

## **Appendix RF Test Data for BLE**

**Company:** : Shenzhen Putuo Technology Co., Ltd

**EUT** : Bluetooth watch

**FCC ID:** : 2BGX5-Q23PRO

**Model Number** : Q23Pro

**Report No.** : HTT2026041216F01

**Reviewed By** : Heber He

## 1. Duty Cycle

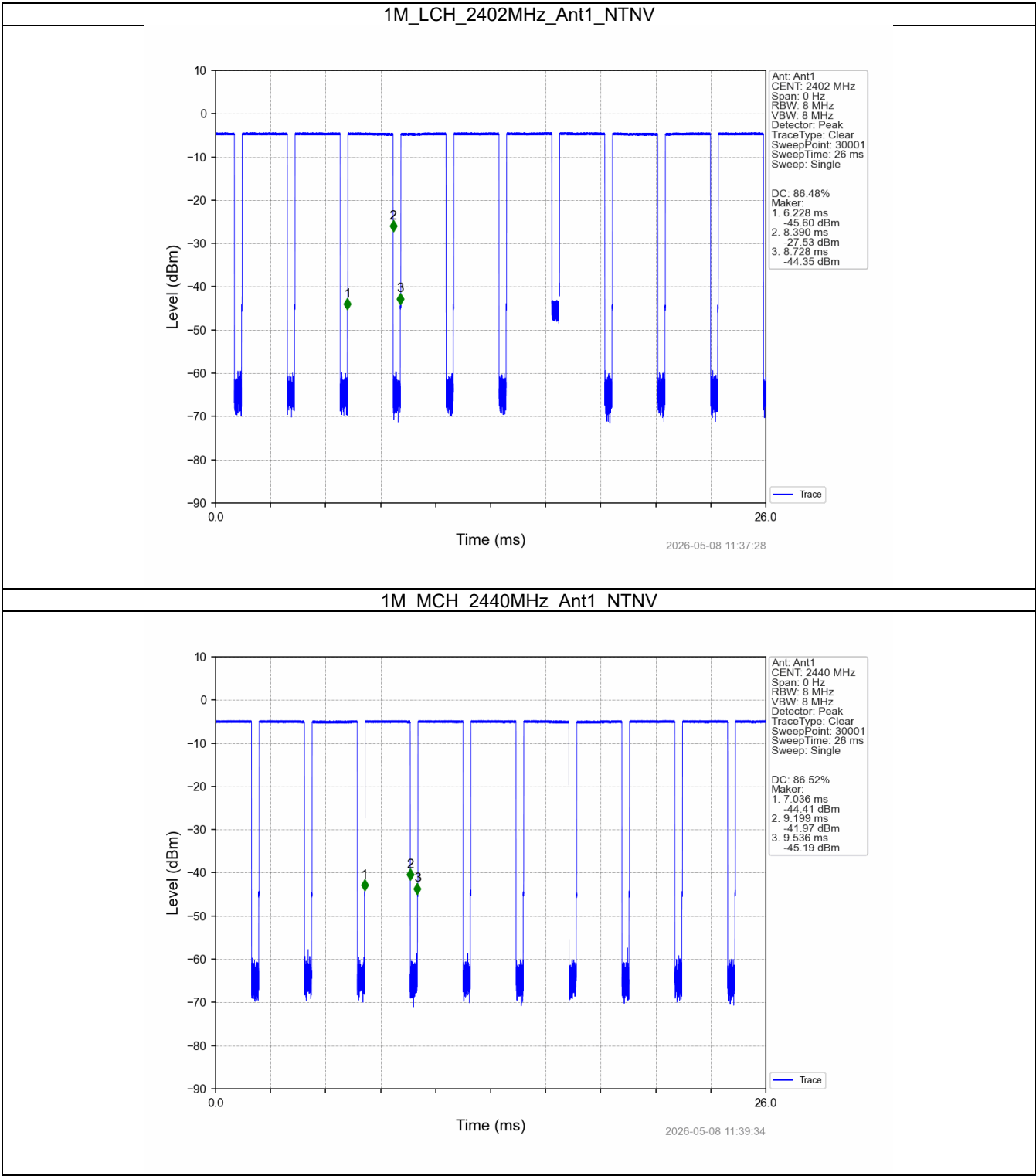
### 1.1 Test Result

#### 1.1.1 Ant1

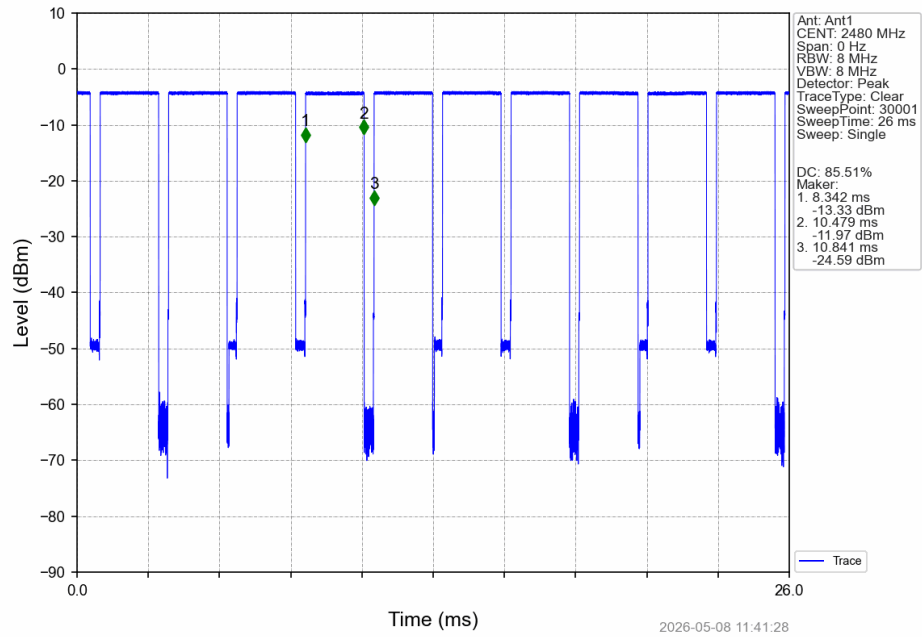
| Ant1 |         |                 |           |             |                |                                   |                       |
|------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 1M   | SISO    | 2402            | 2.162     | 2.500       | 86.48          | 0.63                              | 6.76                  |
|      |         | 2440            | 2.163     | 2.500       | 86.52          | 0.63                              | 0.00                  |
|      |         | 2480            | 2.137     | 2.499       | 85.51          | 0.68                              | 0.03                  |
| 2M   | SISO    | 2402            | 1.106     | 1.250       | 88.48          | 0.53                              | 0.03                  |
|      |         | 2440            | 1.107     | 1.250       | 88.56          | 0.53                              | 0.03                  |
|      |         | 2480            | 1.082     | 1.250       | 86.56          | 0.63                              | 0.04                  |

# 1.2 Test Graph

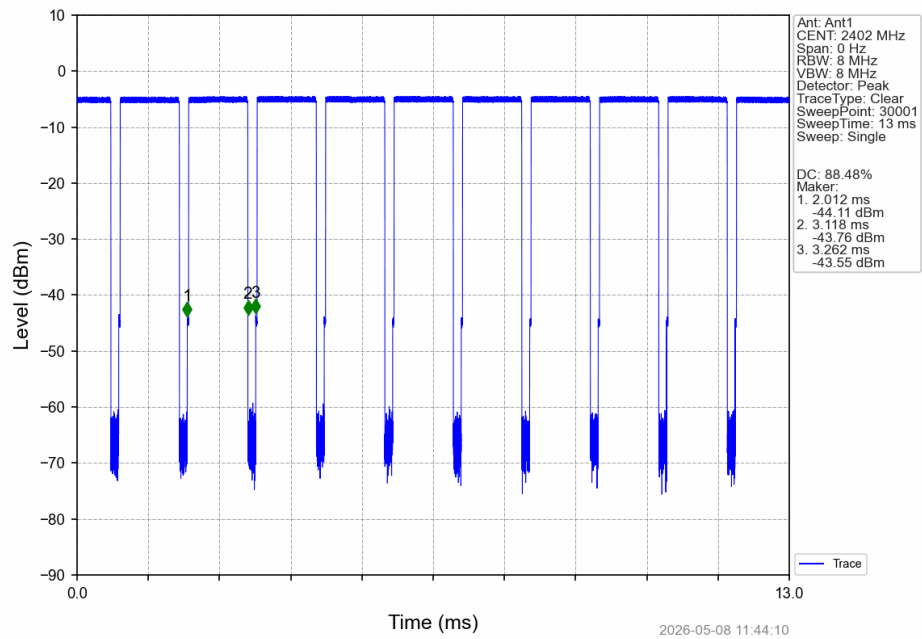
## 1.2.1 Ant1



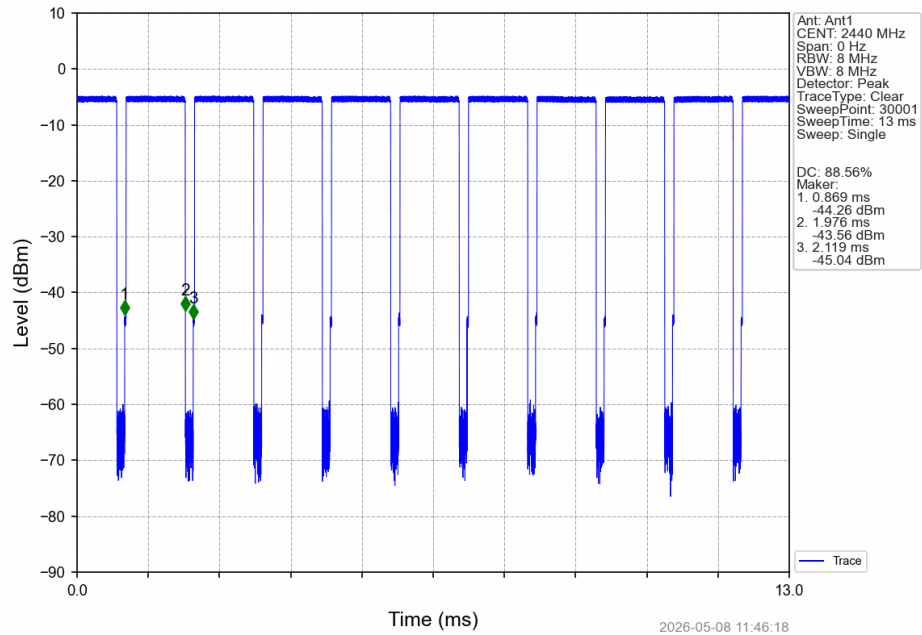
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



