

# Appendix for Bluetooth

Model: ANY-NX1

BTL-FCCP-1-2203G020

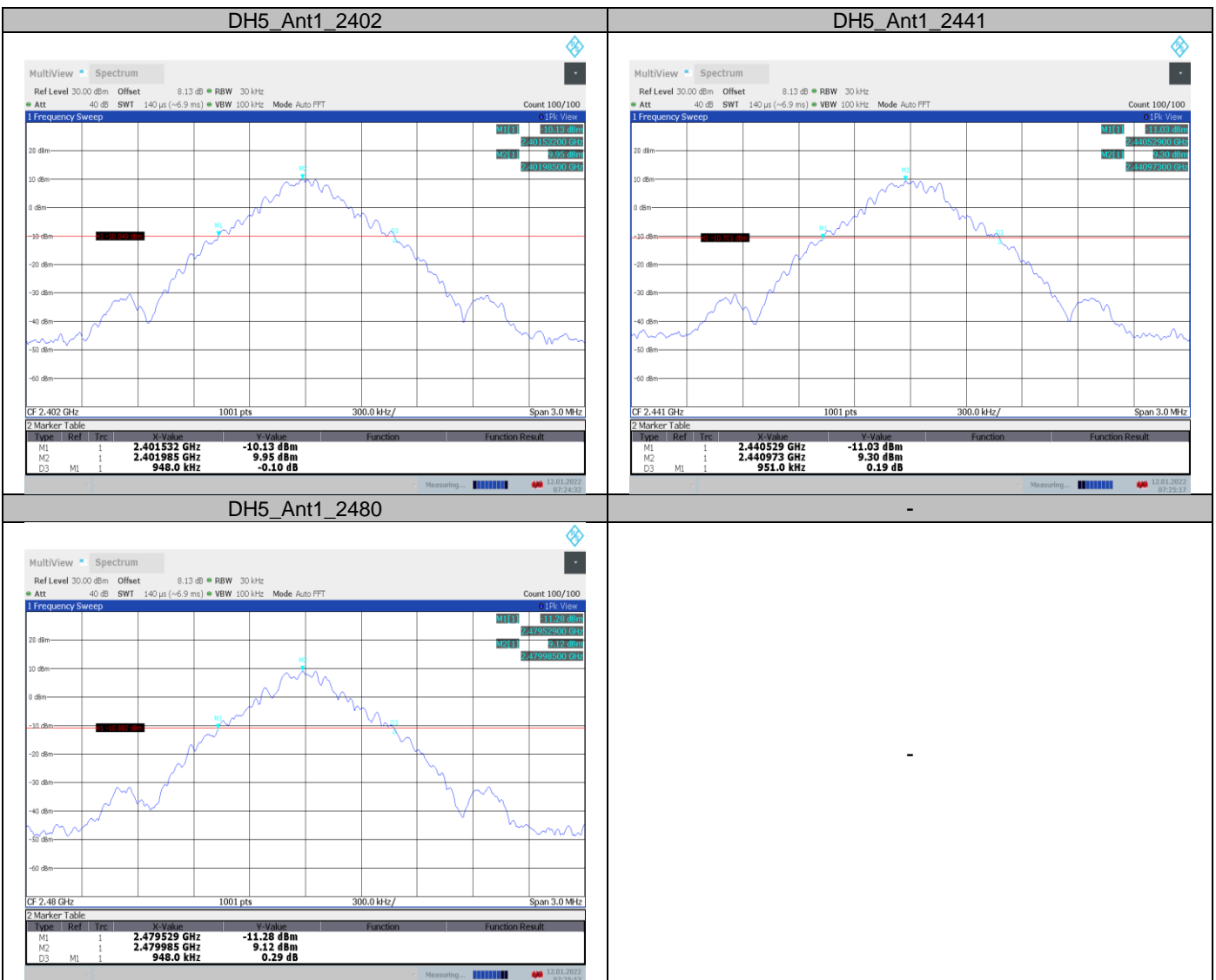
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## 1. APPENDIX A: 6 DB BANDWIDTH

### 1.1 TEST RESULT

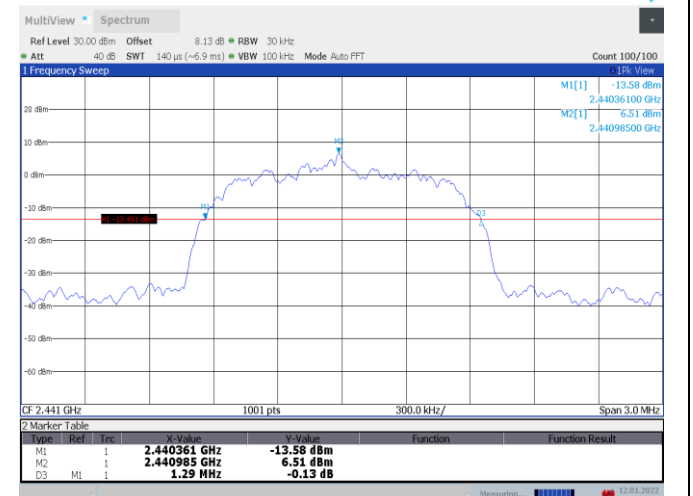
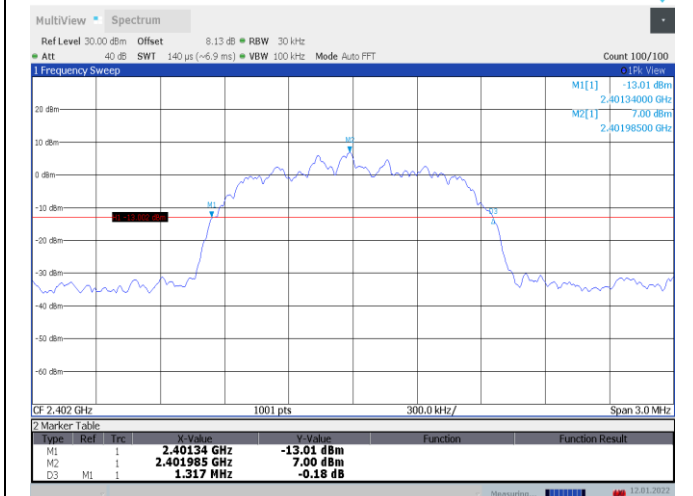
| Test Mode | Antenna | Frequency [MHz] | 20db EBW [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|----------------|----------|----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.948          | 2401.532 | 2402.480 | ---         | PASS    |
|           |         | 2441            | 0.951          | 2440.529 | 2441.480 | ---         | PASS    |
|           |         | 2480            | 0.948          | 2479.529 | 2480.477 | ---         | PASS    |
| 2DH5      | Ant1    | 2402            | 1.317          | 2401.340 | 2402.657 | ---         | PASS    |
|           |         | 2441            | 1.290          | 2440.361 | 2441.651 | ---         | PASS    |
|           |         | 2480            | 1.359          | 2479.319 | 2480.678 | ---         | PASS    |
| 3DH5      | Ant1    | 2402            | 1.311          | 2401.346 | 2402.657 | ---         | PASS    |
|           |         | 2441            | 1.305          | 2440.346 | 2441.651 | ---         | PASS    |
|           |         | 2480            | 1.299          | 2479.349 | 2480.648 | ---         | PASS    |

