

## Appendix A

### RF Test Data for BR\_EDR(Conducted Measurement)

Product Name: Speaker Clock Wireless Charger  
Trade Mark: ETECH  
Test Model: EBS5-223438

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 24.6°C      |
| Relative Humidity: | 51.4%       |
| ATM Pressure:      | 101Kpa      |
| Test Engineer:     | Simba Huang |
| Supervised by:     | Seal Chen   |

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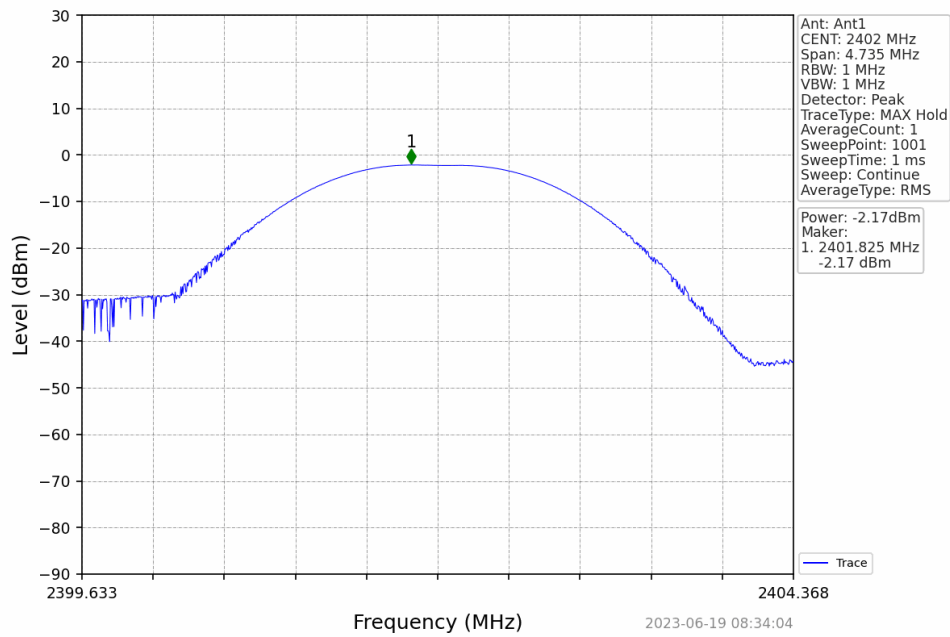
# 1 Maximum Conducted Peak Output Power

## 1.1 Test Result

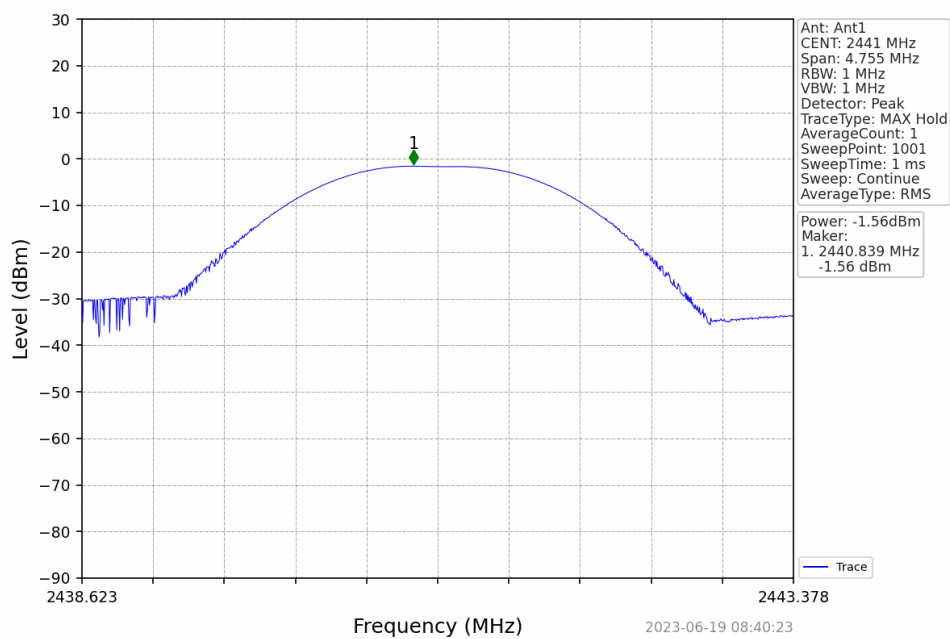
| Mode           | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|----------------|----------|---------------------------------|-------------|---------|
| GFSK           | LCH      | -2.17                           | 21          | Pass    |
|                | MCH      | -1.56                           | 21          | Pass    |
|                | HCH      | -0.88                           | 21          | Pass    |
| $\pi/4$ -DQPSK | LCH      | -1.33                           | 21          | Pass    |
|                | MCH      | -0.83                           | 21          | Pass    |
|                | HCH      | -0.20                           | 21          | Pass    |

## 1.2 Test Graphs

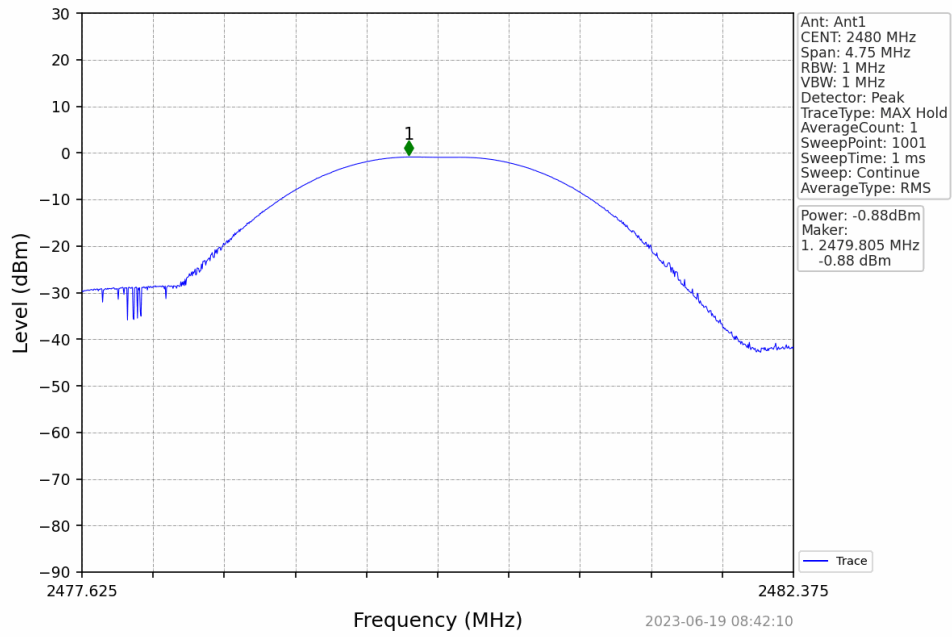
GFSK DH5 LCH 2402MHz Ant1 NTN



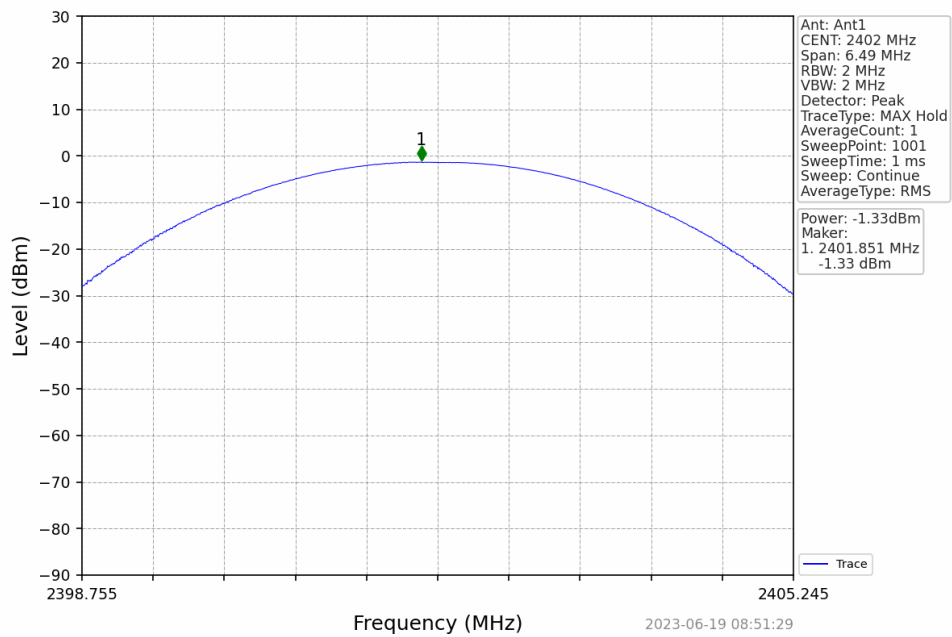
GFSK DH5 MCH 2441MHz Ant1 NTN



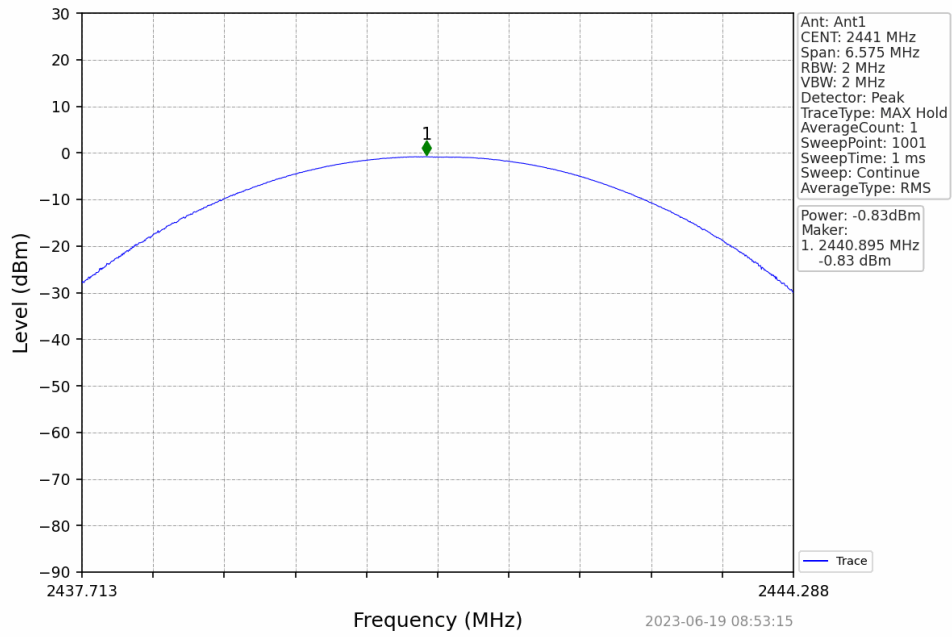
GFSK DH5 HCH 2480MHz Ant1 NTN



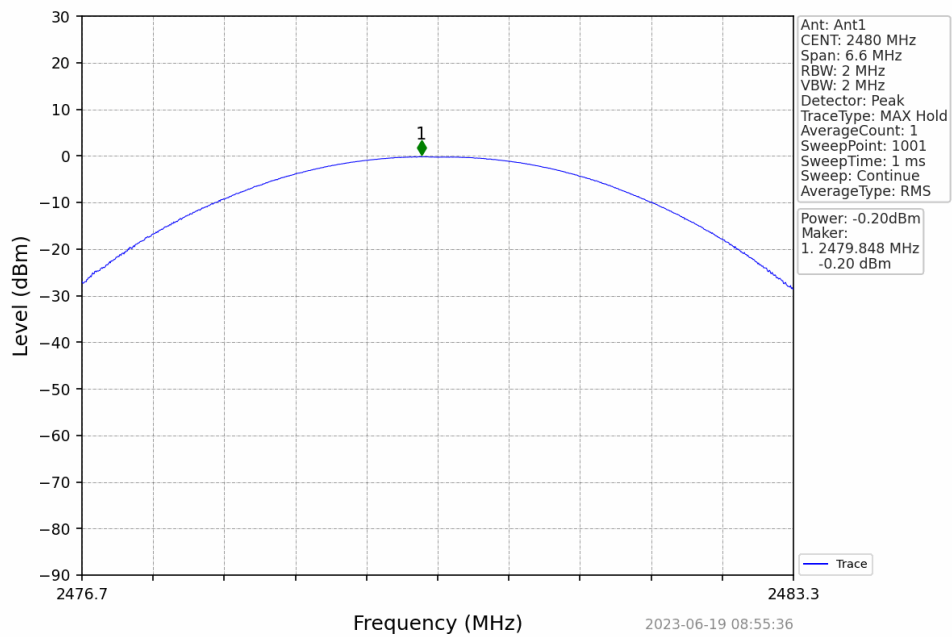
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN