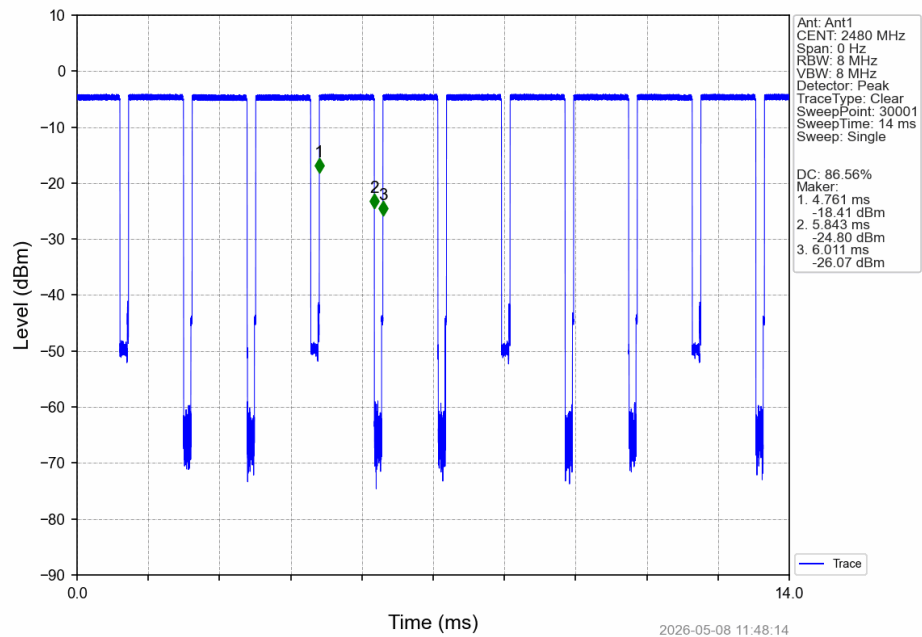
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



### 2M\_MCH\_2440MHz\_Ant1\_NTNV



### 2M\_HCH\_2480MHz\_Ant1\_NTNV



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

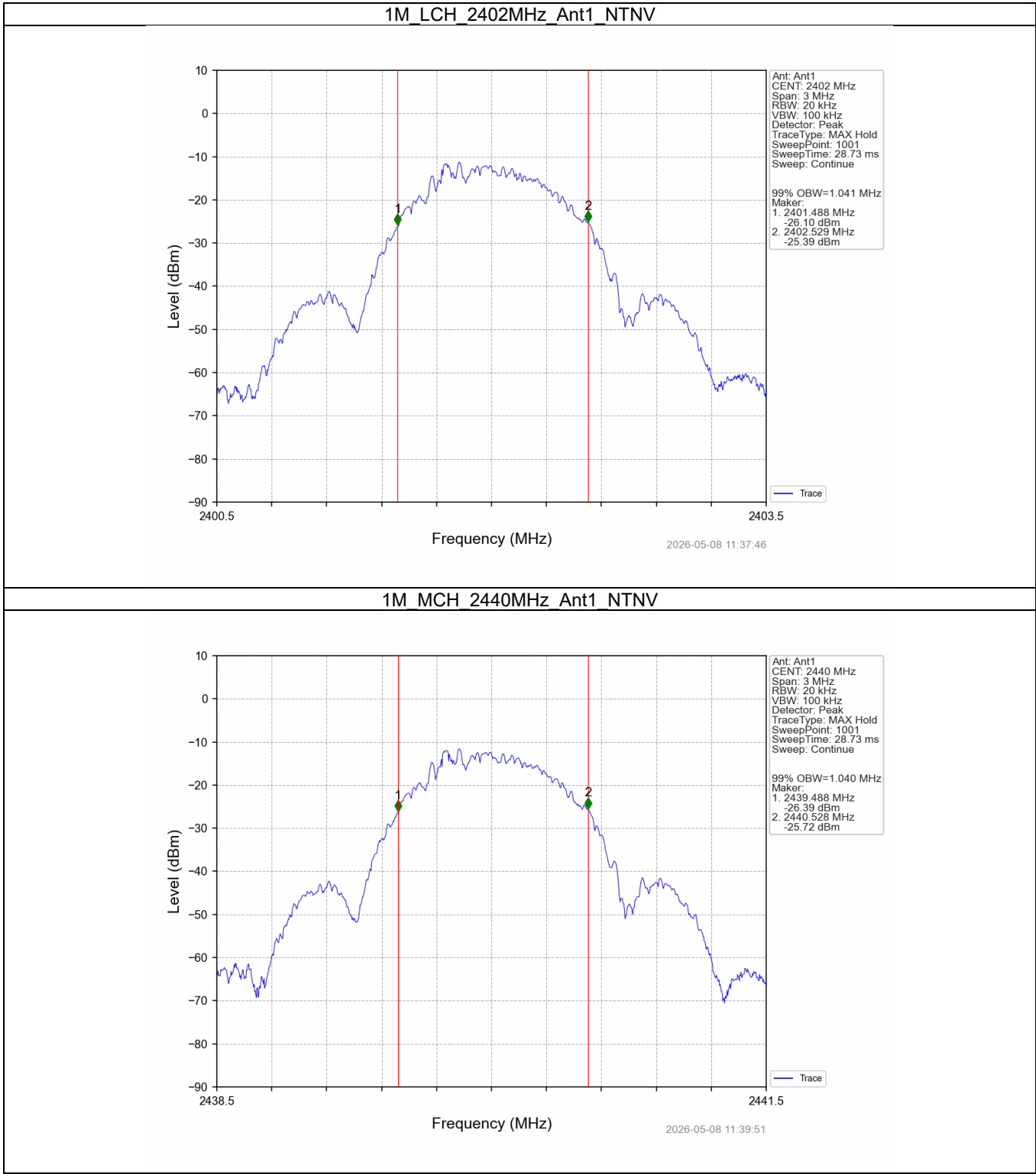
| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|------|---------|-----------------|-----|------------------------------|-------|---------|
|      |         |                 |     | Result                       | Limit |         |
| 1M   | SISO    | 2402            | 1   | 1.041                        | /     | Pass    |
|      |         | 2440            | 1   | 1.040                        | /     | Pass    |
|      |         | 2480            | 1   | 1.041                        | /     | Pass    |
| 2M   | SISO    | 2402            | 1   | 1.920                        | /     | Pass    |
|      |         | 2440            | 1   | 1.917                        | /     | Pass    |
|      |         | 2480            | 1   | 1.917                        | /     | Pass    |

#### 2.1.2 6dB BW

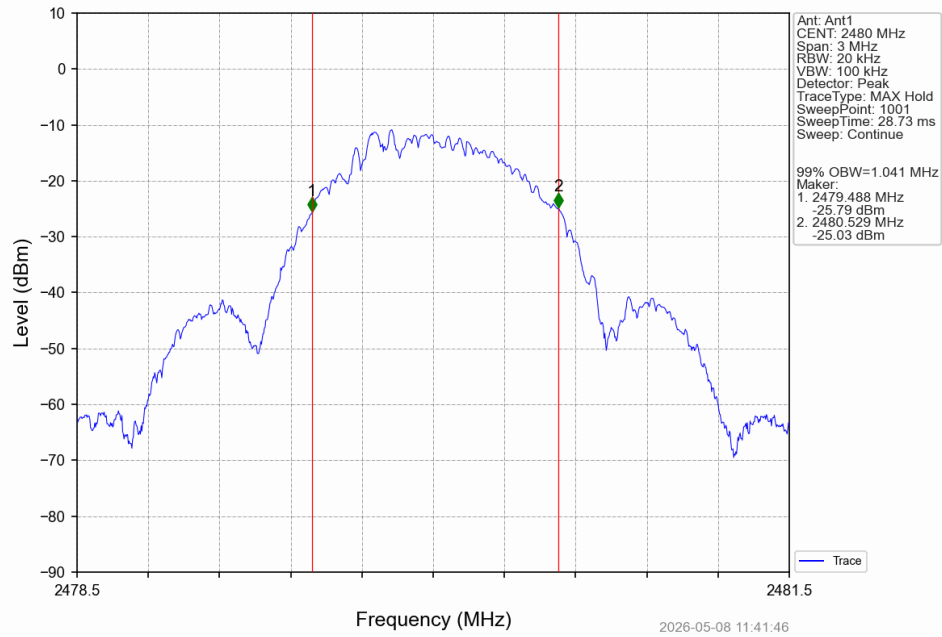
| Mode | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|------|---------|-----------------|-----|---------------------|------------|---------|
|      |         |                 |     | Result              | Limit      |         |
| 1M   | SISO    | 2402            | 1   | 0.694               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 0.666               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 0.668               | $\geq 0.5$ | Pass    |
| 2M   | SISO    | 2402            | 1   | 1.157               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 1.163               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 1.159               | $\geq 0.5$ | Pass    |

