

## Appendix RF Test Data for BT

Company : Ryo Sasaki  
EUT : Earphones  
Model Number : OpenFlexYW22  
Report No. : CTA25081601101  
Reviewed By : Eric Wang

## Appendix A: Frequency\_Error

### Test Result

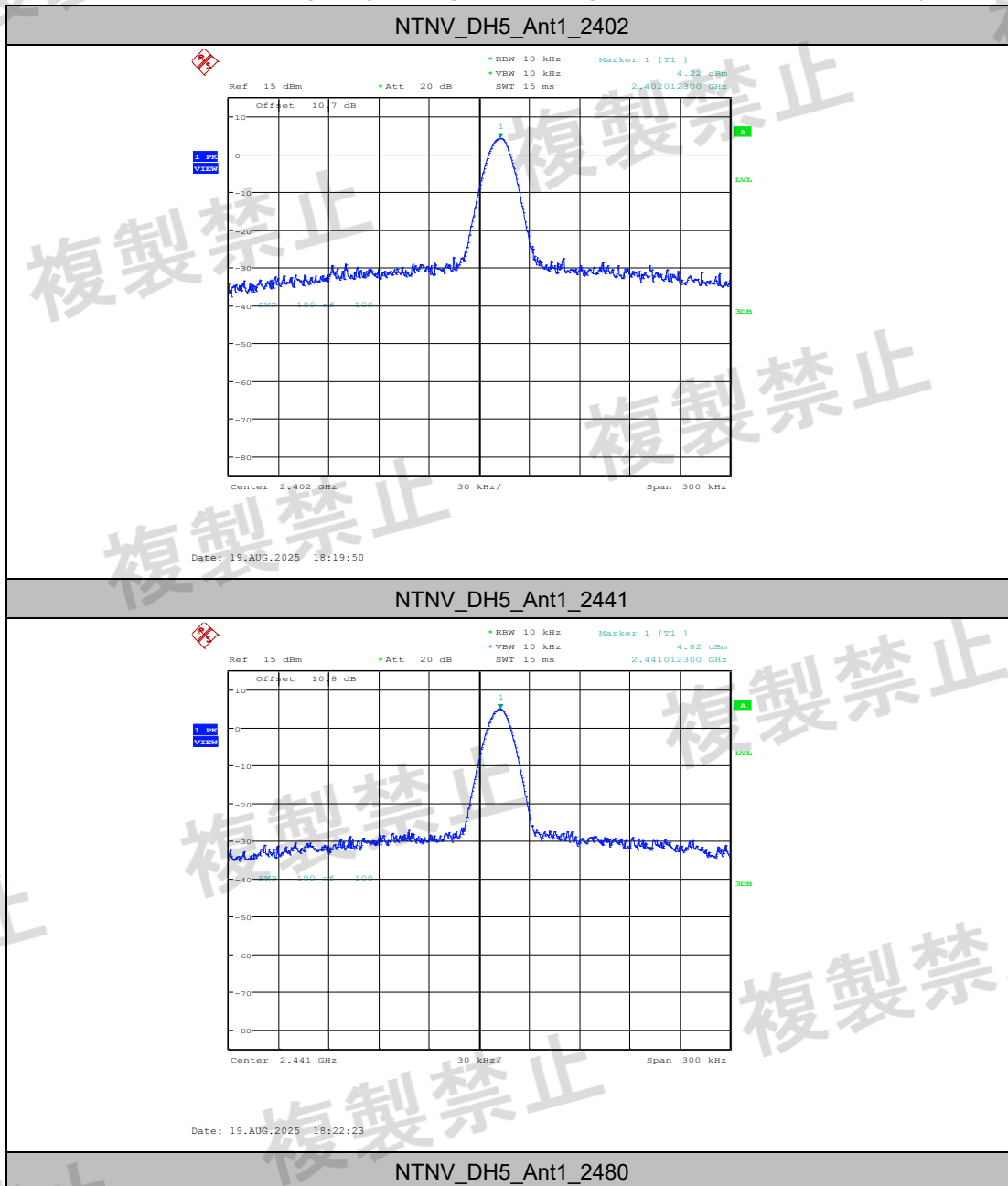
| Test Condition | Antenna | Freq(MHz) | Result[ppm] | Limit[ppm] | Verdict |
|----------------|---------|-----------|-------------|------------|---------|
| NTNV           | Ant1    | 2402      | 5.12073     | ±50        | PASS    |
|                |         | 2441      | 5.03892     | ±50        | PASS    |
|                |         | 2480      | 4.71774     | ±50        | PASS    |

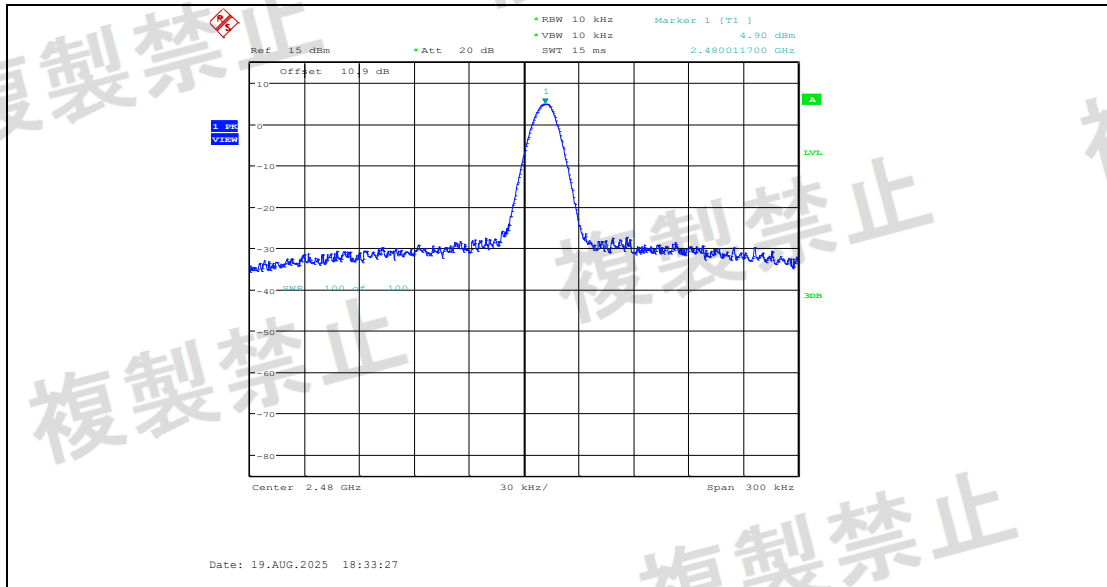
| Test Condition | Antenna | Freq(MHz) | Result[ppm] | Limit[ppm] | Verdict |
|----------------|---------|-----------|-------------|------------|---------|
| NTLV           | Ant1    | 2402      | 4.91672     | ±50        | PASS    |
|                |         | 2441      | 4.82567     | ±50        | PASS    |
|                |         | 2480      | 4.50652     | ±50        | PASS    |

| Test Condition | Antenna | Freq(MHz) | Result[ppm] | Limit[ppm] | Verdict |
|----------------|---------|-----------|-------------|------------|---------|
| NTHV           | Ant1    | 2402      | 4.90321     | ±50        | PASS    |
|                |         | 2441      | 4.81582     | ±50        | PASS    |
|                |         | 2480      | 4.49832     | ±50        | PASS    |

## Test Graphs

Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.





## Appendix B: Occupied Bandwidth

### Test Result

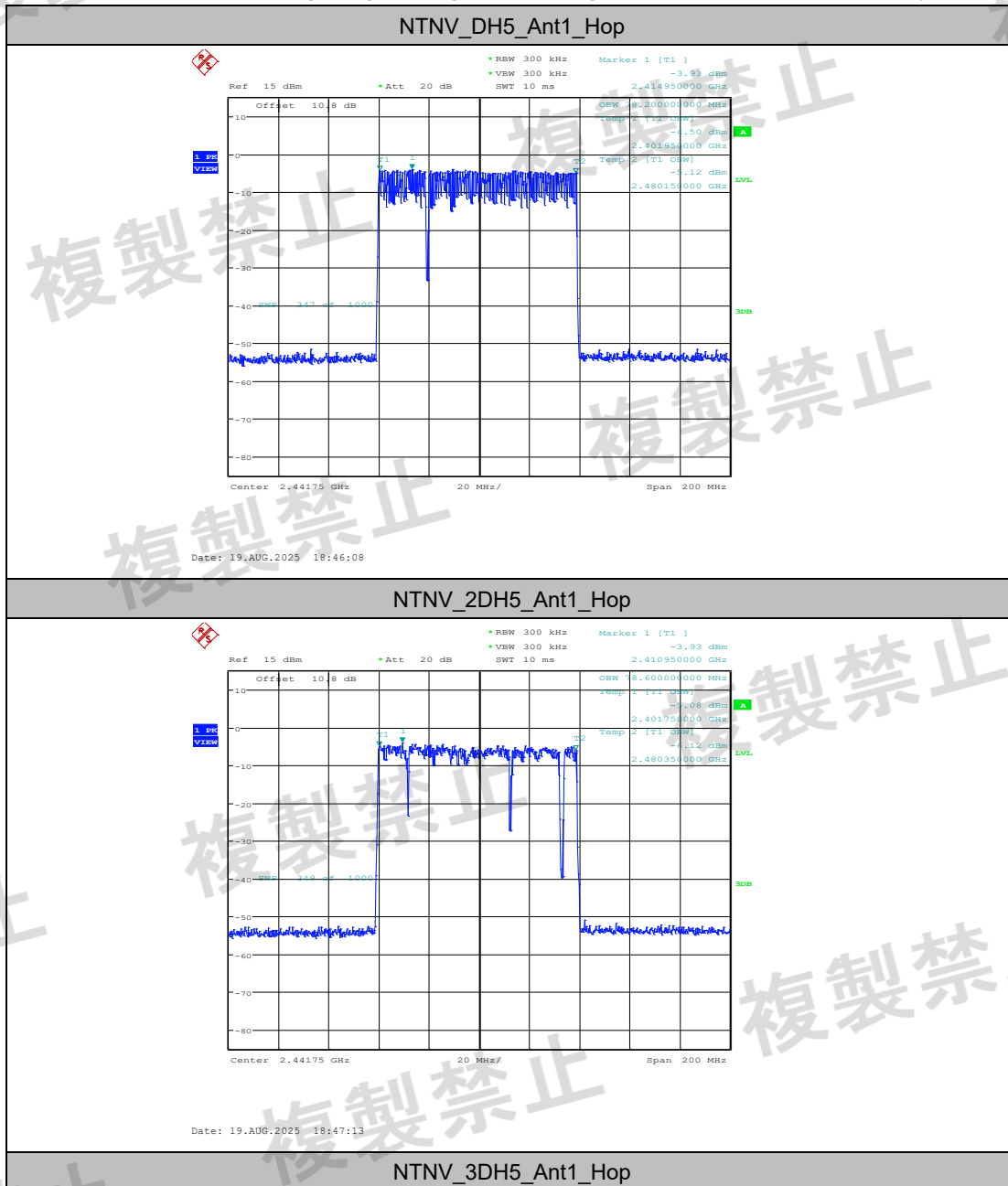
| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------|
| NTNV           | DH5       | Ant1    | Hop       | 78.200       | ≤83.5       | PASS    |
|                | 2DH5      | Ant1    | Hop       | 78.600       | ≤83.5       | PASS    |
|                | 3DH5      | Ant1    | Hop       | 76.400       | ≤83.5       | PASS    |

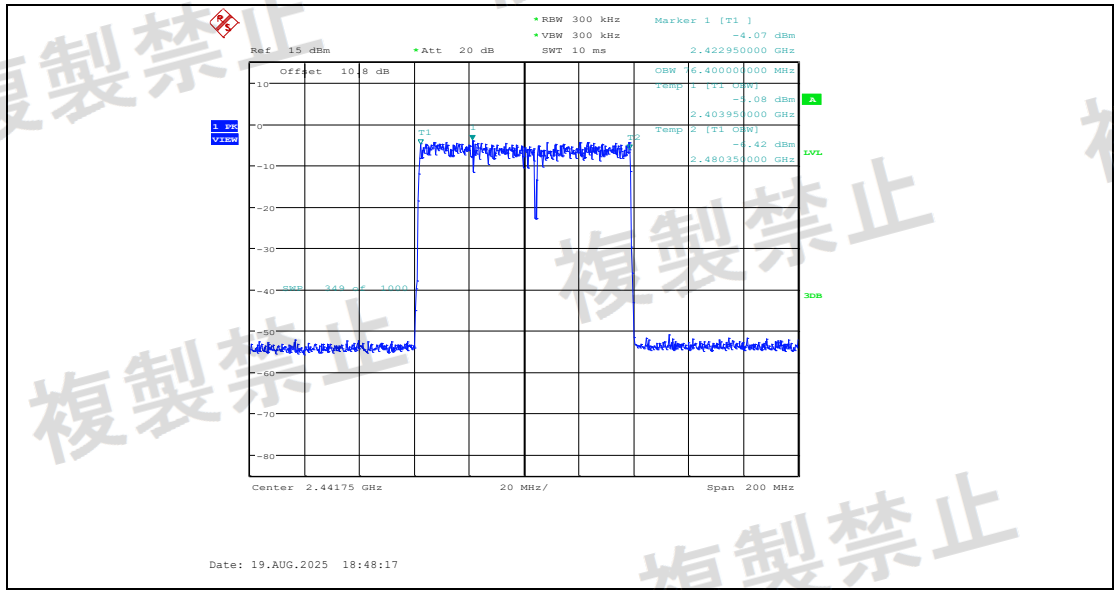
| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------|
| NTLV           | DH5       | Ant1    | Hop       | 78.198       | ≤83.5       | PASS    |
|                | 2DH5      | Ant1    | Hop       | 78.596       | ≤83.5       | PASS    |
|                | 3DH5      | Ant1    | Hop       | 76.397       | ≤83.5       | PASS    |

| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------|
| NTHV           | DH5       | Ant1    | Hop       | 78.196       | ≤83.5       | PASS    |
|                | 2DH5      | Ant1    | Hop       | 78.595       | ≤83.5       | PASS    |
|                | 3DH5      | Ant1    | Hop       | 76.394       | ≤83.5       | PASS    |

## Test Graphs

Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.





## Appendix C: Spread Bandwidth

### Test Result

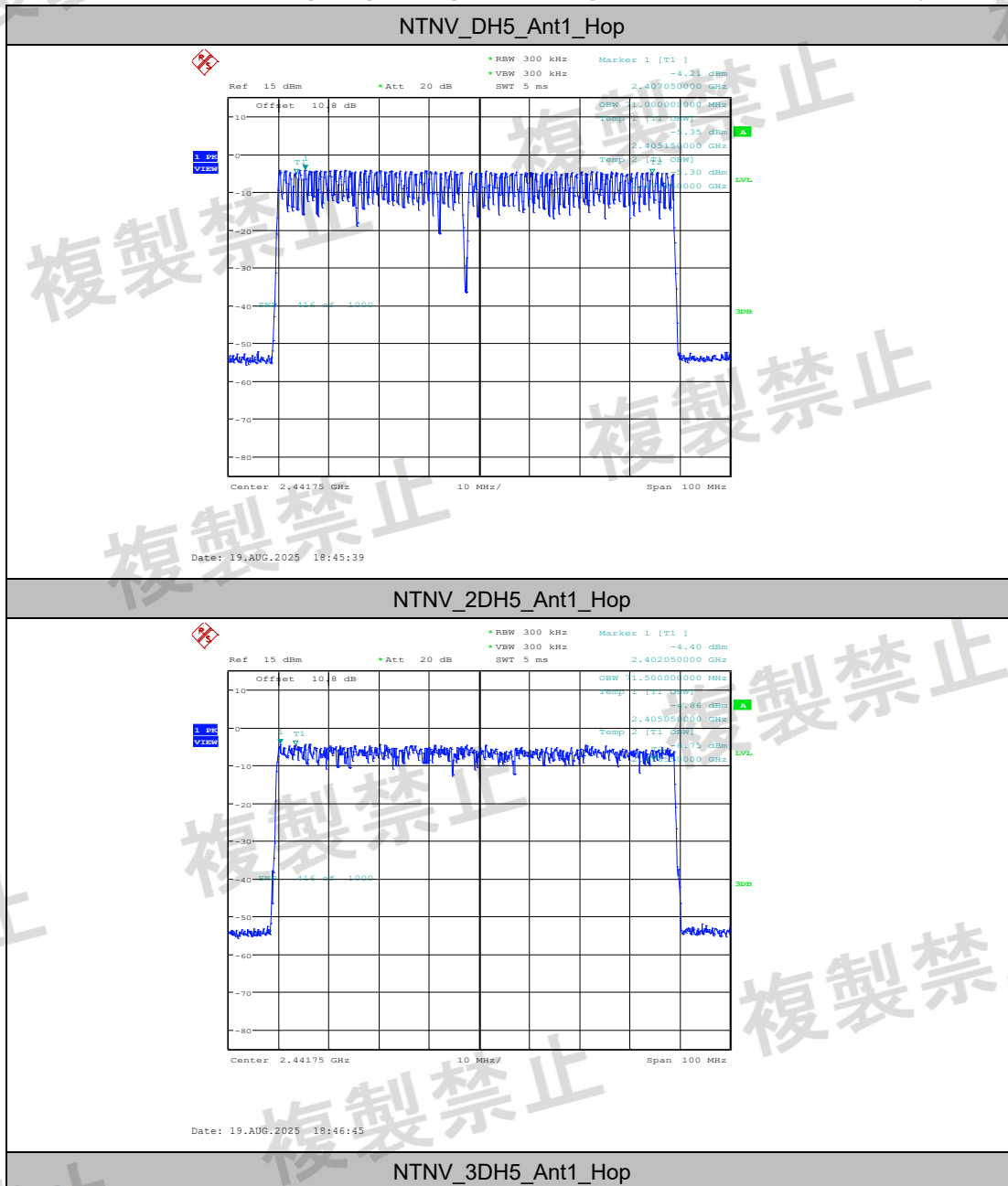
| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Spread Factor | Limit | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------------|-------|---------|
| NTNV           | DH5       | Ant1    | Hop       | 71.000       | ≥0.5        | 71.000        | >5    | PASS    |
|                | 2DH5      | Ant1    | Hop       | 71.500       | ≥0.5        | 71.500        | >5    | PASS    |
|                | 3DH5      | Ant1    | Hop       | 71.400       | ≥0.5        | 71.400        | >5    | PASS    |

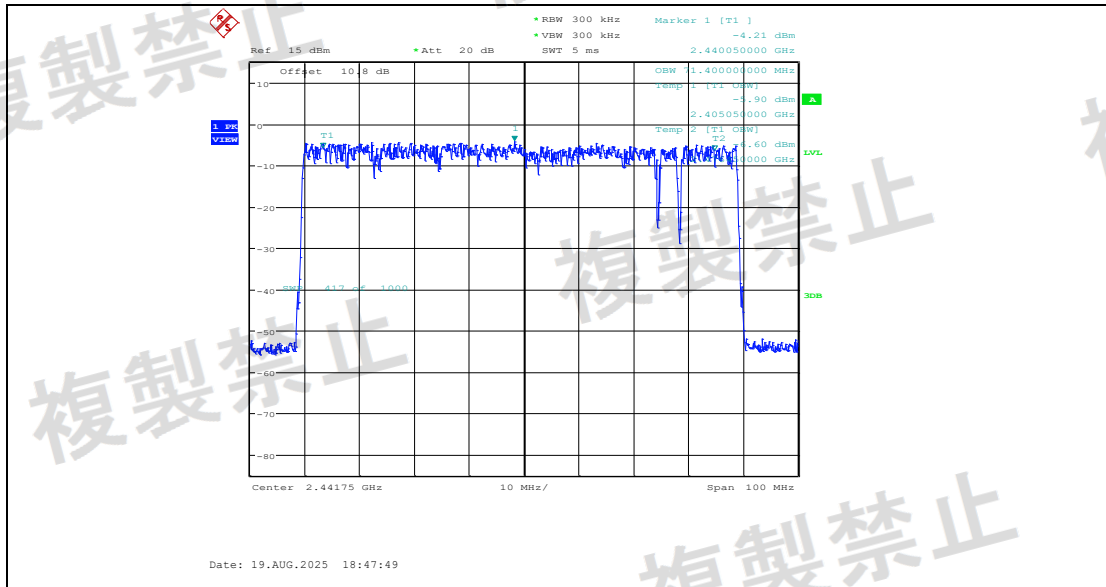
| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Spread Factor | Limit | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------------|-------|---------|
| NTLV           | DH5       | Ant1    | Hop       | 70.997       | ≥0.5        | 70.997        | >5    | PASS    |
|                | 2DH5      | Ant1    | Hop       | 71.498       | ≥0.5        | 71.498        | >5    | PASS    |
|                | 3DH5      | Ant1    | Hop       | 71.397       | ≥0.5        | 71.397        | >5    | PASS    |

| Test Condition | Test Mode | Antenna | Freq(MHz) | Result [MHz] | Limit [MHz] | Spread Factor | Limit | Verdict |
|----------------|-----------|---------|-----------|--------------|-------------|---------------|-------|---------|
| NTHV           | DH5       | Ant1    | Hop       | 70.995       | ≥0.5        | 70.995        | >5    | PASS    |
|                | 2DH5      | Ant1    | Hop       | 71.546       | ≥0.5        | 71.546        | >5    | PASS    |
|                | 3DH5      | Ant1    | Hop       | 71.395       | ≥0.5        | 71.395        | >5    | PASS    |

## Test Graphs

Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.





