

## Appendix Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Wireless Earbuds

Trade Mark: Vivitar, Target

Test Model: HD35-TWS

FCC ID: 2AL9B-HD35TWS

### Environmental Conditions

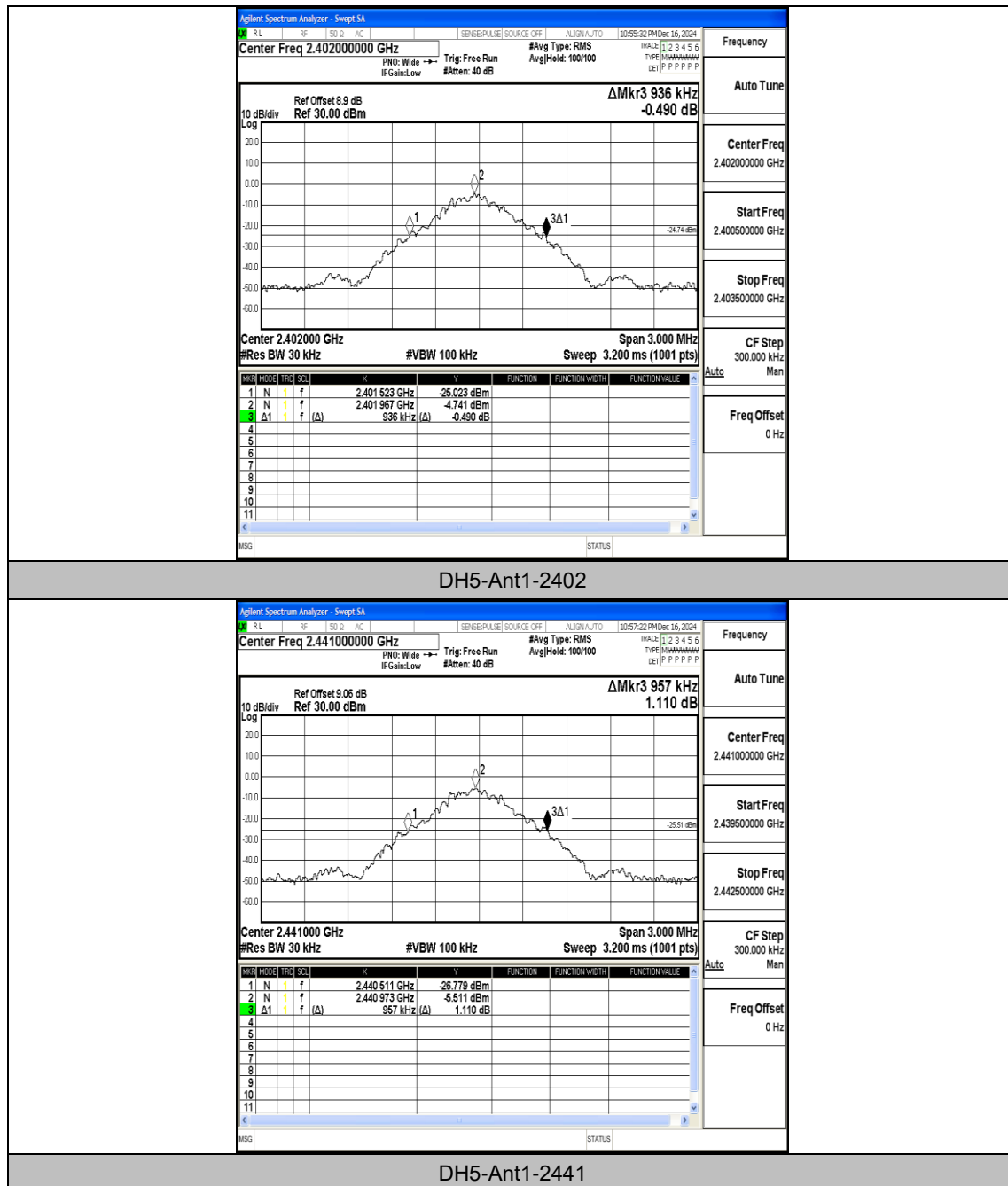
|                    |           |
|--------------------|-----------|
| Temperature:       | 23.5℃     |
| Relative Humidity: | 58%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Allen Lai |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

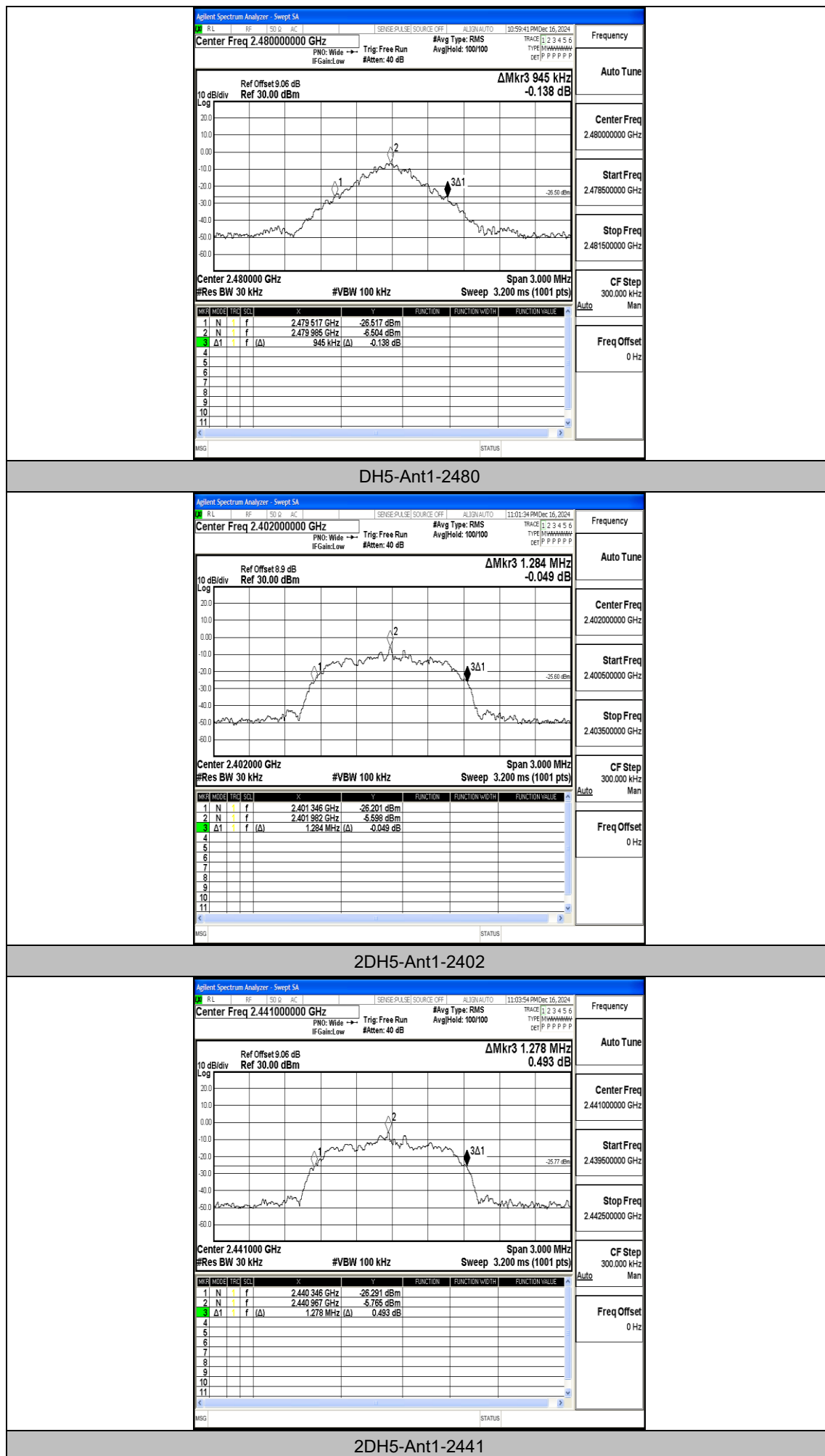
## Appendix A: 20dB Emission Bandwidth

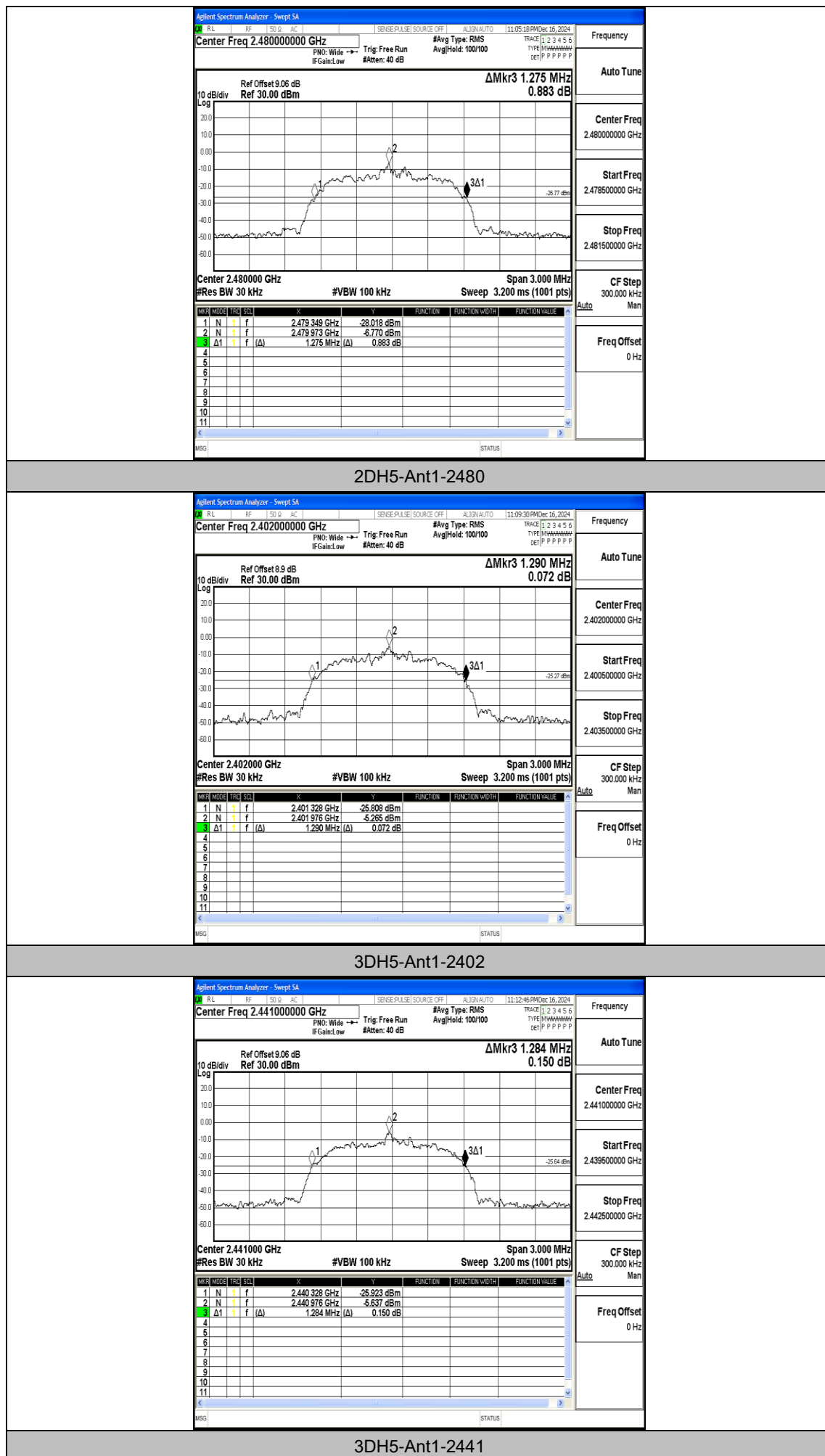
### Test Result

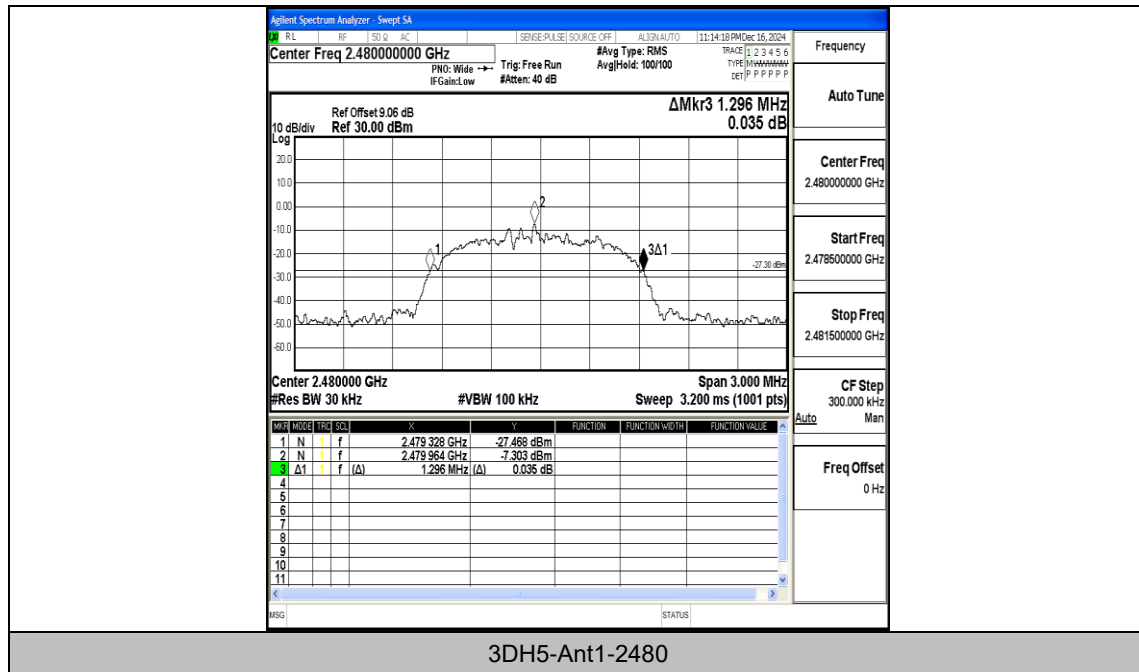
| Test Mode | Antenna | Frequency [MHz] | 20db EBW [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|----------------|----------|----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.936          | 2401.523 | 2402.459 | ---         | ---     |
| DH5       | Ant1    | 2441            | 0.957          | 2440.511 | 2441.468 | ---         | ---     |
| DH5       | Ant1    | 2480            | 0.945          | 2479.517 | 2480.462 | ---         | ---     |
| 2DH5      | Ant1    | 2402            | 1.284          | 2401.346 | 2402.630 | ---         | ---     |
| 2DH5      | Ant1    | 2441            | 1.278          | 2440.346 | 2441.624 | ---         | ---     |
| 2DH5      | Ant1    | 2480            | 1.275          | 2479.349 | 2480.624 | ---         | ---     |
| 3DH5      | Ant1    | 2402            | 1.290          | 2401.328 | 2402.618 | ---         | ---     |
| 3DH5      | Ant1    | 2441            | 1.284          | 2440.328 | 2441.612 | ---         | ---     |
| 3DH5      | Ant1    | 2480            | 1.296          | 2479.328 | 2480.624 | ---         | ---     |