2.2 Test Graph

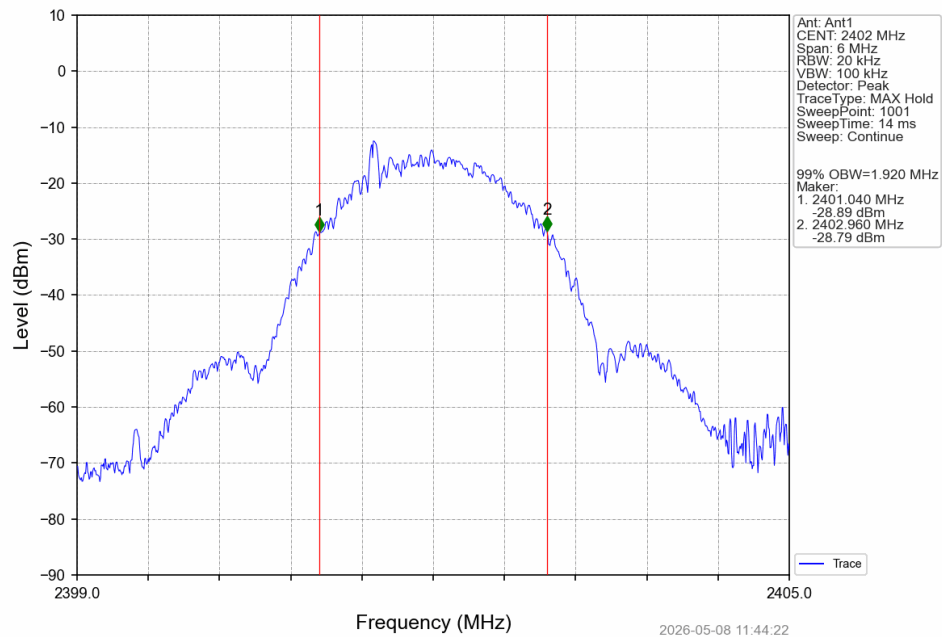
2.2.1 OBW



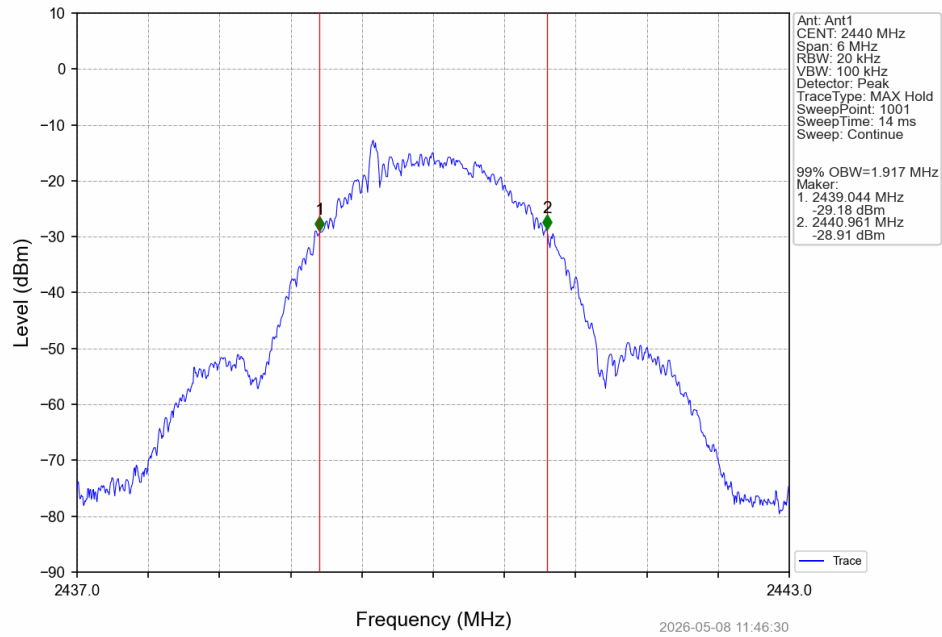
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



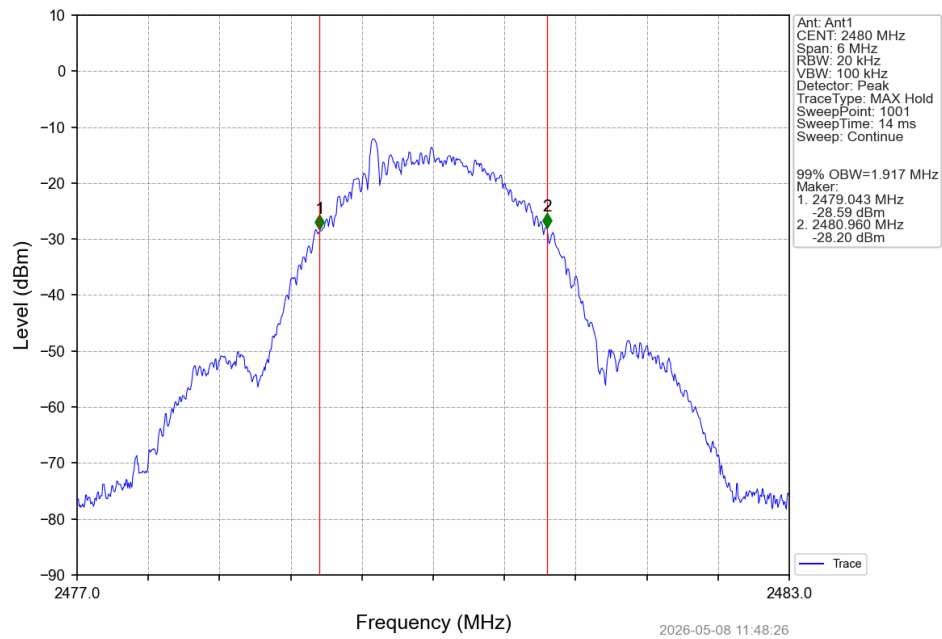
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



