

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

**Company:** : Shenzhen Tianyuan Huitong Technology Co., Ltd

**EUT** : AI Printer

**FCC ID:** : 2BDRZ-Q25

**Model Number** : Q25

**Report No.** : HTT202606231F02

**Reviewed By** : Heber He

## 1. Duty Cycle

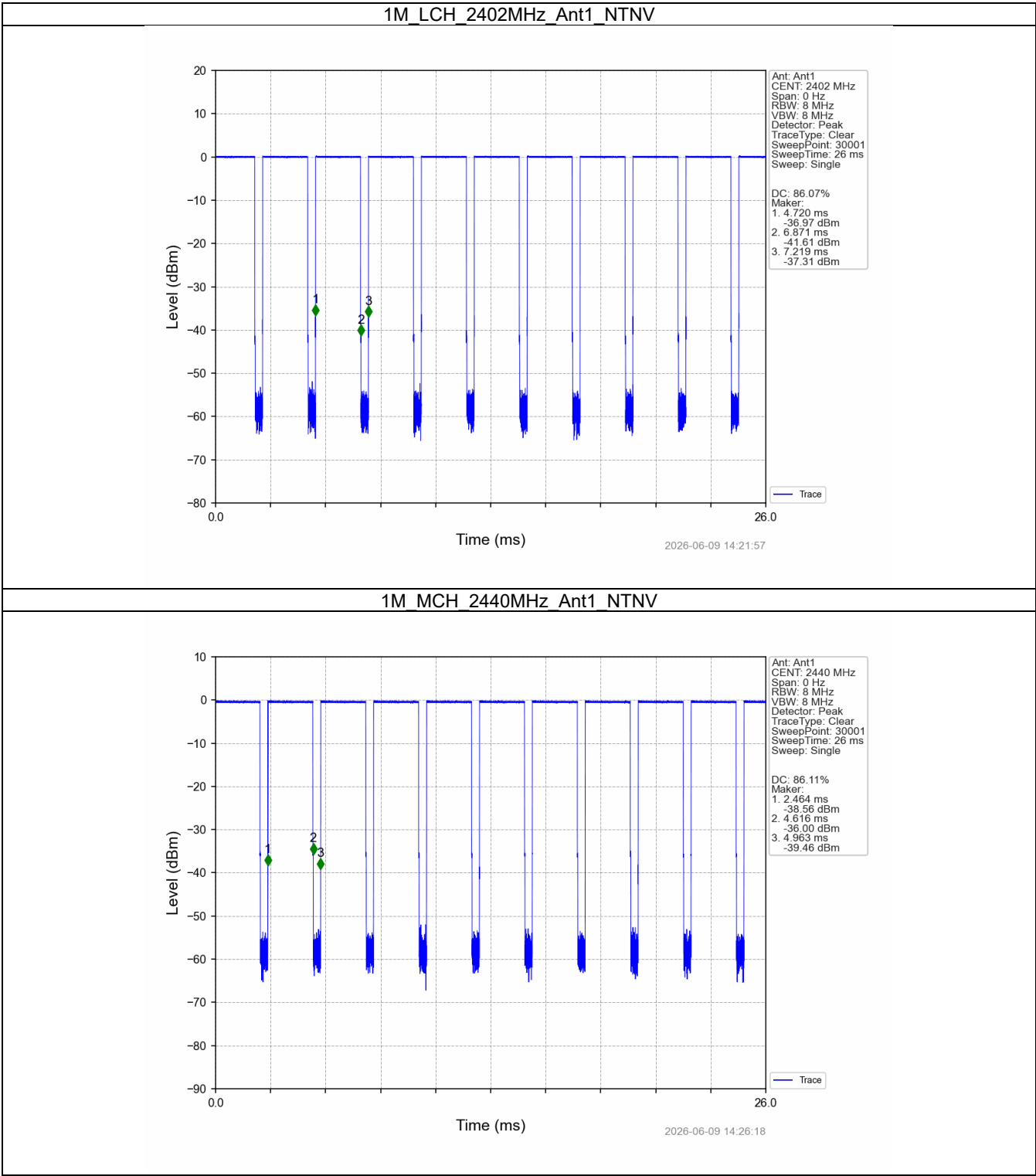
### 1.1 Test Result

#### 1.1.1 Ant1

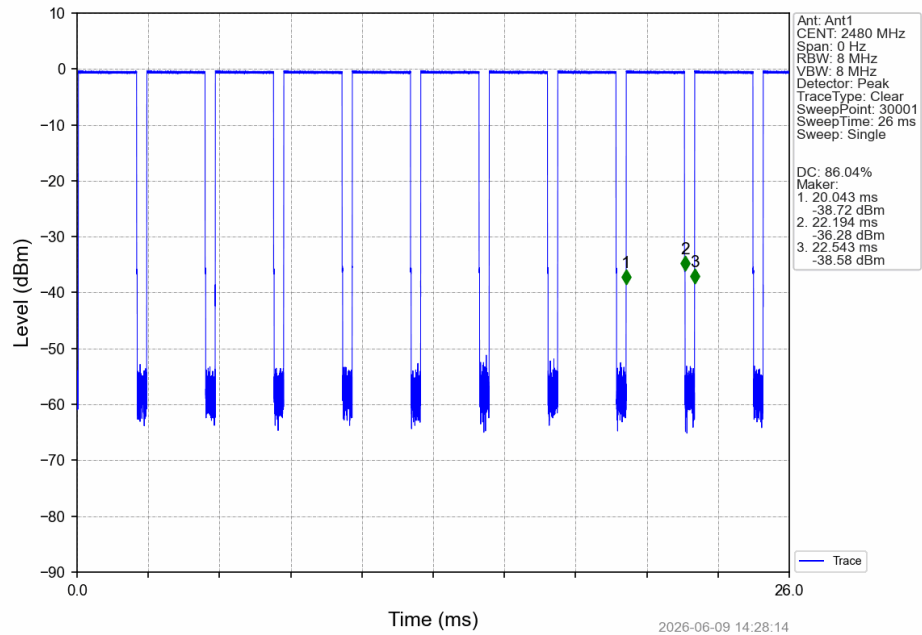
| Ant1 |         |                 |           |             |                |                                   |                       |
|------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 1M   | SISO    | 2402            | 2.151     | 2.499       | 86.07          | 0.65                              | 0.03                  |
|      |         | 2440            | 2.152     | 2.499       | 86.11          | 0.65                              | 0.00                  |
|      |         | 2480            | 2.151     | 2.500       | 86.04          | 0.65                              | 0.03                  |
| 2M   | SISO    | 2402            | 1.101     | 2.501       | 44.02          | 3.56                              | 0.02                  |
|      |         | 2440            | 1.100     | 2.499       | 44.02          | 3.56                              | 0.03                  |
|      |         | 2480            | 1.100     | 2.500       | 44.00          | 3.57                              | 0.02                  |

# 1.2 Test Graph

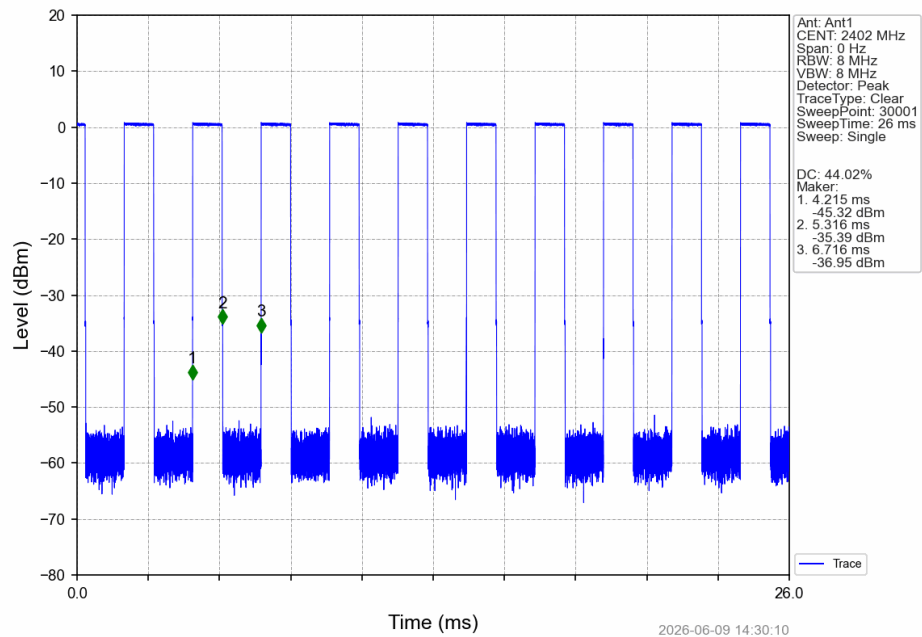
## 1.2.1 Ant1



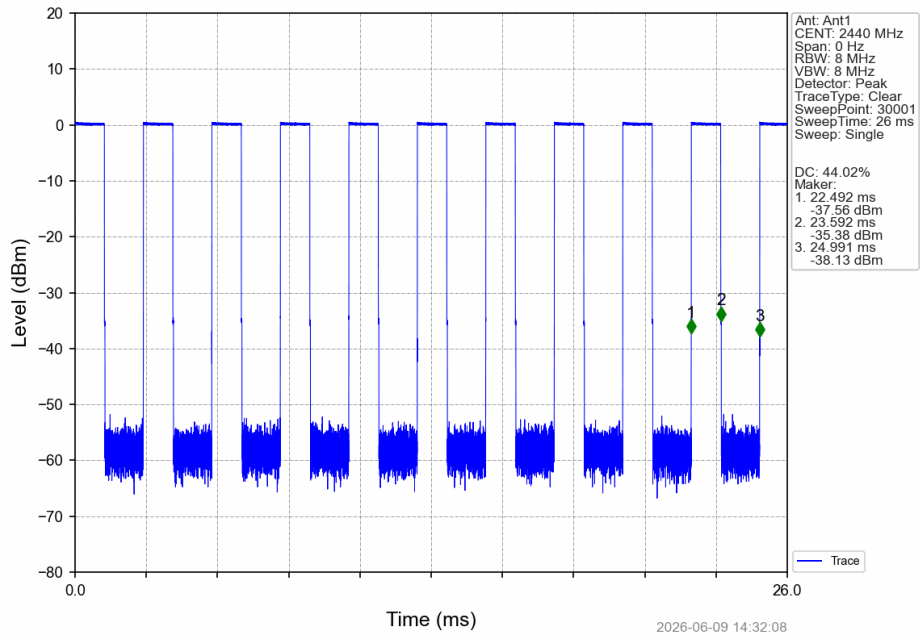
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