## Test Graphs







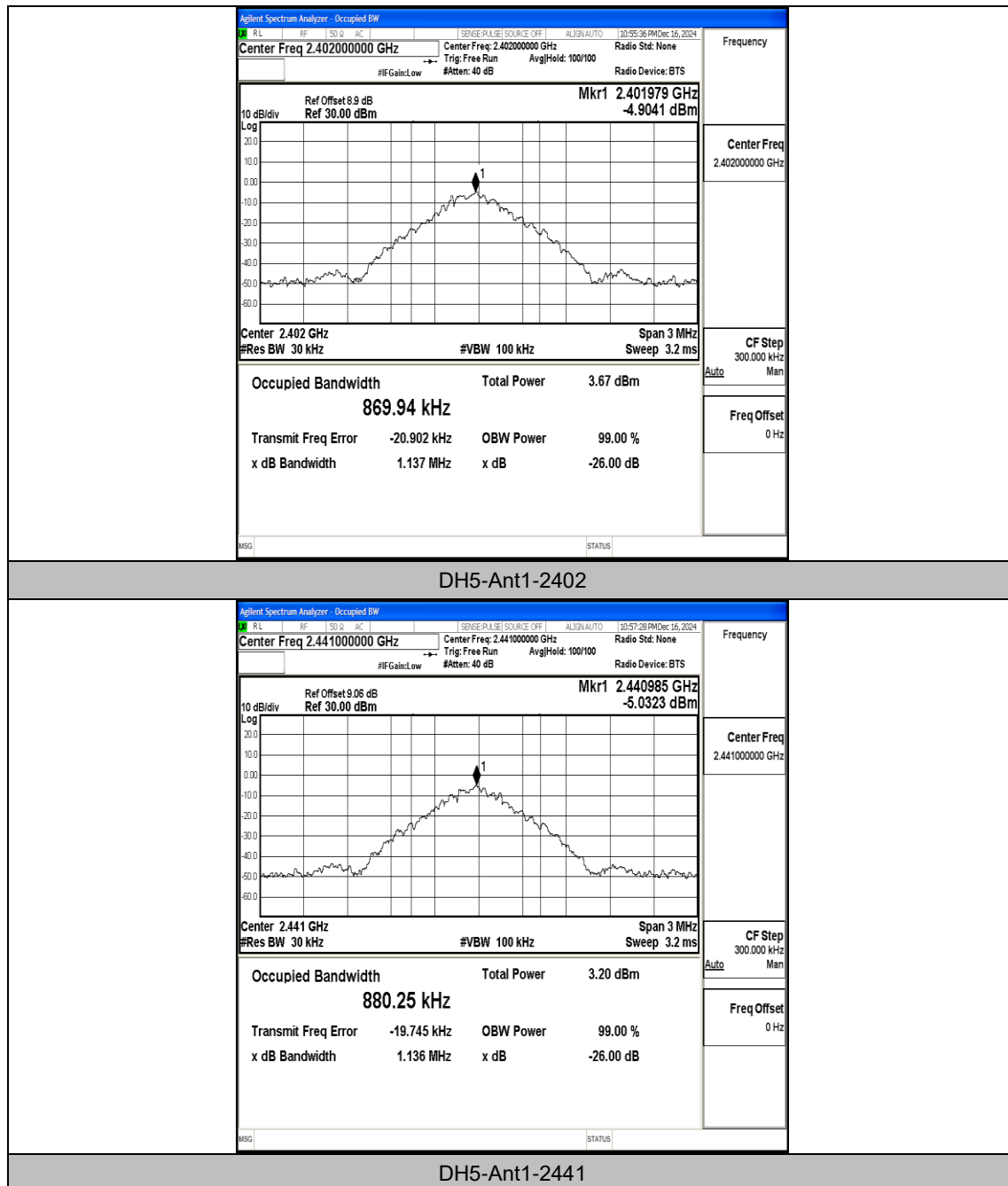


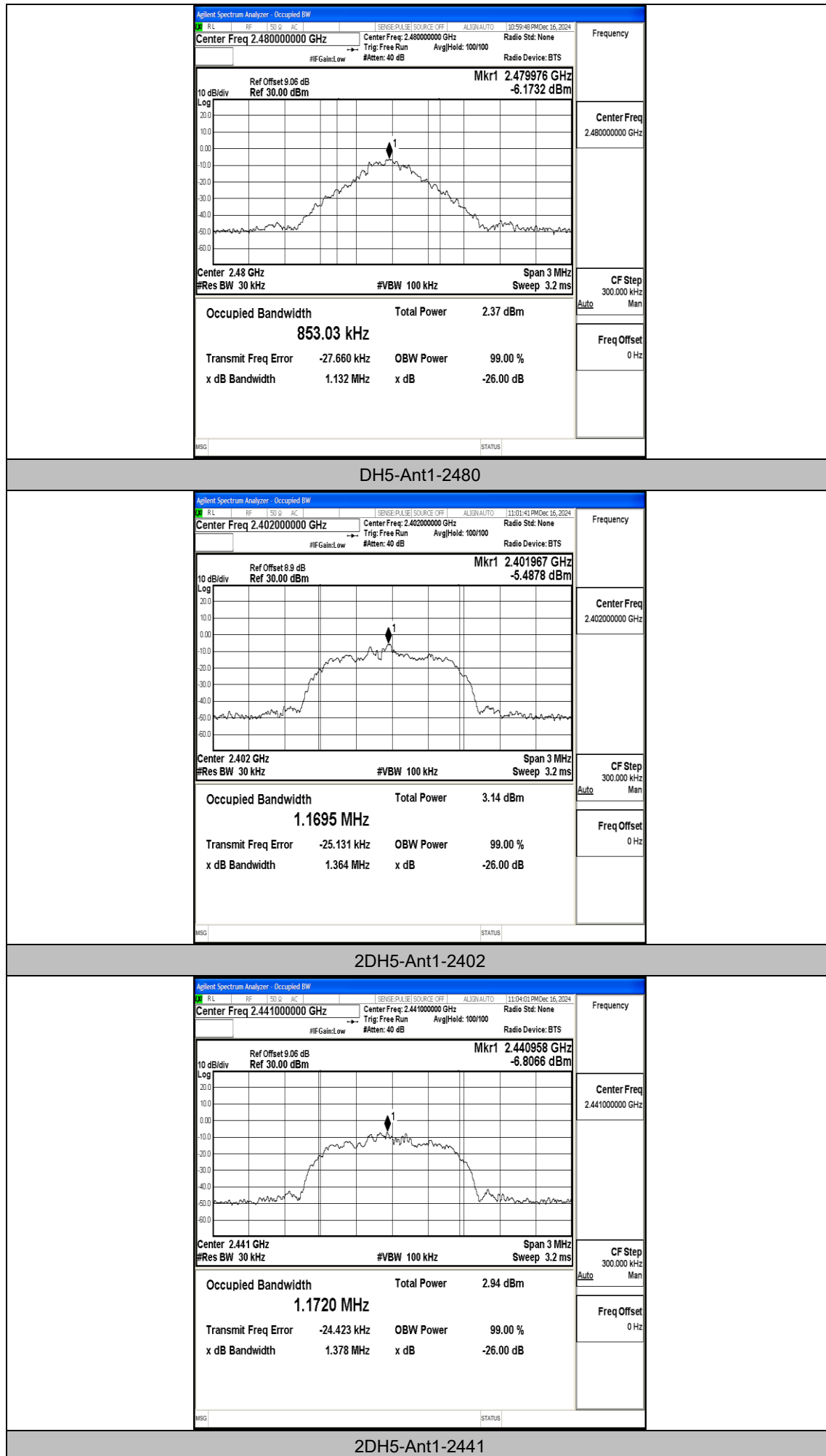
## Appendix B: Occupied Channel Bandwidth

### Test Result

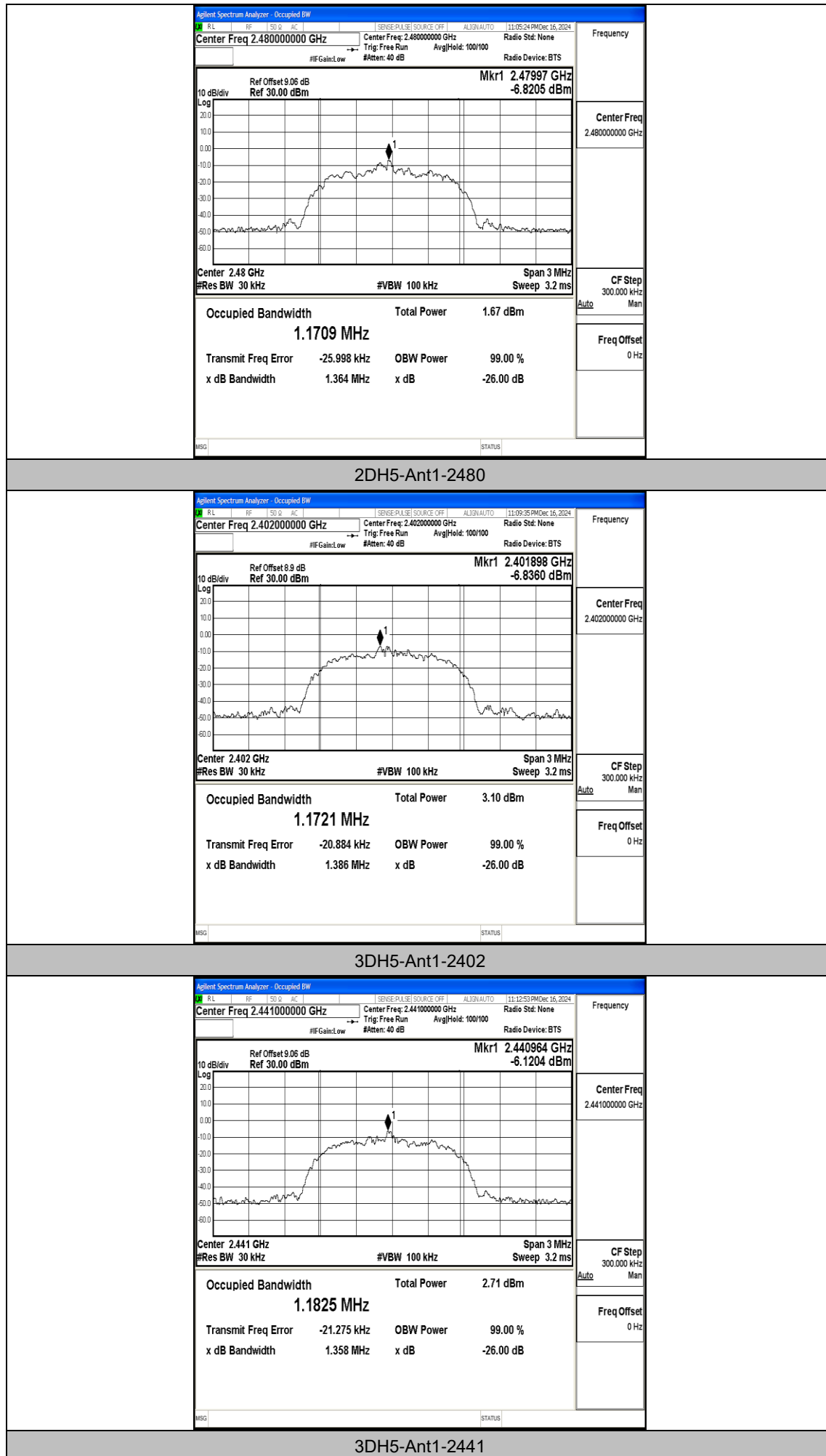
| Test Mode | Antenna | Frequency [MHz] | OCB [MHz] | FL [MHz]  | FH [MHz]  | Limit [MHz] | Verdict |
|-----------|---------|-----------------|-----------|-----------|-----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.86994   | 2401.5441 | 2402.4141 | ---         | ---     |
| DH5       | Ant1    | 2441            | 0.88025   | 2440.5401 | 2441.4204 | ---         | ---     |
| DH5       | Ant1    | 2480            | 0.85303   | 2479.5458 | 2480.3989 | ---         | ---     |
| 2DH5      | Ant1    | 2402            | 1.1695    | 2401.3901 | 2402.5596 | ---         | ---     |
| 2DH5      | Ant1    | 2441            | 1.1720    | 2440.3896 | 2441.5616 | ---         | ---     |
| 2DH5      | Ant1    | 2480            | 1.1709    | 2479.3886 | 2480.5595 | ---         | ---     |
| 3DH5      | Ant1    | 2402            | 1.1721    | 2401.3931 | 2402.5652 | ---         | ---     |
| 3DH5      | Ant1    | 2441            | 1.1825    | 2440.3875 | 2441.5700 | ---         | ---     |
| 3DH5      | Ant1    | 2480            | 1.1799    | 2479.3885 | 2480.5684 | ---         | ---     |

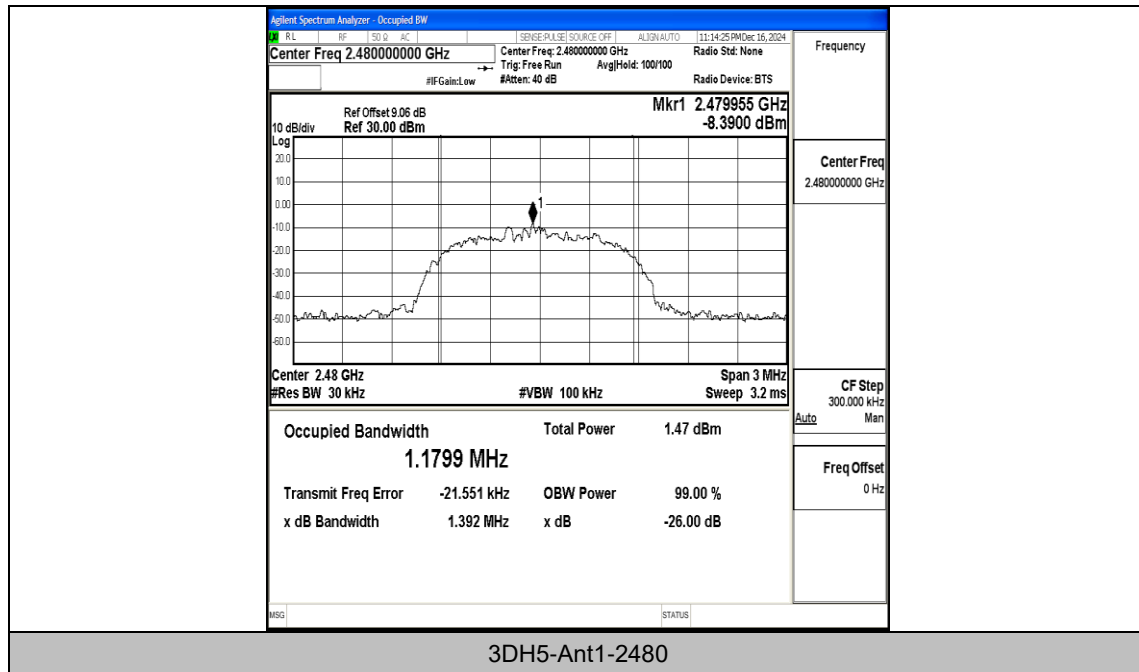
## Test Graphs









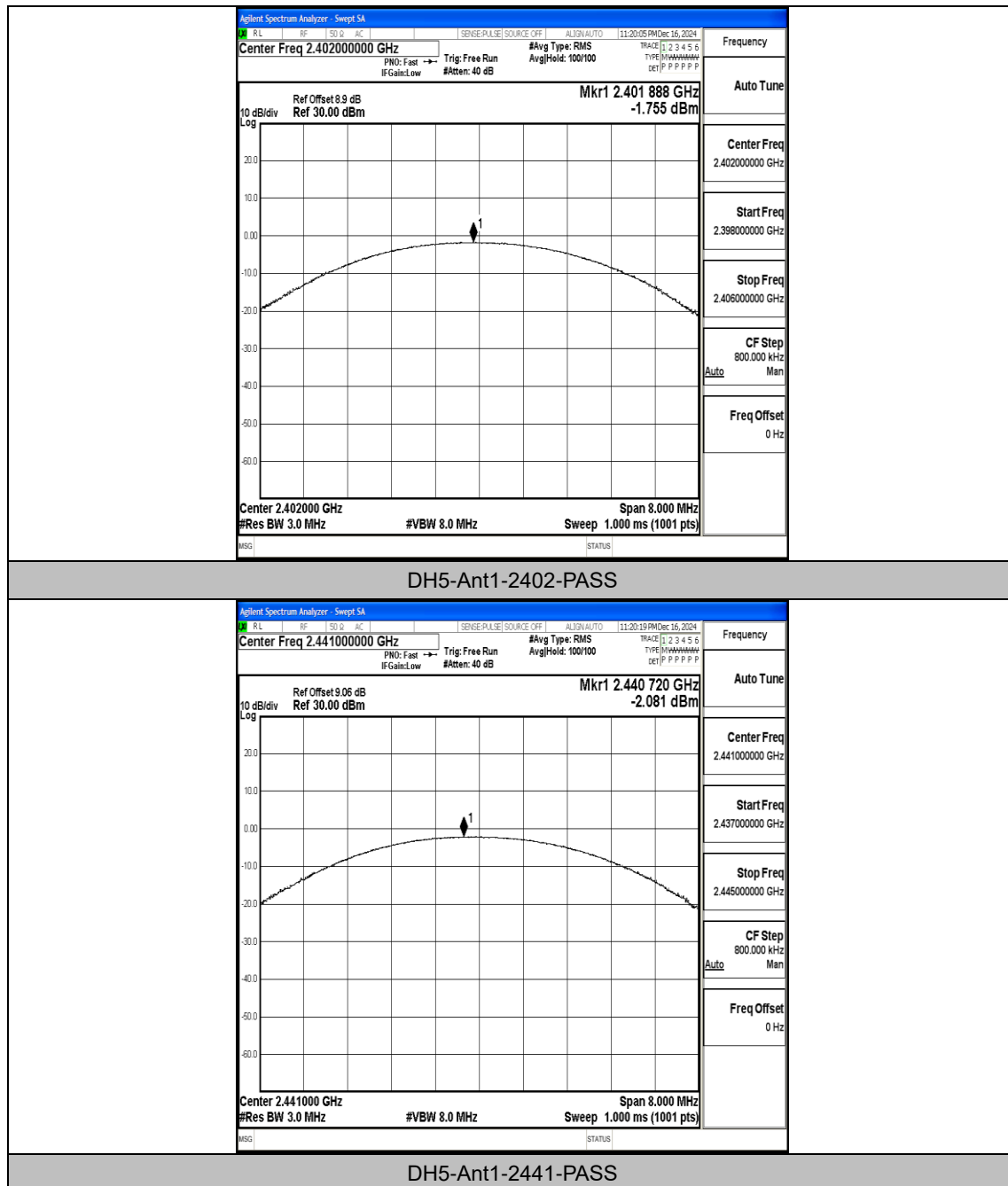


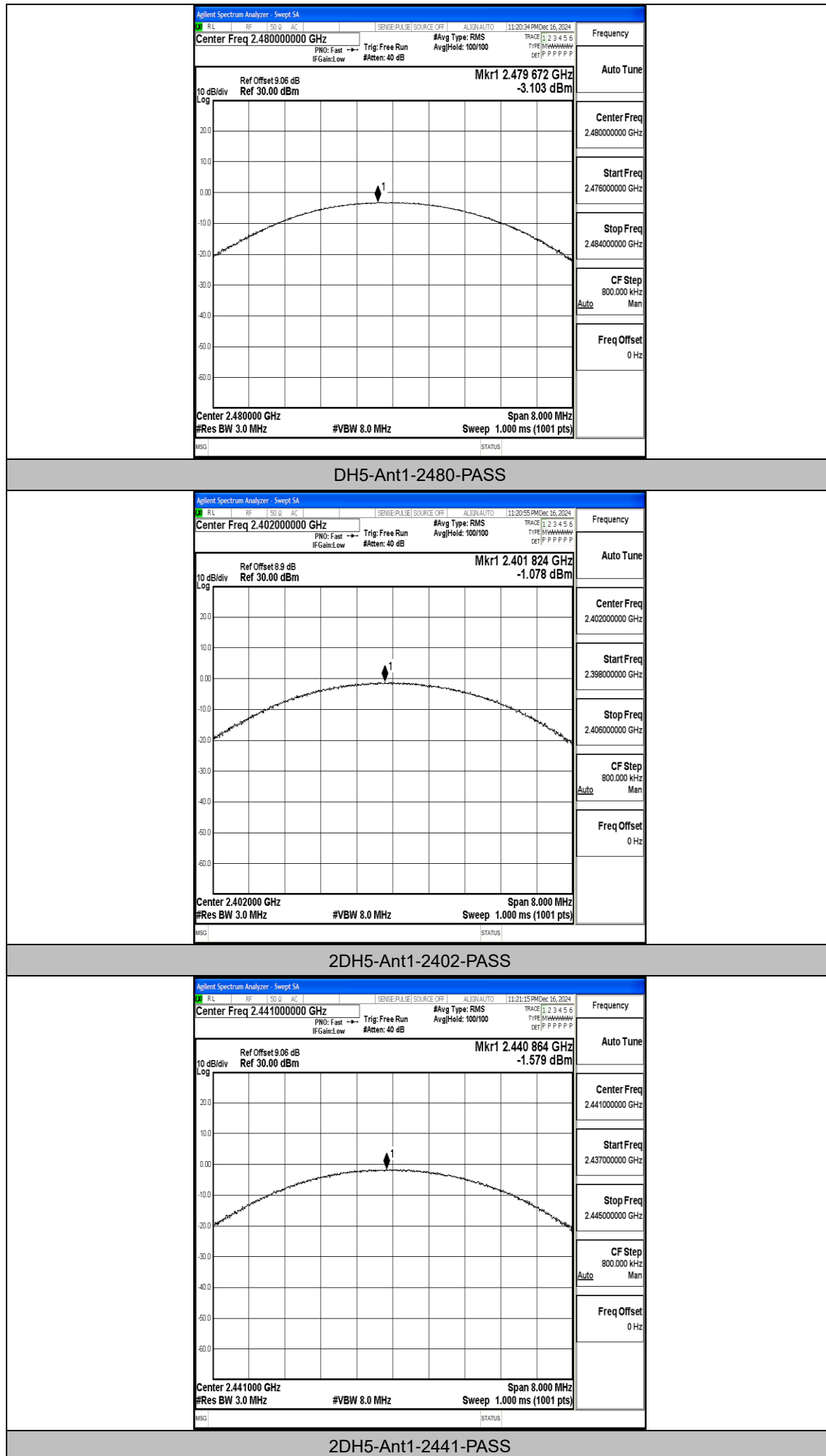
## Appendix C: Maximum peak conducted output power