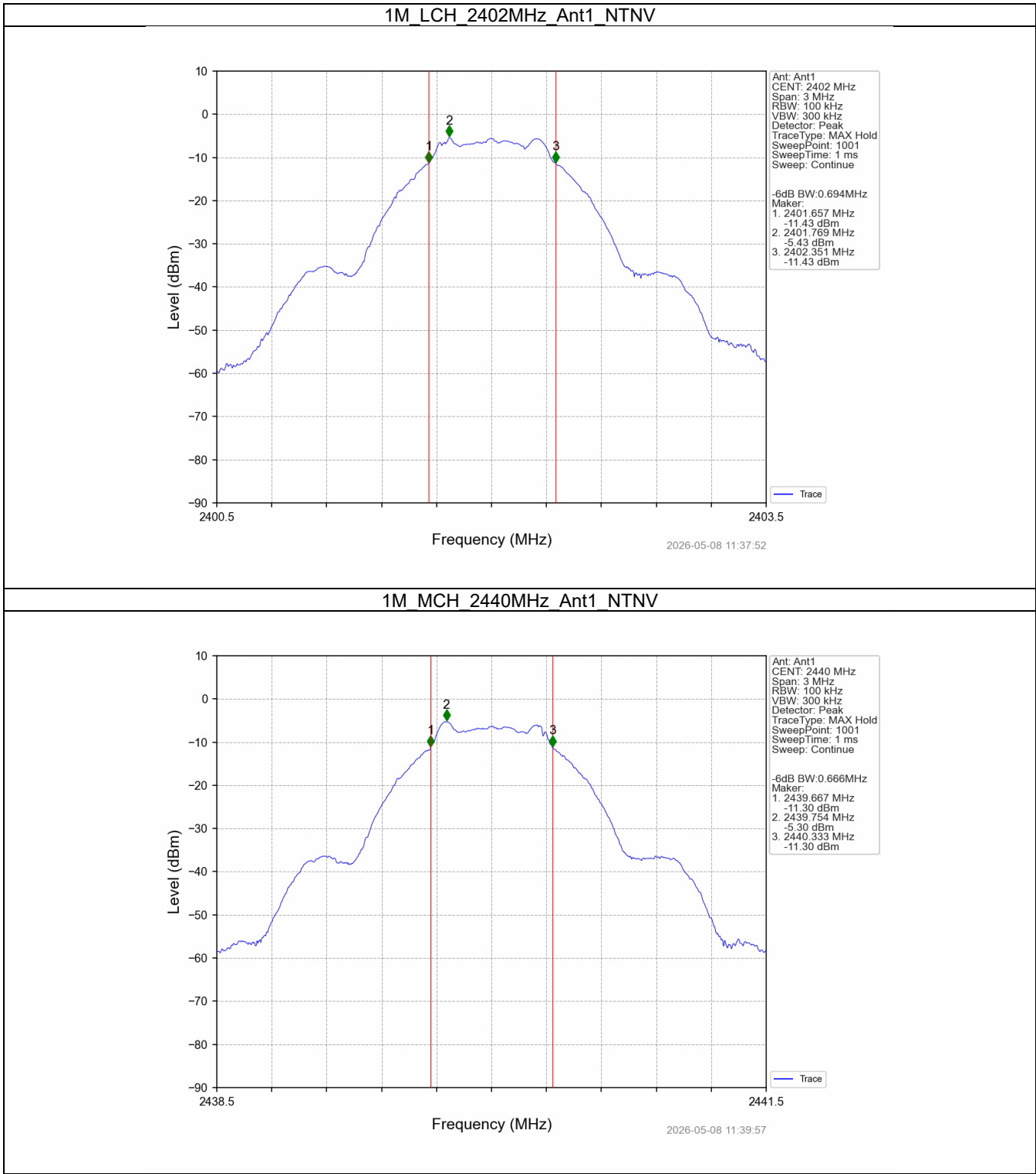
### 2M\_MCH\_2440MHz\_Ant1\_NTNV



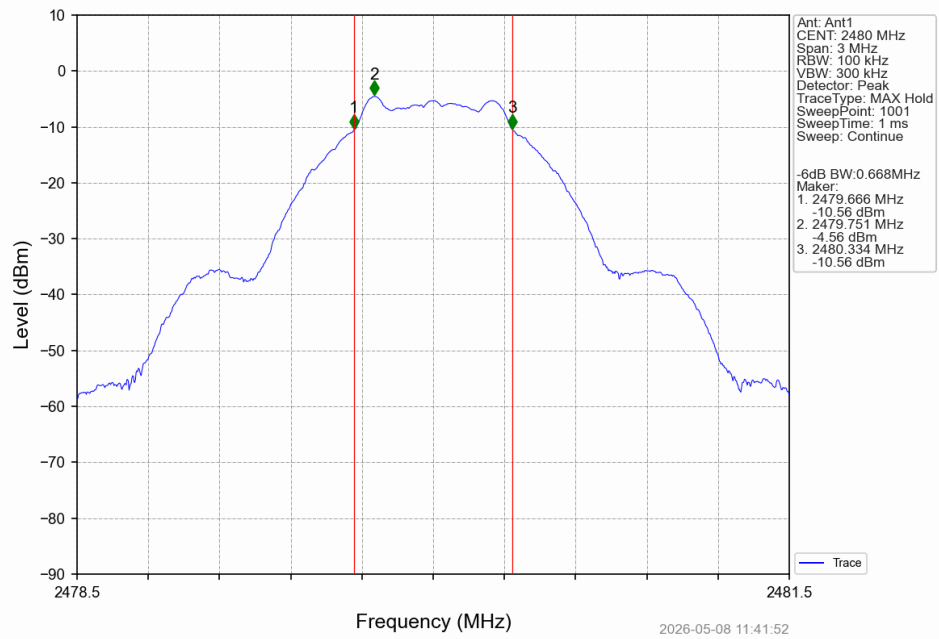
### 2M\_HCH\_2480MHz\_Ant1\_NTNV



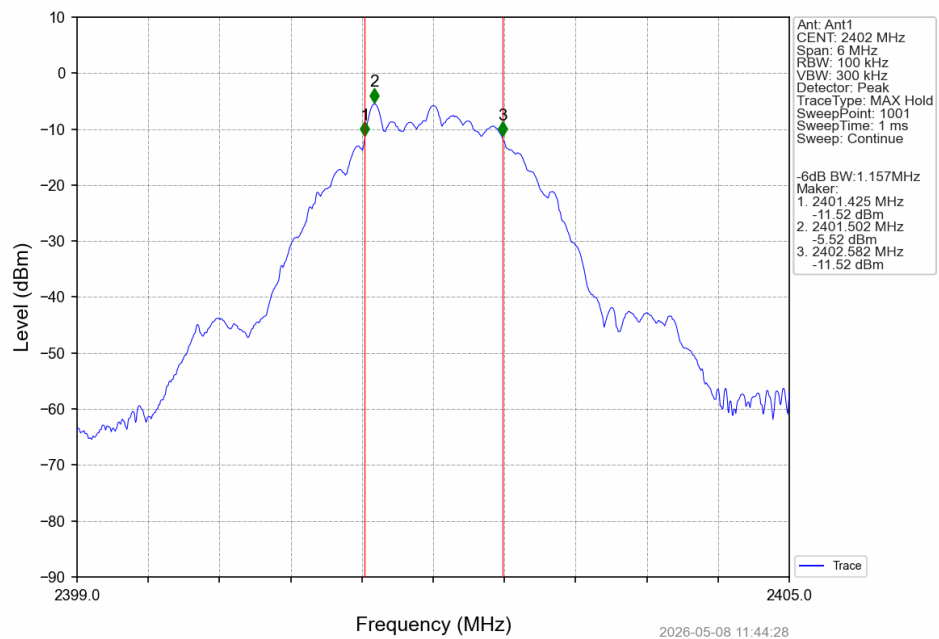
2.2.2 6dB BW



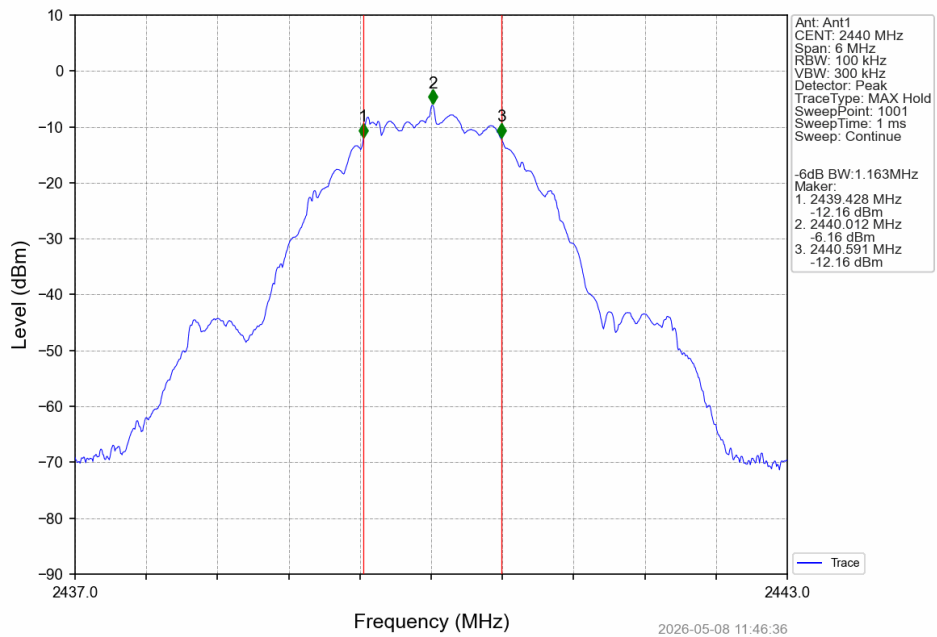
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



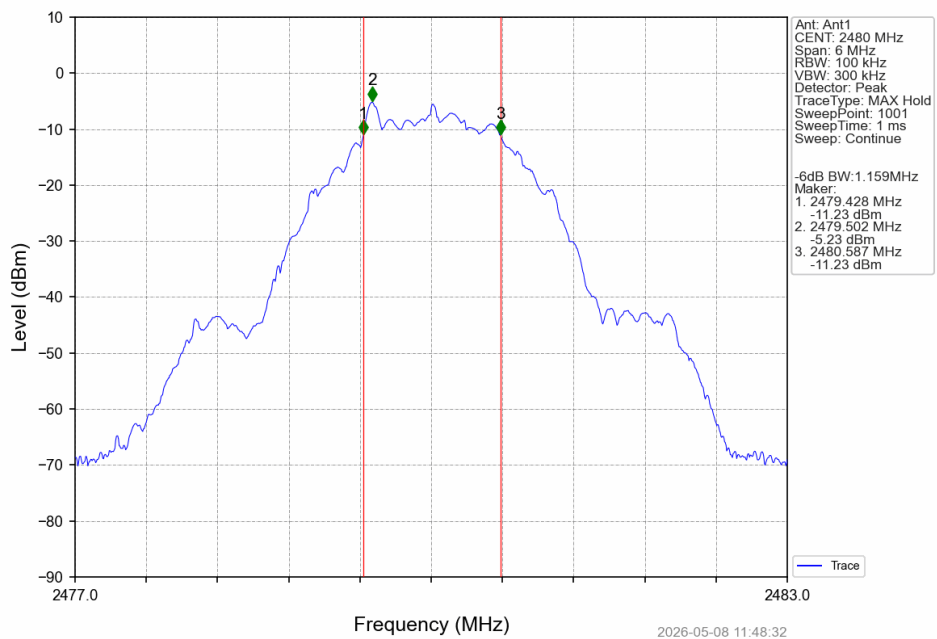
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



# 2M\_MCH\_2440MHz\_Ant1\_NTNV



# 2M\_HCH\_2480MHz\_Ant1\_NTNV



### 3. Maximum Conducted Output Power

#### 3.1 Test Result

##### 3.1.1 Power

| Mode | TX Type | Frequency (MHz) | Maximum Peak Conducted Output Power (dBm) |       | Verdict |
|------|---------|-----------------|-------------------------------------------|-------|---------|
|      |         |                 | ANT1                                      | Limit |         |
| 1M   | SISO    | 2402            | -4.61                                     | <=30  | Pass    |
|      |         | 2440            | -4.93                                     | <=30  | Pass    |
|      |         | 2480            | -4.23                                     | <=30  | Pass    |
| 2M   | SISO    | 2402            | -4.66                                     | <=30  | Pass    |
|      |         | 2440            | -4.98                                     | <=30  | Pass    |
|      |         | 2480            | -4.27                                     | <=30  | Pass    |