## Appendix D: Spurious Emission of TX

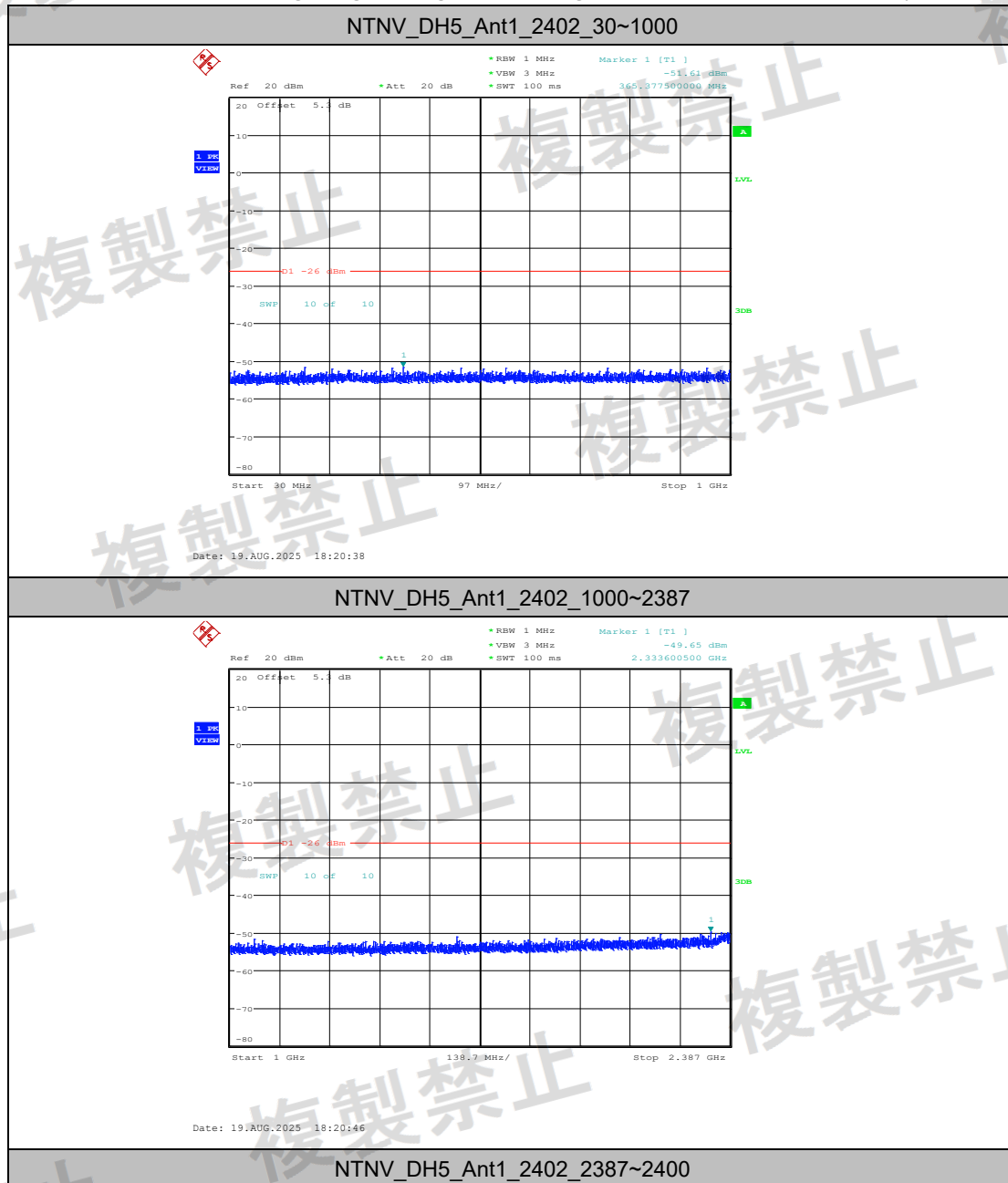
### Test Result

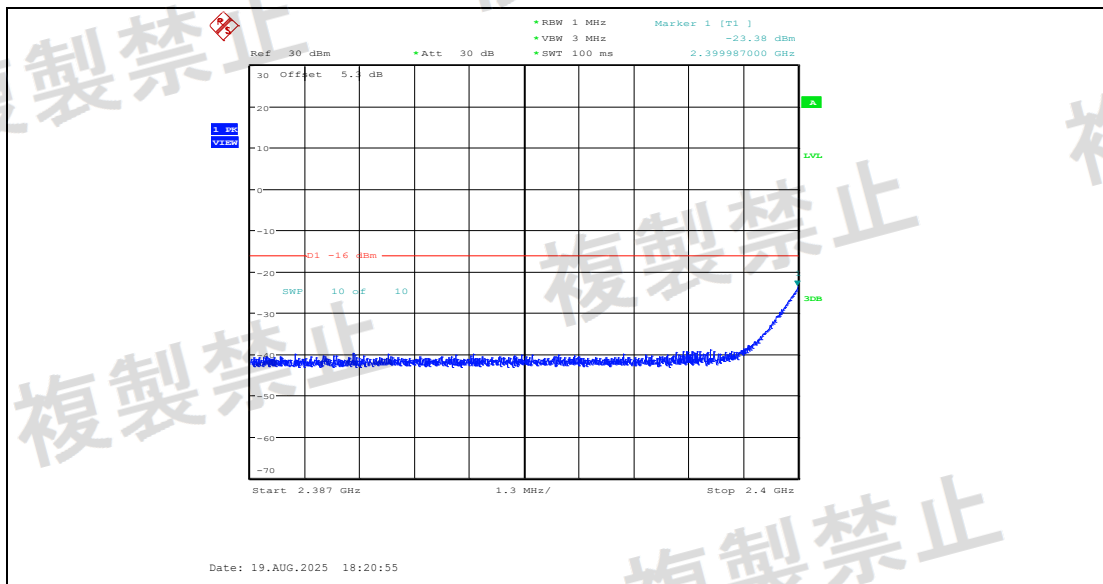
| Test Condition | Test Mode | Antenna | Freq(M Hz) | Freq.Range [MHz] | Freq. [MHz] | Result [dBm] | Limit [dBm] | Result [μW] | Limit [μW] | Verdict |
|----------------|-----------|---------|------------|------------------|-------------|--------------|-------------|-------------|------------|---------|
| NTNV           | DH5       | Ant1    | 2402       | 30~1000          | 365.38      | -51.61       | ≤-26        | 0.00690     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2333.60     | -49.65       | ≤-26        | 0.01084     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2399.99     | -23.38       | ≤-16        | 4.59198     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2490.20     | -39.09       | ≤-16        | 0.12331     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4804.12     | -45.58       | ≤-26        | 0.02767     | ≤2.5       | PASS    |
|                |           |         | 2441       | 30~1000          | 912.46      | -51.07       | ≤-26        | 0.00782     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2293.38     | -50.61       | ≤-26        | 0.00869     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2399.82     | -39.19       | ≤-16        | 0.12050     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2486.79     | -38.78       | ≤-16        | 0.13243     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4881.84     | -43.85       | ≤-26        | 0.04121     | ≤2.5       | PASS    |
|                |           |         | 2480       | 30~1000          | 771.81      | -51.19       | ≤-26        | 0.00760     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2255.24     | -50.19       | ≤-26        | 0.00957     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2395.57     | -39.50       | ≤-16        | 0.11220     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2484.03     | -37.93       | ≤-16        | 0.16106     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4960.10     | -44.12       | ≤-26        | 0.03873     | ≤2.5       | PASS    |
|                | 2DH5      | Ant1    | 2402       | 30~1000          | 226.18      | -51.73       | ≤-26        | 0.00671     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2371.74     | -49.92       | ≤-26        | 0.01019     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2399.99     | -22.44       | ≤-16        | 5.70164     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2487.17     | -38.57       | ≤-16        | 0.13900     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4803.59     | -48.13       | ≤-26        | 0.01538     | ≤2.5       | PASS    |
|                |           |         | 2441       | 30~1000          | 223.76      | -51.23       | ≤-26        | 0.00753     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2306.90     | -49.86       | ≤-26        | 0.01033     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2394.50     | -39.46       | ≤-16        | 0.11324     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2491.96     | -39.34       | ≤-16        | 0.11641     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4881.84     | -47.80       | ≤-26        | 0.01660     | ≤2.5       | PASS    |
|                |           |         | 2480       | 30~1000          | 804.06      | -50.53       | ≤-26        | 0.00885     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2281.59     | -50.02       | ≤-26        | 0.00995     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2391.51     | -39.51       | ≤-16        | 0.11194     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2483.65     | -37.57       | ≤-16        | 0.17498     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 4960.10     | -46.64       | ≤-26        | 0.02168     | ≤2.5       | PASS    |
|                | 3DH5      | Ant1    | 2402       | 30~1000          | 735.43      | -51.60       | ≤-26        | 0.00692     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2373.82     | -49.87       | ≤-26        | 0.01030     | ≤2.5       | PASS    |
|                |           |         |            | 2387~2400        | 2399.97     | -22.19       | ≤-16        | 6.03949     | ≤25        | PASS    |
|                |           |         |            | 2483.5~2496.5    | 2495.87     | -39.58       | ≤-16        | 0.11015     | ≤25        | PASS    |
|                |           |         |            | 2496.5~13000     | 5207.45     | -45.05       | ≤-26        | 0.03126     | ≤2.5       | PASS    |
|                |           |         | 2441       | 30~1000          | 821.52      | -51.40       | ≤-26        | 0.00724     | ≤2.5       | PASS    |
|                |           |         |            | 1000~2387        | 2299.62     | -50.30       | ≤-26        | 0.00933     | ≤2.5       | PASS    |

|  |  |      |               |         |        |      |         |      |      |
|--|--|------|---------------|---------|--------|------|---------|------|------|
|  |  |      | 2387~2400     | 2398.47 | -39.47 | ≤-16 | 0.11298 | ≤25  | PASS |
|  |  |      | 2483.5~2496.5 | 2494.78 | -39.09 | ≤-16 | 0.12331 | ≤25  | PASS |
|  |  |      | 2496.5~13000  | 5196.95 | -46.28 | ≤-26 | 0.02355 | ≤2.5 | PASS |
|  |  | 2480 | 30~1000       | 371.20  | -51.17 | ≤-26 | 0.00764 | ≤2.5 | PASS |
|  |  |      | 1000~2387     | 2381.45 | -50.00 | ≤-26 | 0.01000 | ≤2.5 | PASS |
|  |  |      | 2387~2400     | 2396.82 | -39.06 | ≤-16 | 0.12417 | ≤25  | PASS |
|  |  |      | 2483.5~2496.5 | 2483.71 | -38.46 | ≤-16 | 0.14256 | ≤25  | PASS |
|  |  |      | 2496.5~13000  | 4959.57 | -46.22 | ≤-26 | 0.02388 | ≤2.5 | PASS |
|  |  |      |               |         |        |      |         |      |      |

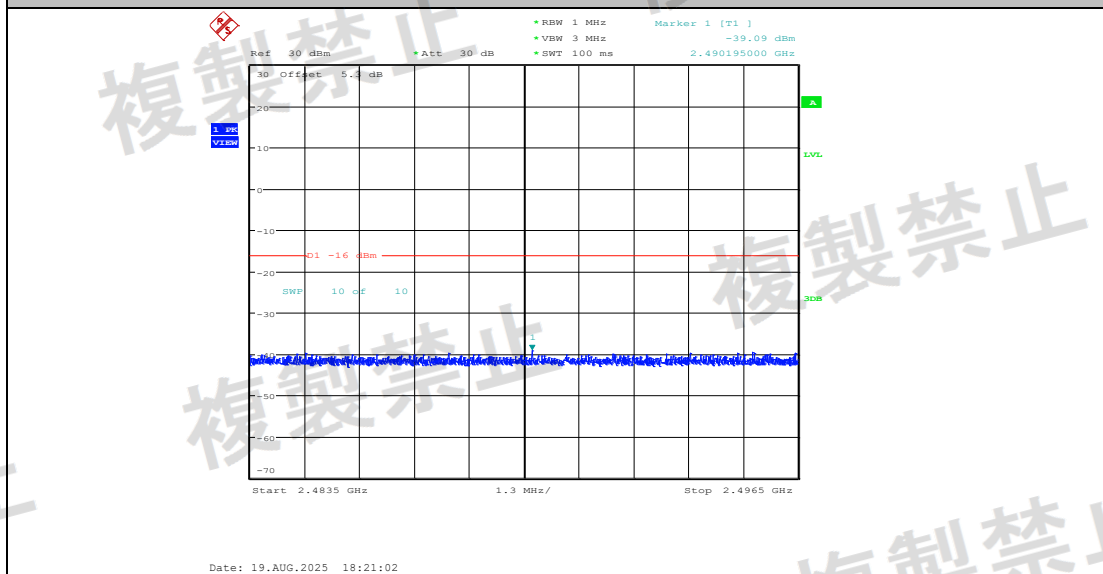
## Test Graphs

Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.