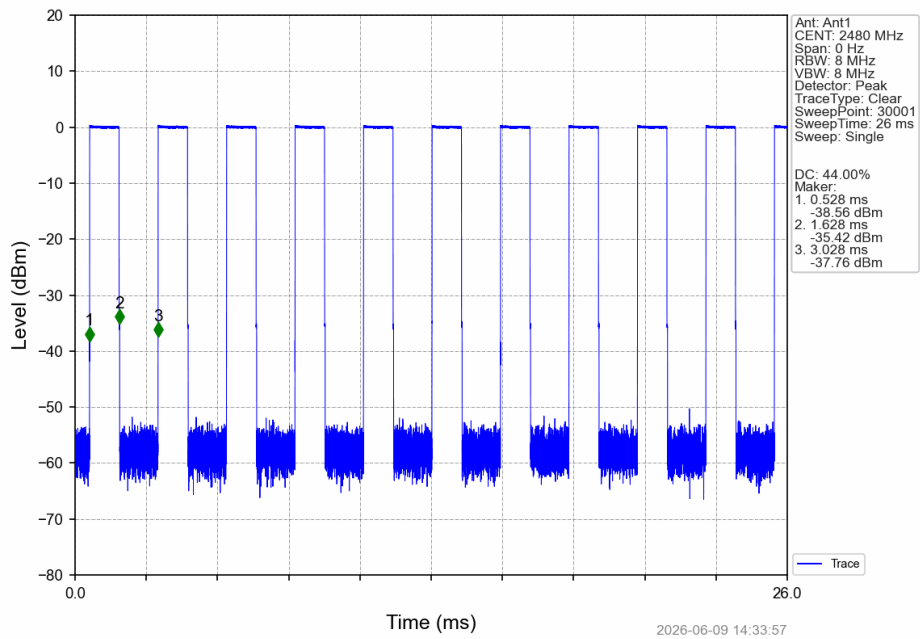
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



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



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



## 2. Bandwidth

### 2.1 Test Result

#### 2.1.1 OBW

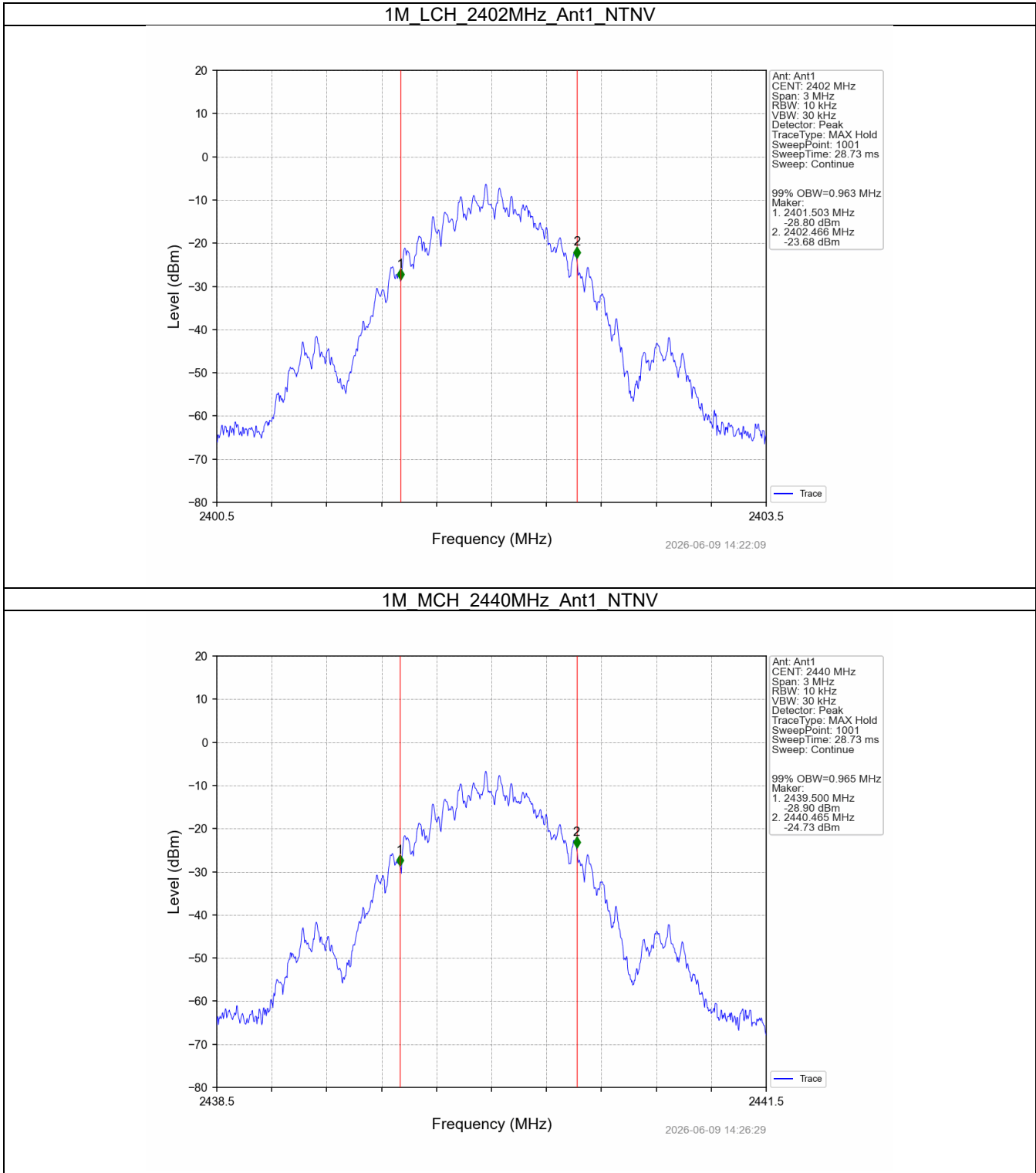
| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) |       | Verdict |
|------|---------|-----------------|-----|------------------------------|-------|---------|
|      |         |                 |     | Result                       | Limit |         |
| 1M   | SISO    | 2402            | 1   | 0.963                        | /     | Pass    |
|      |         | 2440            | 1   | 0.965                        | /     | Pass    |
|      |         | 2480            | 1   | 0.963                        | /     | Pass    |
| 2M   | SISO    | 2402            | 1   | 1.941                        | /     | Pass    |
|      |         | 2440            | 1   | 1.944                        | /     | Pass    |
|      |         | 2480            | 1   | 1.930                        | /     | Pass    |

#### 2.1.2 6dB BW

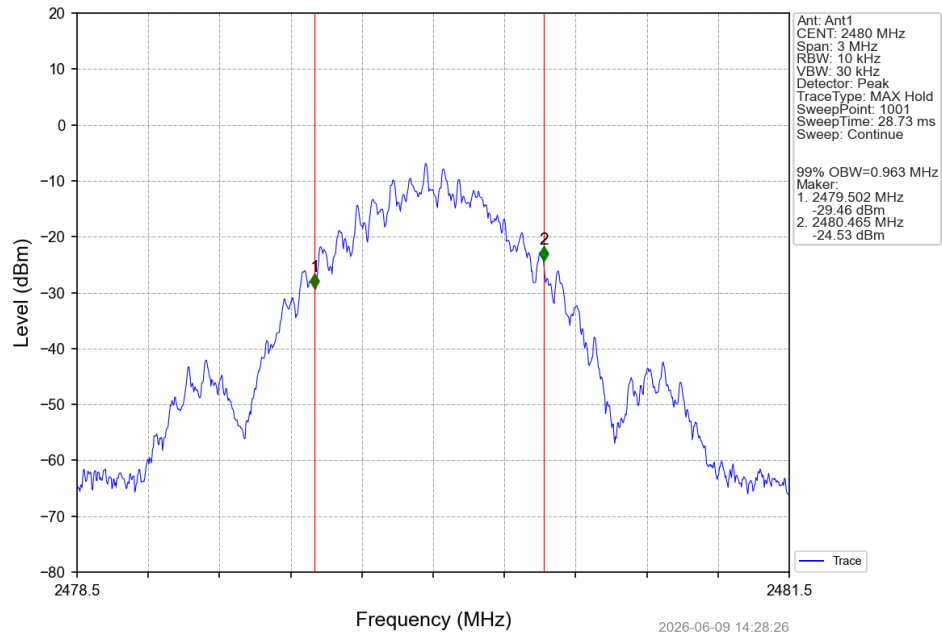
| Mode | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) |            | Verdict |
|------|---------|-----------------|-----|---------------------|------------|---------|
|      |         |                 |     | Result              | Limit      |         |
| 1M   | SISO    | 2402            | 1   | 0.561               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 0.562               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 0.562               | $\geq 0.5$ | Pass    |
| 2M   | SISO    | 2402            | 1   | 1.020               | $\geq 0.5$ | Pass    |
|      |         | 2440            | 1   | 1.016               | $\geq 0.5$ | Pass    |
|      |         | 2480            | 1   | 1.020               | $\geq 0.5$ | Pass    |

