

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

Product Name: Wireless Speaker with light

Trade Mark: N/A

Test Model: YS-BS0239

FCC ID: 2AWHS-BS0239

### Environmental Conditions

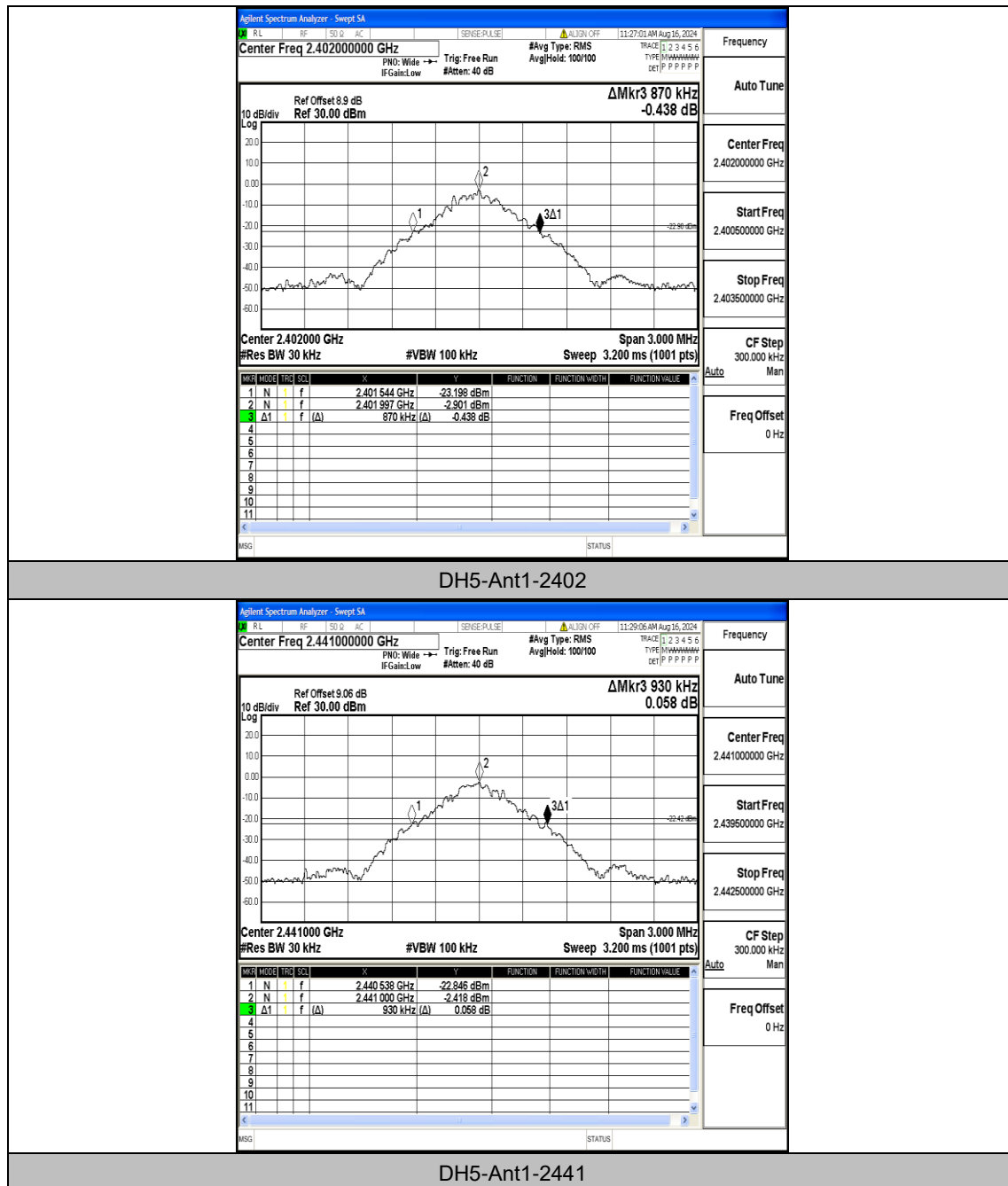
|                    |           |
|--------------------|-----------|
| Temperature:       | 23.8℃     |
| Relative Humidity: | 58%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Allen Lai |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