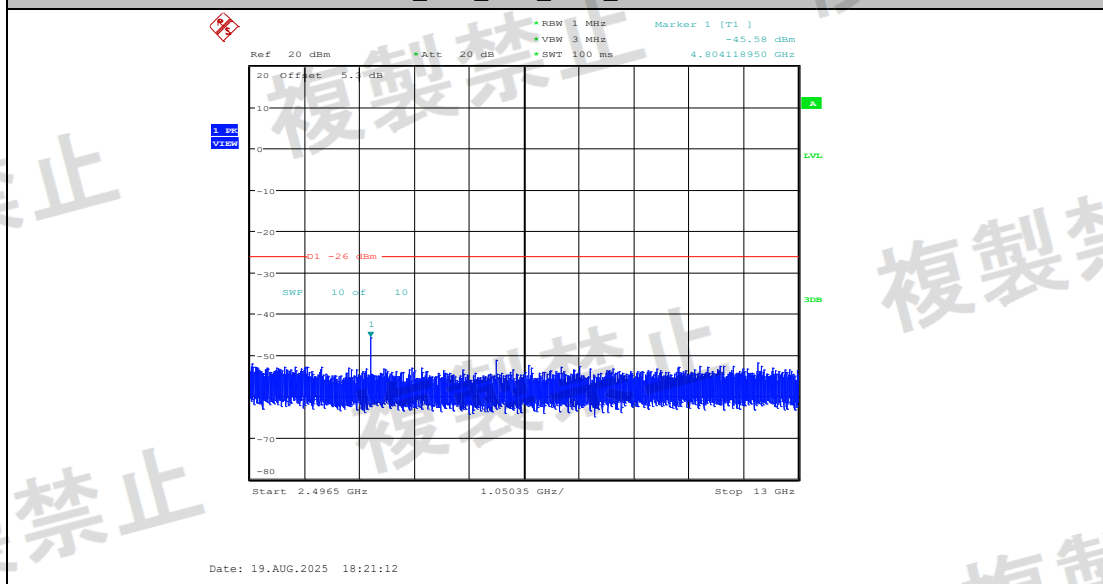


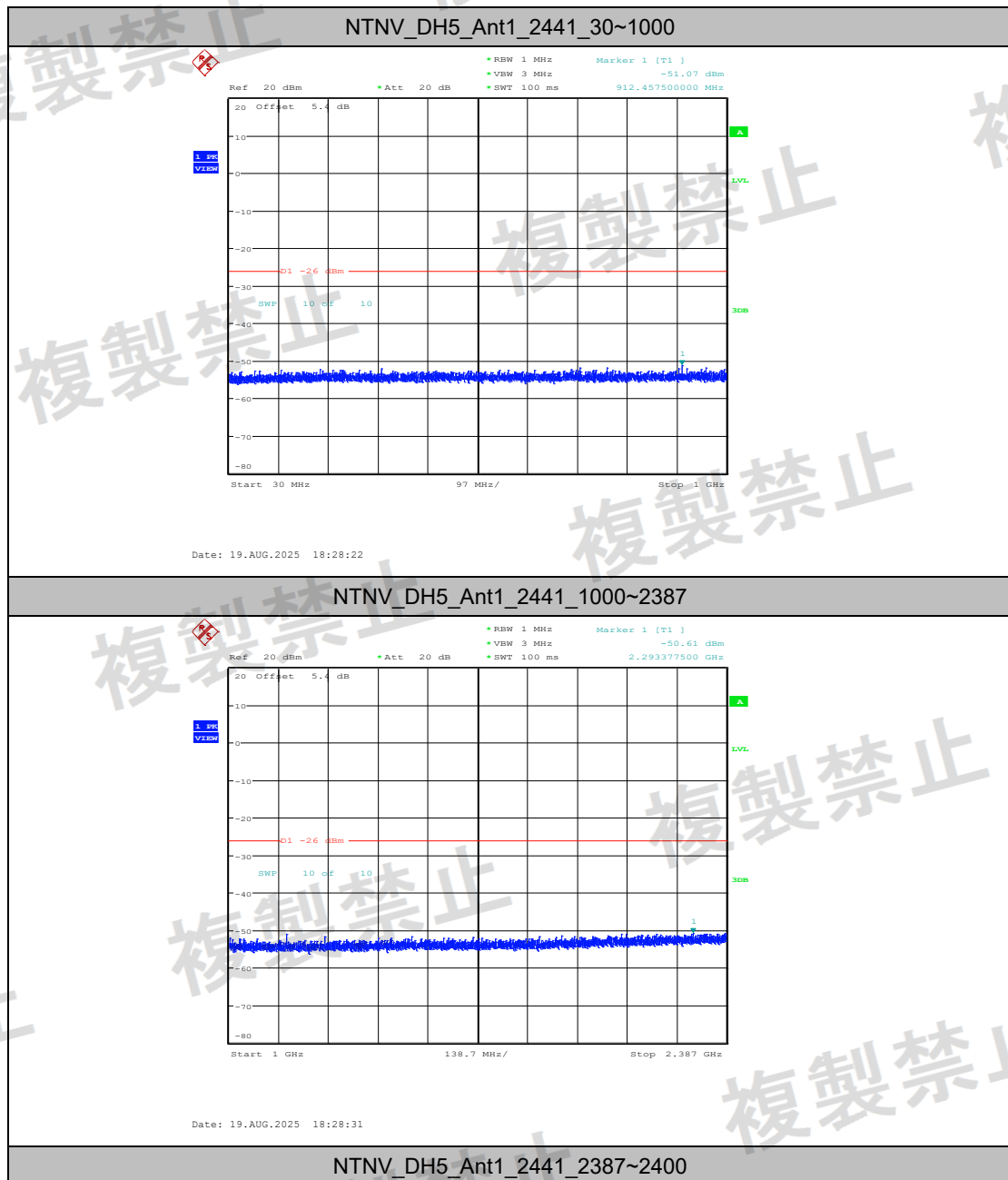


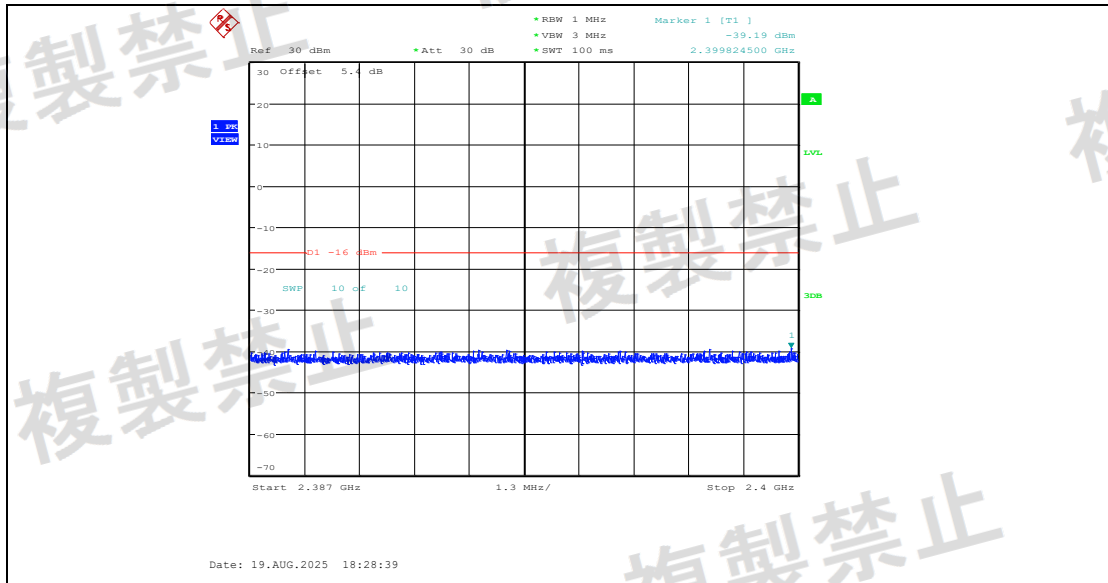
NTVN\_DH5\_Ant1\_2402\_2483.5~2496.5



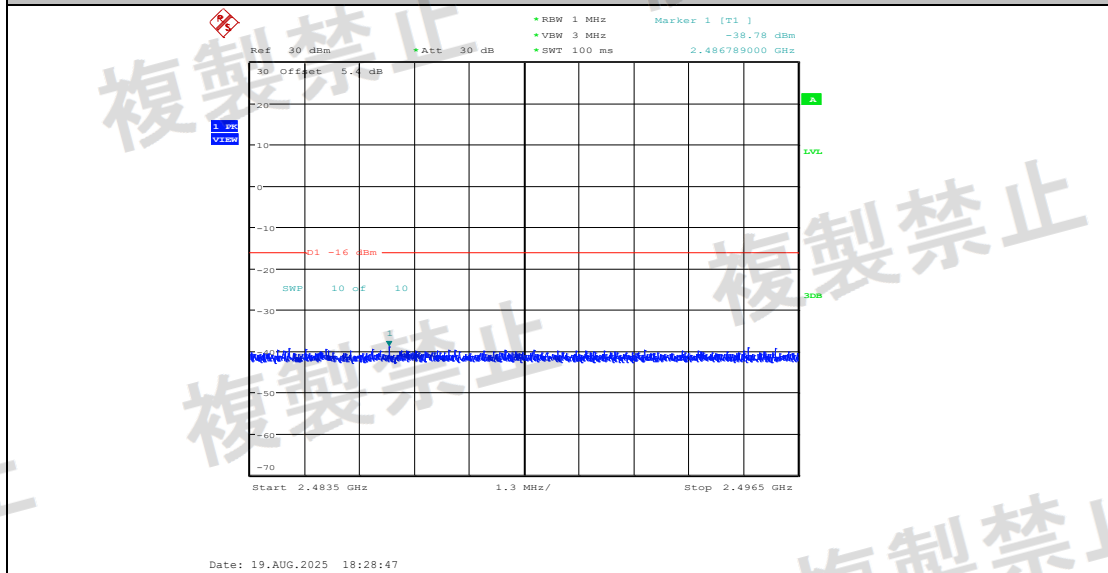
NTVN\_DH5\_Ant1\_2402\_2496.5~13000



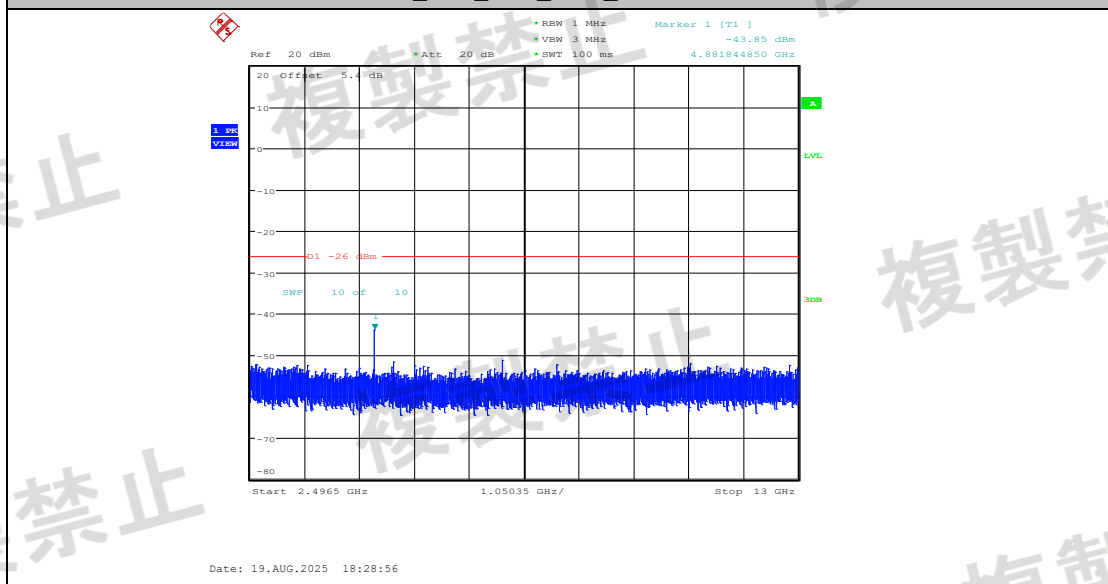


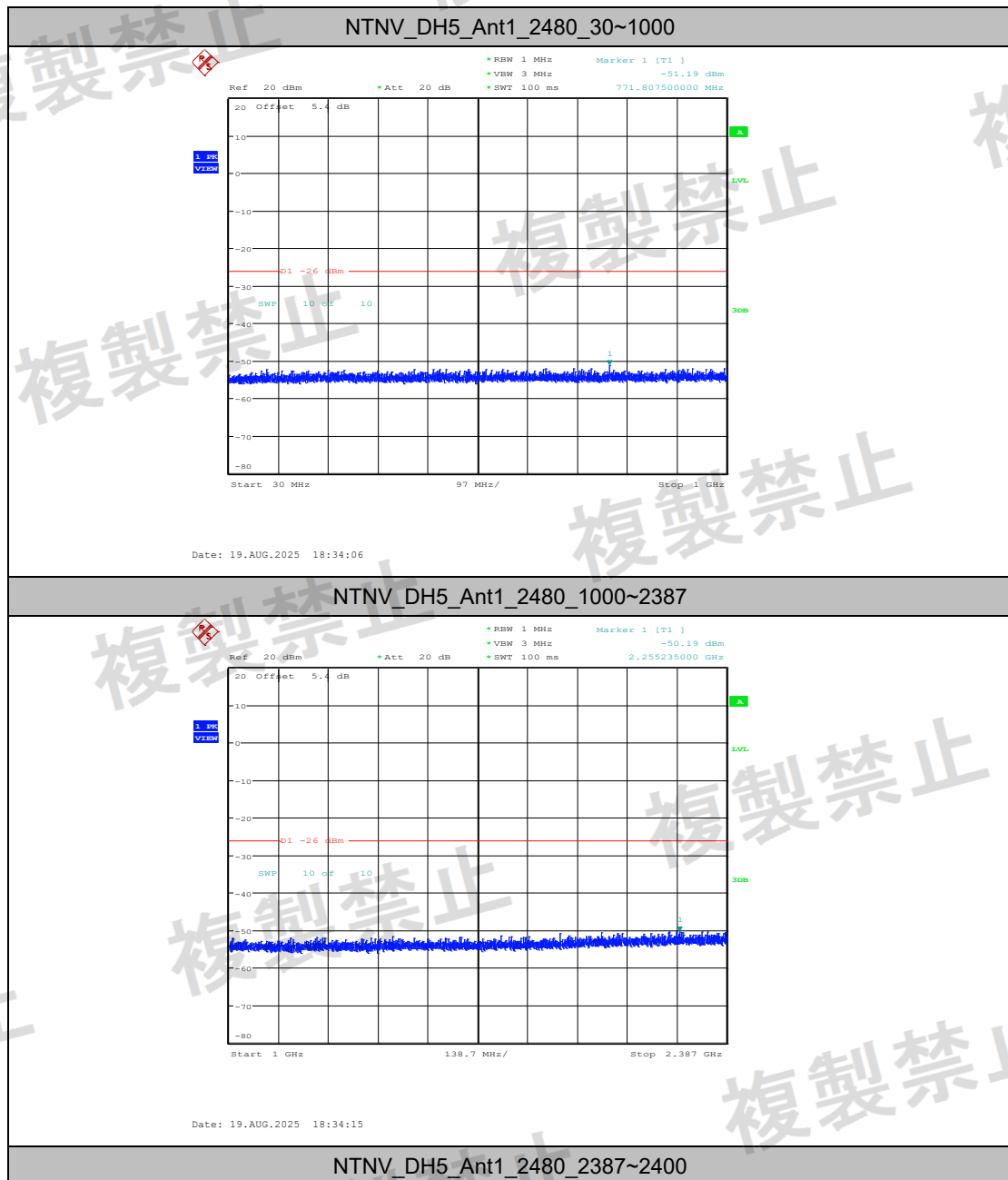


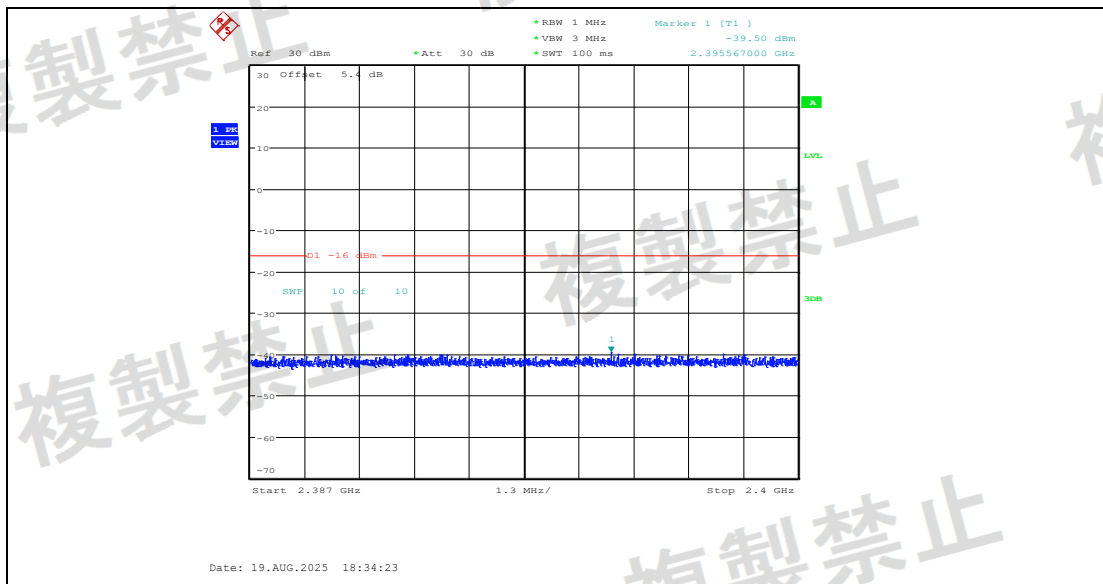
NTNV\_DH5\_Ant1\_2441\_2483.5~2496.5



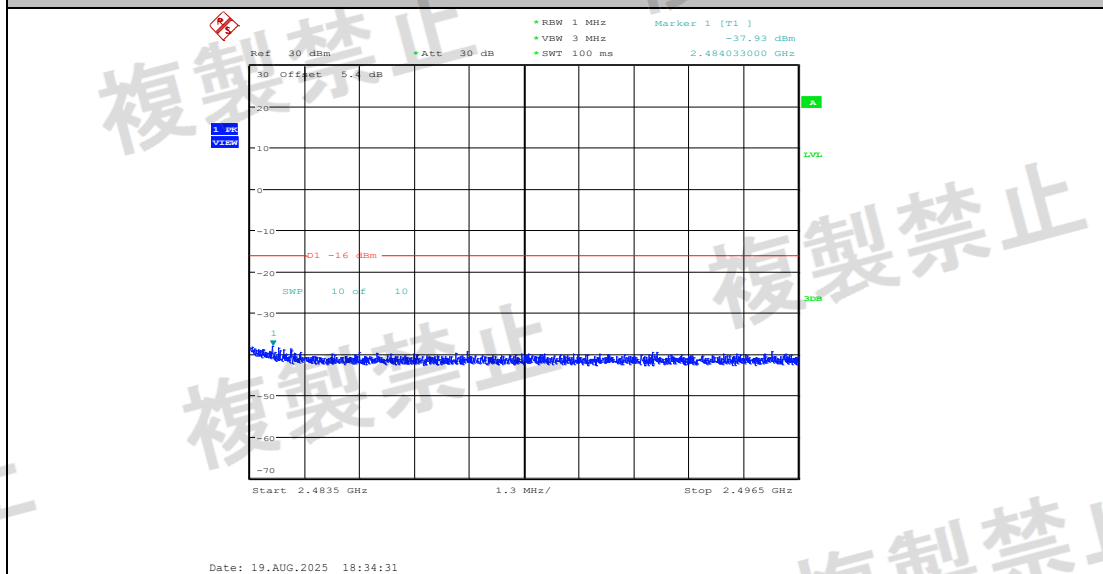
NTNV\_DH5\_Ant1\_2441\_2496.5~13000



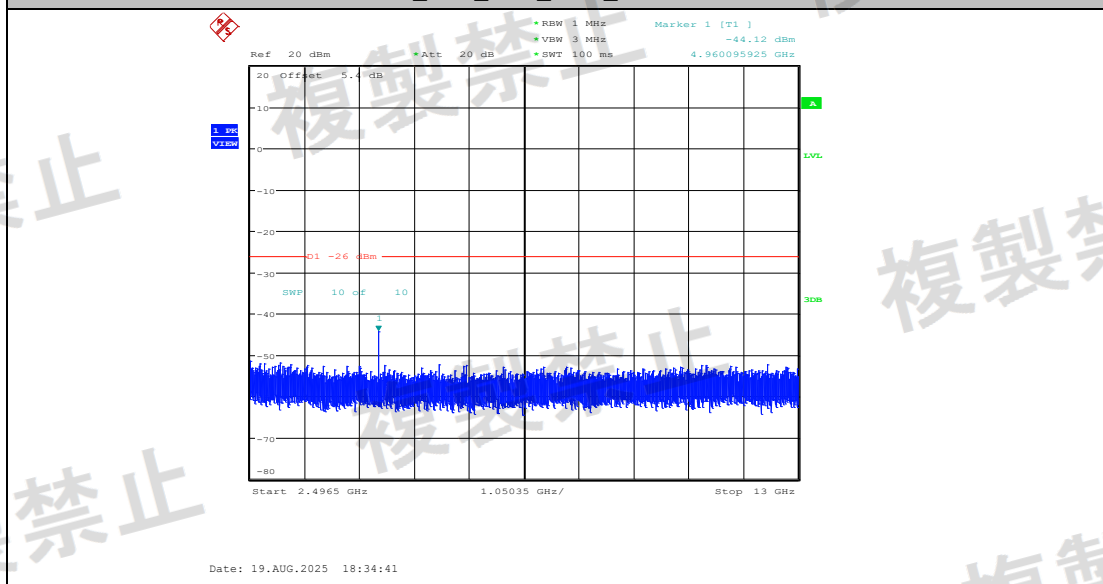


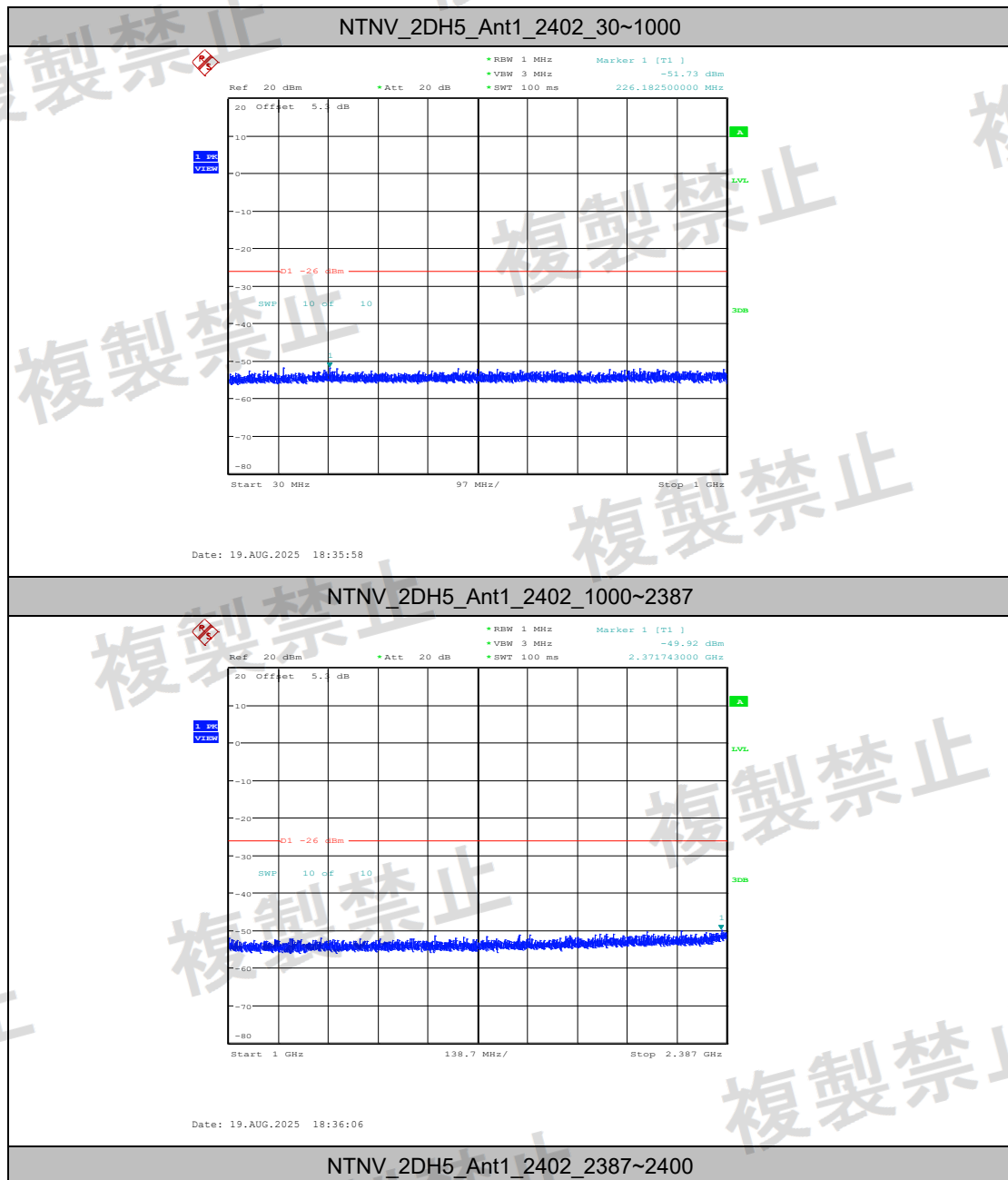