## 4. Maximum Power Spectral Density

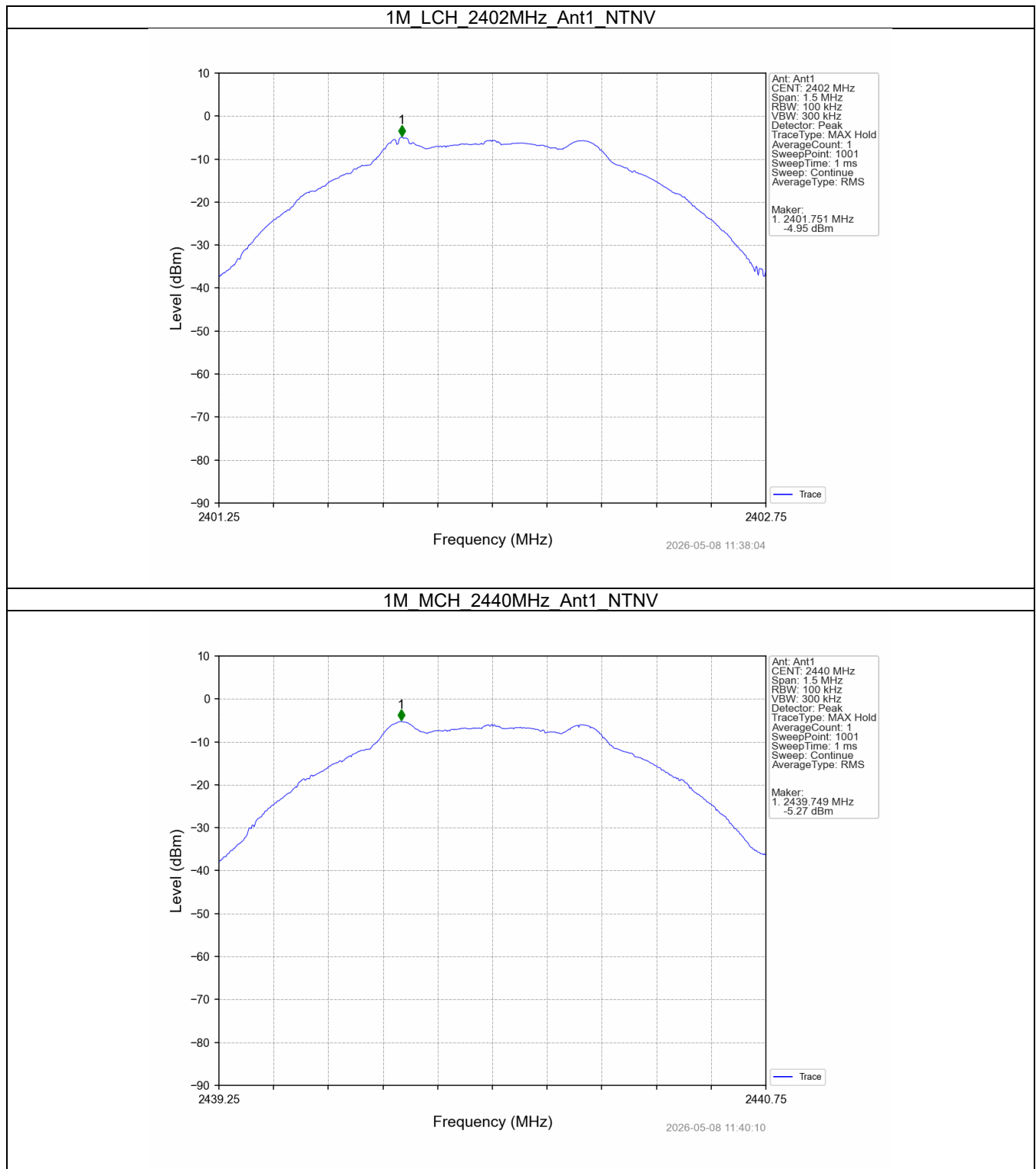
### 4.1 Test Result

#### 4.1.1 PSD

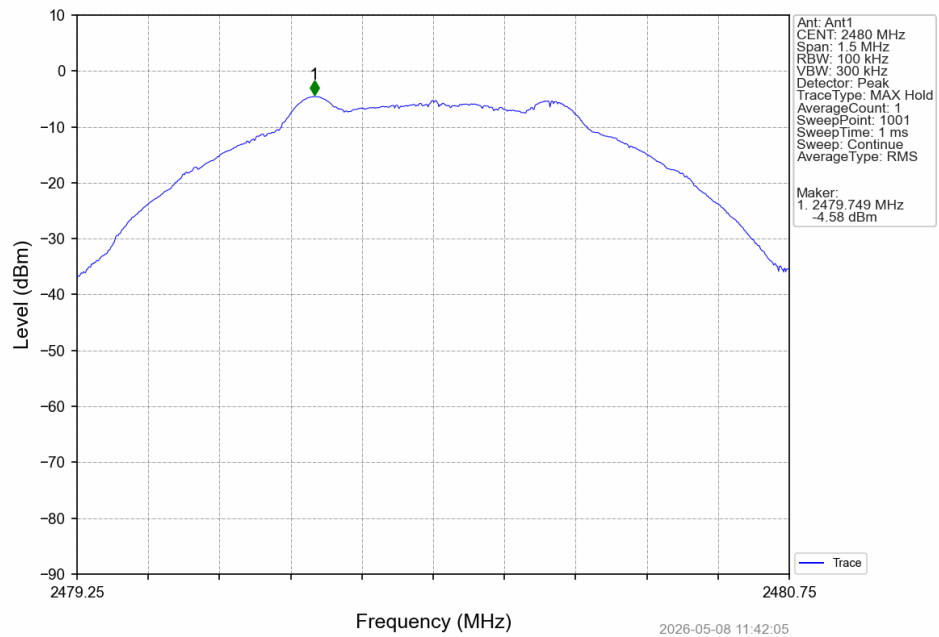
| Mode | TX Type | Frequency (MHz) | Maximum PSD (dBm) |                 | Verdict |
|------|---------|-----------------|-------------------|-----------------|---------|
|      |         |                 | ANT1              | Limit(dBm/3kHz) |         |
| 1M   | SISO    | 2402            | -4.95dBm/100kHz   | <=8             | Pass    |
|      |         | 2440            | -5.27dBm/100kHz   | <=8             | Pass    |
|      |         | 2480            | -4.58dBm/100kHz   | <=8             | Pass    |
| 2M   | SISO    | 2402            | -5.54dBm/100kHz   | <=8             | Pass    |
|      |         | 2440            | -5.86dBm/100kHz   | <=8             | Pass    |
|      |         | 2480            | -5.16dBm/100kHz   | <=8             | Pass    |

## 4.2 Test Graph

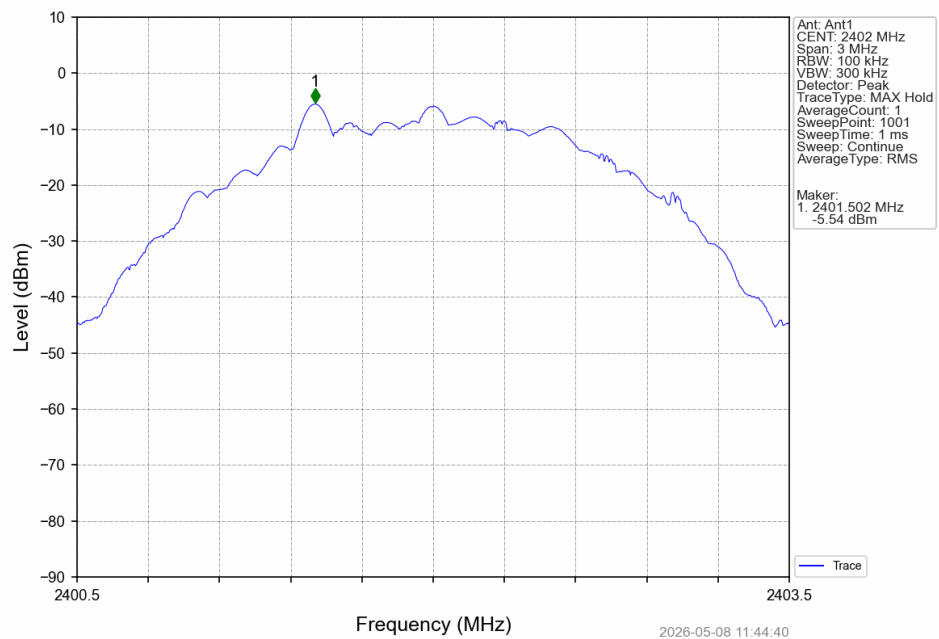
### 4.2.1 PSD



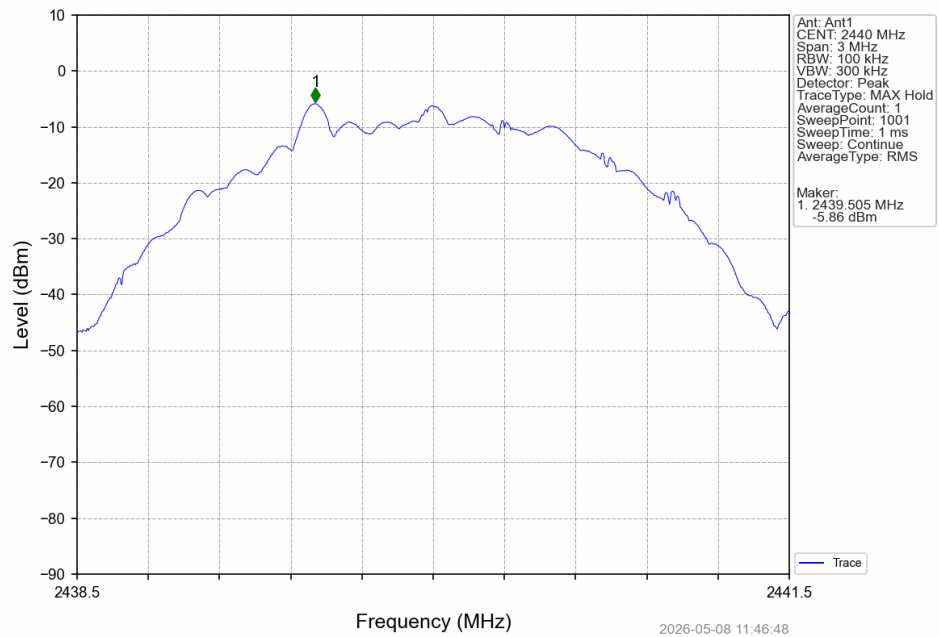
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



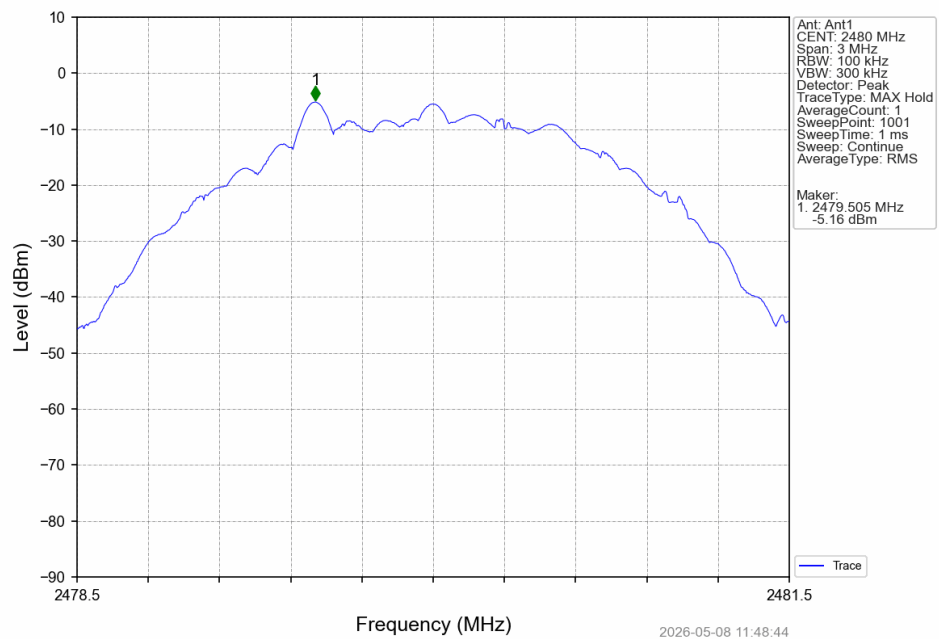
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