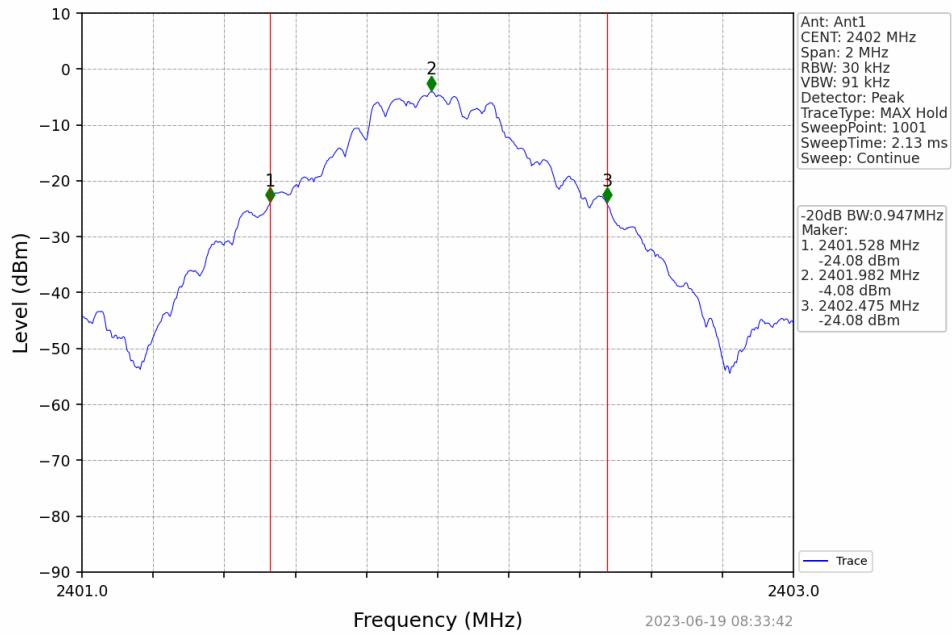
## 2 20dB Bandwidth

### 2.1 Test Result

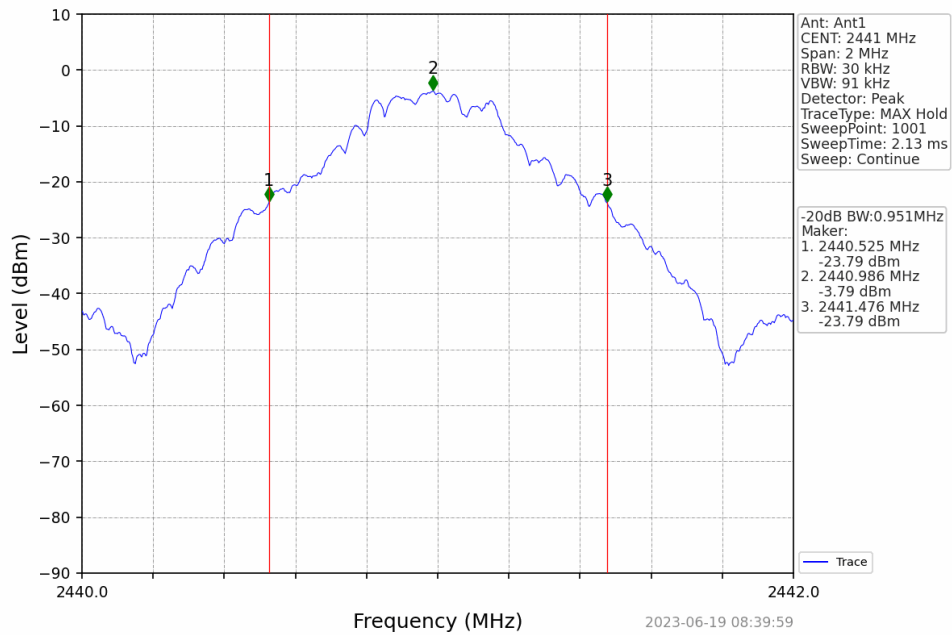
| Mode           | Channel. | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|----------------|----------|----------------------|---------------|---------|
| GFSK           | LCH      | 0.947                | Not Specified | Pass    |
|                | MCH      | 0.951                | Not Specified | Pass    |
|                | HCH      | 0.950                | Not Specified | Pass    |
| $\pi/4$ -DQPSK | LCH      | 1.298                | Not Specified | Pass    |
|                | MCH      | 1.315                | Not Specified | Pass    |
|                | HCH      | 1.320                | Not Specified | Pass    |

## 2.2 Test Graphs

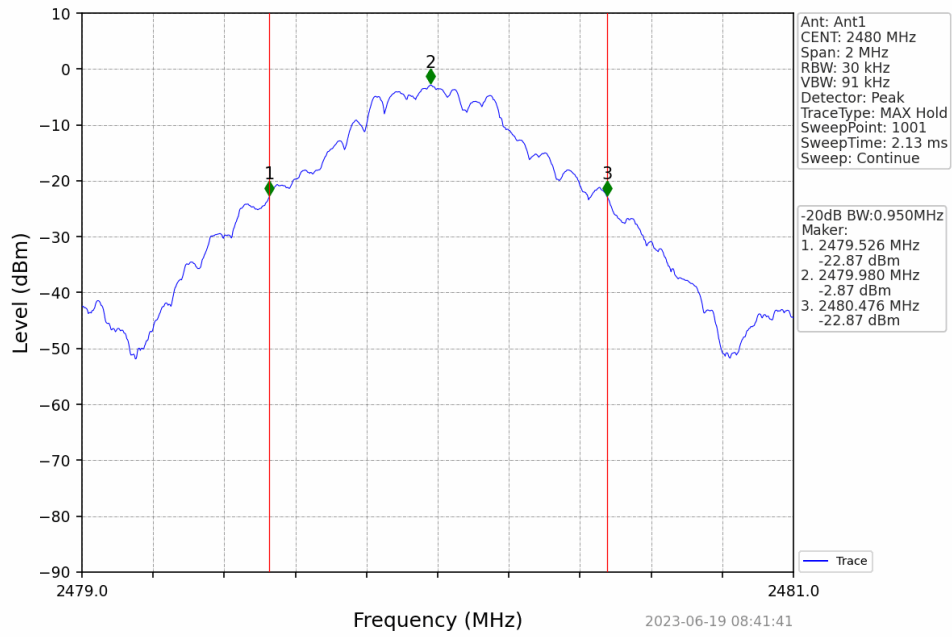
GFSK DH5 LCH 2402MHz Ant1 NTN



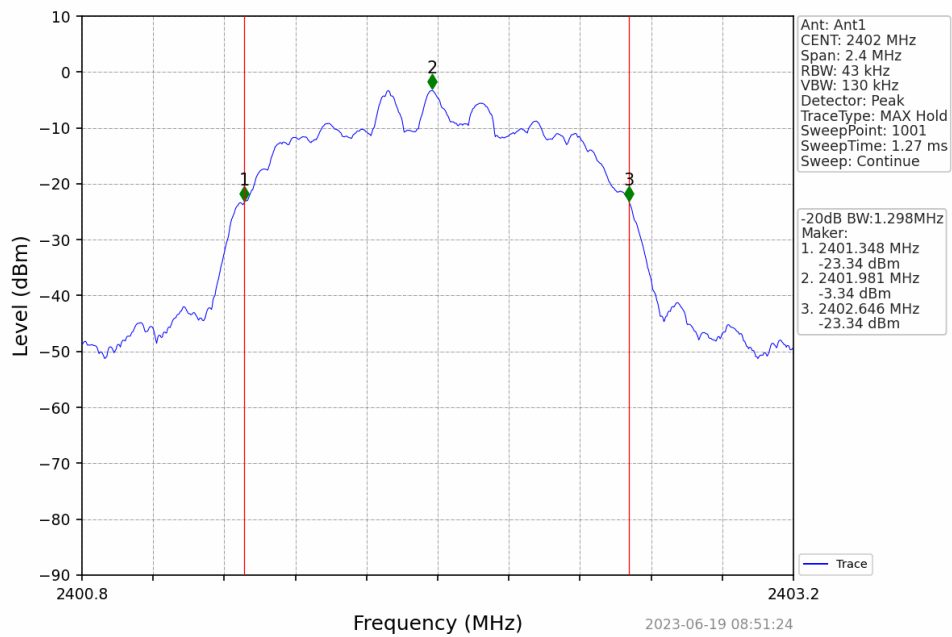
GFSK DH5 MCH 2441MHz Ant1 NTN



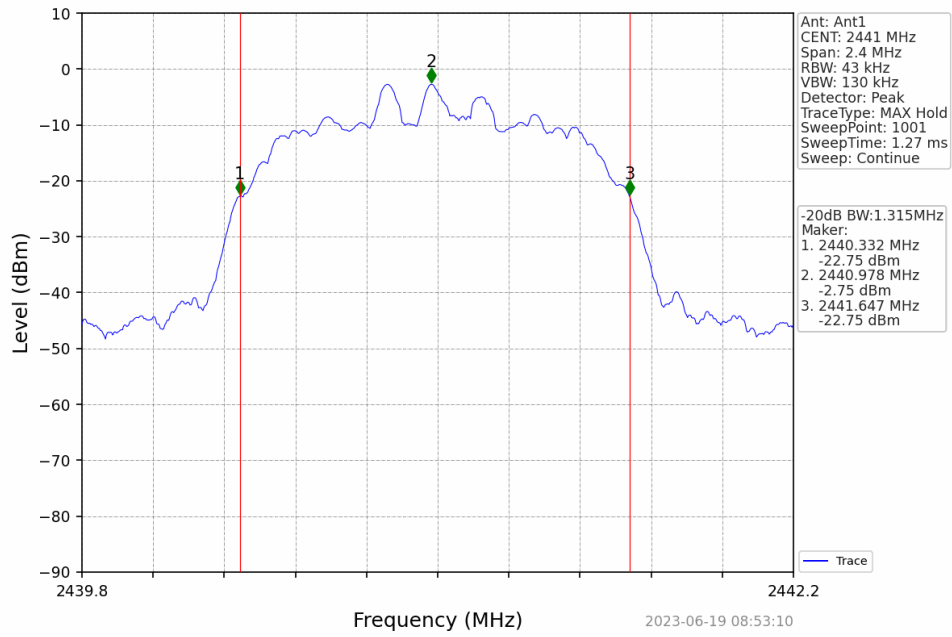
GFSK DH5 HCH 2480MHz Ant1 NTN



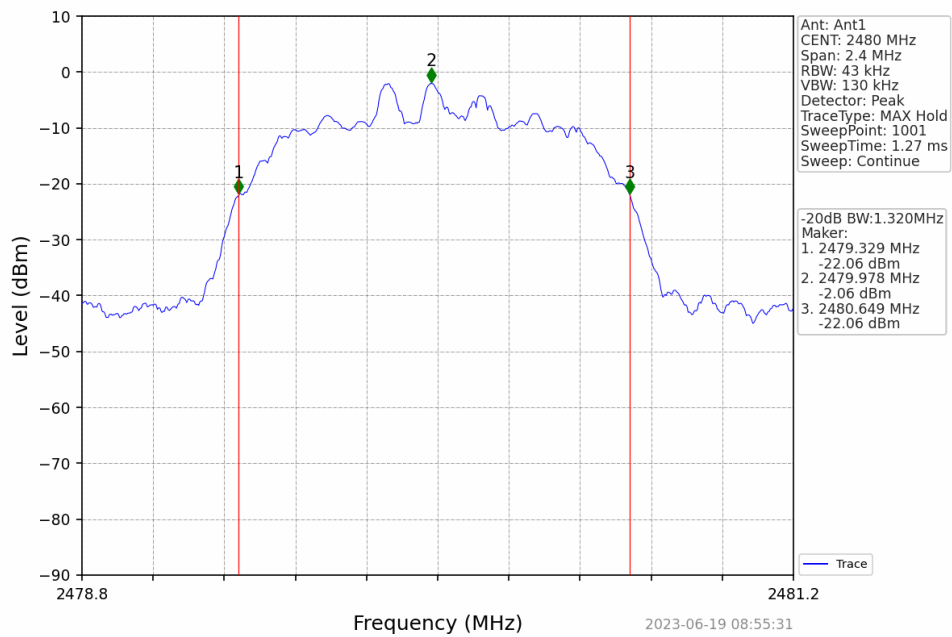
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN