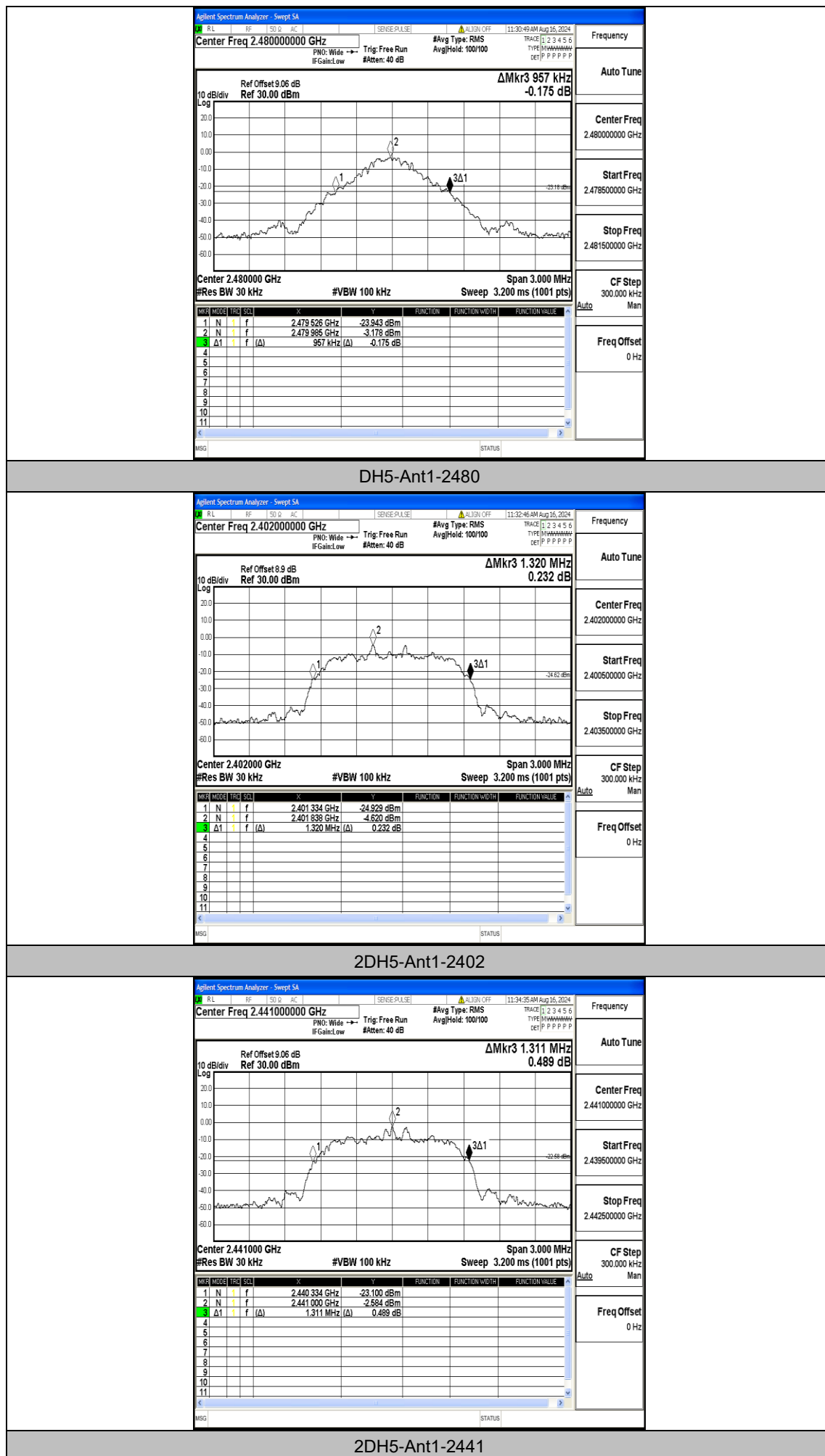
## Appendix A: 20dB Emission Bandwidth

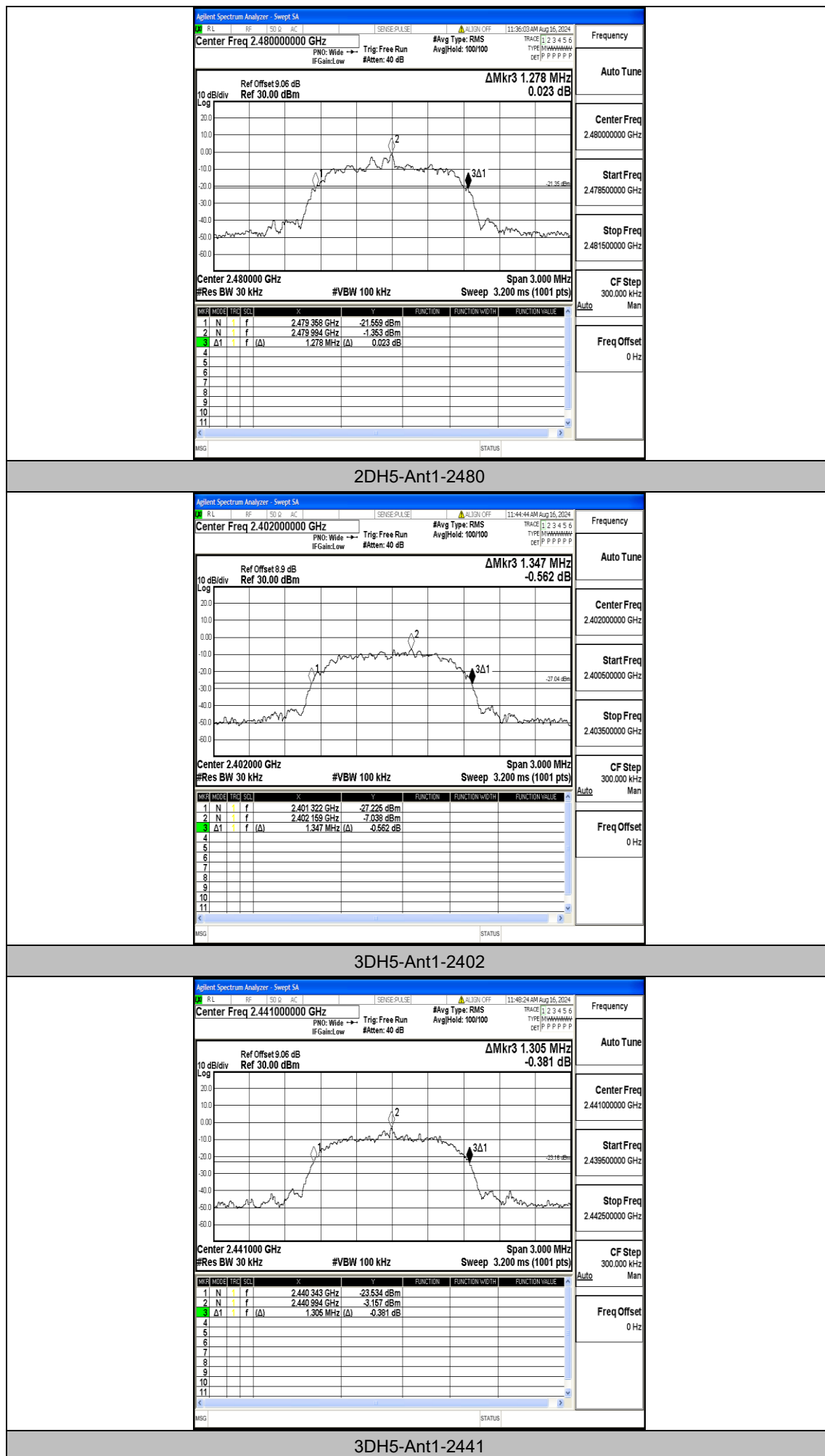
### Test Result

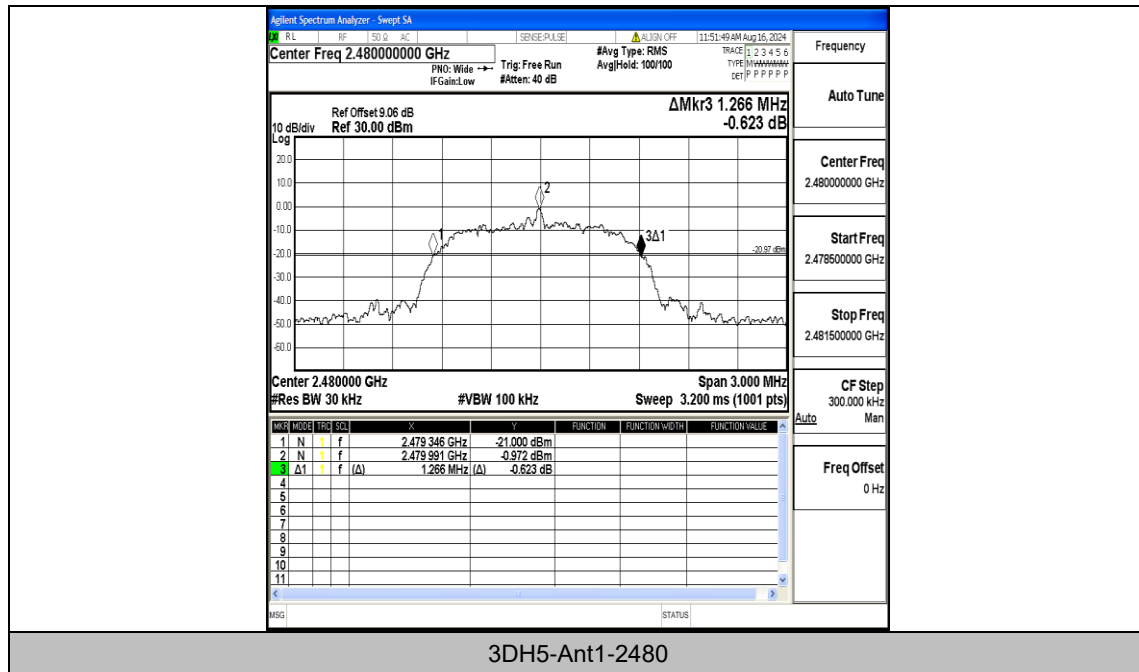
| TestMode | Antenna | Frequency[MHz] | 20db<br>EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|----------------|------------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402           | 0.870            | 2401.544 | 2402.414 | ---        | ---     |
| DH5      | Ant1    | 2441           | 0.930            | 2440.538 | 2441.468 | ---        | ---     |
| DH5      | Ant1    | 2480           | 0.957            | 2479.526 | 2480.483 | ---        | ---     |
| 2DH5     | Ant1    | 2402           | 1.320            | 2401.334 | 2402.654 | ---        | ---     |
| 2DH5     | Ant1    | 2441           | 1.311            | 2440.334 | 2441.645 | ---        | ---     |
| 2DH5     | Ant1    | 2480           | 1.278            | 2479.358 | 2480.636 | ---        | ---     |
| 3DH5     | Ant1    | 2402           | 1.347            | 2401.322 | 2402.669 | ---        | ---     |
| 3DH5     | Ant1    | 2441           | 1.305            | 2440.343 | 2441.648 | ---        | ---     |
| 3DH5     | Ant1    | 2480           | 1.266            | 2479.346 | 2480.612 | ---        | ---     |