### 1.2 TEST GRAPHS

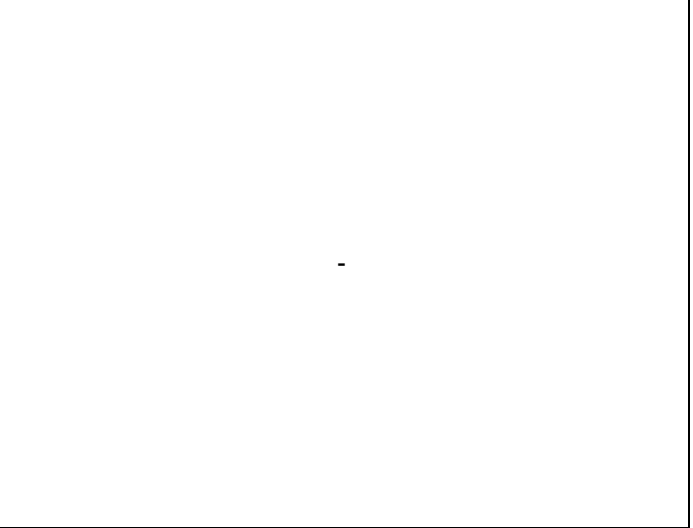


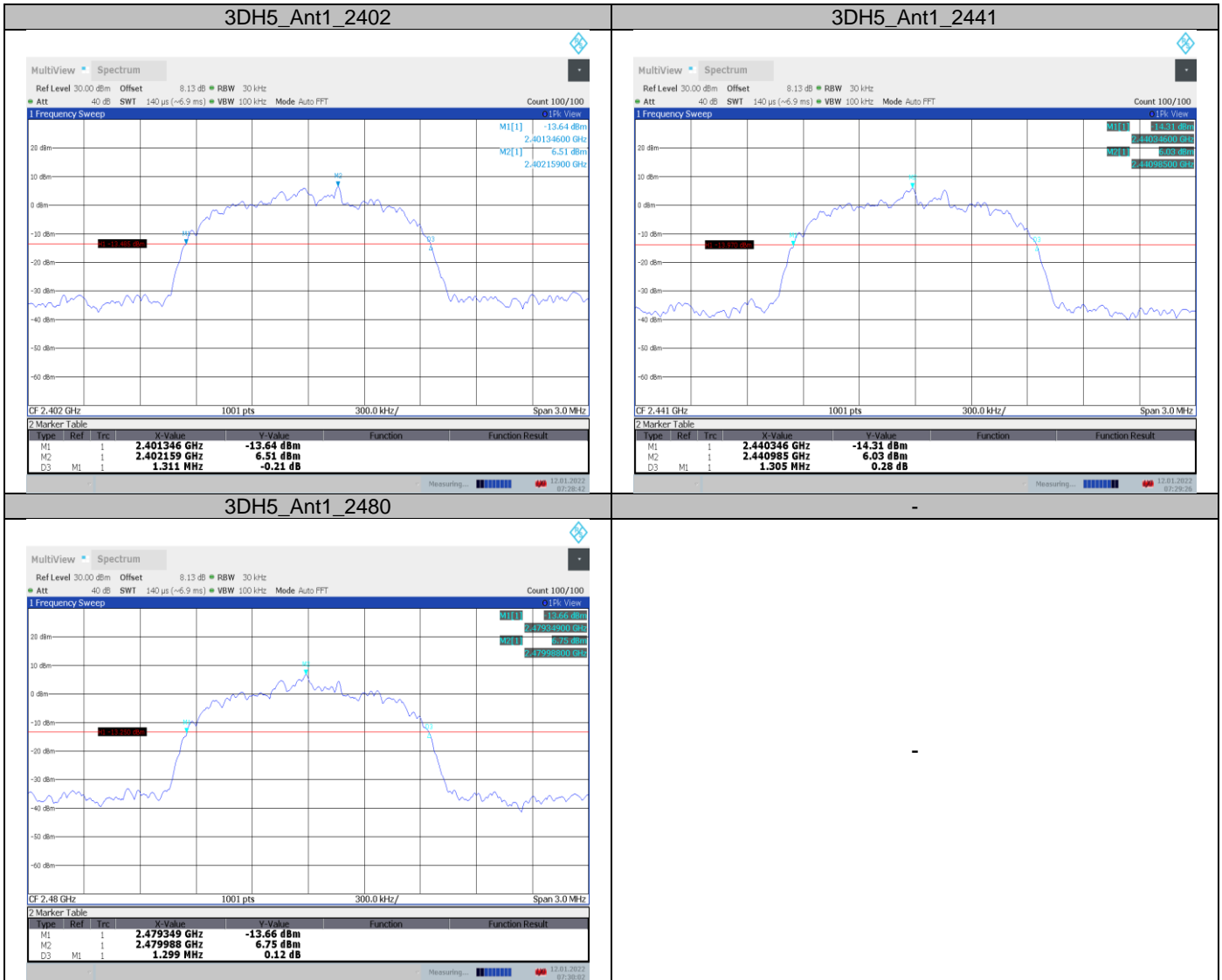
## 2DH5\_Ant1\_2402

## 2DH5\_Ant1\_2441



## 2DH5\_Ant1\_2480



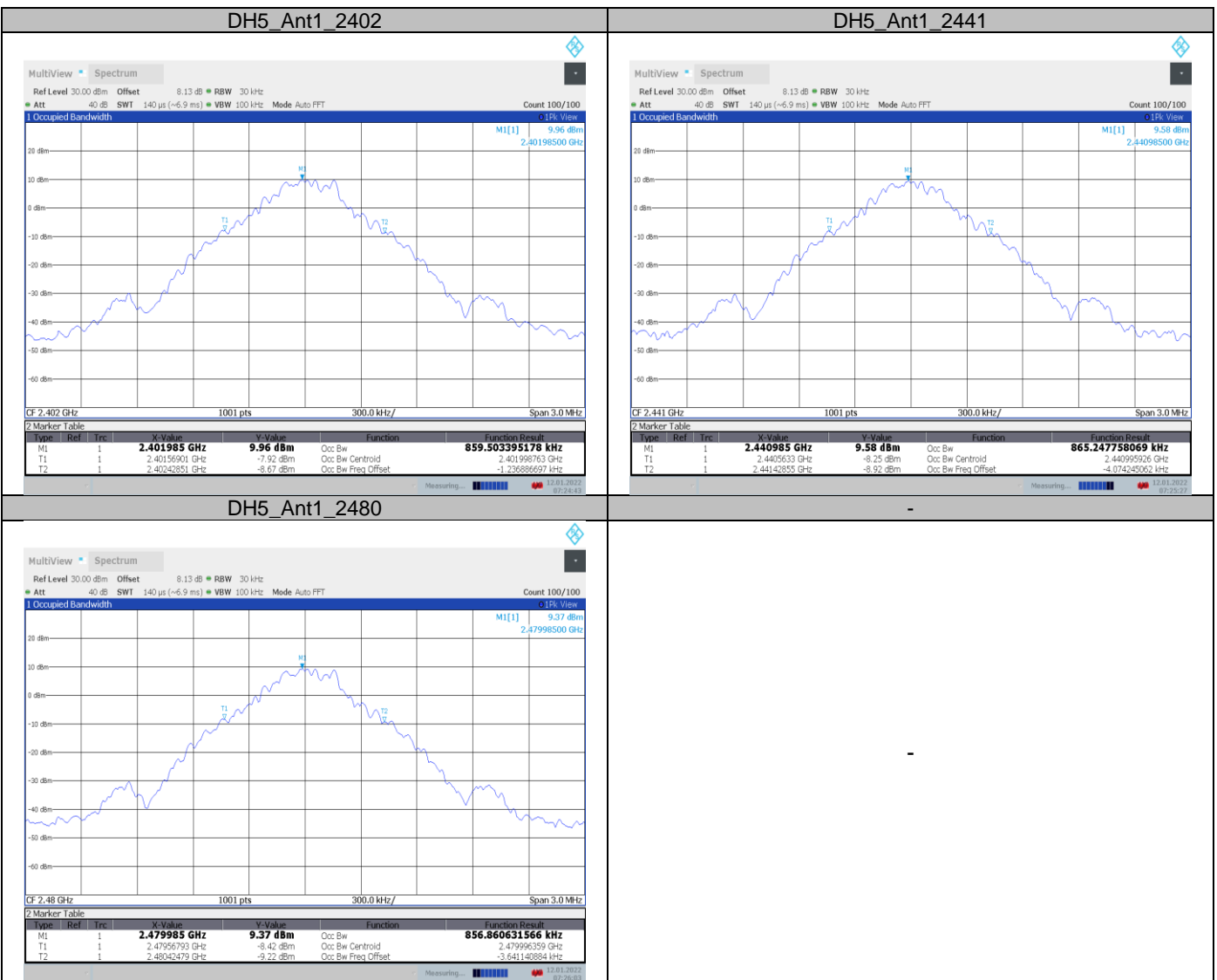


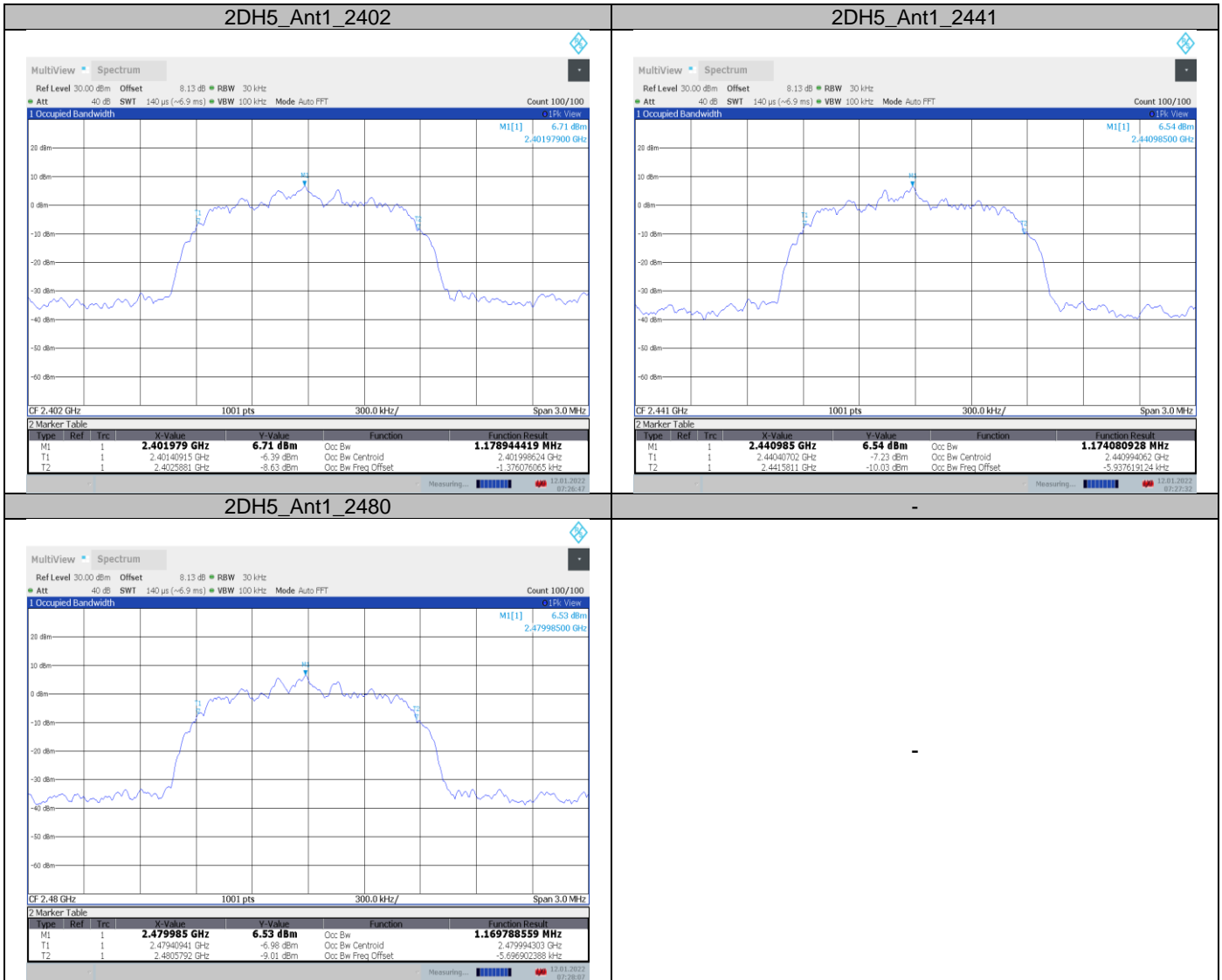
## 2. APPENDIX B: 99% EMISSION BANDWIDTH

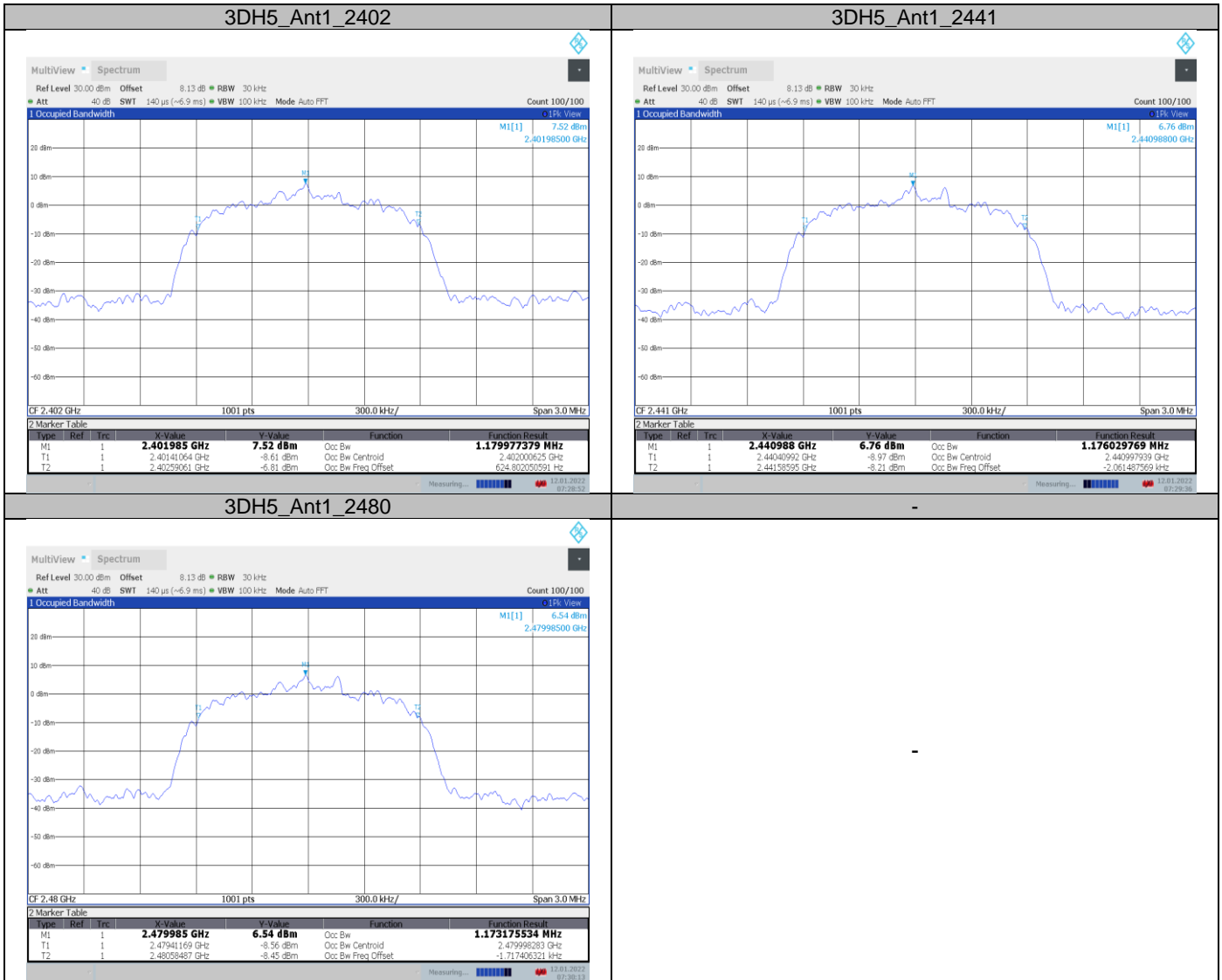
### 2.1 TEST RESULT

| Test Mode | Antenna | Frequency [MHz] | OCB [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|-----------|----------|----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.86      | 2401.569 | 2402.429 | ---         | PASS    |
|           |         | 2441            | 0.865     | 2440.563 | 2441.429 | ---         | PASS    |
|           |         | 2480            | 0.857     | 2479.568 | 2480.425 | ---         | PASS    |
| 2DH5      | Ant1    | 2402            | 1.179     | 2401.409 | 2402.588 | ---         | PASS    |
|           |         | 2441            | 1.174     | 2440.407 | 2441.581 | ---         | PASS    |
|           |         | 2480            | 1.17      | 2479.409 | 2480.579 | ---         | PASS    |
| 3DH5      | Ant1    | 2402            | 1.18      | 2401.411 | 2402.591 | ---         | PASS    |
|           |         | 2441            | 1.176     | 2440.410 | 2441.586 | ---         | PASS    |
|           |         | 2480            | 1.173     | 2479.412 | 2480.585 | ---         | PASS    |

### 2.2 TEST GRAPHS







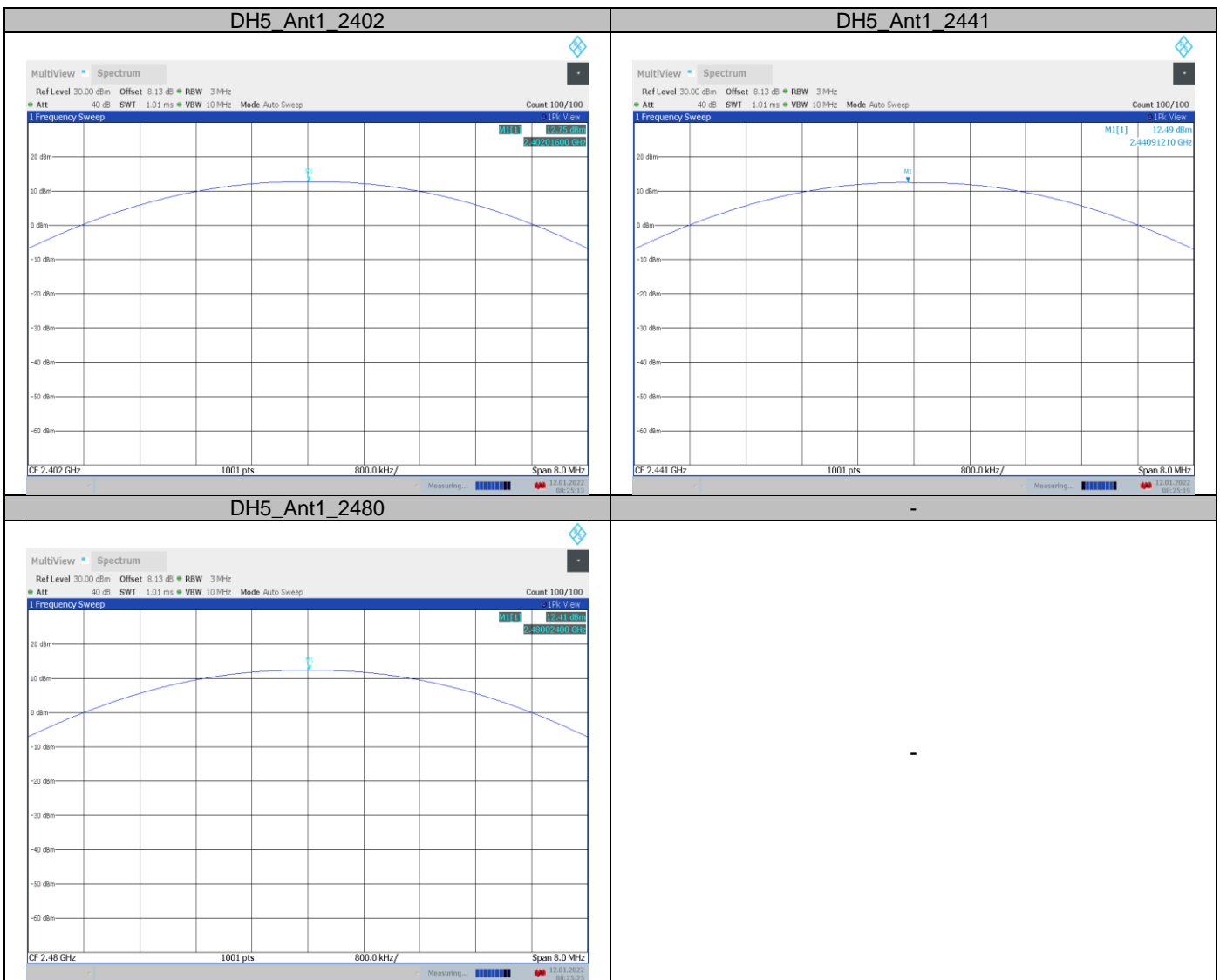


### 3. APPENDIX C: MAXIMUM OUTPUT POWER

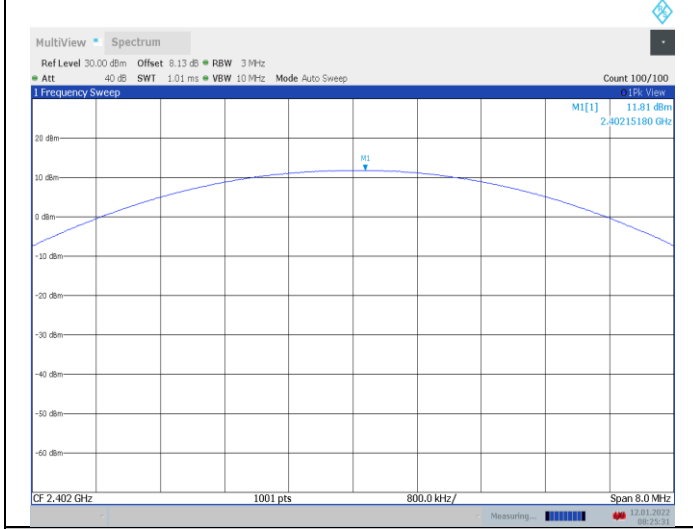
#### 3.1 TEST RESULT

| Test Mode | Antenna | Frequency [MHz] | Conducted Peak Power [dBm] | Conducted Peak Power Limit [dBm] | Verdict |
|-----------|---------|-----------------|----------------------------|----------------------------------|---------|
| DH5       | Ant1    | 2402            | 12.75                      | <=30                             | PASS    |
|           |         | 2441            | 12.49                      | <=30                             | PASS    |
|           |         | 2480            | 12.41                      | <=30                             | PASS    |
| 2DH5      | Ant1    | 2402            | 11.81                      | <=20.97                          | PASS    |
|           |         | 2441            | 11.35                      | <=20.97                          | PASS    |
|           |         | 2480            | 11.31                      | <=20.97                          | PASS    |
| 3DH5      | Ant1    | 2402            | 12.01                      | <=20.97                          | PASS    |
|           |         | 2441            | 11.7                       | <=20.97                          | PASS    |
|           |         | 2480            | 11.66                      | <=20.97                          | PASS    |