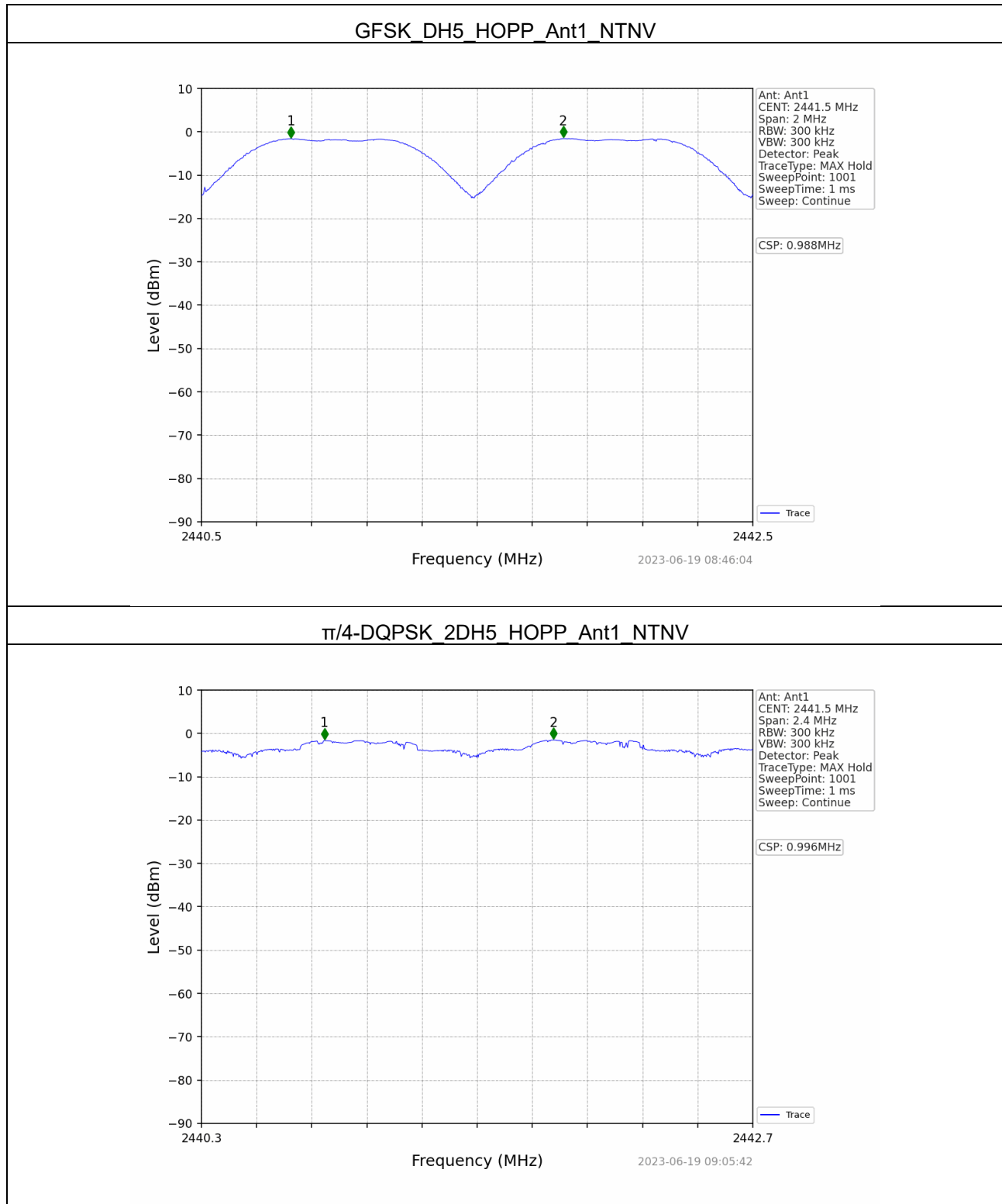


### 3 Carrier Frequency Separation

#### 3.1 Test Result

| Mode           | Channel. | Carrier Frequency Separation [MHz] | 20dB Bandwidth (MHz) | Limit [MHz]  | Verdict |
|----------------|----------|------------------------------------|----------------------|--------------|---------|
| GFSK           | MCH      | 0.988                              | 0.951                | $\geq 0.951$ | Pass    |
| $\pi/4$ -DQPSK | MCH      | 0.996                              | 1.320                | $\geq 0.88$  | Pass    |

### 3.2 Test Graphs





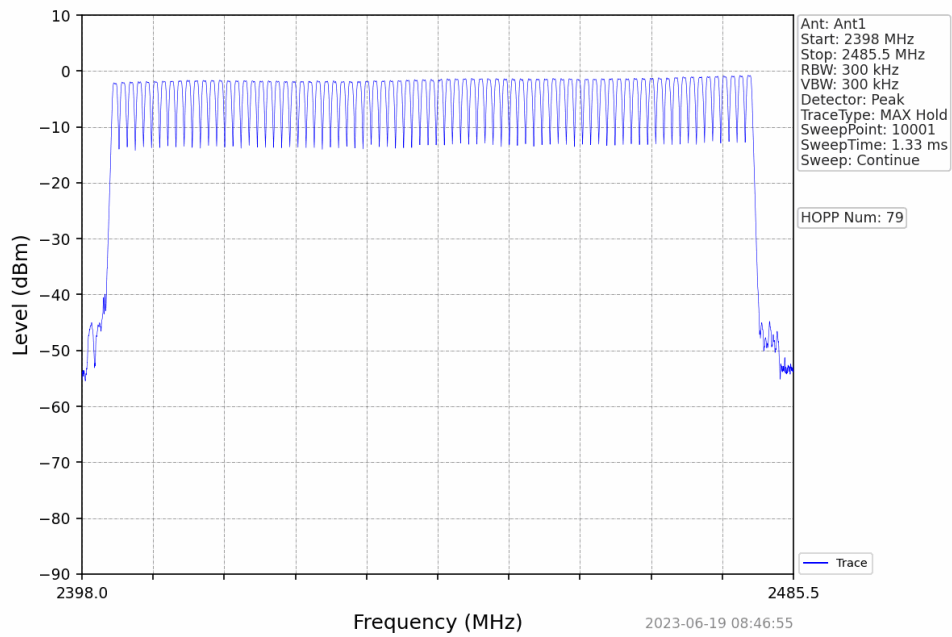
## 4 Hopping Channel Number

### 4.1 Test Result

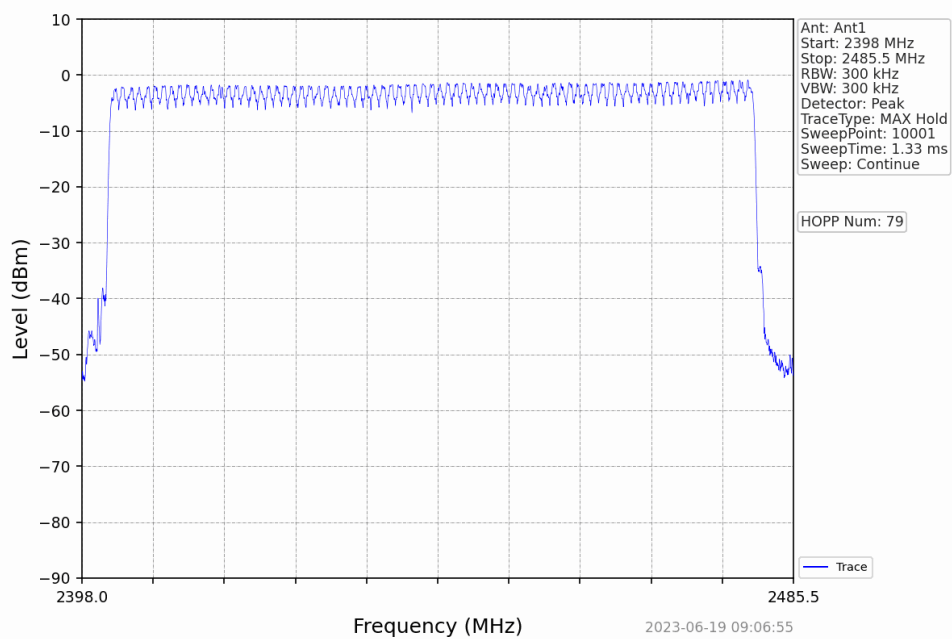
| Mode           | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|----------------|----------|-------------------------------|-----------|---------|
| GFSK           | Hop      | 79                            | $\geq 15$ | PASS    |
| $\pi/4$ -DQPSK | Hop      | 79                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

## 4.2 Test Graphs

GFSK\_DH5\_HOPP\_Ant1\_NTNV



$\pi/4$ -DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



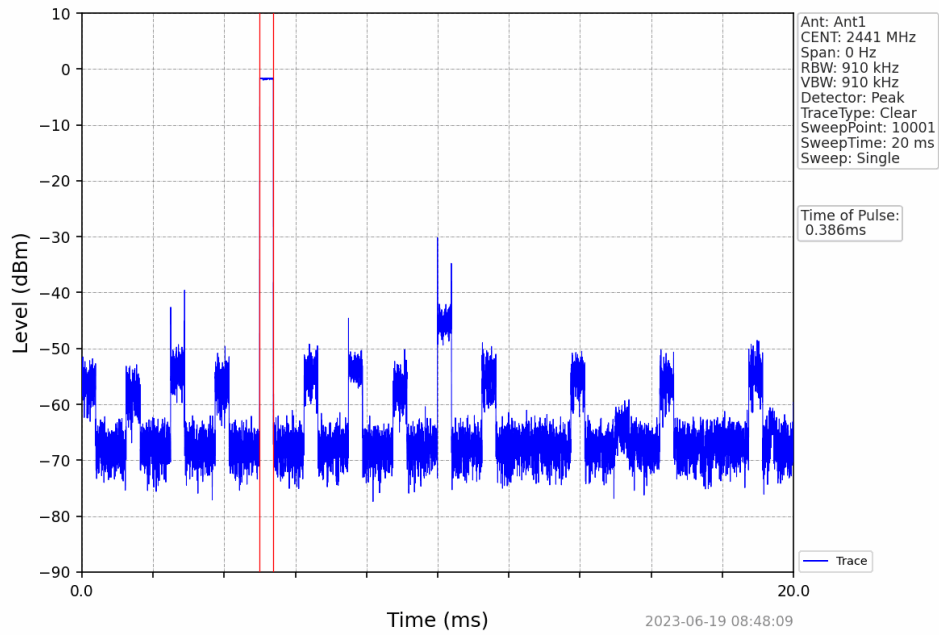
## 5 Dwell Time

### 5.1 Test Result

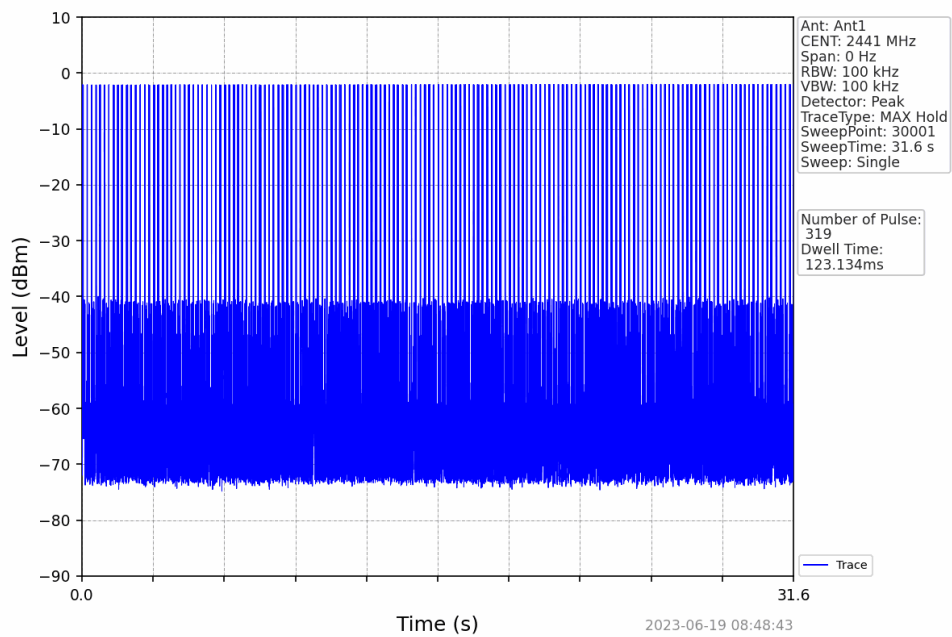
| Mode           | Packet | Channel | Duration of Single Pulse (ms) | Observation Period (s) | Num of Pulse in Observation Period | Dwell Time (ms) | Limit (ms) | Verdict |
|----------------|--------|---------|-------------------------------|------------------------|------------------------------------|-----------------|------------|---------|
| GFSK           | DH5    | LCH     | 0.386                         | 31.600                 | 319                                | 123.134         | <=400      | Pass    |
|                |        | MCH     | 1.642                         | 31.600                 | 155                                | 254.510         | <=400      | Pass    |
|                |        | HCH     | 2.892                         | 31.600                 | 116                                | 335.472         | <=400      | Pass    |
| $\pi/4$ -DQPSK | 2DH5   | LCH     | 0.398                         | 31.600                 | 320                                | 127.360         | <=400      | Pass    |
|                |        | MCH     | 1.648                         | 31.600                 | 166                                | 273.568         | <=400      | Pass    |
|                |        | HCH     | 2.898                         | 31.600                 | 91                                 | 263.718         | <=400      | Pass    |