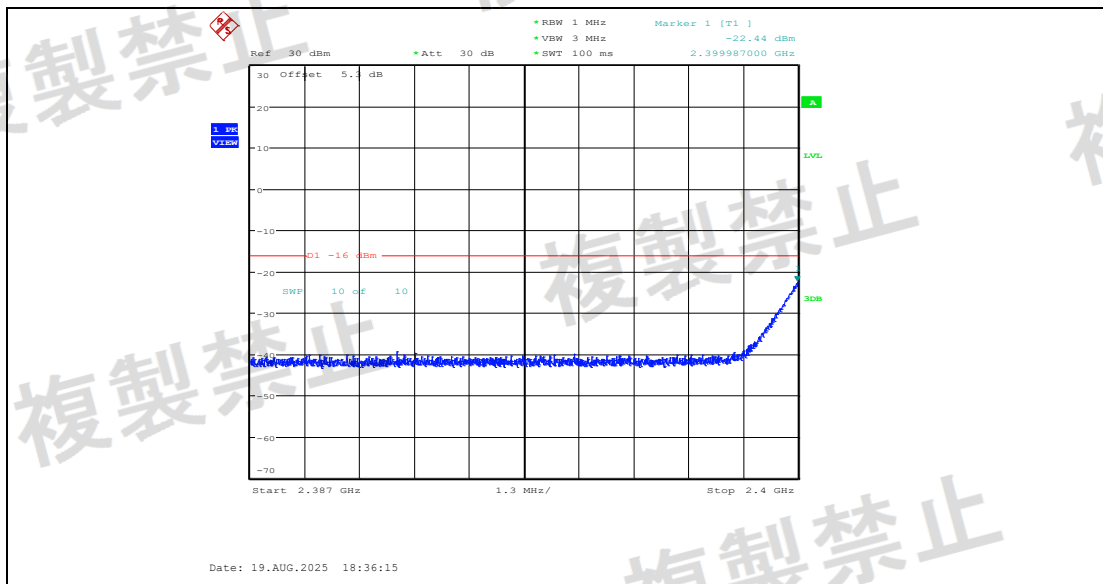
NTNV\_DH5\_Ant1\_2480\_2483.5~2496.5



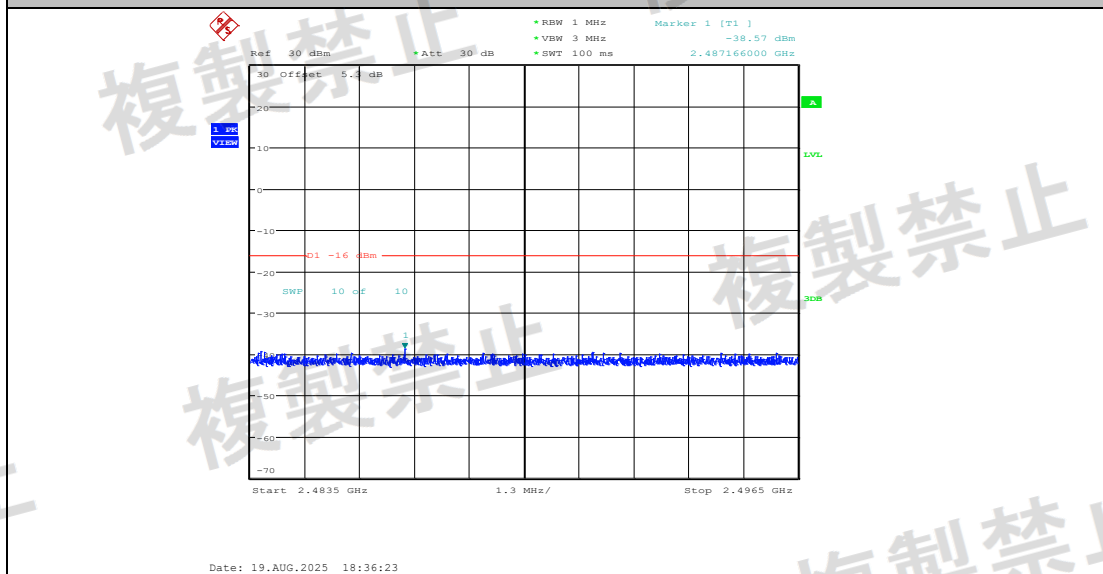
NTNV\_DH5\_Ant1\_2480\_2496.5~13000



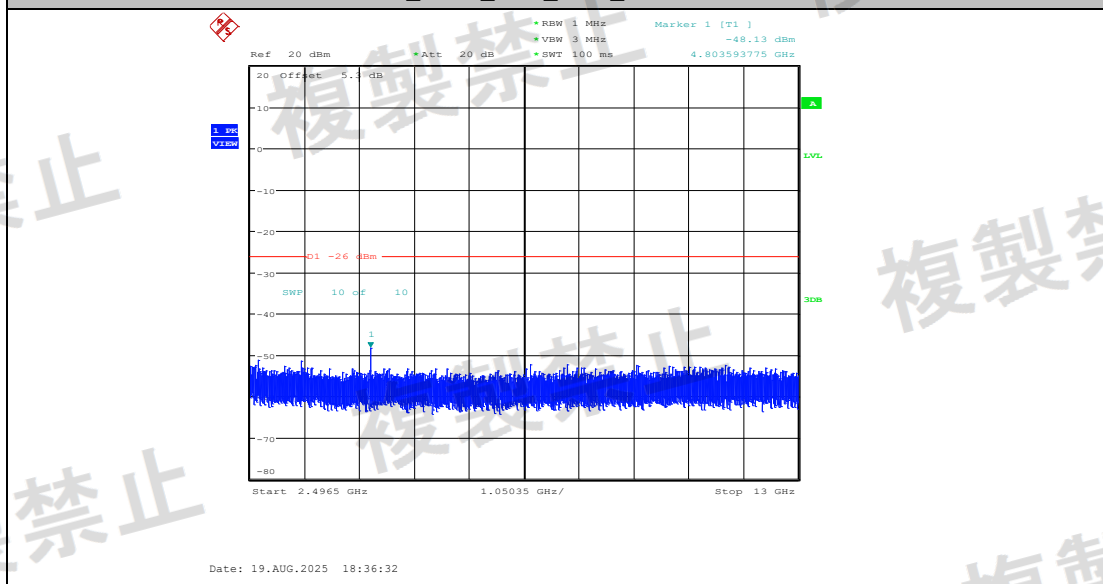


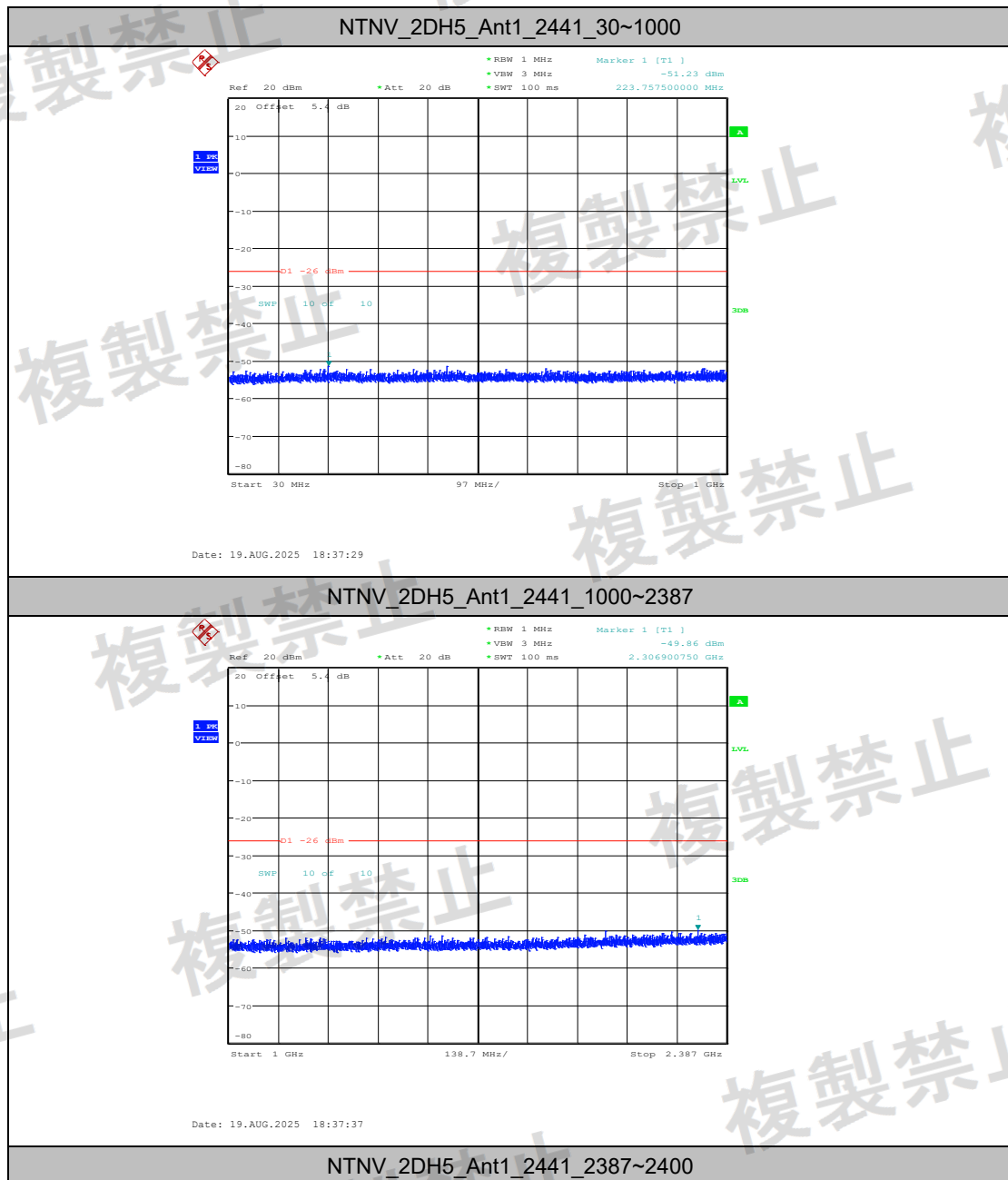


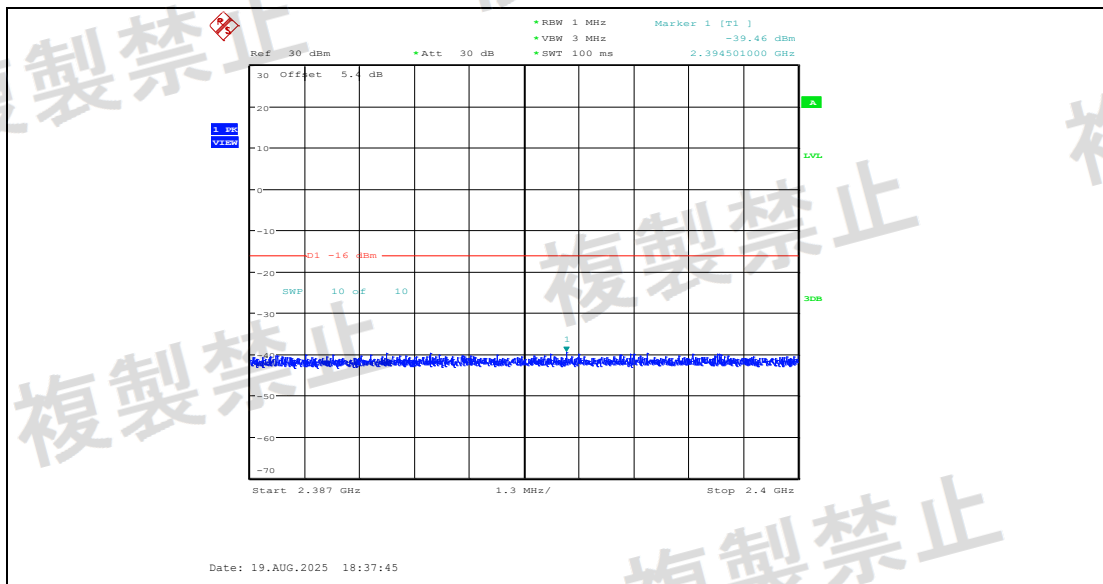
NTNV\_2DH5\_Ant1\_2402\_2483.5~2496.5



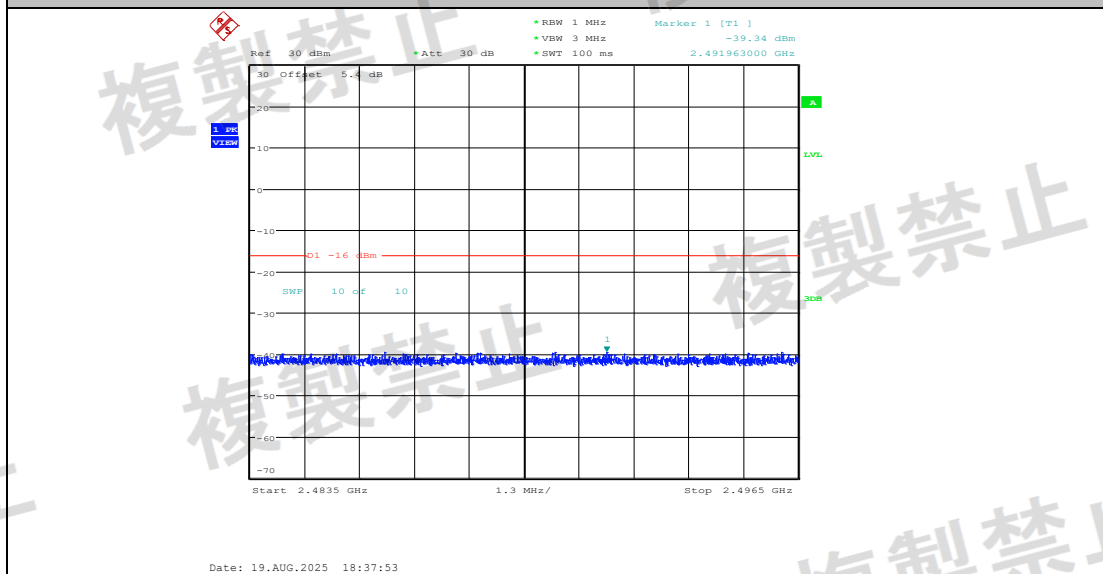
NTNV\_2DH5\_Ant1\_2402\_2496.5~13000



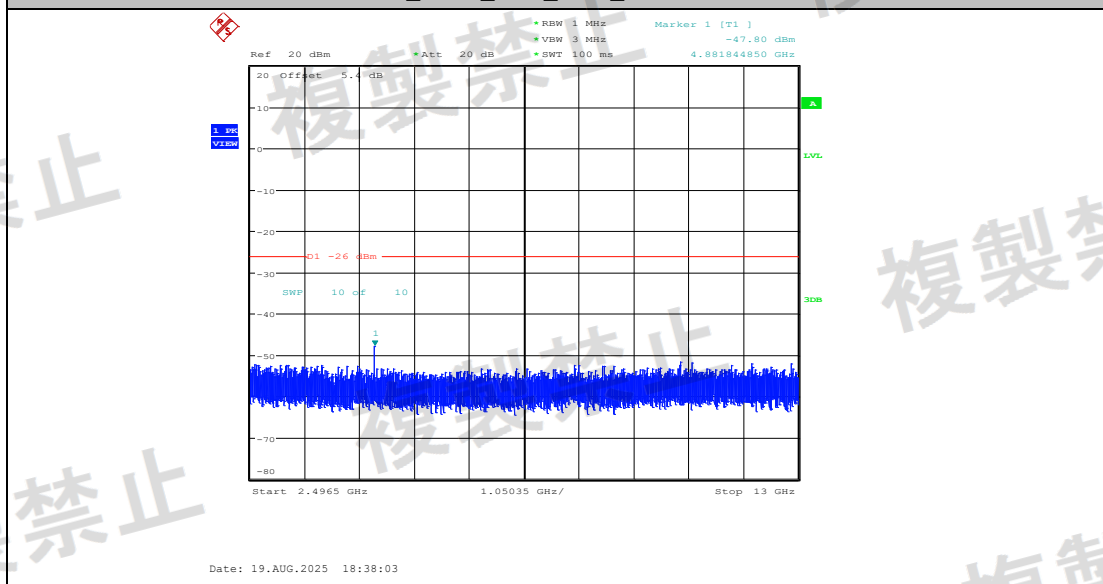


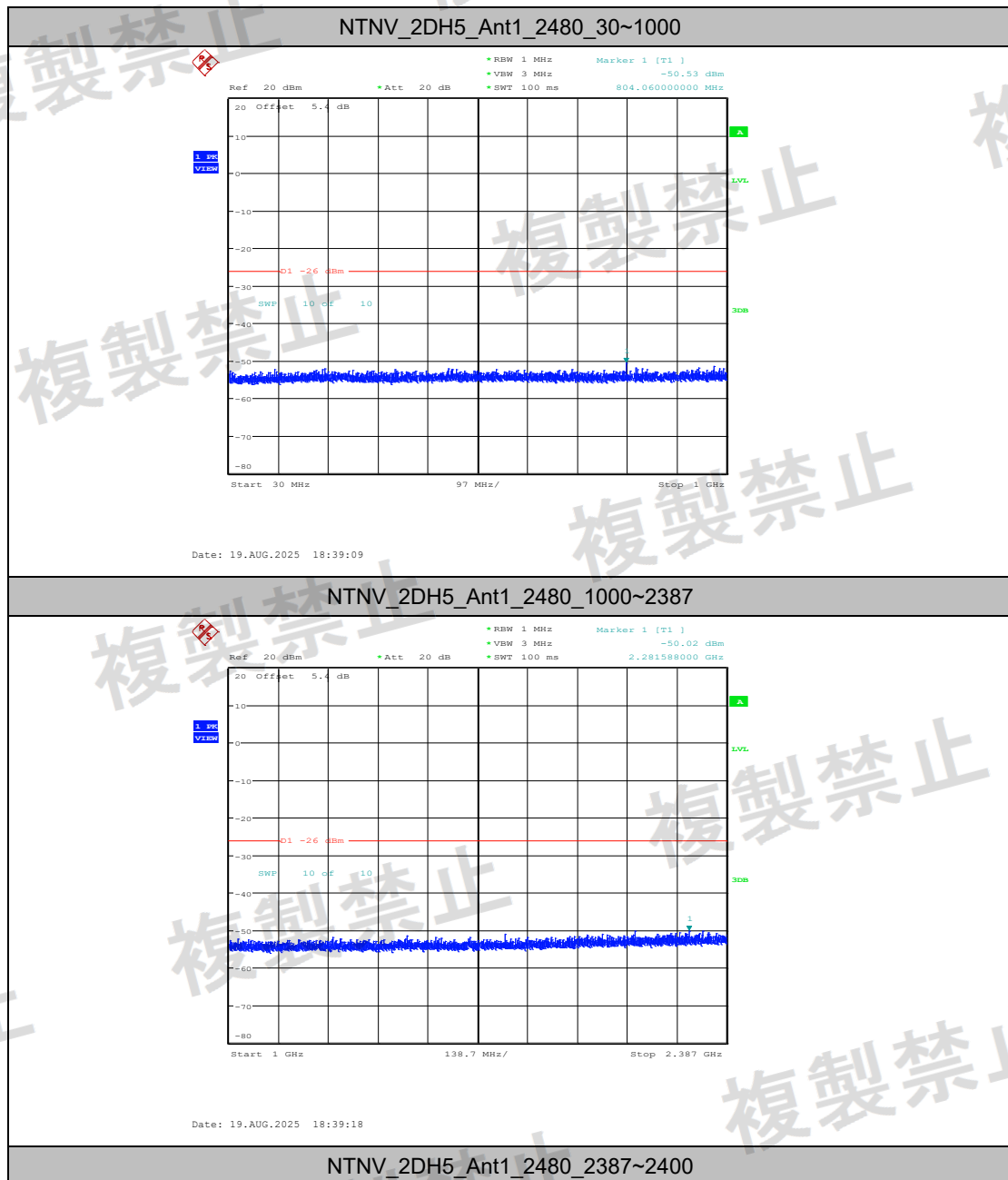


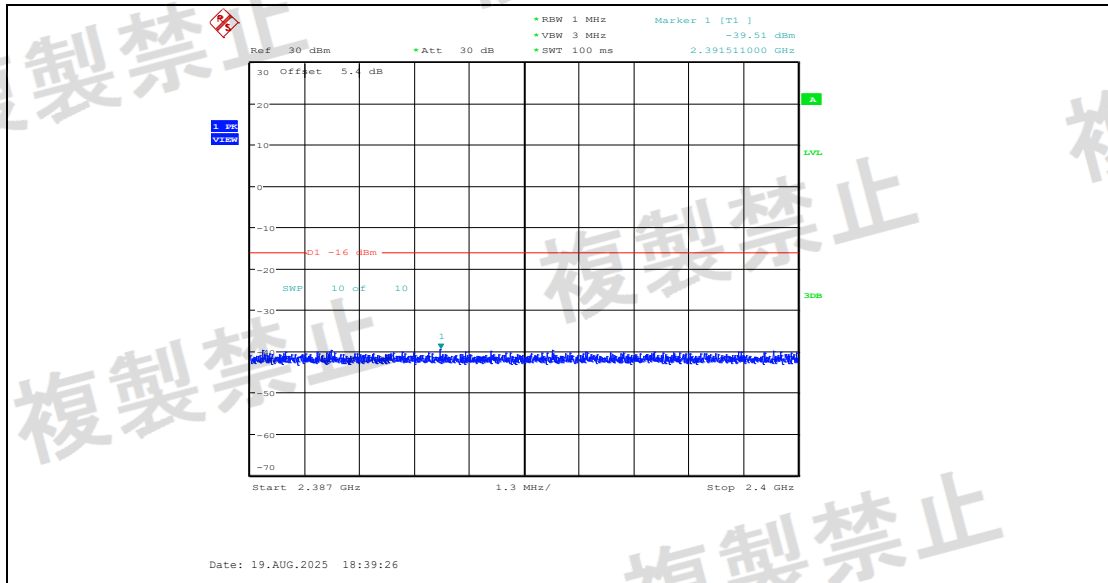
NTNV\_2DH5\_Ant1\_2441\_2483.5~2496.5