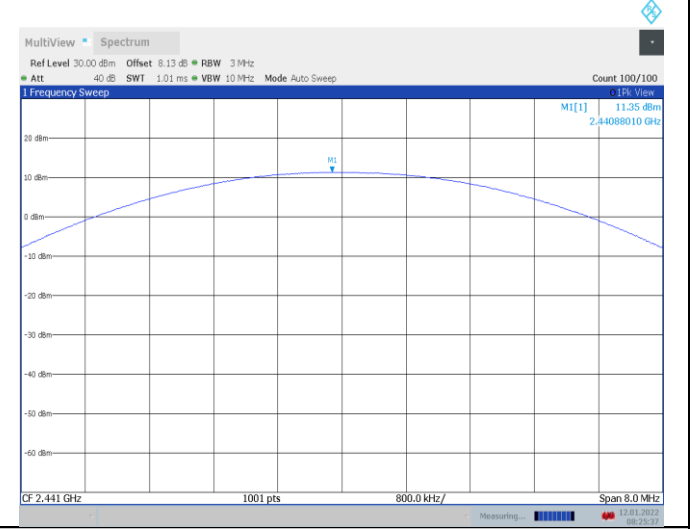
#### 3.2 TEST GRAPHS



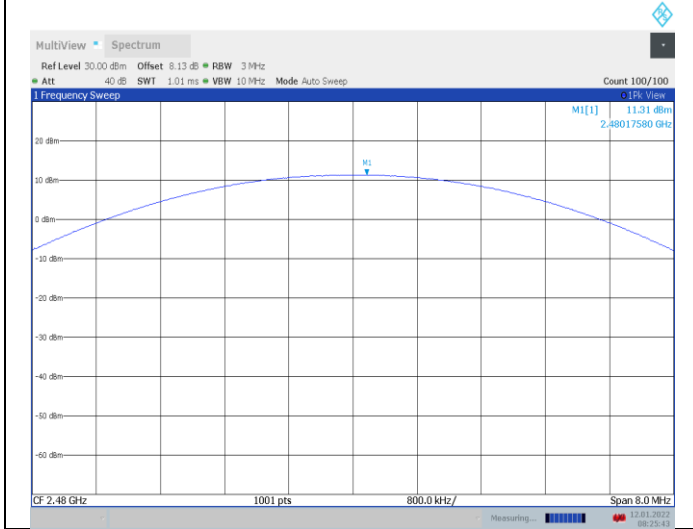
2DH5\_Ant1\_2402



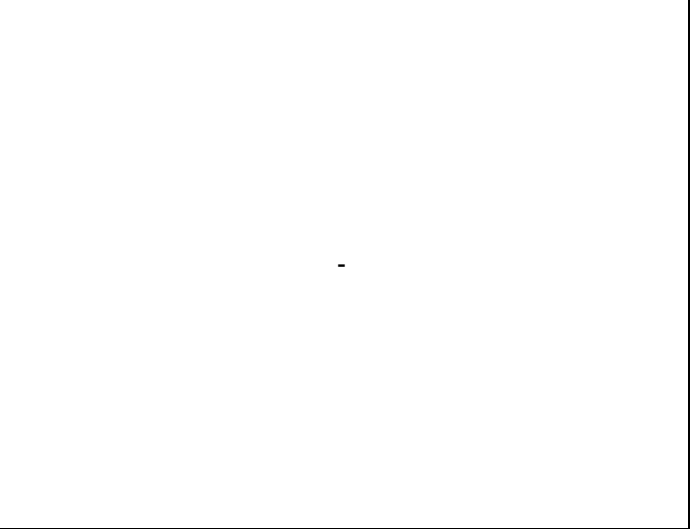
2DH5\_Ant1\_2441



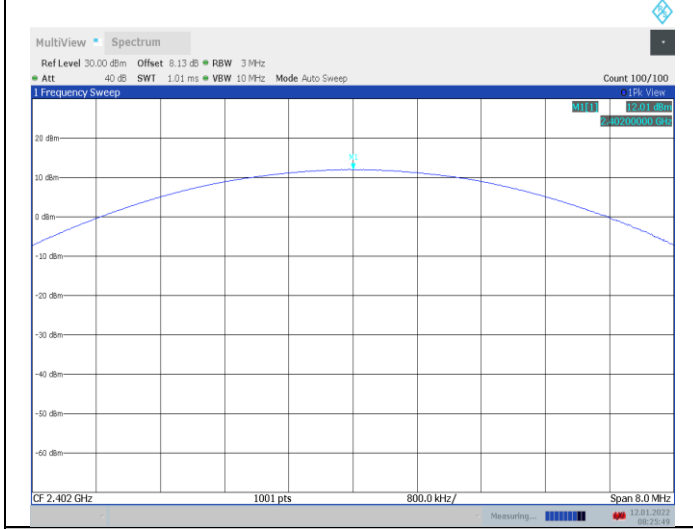
2DH5\_Ant1\_2480



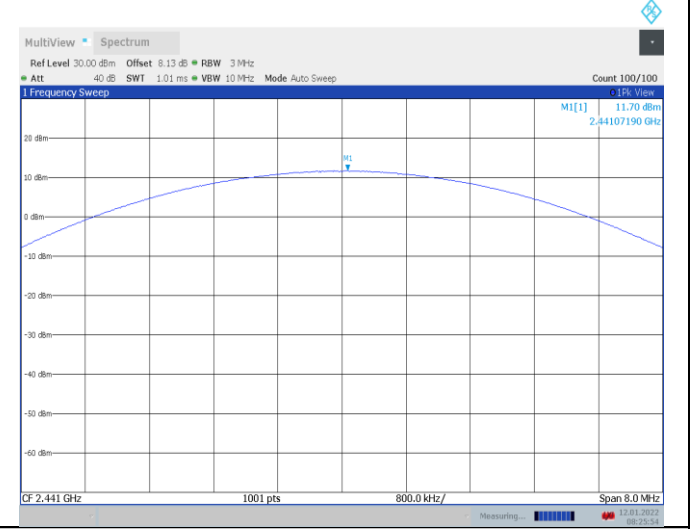
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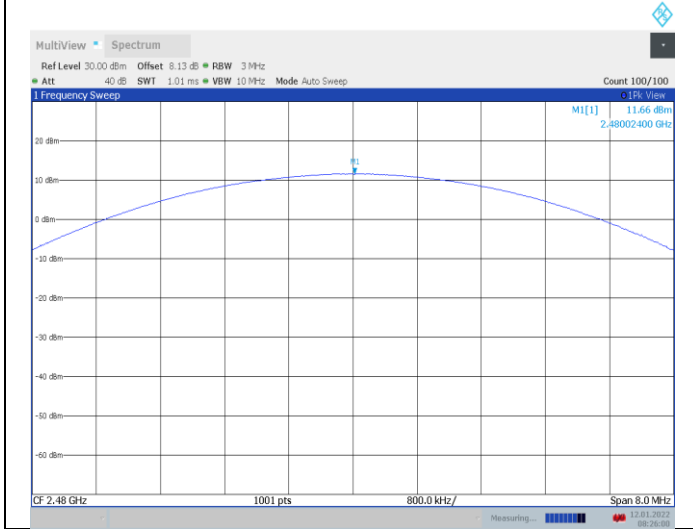
3DH5\_Ant1\_2402



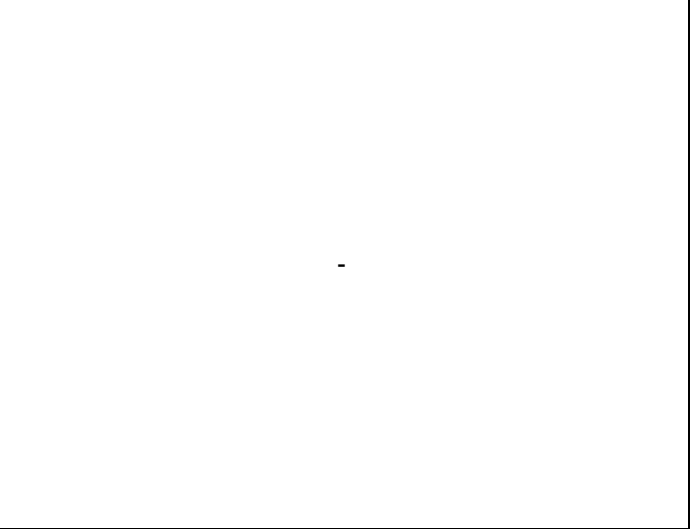
3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



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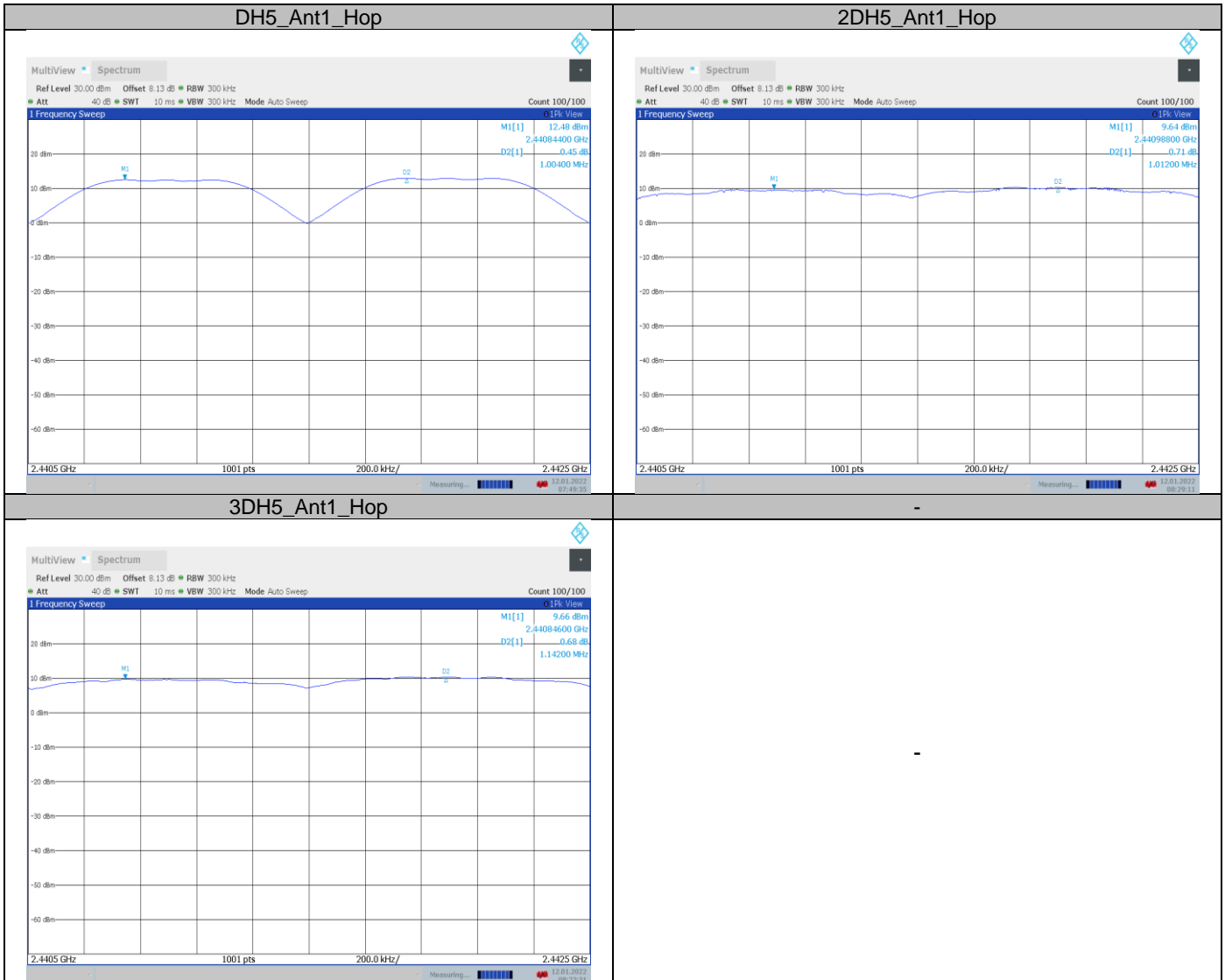


## 4. APPENDIX D: HOPPING CHANNEL SEPARATION

### 4.1 TEST RESULT

| Test Mode | Antenna | Frequency [MHz] | Result [MHz] | Limit [MHz]  | Verdict |
|-----------|---------|-----------------|--------------|--------------|---------|
| DH5       | Ant1    | Hop             | 1.004        | $\geq 0.634$ | PASS    |
| 2DH5      | Ant1    | Hop             | 1.012        | $\geq 0.906$ | PASS    |
| 3DH5      | Ant1    | Hop             | 1.142        | $\geq 0.874$ | PASS    |

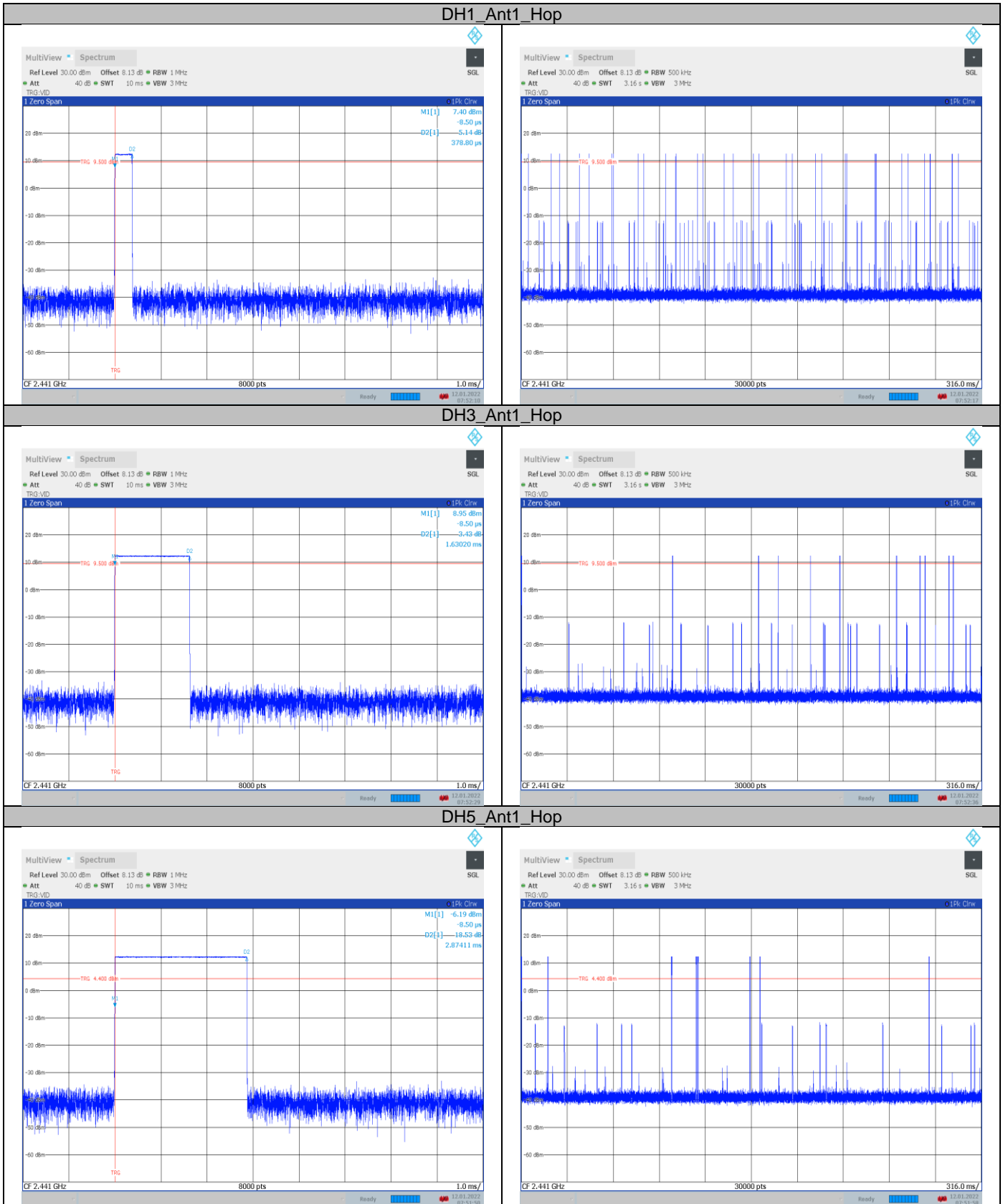
### 4.2 TEST GRAPHS



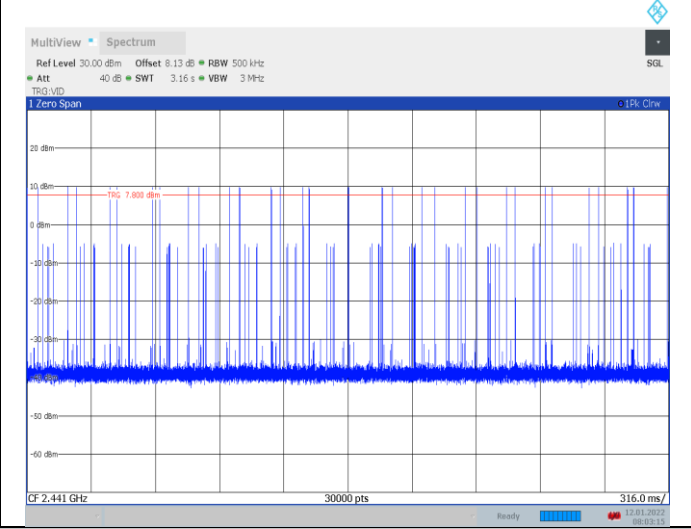
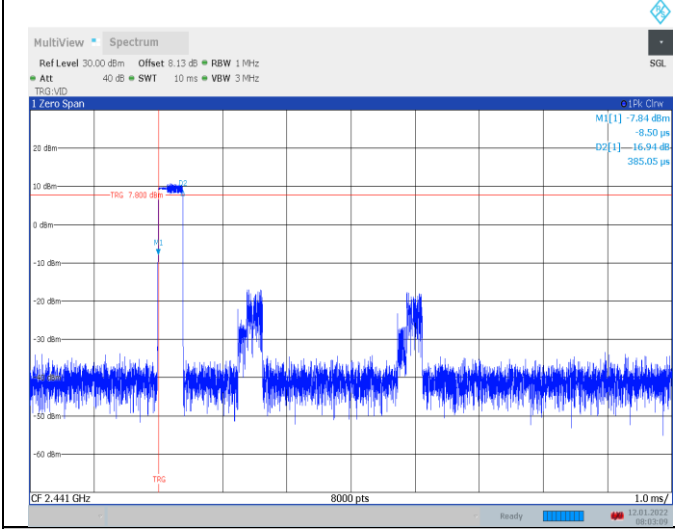
**5. APPENDIX E: AVERAGE TIME OF OCCUPANCY****5.1 TEST RESULT**

| Test Mode | Antenna | Frequency [MHz] | Burst Width [ms] | Total Hops [Num] | Result [s] | Limit [s] | Verdict |
|-----------|---------|-----------------|------------------|------------------|------------|-----------|---------|
| DH1       | Ant1    | Hop             | 0.38             | 320              | 0.121      | <=0.4     | PASS    |
| DH3       | Ant1    | Hop             | 1.63             | 110              | 0.179      | <=0.4     | PASS    |
| DH5       | Ant1    | Hop             | 2.87             | 80               | 0.23       | <=0.4     | PASS    |
| 2DH1      | Ant1    | Hop             | 0.39             | 330              | 0.127      | <=0.4     | PASS    |
| 2DH3      | Ant1    | Hop             | 1.63             | 140              | 0.228      | <=0.4     | PASS    |
| 2DH5      | Ant1    | Hop             | 2.88             | 70               | 0.201      | <=0.4     | PASS    |
| 3DH1      | Ant1    | Hop             | 0.39             | 330              | 0.127      | <=0.4     | PASS    |
| 3DH3      | Ant1    | Hop             | 1.63             | 160              | 0.261      | <=0.4     | PASS    |
| 3DH5      | Ant1    | Hop             | 2.88             | 90               | 0.259      | <=0.4     | PASS    |