### 2M\_MCH\_2440MHz\_Ant1\_NTNV



### 2M\_HCH\_2480MHz\_Ant1\_NTNV



## 5. Unwanted Emissions In Non-restricted Frequency Bands

### 5.1 Test Result

#### 5.1.1 Ref

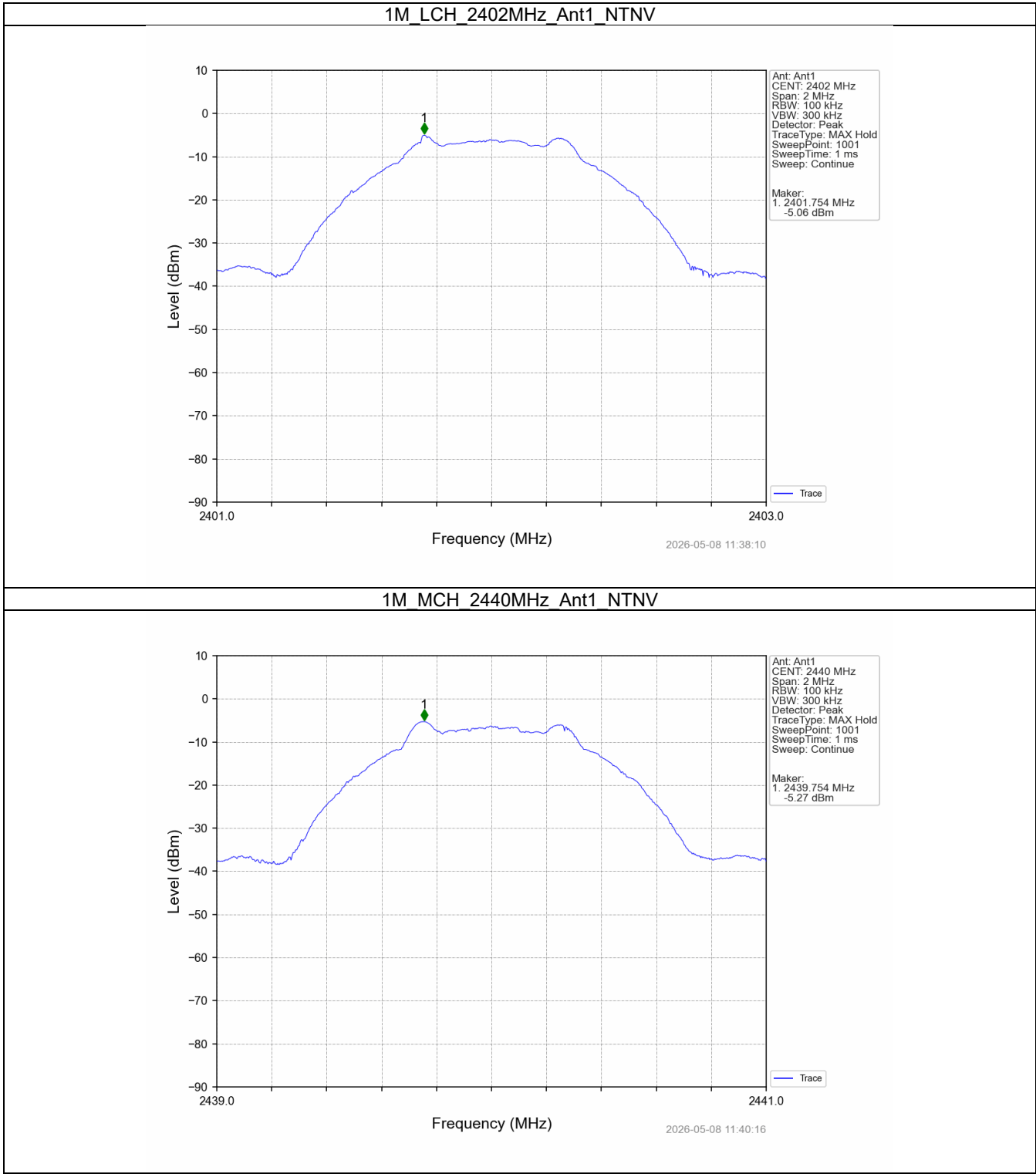
| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) |
|------|---------|-----------------|-----|--------------------------|
| 1M   | SISO    | 2402            | 1   | -5.06                    |
|      |         | 2440            | 1   | -5.27                    |
|      |         | 2480            | 1   | -4.64                    |
| 2M   | SISO    | 2402            | 1   | -5.73                    |
|      |         | 2440            | 1   | -5.85                    |
|      |         | 2480            | 1   | -5.17                    |

#### 5.1.2 CSE

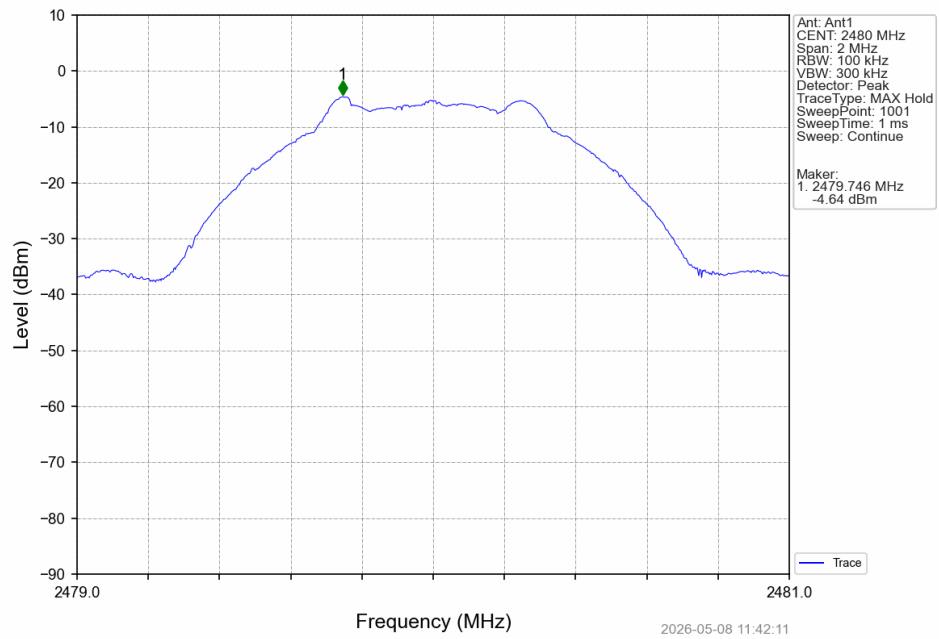
| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|------|---------|-----------------|-----|--------------------------|-------------|---------|
| 1M   | SISO    | 2402            | 1   | -5.06                    | -25.06      | Pass    |
|      |         | 2440            | 1   | -5.27                    | -25.27      | Pass    |
|      |         | 2480            | 1   | -4.64                    | -24.64      | Pass    |
| 2M   | SISO    | 2402            | 1   | -5.73                    | -25.73      | Pass    |
|      |         | 2440            | 1   | -5.85                    | -25.85      | Pass    |
|      |         | 2480            | 1   | -5.17                    | -25.17      | Pass    |

5.2 Test Graph

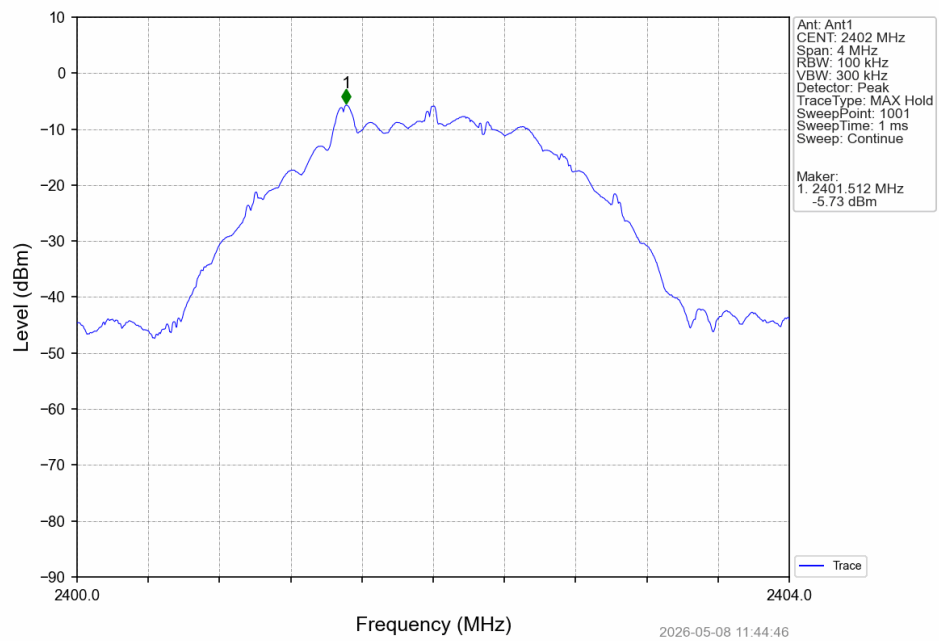
5.2.1 Ref



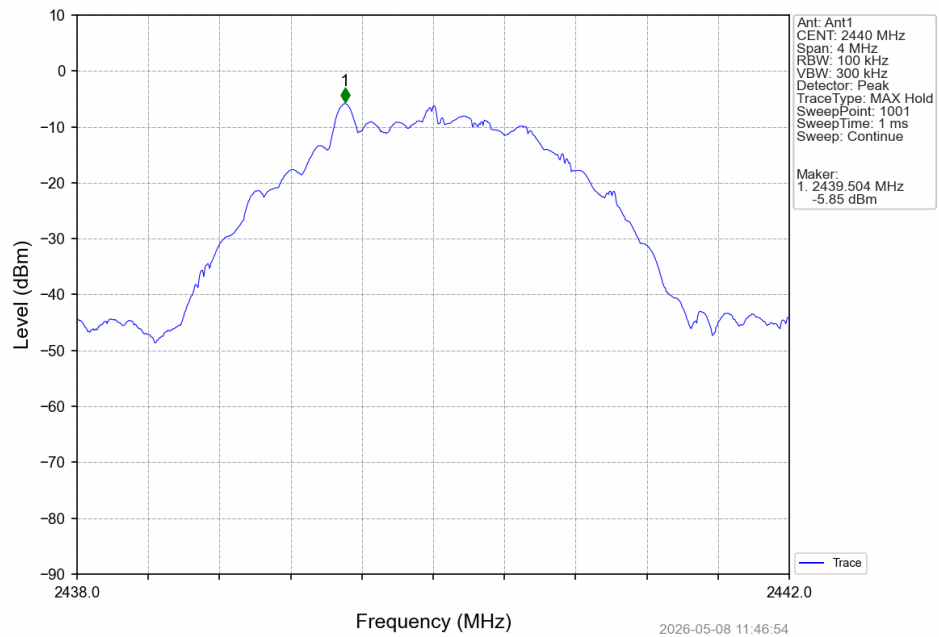
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