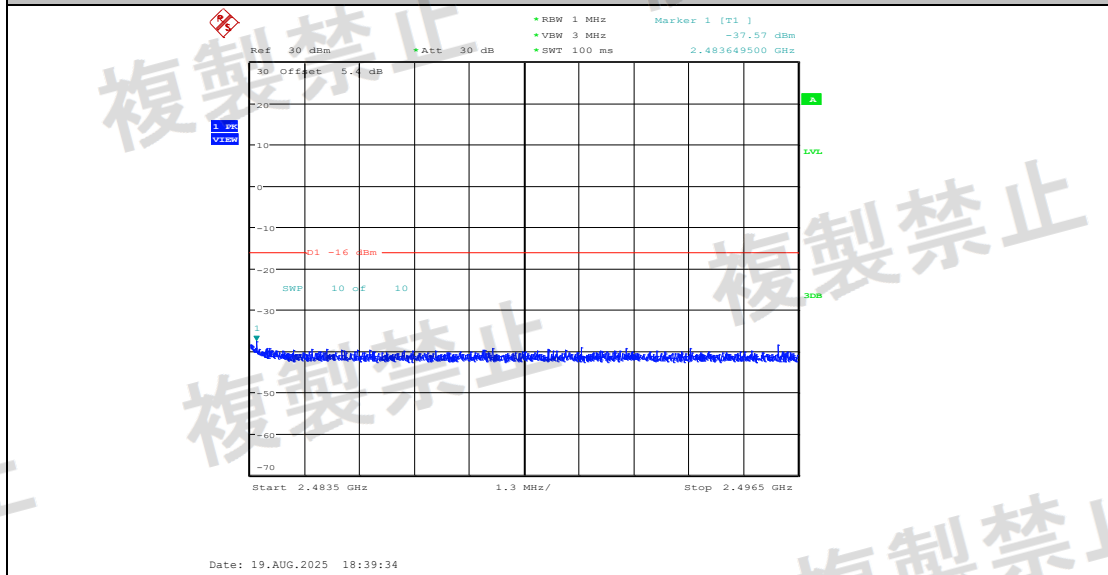
NTNV\_2DH5\_Ant1\_2441\_2496.5~13000



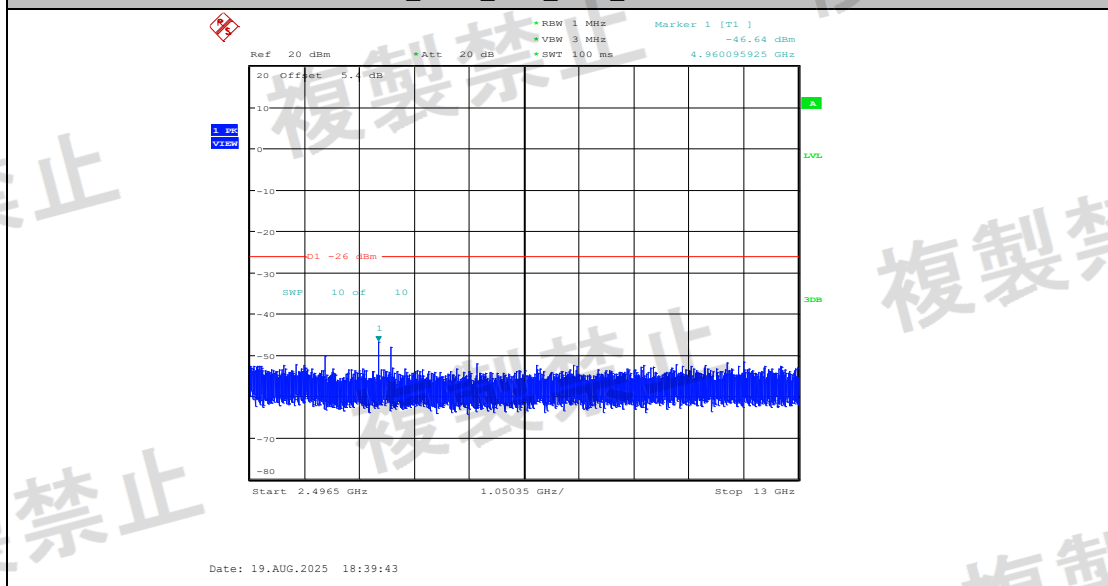


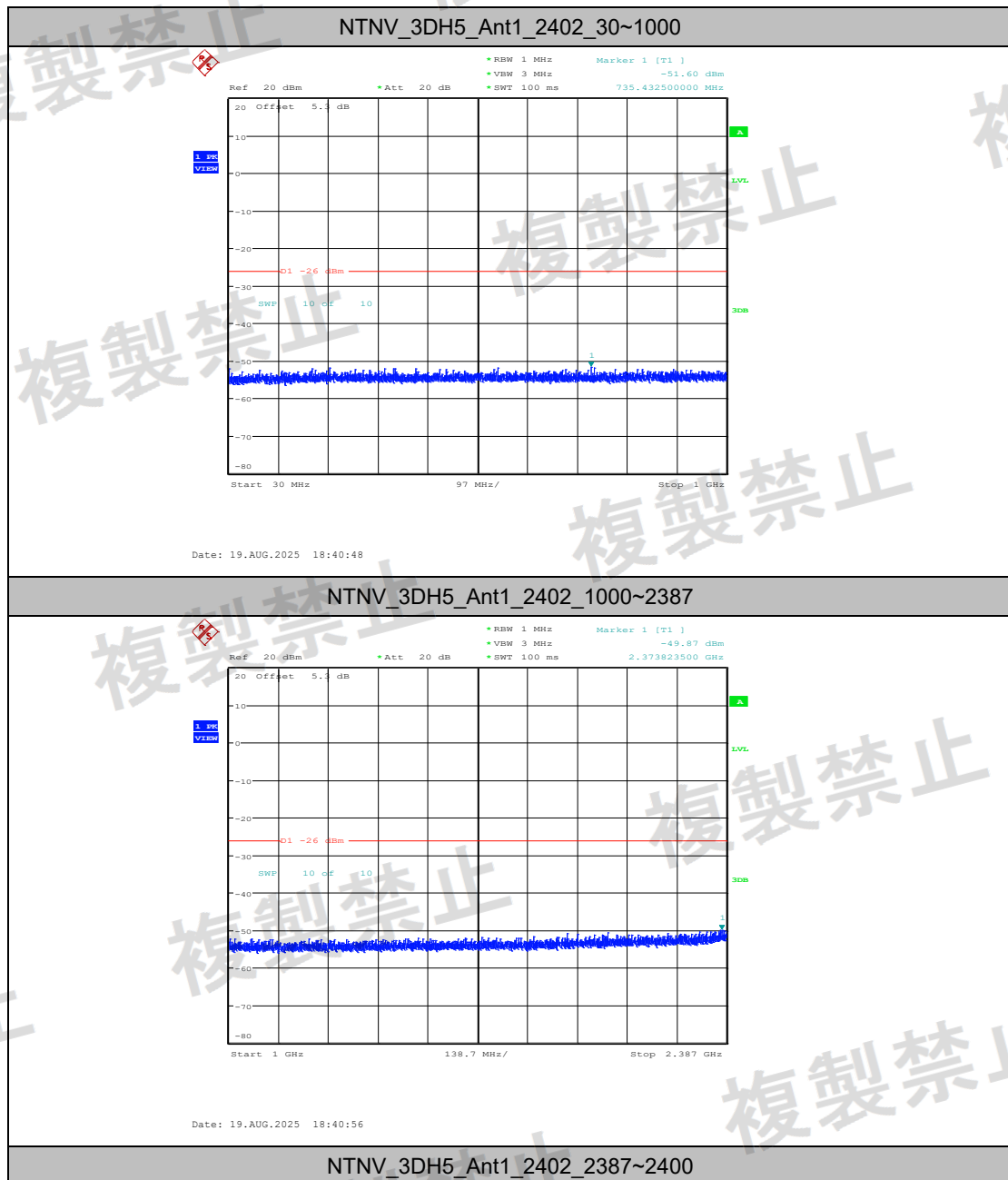


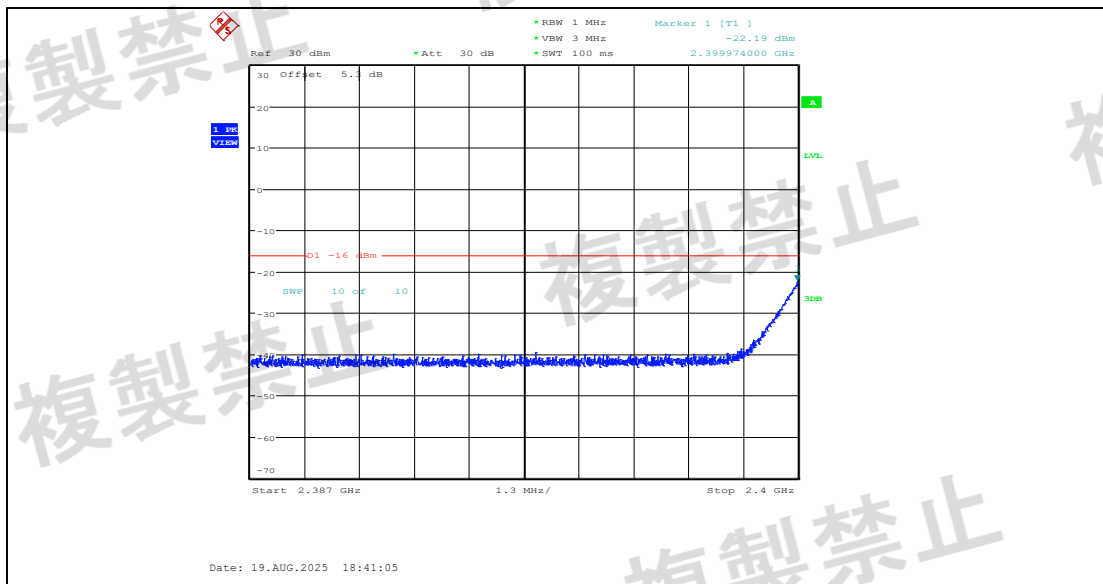
NTNV\_2DH5\_Ant1\_2480\_2483.5~2496.5



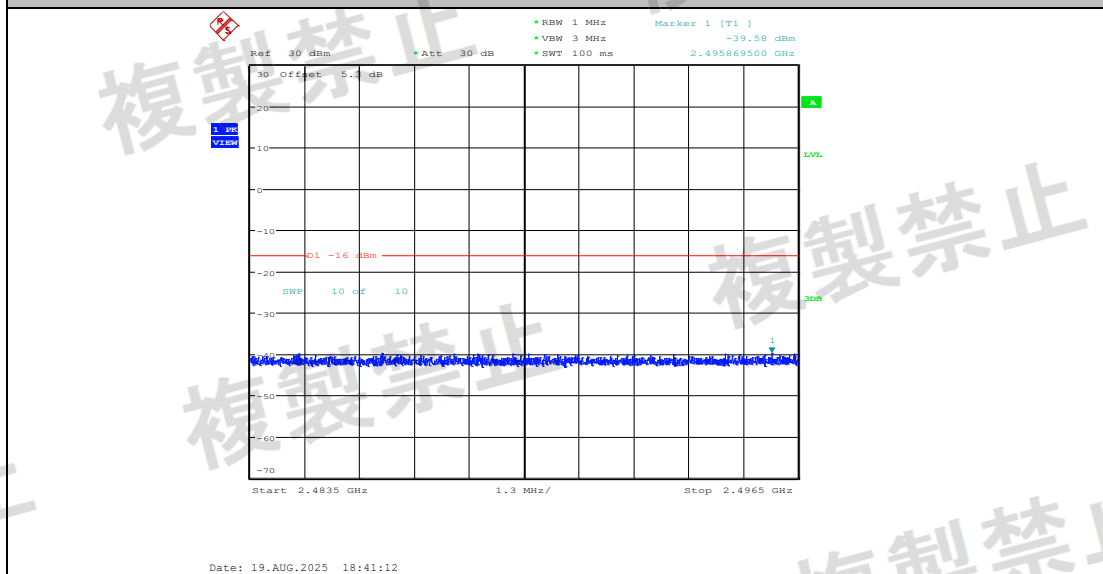
NTNV\_2DH5\_Ant1\_2480\_2496.5~13000



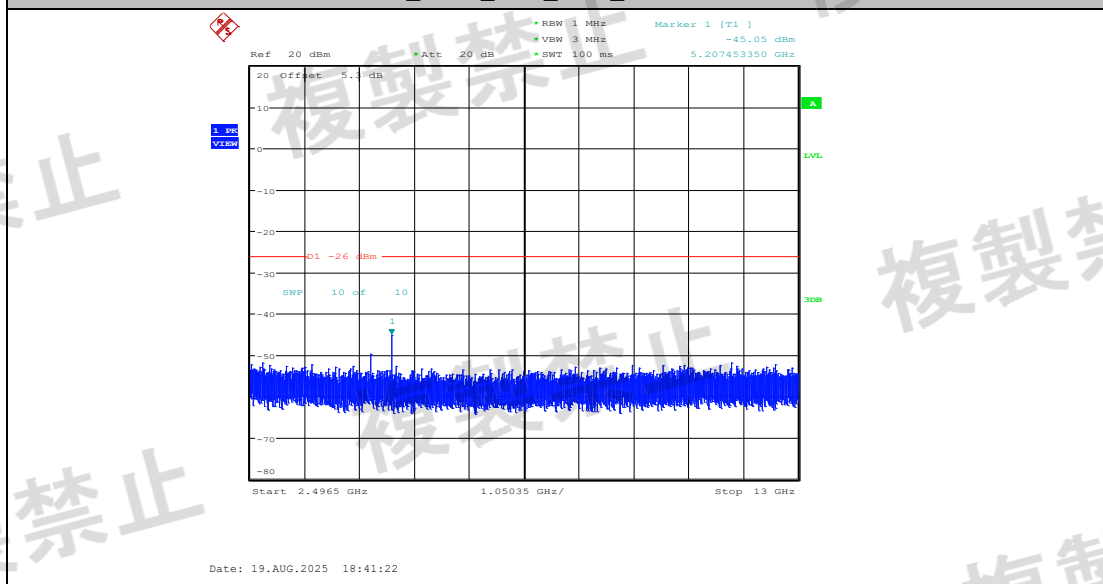


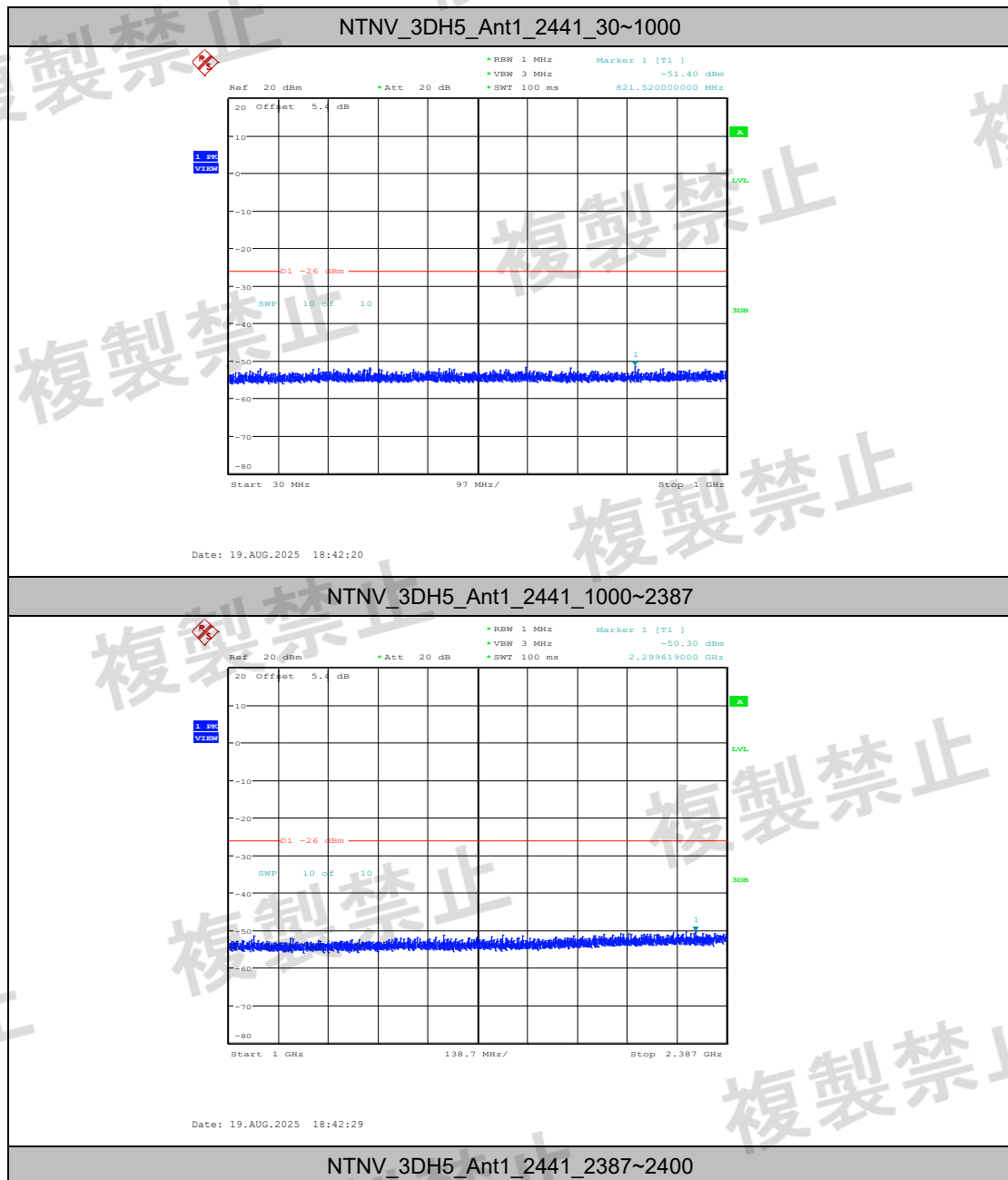


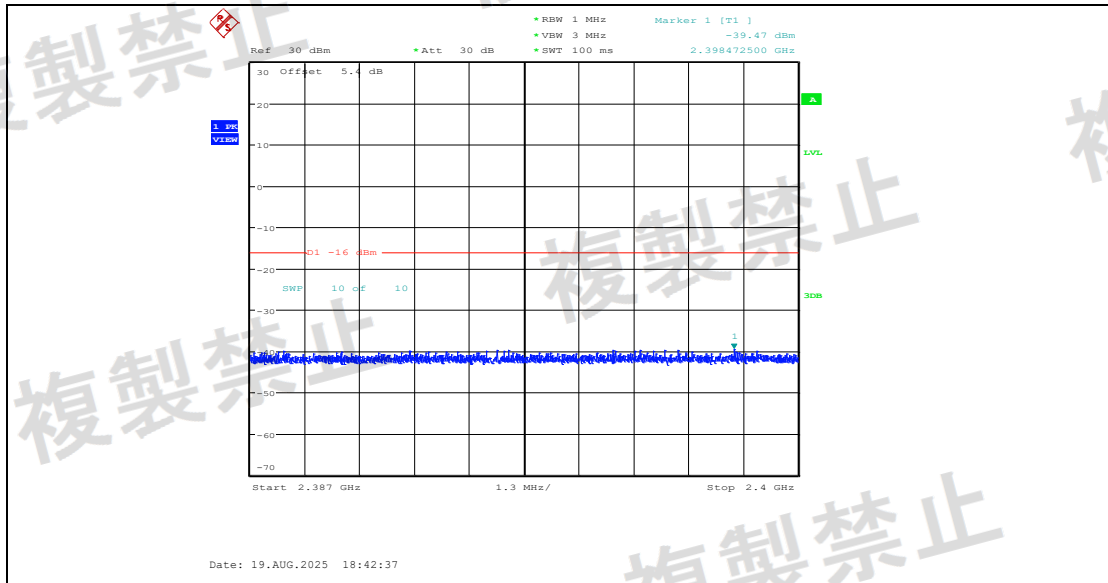
### NTNV\_3DH5\_Ant1\_2402\_2483.5~2496.5



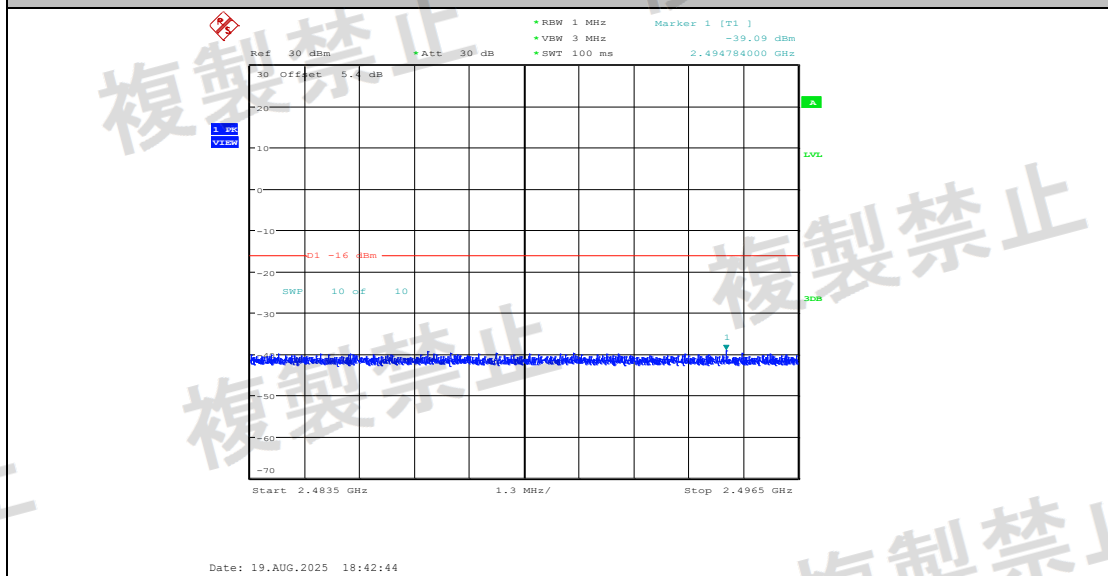
### NTNV\_3DH5\_Ant1\_2402\_2496.5~13000