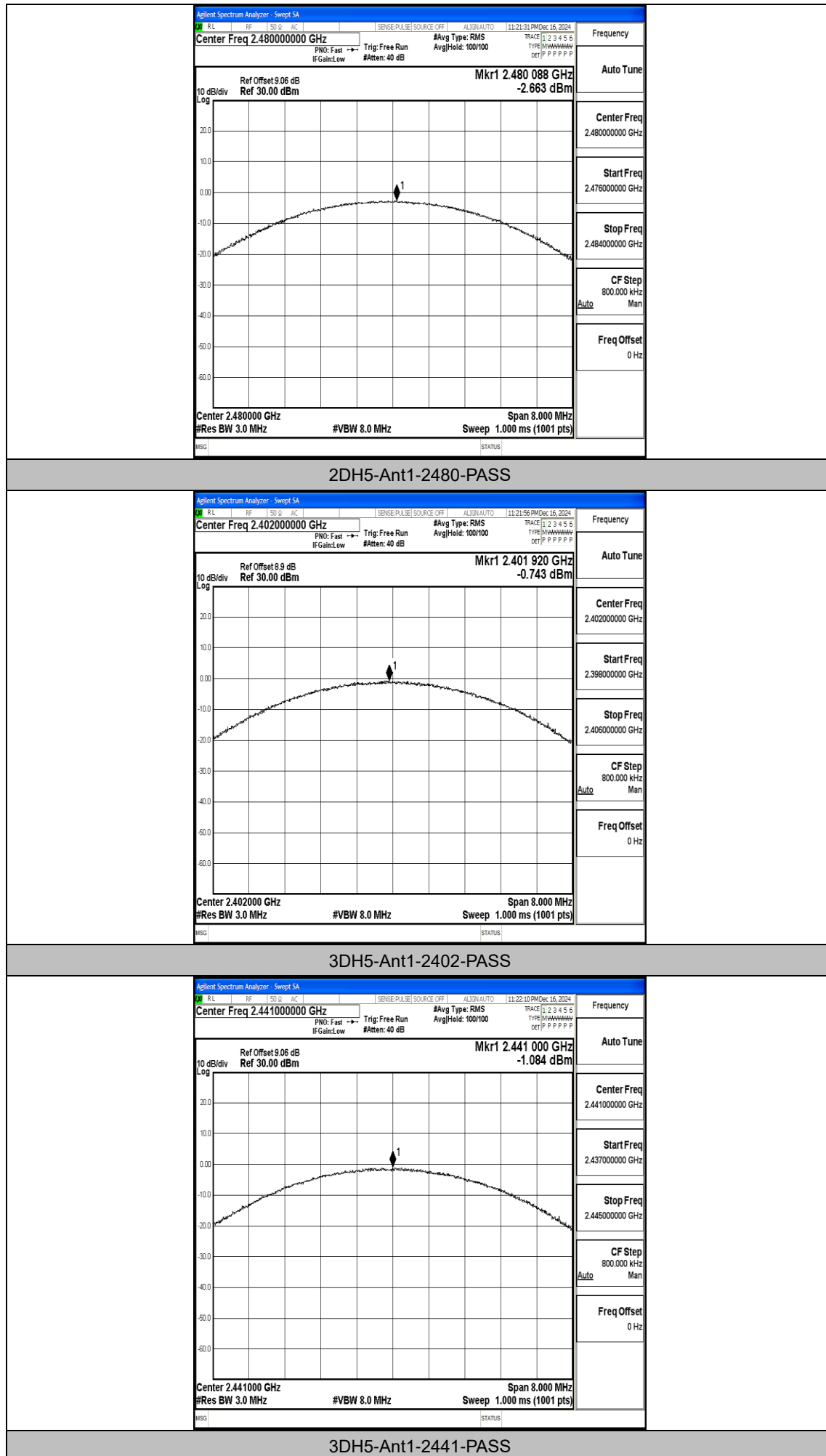
### Test Result

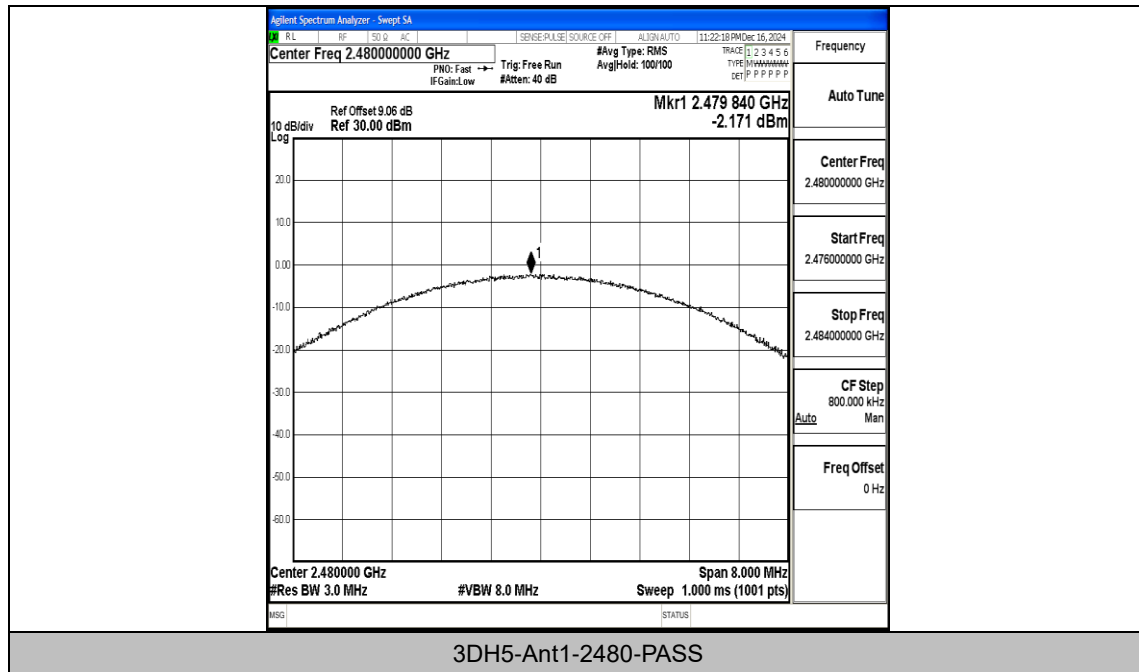
| Test Mode | Antenna | Frequency [MHz] | Conducted Peak Power [dBm] | Conducted Limit [dBm] | Verdict |
|-----------|---------|-----------------|----------------------------|-----------------------|---------|
| DH5       | Ant1    | 2402            | -1.76                      | ≤30                   | PASS    |
| DH5       | Ant1    | 2441            | -2.08                      | ≤30                   | PASS    |
| DH5       | Ant1    | 2480            | -3.10                      | ≤30                   | PASS    |
| 2DH5      | Ant1    | 2402            | -1.08                      | ≤20.97                | PASS    |
| 2DH5      | Ant1    | 2441            | -1.58                      | ≤20.97                | PASS    |
| 2DH5      | Ant1    | 2480            | -2.66                      | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2402            | -0.74                      | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2441            | -1.08                      | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2480            | -2.17                      | ≤20.97                | PASS    |

## Test Graphs









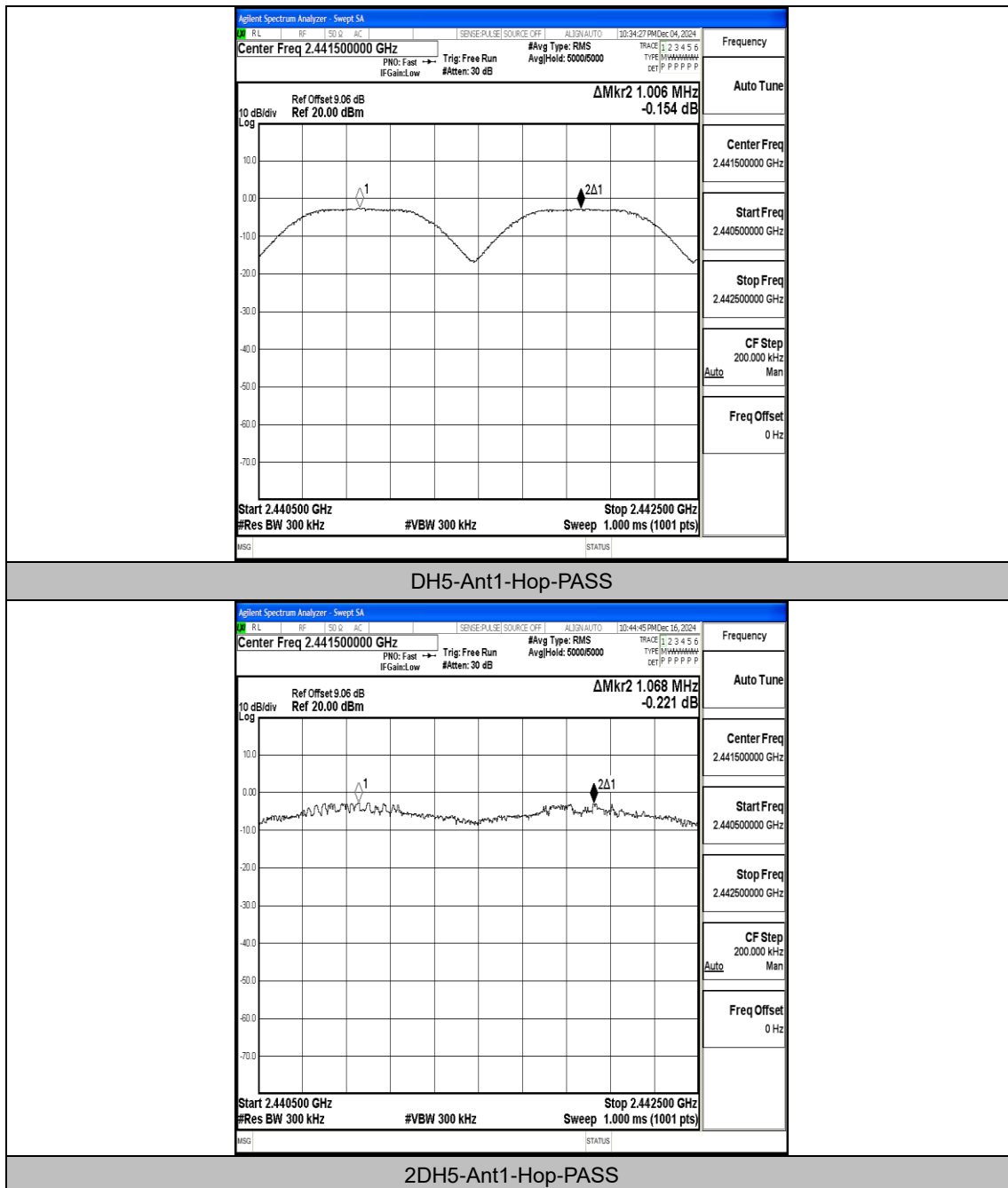
## Appendix D: Carrier frequency separation

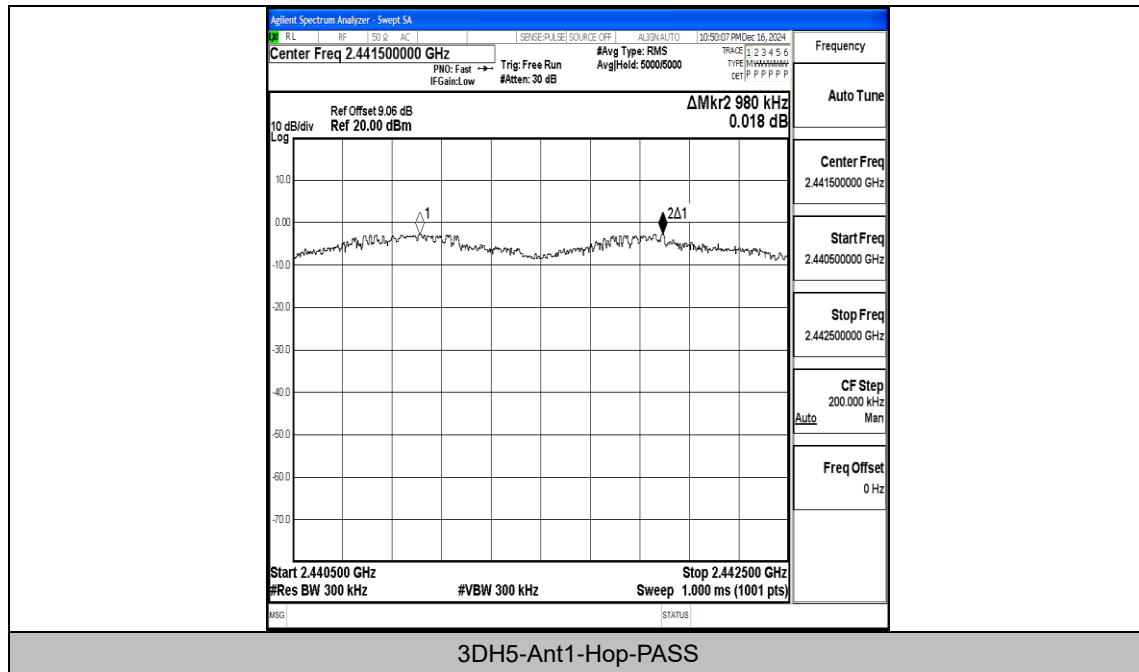
### Test Result

| Test Mode | Antenna | Frequency<br>[MHz] | Result<br>[MHz] | Limit<br>[MHz] | Verdict |
|-----------|---------|--------------------|-----------------|----------------|---------|
| DH5       | Ant1    | Hop                | 1.006           | $\geq 0.951$   | PASS    |
| 2DH5      | Ant1    | Hop                | 1.068           | $\geq 0.884$   | PASS    |
| 3DH5      | Ant1    | Hop                | 0.98            | $\geq 0.864$   | PASS    |