## 5.2 Test Graphs

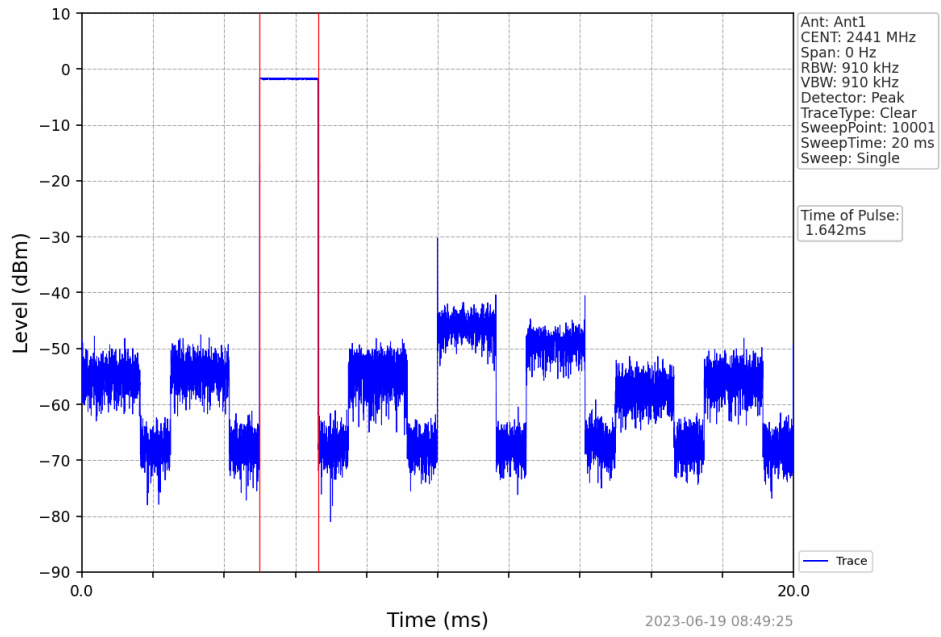
GFSK\_DH1\_HOPP\_Ant1\_NTNV



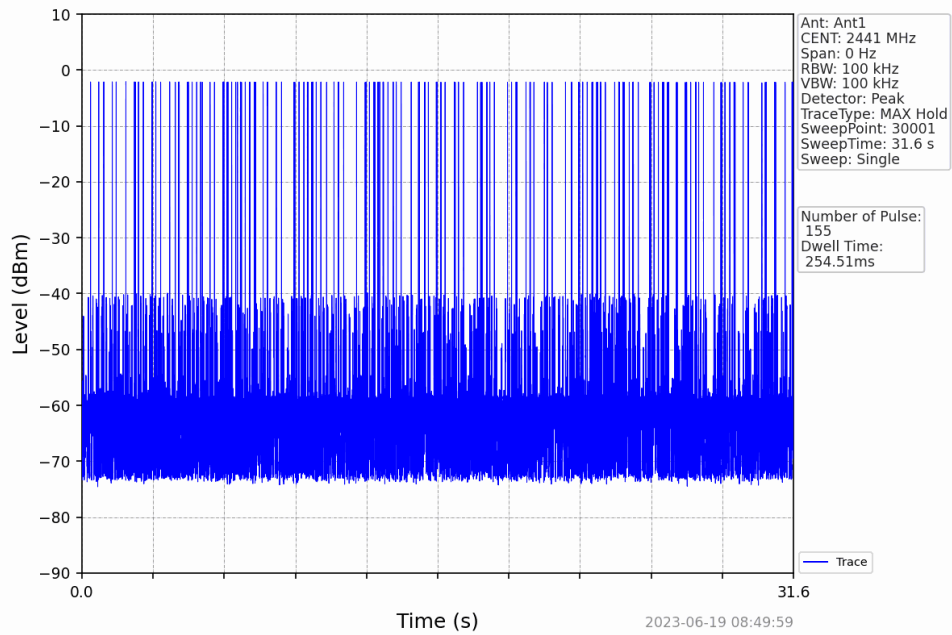
GFSK\_DH1\_HOPP\_Ant1\_NTNV



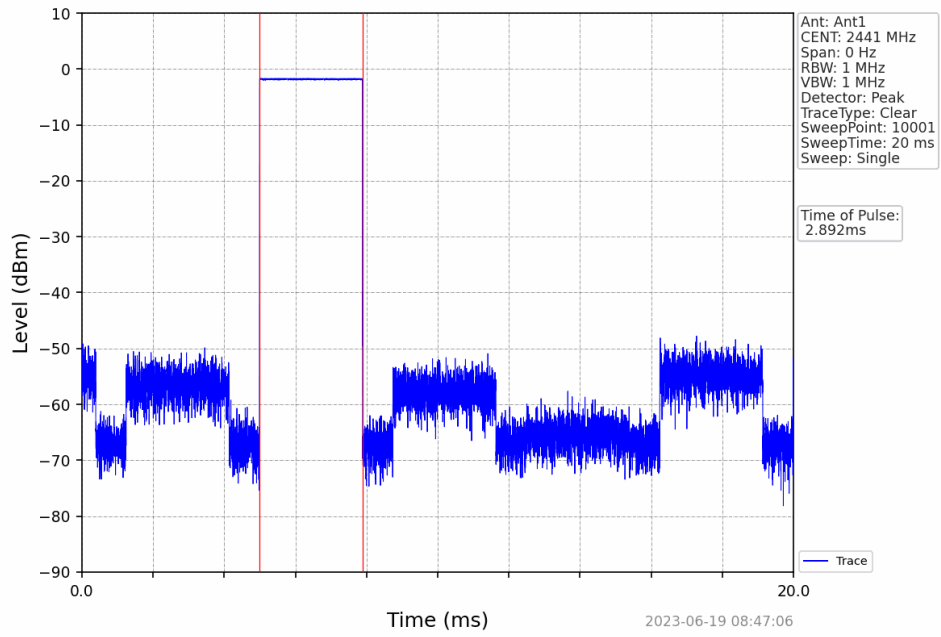
### GFSK DH3 HOPP Ant1 NTN



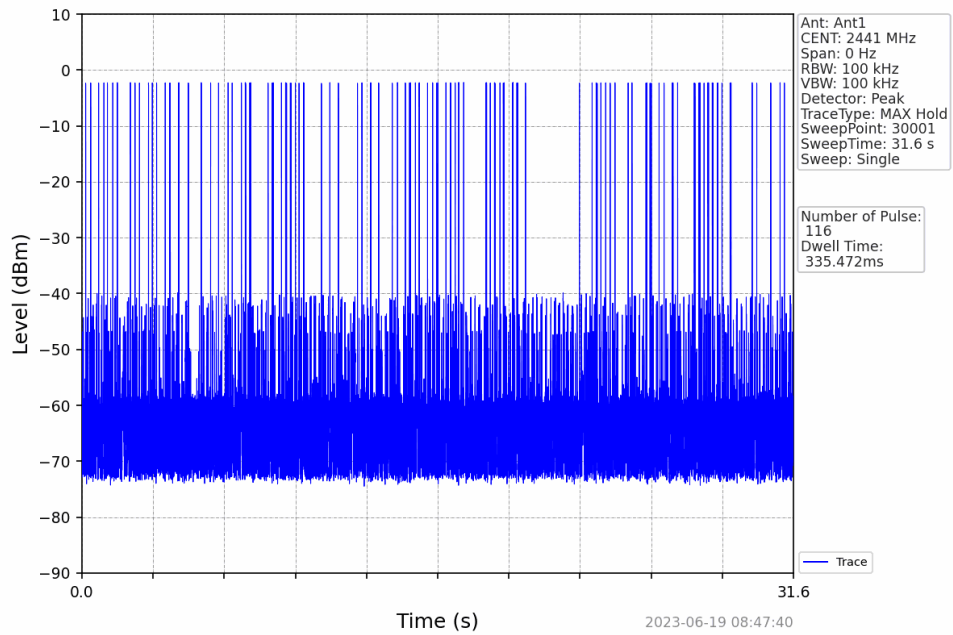
### GFSK DH3 HOPP Ant1 NTN



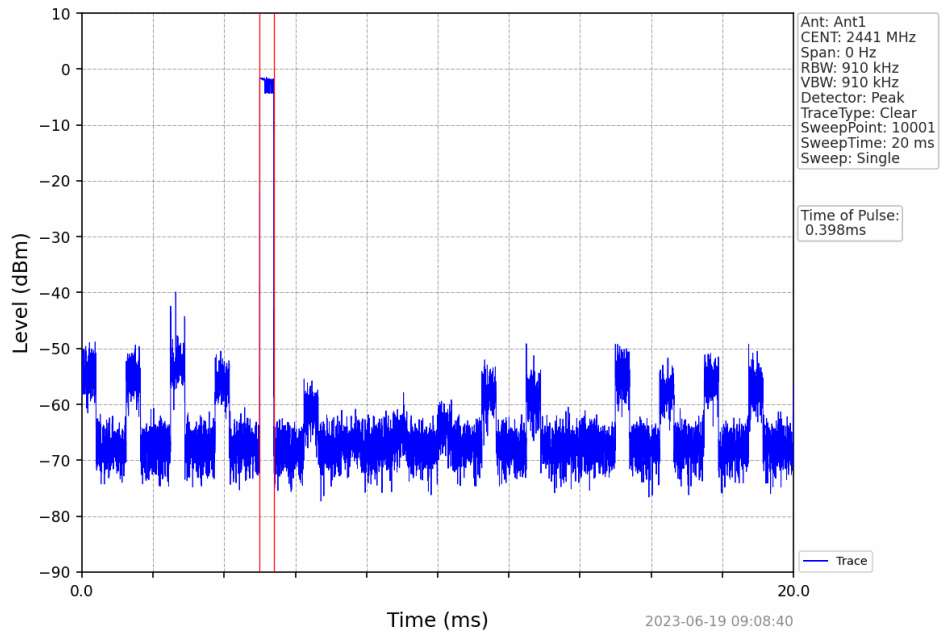
### GFSK DH5 HOPP\_Ant1 NTN



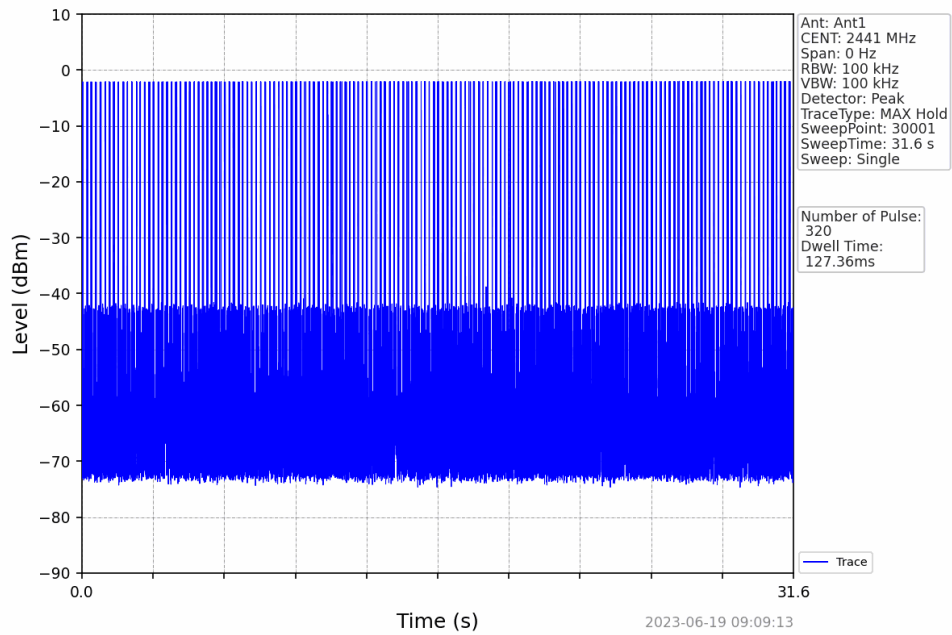
### GFSK DH5 HOPP\_Ant1 NTN



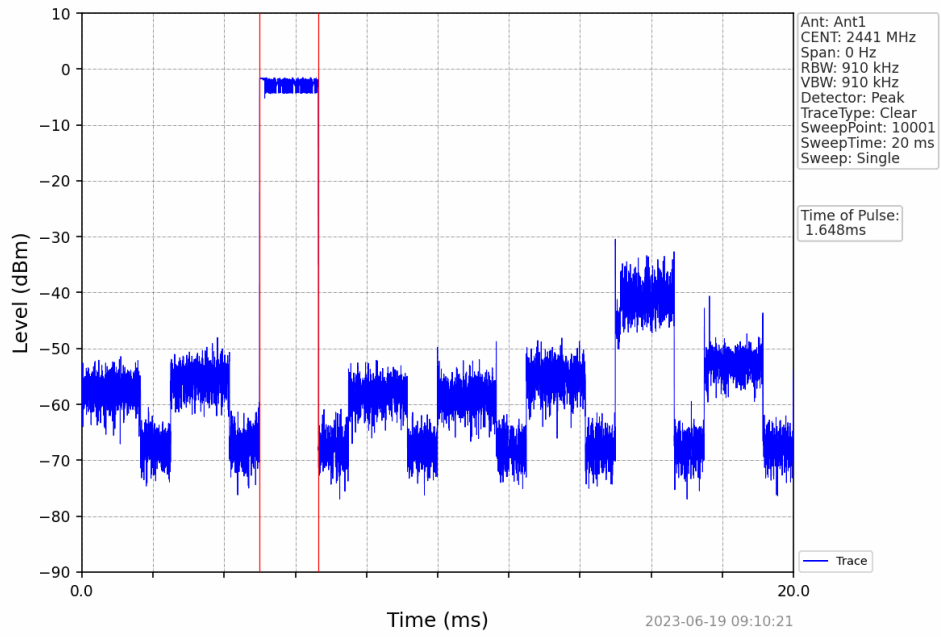
$\pi/4$ -DQPSK 2DH1\_HOPP\_Ant1\_NTNV



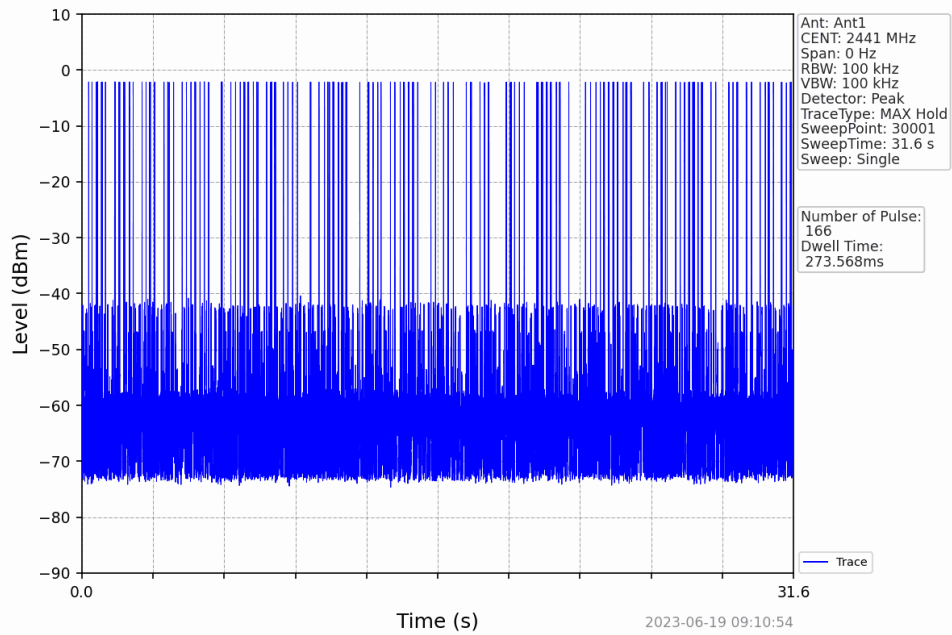
$\pi/4$ -DQPSK 2DH1\_HOPP\_Ant1\_NTNV



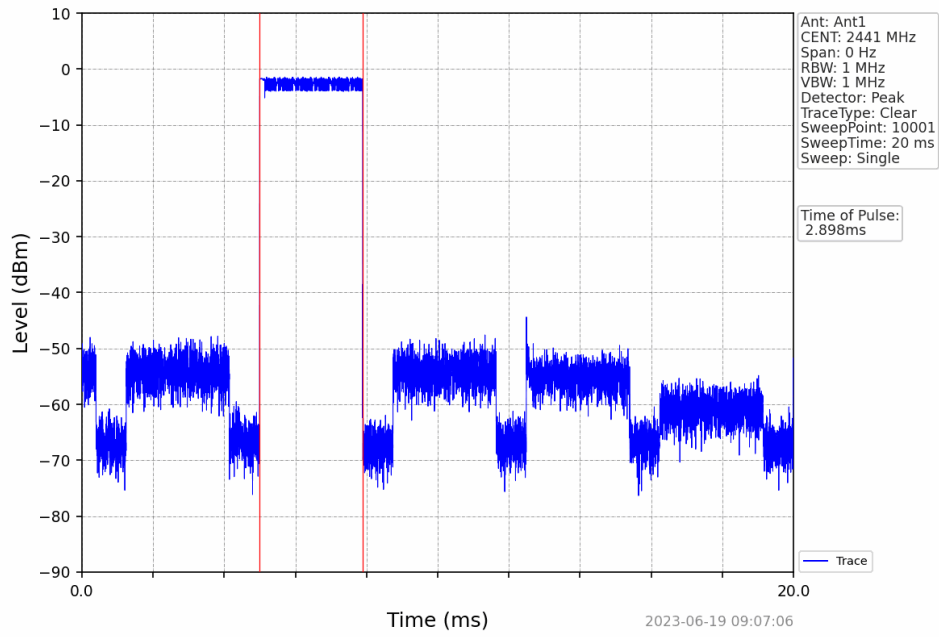
$\pi/4$ -DQPSK 2DH3\_HOPP\_Ant1\_NTNV



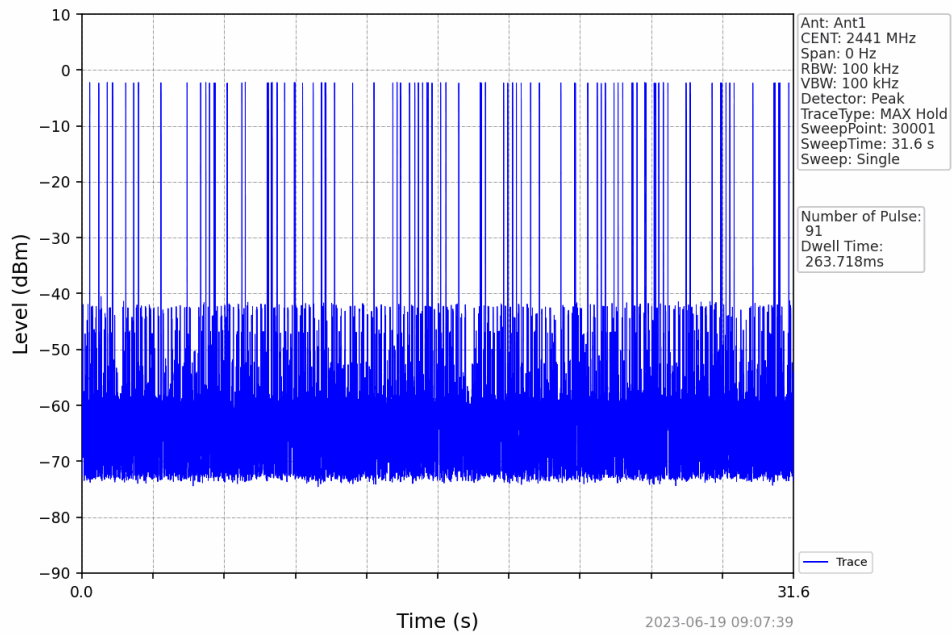
$\pi/4$ -DQPSK 2DH3\_HOPP\_Ant1\_NTNV



$\pi/4$ -DQPSK 2DH5\_HOPP\_Ant1\_NTNV



$\pi/4$ -DQPSK 2DH5\_HOPP\_Ant1\_NTNV



## 6 Conducted Spurious Emissions and Band Edges Test

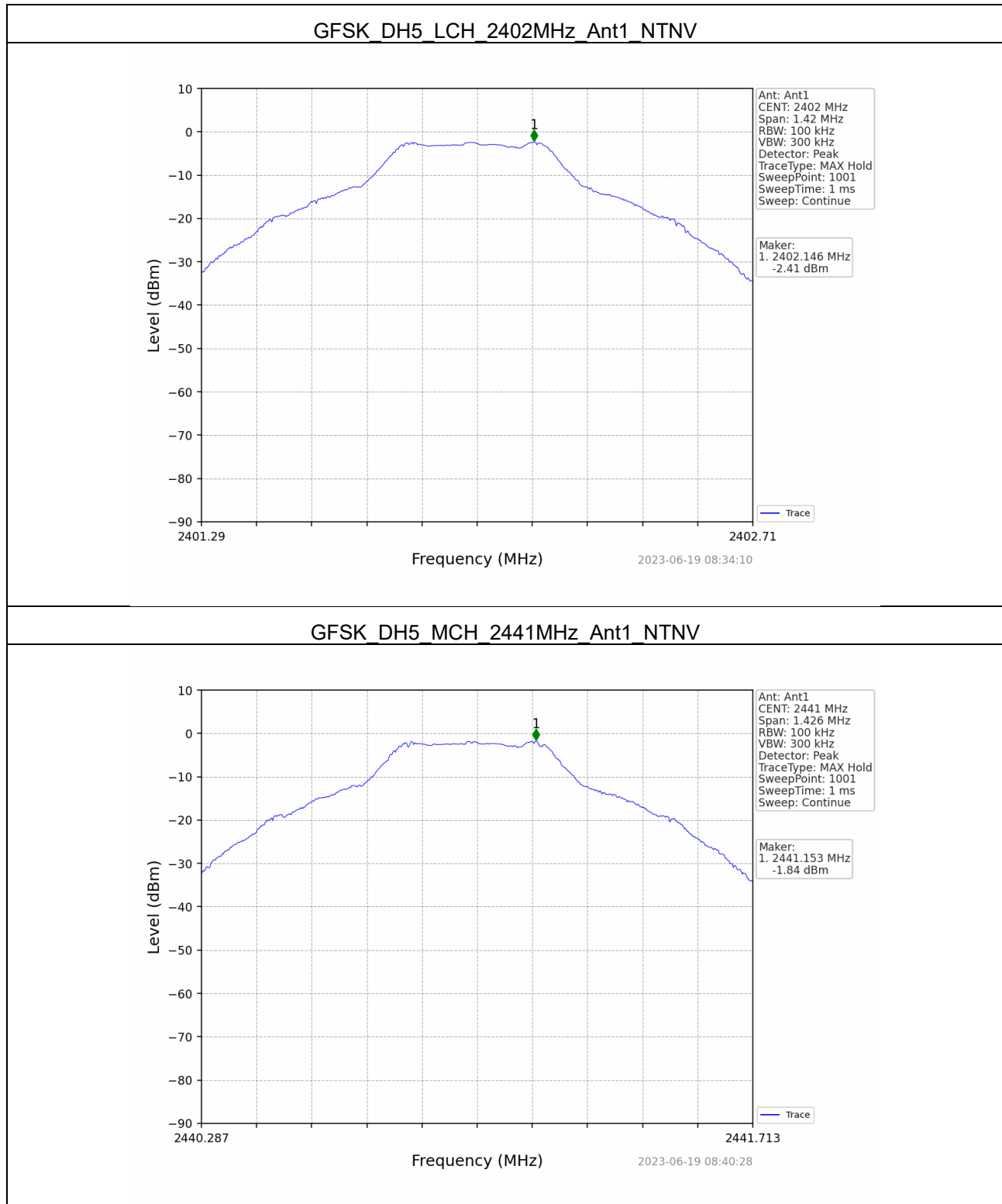
### 6.1 Test Result

| Mode           | Channel | Max. Level [dBc] | Limit [dBc] | Verdict |
|----------------|---------|------------------|-------------|---------|
| GFSK           | LCH     | -2.41            | -20         | Pass    |
|                | MCH     | -1.84            | -20         | Pass    |
|                | HCH     | -1.10            | -20         | Pass    |