2.2 Test Graph

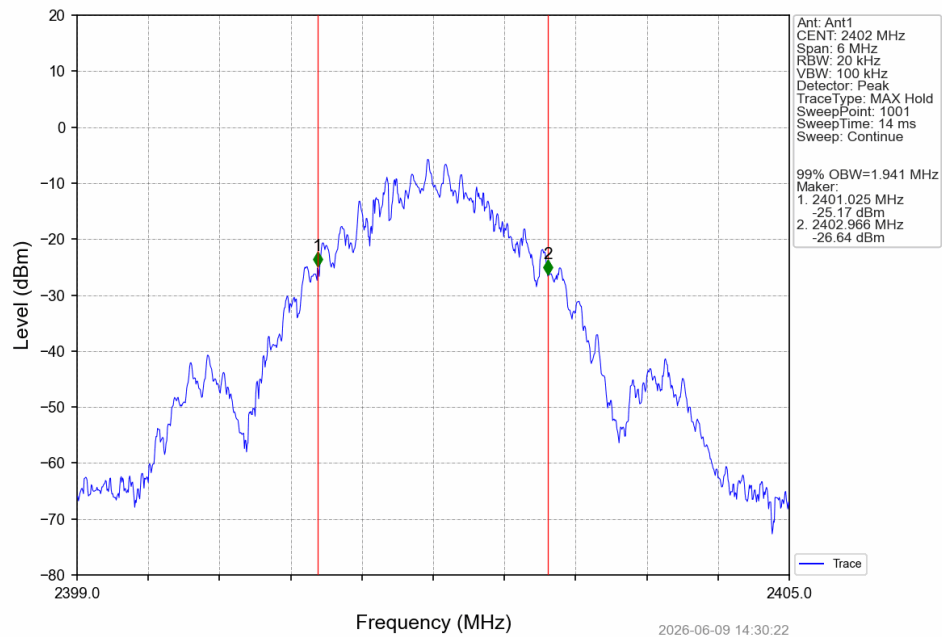
2.2.1 OBW



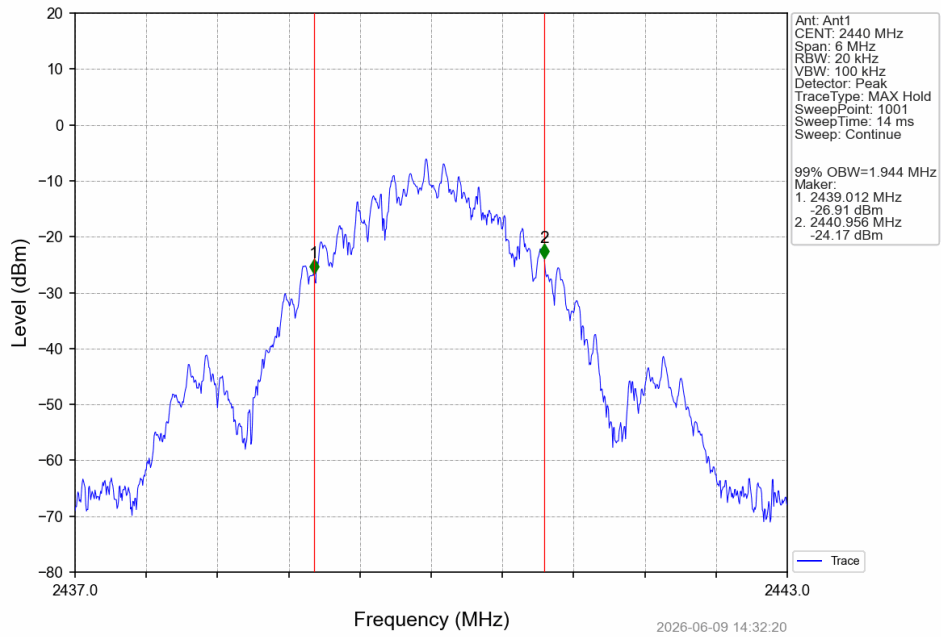
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



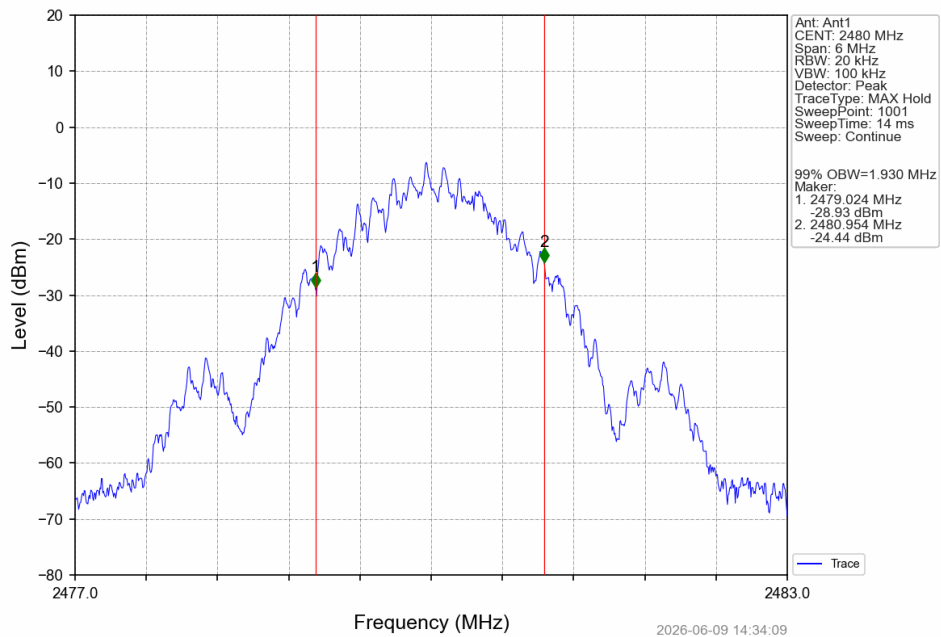
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