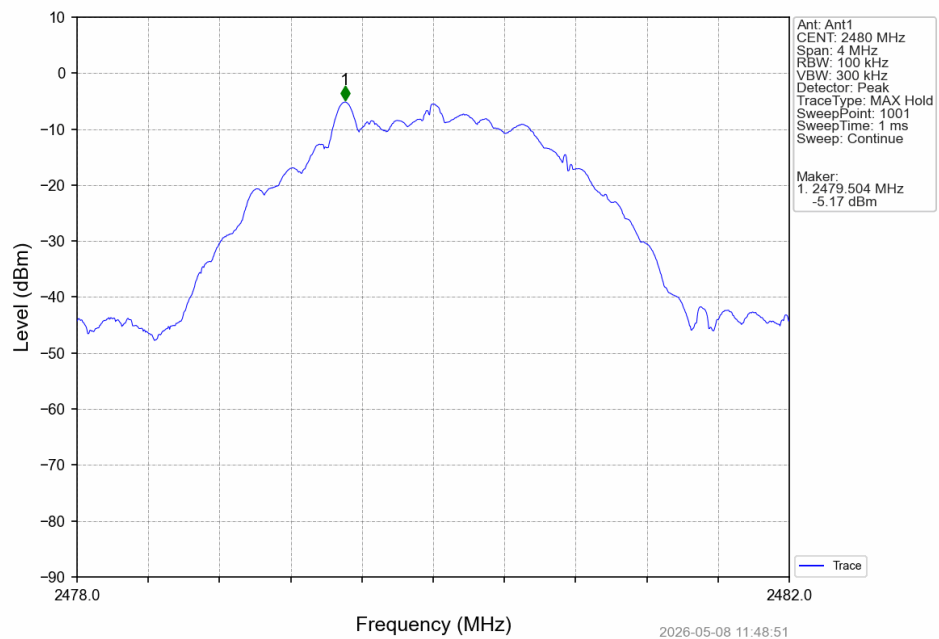
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