| $\pi/4$ -DQPSK | LCH     | -2.32            | -20         | Pass    |
|                | MCH     | -1.71            | -20         | Pass    |
|                | HCH     | -0.97            | -20         | Pass    |

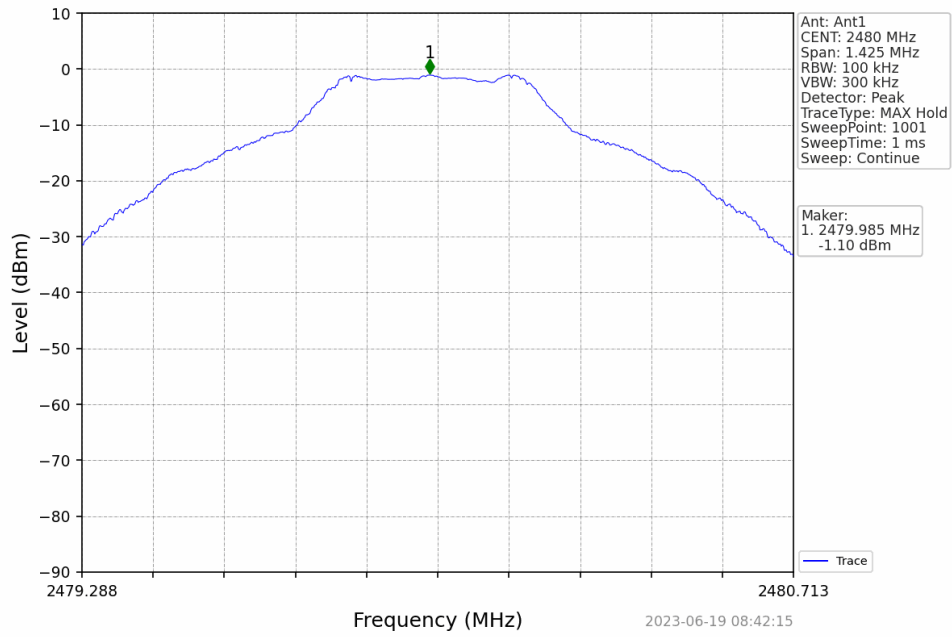
| Mode           | Frequency (MHz) | Packet Type | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|----------------|-----------------|-------------|-----|--------------------------|-------------|---------|
| GFSK           | 2402            | DH5         | 1   | -1.10                    | -21.10      | Pass    |
|                | 2441            | DH5         | 1   | -1.10                    | -21.10      | Pass    |
|                | 2480            | DH5         | 1   | -1.10                    | -21.10      | Pass    |
|                | HOPP            | DH5         | 1   | -1.10                    | -21.10      | Pass    |
| $\pi/4$ -DQPSK | 2402            | 2DH5        | 1   | -0.97                    | -20.97      | Pass    |
|                | 2441            | 2DH5        | 1   | -0.97                    | -20.97      | Pass    |
|                | 2480            | 2DH5        | 1   | -0.97                    | -20.97      | Pass    |
|                | HOPP            | 2DH5        | 1   | -0.97                    | -20.97      | 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.