## Test Graphs



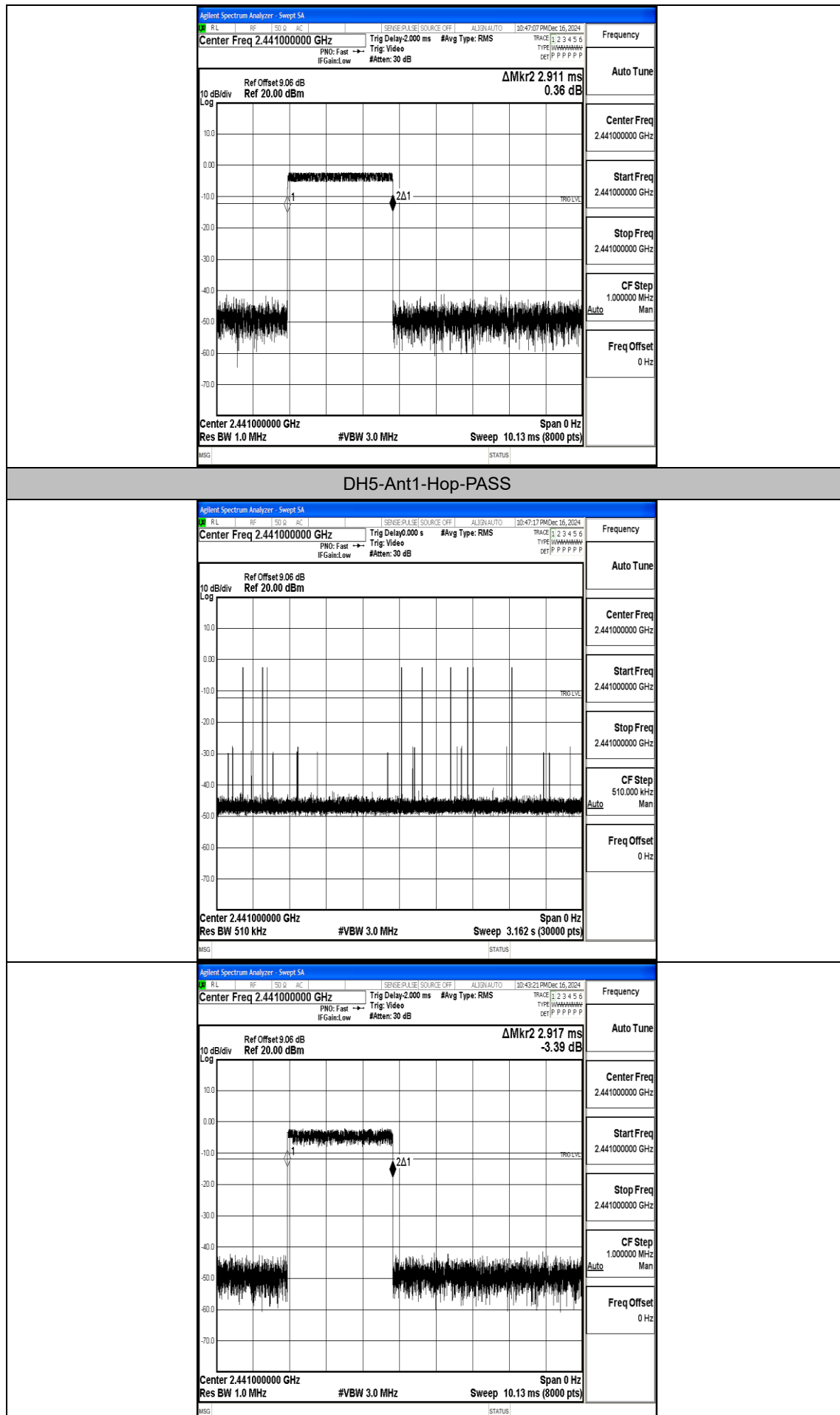


## Appendix E: Time of occupancy

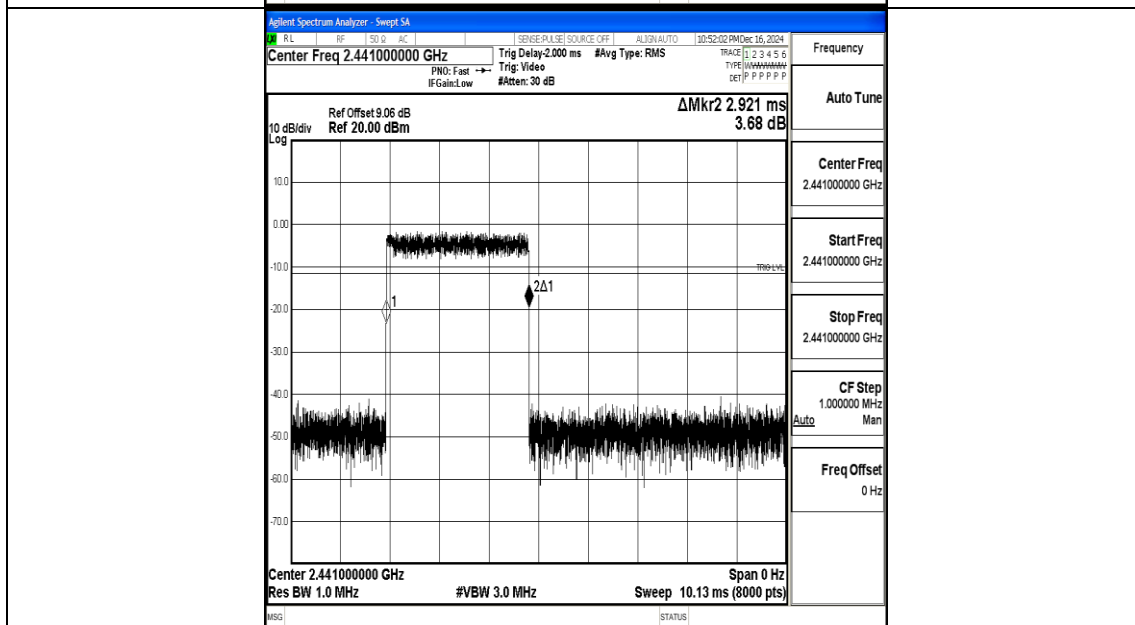
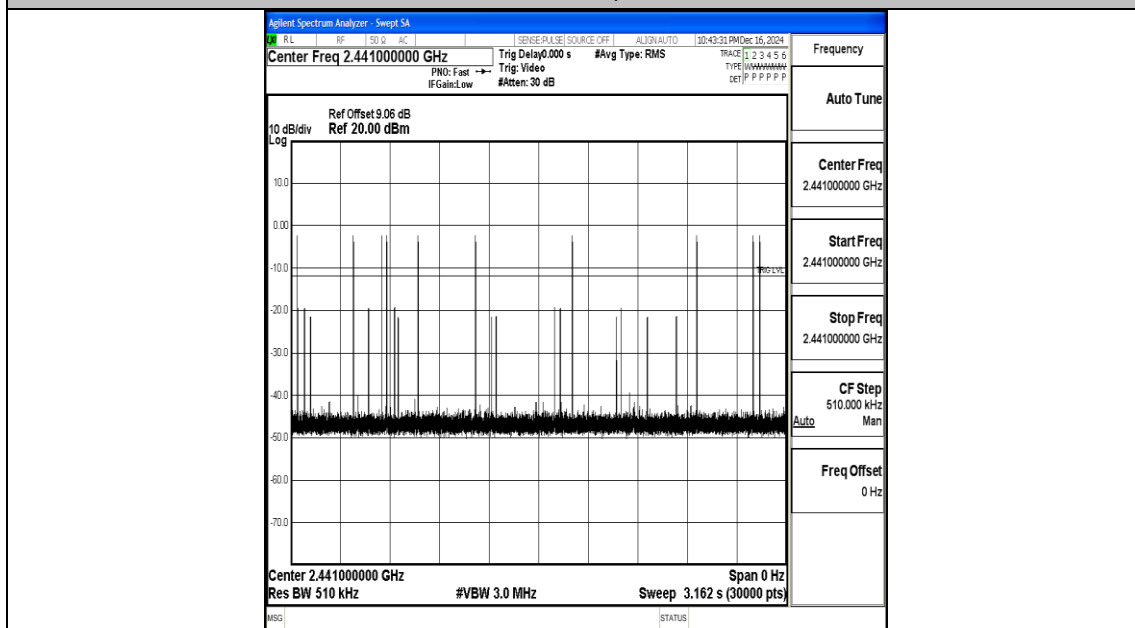
### Test Result

| Test Mode | Antenna | Frequency [MHz] | Burst Width [ms] | TotalHops [Num] | Result [s] | Limit [s] | Verdict |
|-----------|---------|-----------------|------------------|-----------------|------------|-----------|---------|
| DH5       | Ant1    | Hop             | 2.911            | 100             | 0.291      | ≤0.4      | PASS    |
| 2DH5      | Ant1    | Hop             | 2.917            | 110             | 0.321      | ≤0.4      | PASS    |
| 3DH5      | Ant1    | Hop             | 2.921            | 80              | 0.234      | ≤0.4      | PASS    |

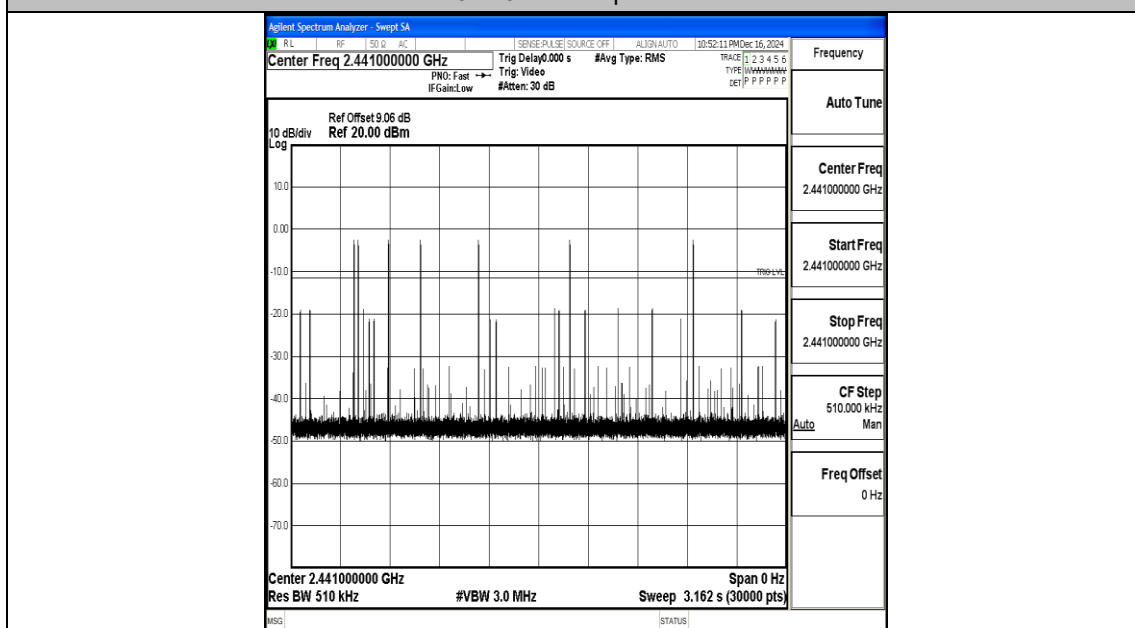
## Test Graphs



## 2DH5-Ant1-Hop-PASS



## 3DH5-Ant1-Hop-PASS

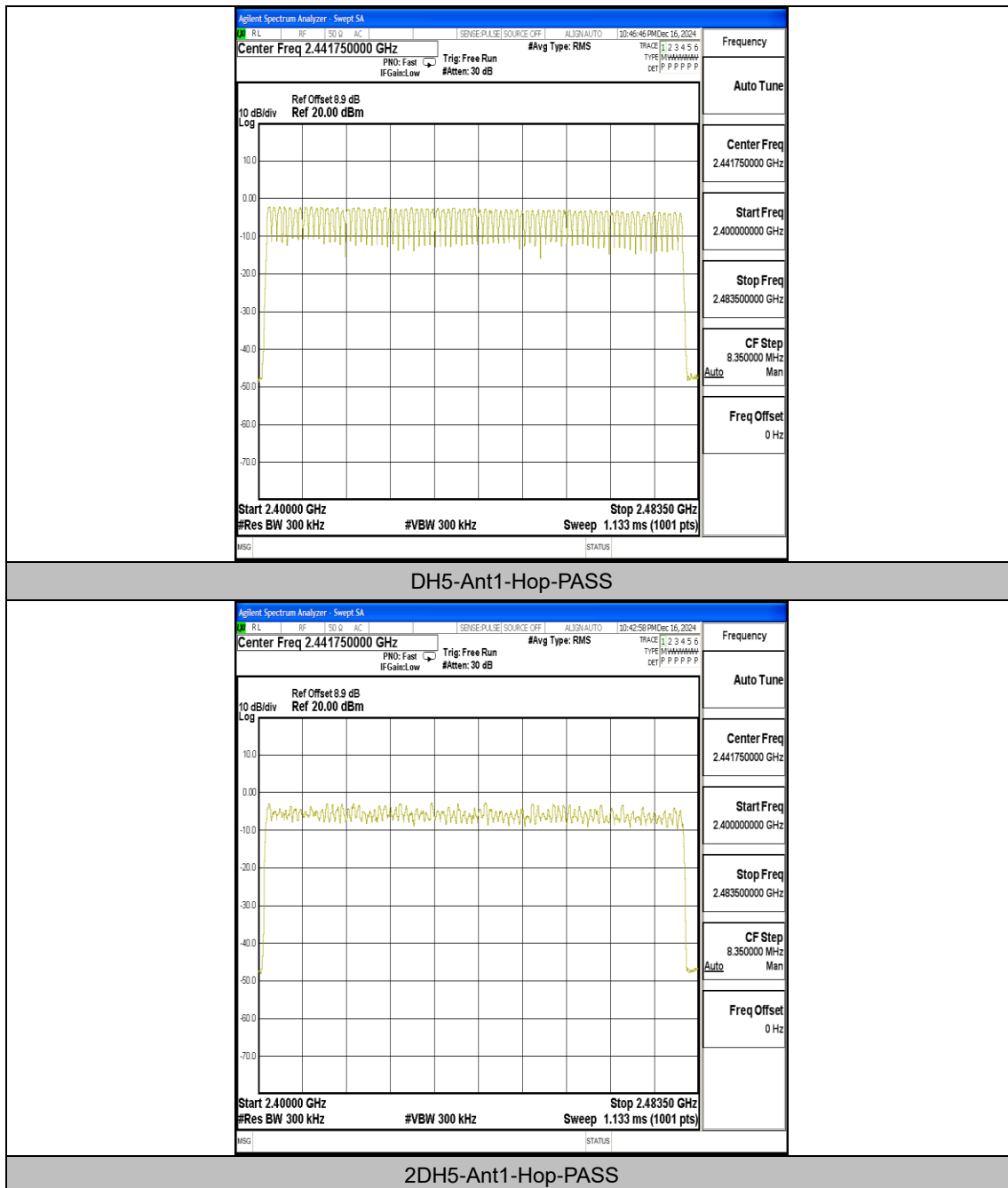


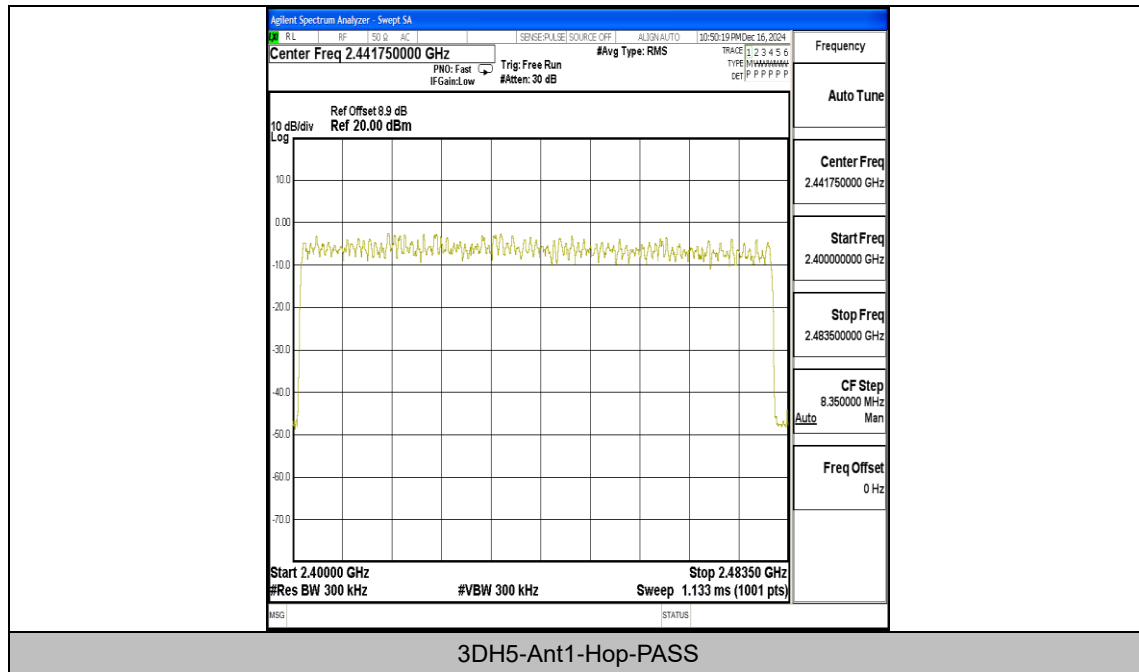
## Appendix F: Number of hopping channels

### Test Result

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

## Test Graphs





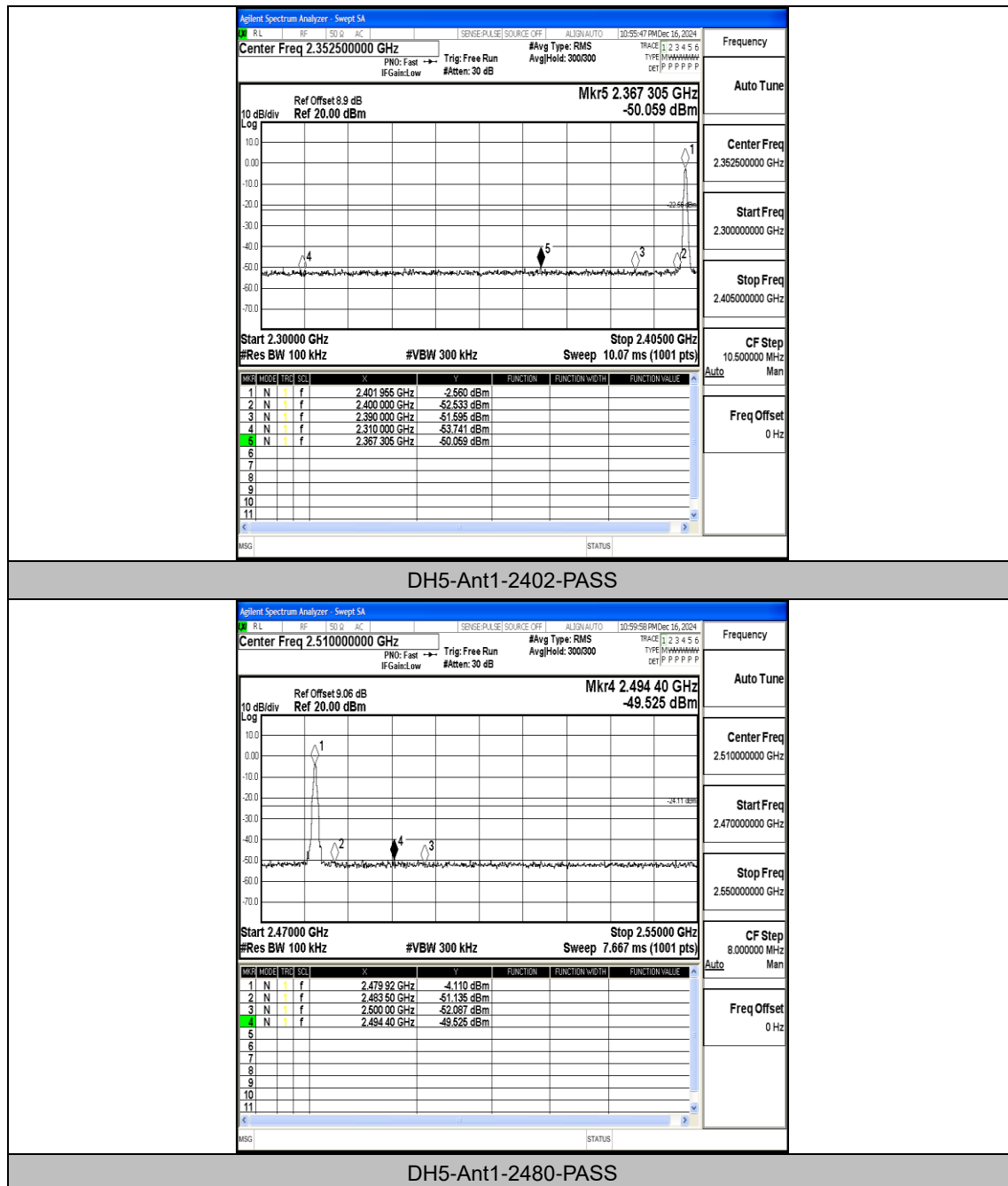


## Appendix G: Band edge measurements

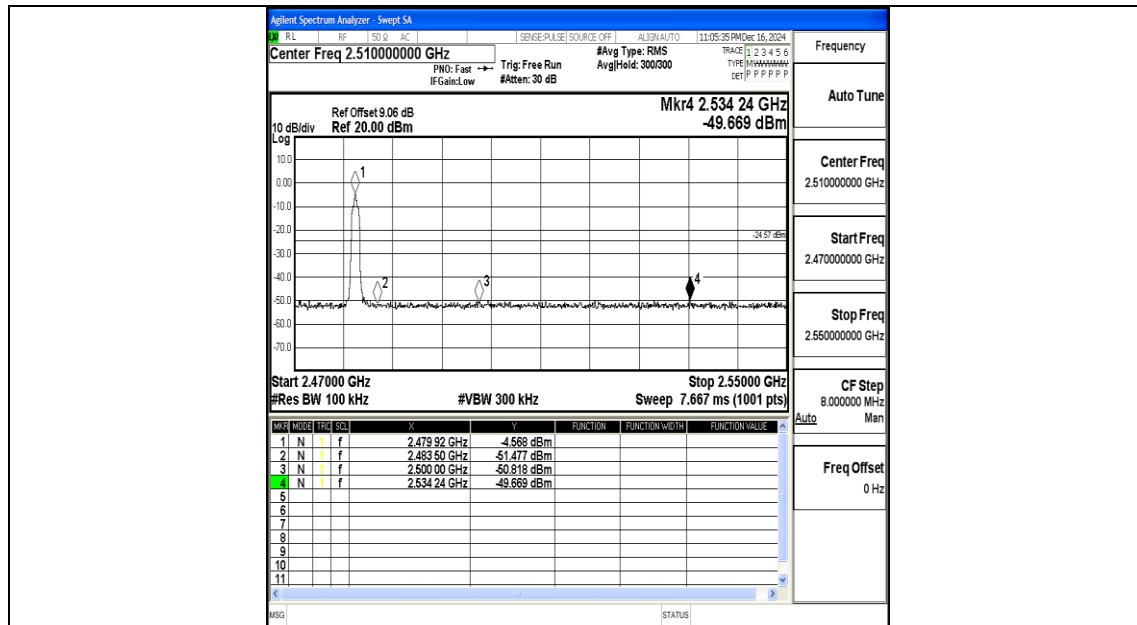
### Test Result

| Test Mode | Antenna | Ch.Name | Frequency [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|-----------|---------|---------|-----------------|----------------|--------------|---------------|---------|
| DH5       | Ant1    | Low     | 2402            | -2.56          | -50.06       | $\leq -22.56$ | PASS    |
| DH5       | Ant1    | High    | 2480            | -4.11          | -49.53       | $\leq -24.11$ | PASS    |
| DH5       | Ant1    | Low     | Hop_2402        | -3.27          | -50.14       | $\leq -23.27$ | PASS    |
| DH5       | Ant1    | High    | Hop_2480        | -4.14          | -49.03       | $\leq -24.14$ | PASS    |
| 2DH5      | Ant1    | Low     | 2402            | -3.58          | -49.53       | $\leq -23.58$ | PASS    |
| 2DH5      | Ant1    | High    | 2480            | -4.57          | -49.67       | $\leq -24.57$ | PASS    |
| 2DH5      | Ant1    | Low     | Hop_2402        | -6.55          | -50.35       | $\leq -26.55$ | PASS    |
| 2DH5      | Ant1    | High    | Hop_2480        | -4.17          | -48.92       | $\leq -24.17$ | PASS    |
| 3DH5      | Ant1    | Low     | 2402            | -3.06          | -45.22       | $\leq -23.06$ | PASS    |
| 3DH5      | Ant1    | High    | 2480            | -4.48          | -48.91       | $\leq -24.48$ | PASS    |
| 3DH5      | Ant1    | Low     | Hop_2402        | -3.68          | -50.41       | $\leq -23.68$ | PASS    |
| 3DH5      | Ant1    | High    | Hop_2480        | -4.86          | -49.14       | $\leq -24.86$ | PASS    |