## Test Graphs







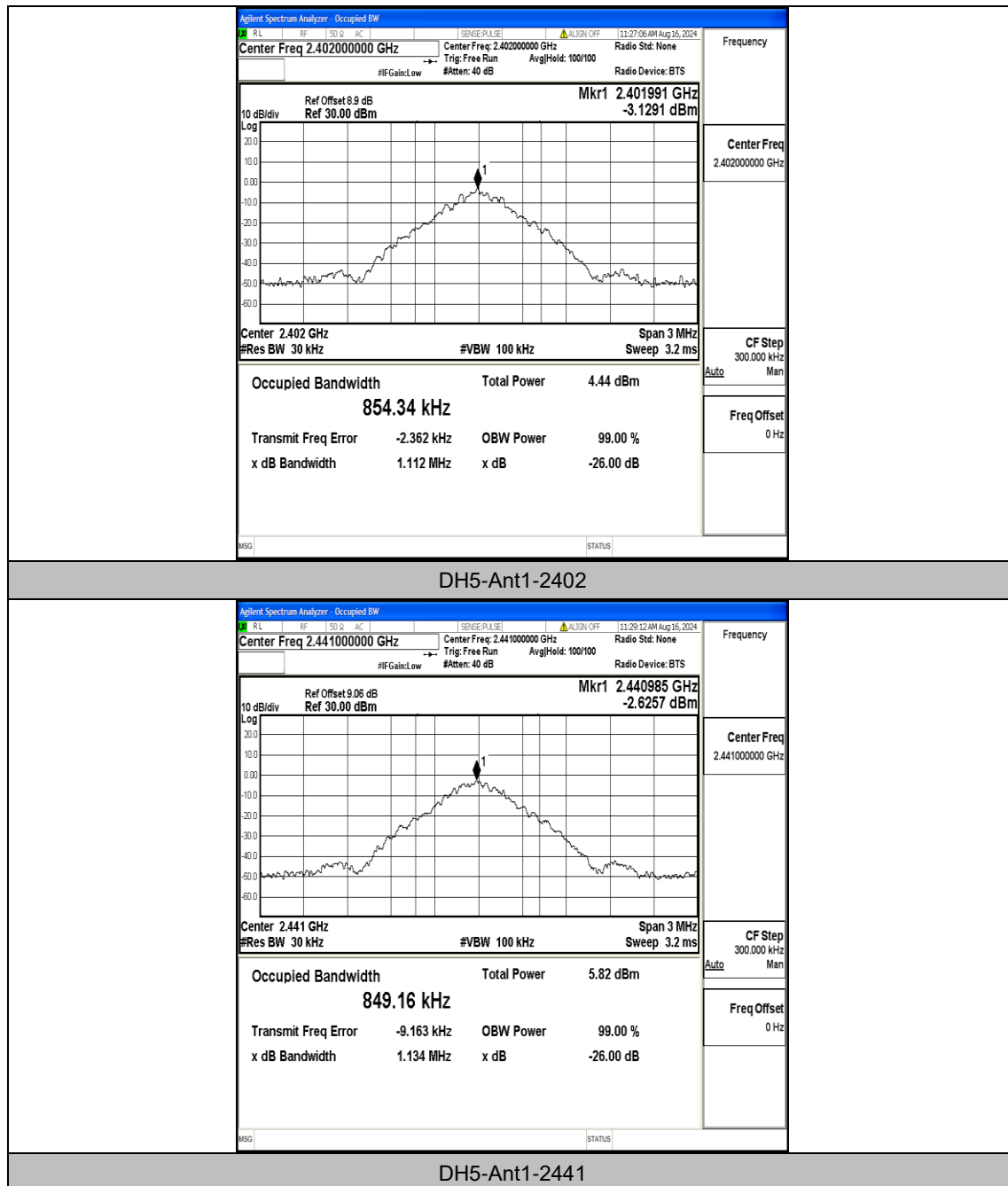