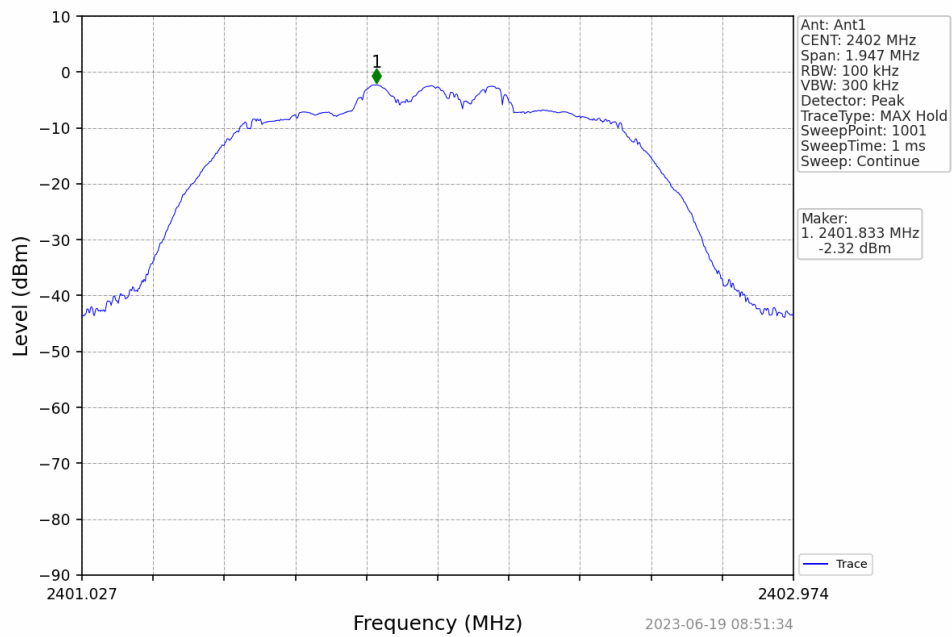
## 6.2 Test Graphs



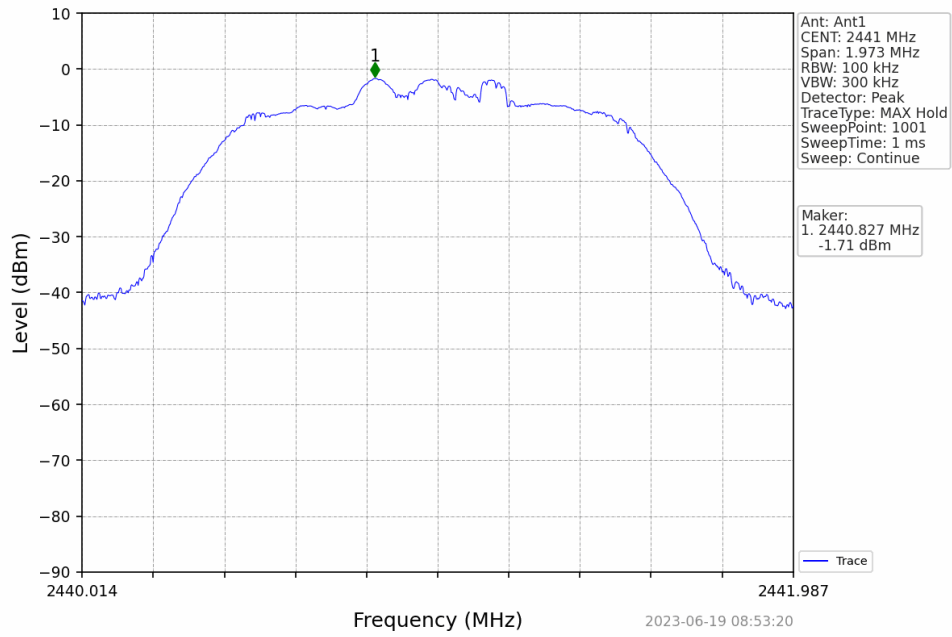
GFSK DH5 HCH 2480MHz Ant1 NTN



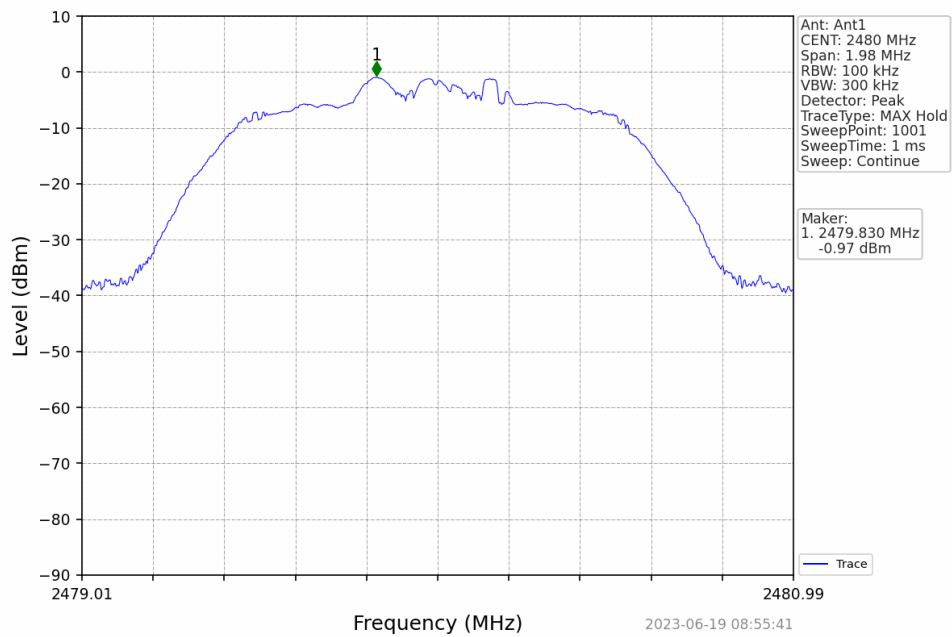
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN