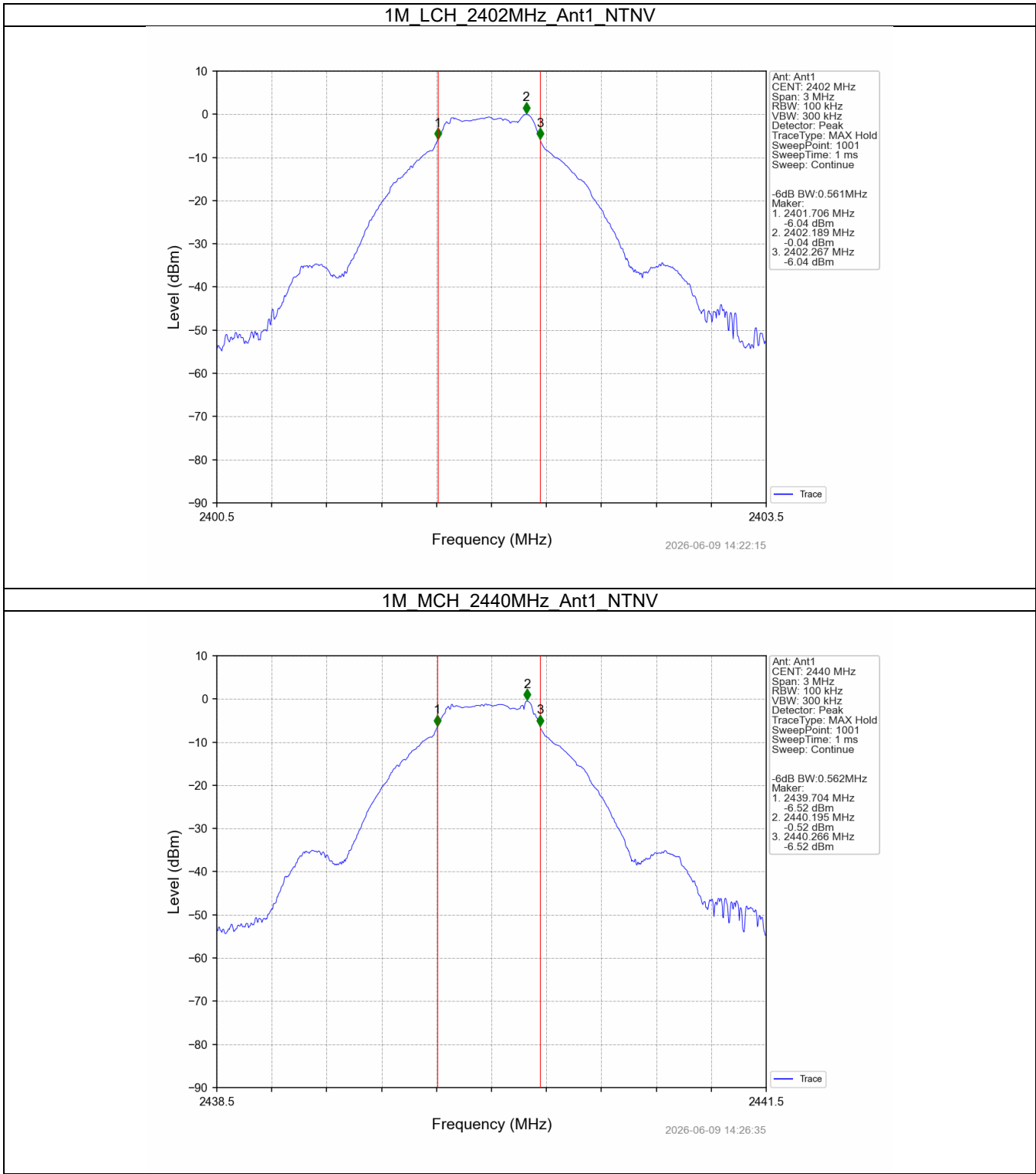
### 2M\_MCH\_2440MHz\_Ant1\_NTNV



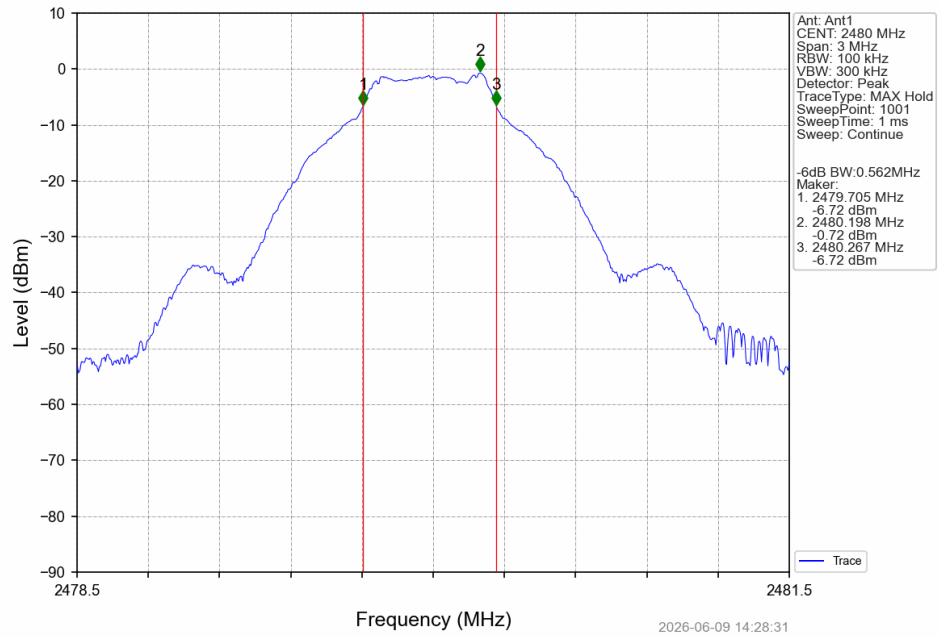
### 2M\_HCH\_2480MHz\_Ant1\_NTNV



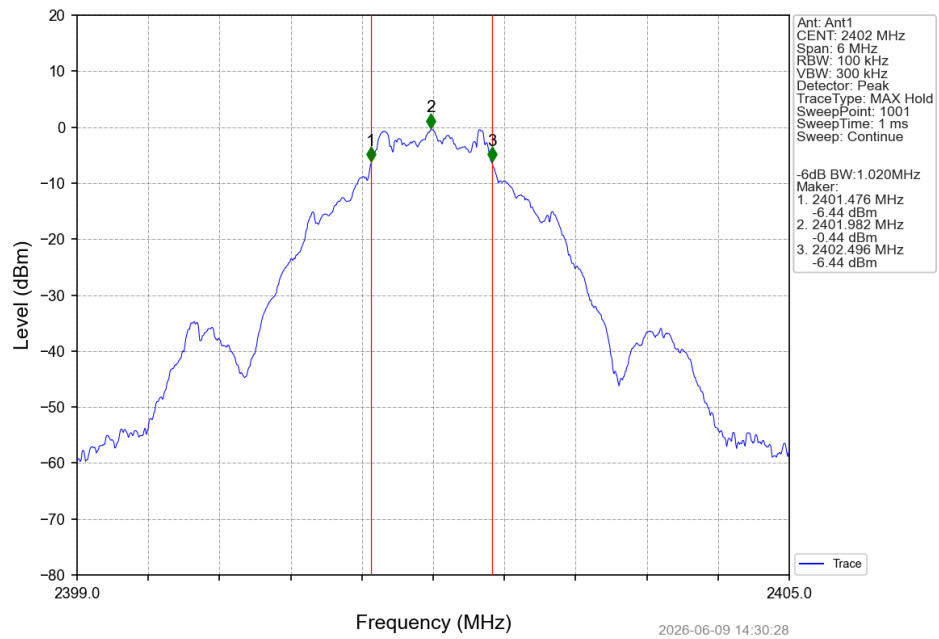
2.2.2 6dB BW



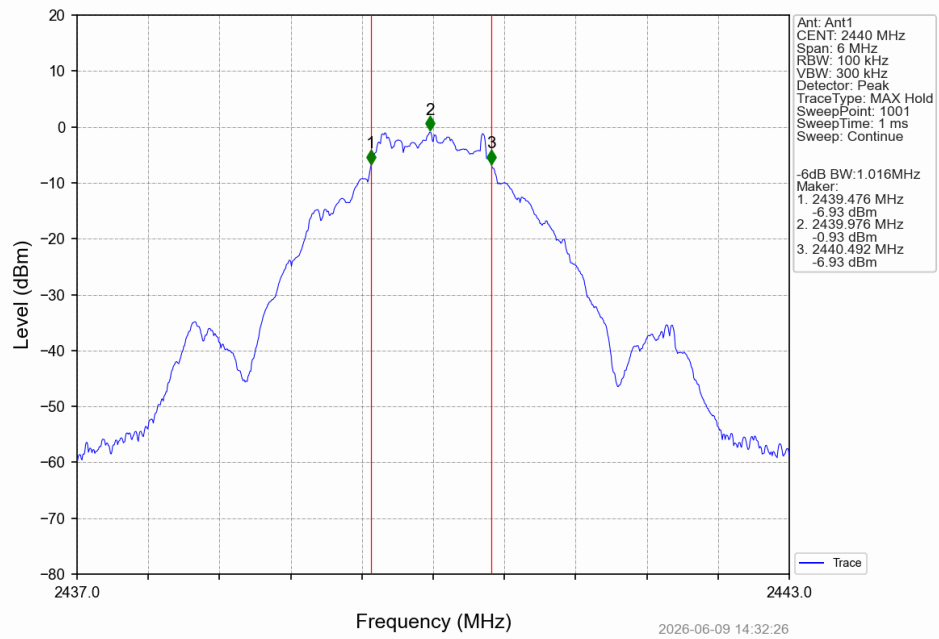
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



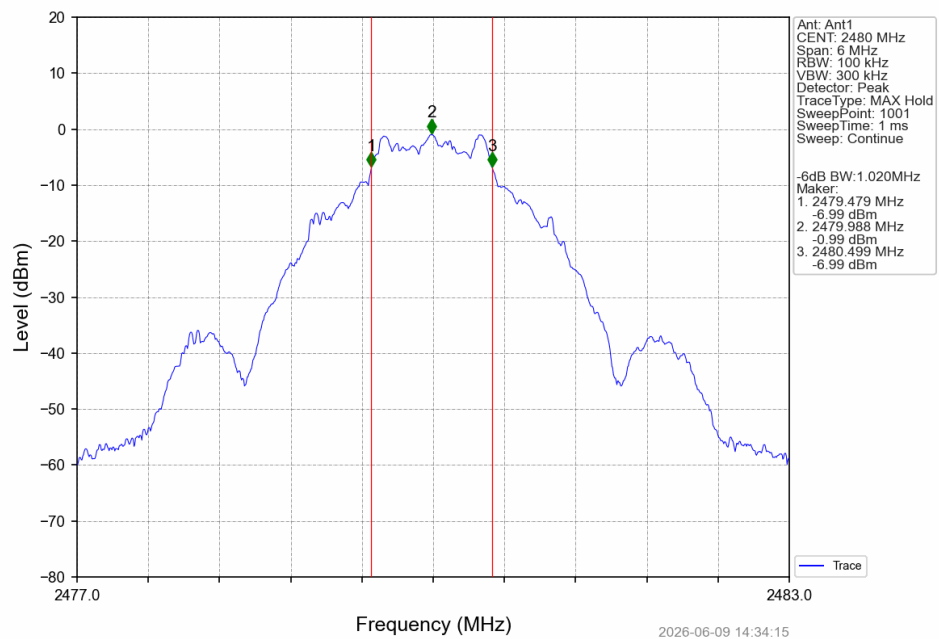
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



### 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            | 0.16                                      | <=30  | Pass    |
|      |         | 2440            | -0.21                                     | <=30  | Pass    |
|      |         | 2480            | -0.34                                     | <=30  | Pass    |
| 2M   | SISO    | 2402            | 0.73                                      | <=30  | Pass    |
|      |         | 2440            | 0.41                                      | <=30  | Pass    |
|      |         | 2480            | 0.23                                      | <=30  | Pass    |