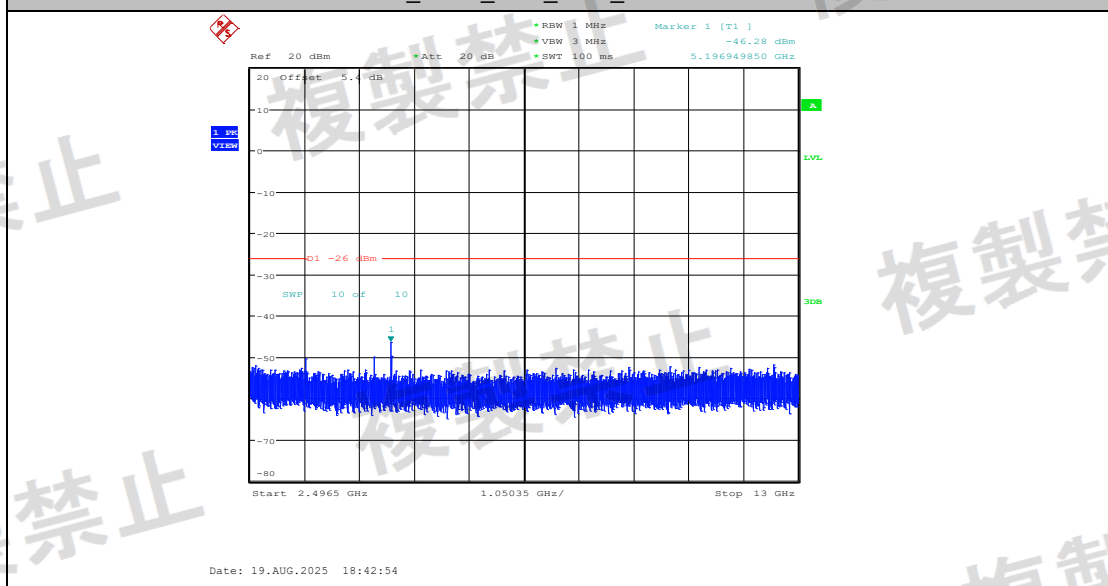


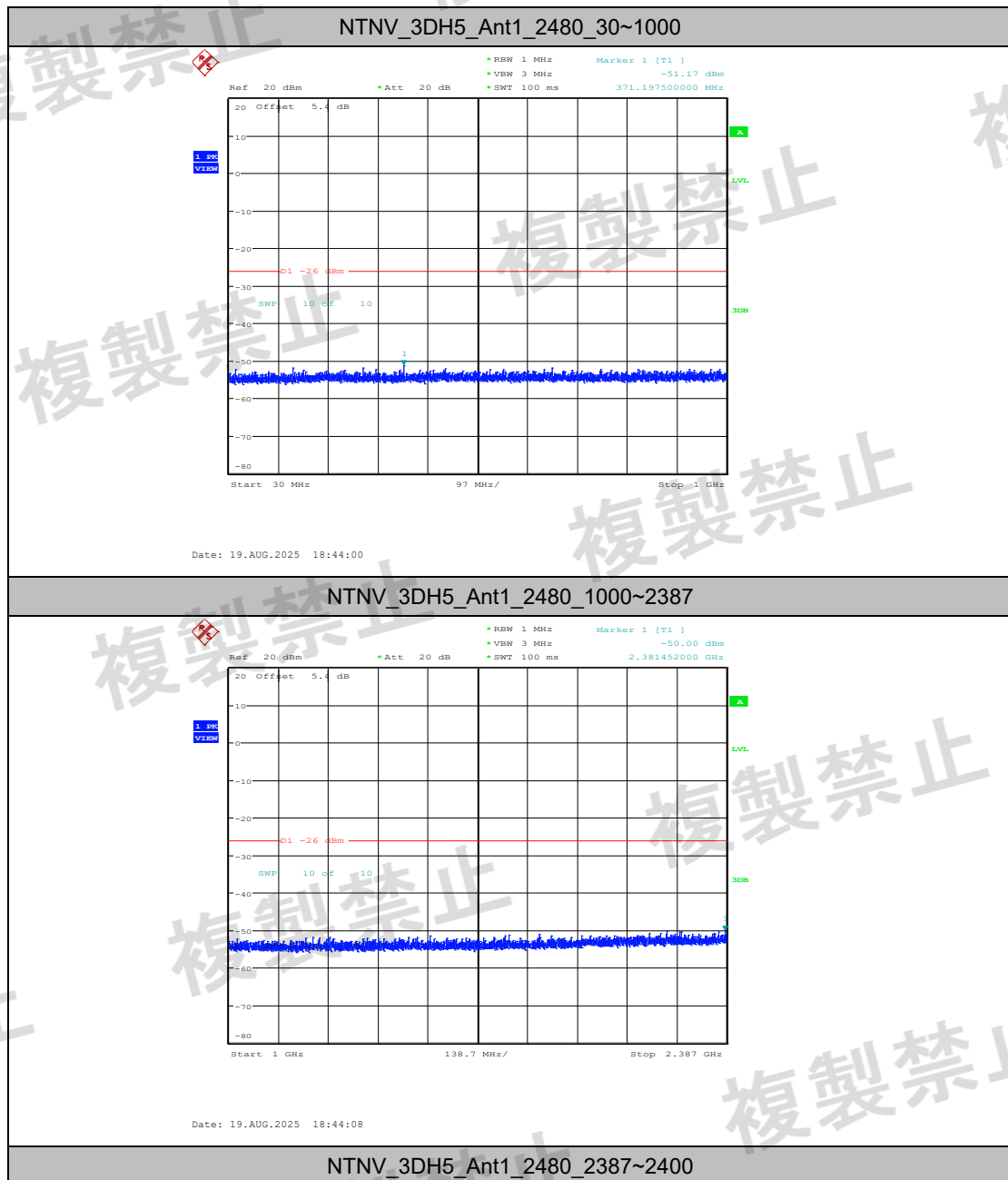


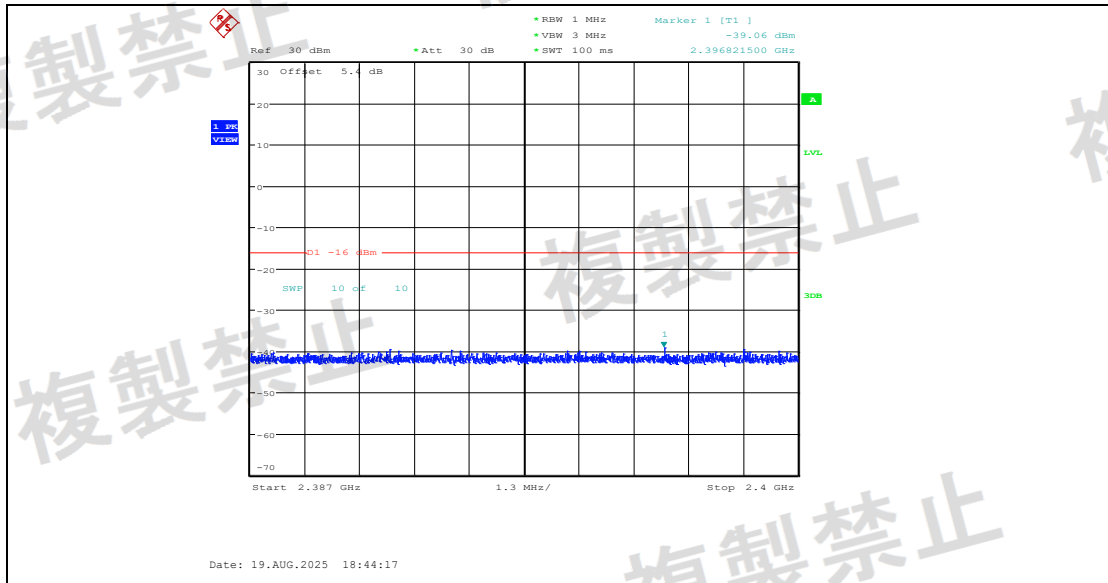
NTNV\_3DH5\_Ant1\_2441\_2483.5~2496.5



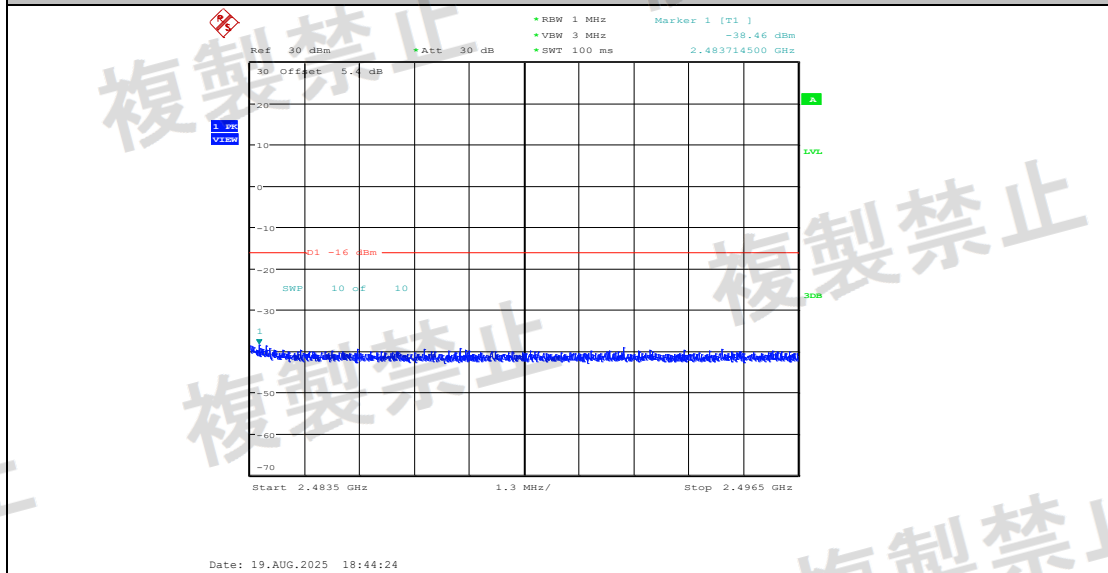
NTNV\_3DH5\_Ant1\_2441\_2496.5~13000



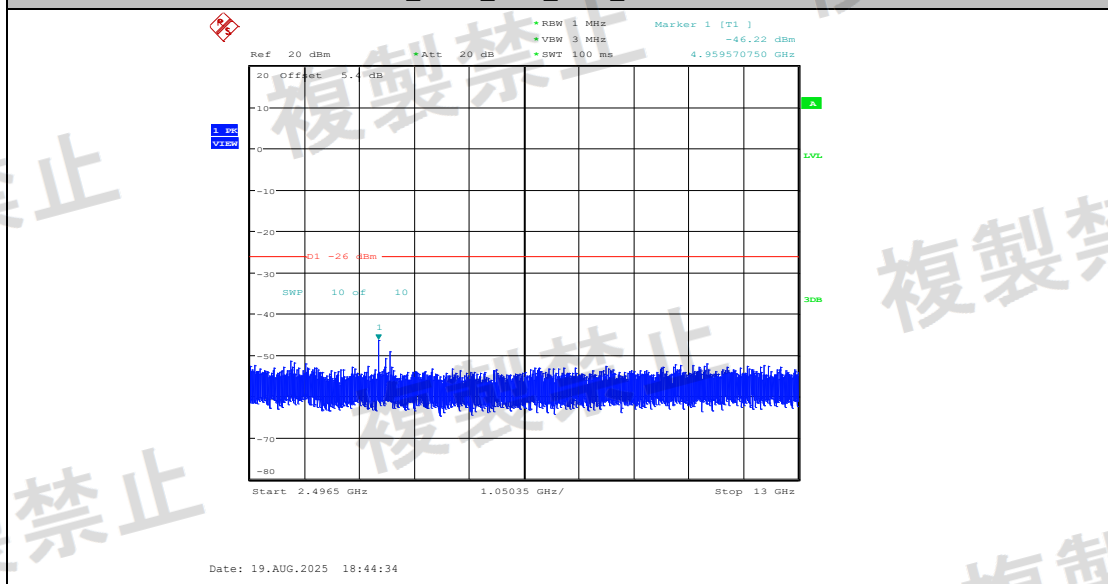




NTNV\_3DH5\_Ant1\_2480\_2483.5~2496.5



NTNV\_3DH5\_Ant1\_2480\_2496.5~13000



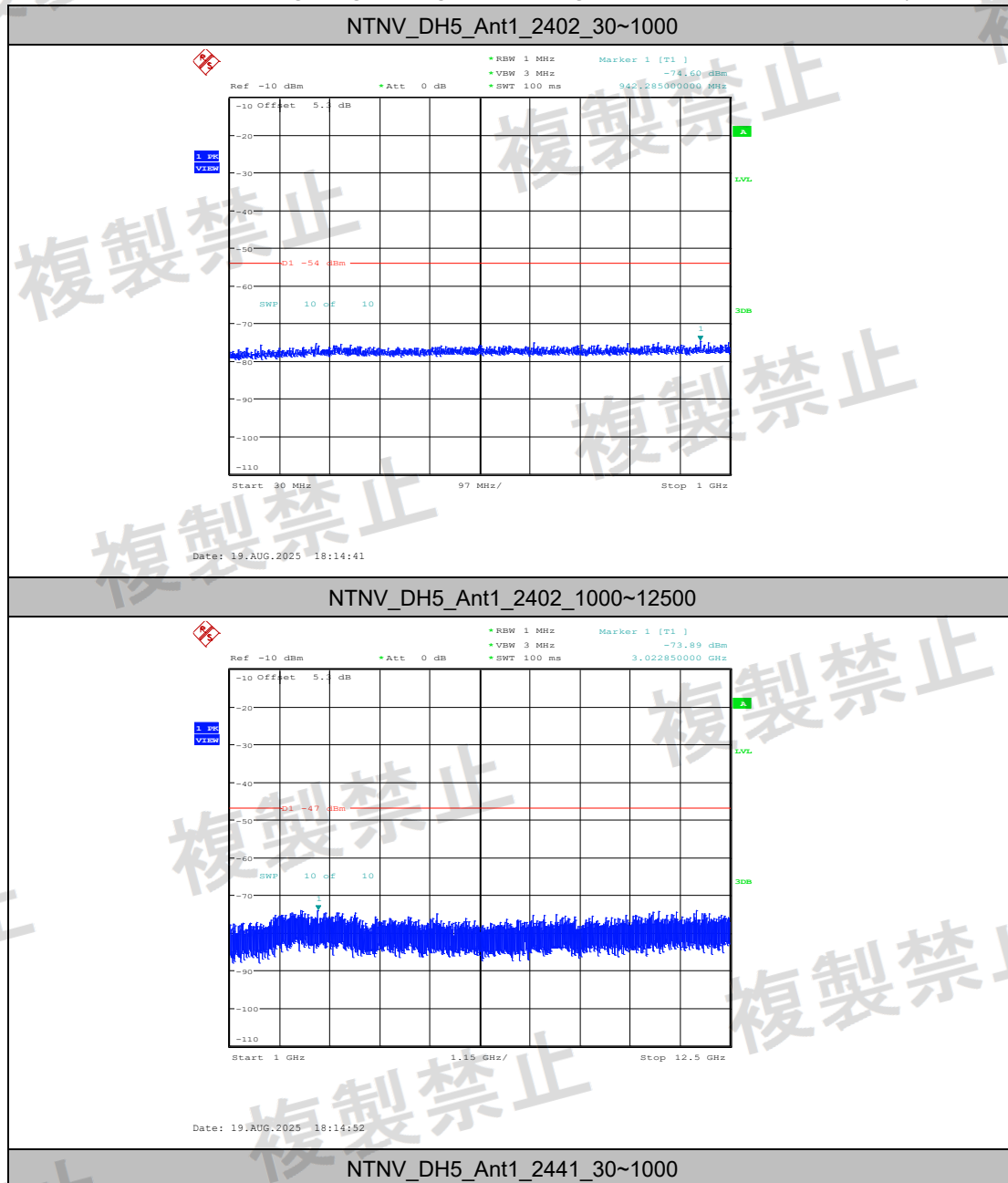
## Appendix E: Spurious Emission of RX

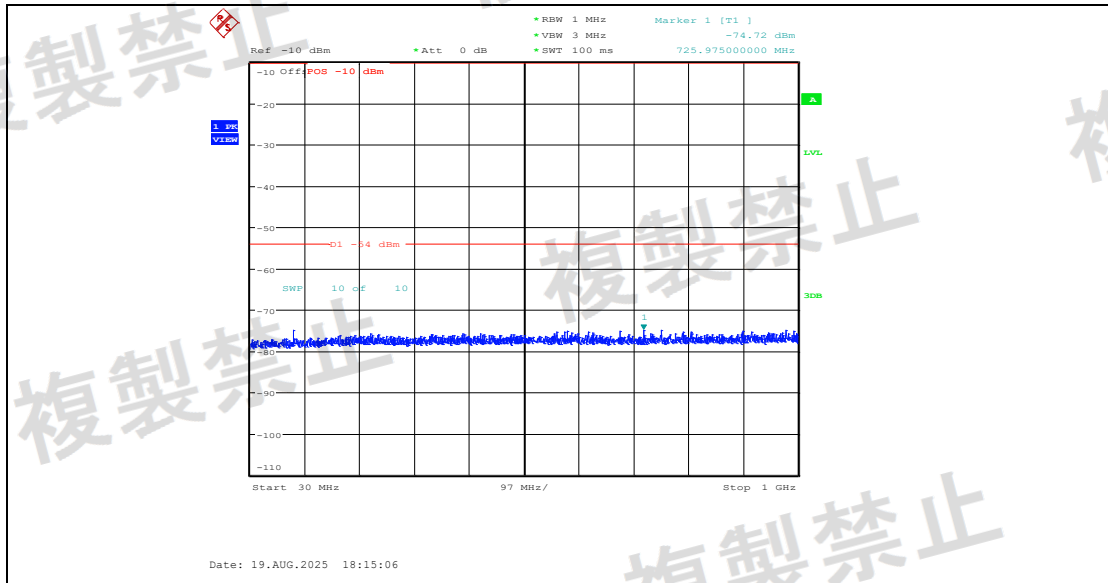
### Test Result

| Test Condition | Test Mode | Antenna | Freq(M Hz) | Freq.Range [MHz] | Freq. [MHz] | Result [dBm] | Limit [dBm] | Result [nW] | Limit [nW] | Verdict |
|----------------|-----------|---------|------------|------------------|-------------|--------------|-------------|-------------|------------|---------|
| NTNV           | DH5       | Ant1    | 2402       | 30~1000          | 942.29      | -74.60       | ≤-54        | 0.03467     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 3022.85     | -73.89       | ≤-47        | 0.04083     | ≤20        | PASS    |
|                |           |         | 2441       | 30~1000          | 725.98      | -74.72       | ≤-54        | 0.03373     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 2476.60     | -73.13       | ≤-47        | 0.04864     | ≤20        | PASS    |
|                |           |         | 2480       | 30~1000          | 991.27      | -74.86       | ≤-54        | 0.03266     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 3585.78     | -73.85       | ≤-47        | 0.04121     | ≤20        | PASS    |
|                | 2DH5      | Ant1    | 2402       | 30~1000          | 948.11      | -75.28       | ≤-54        | 0.02965     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 3582.33     | -73.69       | ≤-47        | 0.04276     | ≤20        | PASS    |
|                |           |         | 2441       | 30~1000          | 609.58      | -74.98       | ≤-54        | 0.03177     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 11734.68    | -73.54       | ≤-47        | 0.04426     | ≤20        | PASS    |
|                |           |         | 2480       | 30~1000          | 967.02      | -74.72       | ≤-54        | 0.03373     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 10650.80    | -73.03       | ≤-47        | 0.04977     | ≤20        | PASS    |
|                | 3DH5      | Ant1    | 2402       | 30~1000          | 635.77      | -74.95       | ≤-54        | 0.03199     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 2530.65     | -74.11       | ≤-47        | 0.03882     | ≤20        | PASS    |
|                |           |         | 2441       | 30~1000          | 221.09      | -75.20       | ≤-54        | 0.03020     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 3505.85     | -73.94       | ≤-47        | 0.04036     | ≤20        | PASS    |
|                |           |         | 2480       | 30~1000          | 610.06      | -75.03       | ≤-54        | 0.03141     | ≤4         | PASS    |
|                |           |         |            | 1000~12500       | 2615.18     | -73.76       | ≤-47        | 0.04207     | ≤20        | PASS    |

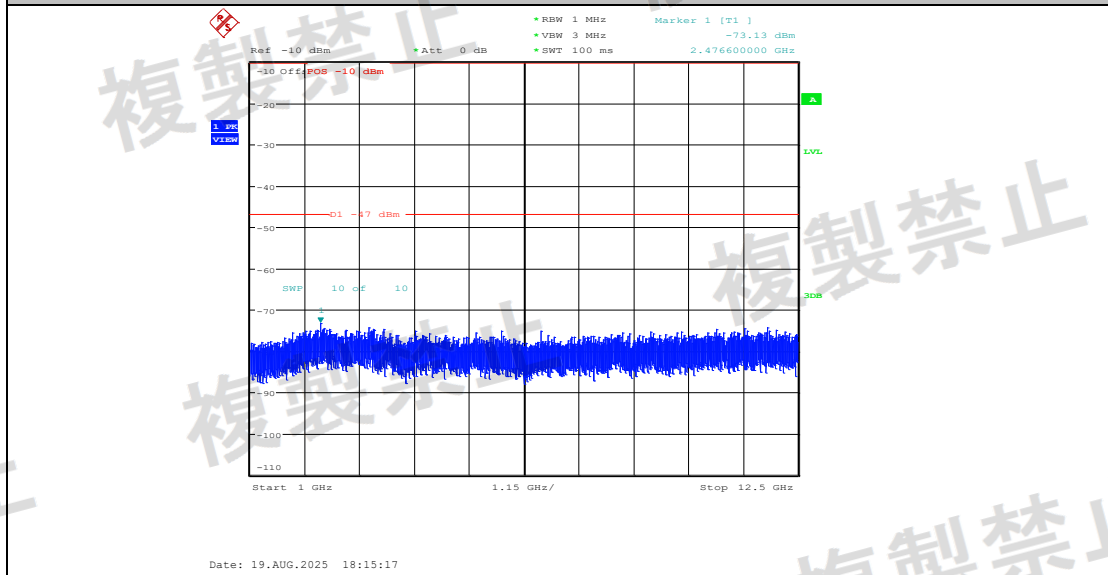
## Test Graphs

Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.

