# Appendix for 15.247

## 1. Bandwidth

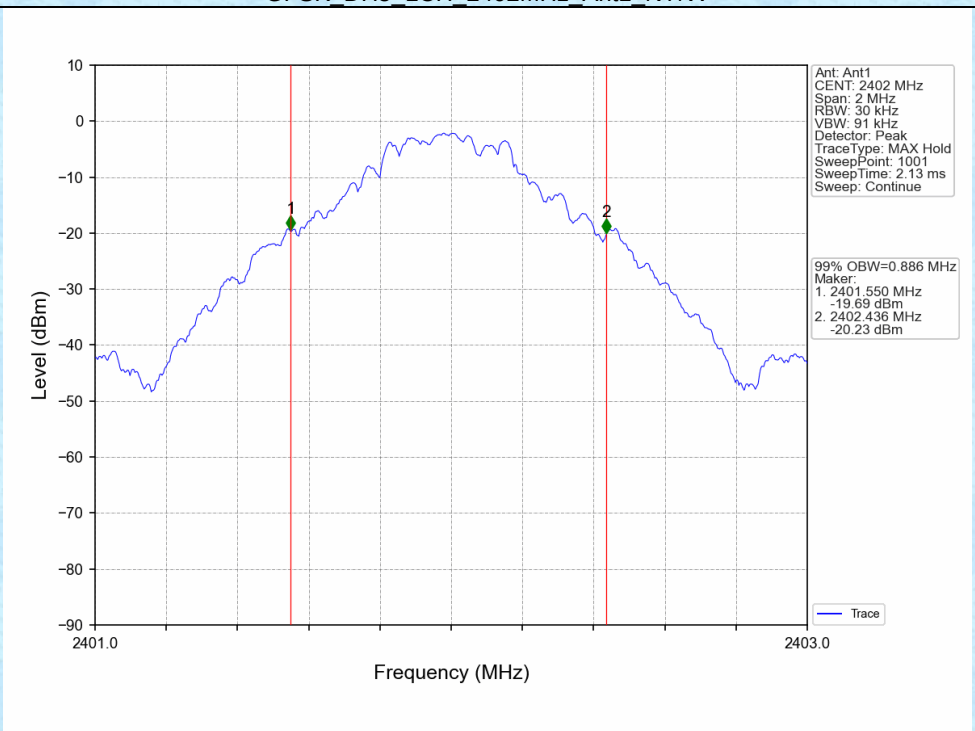
### 1.1 OBW

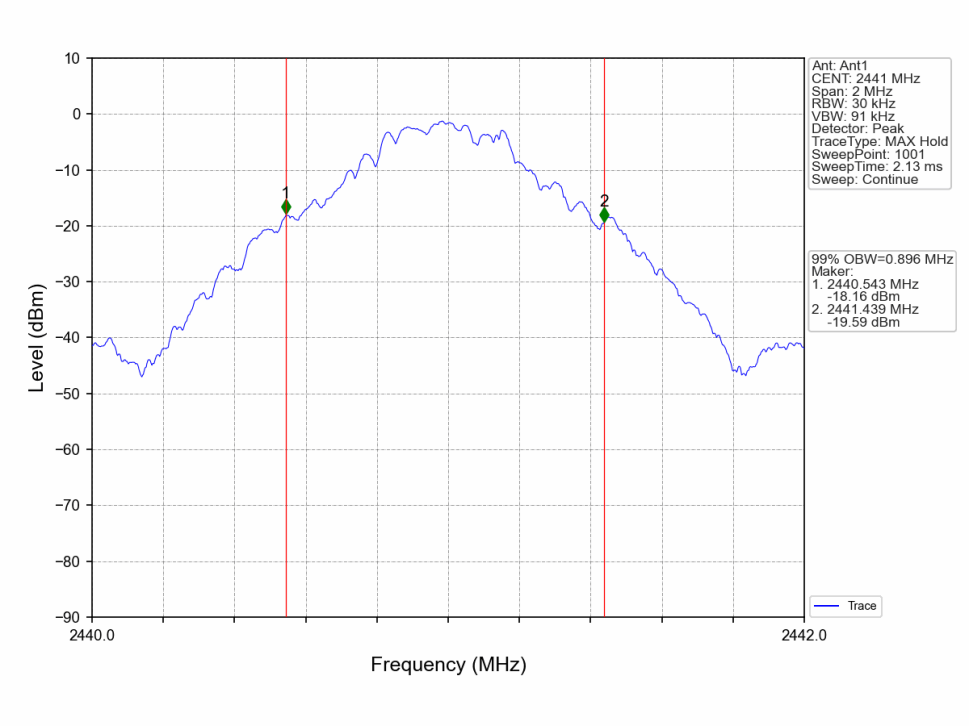
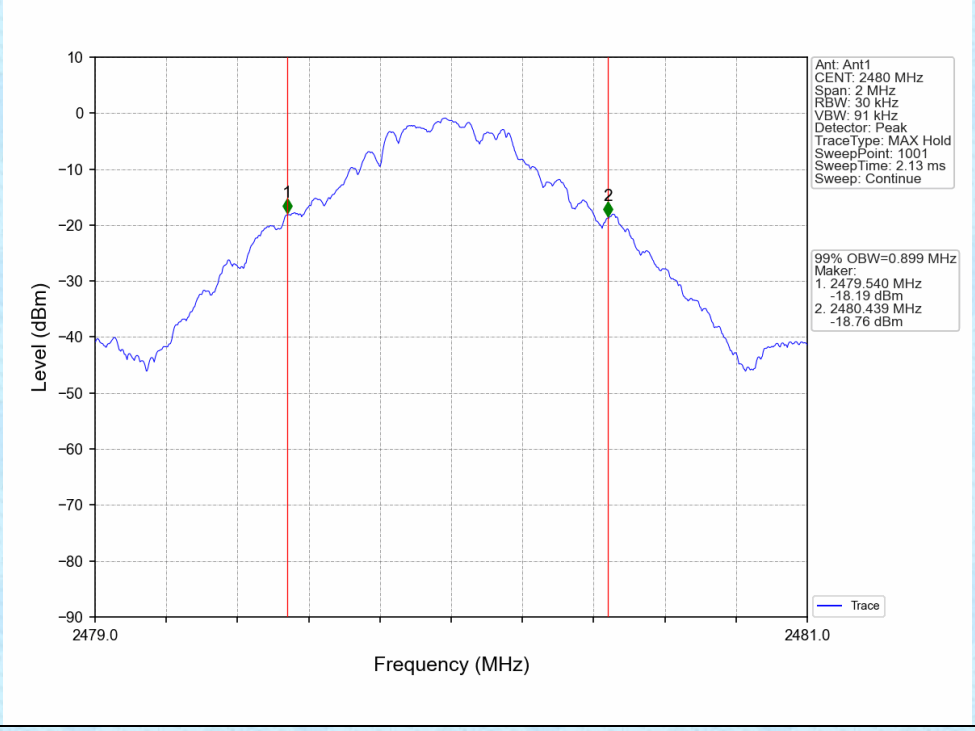
#### 1.1.1 Test Result

| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | 99% Occupied Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|---|
| GFSK | SISO | 2402 | DH5 | 1 | 0.886 | Pass |
| | | 2441 | DH5 | 1 | 0.896 | Pass |
| | | 2480 | DH5 | 1 | 0.899 | Pass |