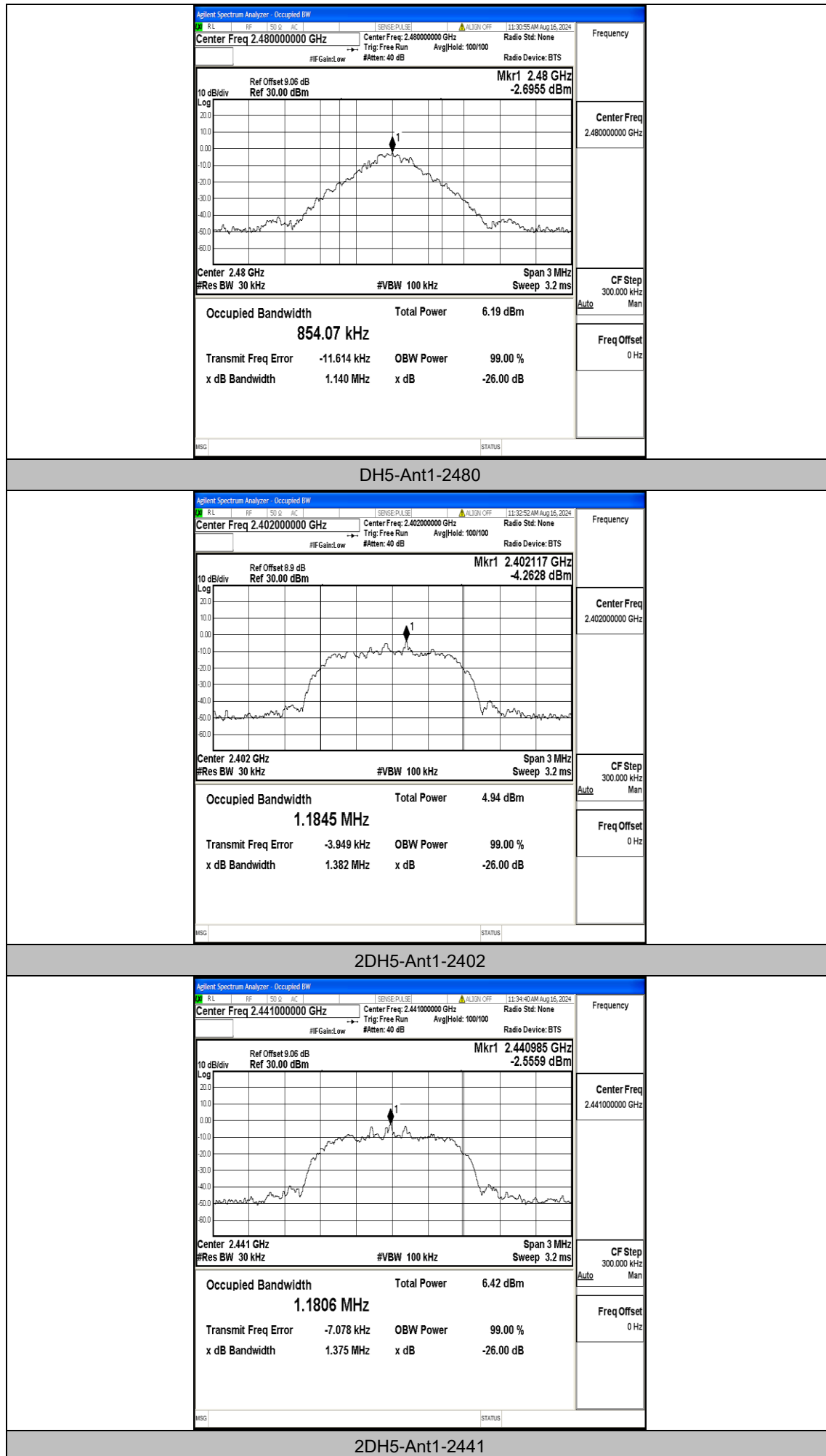
## Appendix B: Occupied Channel Bandwidth