## 4. Maximum Power Spectral Density

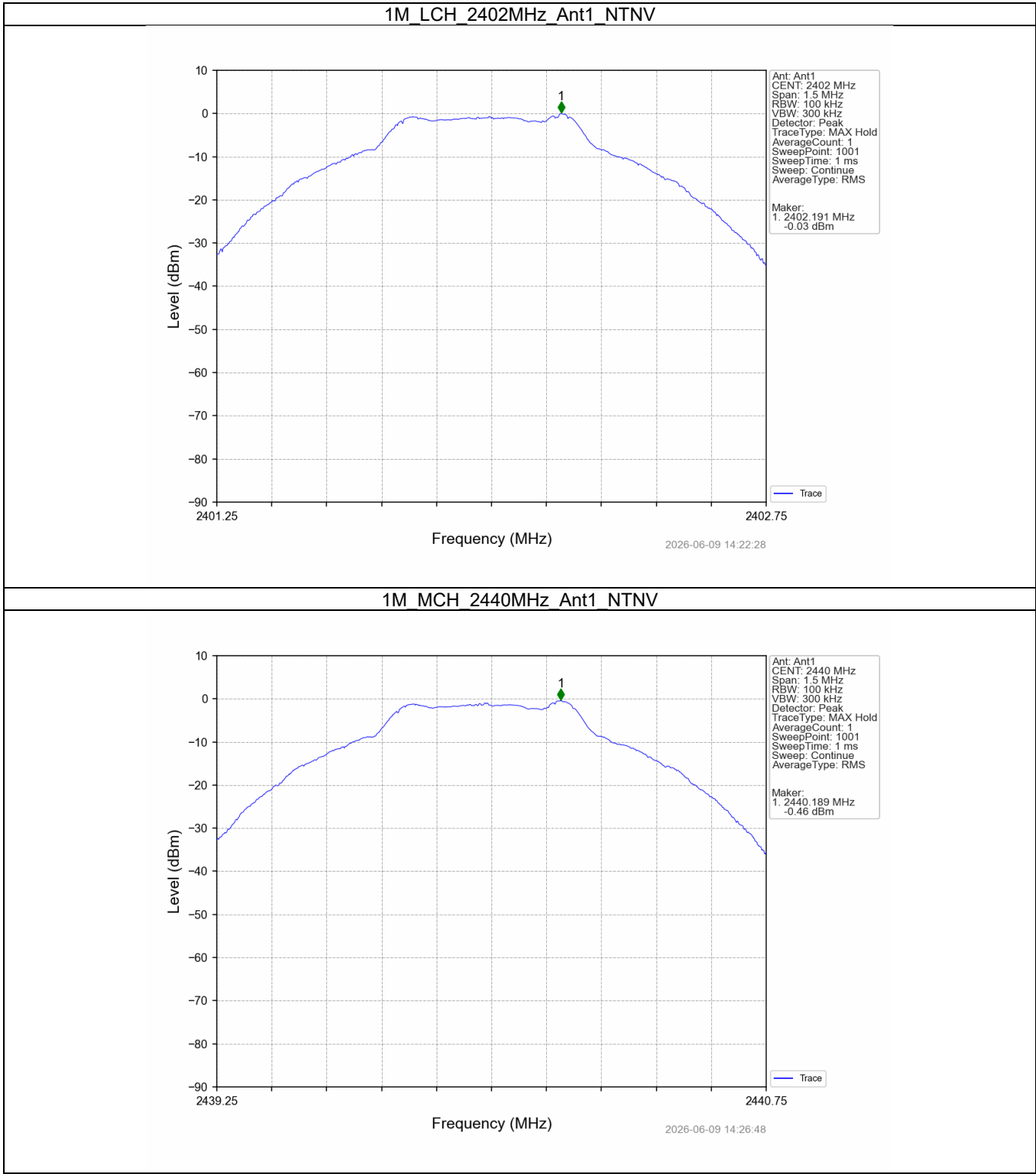
### 4.1 Test Result

#### 4.1.1 PSD

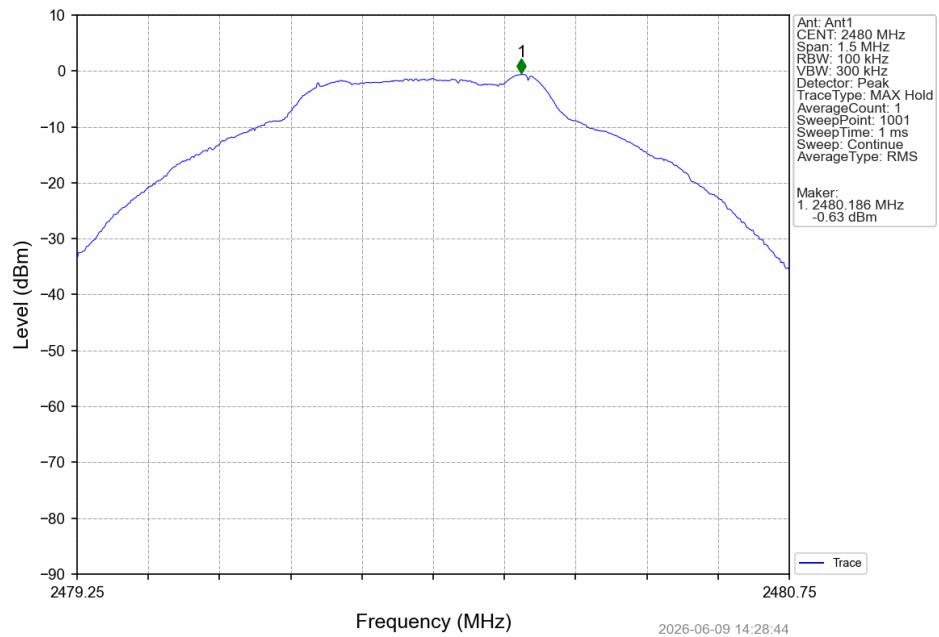
| Mode | TX Type | Frequency (MHz) | Maximum PSD (dBm) |                 | Verdict |
|------|---------|-----------------|-------------------|-----------------|---------|
|      |         |                 | ANT1              | Limit(dBm/3kHz) |         |
| 1M   | SISO    | 2402            | -0.03dBm/100kHz   | <=8             | Pass    |
|      |         | 2440            | -0.46dBm/100kHz   | <=8             | Pass    |
|      |         | 2480            | -0.63dBm/100kHz   | <=8             | Pass    |
| 2M   | SISO    | 2402            | -0.39dBm/100kHz   | <=8             | Pass    |
|      |         | 2440            | -0.75dBm/100kHz   | <=8             | Pass    |
|      |         | 2480            | -0.95dBm/100kHz   | <=8             | Pass    |

4.2 Test Graph

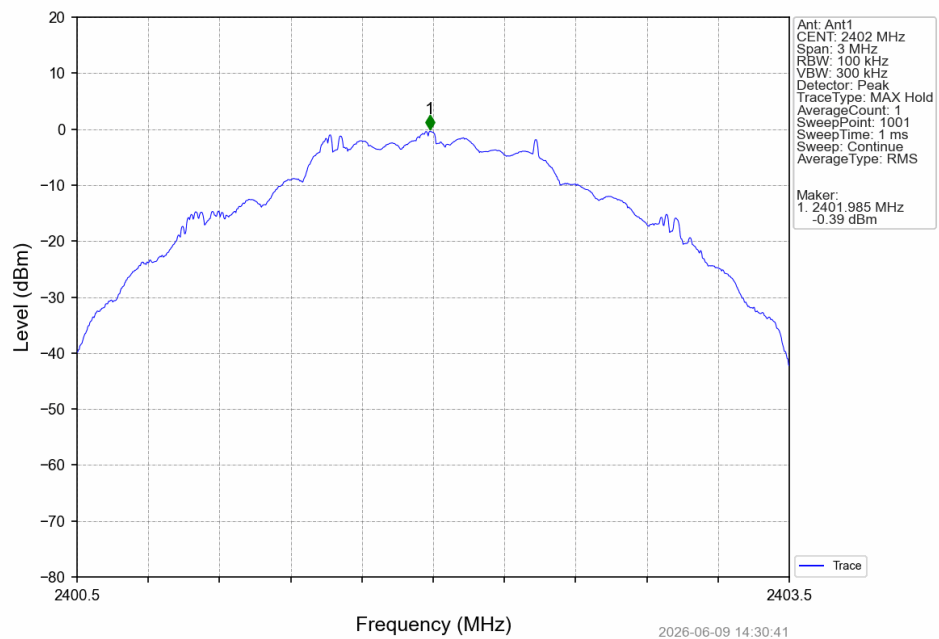
4.2.1 PSD



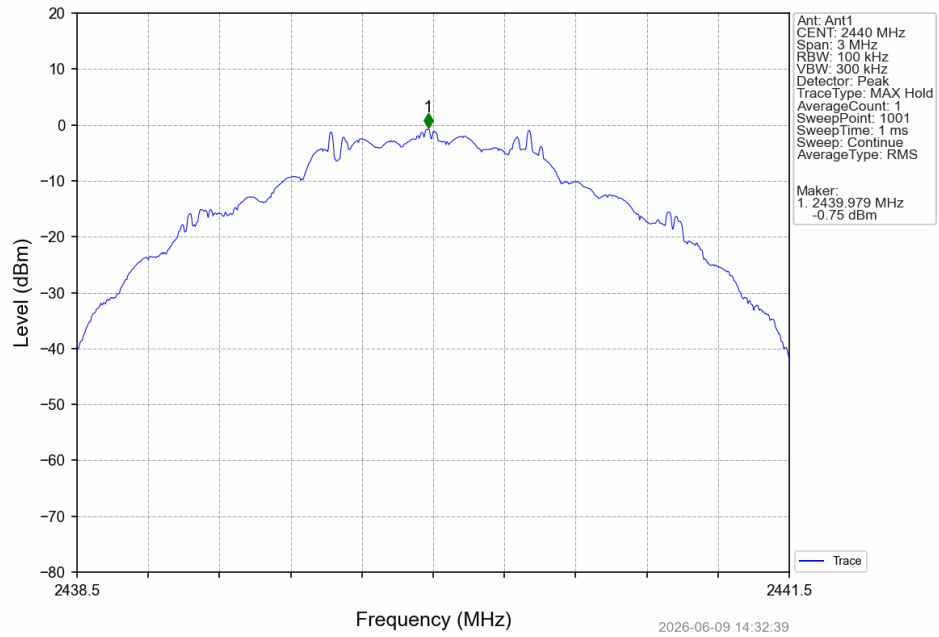
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



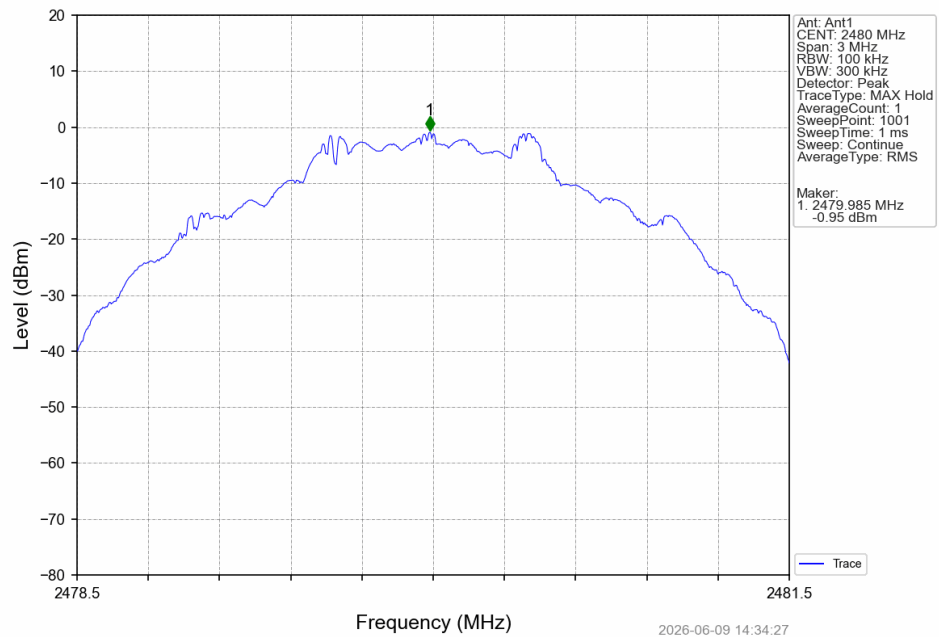
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