#### 1.1.2 Test Graph

GFSK_DH5_LCH_2402MHz_Ant1_NTNV



| GFSK_DH5_MCH_2441MHz_Ant1_NTNV |
| --- |
|  |
| GFSK_DH5_HCH_2480MHz_Ant1_NTNV |
|  |

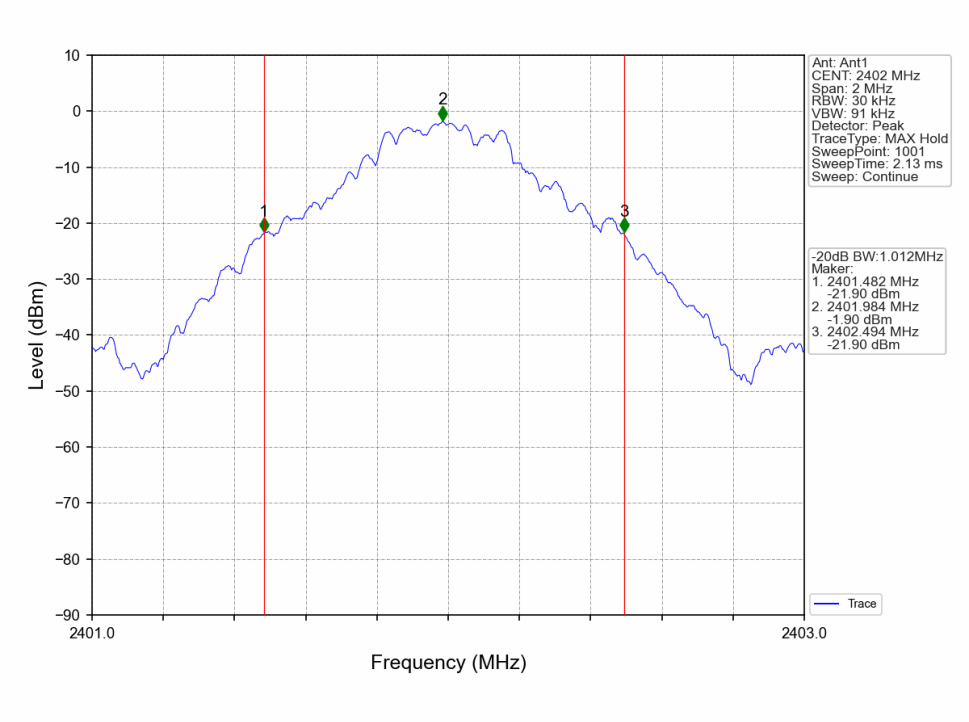
## 1.2 20dB BW

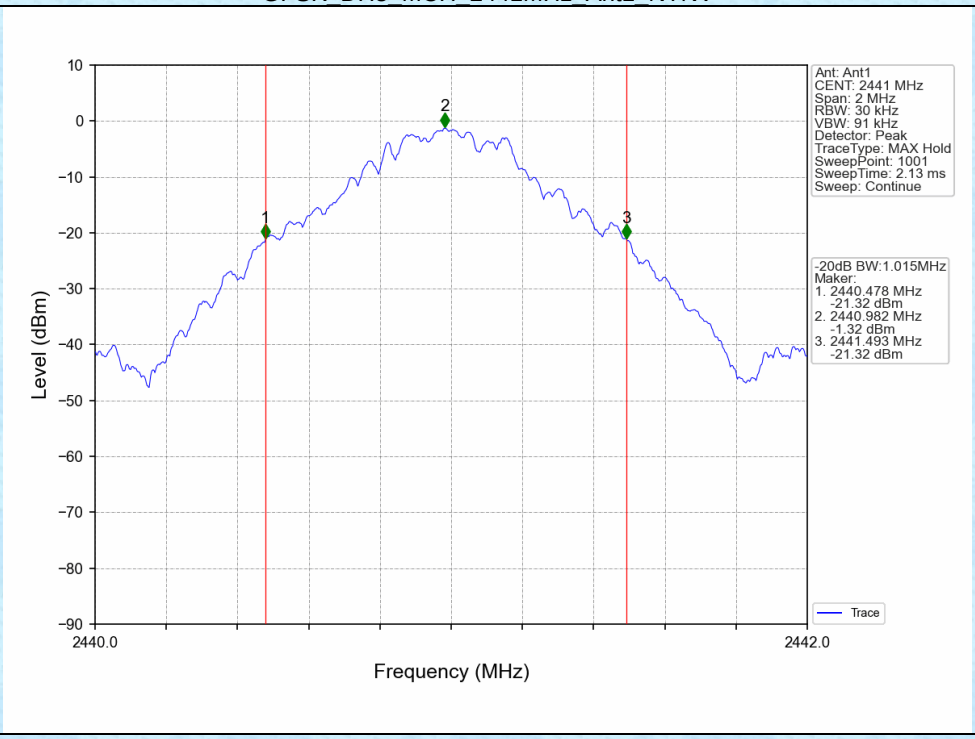
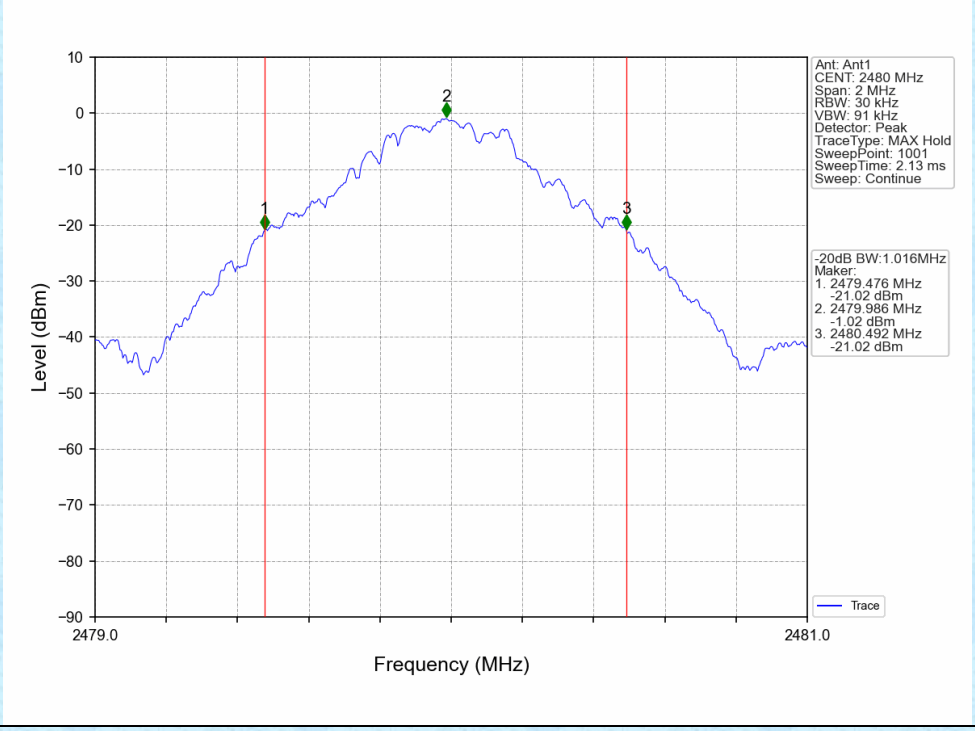
### 1.2.1 Test Result

| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | 20dB Bandwidth (MHz) Result | Verdict |
|---|---|---|---|---|---|---|
| GFSK | SISO | 2402 | DH5 | 1 | 1.012 | Pass |
| | | 2441 | DH5 | 1 | 1.015 | Pass |
| | | 2480 | DH5 | 1 | 1.016 | Pass |