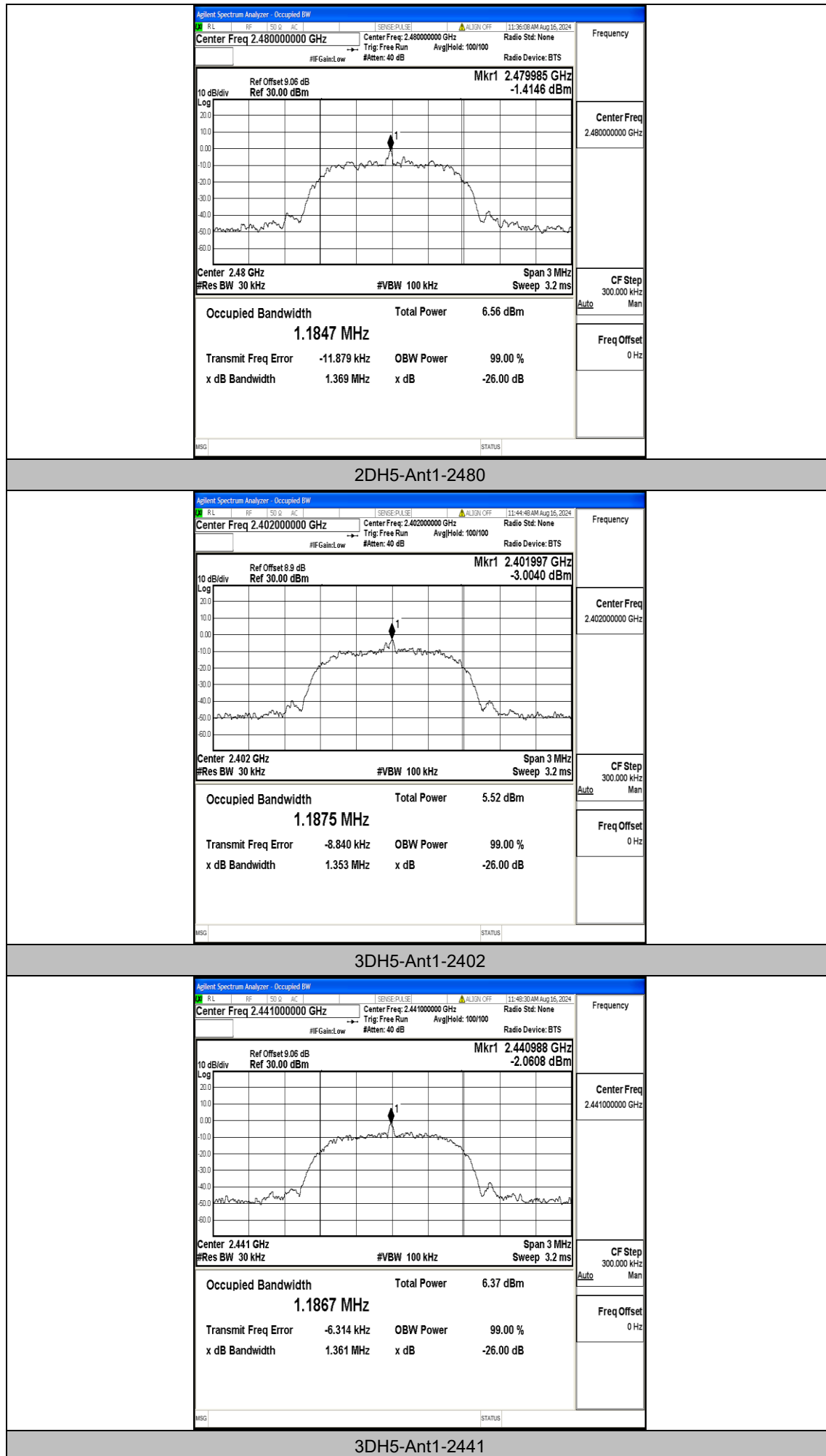
### Test Result

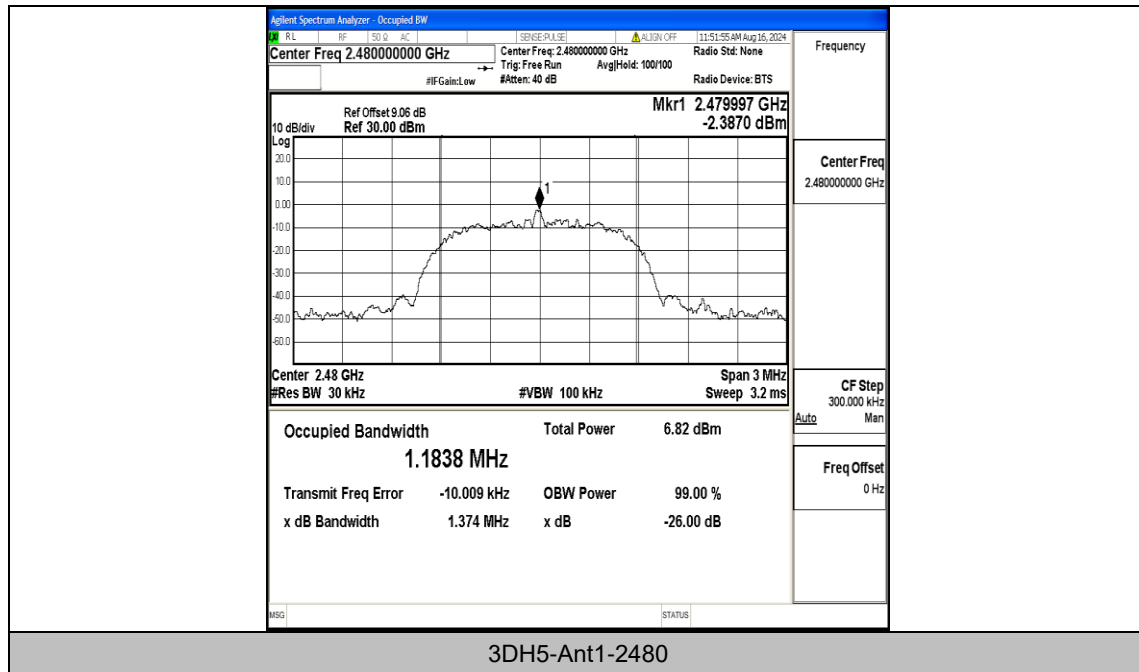
| TestMode | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|----------|---------|----------------|-----------|-----------|-----------|------------|---------|
| DH5      | Ant1    | 2402           | 0.85434   | 2401.5705 | 2402.4248 | ---        | ---     |
| DH5      | Ant1    | 2441           | 0.84916   | 2440.5663 | 2441.4154 | ---        | ---     |
| DH5      | Ant1    | 2480           | 0.85407   | 2479.5614 | 2480.4154 | ---        | ---     |
| 2DH5     | Ant1    | 2402           | 1.1845    | 2401.4038 | 2402.5883 | ---        | ---     |
| 2DH5     | Ant1    | 2441           | 1.1806    | 2440.4026 | 2441.5832 | ---        | ---     |
| 2DH5     | Ant1    | 2480           | 1.1847    | 2479.3958 | 2480.5805 | ---        | ---     |
| 3DH5     | Ant1    | 2402           | 1.1875    | 2401.3974 | 2402.5849 | ---        | ---     |
| 3DH5     | Ant1    | 2441           | 1.1867    | 2440.4003 | 2441.5870 | ---        | ---     |
| 3DH5     | Ant1    | 2480           | 1.1838    | 2479.3981 | 2480.5819 | ---        | ---     |