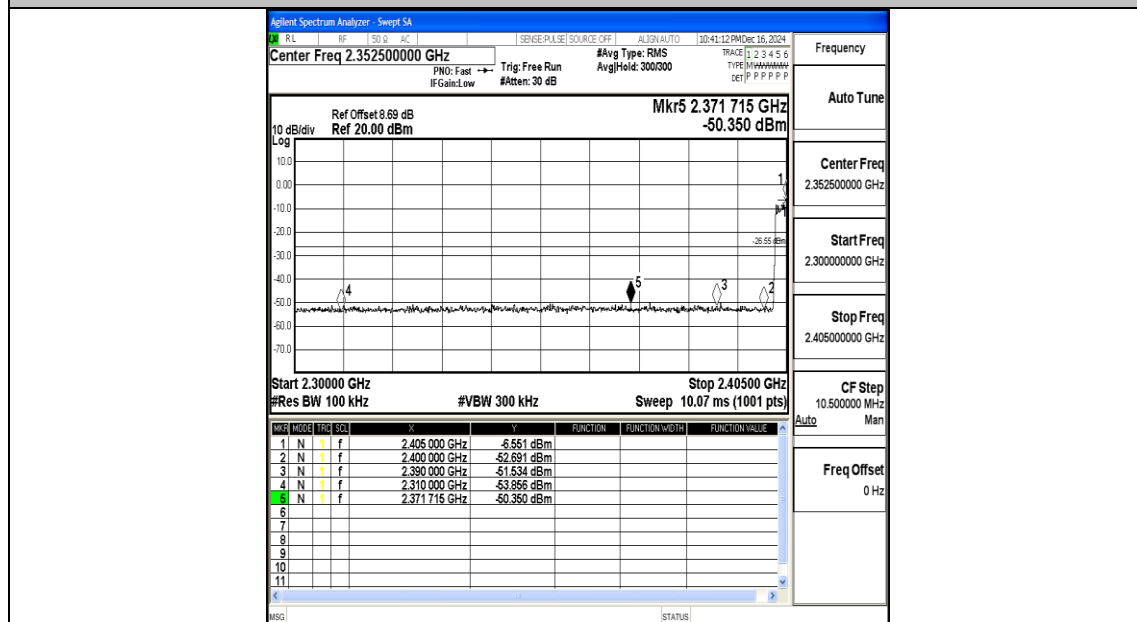
## Test Graphs



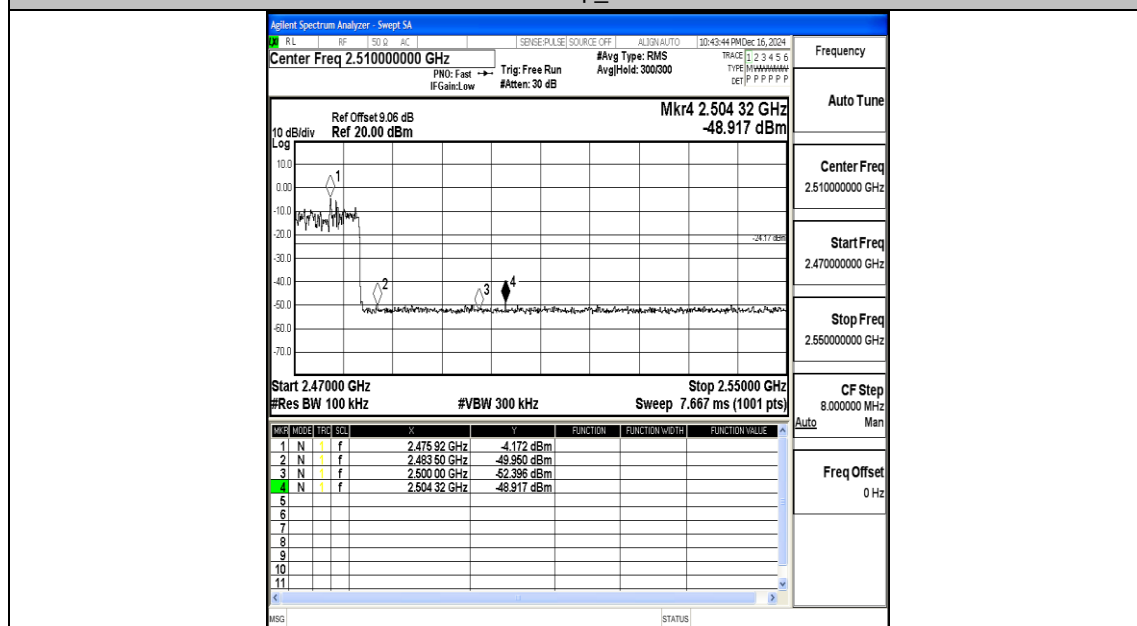




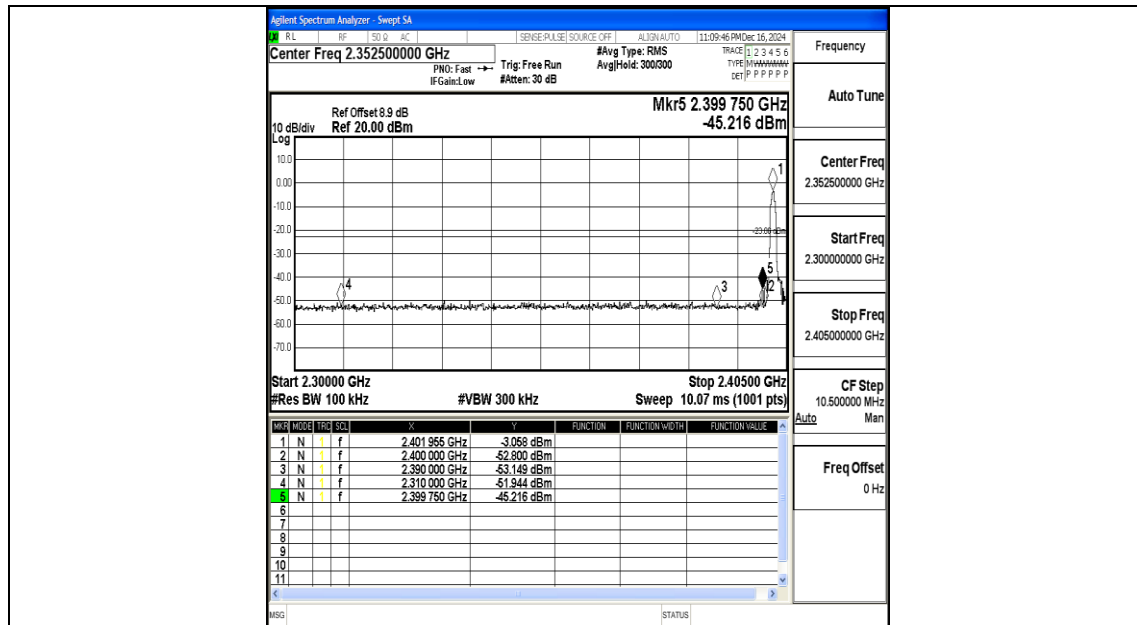
## 2DH5-Ant1-2480-PASS



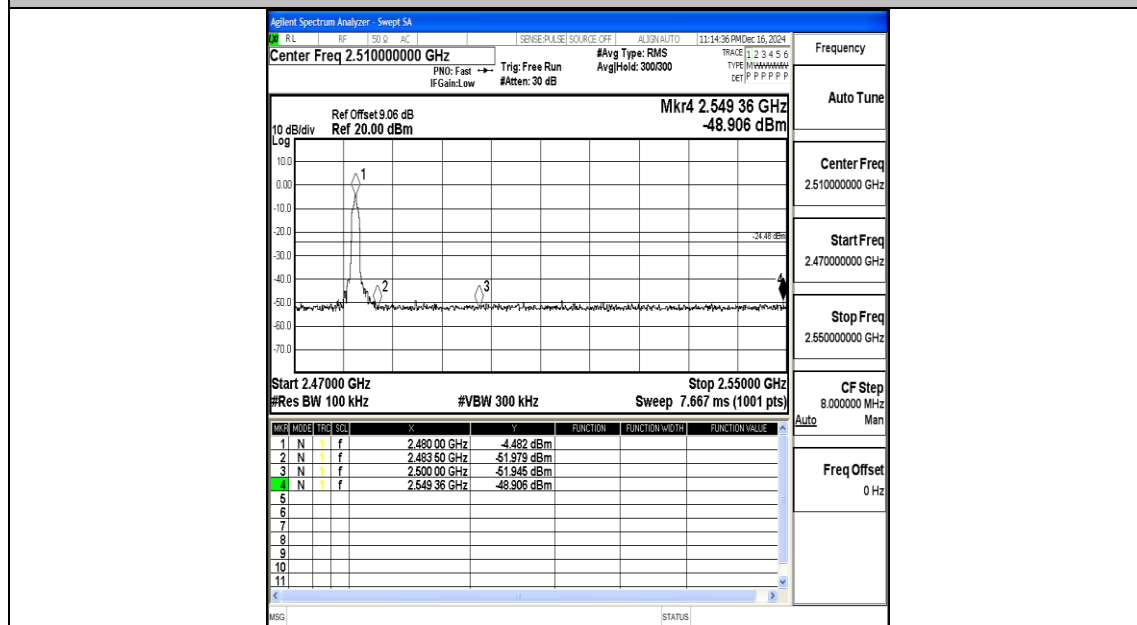
## 2DH5-Ant1-Hop\_2402-PASS



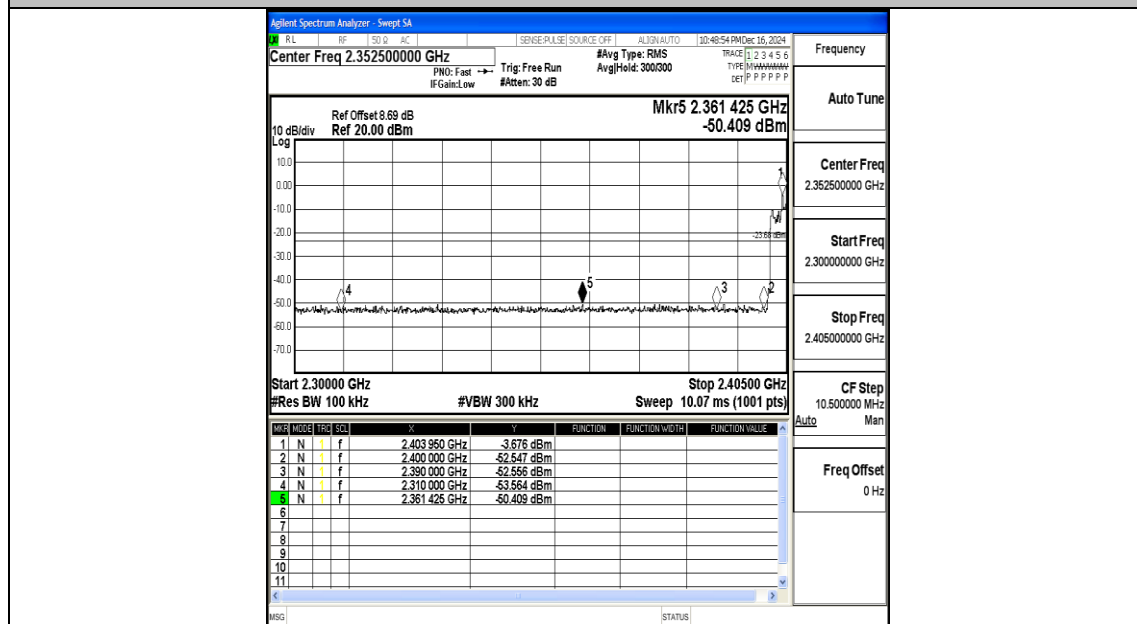
## 2DH5-Ant1-Hop\_2480-PASS



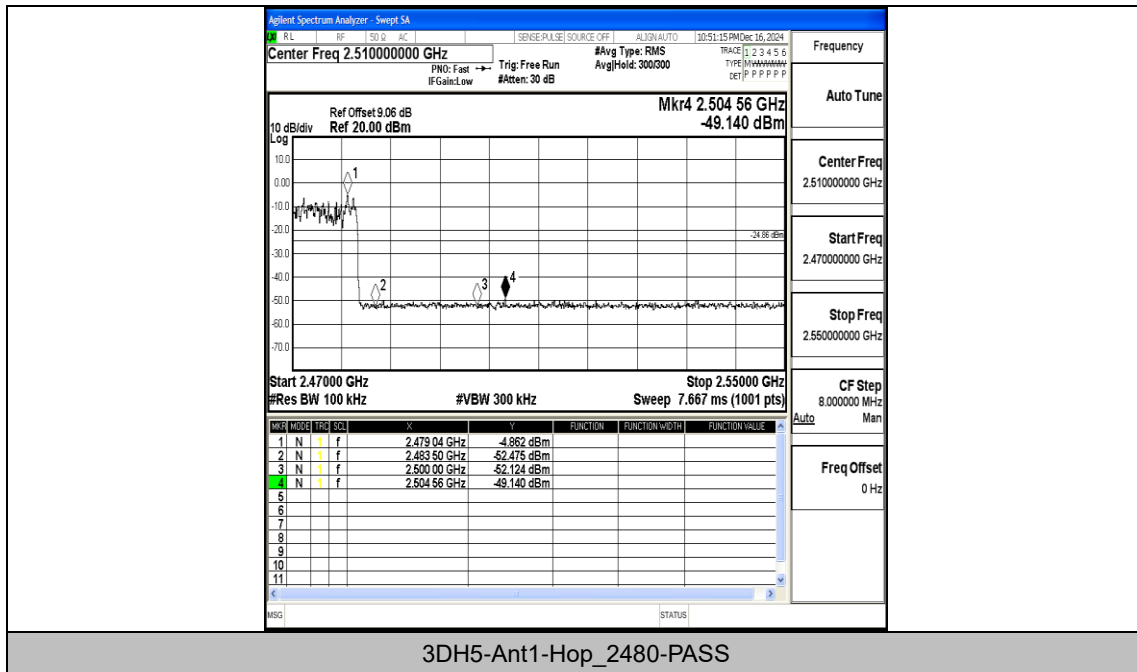
## 3DH5-Ant1-2402-PASS



## 3DH5-Ant1-2480-PASS



## 3DH5-Ant1-Hop\_2402-PASS

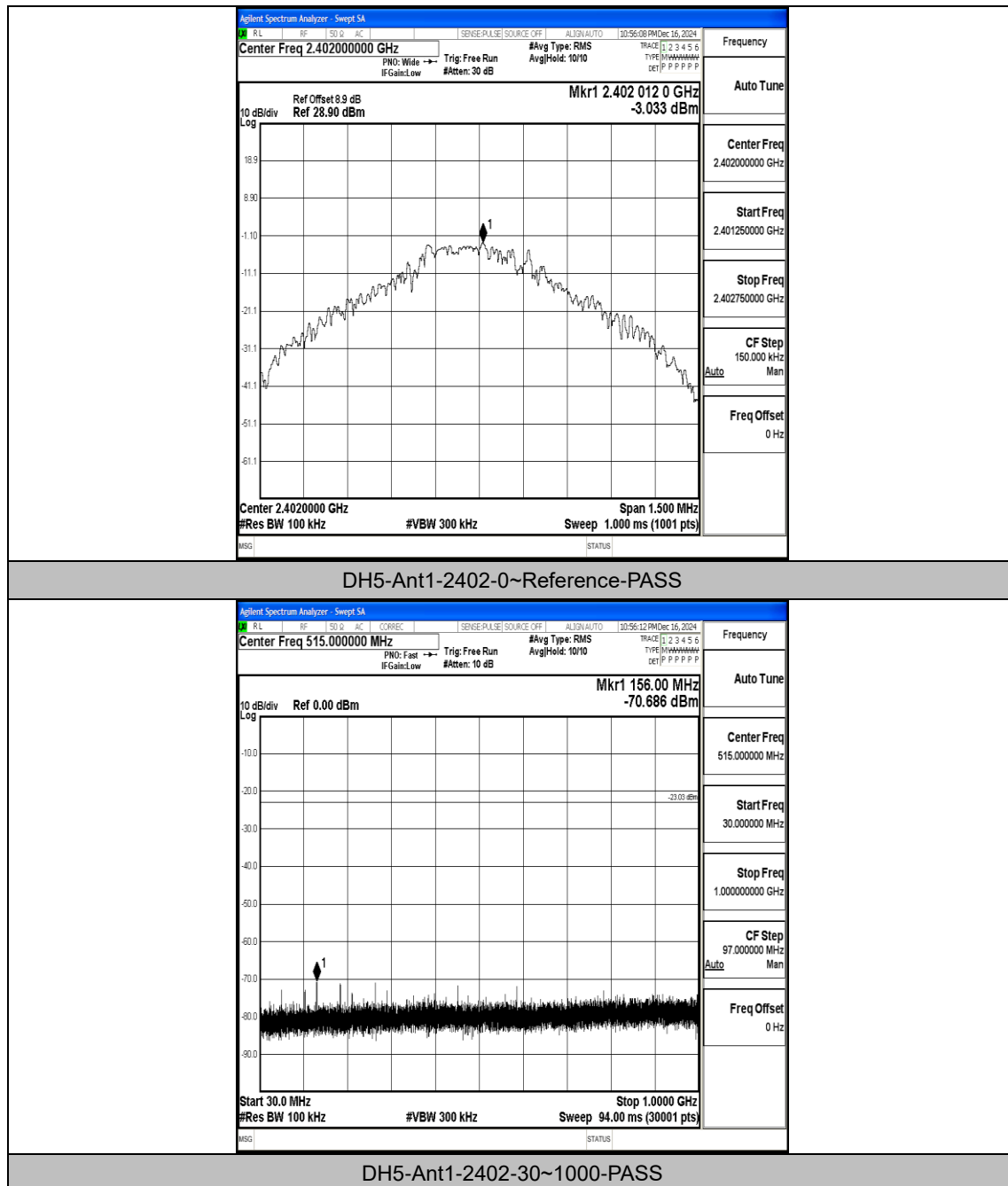


## Appendix H: Conducted Spurious Emission

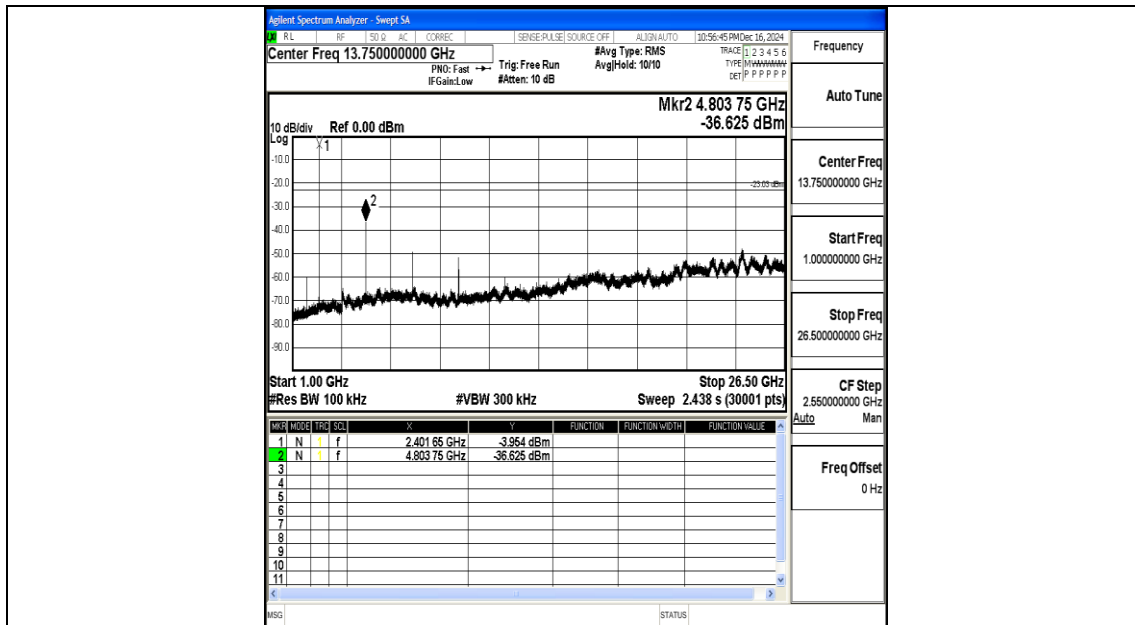
### Test Result

| Test Mode | Antenna | Frequency [MHz] | Freq. Range [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|-----------------|-------------------|------------------|--------------|-------------|---------|
| DH5       | Ant1    | 2402            | 0~Reference       | -3.03            | -3.03        | ---         | PASS    |
| DH5       | Ant1    | 2402            | 30~1000           | -3.03            | -70.69       | ≤-23.03     | PASS    |
| DH5       | Ant1    | 2402            | 1000~26500        | -3.03            | -36.63       | ≤-23.03     | PASS    |
| DH5       | Ant1    | 2441            | 0~Reference       | -3.97            | -3.97        | ---         | PASS    |
| DH5       | Ant1    | 2441            | 30~1000           | -3.97            | -70.93       | ≤-23.97     | PASS    |
| DH5       | Ant1    | 2441            | 1000~26500        | -3.97            | -36.82       | ≤-23.97     | PASS    |
| DH5       | Ant1    | 2480            | 0~Reference       | -4.71            | -4.71        | ---         | PASS    |
| DH5       | Ant1    | 2480            | 30~1000           | -4.71            | -70.57       | ≤-24.71     | PASS    |
| DH5       | Ant1    | 2480            | 1000~26500        | -4.71            | -35.82       | ≤-24.71     | PASS    |
| 2DH5      | Ant1    | 2402            | 0~Reference       | -4.21            | -4.21        | ---         | PASS    |
| 2DH5      | Ant1    | 2402            | 30~1000           | -4.21            | -69.96       | ≤-24.21     | PASS    |
| 2DH5      | Ant1    | 2402            | 1000~26500        | -4.21            | -42.81       | ≤-24.21     | PASS    |
| 2DH5      | Ant1    | 2441            | 0~Reference       | -4.21            | -4.21        | ---         | PASS    |
| 2DH5      | Ant1    | 2441            | 30~1000           | -4.21            | -70.91       | ≤-24.21     | PASS    |
| 2DH5      | Ant1    | 2441            | 1000~26500        | -4.21            | -41.21       | ≤-24.21     | PASS    |
| 2DH5      | Ant1    | 2480            | 0~Reference       | -4.68            | -4.68        | ---         | PASS    |
| 2DH5      | Ant1    | 2480            | 30~1000           | -4.68            | -70.58       | ≤-24.68     | PASS    |
| 2DH5      | Ant1    | 2480            | 1000~26500        | -4.68            | -43.27       | ≤-24.68     | PASS    |
| 3DH5      | Ant1    | 2402            | 0~Reference       | -3.18            | -3.18        | ---         | PASS    |
| 3DH5      | Ant1    | 2402            | 30~1000           | -3.18            | -70.84       | ≤-23.18     | PASS    |
| 3DH5      | Ant1    | 2402            | 1000~26500        | -3.18            | -40.84       | ≤-23.18     | PASS    |
| 3DH5      | Ant1    | 2441            | 0~Reference       | -3.82            | -3.82        | ---         | PASS    |
| 3DH5      | Ant1    | 2441            | 30~1000           | -3.82            | -70.91       | ≤-23.82     | PASS    |
| 3DH5      | Ant1    | 2441            | 1000~26500        | -3.82            | -35.98       | ≤-23.82     | PASS    |
| 3DH5      | Ant1    | 2480            | 0~Reference       | -6.37            | -6.37        | ---         | PASS    |
| 3DH5      | Ant1    | 2480            | 30~1000           | -6.37            | -69.95       | ≤-26.37     | PASS    |
| 3DH5      | Ant1    | 2480            | 1000~26500        | -6.37            | -42.85       | ≤-26.37     | PASS    |