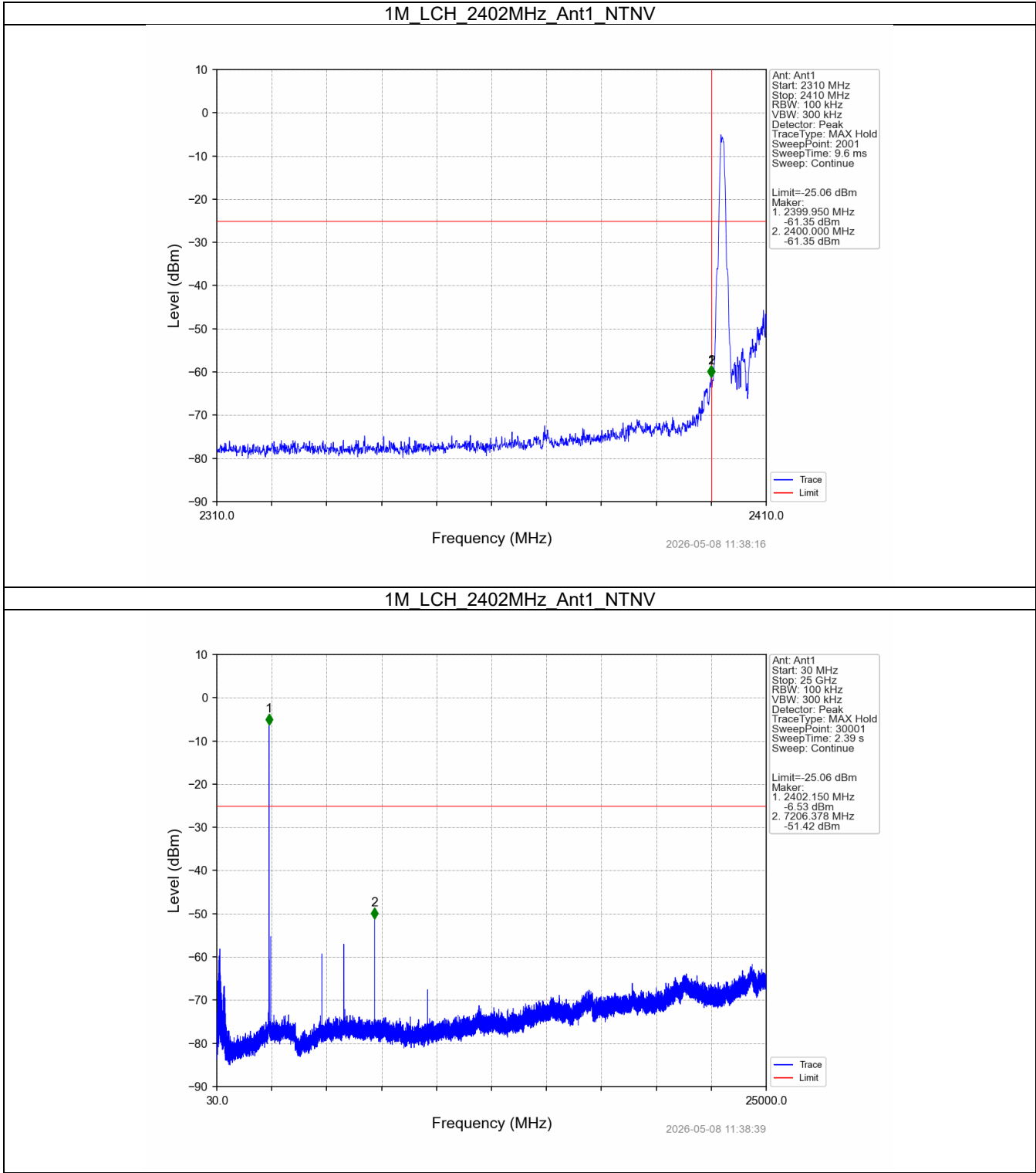
### 2M\_MCH\_2440MHz\_Ant1\_NTNV



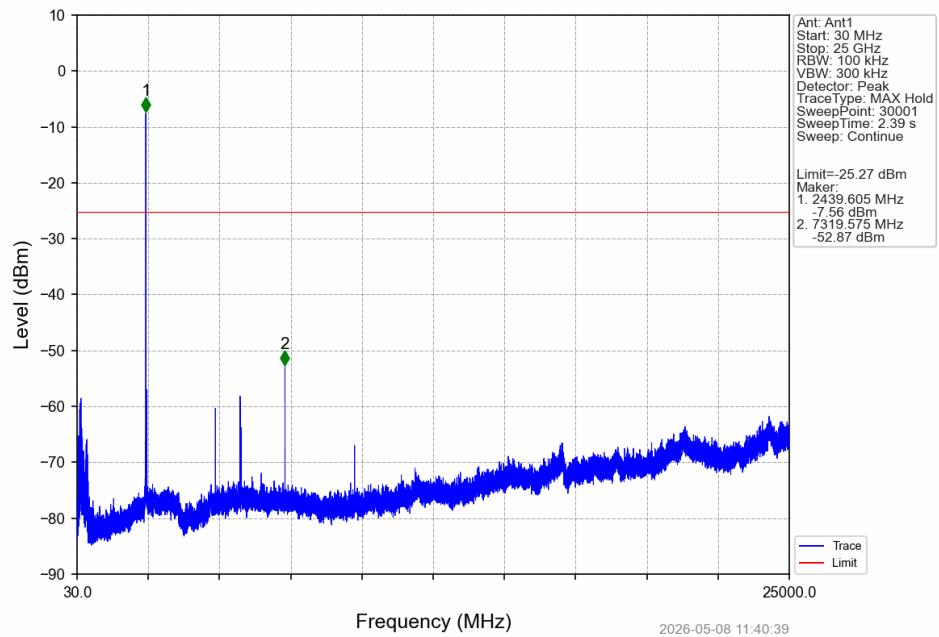
### 2M\_HCH\_2480MHz\_Ant1\_NTNV



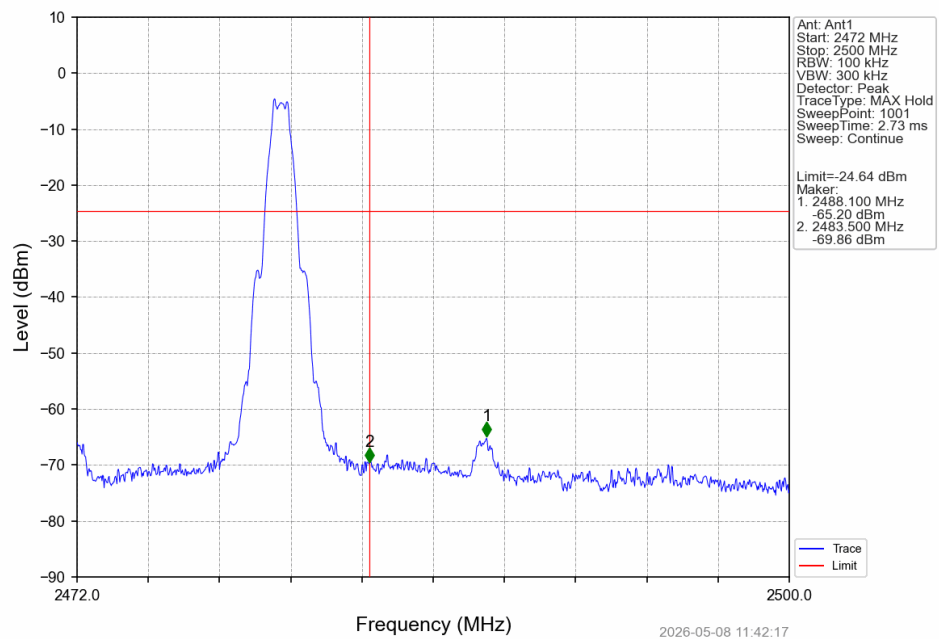
5.2.2 CSE



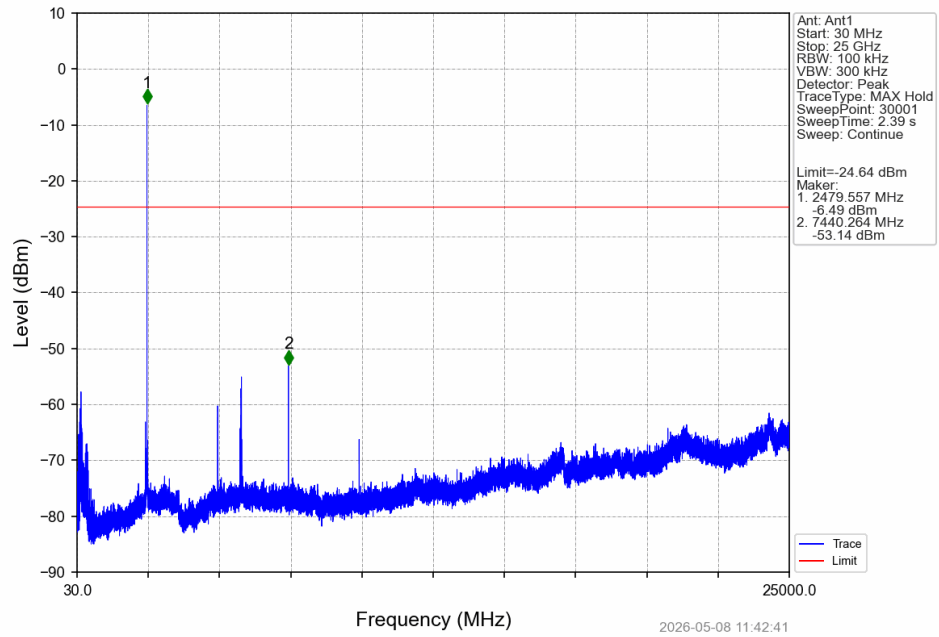
# 1M\_MCH\_2440MHz\_Ant1\_NTNV



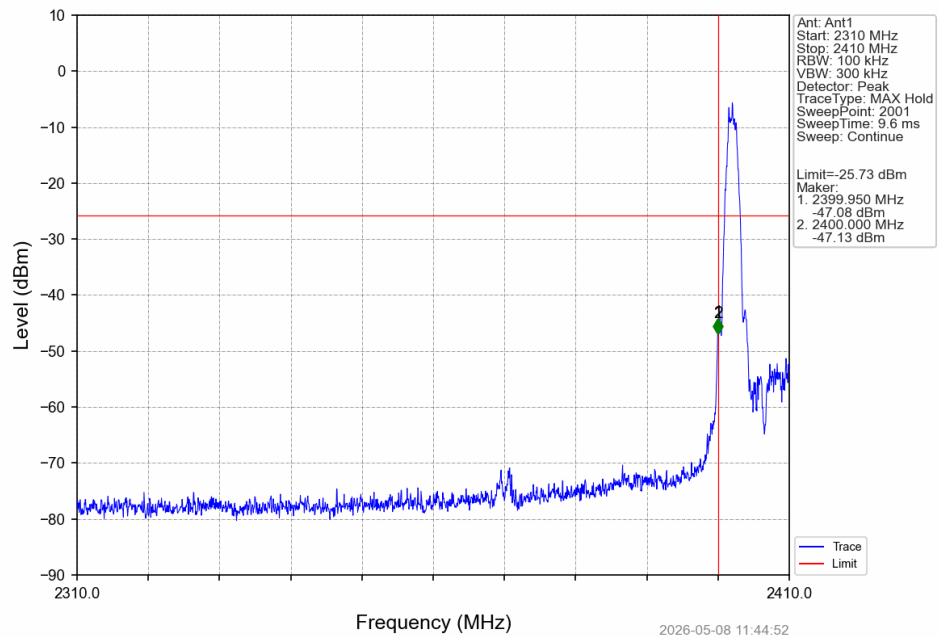
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



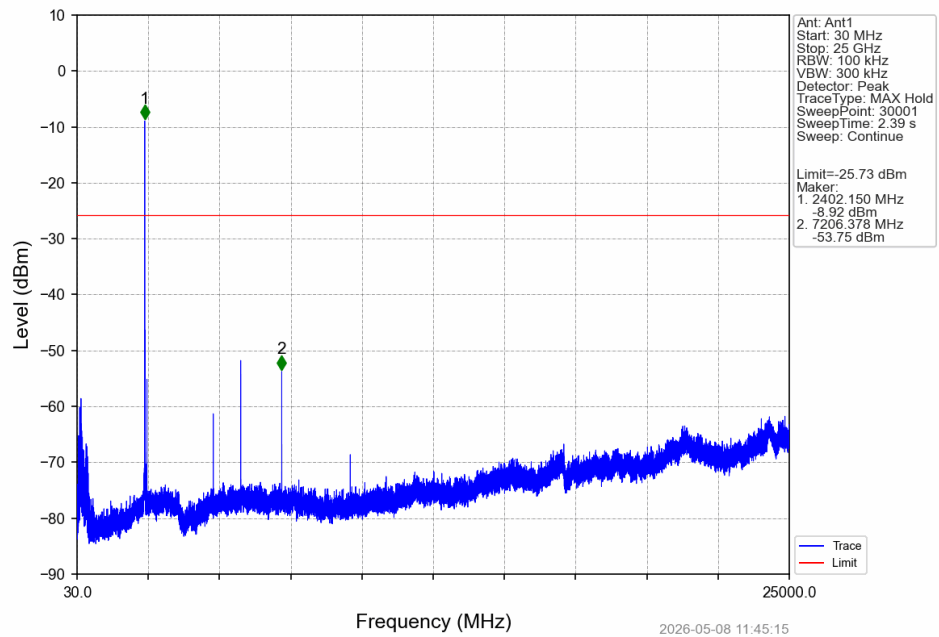
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



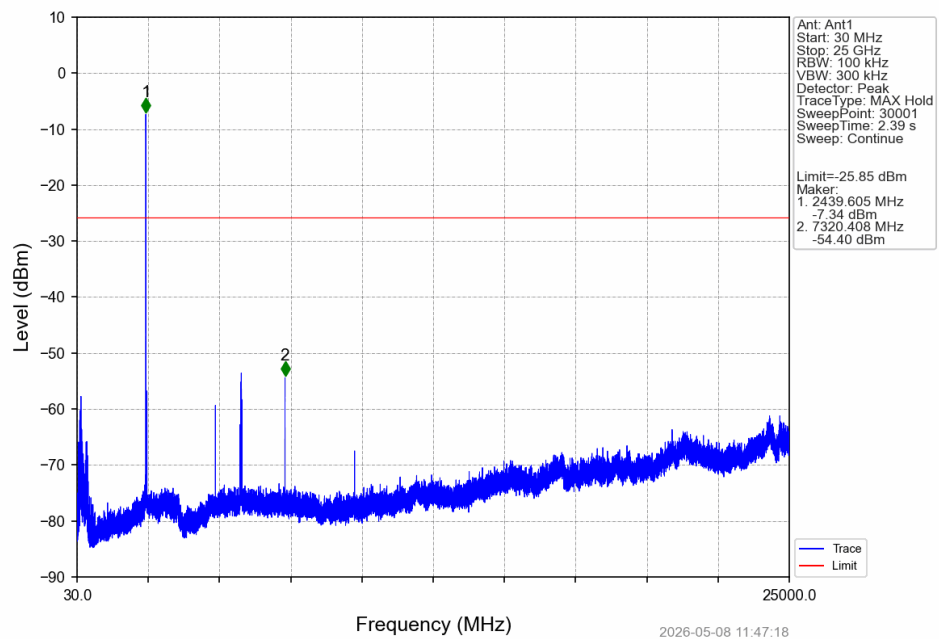
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



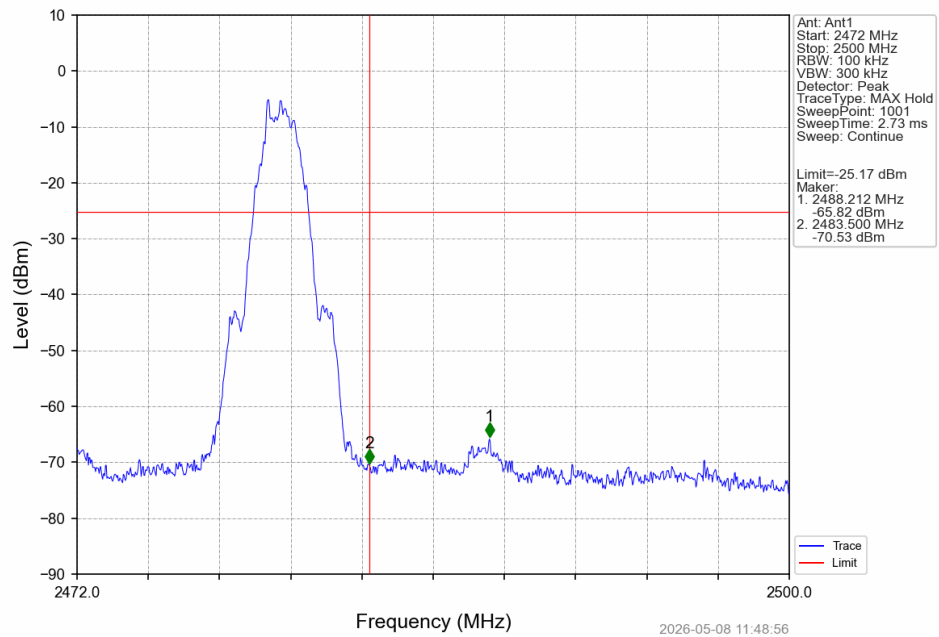
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



# 2M\_MCH\_2440MHz\_Ant1\_NTNV



# 2M\_HCH\_2480MHz\_Ant1\_NTNV



# 2M\_HCH\_2480MHz\_Ant1\_NTNV