## Test Graphs







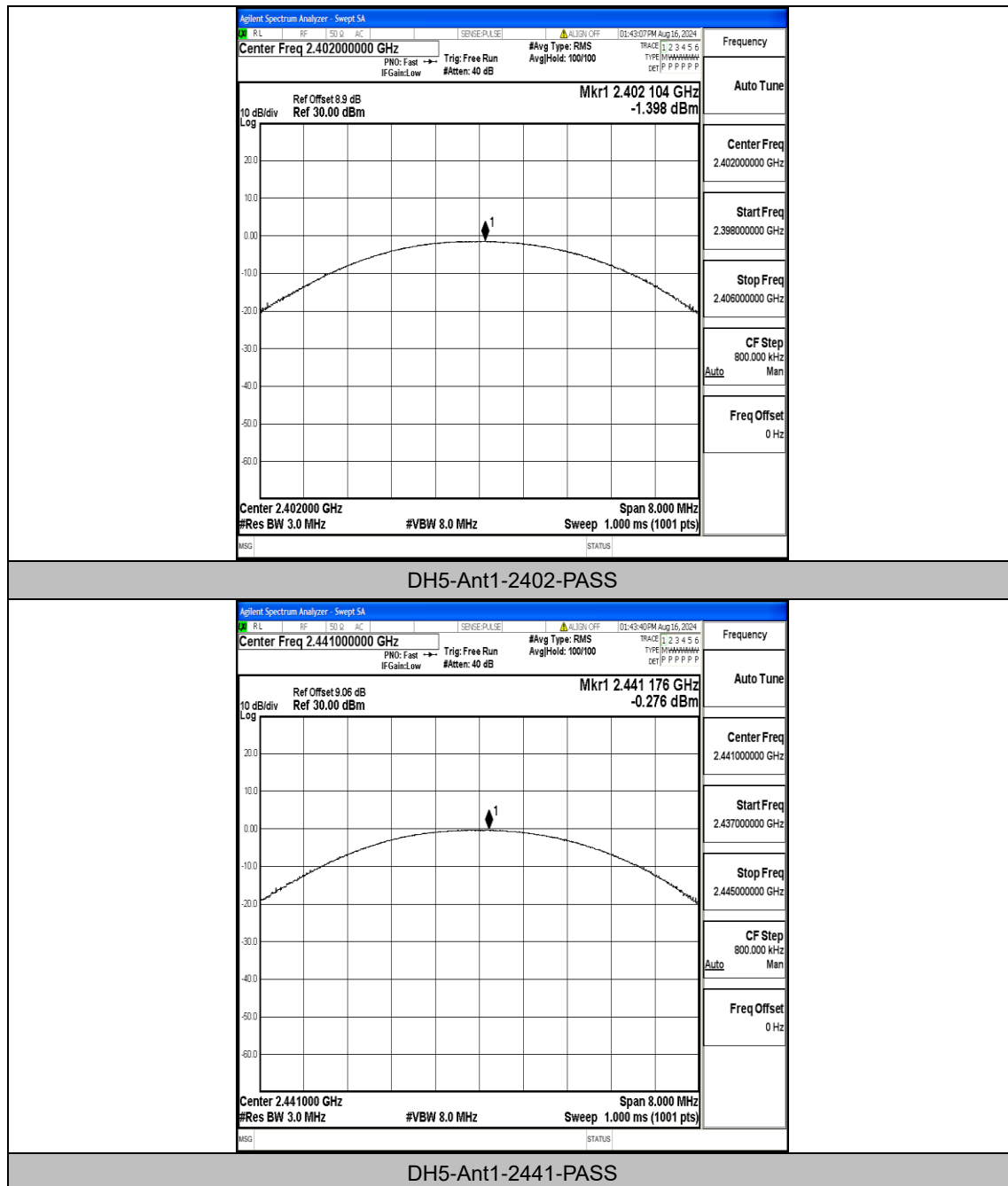


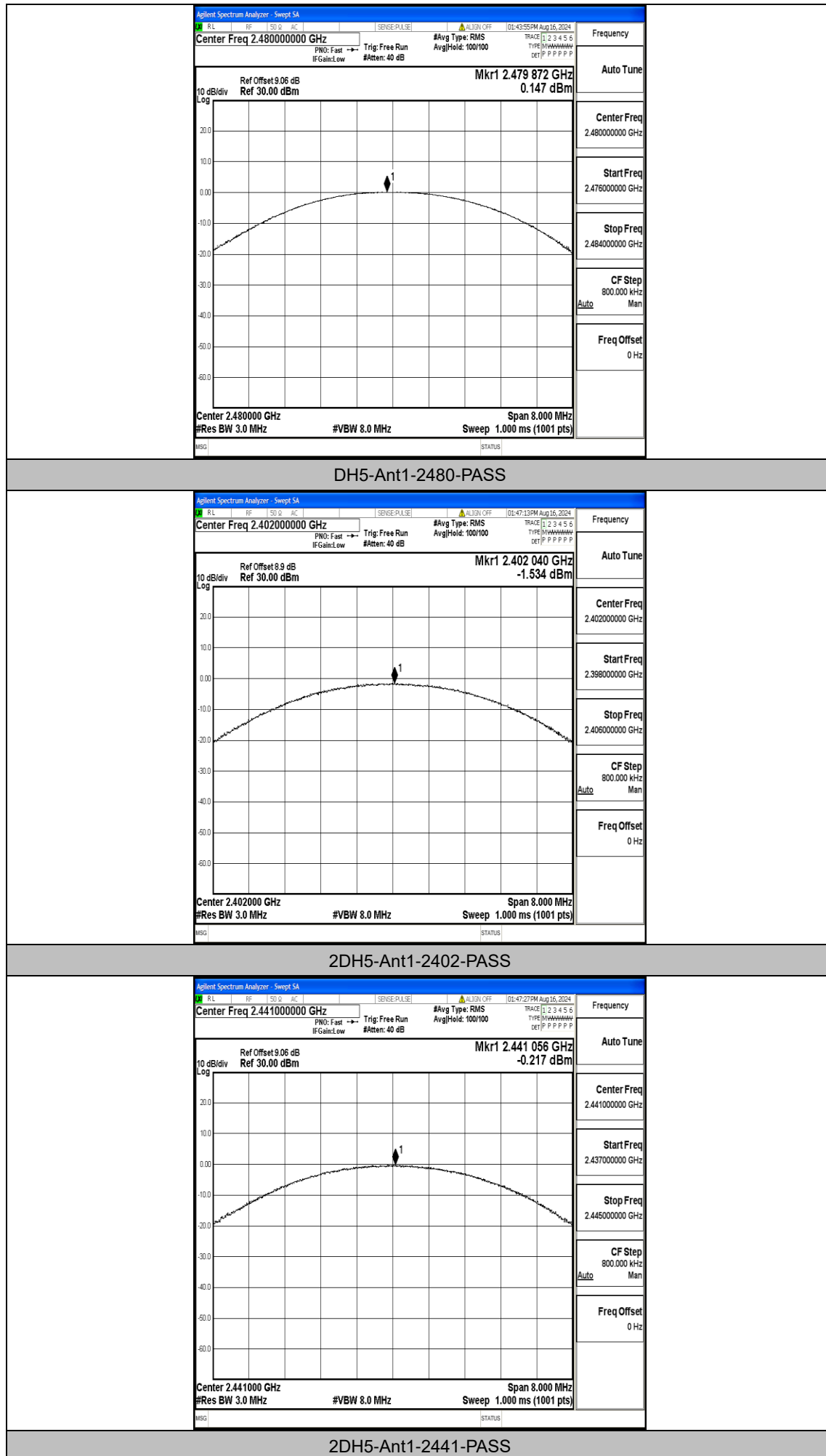
## Appendix C: Maximum peak conducted output power