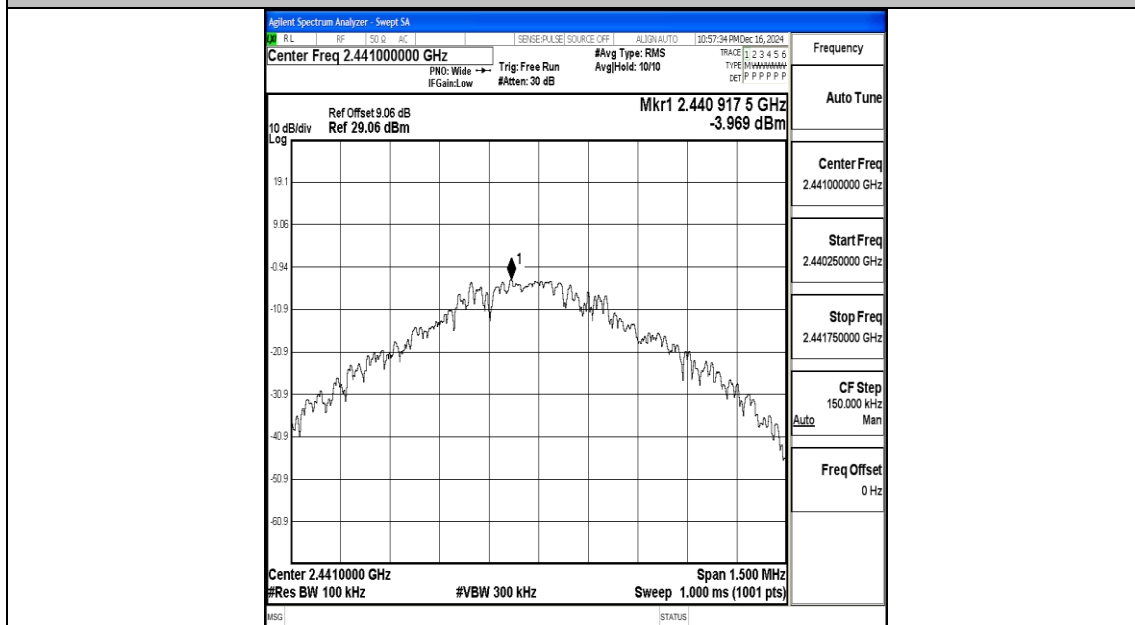
## Test Graphs



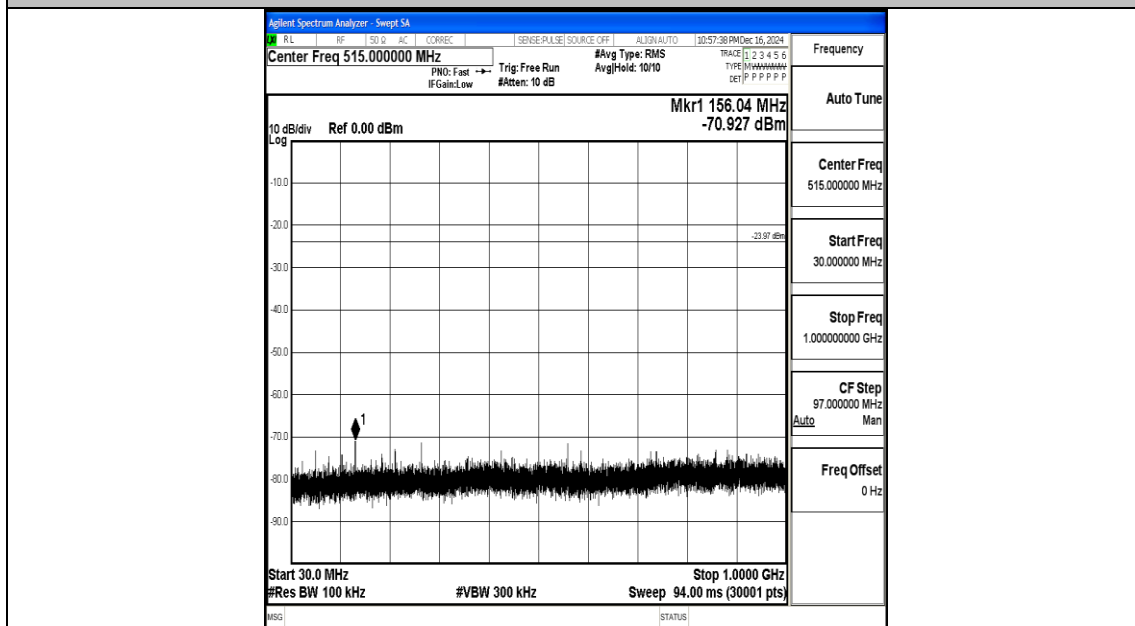




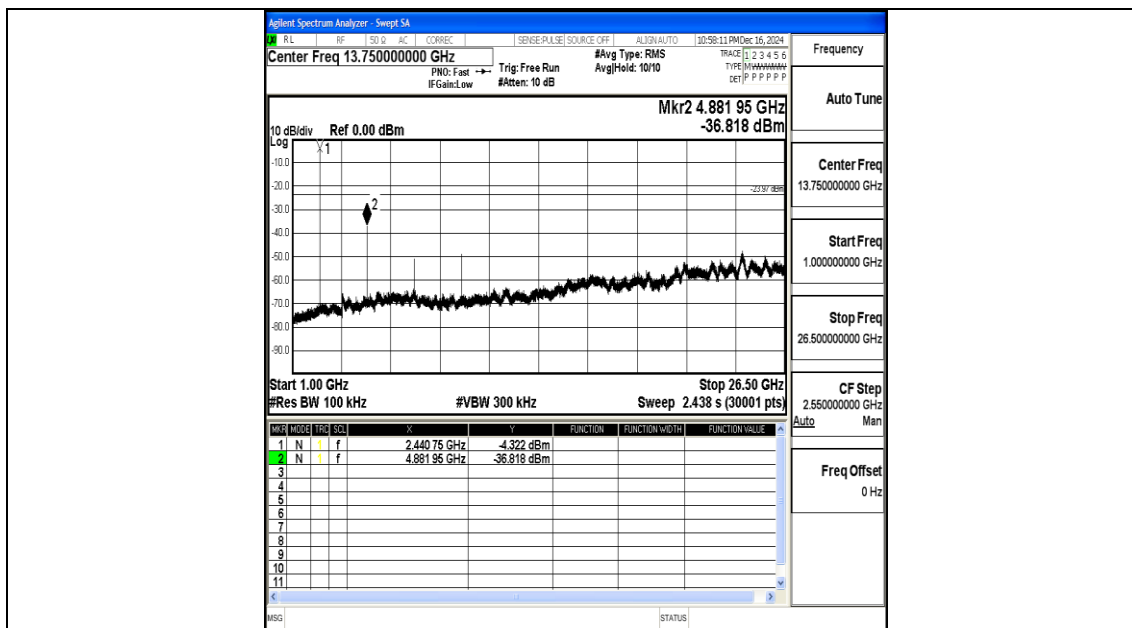
DH5-Ant1-2402-1000~26500-PASS



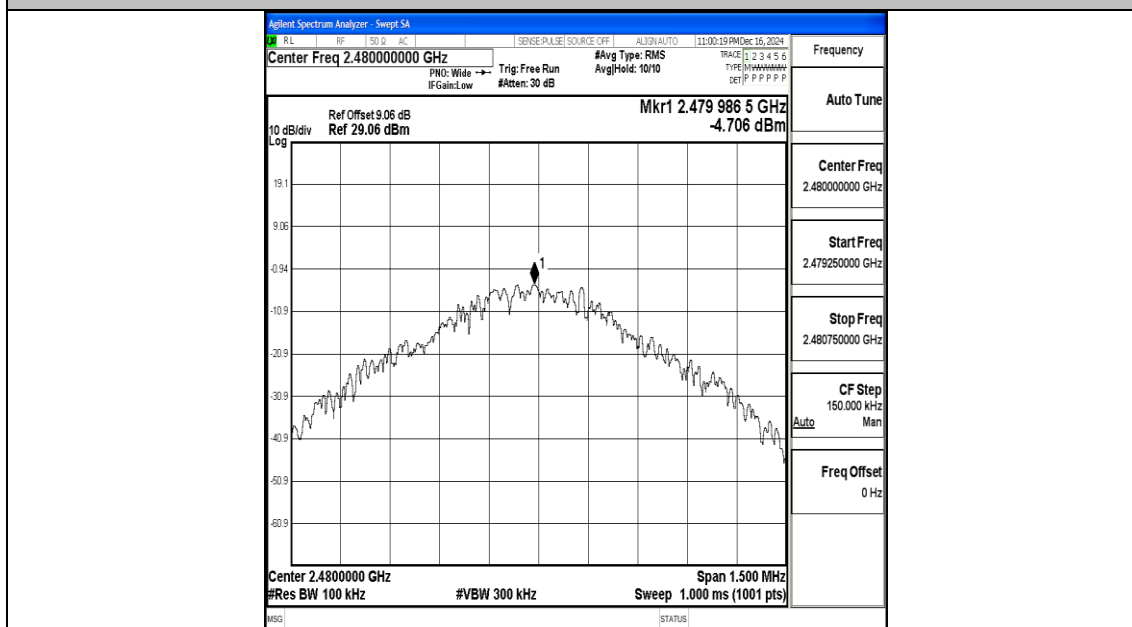
DH5-Ant1-2441-0~Reference-PASS



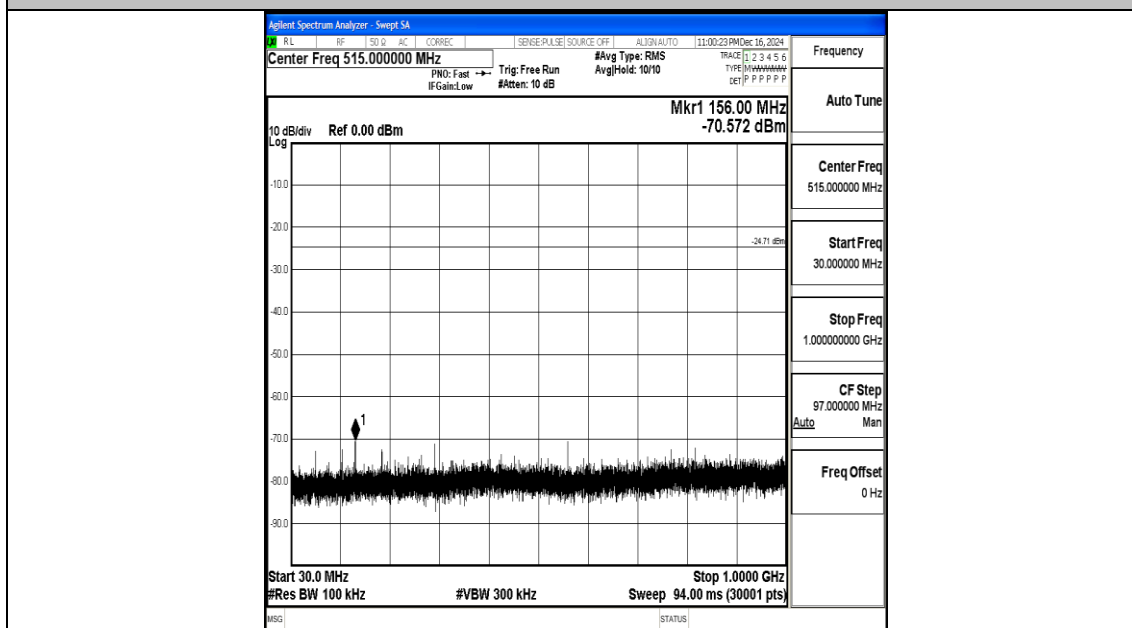
DH5-Ant1-2441-30~1000-PASS



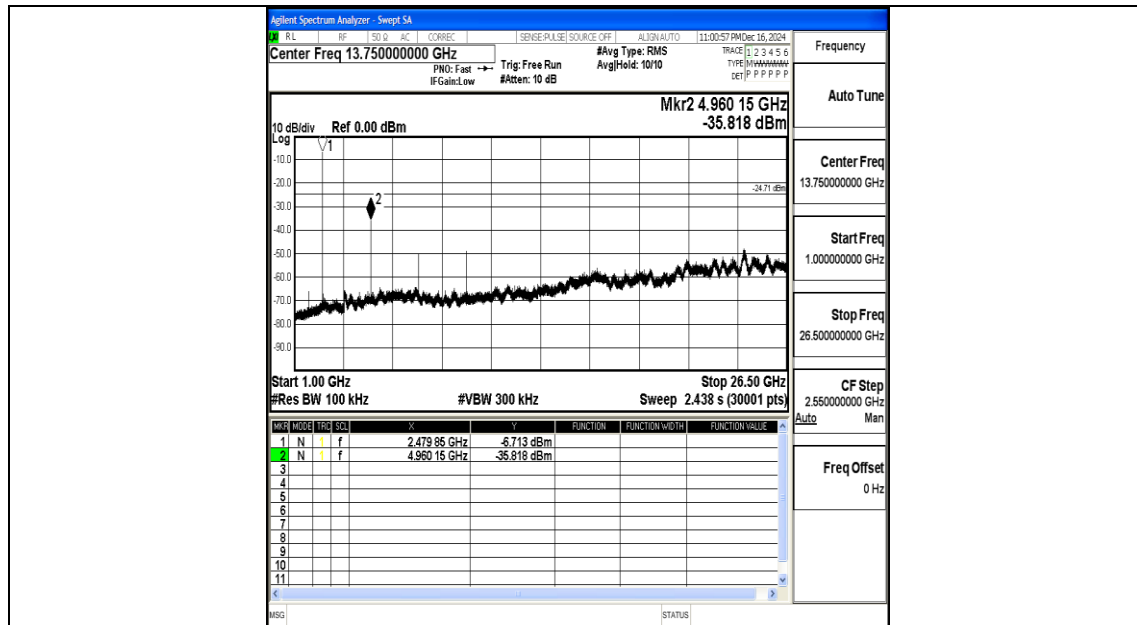
DH5-Ant1-2441-1000~26500-PASS



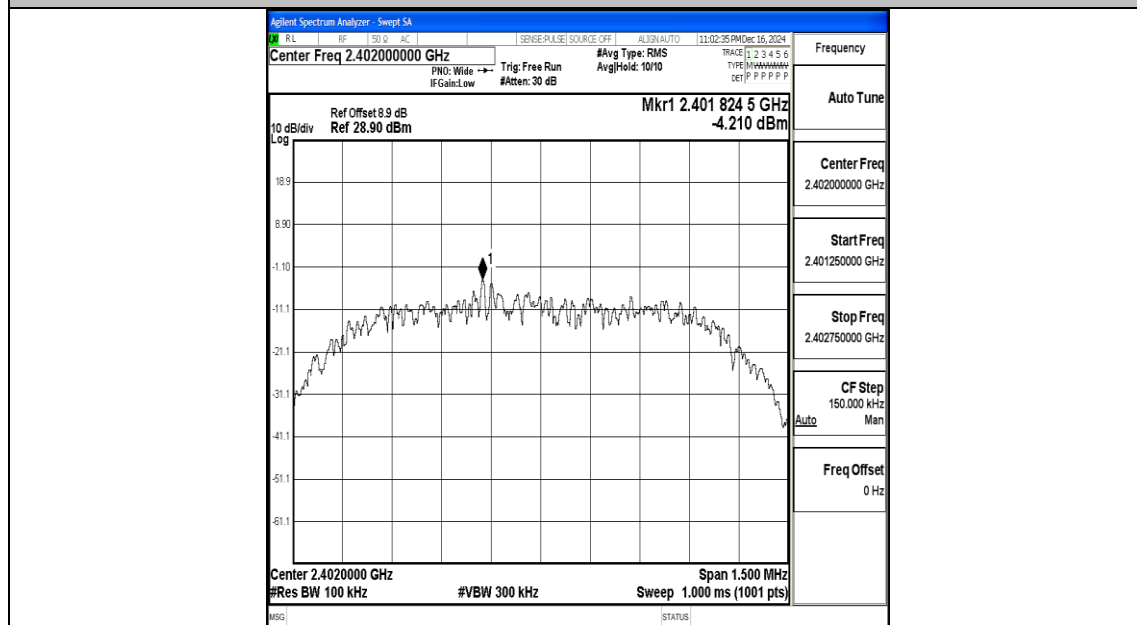
DH5-Ant1-2480-0~Reference-PASS



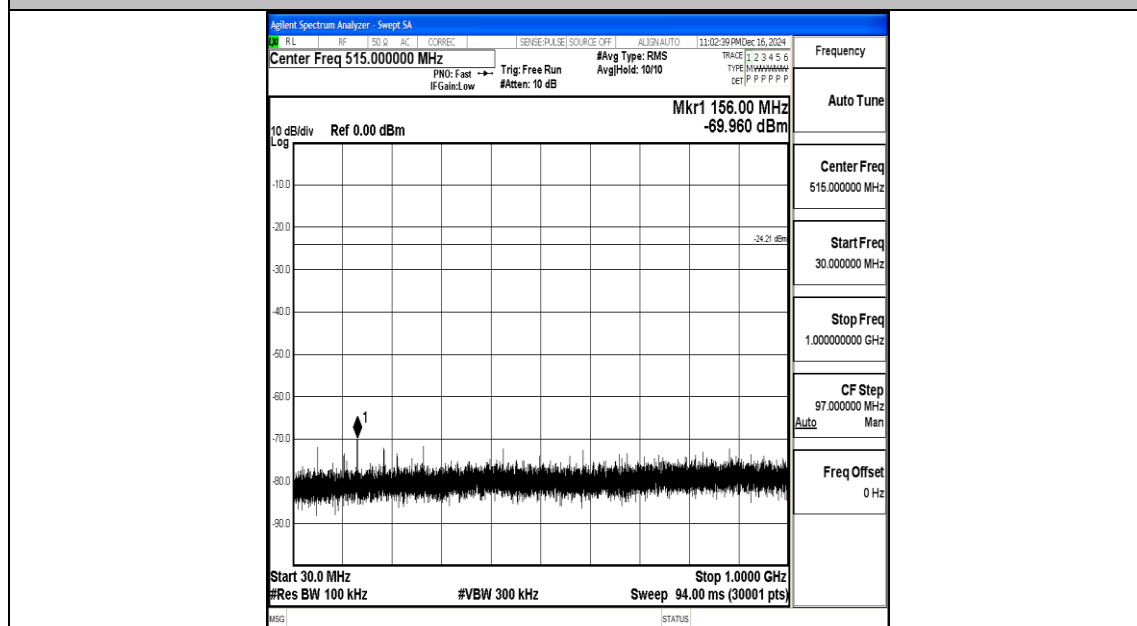
DH5-Ant1-2480-30~1000-PASS



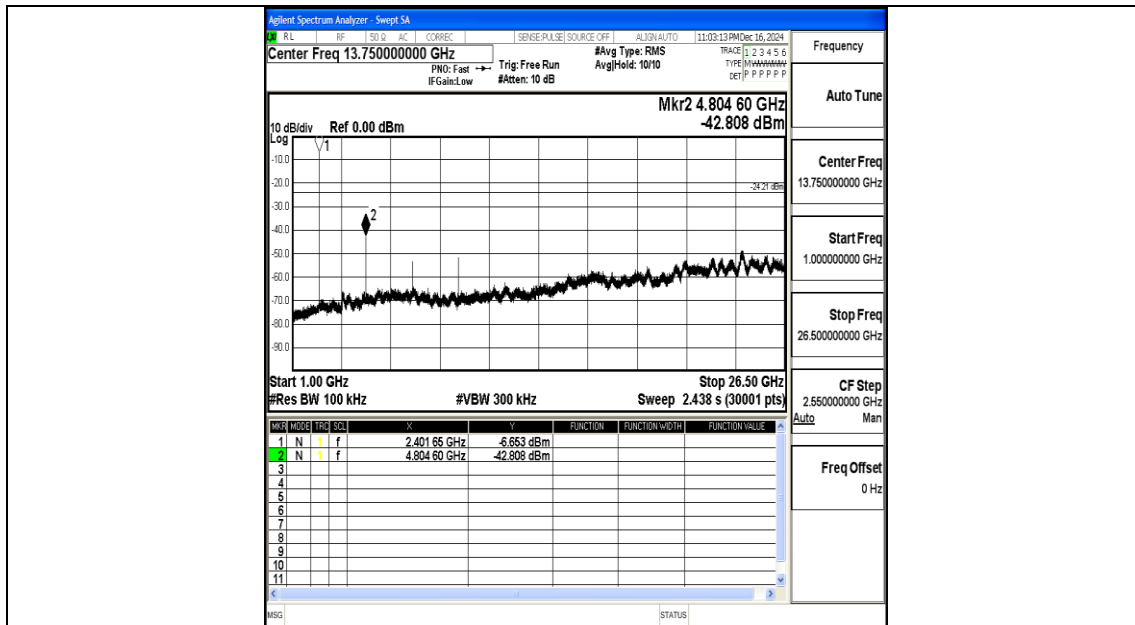
DH5-Ant1-2480-1000~26500-PASS



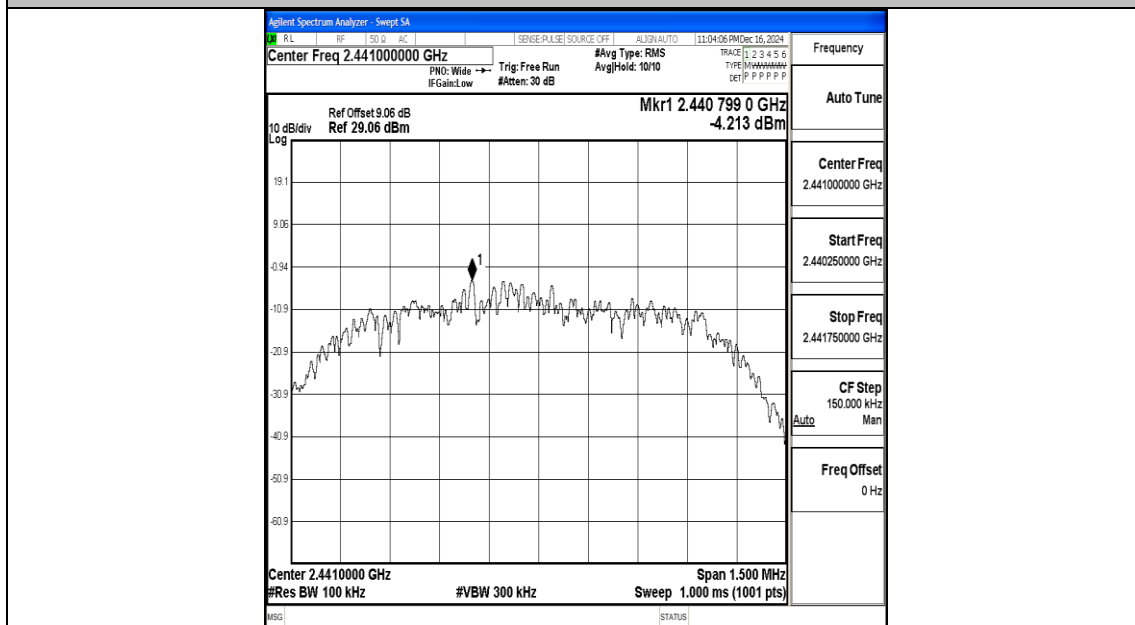
2DH5-Ant1-2402-0~Reference-PASS



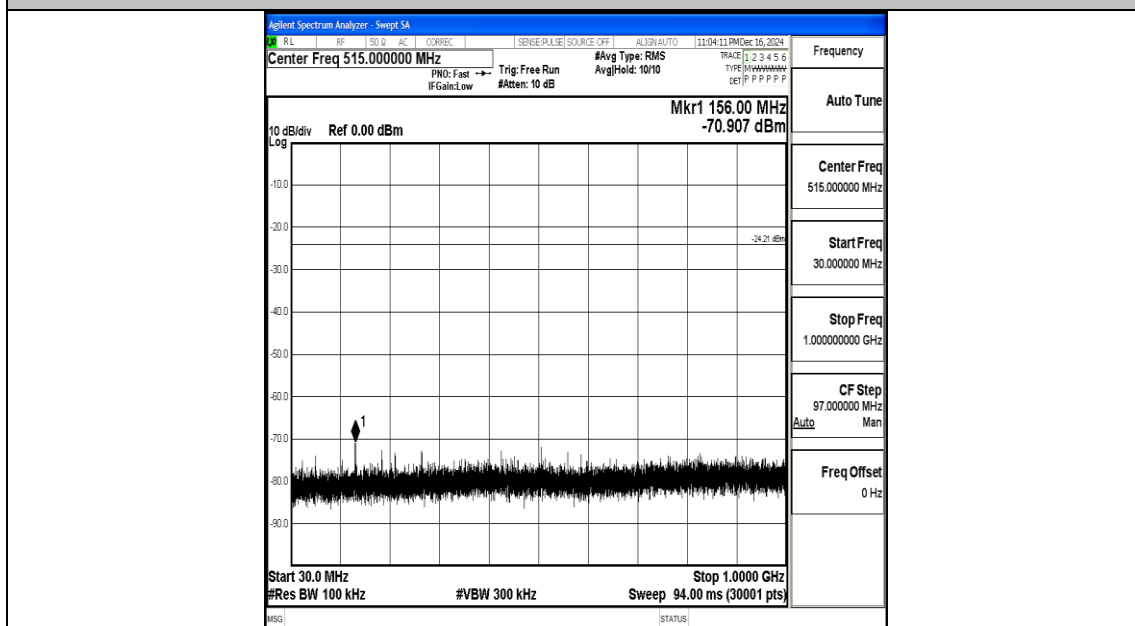
2DH5-Ant1-2402-30~1000-PASS



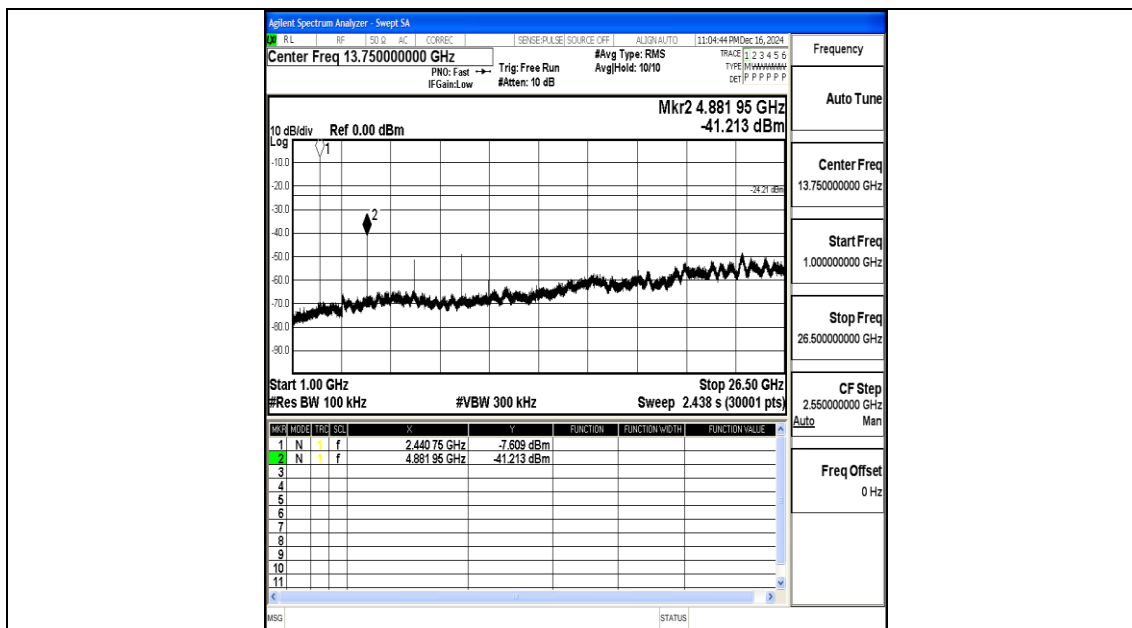
2DH5-Ant1-2402-1000~26500-PASS



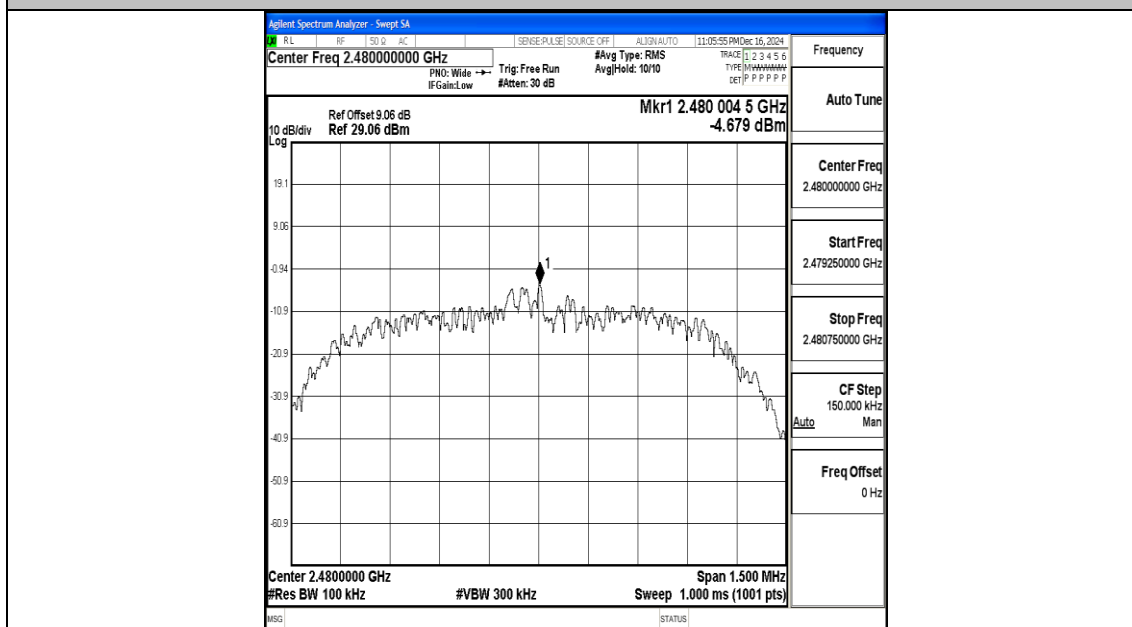
2DH5-Ant1-2441-0~Reference-PASS