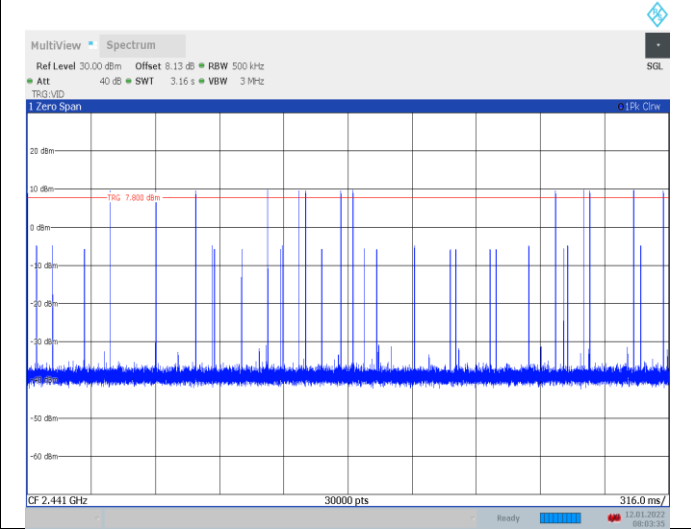
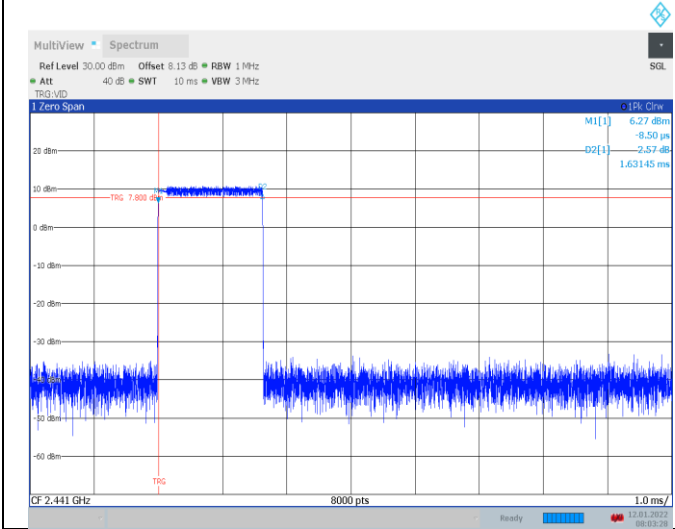
## 5.2 TEST GRAPHS



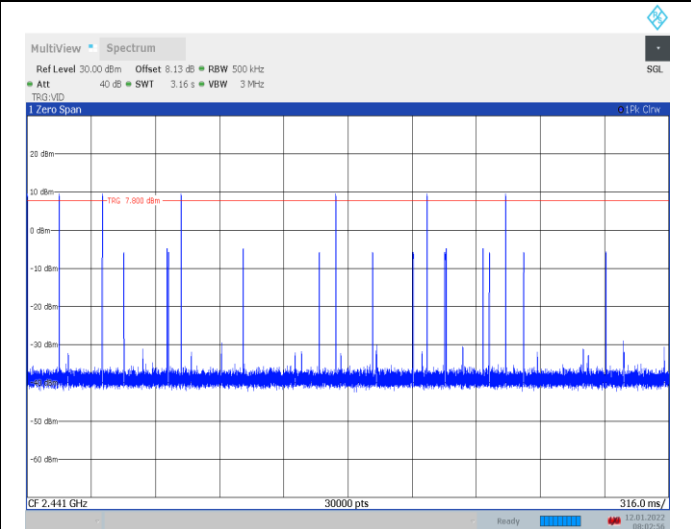
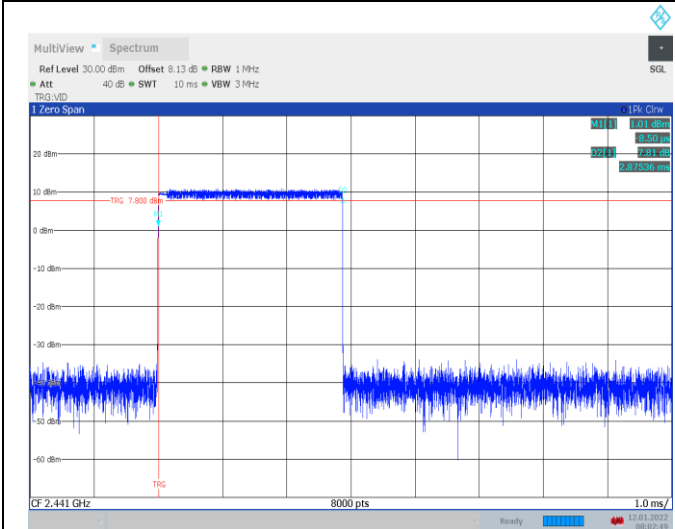
## 2DH1\_Ant1\_Hop



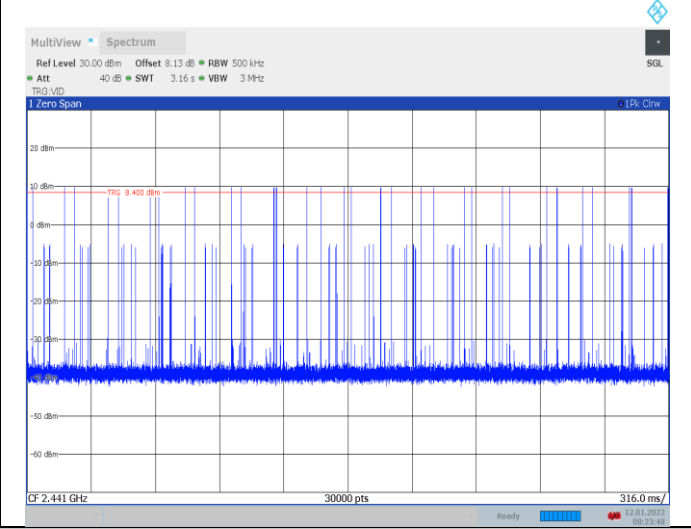
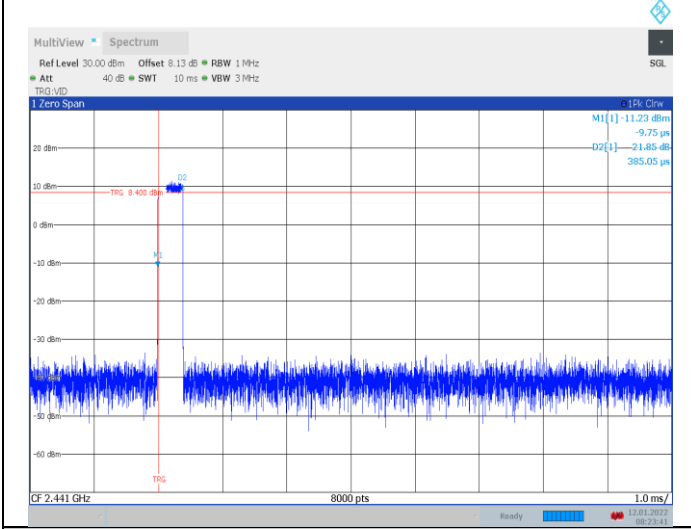
## 2DH3\_Ant1\_Hop



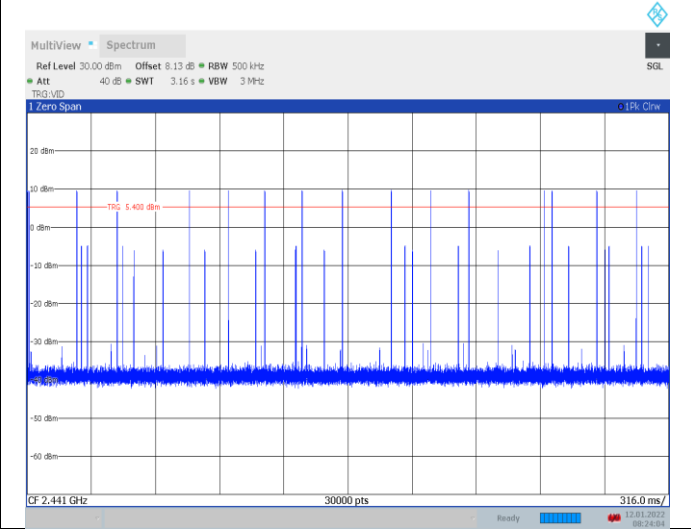
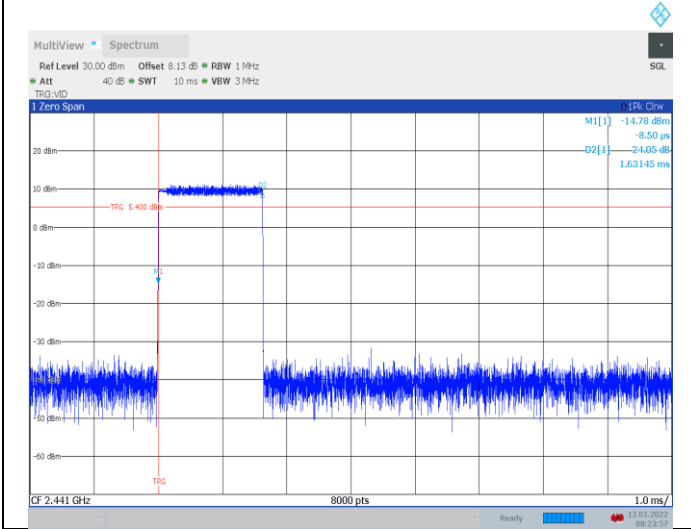
## 2DH5\_Ant1\_Hop



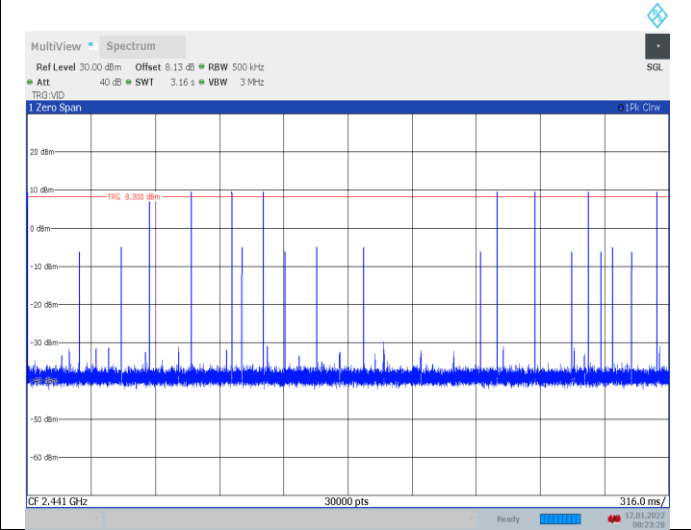
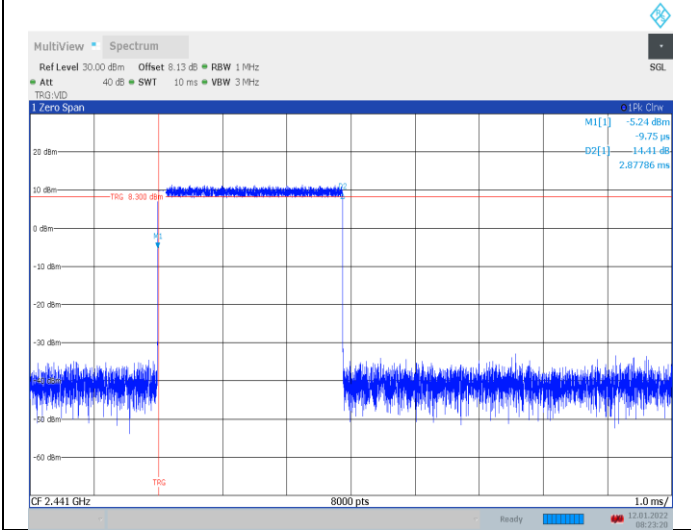
### 3DH1\_Ant1\_Hop