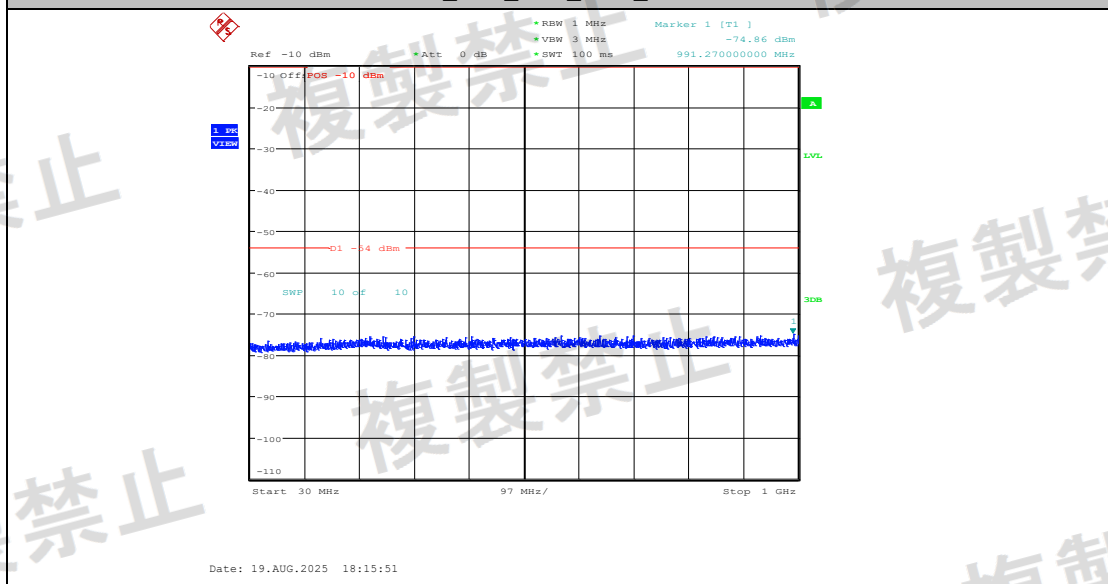


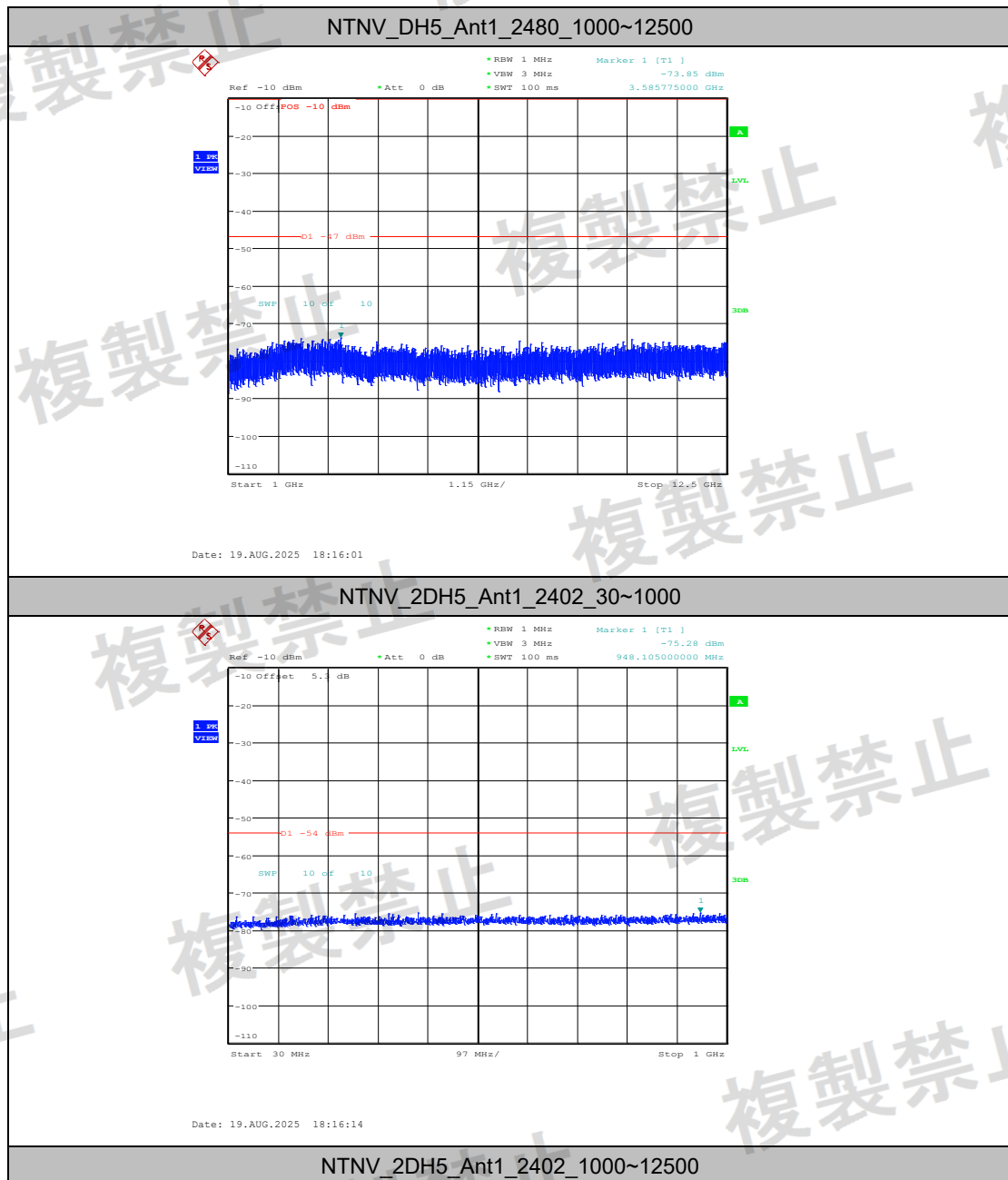


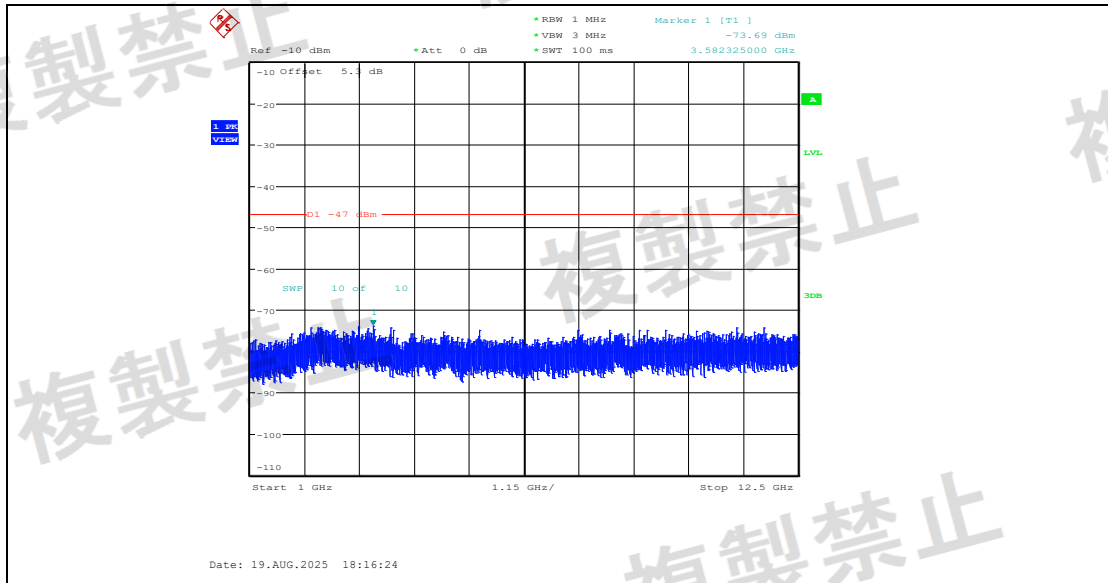
NTVN\_DH5\_Ant1\_2441\_1000~12500



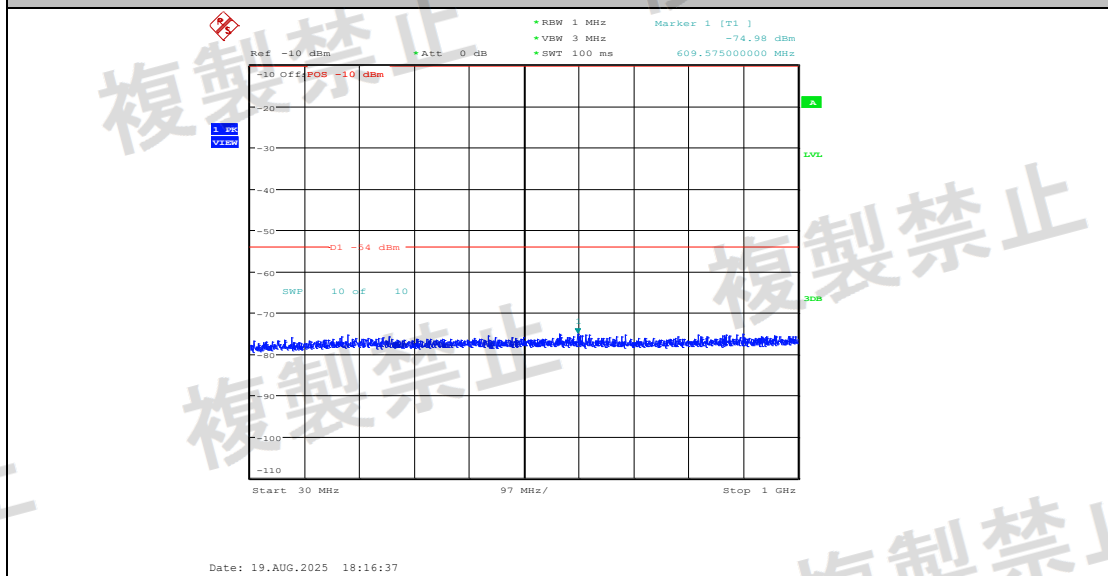
NTVN\_DH5\_Ant1\_2480\_30~1000



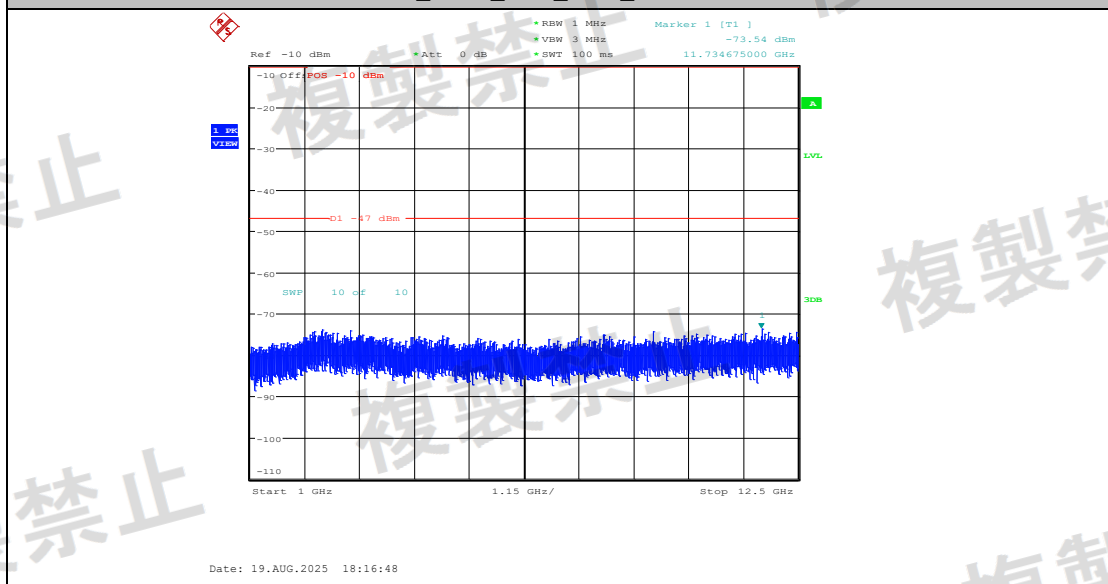


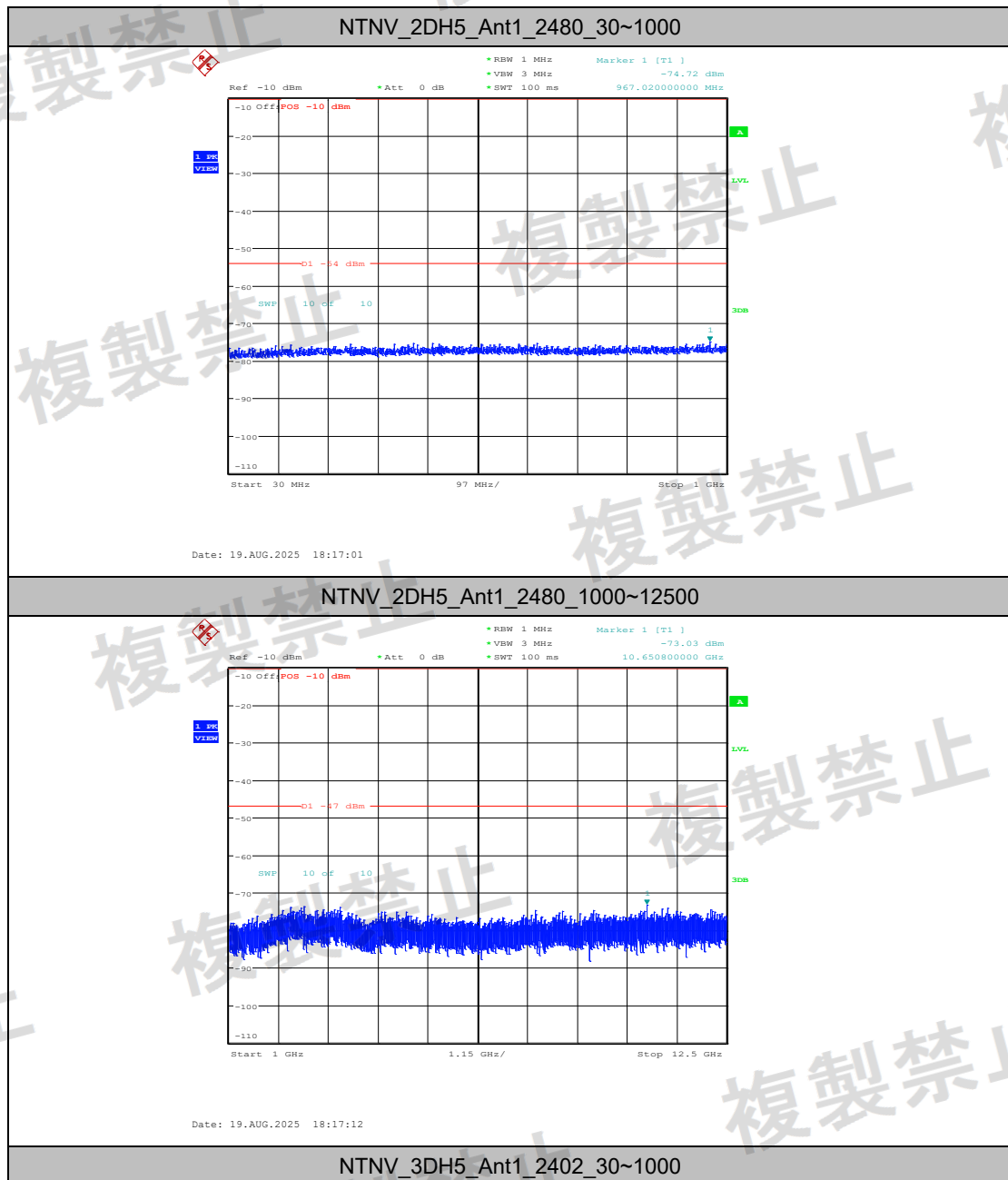


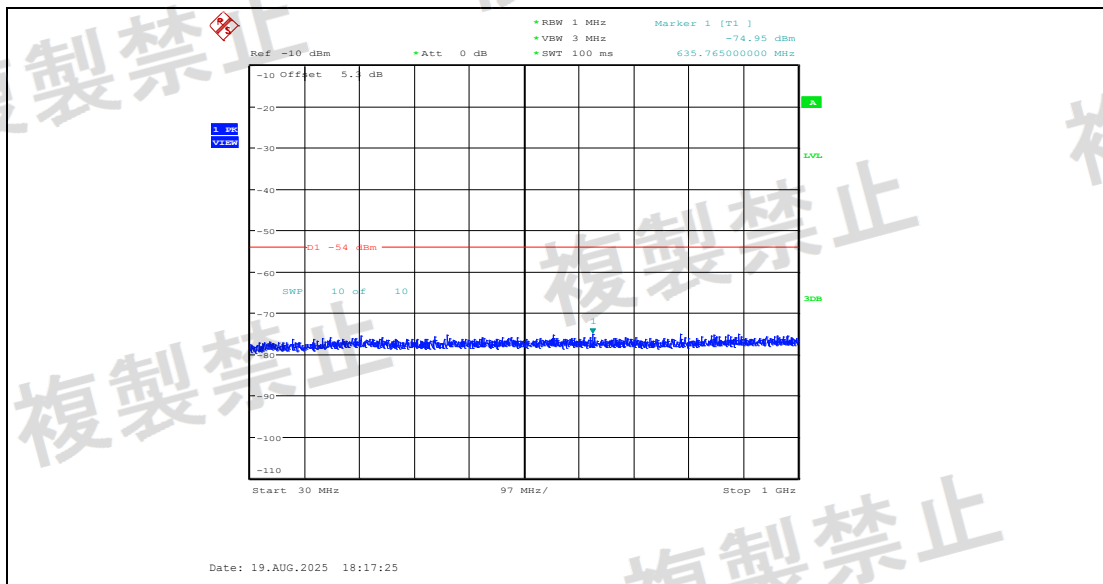
### NTNV\_2DH5\_Ant1\_2441\_30~1000



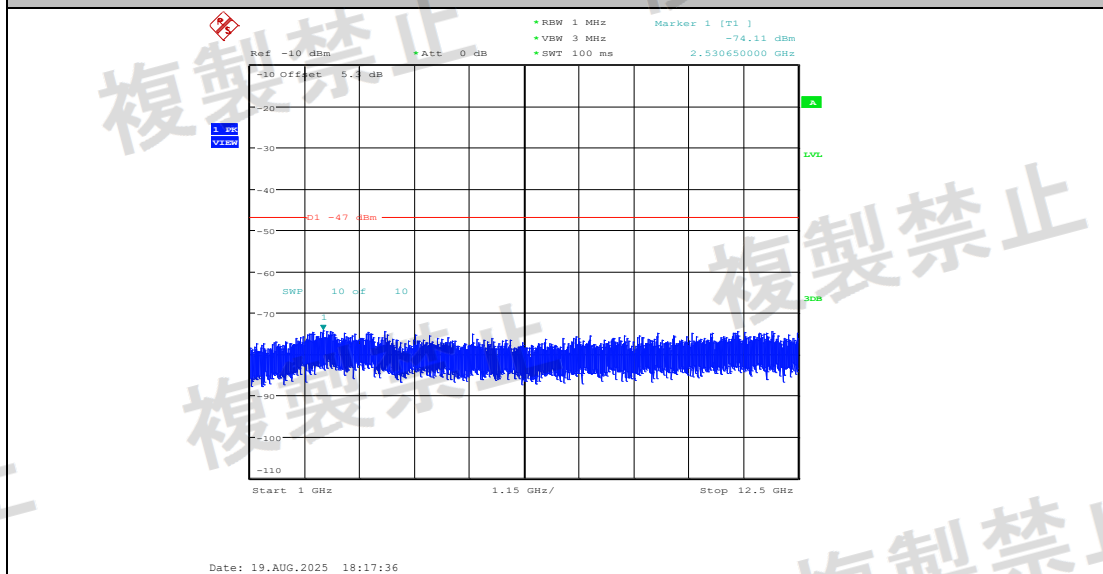
### NTNV\_2DH5\_Ant1\_2441\_1000~12500



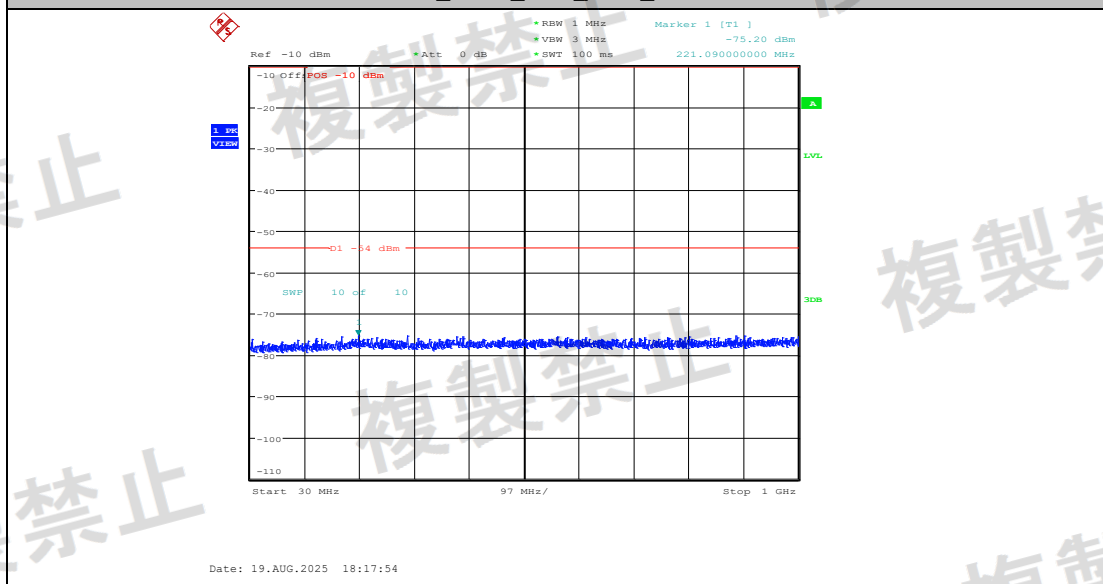


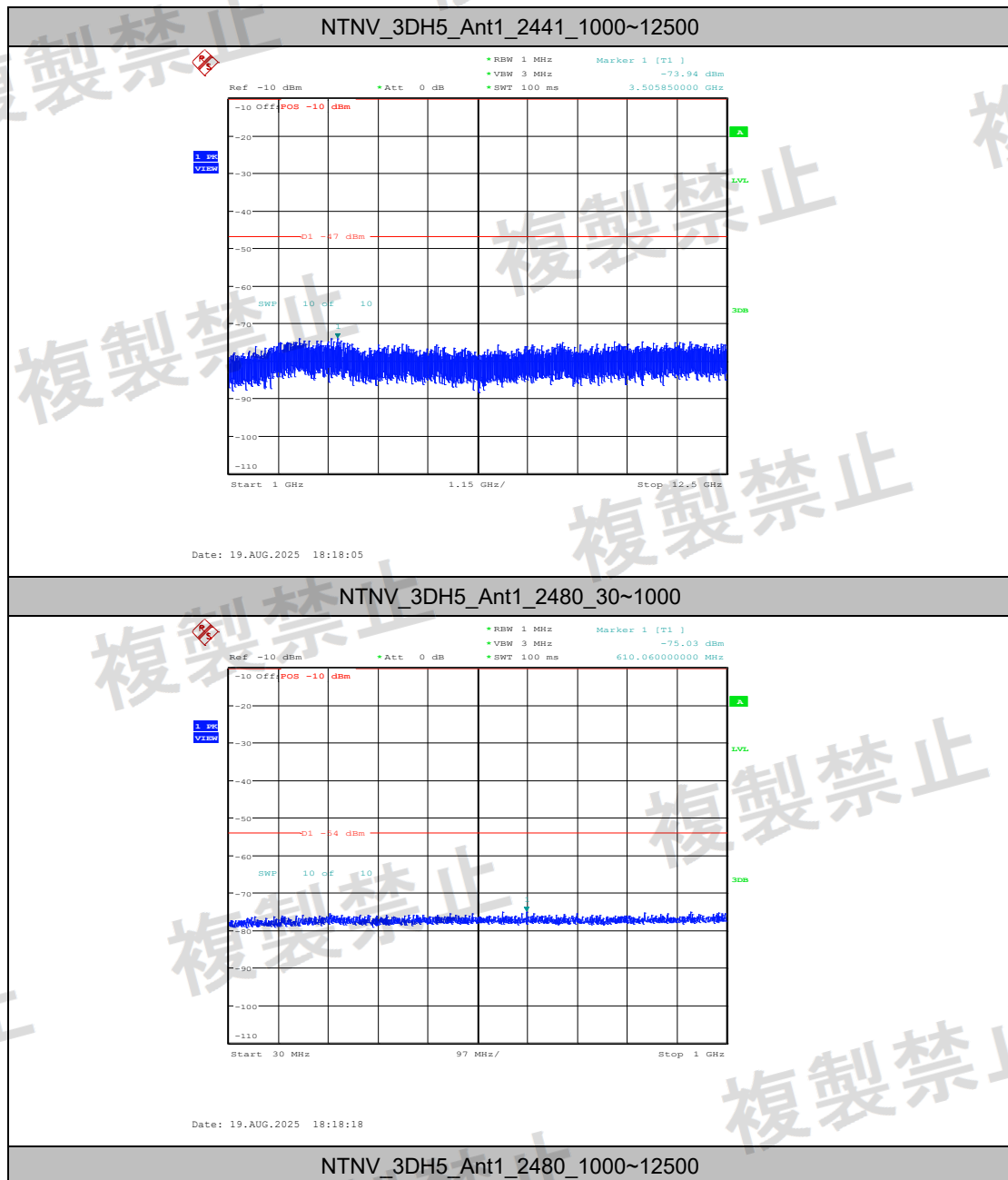


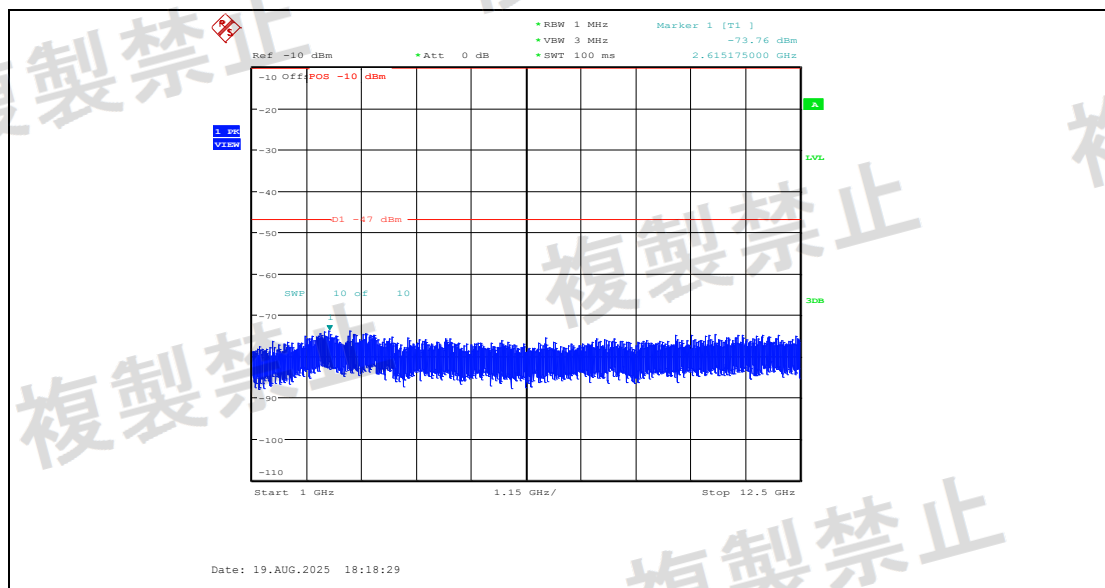
### NTNV\_3DH5\_Ant1\_2402\_1000~12500



### NTNV\_3DH5\_Ant1\_2441\_30~1000







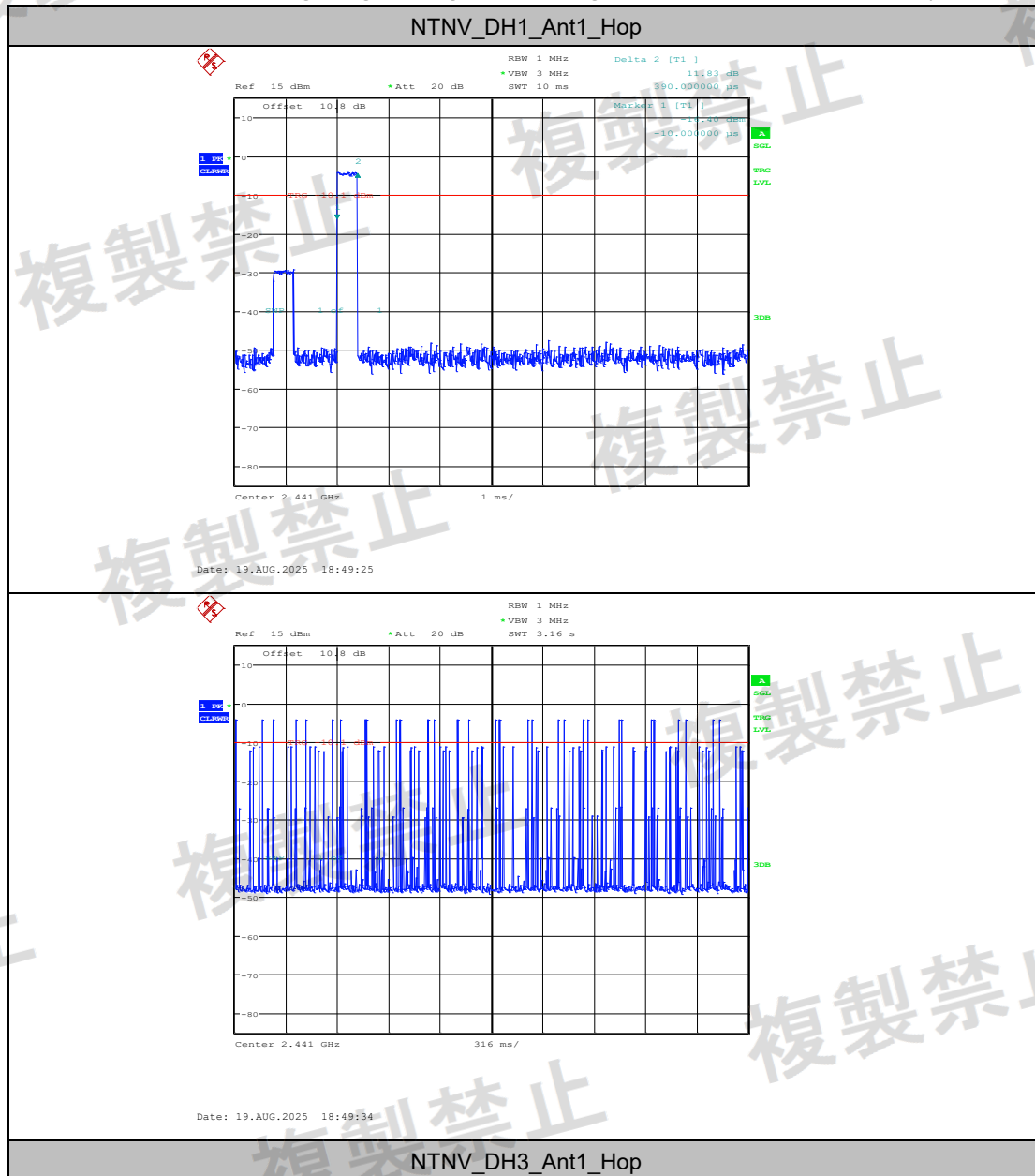
## Appendix F: Dwell Time

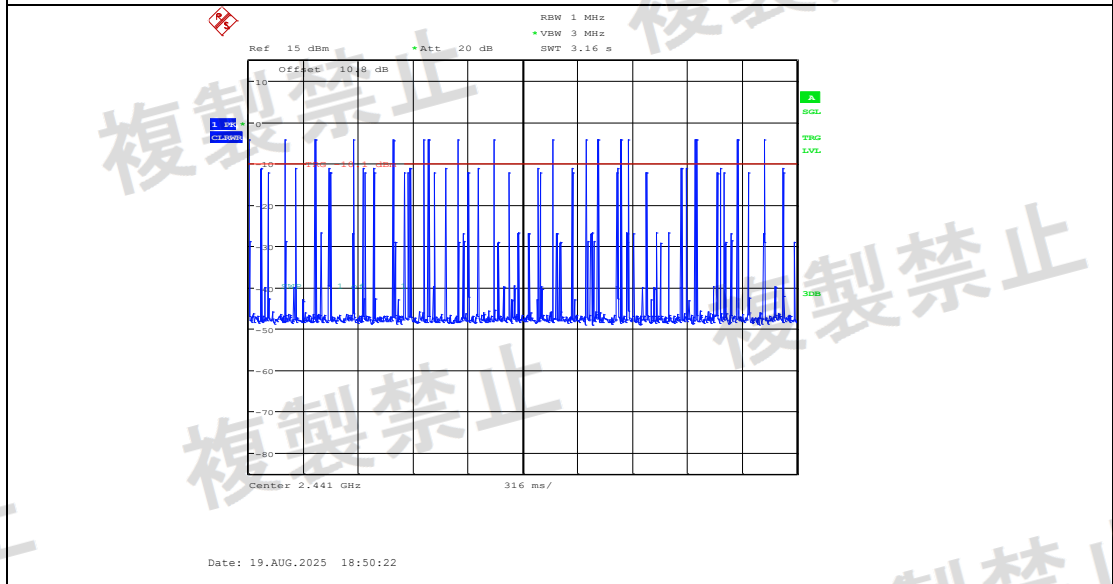
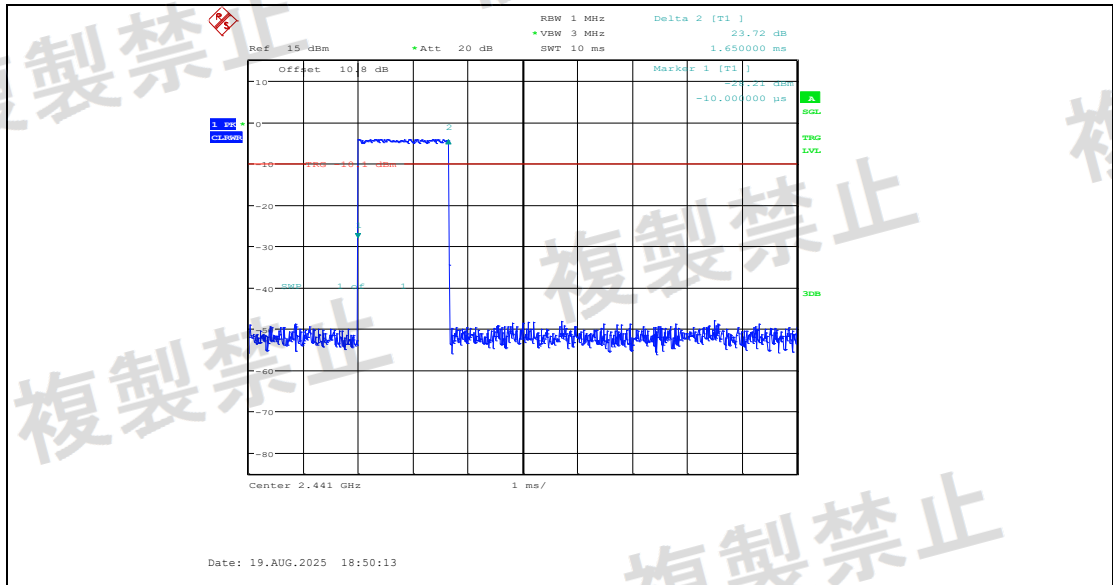
### Test Result

| Test Condition | Test Mode | Antenna | Freq(M Hz) | BurstWidth [ms] | TotalHops [Num] | Result[s] | Limit [s] | Verdict |
|----------------|-----------|---------|------------|-----------------|-----------------|-----------|-----------|---------|
| NTNV           | DH1       | Ant1    | Hop        | 0.39            | 280             | 0.109     | ≤0.4      | PASS    |
|                | DH3       | Ant1    | Hop        | 1.65            | 170             | 0.281     | ≤0.4      | PASS    |
|                | DH5       | Ant1    | Hop        | 2.90            | 110             | 0.319     | ≤0.4      | PASS    |
|                | 2DH1      | Ant1    | Hop        | 0.21            | 320             | 0.067     | ≤0.4      | PASS    |
|                | 2DH3      | Ant1    | Hop        | 0.14            | 290             | 0.041     | ≤0.4      | PASS    |
|                | 2DH5      | Ant1    | Hop        | 2.91            | 80              | 0.233     | ≤0.4      | PASS    |
|                | 3DH1      | Ant1    | Hop        | -0.89           | 320             | -0.285    | ≤0.4      | PASS    |
|                | 3DH3      | Ant1    | Hop        | 1.65            | 160             | 0.264     | ≤0.4      | PASS    |
|                | 3DH5      | Ant1    | Hop        | 2.91            | 70              | 0.204     | ≤0.4      | PASS    |

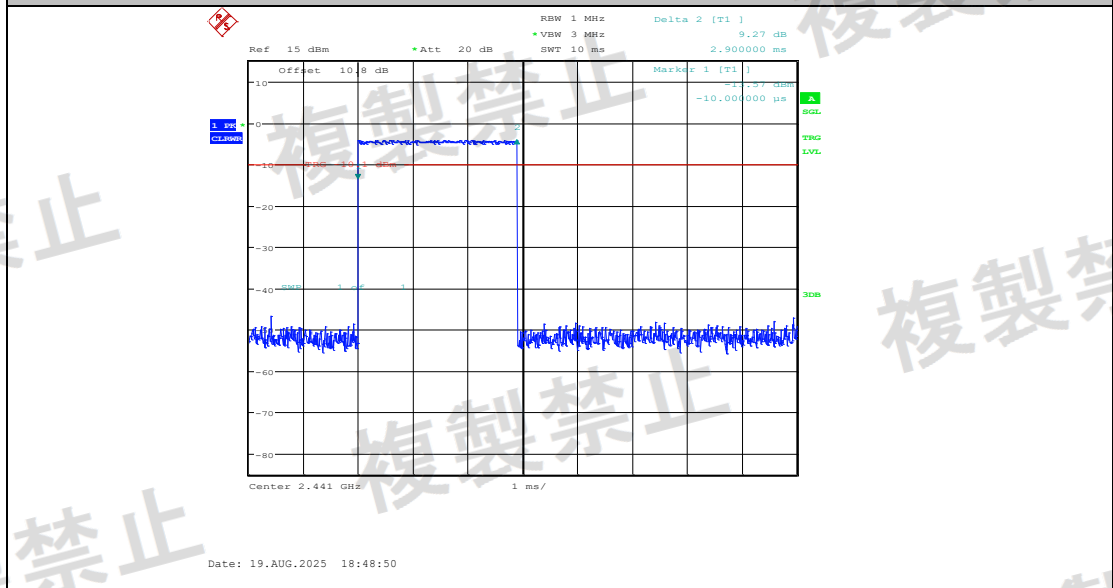
## Test Graphs

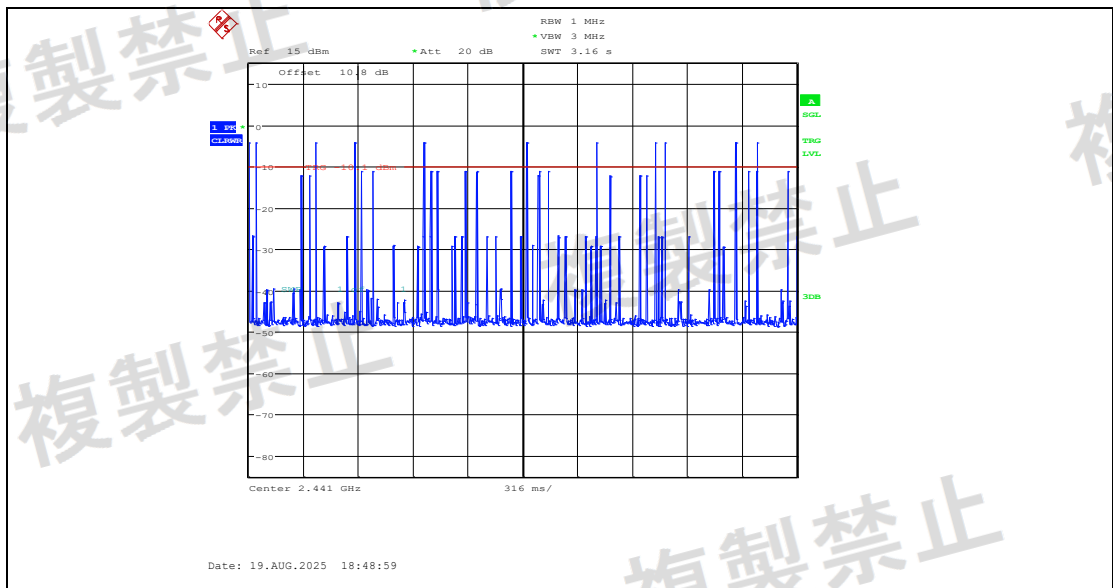
Note: We test Normal Voltage, High Voltage, Low Voltage, and recorded the worst test plot.