# 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

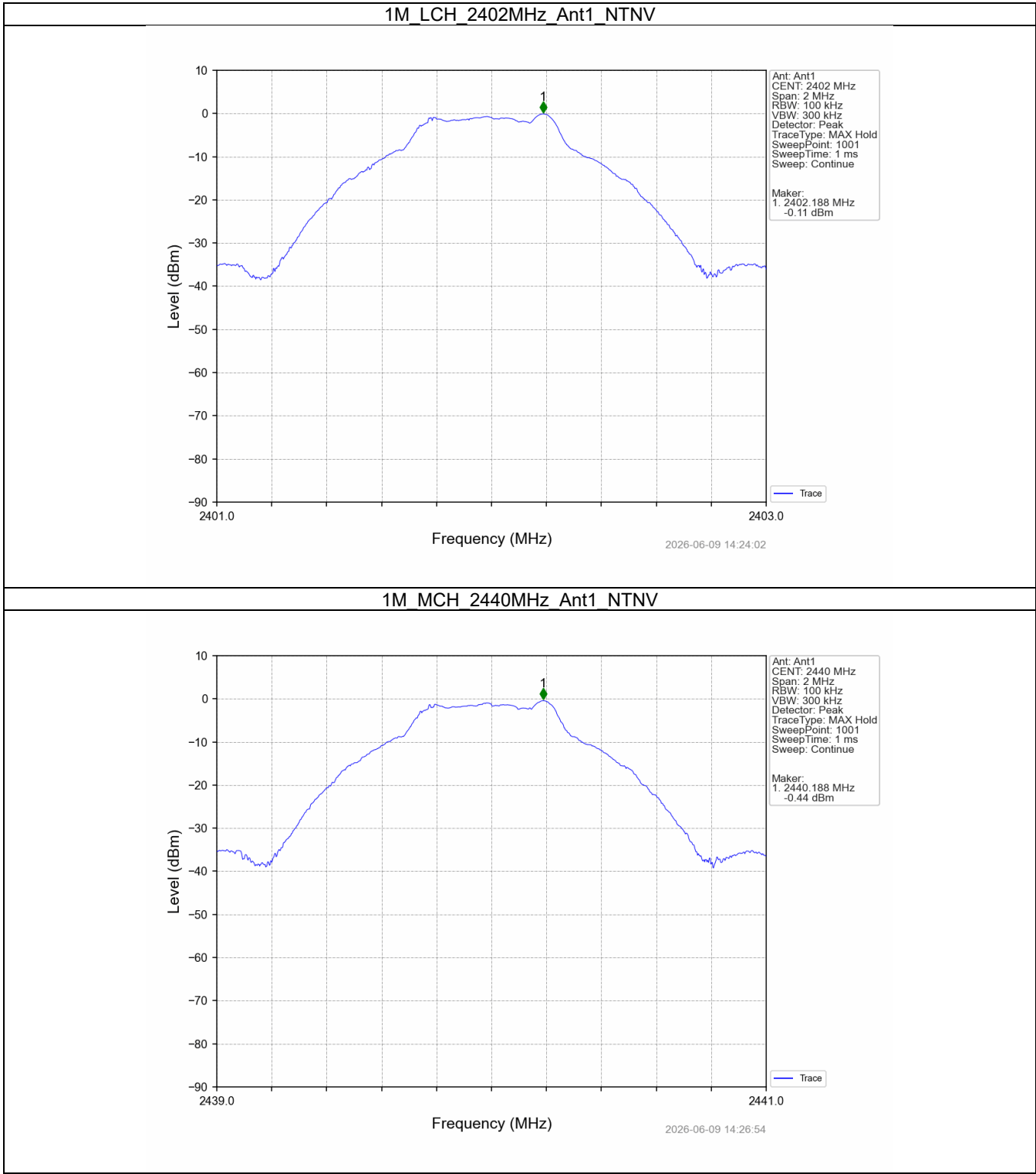
| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) |
|------|---------|-----------------|-----|--------------------------|
| 1M   | SISO    | 2402            | 1   | -0.11                    |
|      |         | 2440            | 1   | -0.44                    |
|      |         | 2480            | 1   | -0.60                    |
| 2M   | SISO    | 2402            | 1   | -0.39                    |
|      |         | 2440            | 1   | -0.77                    |
|      |         | 2480            | 1   | -1.00                    |

#### 5.1.2 CSE

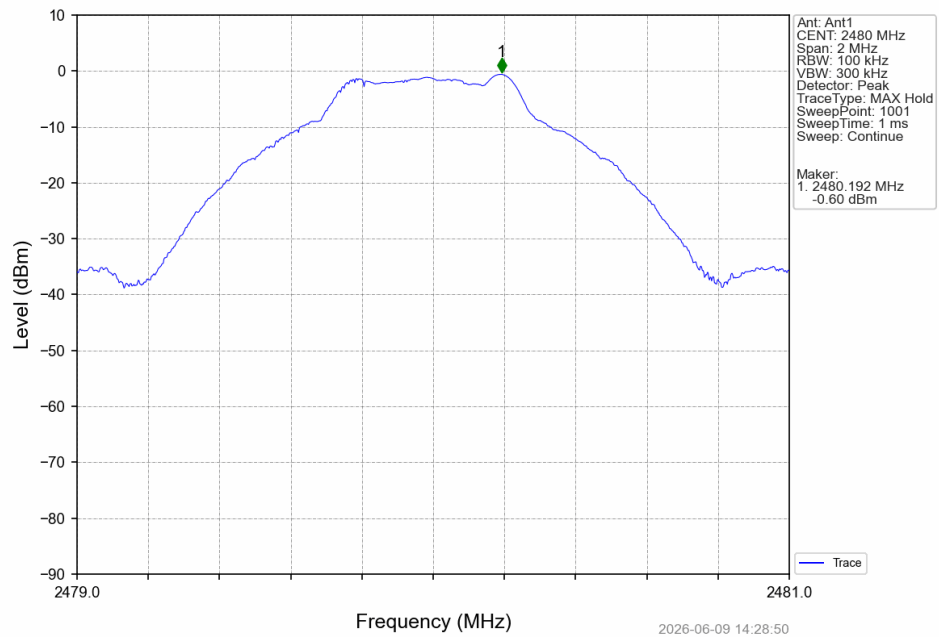
| Mode | TX Type | Frequency (MHz) | ANT | Level of Reference (dBm) | Limit (dBm) | Verdict |
|------|---------|-----------------|-----|--------------------------|-------------|---------|
| 1M   | SISO    | 2402            | 1   | -0.11                    | -20.11      | Pass    |
|      |         | 2440            | 1   | -0.44                    | -20.44      | Pass    |
|      |         | 2480            | 1   | -0.60                    | -20.60      | Pass    |
| 2M   | SISO    | 2402            | 1   | -0.39                    | -20.39      | Pass    |
|      |         | 2440            | 1   | -0.77                    | -20.77      | Pass    |
|      |         | 2480            | 1   | -1.00                    | -21.00      | Pass    |

5.2 Test Graph

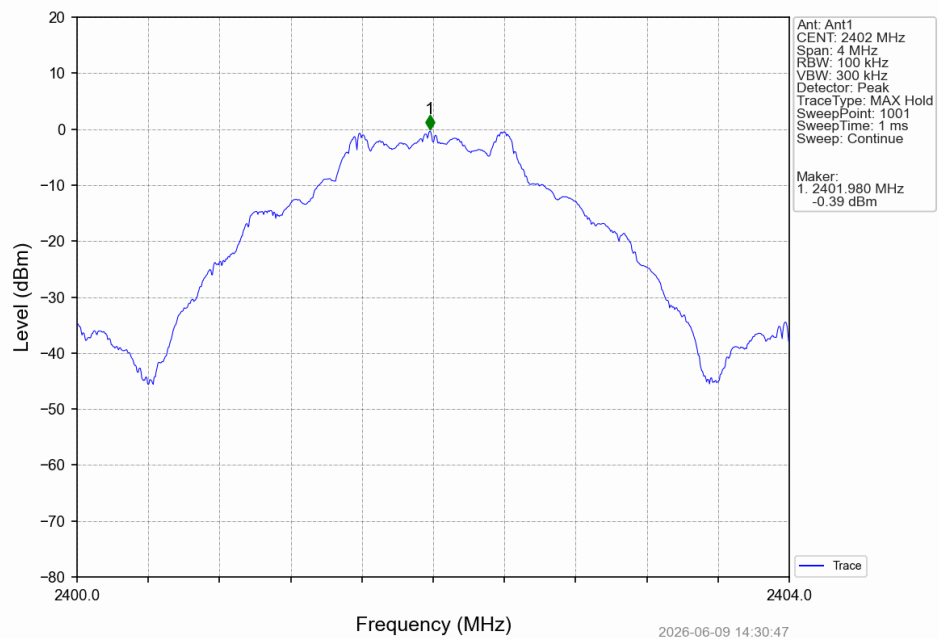
5.2.1 Ref



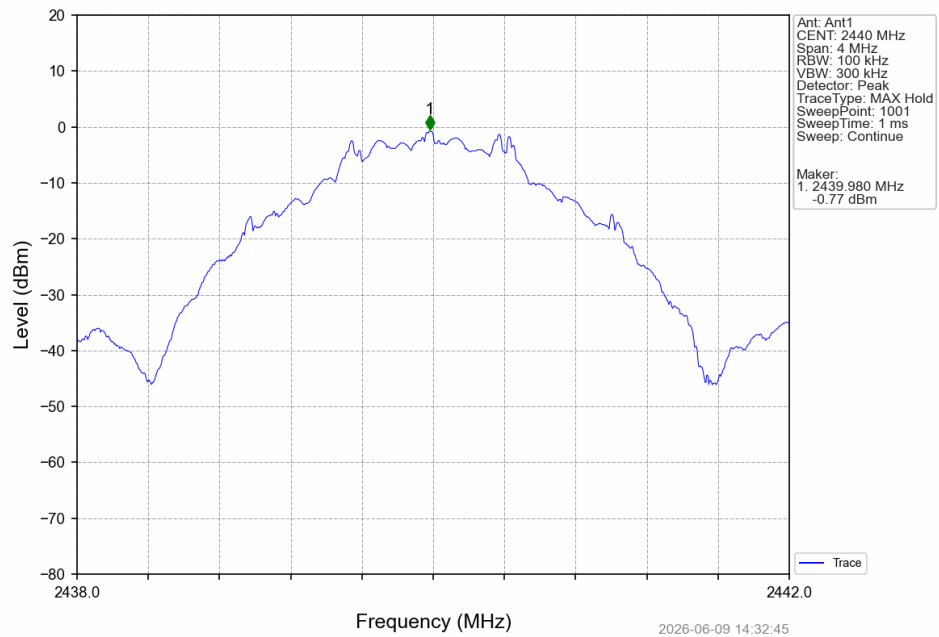
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