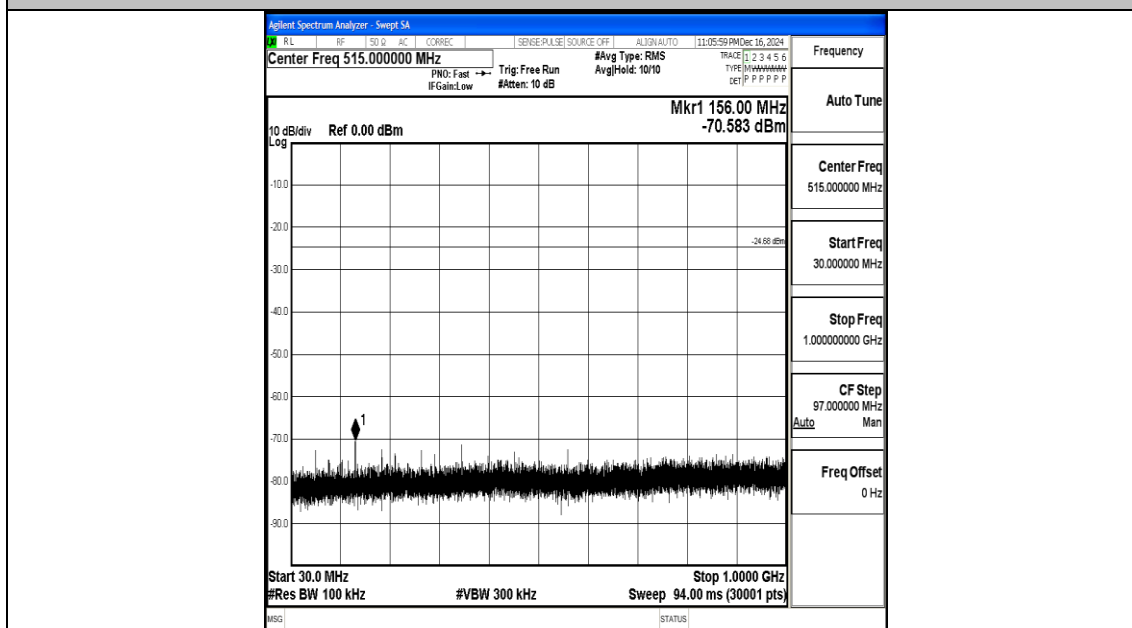
2DH5-Ant1-2441-30~1000-PASS



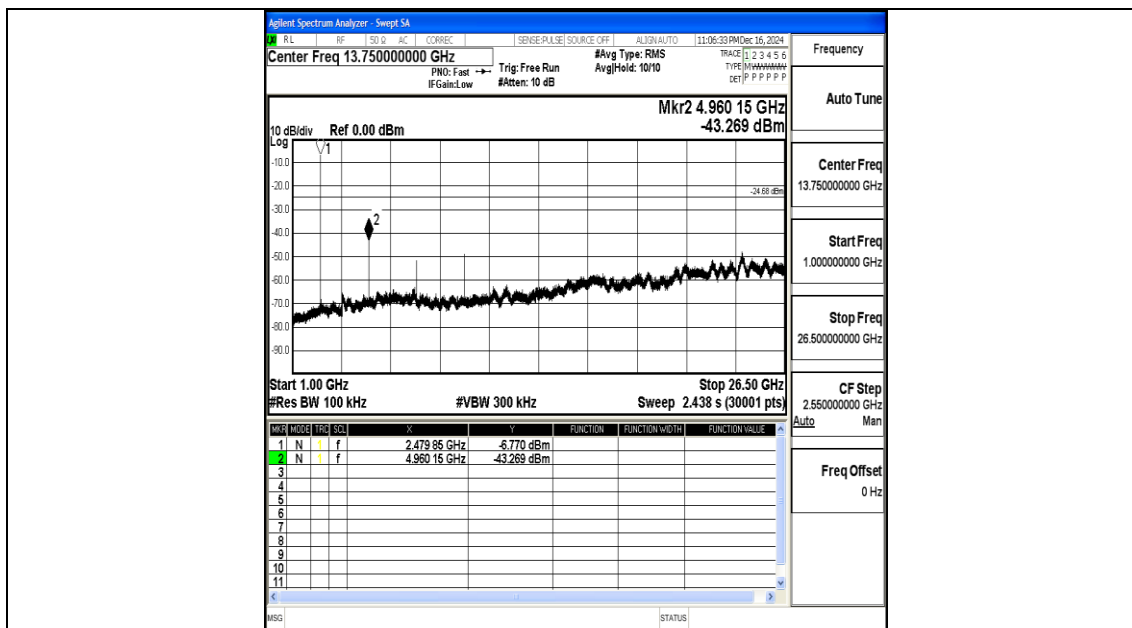
2DH5-Ant1-2441-1000~26500-PASS



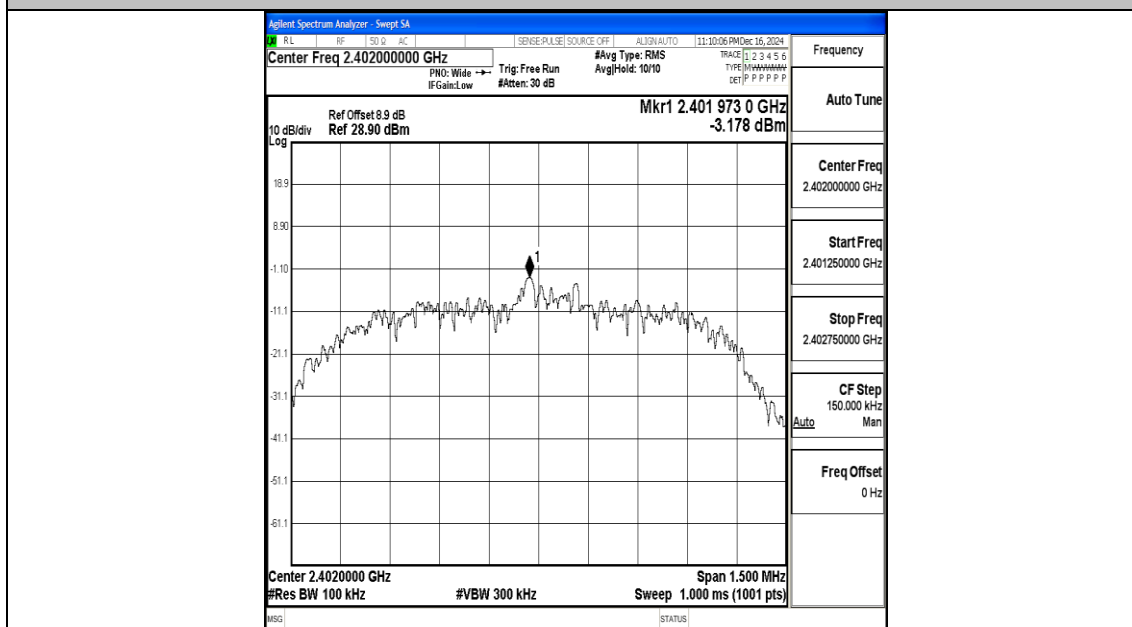
2DH5-Ant1-2480-0~Reference-PASS



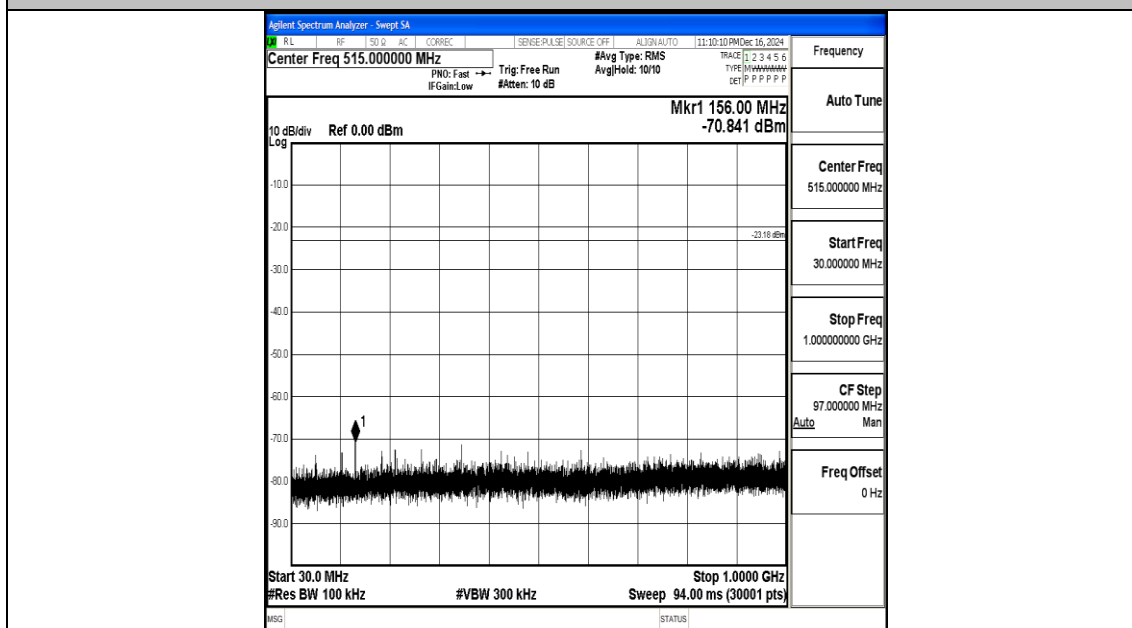
2DH5-Ant1-2480-30~1000-PASS



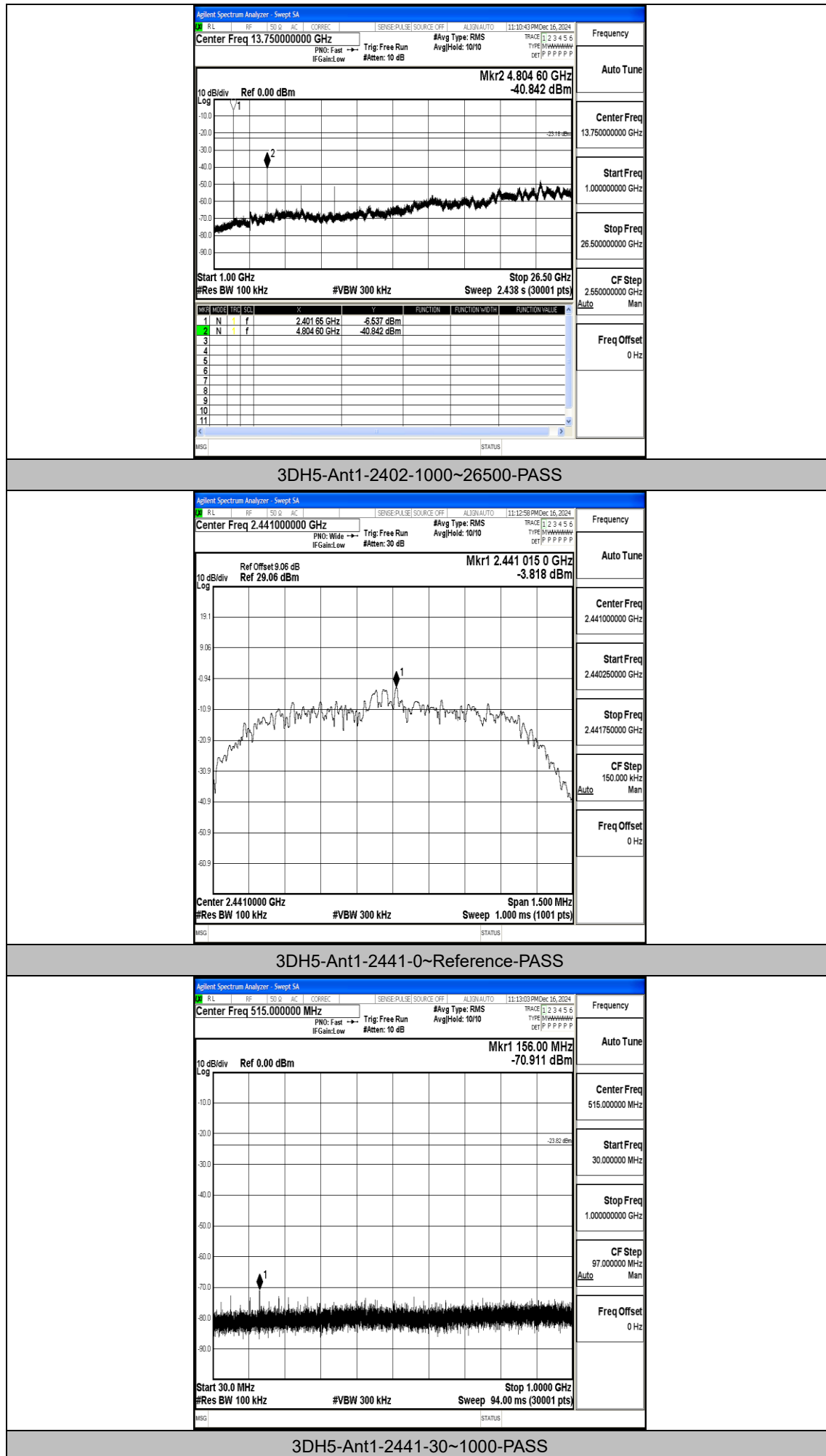
2DH5-Ant1-2480-1000~26500-PASS

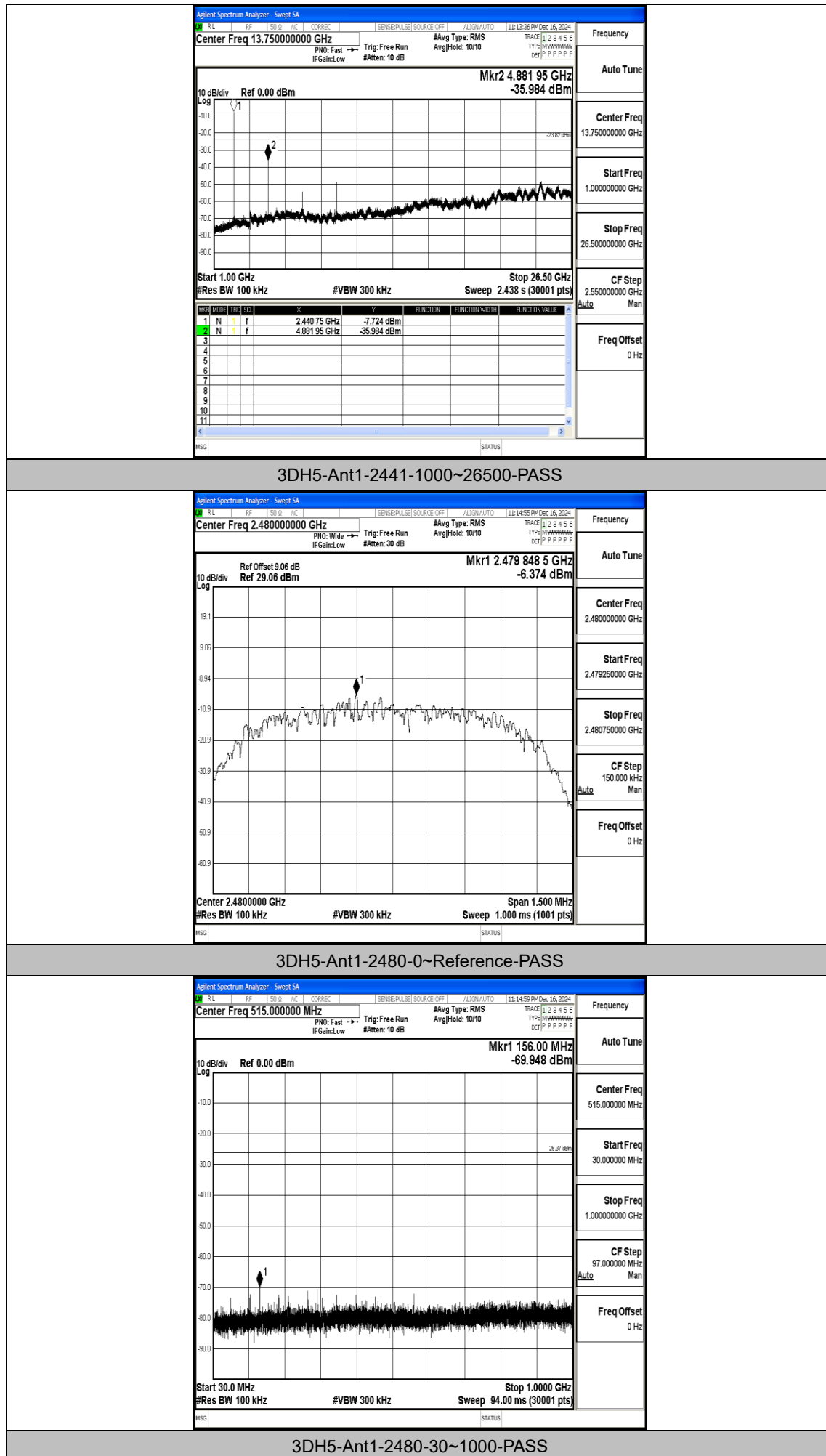


3DH5-Ant1-2402-0~Reference-PASS

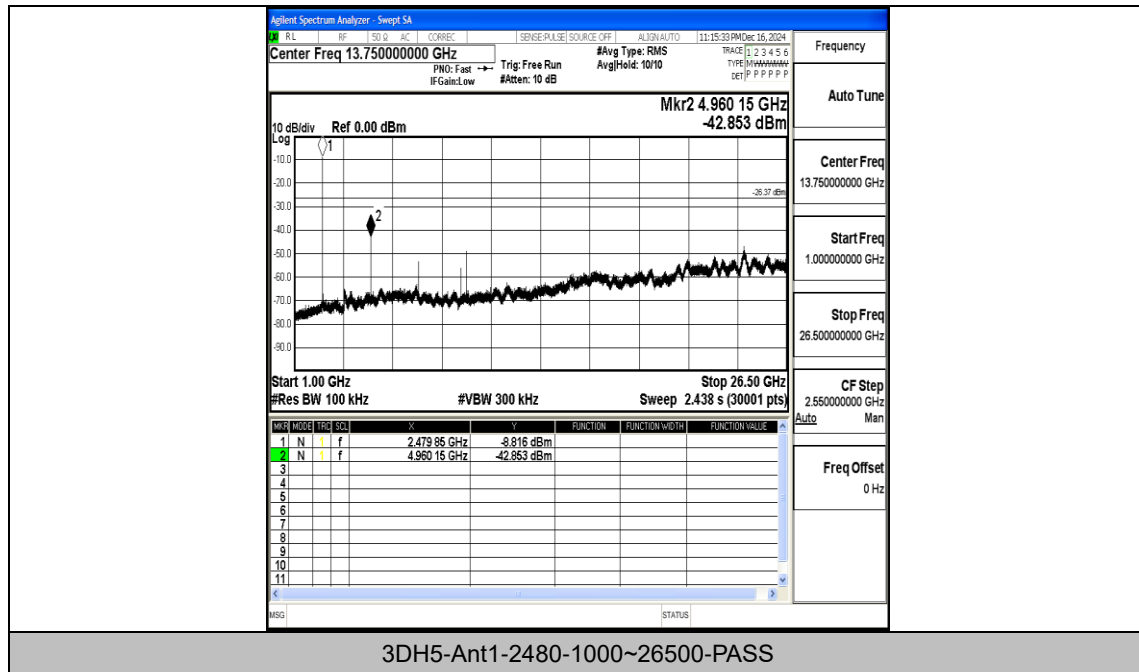


3DH5-Ant1-2402-30~1000-PASS









## Appendix I: Duty Cycle

### Test Result

| Test Mode | Antenna | Frequency [MHz] | ON Time [ms] | Period [ms] | Duty Cycle [%] | Duty Cycle Factor [dB] |
|-----------|---------|-----------------|--------------|-------------|----------------|------------------------|
| DH5       | Ant1    | 2402            | 2.91         | 3.76        | 77.39          | 1.11                   |
| DH5       | Ant1    | 2441            | 2.90         | 3.75        | 77.33          | 1.12                   |
| DH5       | Ant1    | 2480            | 2.91         | 3.75        | 77.60          | 1.10                   |
| 2DH5      | Ant1    | 2402            | 2.91         | 3.75        | 77.60          | 1.10                   |
| 2DH5      | Ant1    | 2441            | 2.92         | 3.75        | 77.87          | 1.09                   |
| 2DH5      | Ant1    | 2480            | 2.91         | 3.75        | 77.60          | 1.10                   |
| 3DH5      | Ant1    | 2402            | 2.92         | 3.75        | 77.87          | 1.09                   |
| 3DH5      | Ant1    | 2441            | 2.92         | 3.76        | 77.66          | 1.10                   |
| 3DH5      | Ant1    | 2480            | 2.91         | 3.75        | 77.60          | 1.10                   |

## Test Graphs