### 3DH3\_Ant1\_Hop



### 3DH5\_Ant1\_Hop



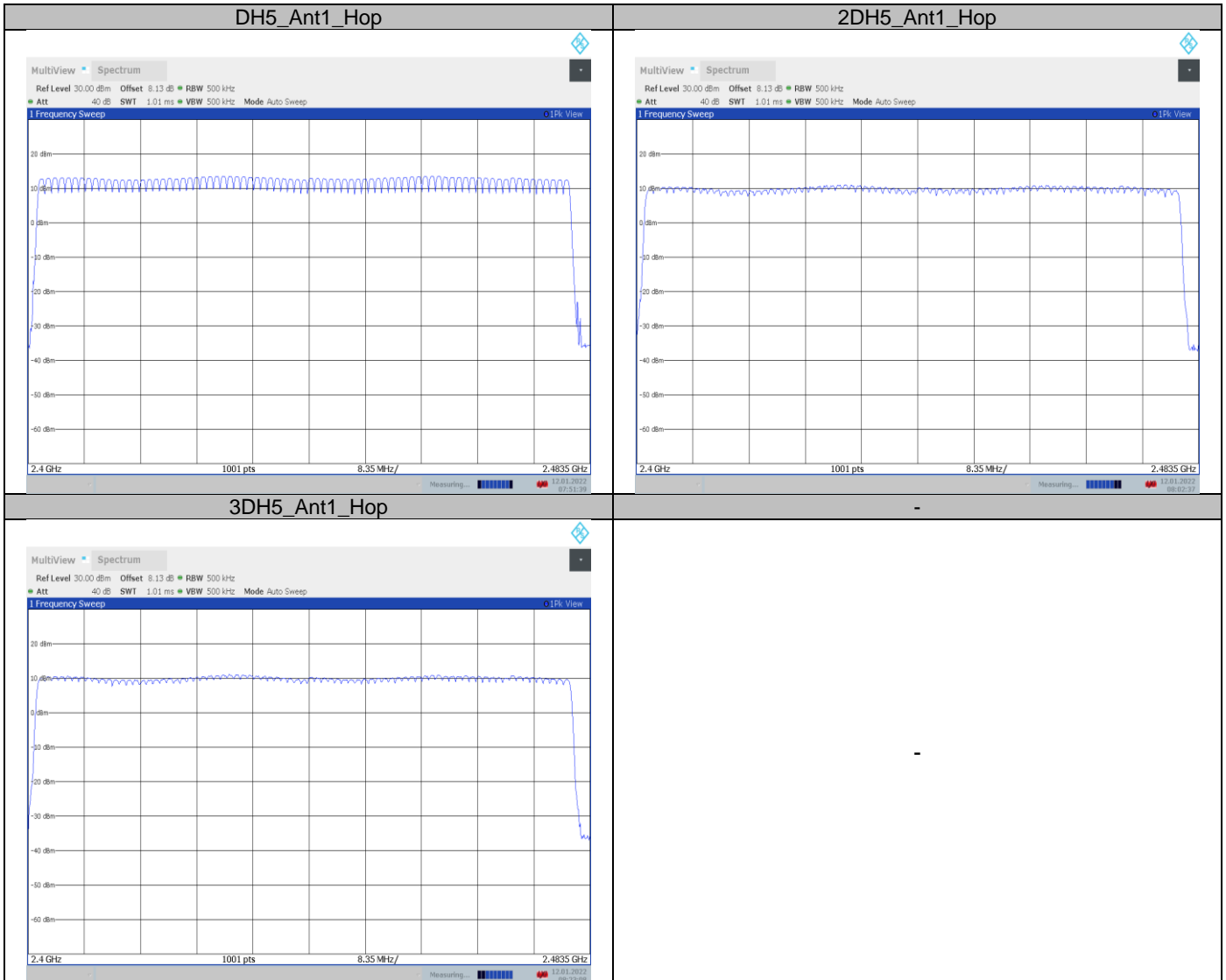


## 6. APPENDIX F: NUMBER OF HOPPING FREQUENCY

### 6.1 TEST RESULT

| Test Mode | Antenna | Frequency [MHz] | Result [Num] | Limit [Num] | Verdict |
|-----------|---------|-----------------|--------------|-------------|---------|
| DH5       | Ant1    | Hop             | 79           | >=15        | PASS    |
| 2DH5      | Ant1    | Hop             | 79           | >=15        | PASS    |
| 3DH5      | Ant1    | Hop             | 79           | >=15        | PASS    |

### 6.2 TEST GRAPHS

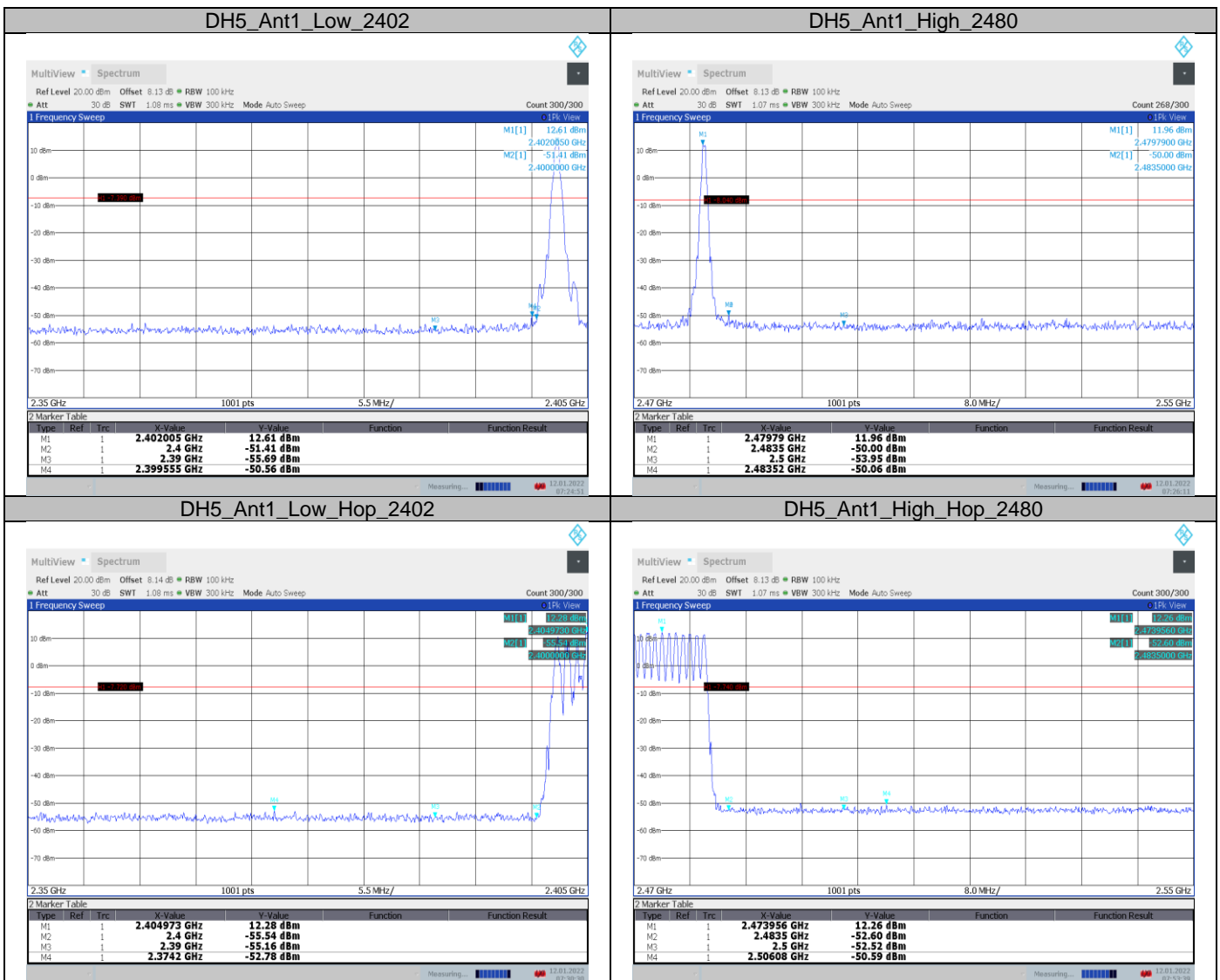


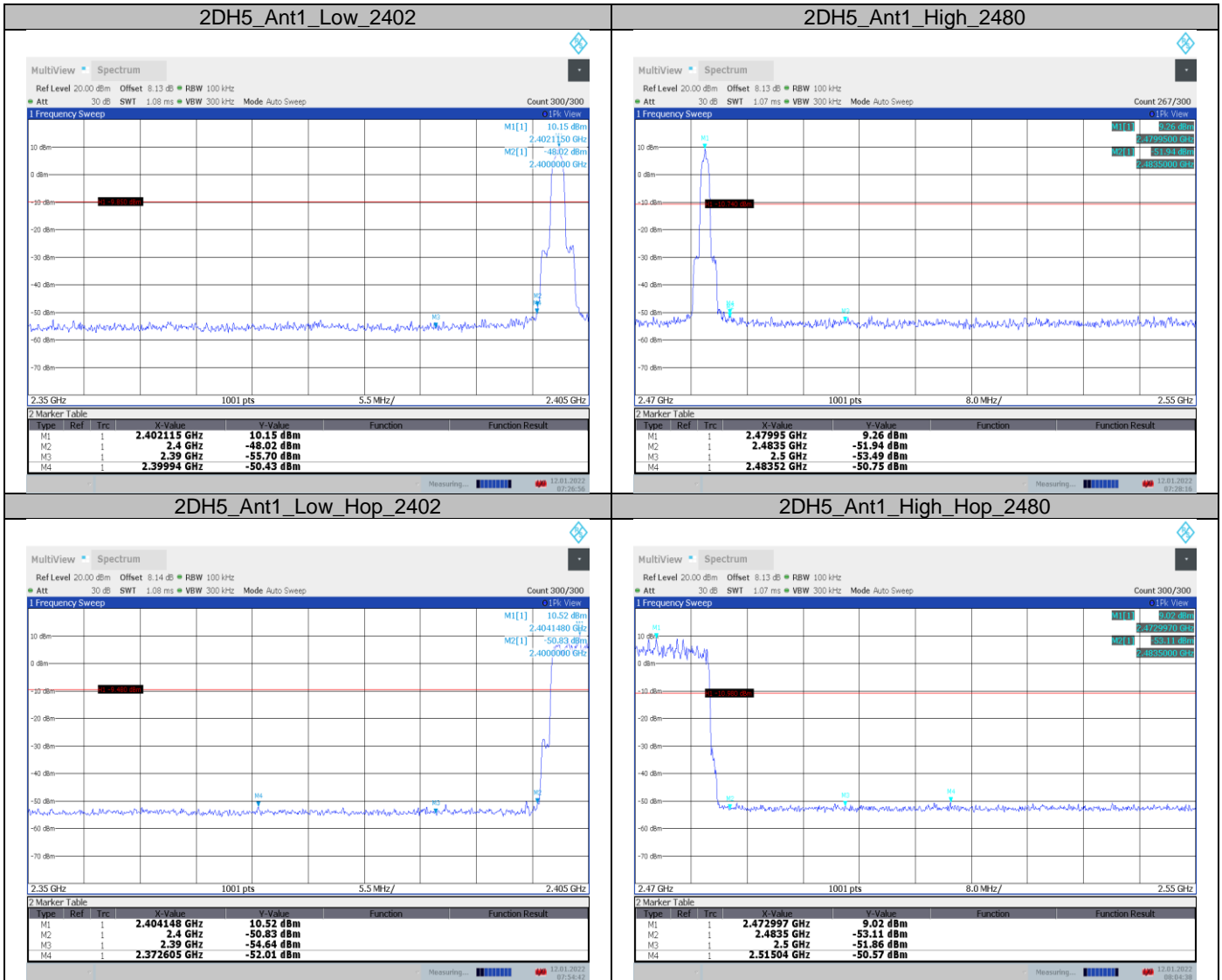
## 7. APPENDIX G: BAND EDGE MEASUREMENTS

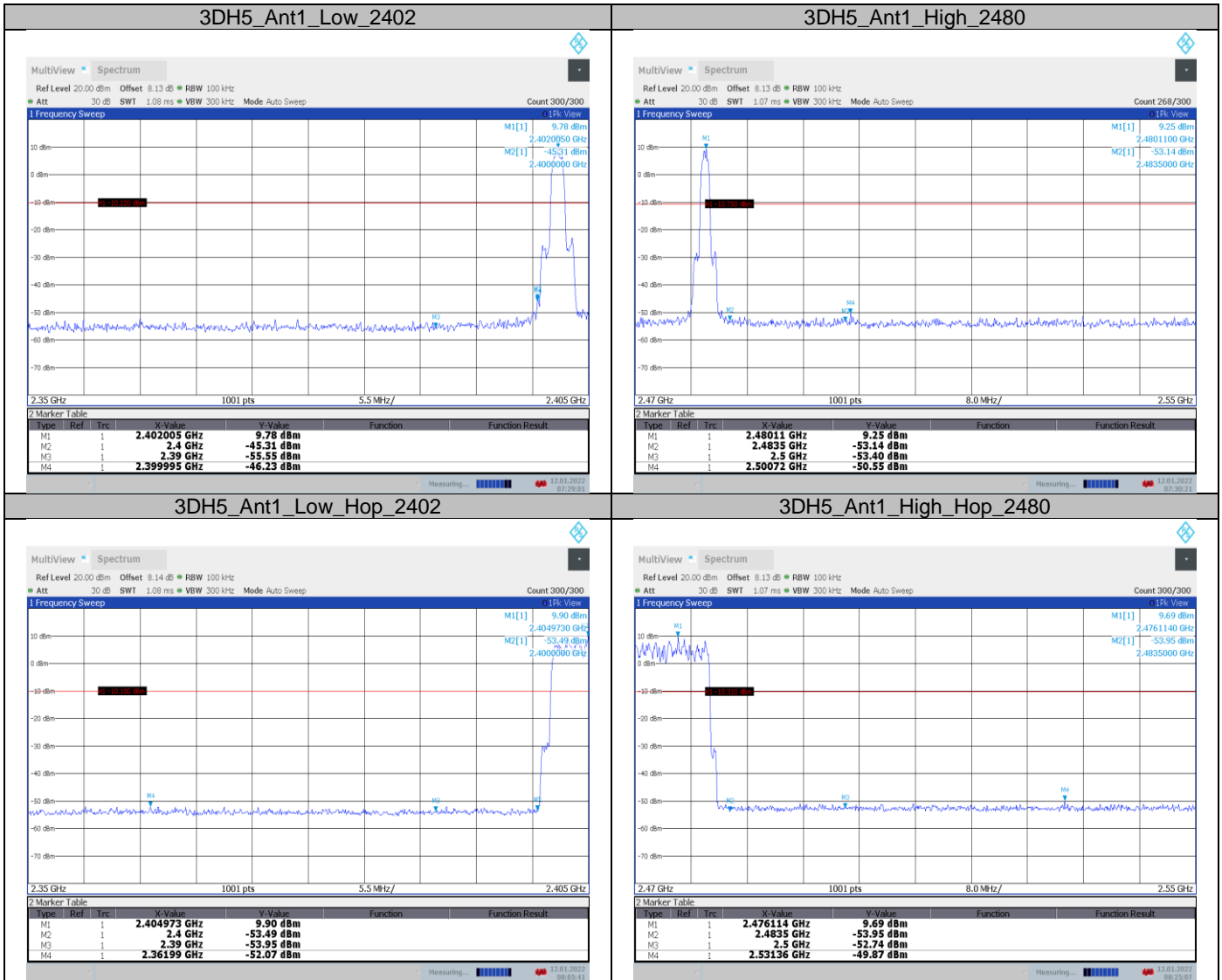
### 7.1 TEST RESULT

| Test Mode | Antenna | Ch. Name | Frequency [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|----------|-----------------|------------------|--------------|-------------|---------|
| DH5       | Ant1    | Low      | 2402            | 12.61            | -50.56       | <=-7.39     | PASS    |
|           |         | High     | 2480            | 11.96            | -50.06       | <=-8.04     | PASS    |
|           |         | Low      | Hop_2402        | 12.28            | -52.78       | <=-7.72     | PASS    |
|           |         | High     | Hop_2480        | 12.26            | -50.59       | <=-7.74     | PASS    |
| 2DH5      | Ant1    | Low      | 2402            | 10.15            | -50.43       | <=-9.85     | PASS    |
|           |         | High     | 2480            | 9.26             | -50.75       | <=-10.74    | PASS    |
|           |         | Low      | Hop_2402        | 10.52            | -52.01       | <=-9.48     | PASS    |
|           |         | High     | Hop_2480        | 9.02             | -50.57       | <=-10.98    | PASS    |
| 3DH5      | Ant1    | Low      | 2402            | 9.78             | -46.23       | <=-10.22    | PASS    |
|           |         | High     | 2480            | 9.25             | -50.55       | <=-10.75    | PASS    |
|           |         | Low      | Hop_2402        | 9.90             | -52.07       | <=-10.1     | PASS    |
|           |         | High     | Hop_2480        | 9.69             | -49.87       | <=-10.31    | PASS    |