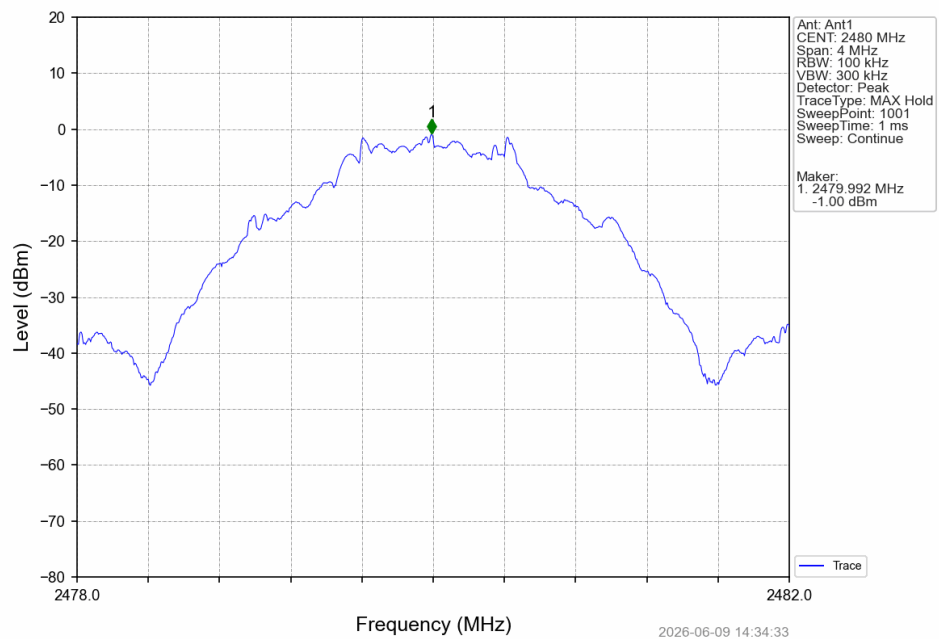
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



