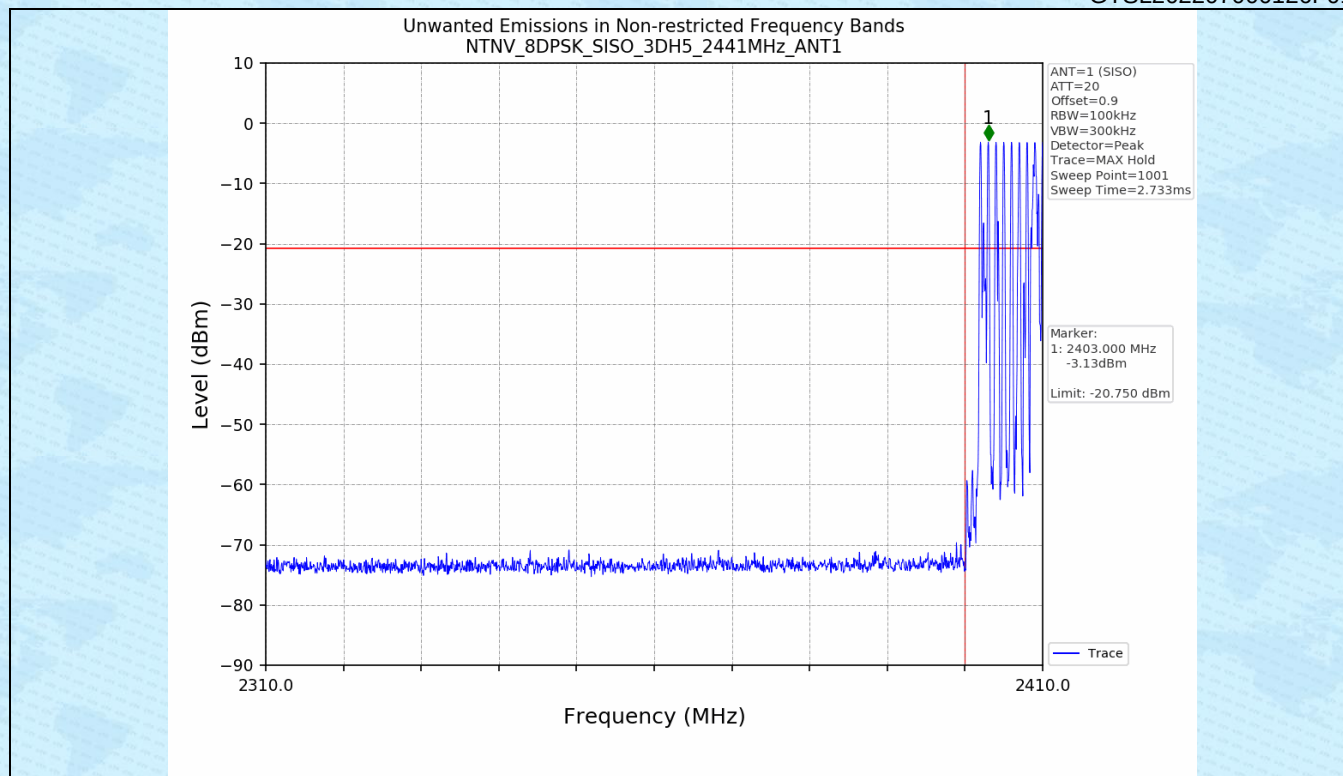












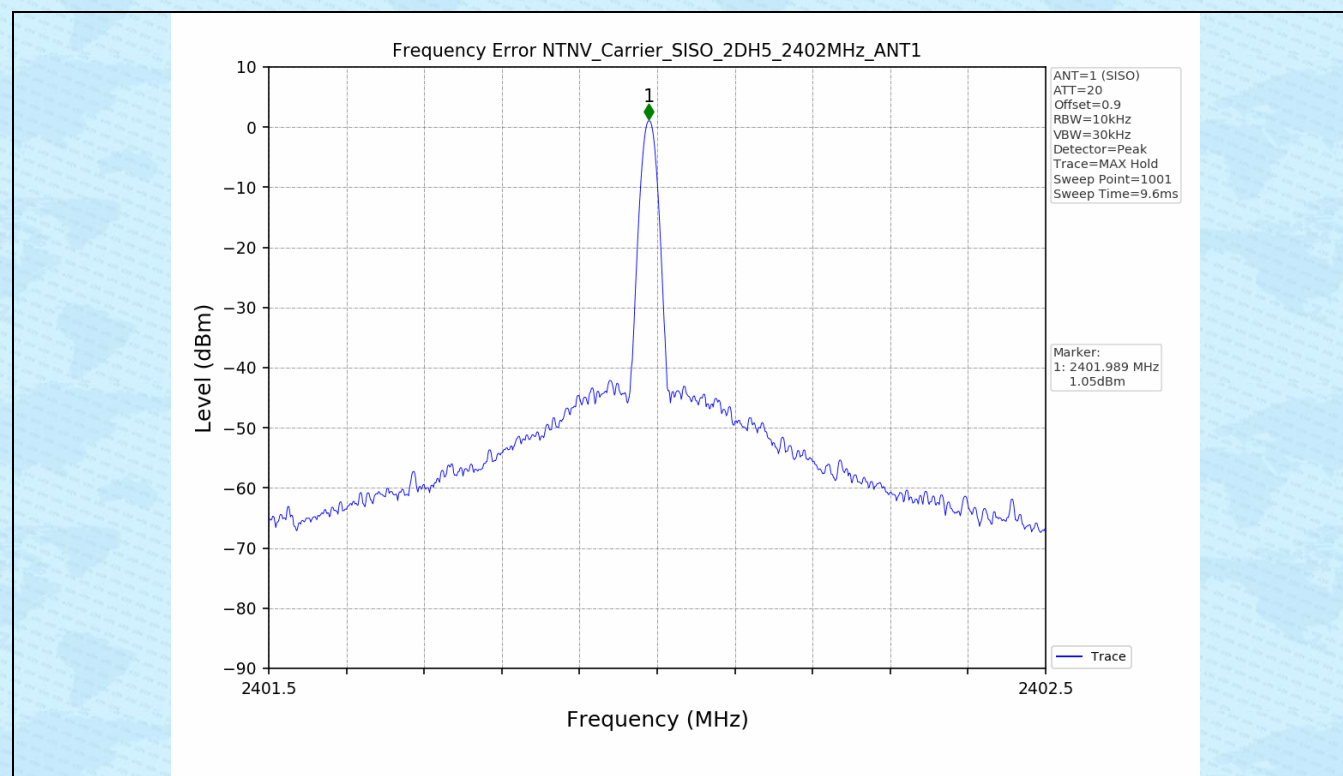


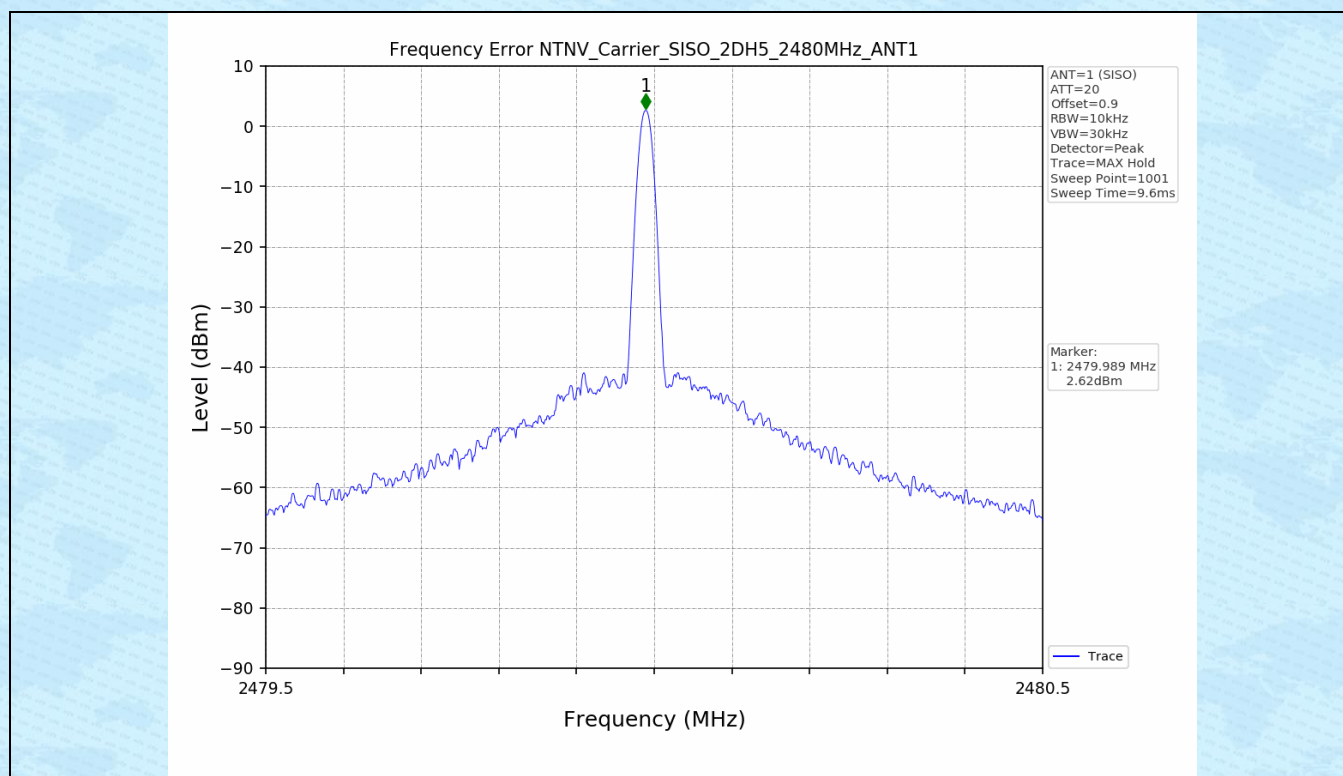
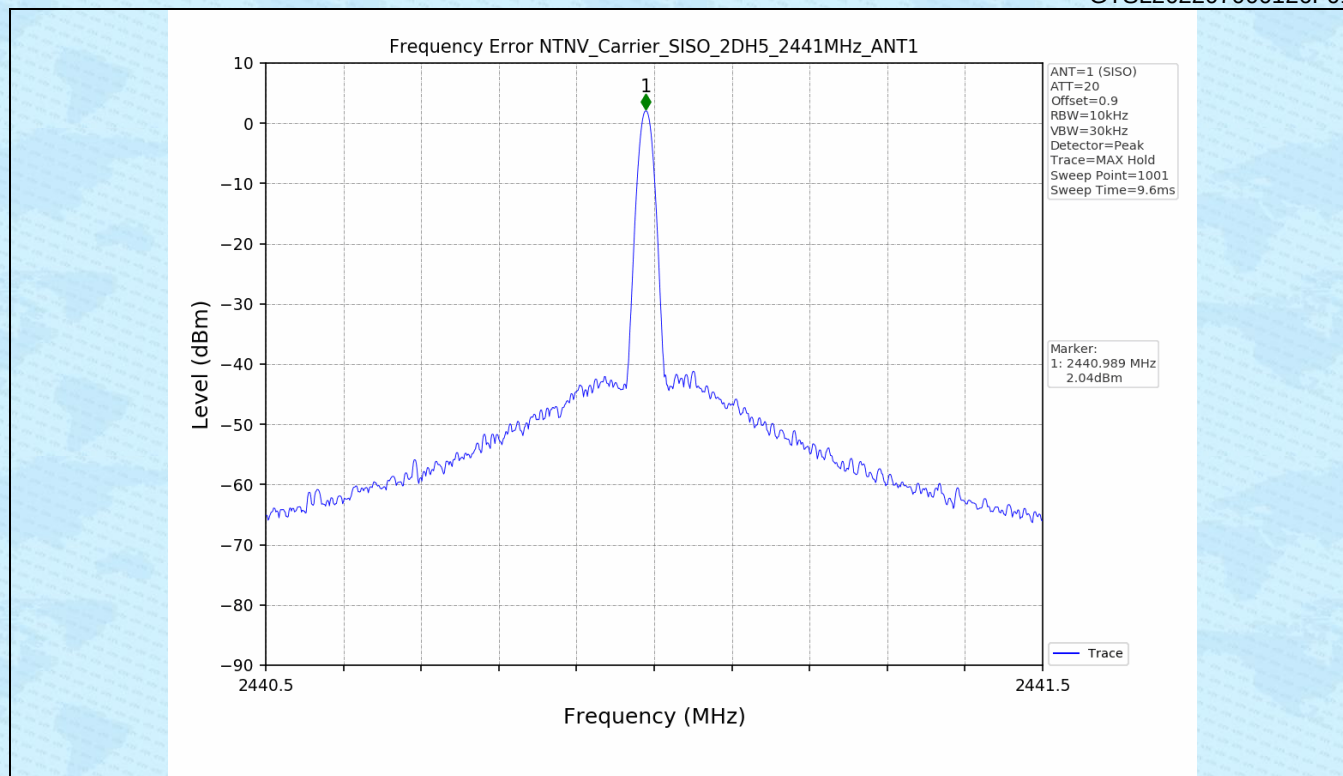
## 7. Frequency Error

### 7.1 Test Result

| Test Mode | Frequency (MHz) | TX Type | ANT | Measured Frequency (MHz) |             | Verdict |
|-----------|-----------------|---------|-----|--------------------------|-------------|---------|
|           |                 |         |     | Test Result              | Limit       |         |
| Carrier   | 2402            | SISO    | 1   | 2401.99                  | 2400-2483.5 | PASS    |
|           | 2441            | SISO    | 1   | 2440.99                  | 2400-2483.5 | PASS    |
|           | 2480            | SISO    | 1   | 2479.99                  | 2400-2483.5 | PASS    |

### 7.2 Test Graph





-----End-----