### 1.2.2 Test Graph

GFSK_DH5_LCH_2402MHz_Ant1_NTNV



| GFSK_DH5_MCH_2441MHz_Ant1_NTNV |
| --- |
|  |
| GFSK_DH5_HCH_2480MHz_Ant1_NTNV |
|  |

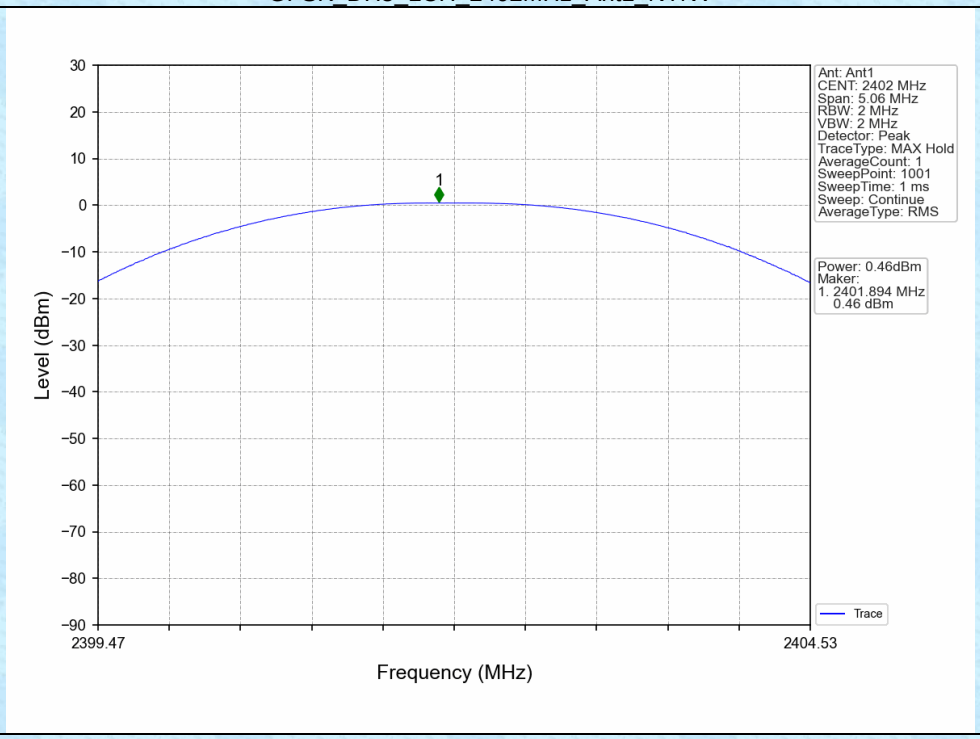
# 2. Maximum Conducted Output Power

## 2.1 Test Result

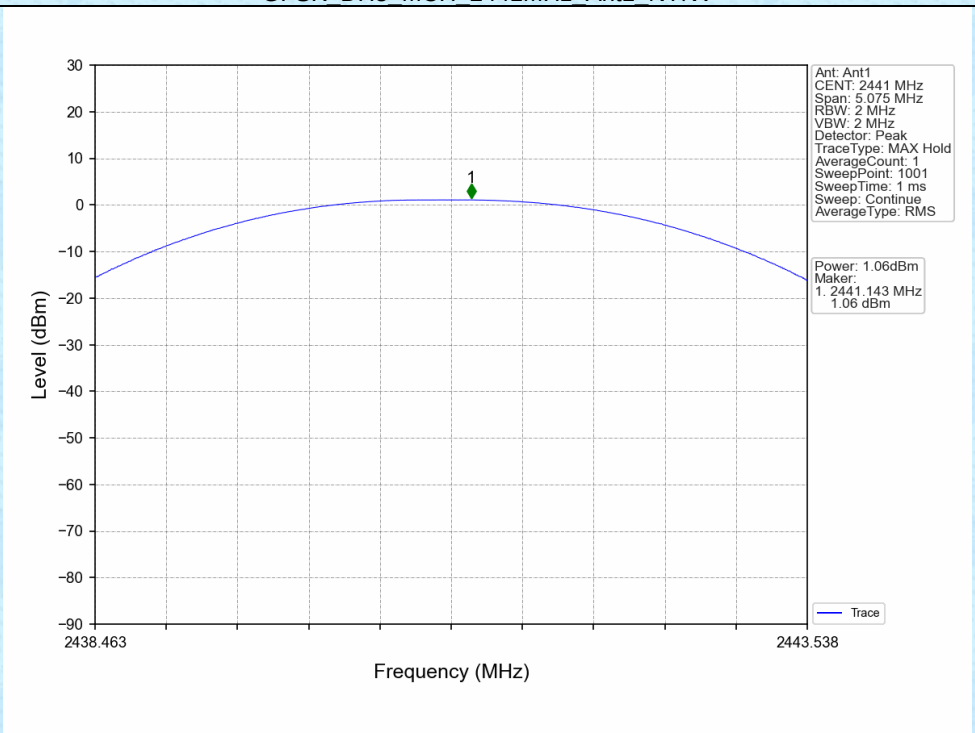
| Mode | TX Type | Frequency (MHz) | Packet Type | Maximum Peak Conducted Output Power (dBm) | | Verdict |
|---|---|---|---|---|---|---|
| | | | | ANT1 | Limit | |
| GFSK | SISO | 2402 | DH5 | 0.46 | <=20.97 | Pass |
| | | 2441 | DH5 | 1.06 | <=20.97 | Pass |
| | | 2480 | DH5 | 1.34 | <=20.97 | Pass |

## 2.2 Test Graph

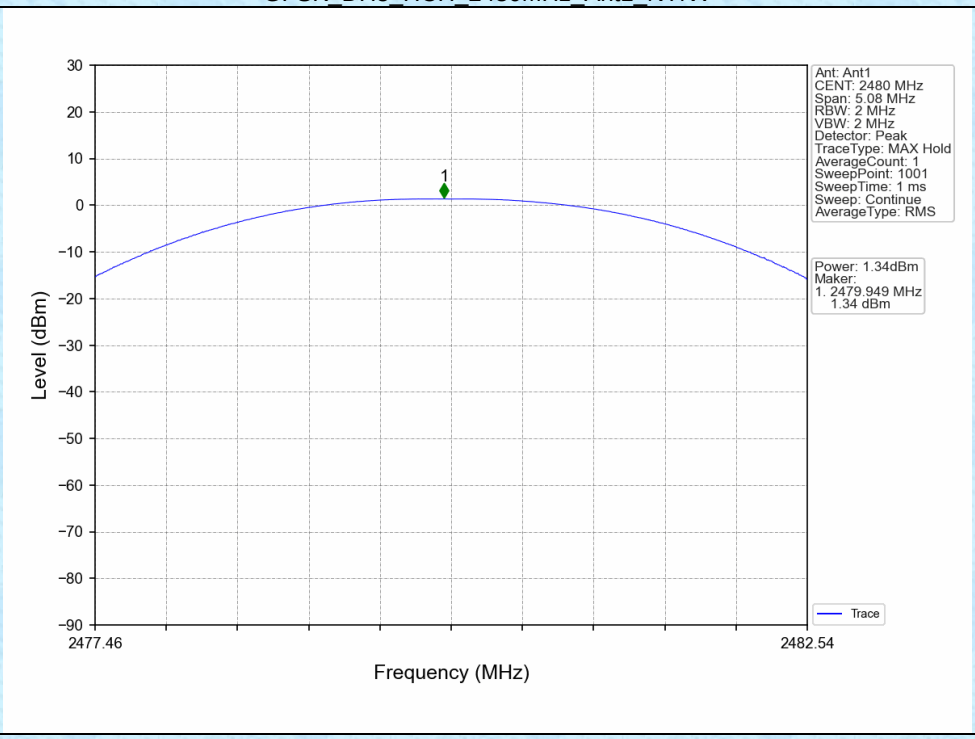
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



GFSK_DH5_MCH_2441MHz_Ant1_NTNV




GFSK_DH5_HCH_2480MHz_Ant1_NTNV



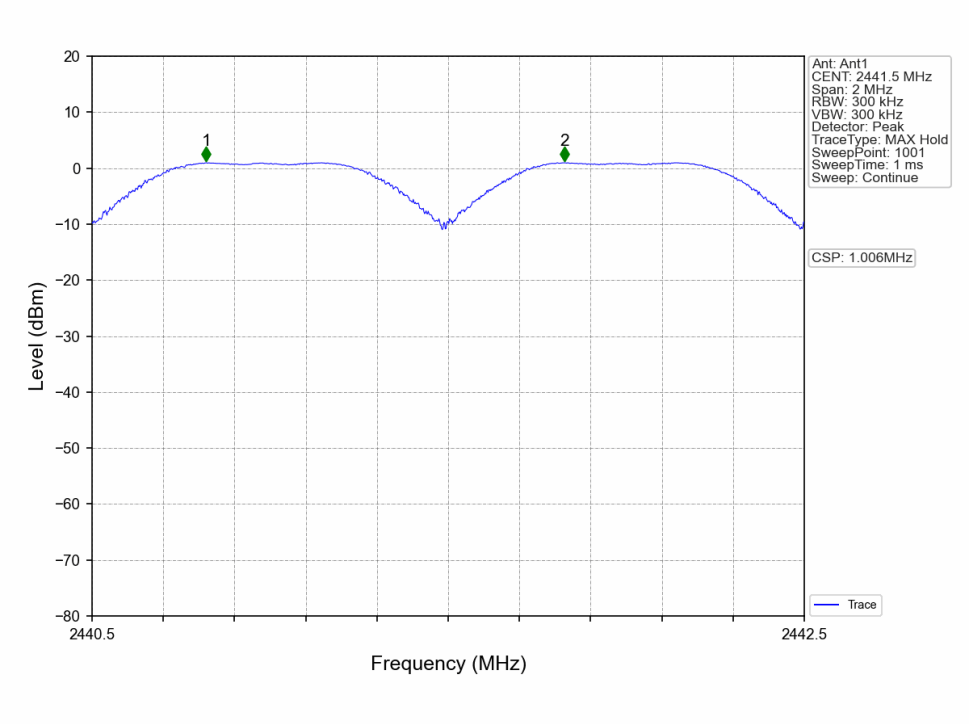
# 3. Carrier Frequency Separation

## 3.1 Test Result

| Ant1 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mode | TX Type | Frequency (MHz) | Packet Type | Channel Separation (MHz) | 20dB Bandwidth (MHz) | Limit (MHz) | Verdict |
| GFSK | SISO | HOPP | DH5 | 1.006 | 1.016 | >=0.677 | Pass |