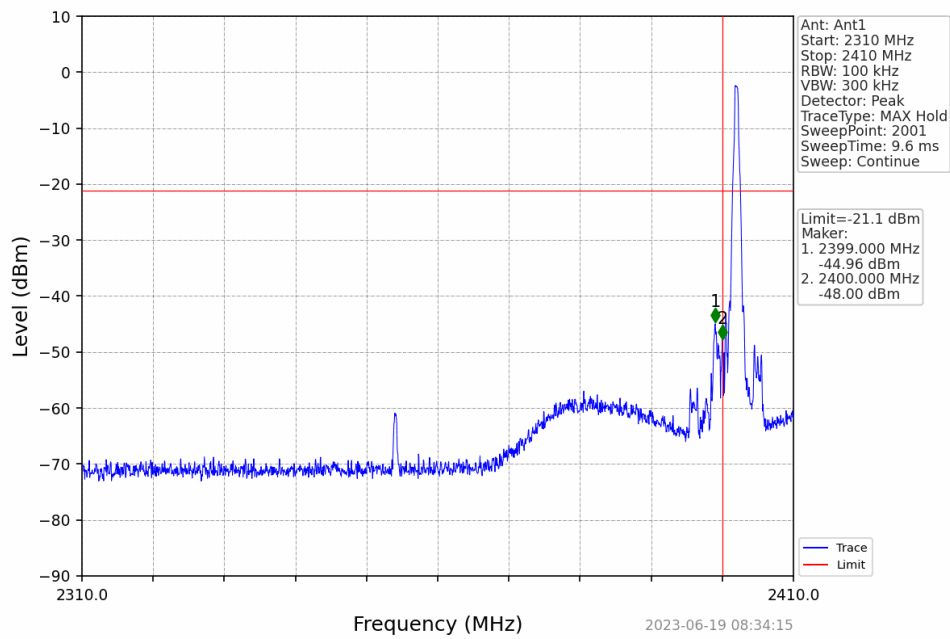


$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN

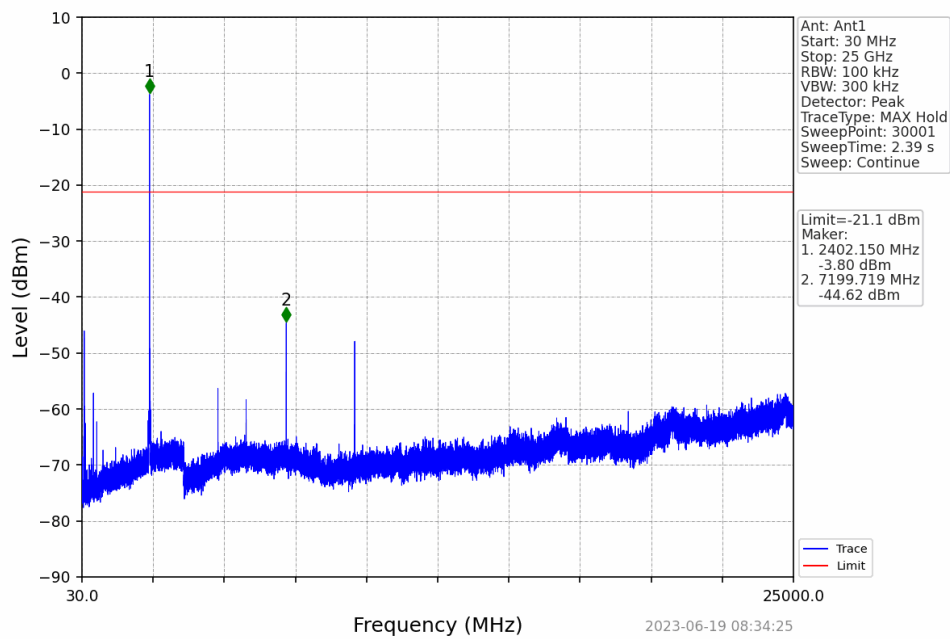


CSE

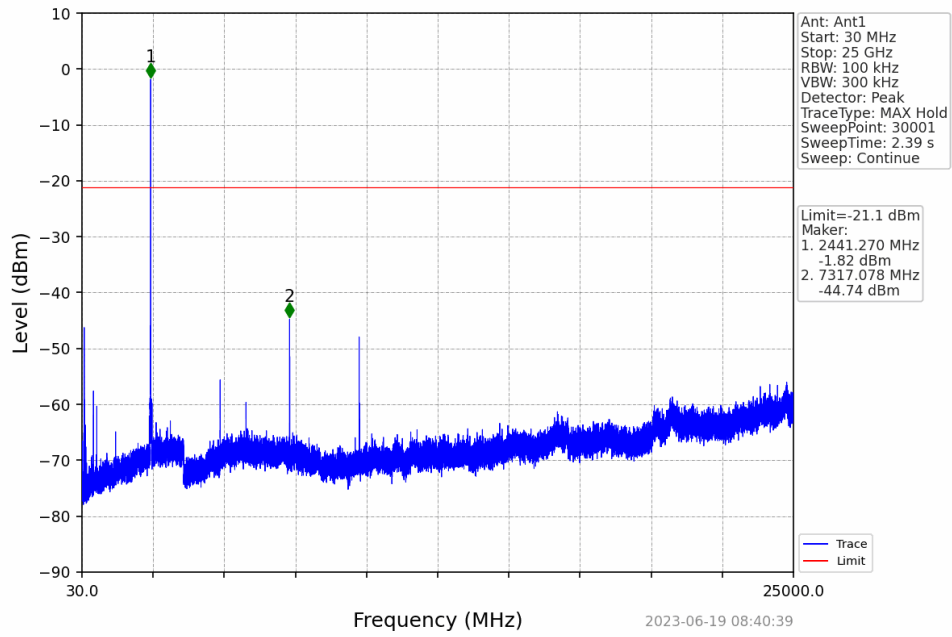
### GFSK\_DH5\_LCH\_2402MHz\_Ant1\_NTNV



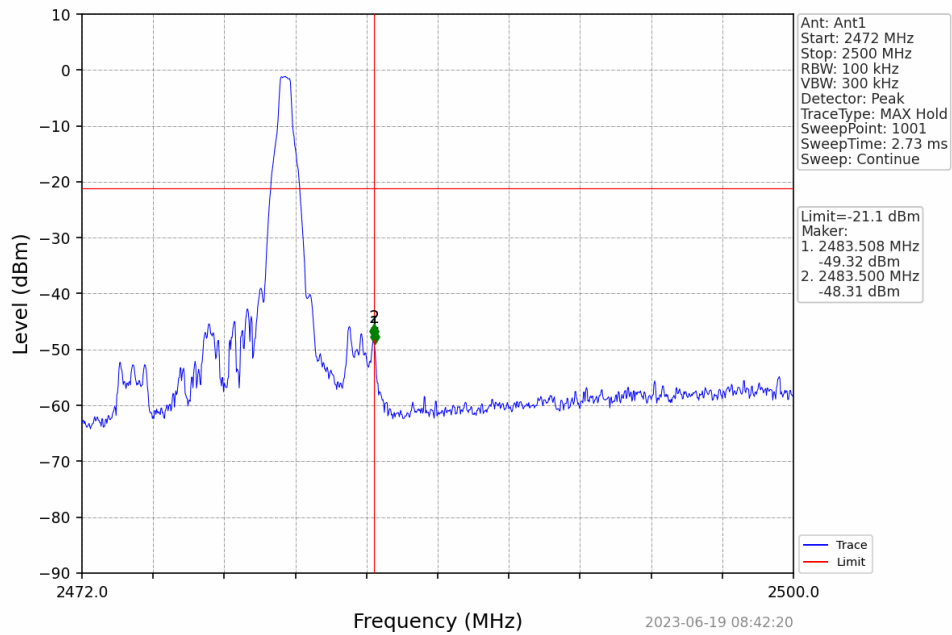
### GFSK\_DH5\_LCH\_2402MHz\_Ant1\_NTNV



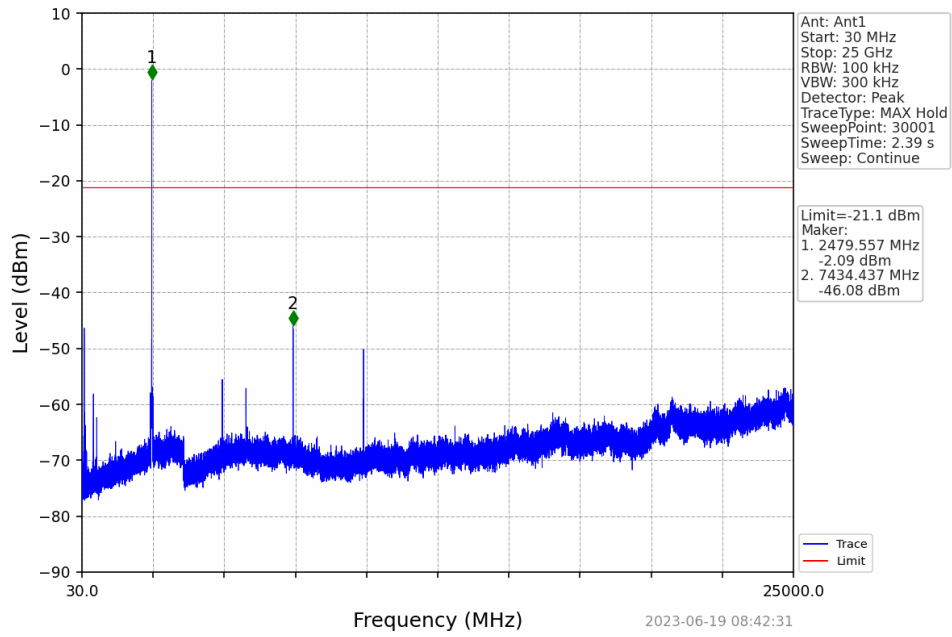
GFSK DH5 MCH 2441MHz Ant1 NTN



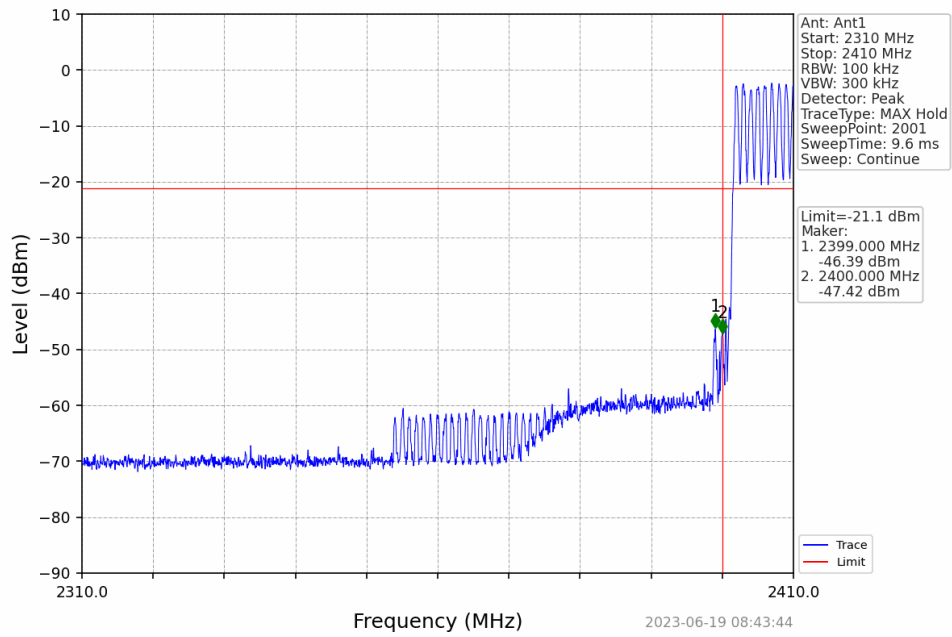
GFSK DH5 HCH 2480MHz Ant1 NTN



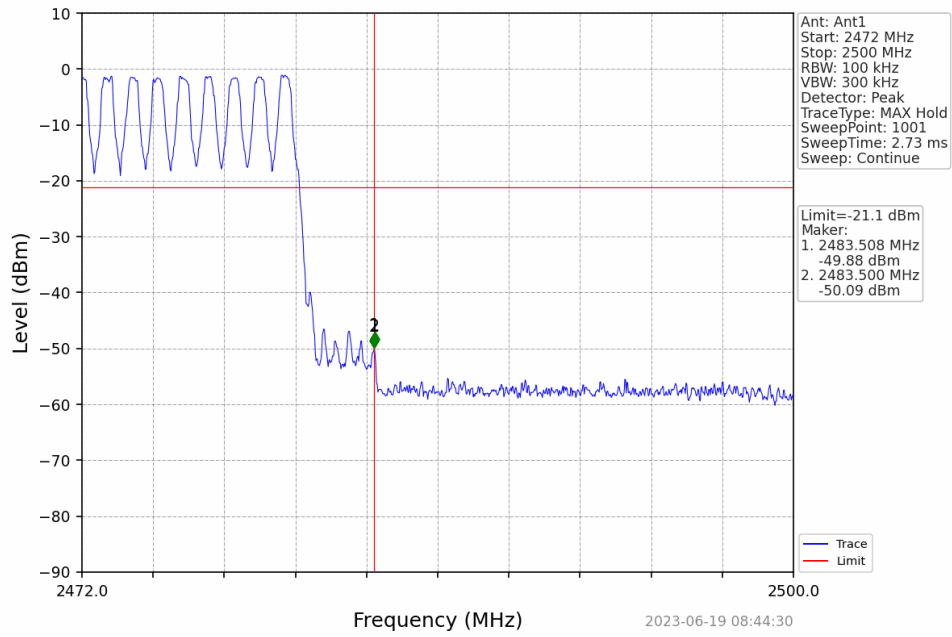
### GFSK DH5 HCH\_2480MHz\_Ant1\_NTNV



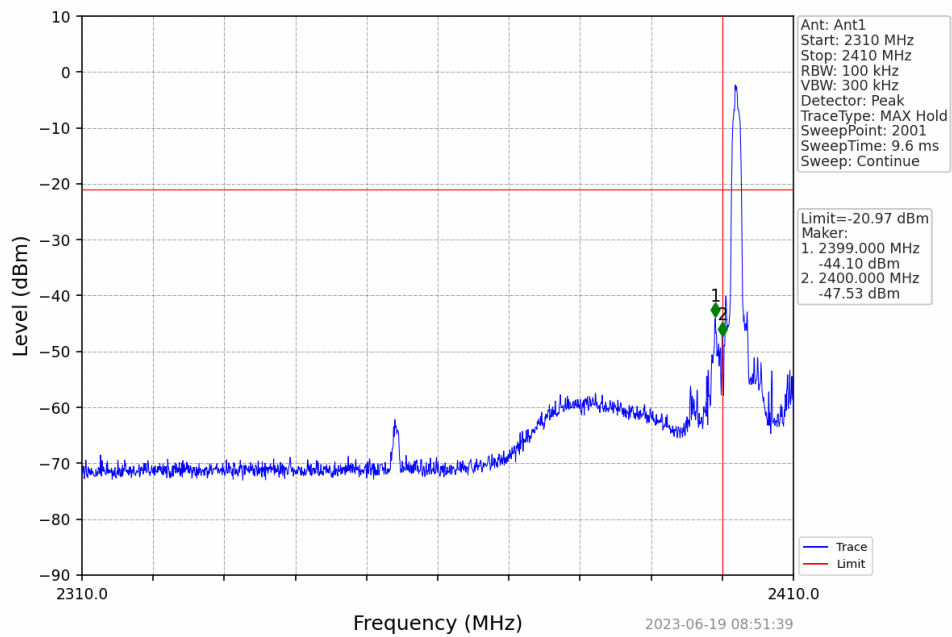
### GFSK DH5 HOPP\_Ant1\_NTNV



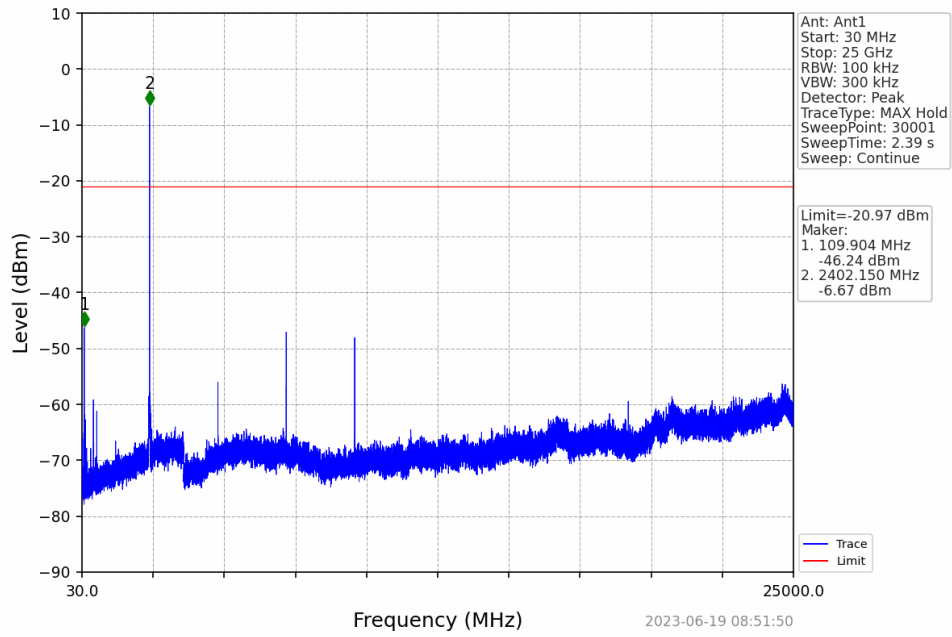
### GFSK DH5\_HOPP\_Ant1\_NTNV



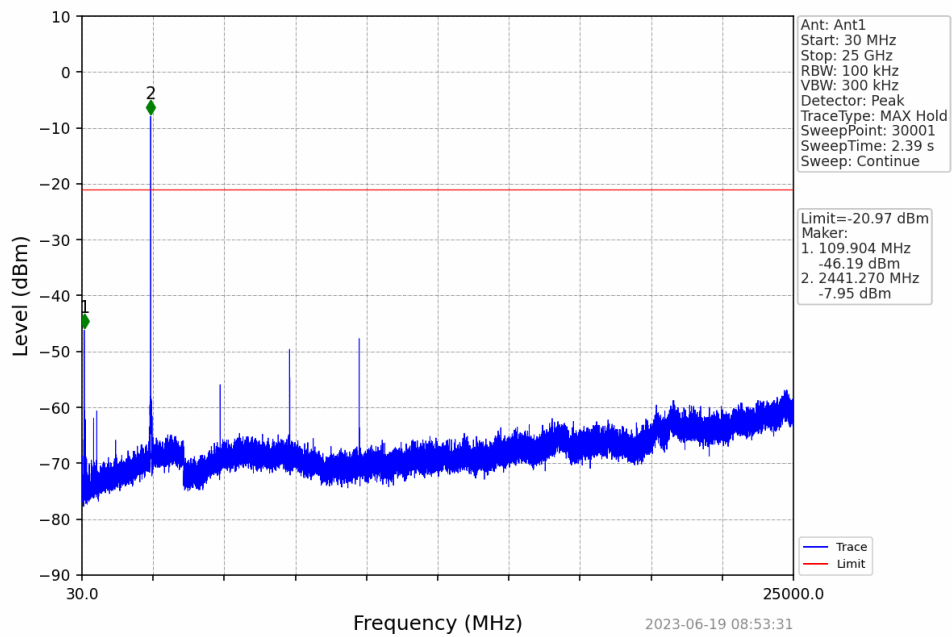
### $\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



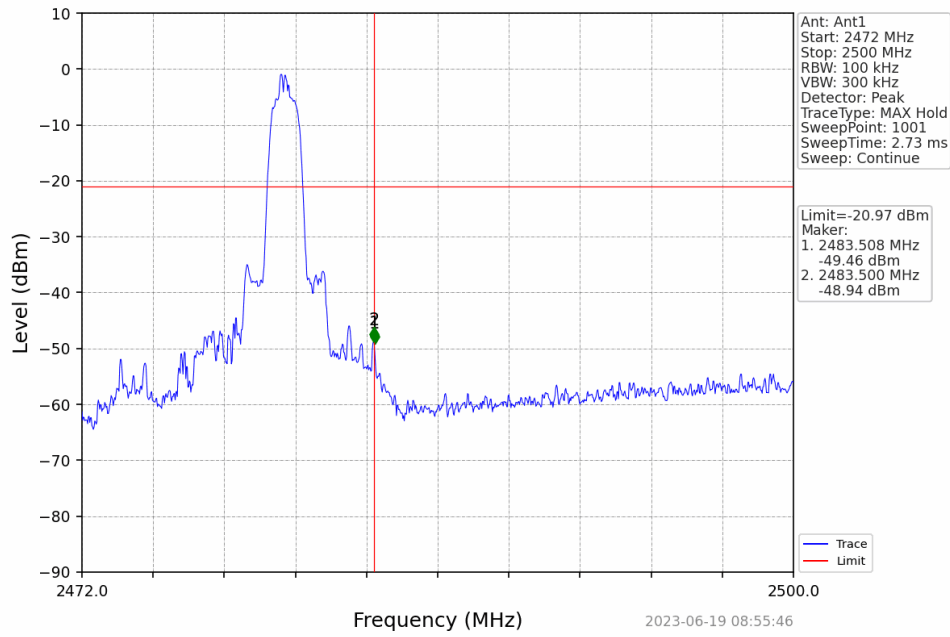
$\pi/4$ -DQPSK 2DH5 LCH 2402MHz Ant1 NTN