### 7.2 TEST GRAPHS





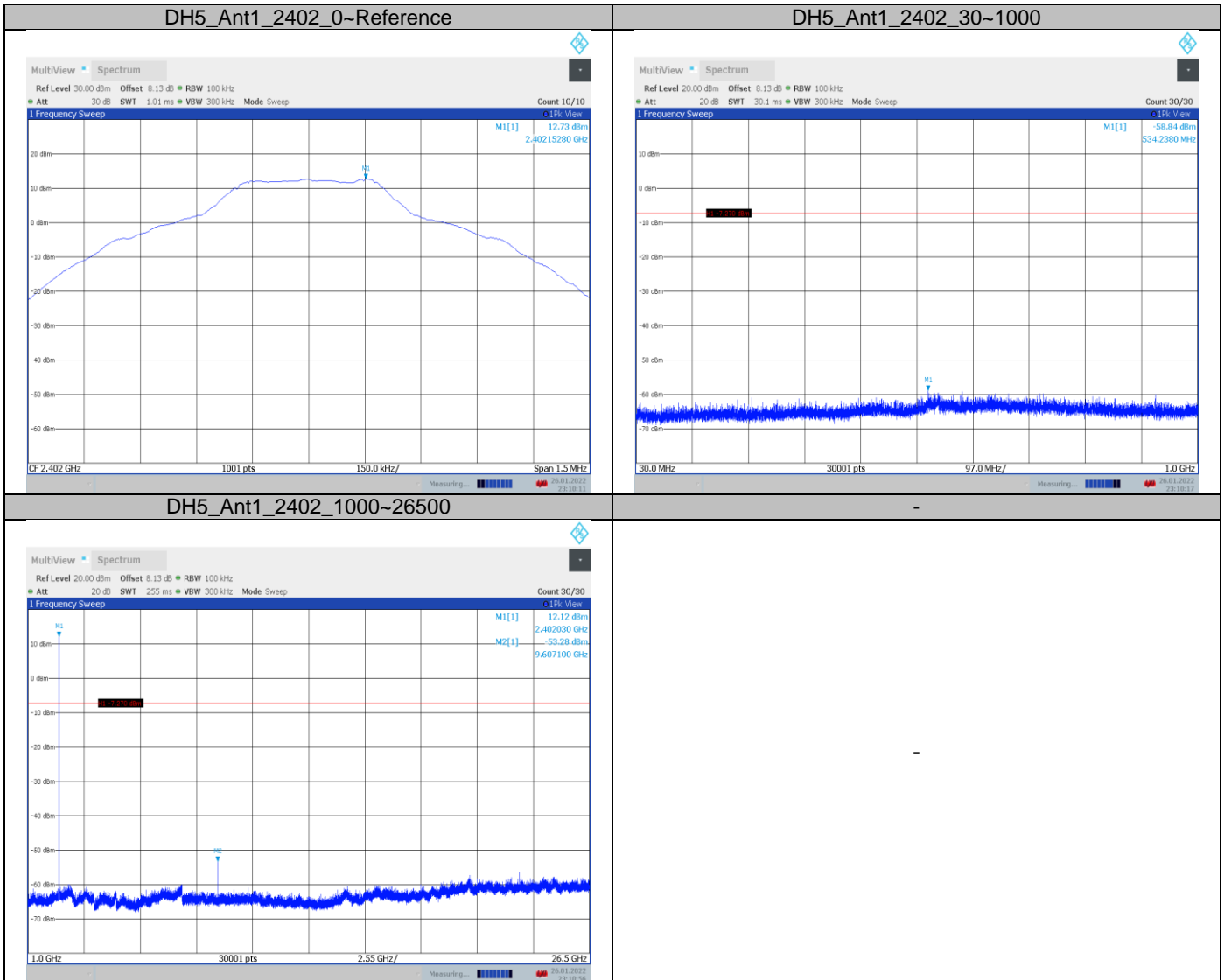


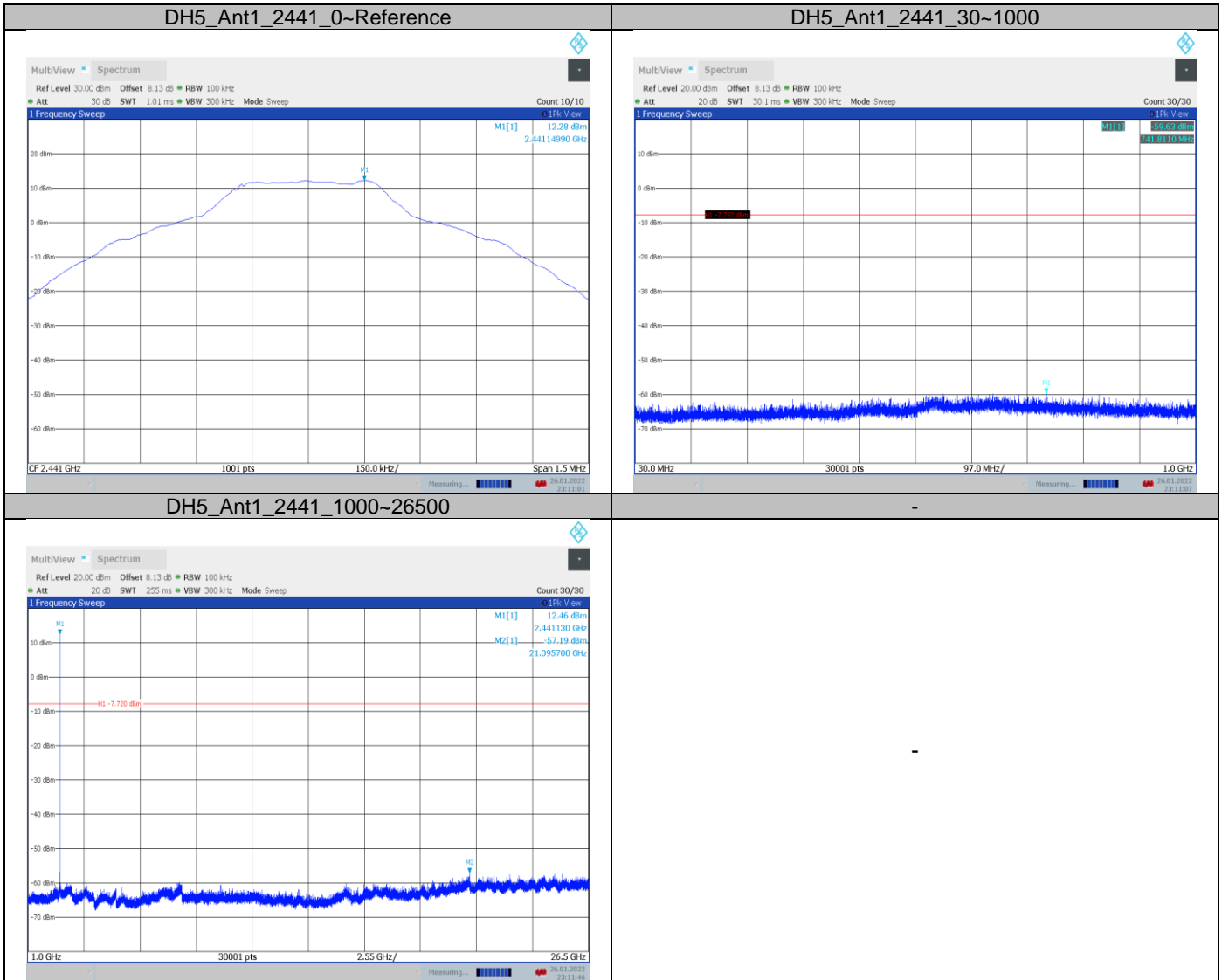
## 8. APPENDIX H: CONDUCTED SPURIOUS EMISSION

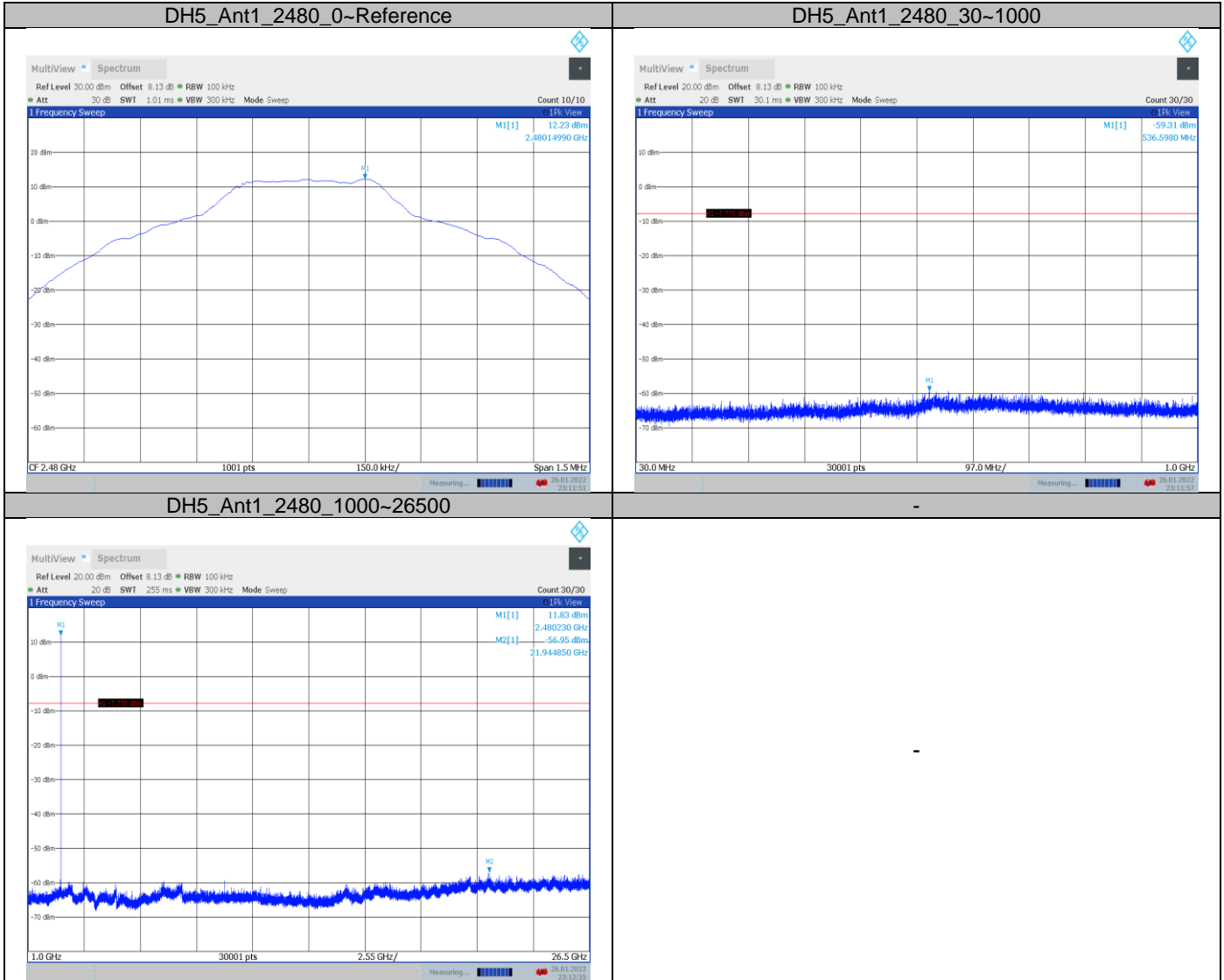
### 8.1 TEST RESULT

| Test Mode | Antenna | Frequency [MHz] | Freq. Range [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|-----------|---------|-----------------|-------------------|------------------|--------------|---------------|---------|
| DH5       | Ant1    | 2402            | Reference         | 12.73            | 12.73        | ---           | PASS    |
|           |         |                 | 30~1000           | 12.73            | -58.84       | $\leq -7.27$  | PASS    |
|           |         |                 | 1000~26500        | 12.73            | -53.28       | $\leq -7.27$  | PASS    |
|           |         | 2441            | Reference         | 12.28            | 12.28        | ---           | PASS    |
|           |         |                 | 30~1000           | 12.28            | -59.63       | $\leq -7.72$  | PASS    |
|           |         |                 | 1000~26500        | 12.28            | -57.19       | $\leq -7.72$  | PASS    |
|           |         | 2480            | Reference         | 12.23            | 12.23        | ---           | PASS    |
|           |         |                 | 30~1000           | 12.23            | -59.31       | $\leq -7.77$  | PASS    |
|           |         |                 | 1000~26500        | 12.23            | -56.95       | $\leq -7.77$  | PASS    |
| 2DH5      | Ant1    | 2402            | Reference         | 9.88             | 9.88         | ---           | PASS    |
|           |         |                 | 30~1000           | 9.88             | -59.39       | $\leq -10.12$ | PASS    |
|           |         |                 | 1000~26500        | 9.88             | -57.49       | $\leq -10.12$ | PASS    |
|           |         | 2441            | Reference         | 9.35             | 9.35         | ---           | PASS    |
|           |         |                 | 30~1000           | 9.35             | -58.59       | $\leq -10.65$ | PASS    |
|           |         |                 | 1000~26500        | 9.35             | -57.46       | $\leq -10.65$ | PASS    |
|           |         | 2480            | Reference         | 9.46             | 9.46         | ---           | PASS    |
|           |         |                 | 30~1000           | 9.46             | -59.22       | $\leq -10.54$ | PASS    |
|           |         |                 | 1000~26500        | 9.46             | -57.53       | $\leq -10.54$ | PASS    |
| 3DH5      | Ant1    | 2402            | Reference         | 10.03            | 10.03        | ---           | PASS    |
|           |         |                 | 30~1000           | 10.03            | -59.75       | $\leq -9.97$  | PASS    |
|           |         |                 | 1000~26500        | 10.03            | -57.1        | $\leq -9.97$  | PASS    |
|           |         | 2441            | Reference         | 9.37             | 9.37         | ---           | PASS    |
|           |         |                 | 30~1000           | 9.37             | -59.37       | $\leq -10.63$ | PASS    |
|           |         |                 | 1000~26500        | 9.37             | -57.58       | $\leq -10.63$ | PASS    |
|           |         | 2480            | Reference         | 9.45             | 9.45         | ---           | PASS    |
|           |         |                 | 30~1000           | 9.45             | -58.68       | $\leq -10.55$ | PASS    |
|           |         |                 | 1000~26500        | 9.45             | -57.58       | $\leq -10.55$ | PASS    |