## 3.2 Test Graph

GFSK_DH5_HOPP_Ant1_NTNV



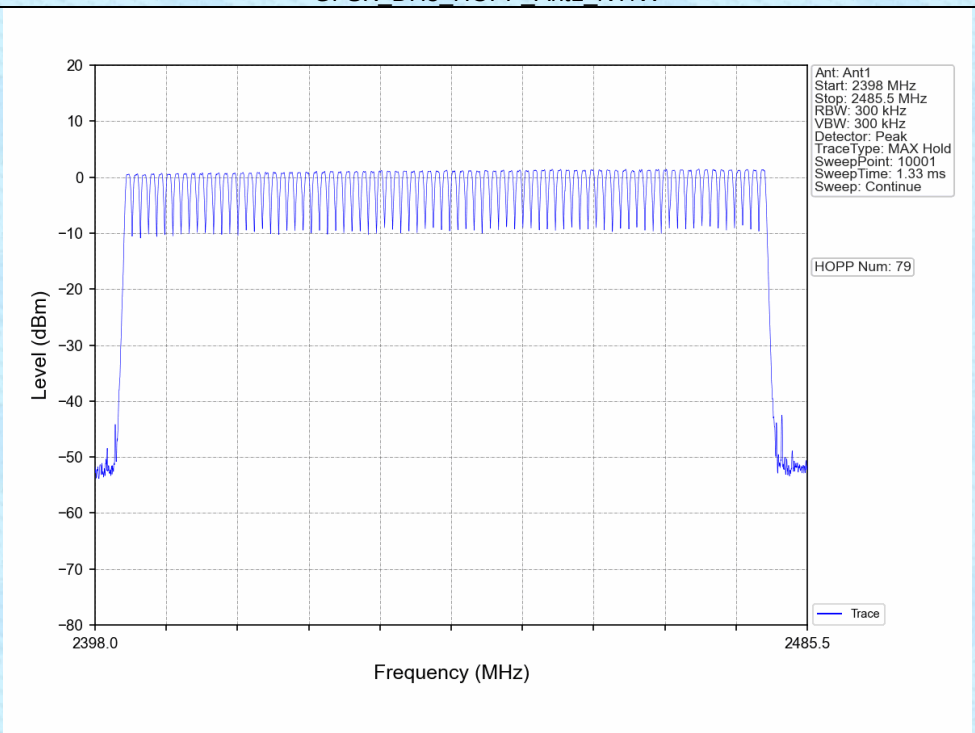
# 4. Number of Hopping Frequencies

## 4.1 Test Result

| Mode | TX Type | Frequency (MHz) | Packet Type | Num of Hopping Frequencies | | Verdict |
|---|---|---|---|---|---|---|
| | | | | ANT1 | Limit | |
| GFSK | SISO | HOPP | DH5 | 79 | >=15 | Pass |

## 4.2 Test Graph

GFSK_DH5_HOPP_Ant1_NTNV



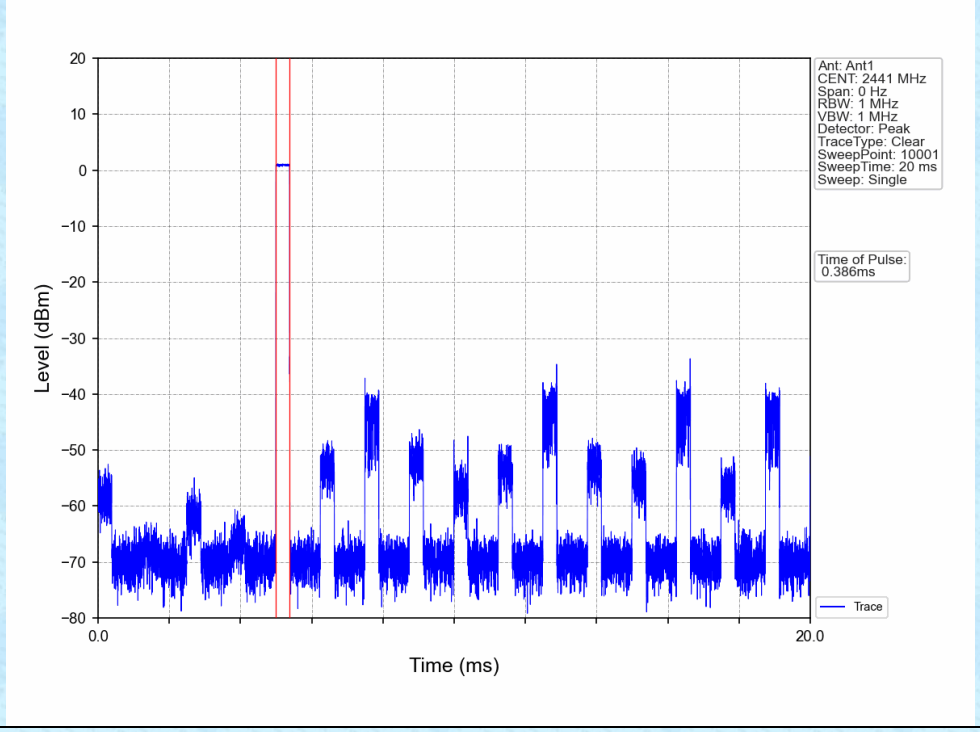
# 5. Time of Occupancy (Dwell Time)

## 5.1 Test Result

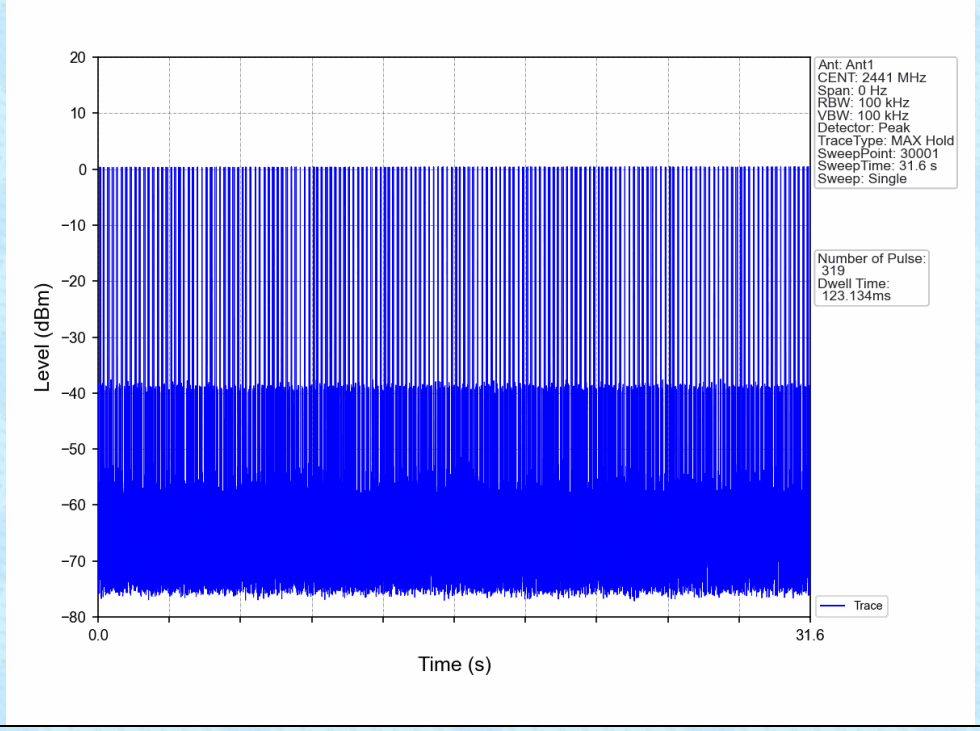
| Ant1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mode | TX Type | Frequency (MHz) | Packet Type | Duration of Single Pulse (ms) | Observation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limit (ms) | Verdict |
| GFSK | SISO | HOPP | DH1 | 0.386 | 31.600 | 319 | 123.134 | <=400 | Pass |
| | | | DH3 | 1.648 | 31.600 | 160 | 263.680 | <=400 | Pass |
| | | | DH5 | 2.898 | 31.600 | 105 | 304.290 | <=400 | Pass |