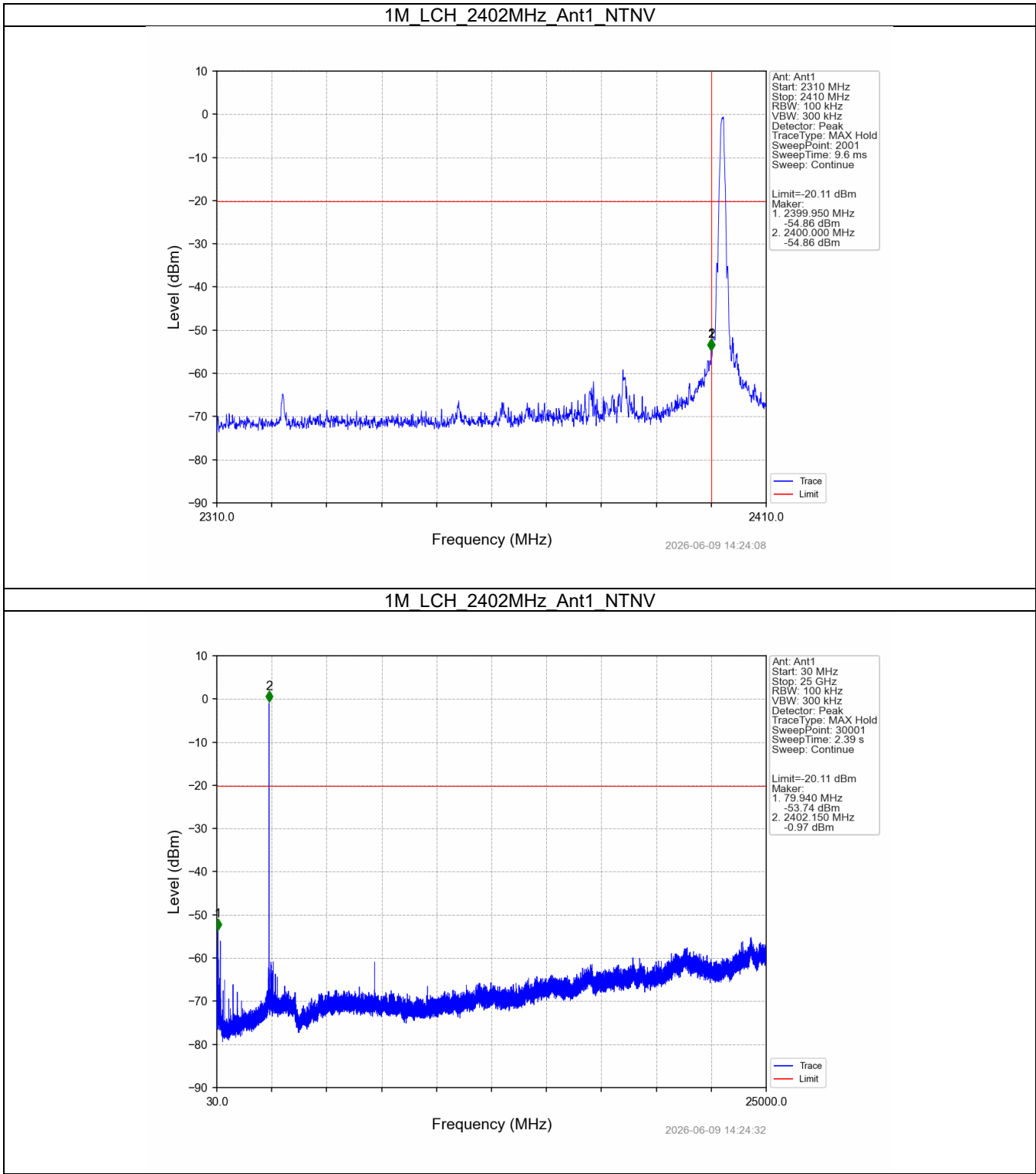
### 2M\_MCH\_2440MHz\_Ant1\_NTNV



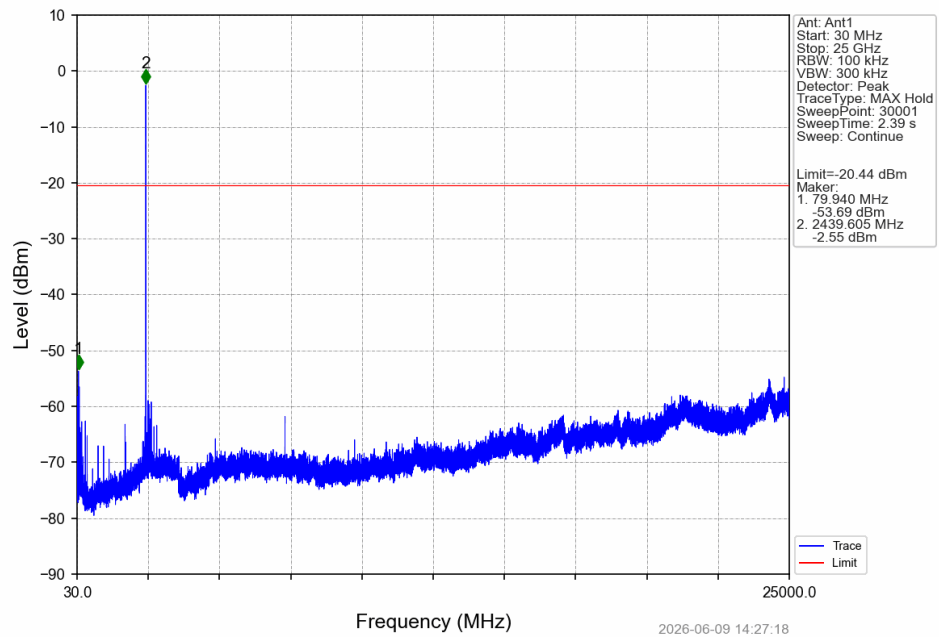
### 2M\_HCH\_2480MHz\_Ant1\_NTNV



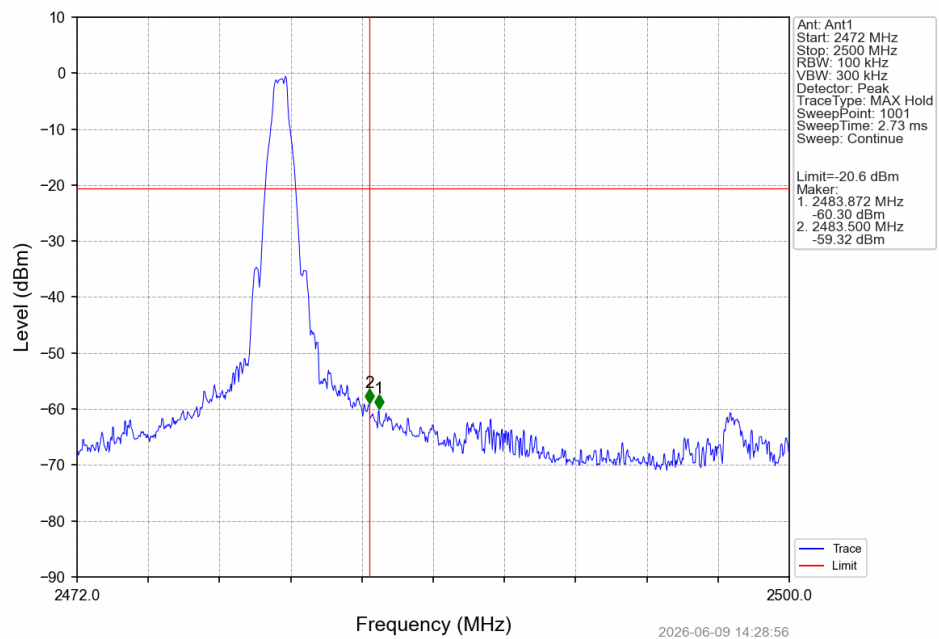
5.2.2 CSE



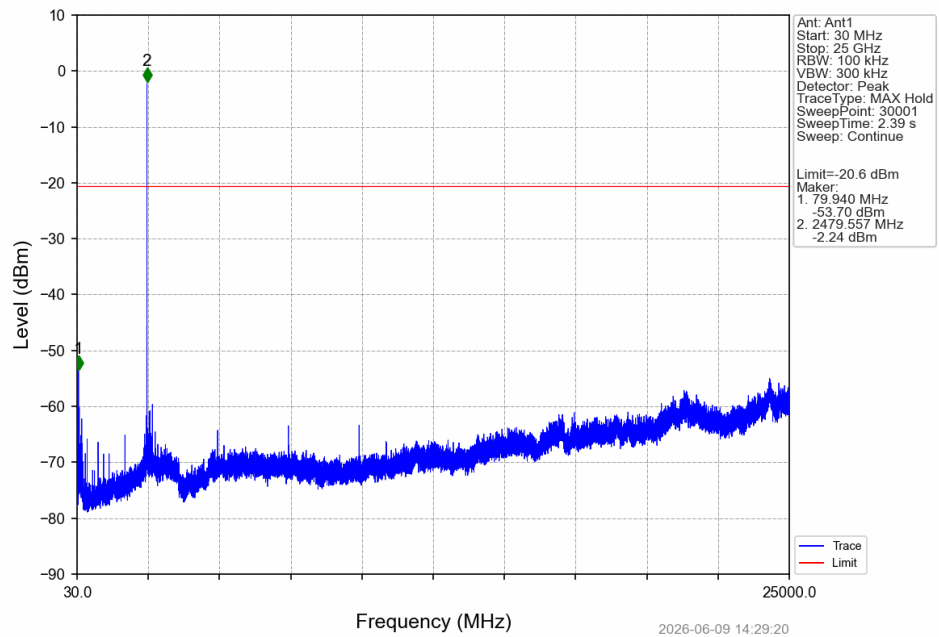
# 1M\_MCH\_2440MHz\_Ant1\_NTNV



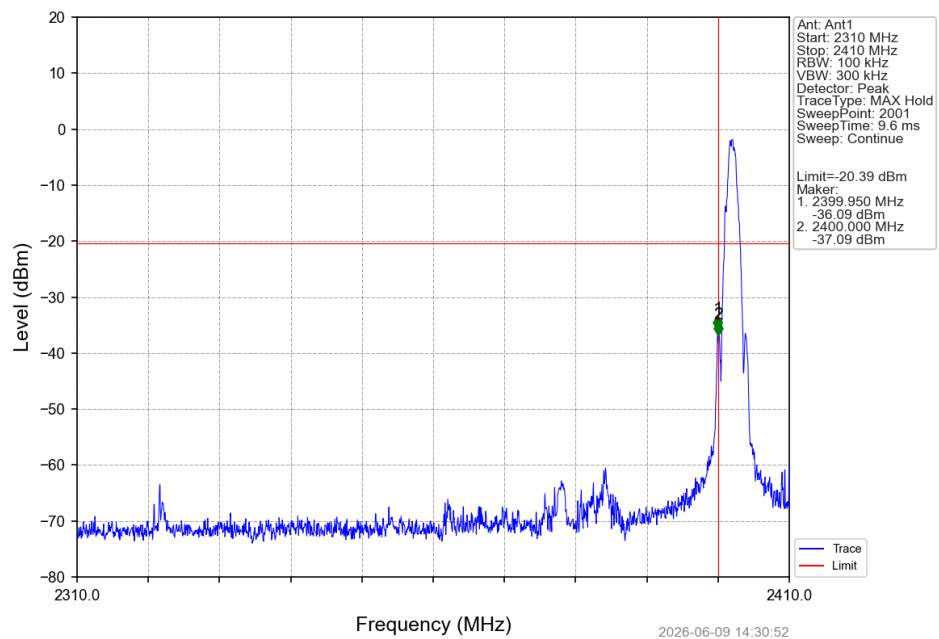
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



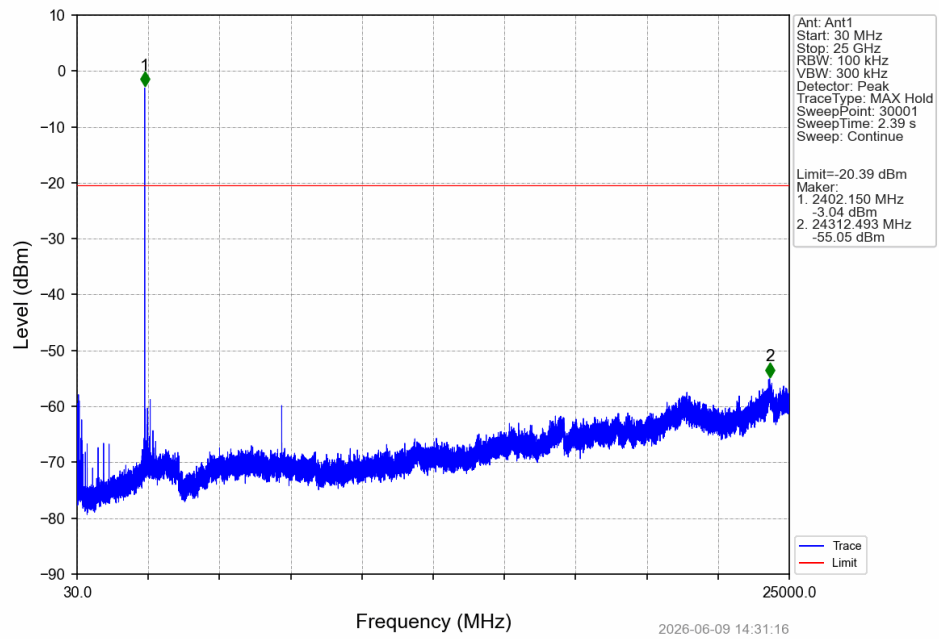
# 1M\_HCH\_2480MHz\_Ant1\_NTNV



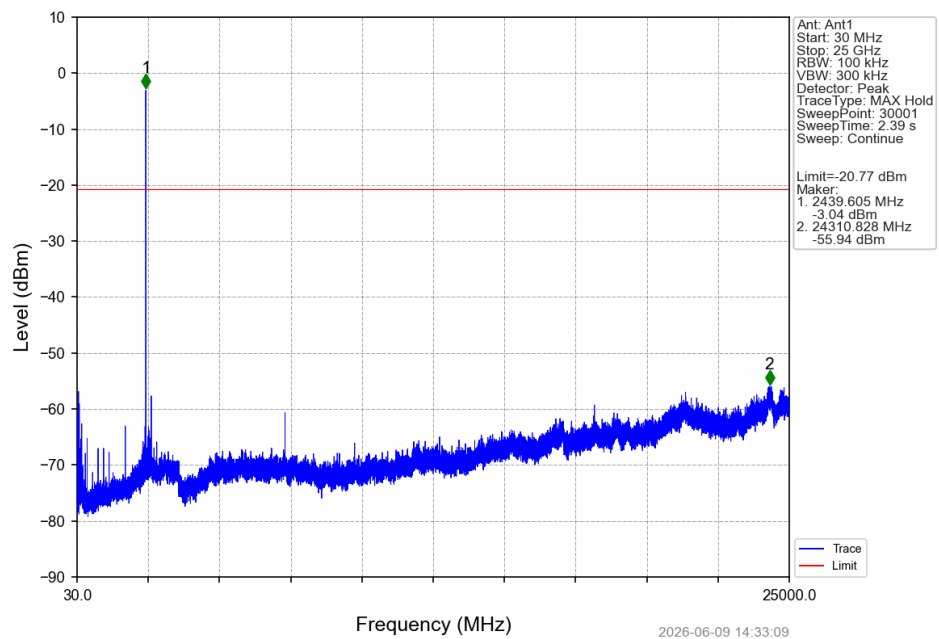
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



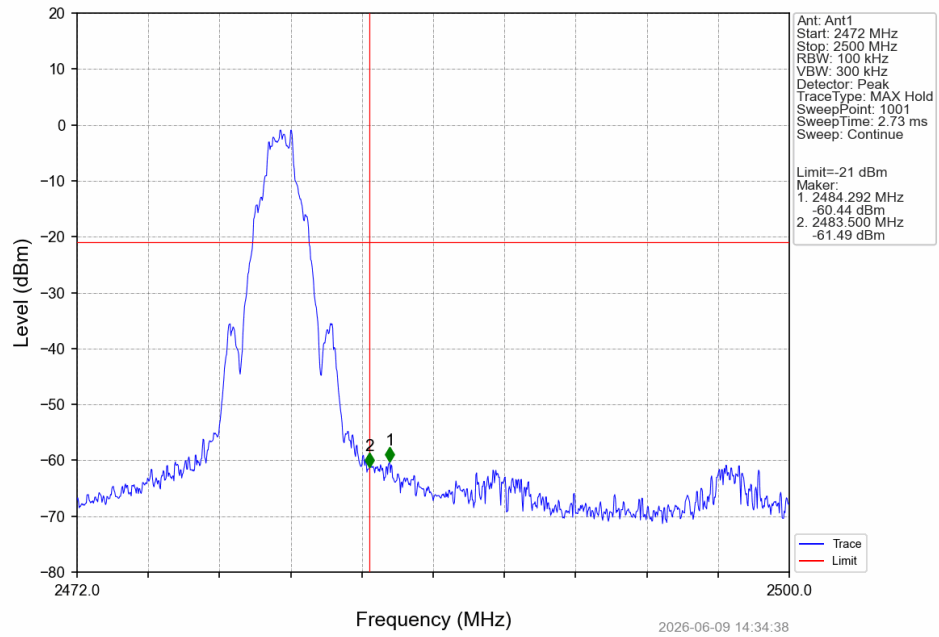
# 2M\_LCH\_2402MHz\_Ant1\_NTNV



# 2M\_MCH\_2440MHz\_Ant1\_NTNV



# 2M\_HCH\_2480MHz\_Ant1\_NTNV



# 2M\_HCH\_2480MHz\_Ant1\_NTNV