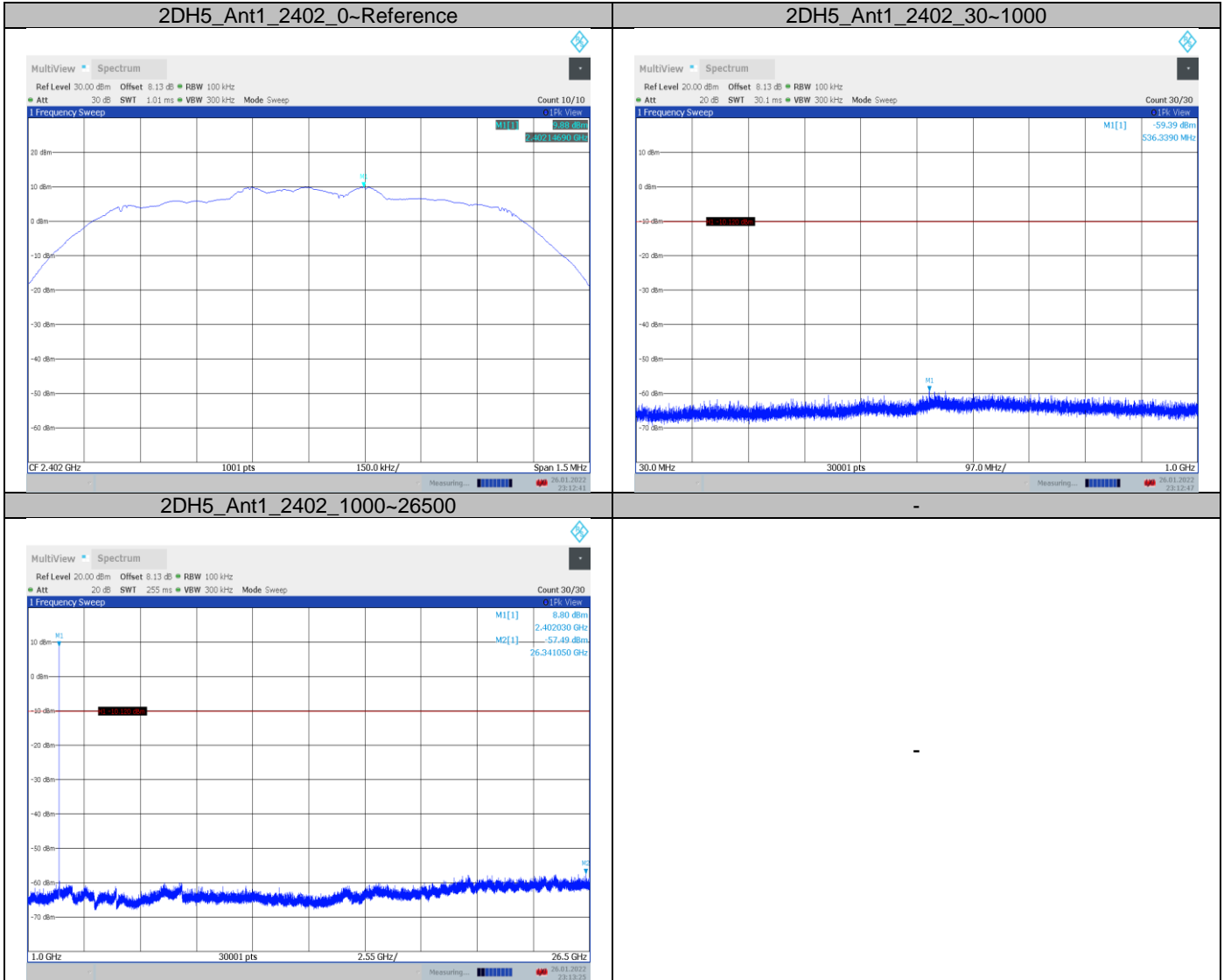
## 8.2 TEST GRAPHS

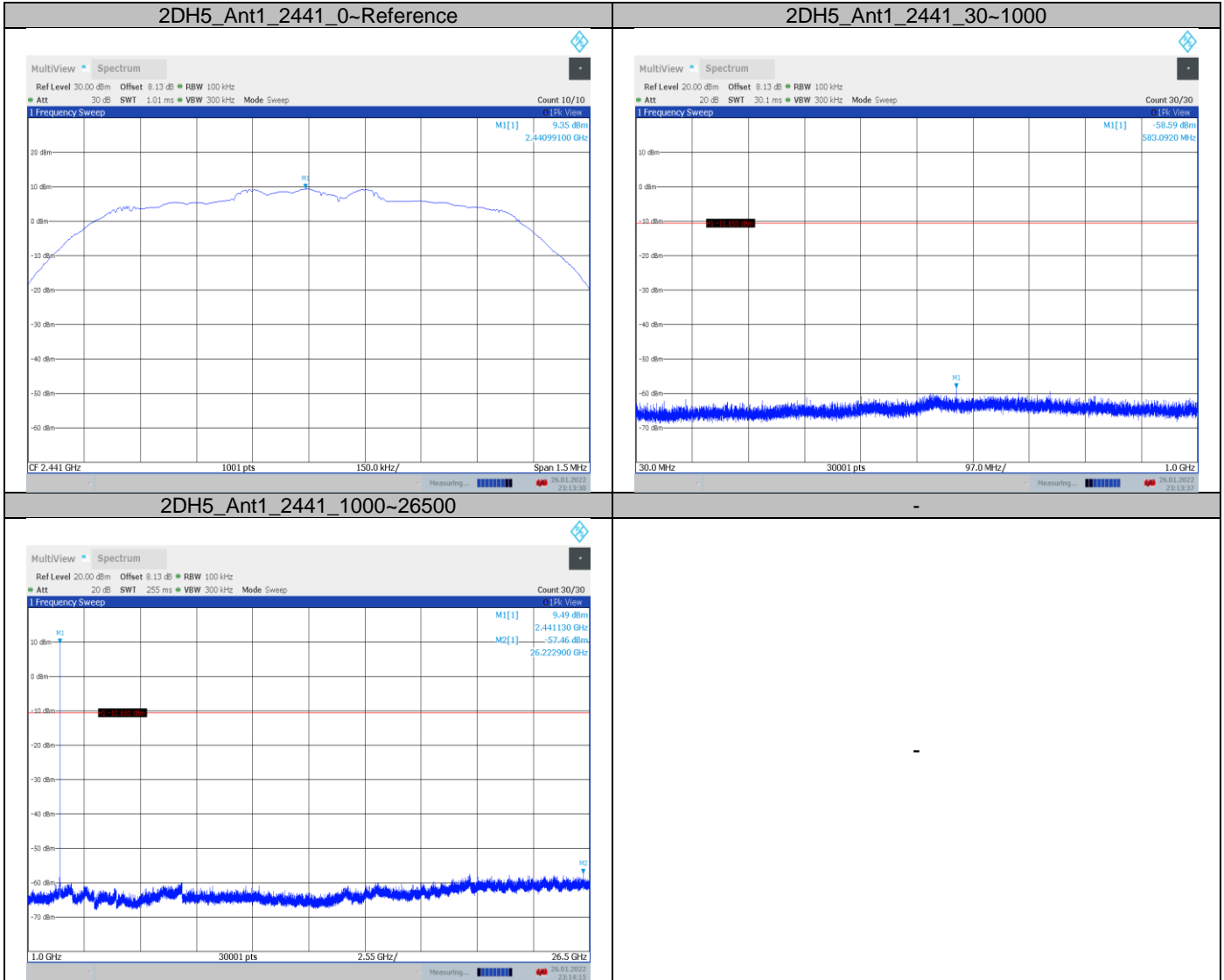


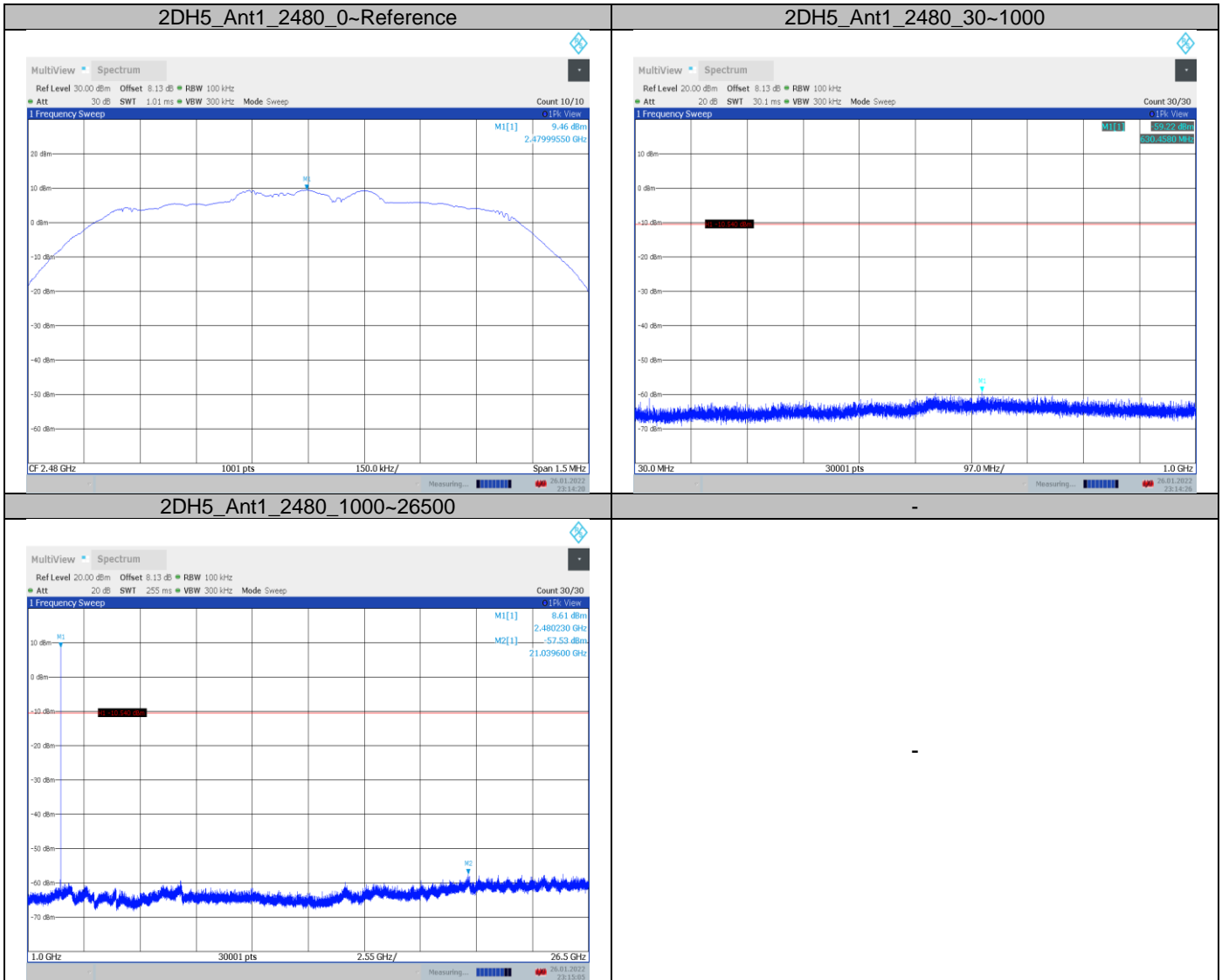


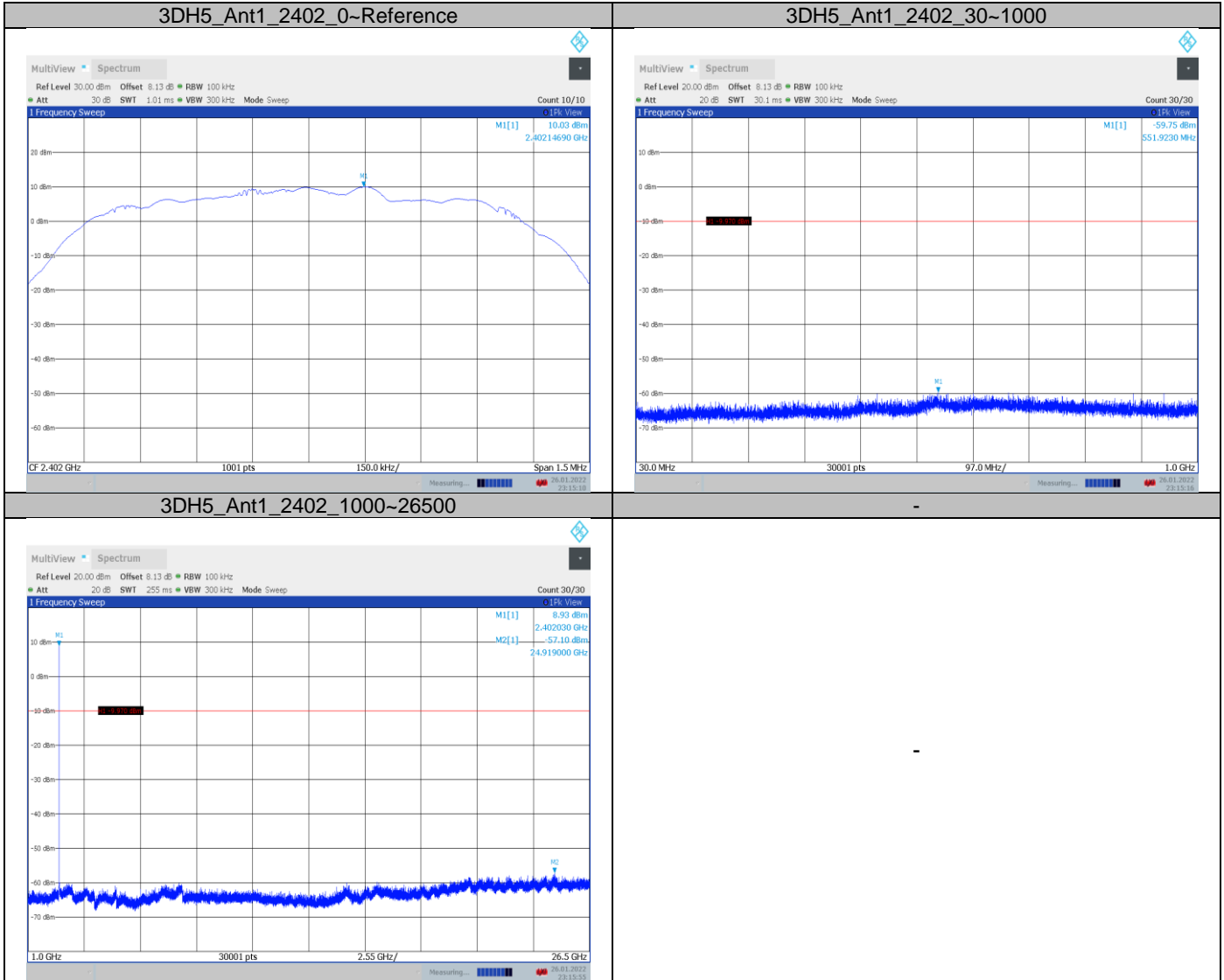


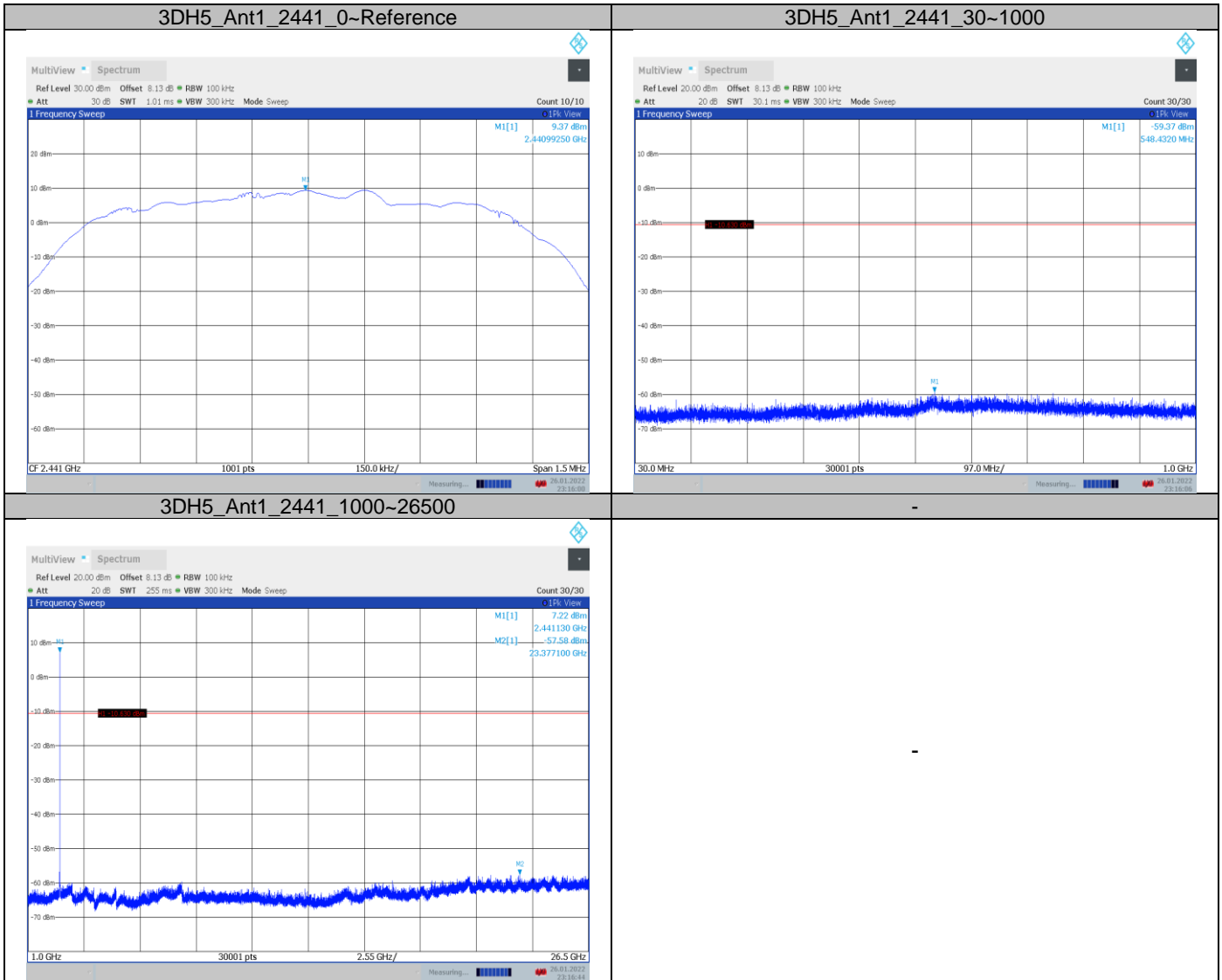


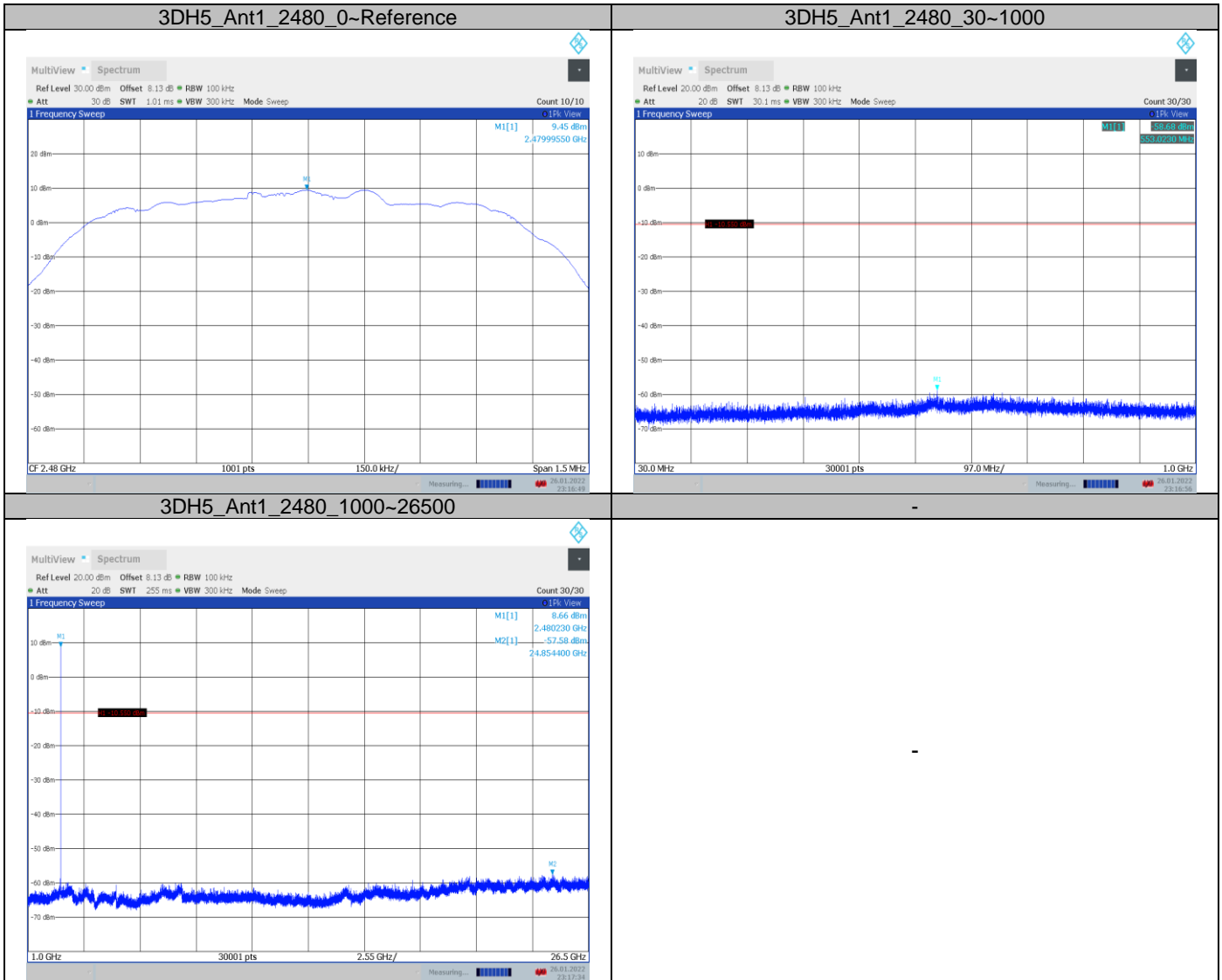










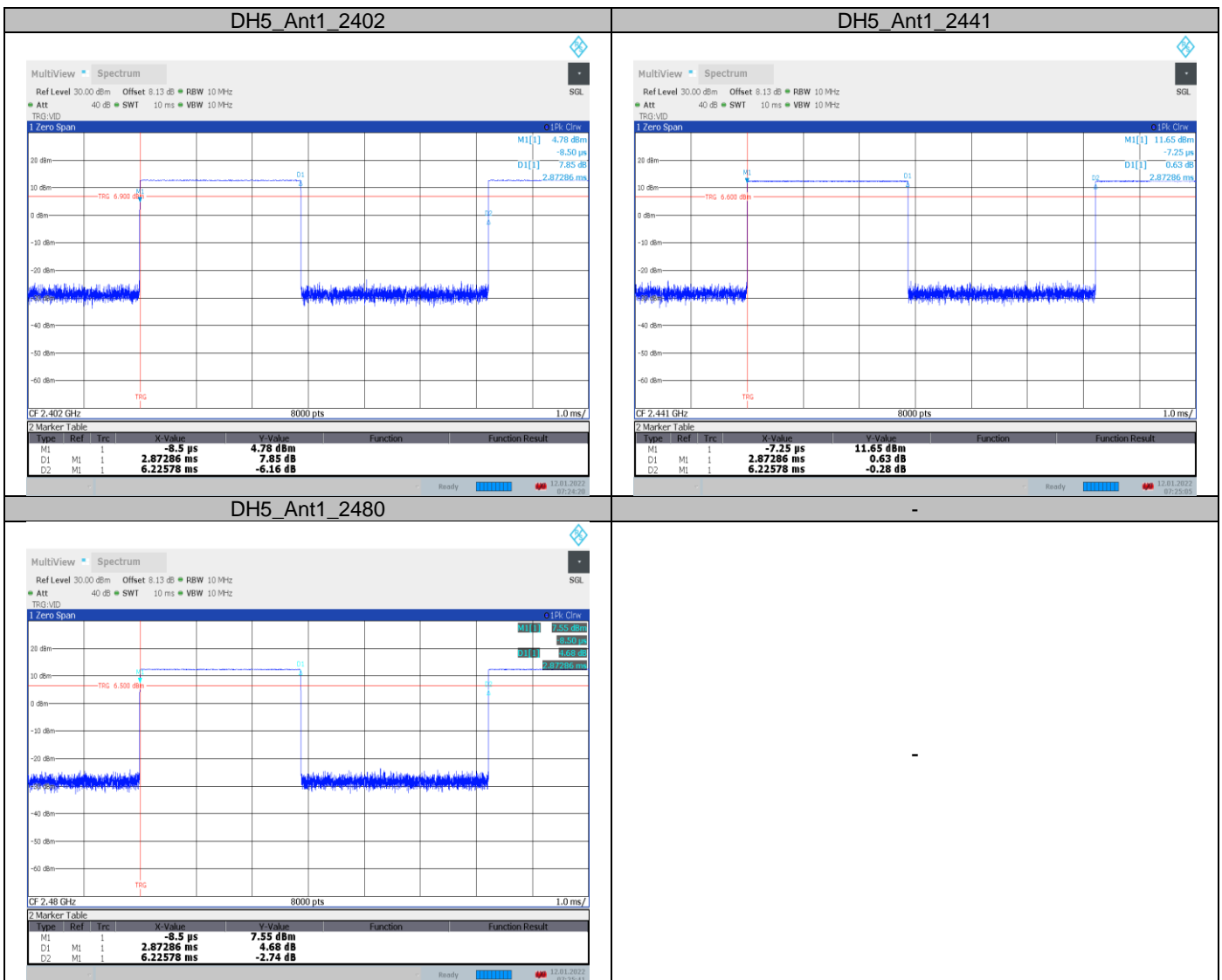


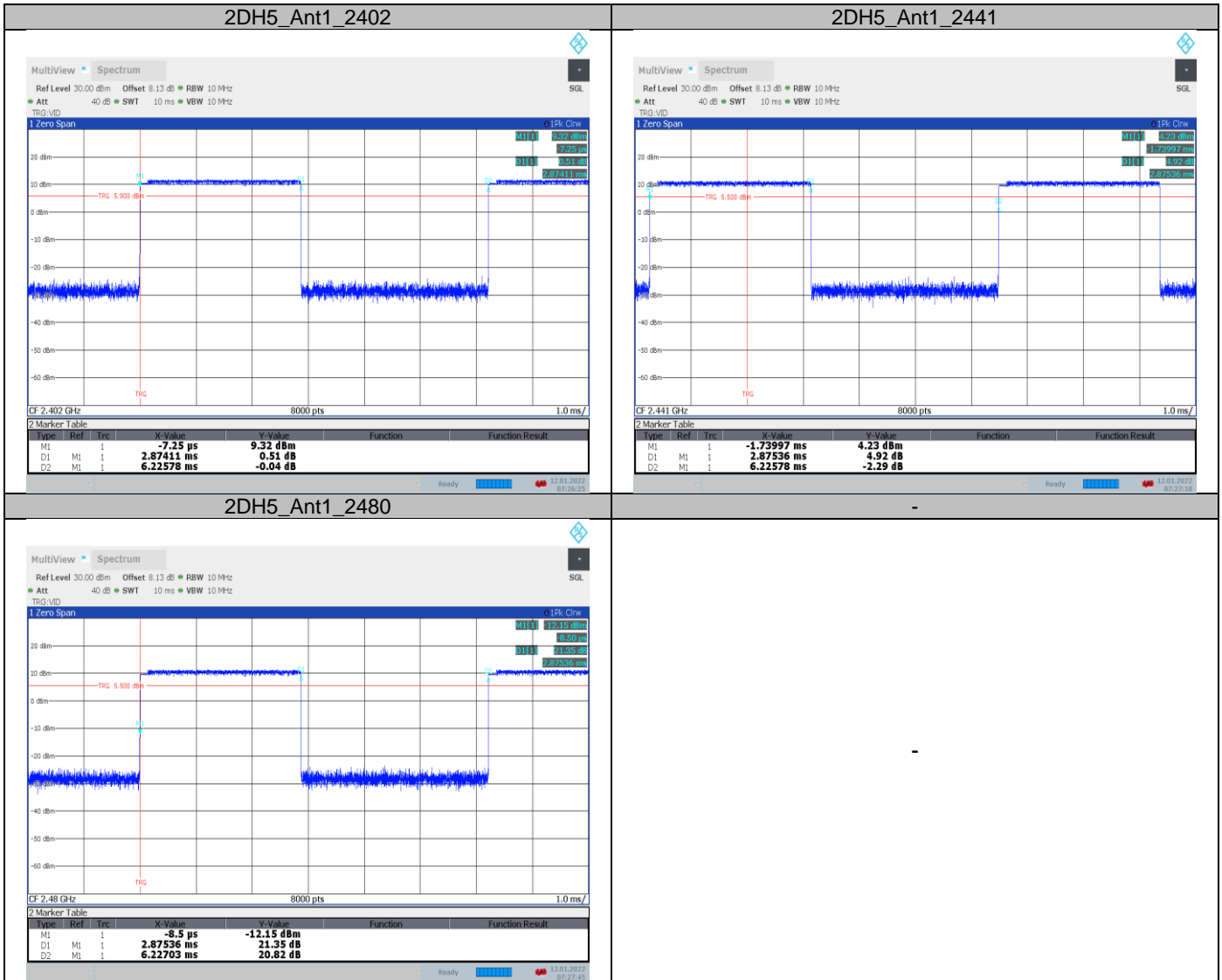
## 9. APPENDIX I: DUTY CYCLE

### 9.1 TEST RESULT

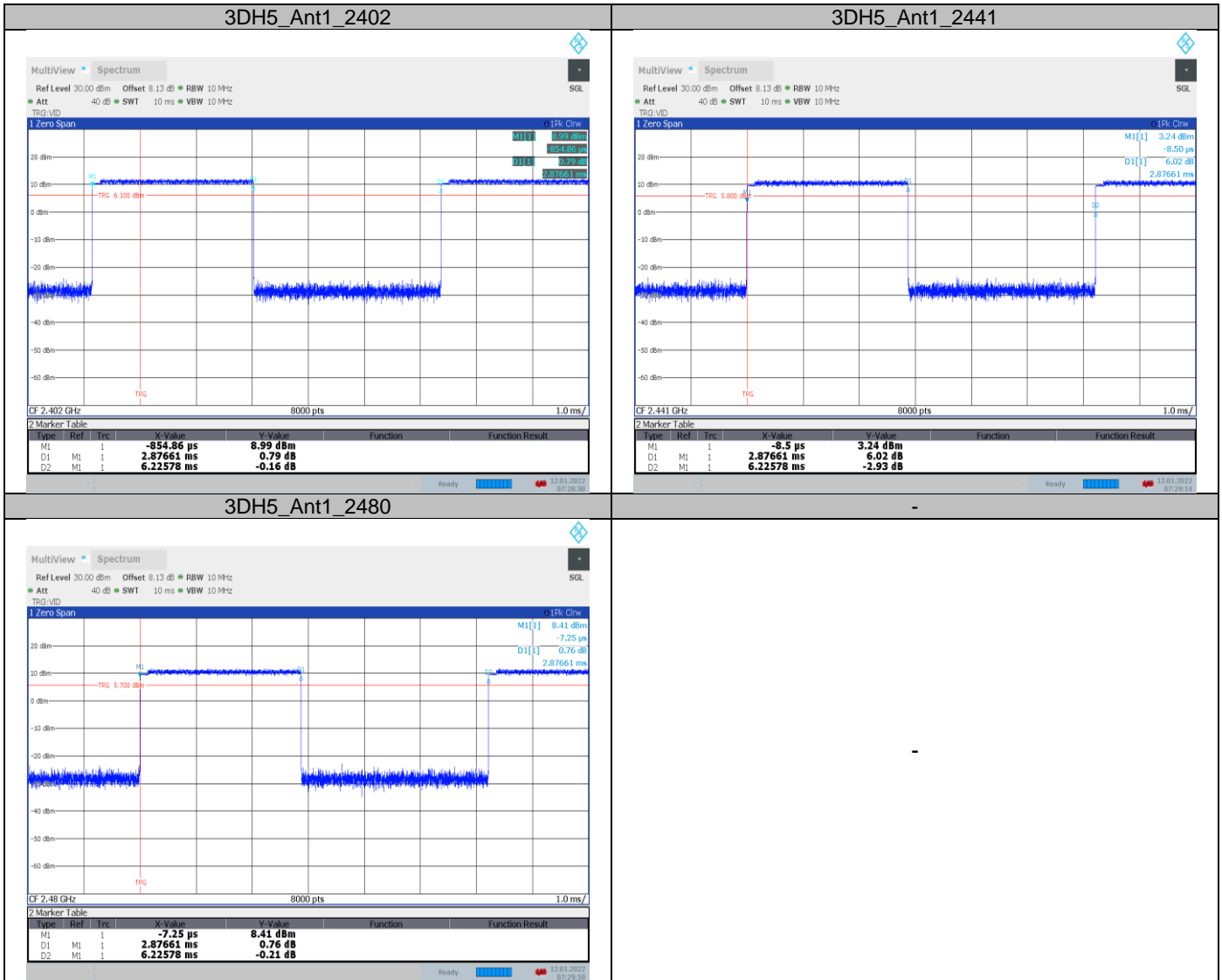
| Test Mode | Antenna | Frequency [MHz] | ON Time [ms] | Period [ms] | Duty Cycle [%] | Duty Cycle Factor [dB] |
|-----------|---------|-----------------|--------------|-------------|----------------|------------------------|
| DH5       | Ant1    | 2402            | 2.87         | 6.23        | 46.07          | 3.37                   |
|           |         | 2441            | 2.87         | 6.23        | 46.07          | 3.37                   |
|           |         | 2480            | 2.87         | 6.23        | 46.07          | 3.37                   |
| 2DH5      | Ant1    | 2402            | 2.87         | 6.23        | 46.07          | 3.37                   |
|           |         | 2441            | 2.88         | 6.23        | 46.23          | 3.35                   |
|           |         | 2480            | 2.88         | 6.23        | 46.23          | 3.35                   |
| 3DH5      | Ant1    | 2402            | 2.88         | 6.23        | 46.23          | 3.35                   |
|           |         | 2441            | 2.88         | 6.23        | 46.23          | 3.35                   |
|           |         | 2480            | 2.88         | 6.23        | 46.23          | 3.35                   |

### 9.2 TEST GRAPHS









End of Test Report