## 5.2 Test Graph

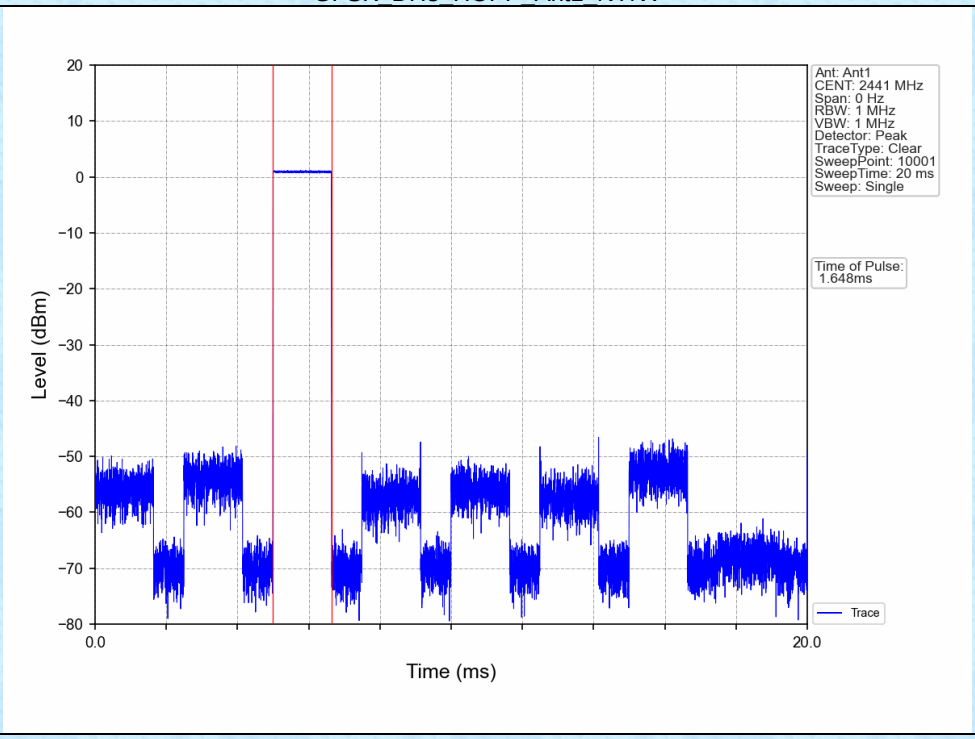
GFSK_DH1_HOPP_Ant1_NTNV



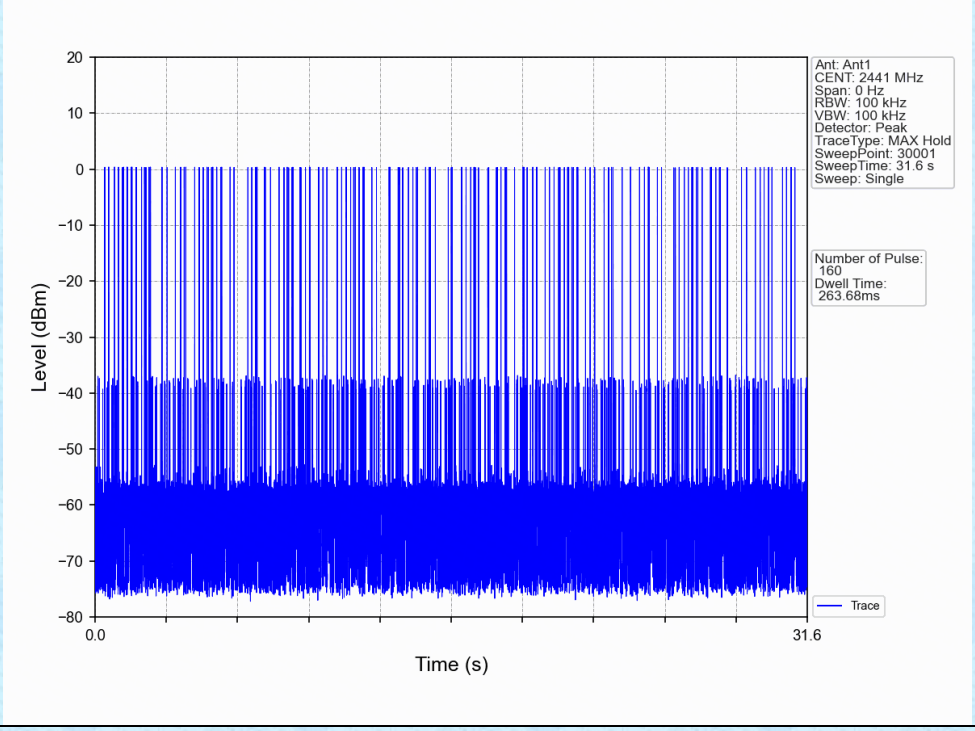

GFSK_DH1_HOPP_Ant1_NTNV

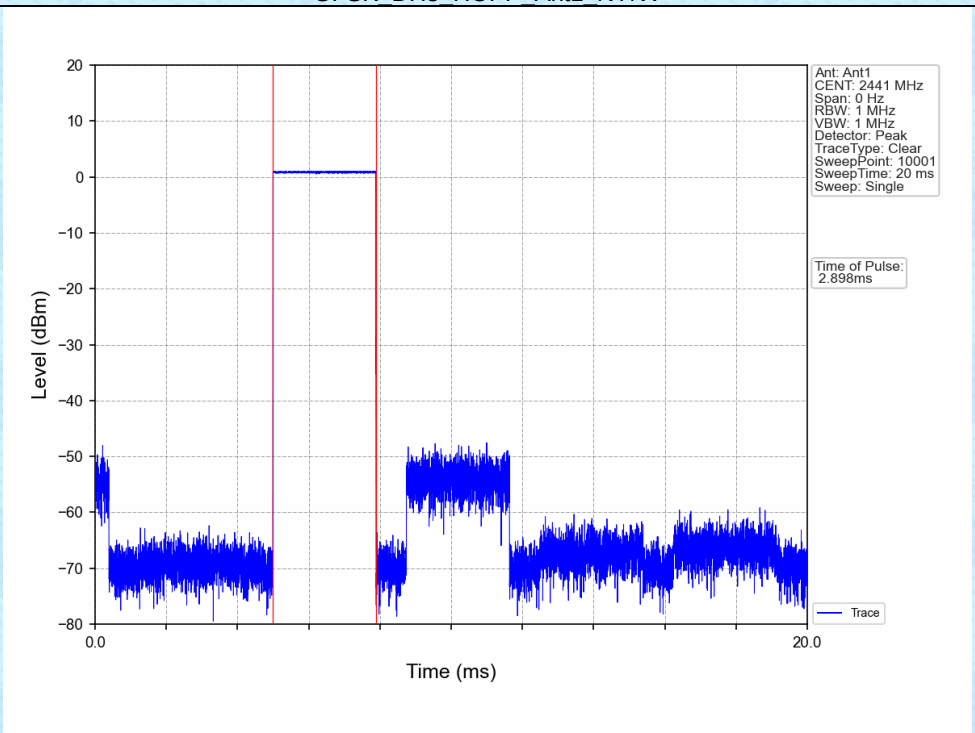
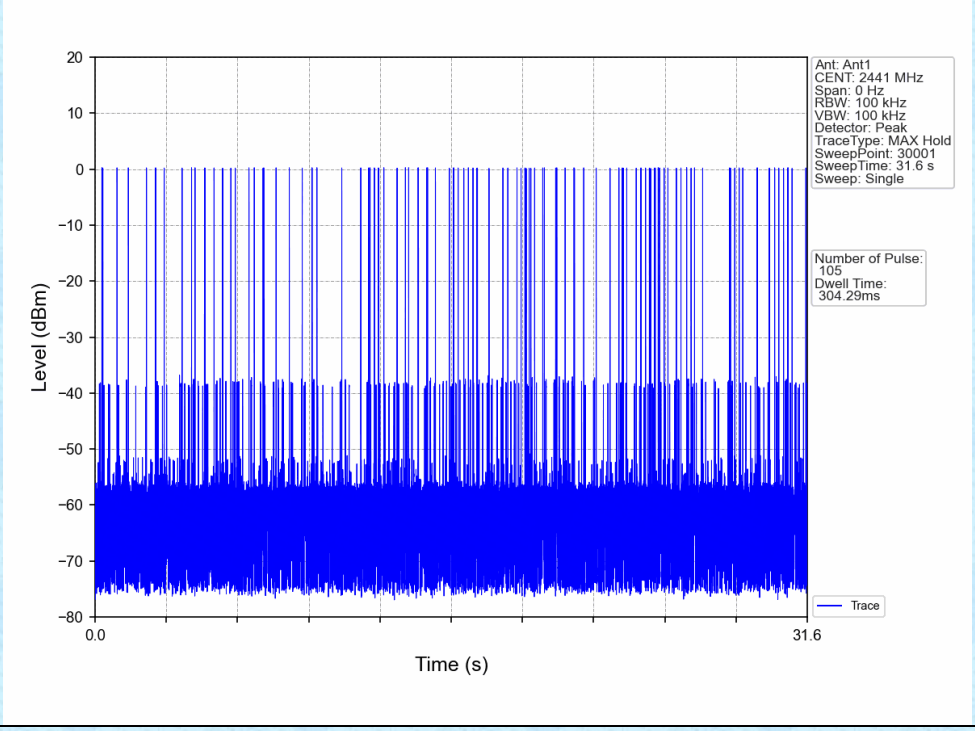