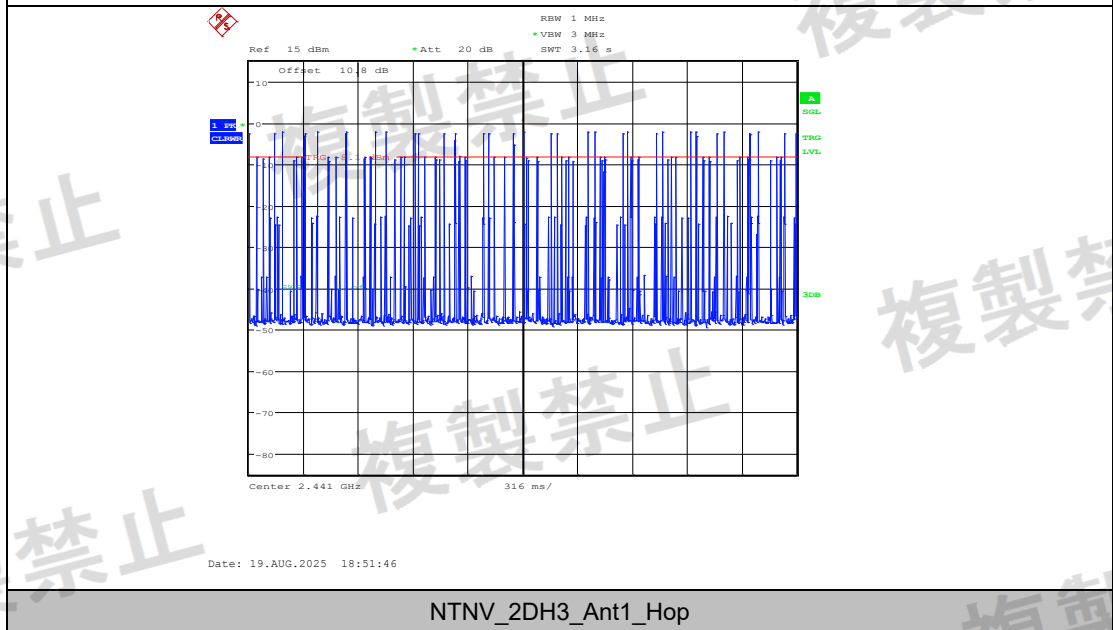
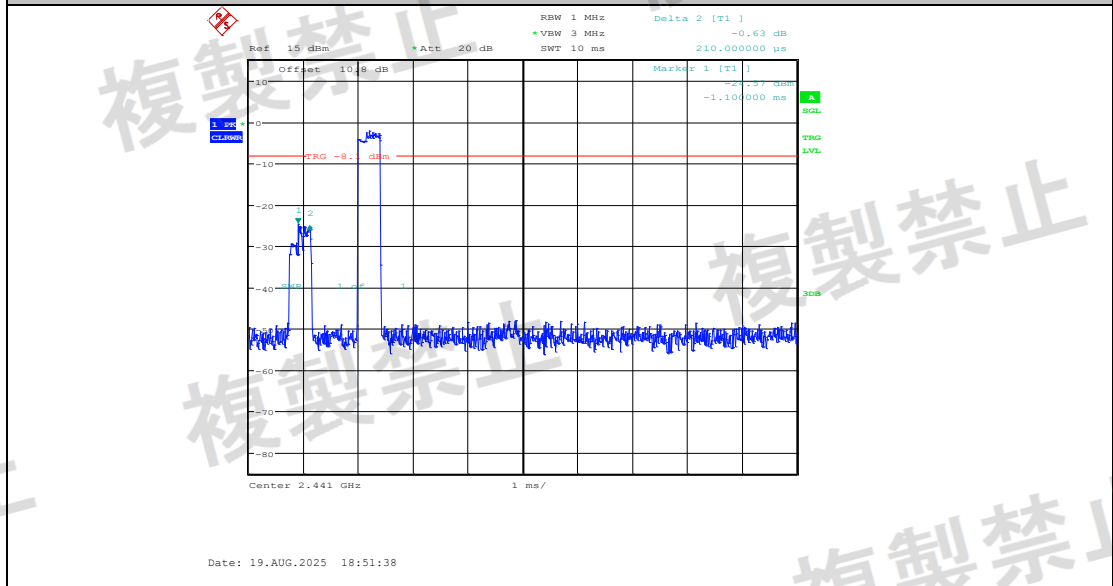


### NTNV\_DH5\_Ant1\_Hop

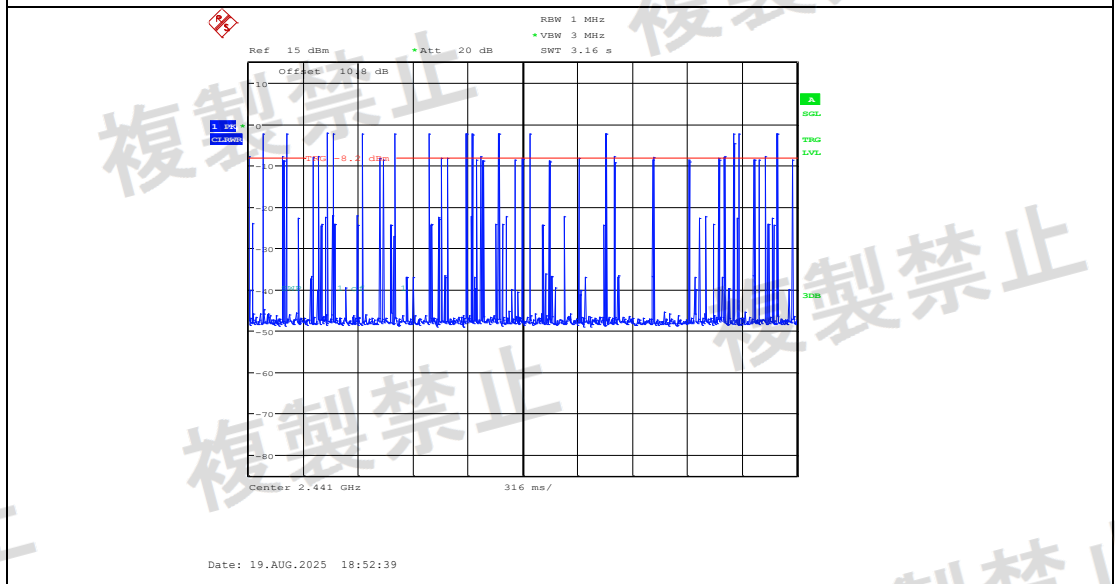
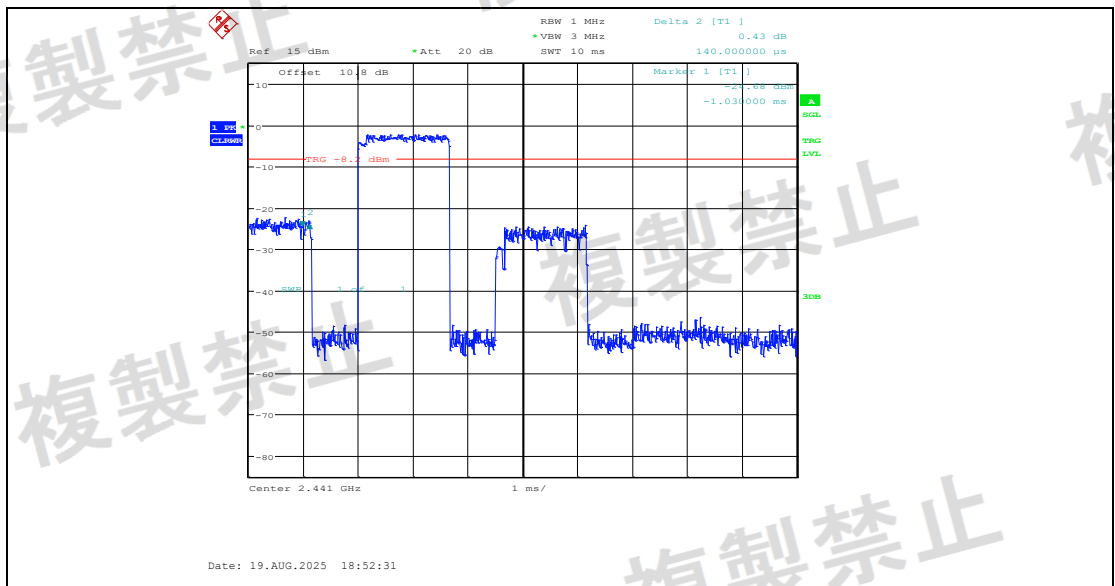




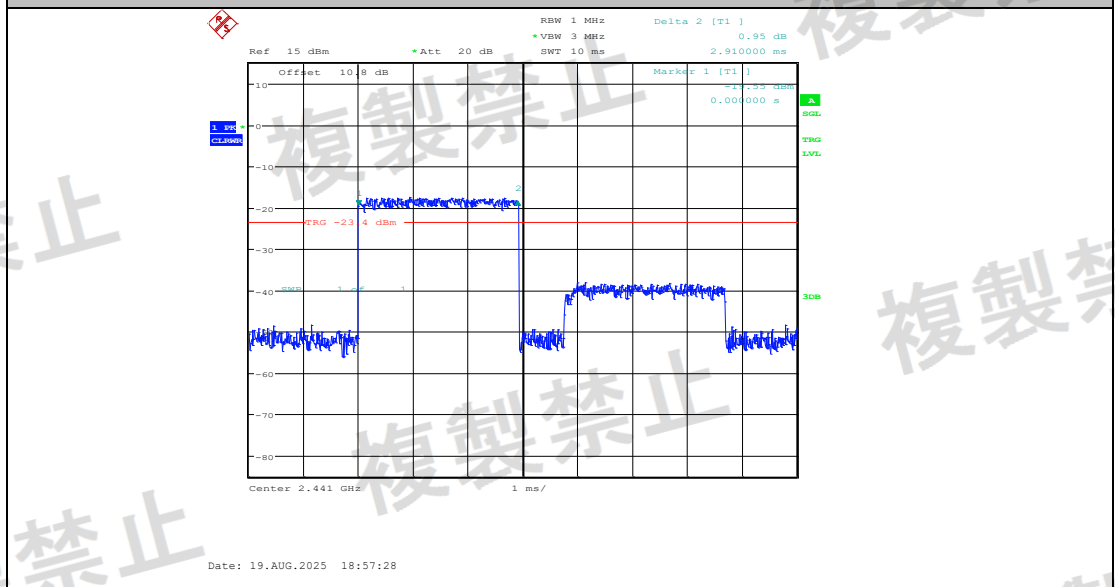
NTNV\_2DH1\_Ant1\_Hop

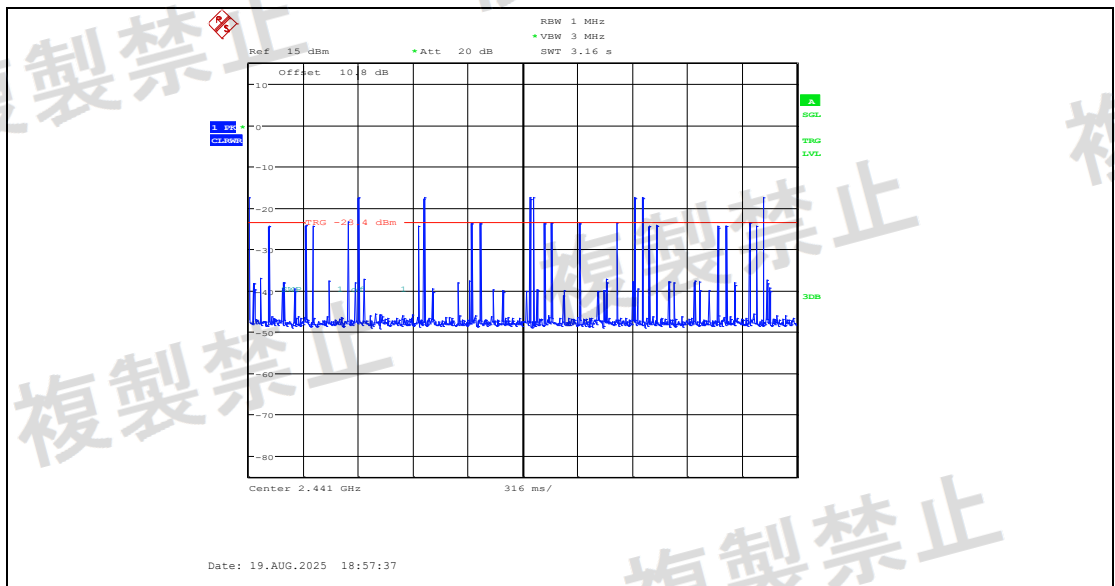


NTNV\_2DH3\_Ant1\_Hop

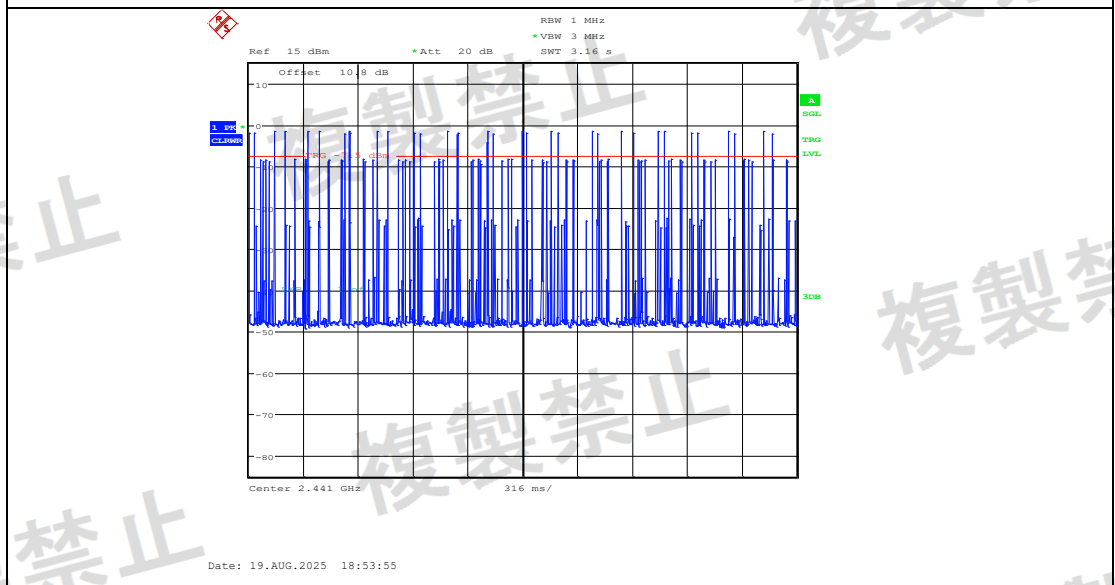
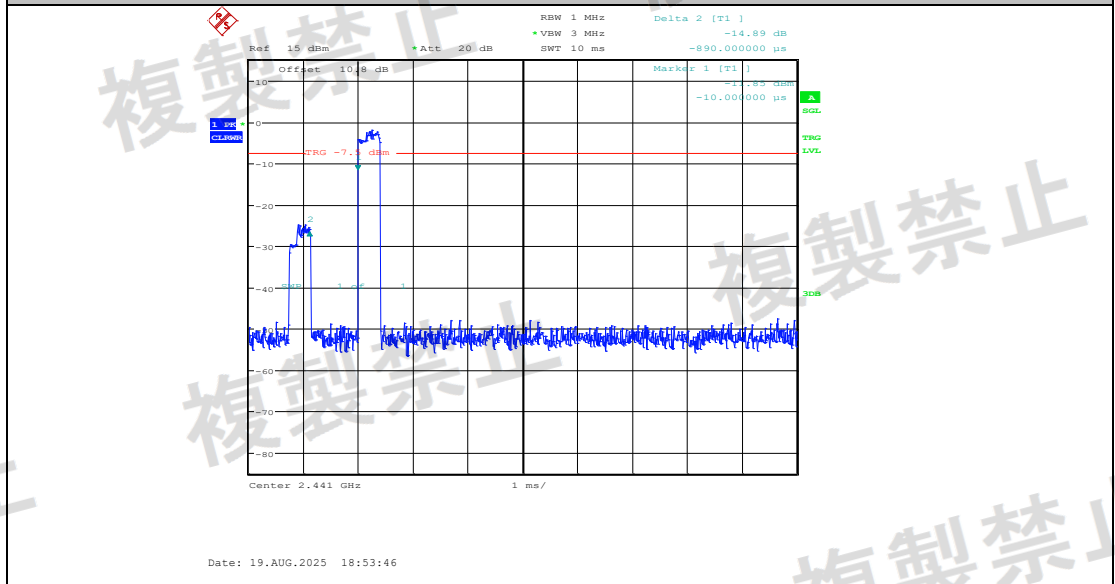


### NTNV\_2DH5\_Ant1\_Hop

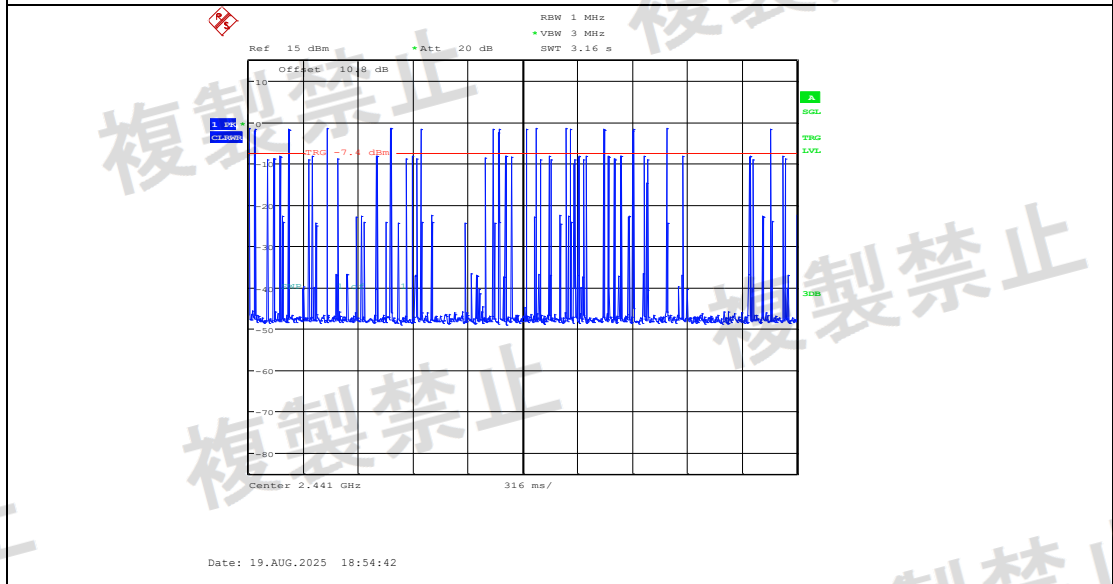
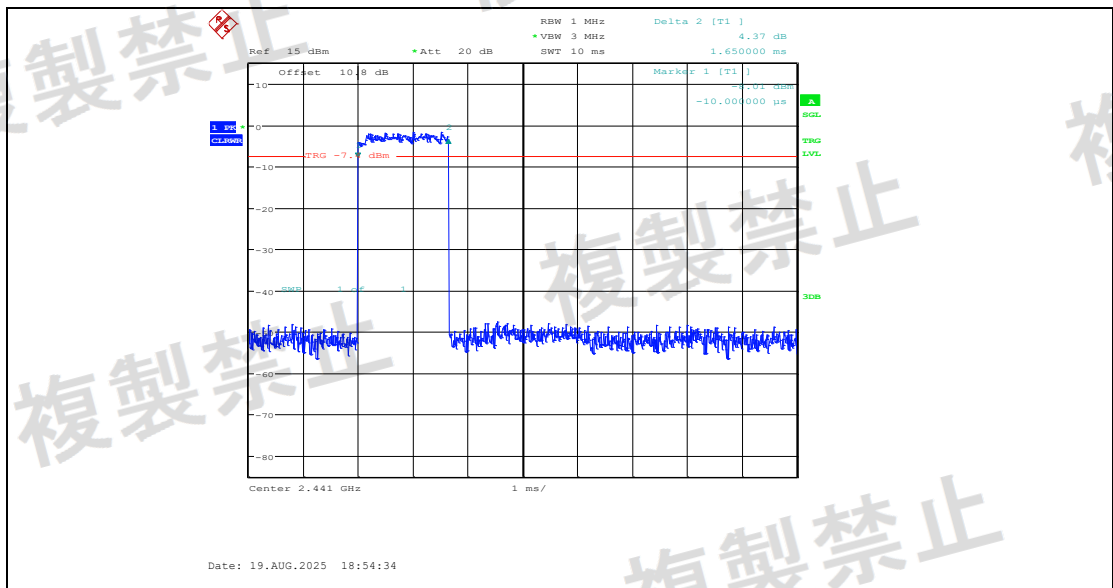




NTNV\_3DH1\_Ant1\_Hop



NTNV\_3DH3\_Ant1\_Hop



### NTNV\_3DH5\_Ant1\_Hop