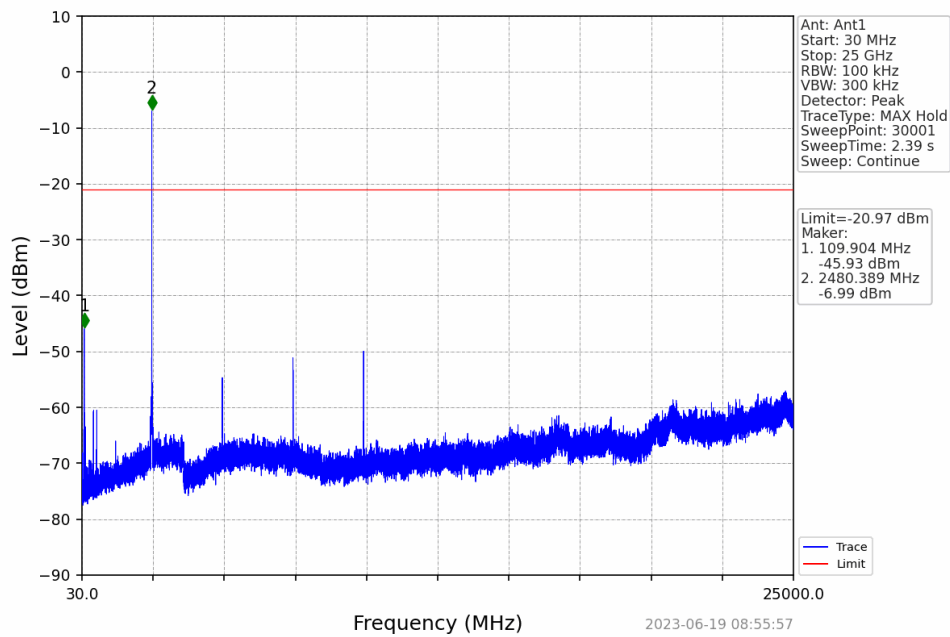
$\pi/4$ -DQPSK 2DH5 MCH 2441MHz Ant1 NTN



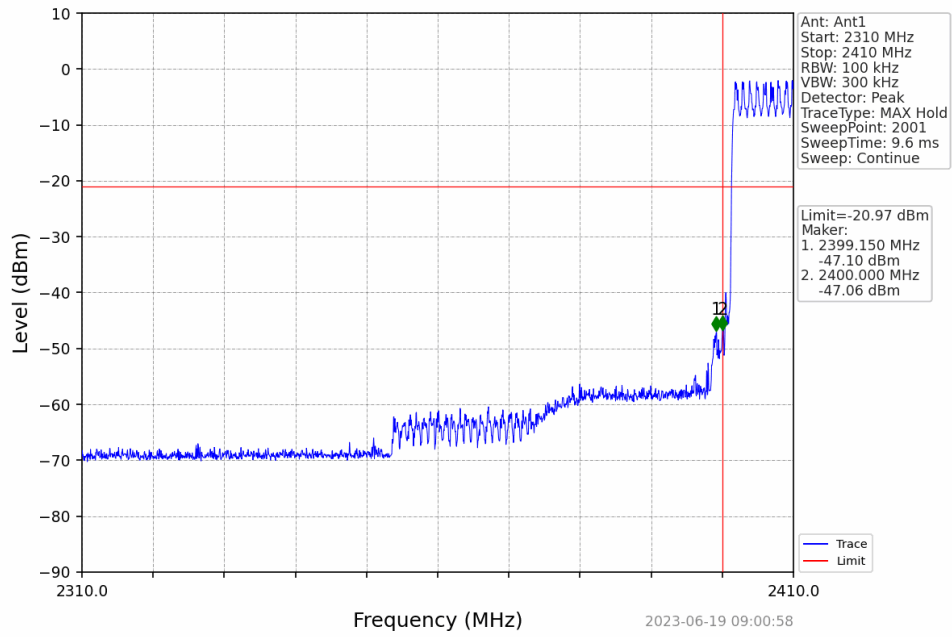
$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN



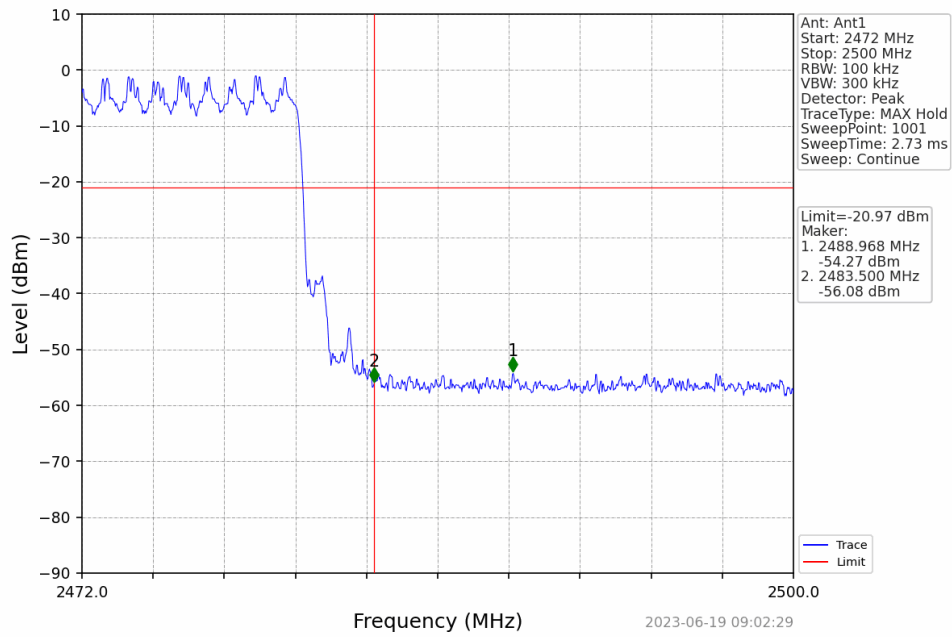
$\pi/4$ -DQPSK 2DH5 HCH 2480MHz Ant1 NTN



$\pi/4$ -DQPSK 2DH5\_HOPP\_Ant1\_NTNV



$\pi/4$ -DQPSK 2DH5\_HOPP\_Ant1\_NTNV



## 7 Restrict-band Band-edge Test

### 7.1 Test Result

| Test Mode: GFKS       |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
|-----------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------|----------------------|--------|
| Pol.                  | Frequen<br>cy<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type | Result |
| Low Channel: 2402MHz  |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
| H                     | 2390.00                | 45.94                      | 29.15                     | 3.41                  | 34.01                       | 44.49                         | 74.00                 | -29.51         | PK                   | PASS   |
| H                     | 2400.00                | 63.16                      | 29.16                     | 3.43                  | 34.01                       | 61.74                         | 74.00                 | -12.26         | PK                   | PASS   |
| V                     | 2390.00                | 46.78                      | 29.15                     | 3.41                  | 34.01                       | 45.33                         | 74.00                 | -28.67         | PK                   | PASS   |
| V                     | 2400.00                | 65.53                      | 29.16                     | 3.43                  | 34.01                       | 64.11                         | 74.00                 | -9.89          | PK                   | PASS   |
| H                     | 2390.00                | 35.80                      | 29.15                     | 3.41                  | 34.01                       | 34.35                         | 54.00                 | -19.65         | AV                   | PASS   |
| H                     | 2400.00                | 47.22                      | 29.16                     | 3.43                  | 34.01                       | 45.80                         | 54.00                 | -8.20          | AV                   | PASS   |
| V                     | 2390.00                | 35.96                      | 29.15                     | 3.41                  | 34.01                       | 34.51                         | 54.00                 | -19.49         | AV                   | PASS   |
| V                     | 2400.00                | 49.16                      | 29.16                     | 3.43                  | 34.01                       | 47.74                         | 54.00                 | -6.26          | AV                   | PASS   |
| High Channel: 2480MHz |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
| H                     | 2483.50                | 48.41                      | 29.28                     | 3.53                  | 34.03                       | 47.19                         | 74.00                 | -26.81         | PK                   | PASS   |
| H                     | 2500.00                | 47.00                      | 29.30                     | 3.56                  | 34.03                       | 45.83                         | 74.00                 | -28.17         | PK                   | PASS   |
| V                     | 2483.50                | 49.76                      | 29.28                     | 3.53                  | 34.03                       | 48.54                         | 74.00                 | -25.46         | PK                   | PASS   |
| V                     | 2500.00                | 48.29                      | 29.30                     | 3.56                  | 34.03                       | 47.12                         | 74.00                 | -26.88         | PK                   | PASS   |
| H                     | 2483.50                | 38.66                      | 29.28                     | 3.53                  | 34.03                       | 37.44                         | 54.00                 | -16.56         | AV                   | PASS   |
| H                     | 2500.00                | 36.23                      | 29.30                     | 3.56                  | 34.03                       | 35.06                         | 54.00                 | -18.94         | AV                   | PASS   |
| V                     | 2483.50                | 40.13                      | 29.28                     | 3.53                  | 34.03                       | 38.91                         | 54.00                 | -15.09         | AV                   | PASS   |
| V                     | 2500.00                | 36.40                      | 29.30                     | 3.56                  | 34.03                       | 35.23                         | 54.00                 | -18.77         | AV                   | PASS   |

| Test Mode: $\pi/4$ -DQPSK |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
|---------------------------|------------------------|----------------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|-----------------------|----------------|----------------------|--------|
| Pol.                      | Frequen<br>cy<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB/m) | Emission<br>level<br>(dBuV/m) | Limit<br>(dBuV/<br>m) | Margin<br>(dB) | Detect<br>or<br>Type | Result |
| Low Channel: 2402MHz      |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
| H                         | 2390.00                | 45.89                      | 29.15                     | 3.41                  | 34.01                       | 44.44                         | 74.00                 | -29.56         | PK                   | PASS   |
| H                         | 2400.00                | 63.11                      | 29.16                     | 3.43                  | 34.01                       | 61.69                         | 74.00                 | -12.31         | PK                   | PASS   |
| V                         | 2390.00                | 46.72                      | 29.15                     | 3.41                  | 34.01                       | 45.27                         | 74.00                 | -28.73         | PK                   | PASS   |
| V                         | 2400.00                | 65.47                      | 29.16                     | 3.43                  | 34.01                       | 64.05                         | 74.00                 | -9.95          | PK                   | PASS   |
| H                         | 2390.00                | 35.76                      | 29.15                     | 3.41                  | 34.01                       | 34.31                         | 54.00                 | -19.69         | AV                   | PASS   |
| H                         | 2400.00                | 47.17                      | 29.16                     | 3.43                  | 34.01                       | 45.75                         | 54.00                 | -8.25          | AV                   | PASS   |
| V                         | 2390.00                | 35.92                      | 29.15                     | 3.41                  | 34.01                       | 34.47                         | 54.00                 | -19.53         | AV                   | PASS   |
| V                         | 2400.00                | 49.11                      | 29.16                     | 3.43                  | 34.01                       | 47.69                         | 54.00                 | -6.31          | AV                   | PASS   |
| High Channel: 2480MHz     |                        |                            |                           |                       |                             |                               |                       |                |                      |        |
| H                         | 2483.50                | 48.35                      | 29.28                     | 3.53                  | 34.03                       | 47.13                         | 74.00                 | -26.87         | PK                   | PASS   |
| H                         | 2500.00                | 46.95                      | 29.30                     | 3.56                  | 34.03                       | 45.78                         | 74.00                 | -28.22         | PK                   | PASS   |
| V                         | 2483.50                | 49.70                      | 29.28                     | 3.53                  | 34.03                       | 48.48                         | 74.00                 | -25.52         | PK                   | PASS   |
| V                         | 2500.00                | 48.24                      | 29.30                     | 3.56                  | 34.03                       | 47.07                         | 74.00                 | -26.93         | PK                   | PASS   |
| H                         | 2483.50                | 38.62                      | 29.28                     | 3.53                  | 34.03                       | 37.40                         | 54.00                 | -16.60         | AV                   | PASS   |
| H                         | 2500.00                | 36.19                      | 29.30                     | 3.56                  | 34.03                       | 35.02                         | 54.00                 | -18.98         | AV                   | PASS   |
| V                         | 2483.50                | 40.08                      | 29.28                     | 3.53                  | 34.03                       | 38.86                         | 54.00                 | -15.14         | AV                   | PASS   |
| V                         | 2500.00                | 36.37                      | 29.30                     | 3.56                  | 34.03                       | 35.20                         | 54.00                 | -18.80         | AV                   | PASS   |

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

.....End.....