GFSK_DH3_HOPP_Ant1_NTNV




GFSK_DH3_HOPP_Ant1_NTNV



| GFSK_DH5_HOPP_Ant1_NTNV |
| --- |
|  |
| GFSK_DH5_HOPP_Ant1_NTNV |
|  |

# 6. Unwanted Emissions In Non-restricted Frequency Bands

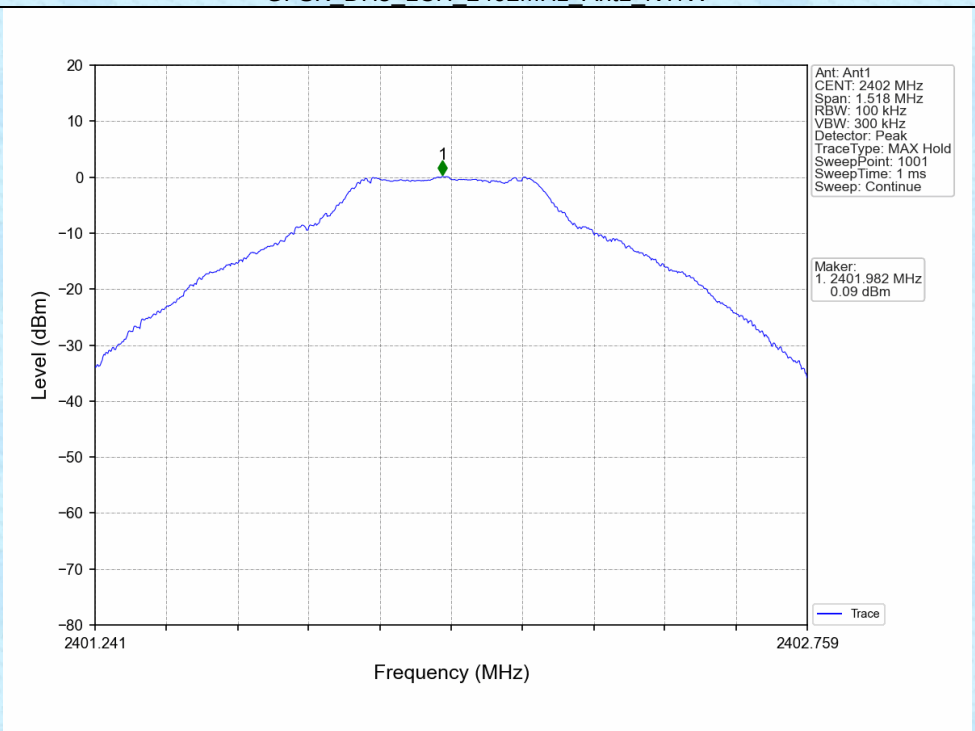
## 6.1 Ref

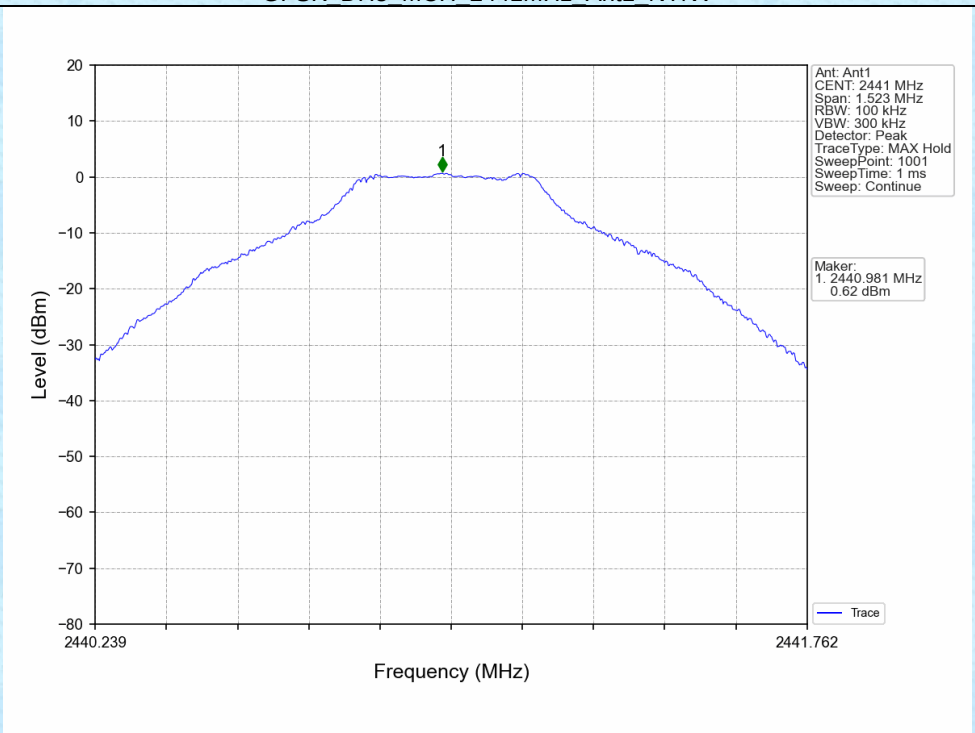
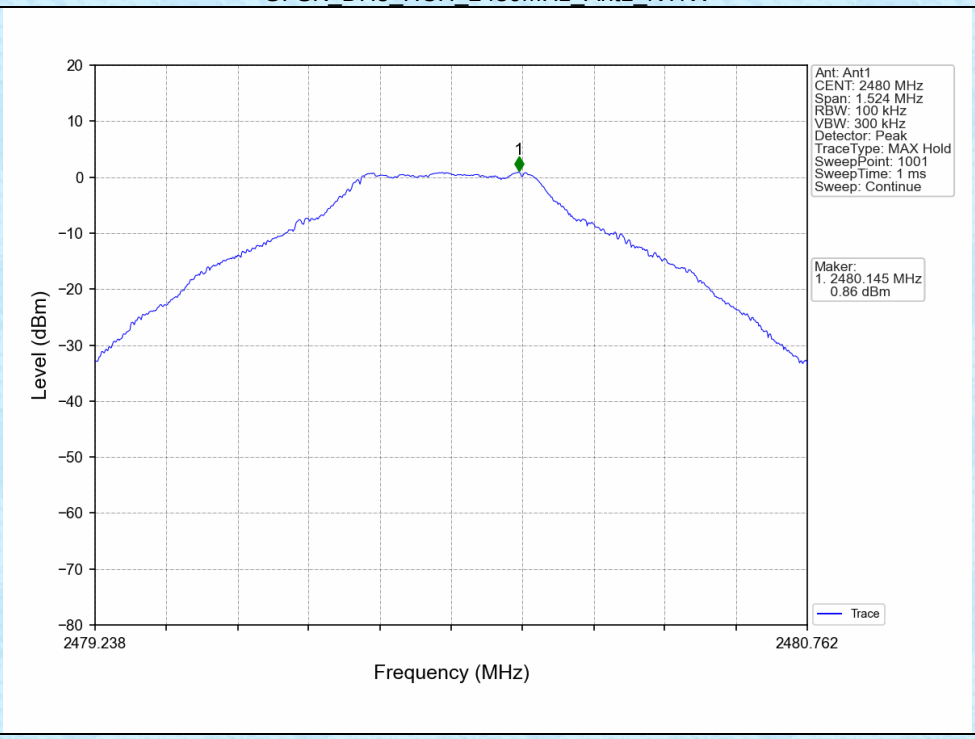
### 6.1.1 Test Result

| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) |
|---|---|---|---|---|---|
| GFSK | SISO | 2402 | DH5 | 1 | 0.09 |
| | | 2441 | DH5 | 1 | 0.62 |
| | | 2480 | DH5 | 1 | 0.86 |
| 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 Test Graph

GFSK_DH5_LCH_2402MHz_Ant1_NTNV



| GFSK_DH5_MCH_2441MHz_Ant1_NTNV |
| --- |
|  |
| GFSK_DH5_HCH_2480MHz_Ant1_NTNV |
|  |

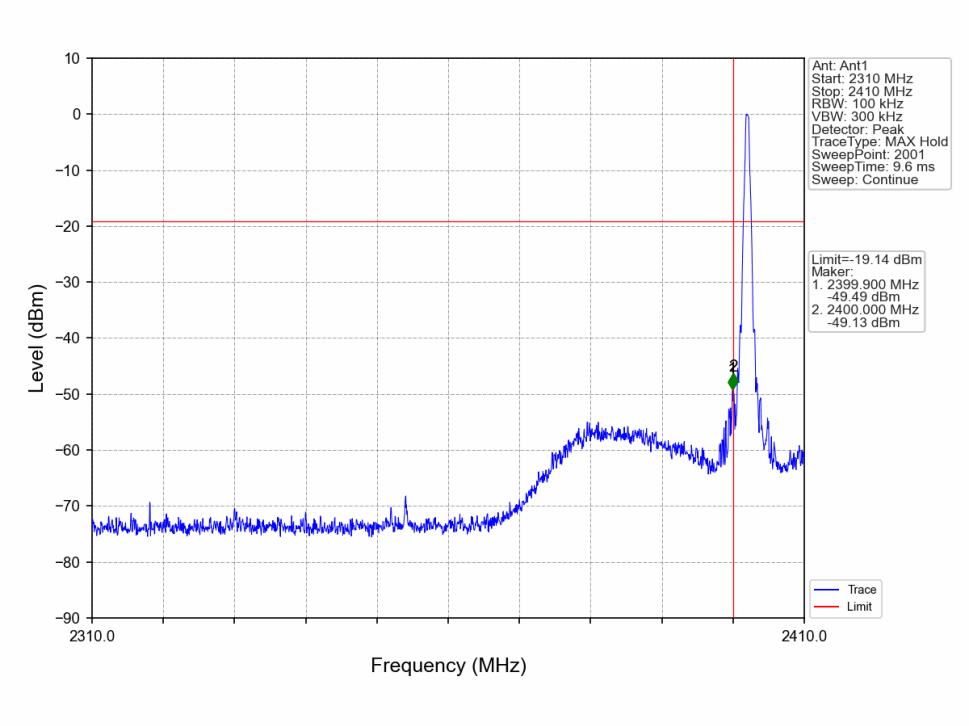
## 6.2 CSE

### 6.2.1 Test Result

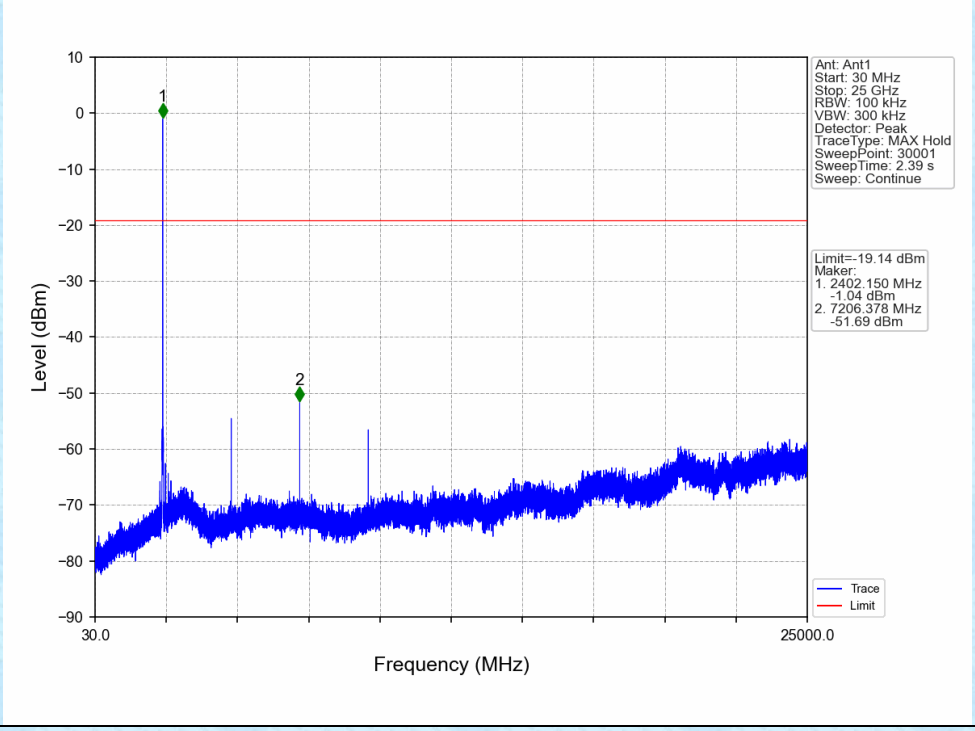
| Mode | TX Type | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| GFSK | SISO | 2402 | DH5 | 1 | 0.86 | -19.14 | Pass |
| | | 2441 | DH5 | 1 | 0.86 | -19.14 | Pass |
| | | 2480 | DH5 | 1 | 0.86 | -19.14 | Pass |
| | | HOPP | DH5 | 1 | 0.86 | -19.14 | 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. | | | | | | | |

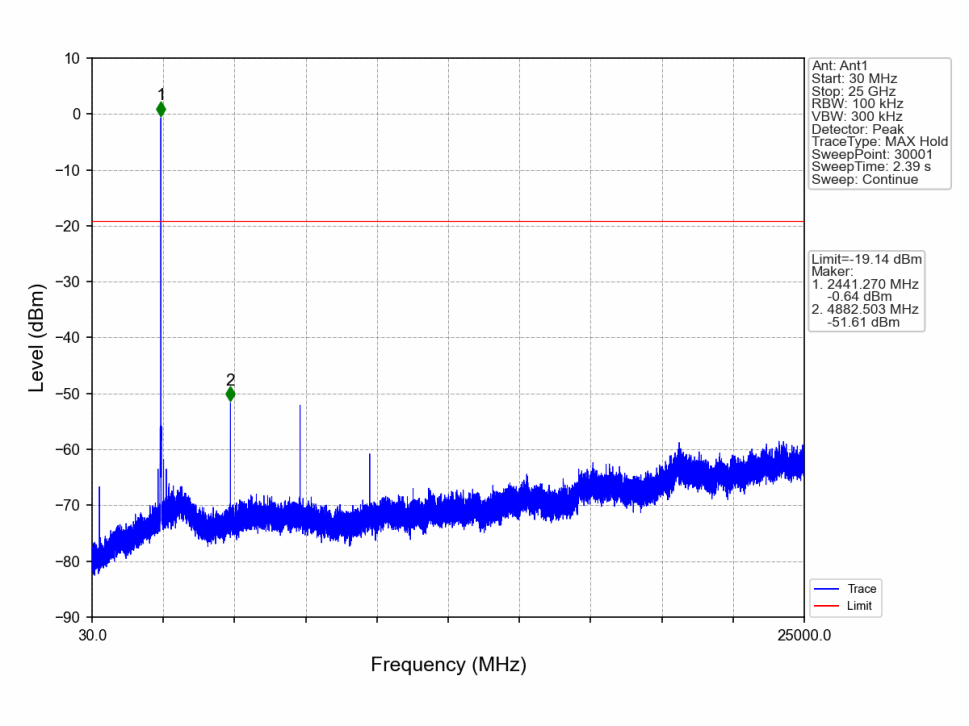
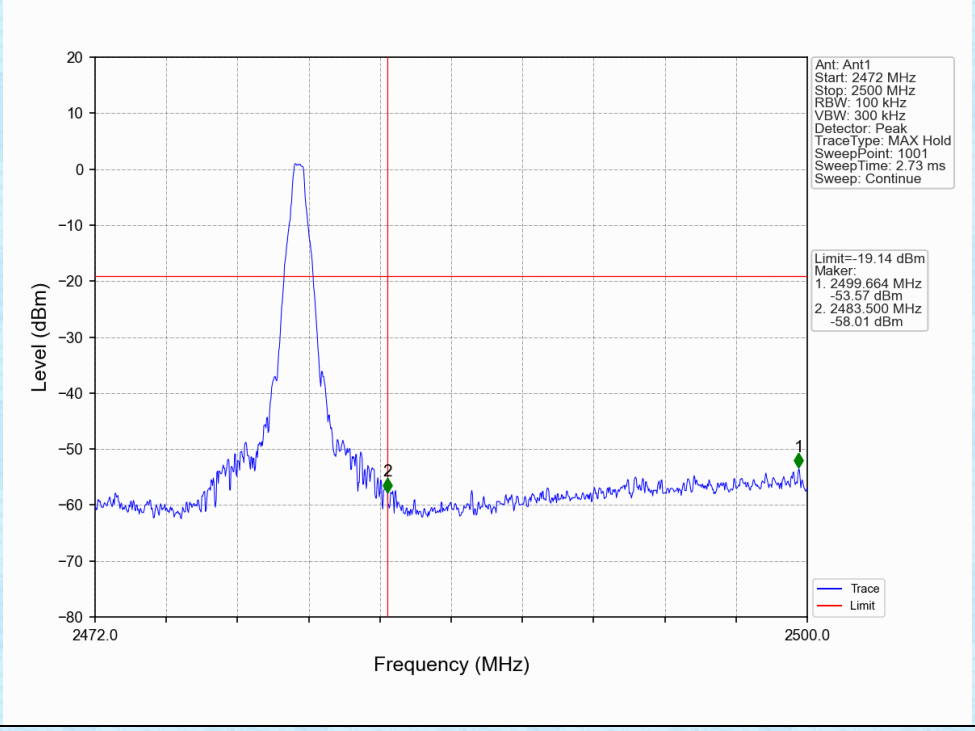
## 6.2.2 Test Graph

GFSK_DH5_LCH_2402MHz_Ant1_NTNV

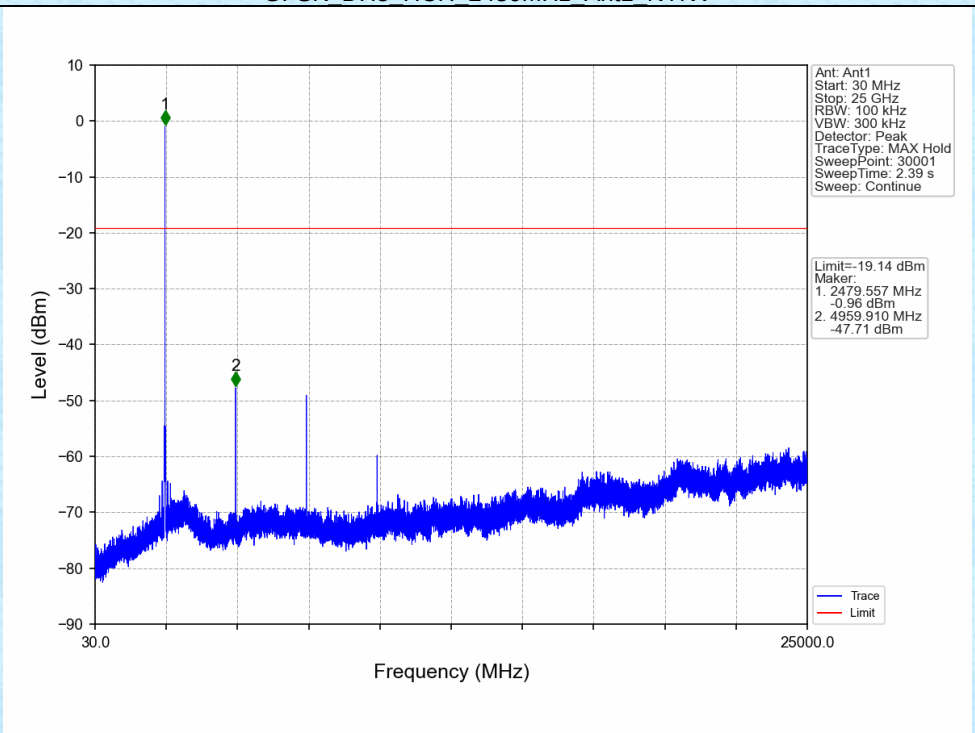



GFSK_DH5_LCH_2402MHz_Ant1_NTNV

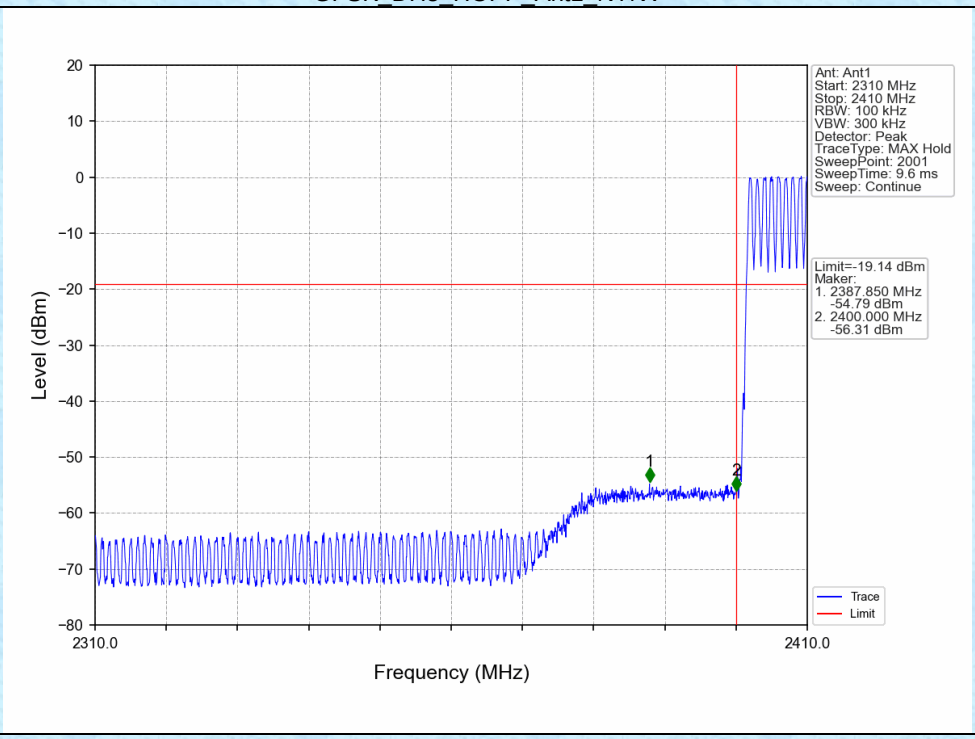


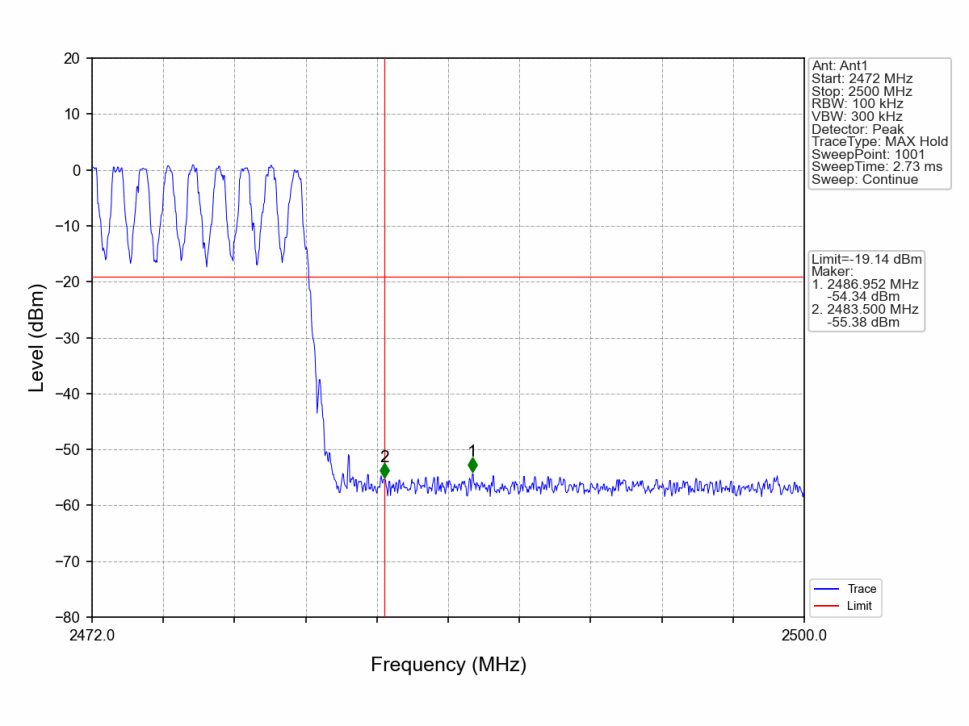
| GFSK_DH5_MCH_2441MHz_Ant1_NTNV |
| --- |
|  |
| GFSK_DH5_HCH_2480MHz_Ant1_NTNV |
|  |

GFSK_DH5_HCH_2480MHz_Ant1_NTNV




GFSK_DH5_HOPP_Ant1_NTNV



| GFSK_DH5_HOPP_Ant1_NTNV |
| --- |
|  |



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