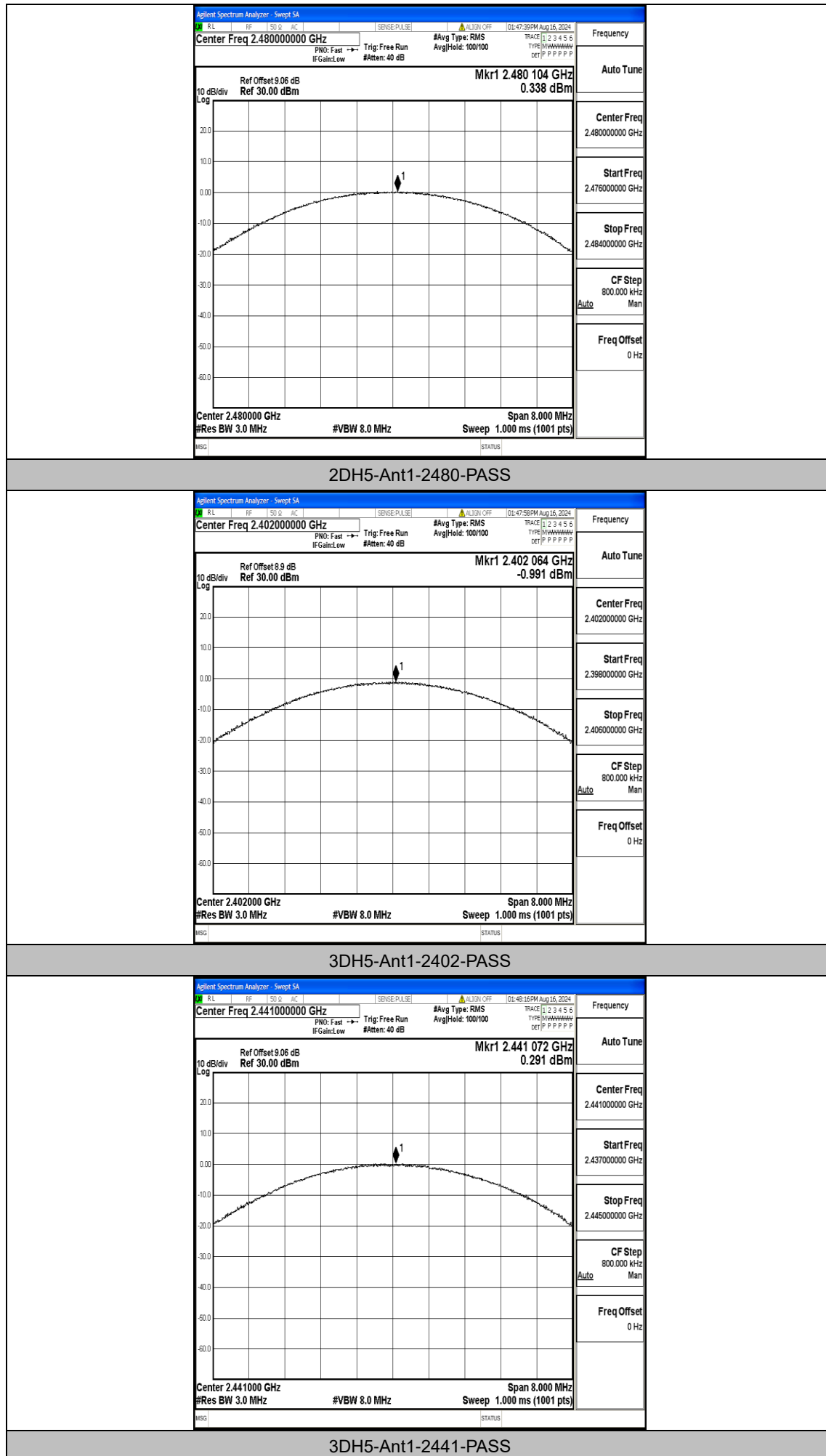
### Test Result

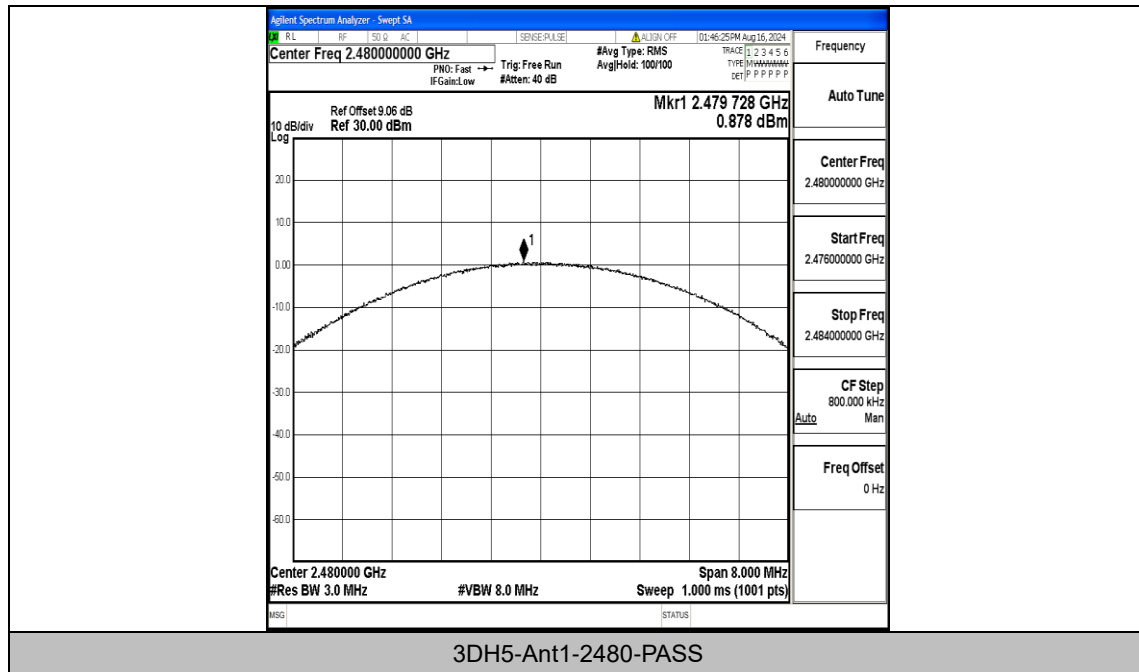
| Test Mode | Antenna | Frequency[MHz] | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|-----------|---------|----------------|---------------------------|----------------------|---------|
| DH5       | Ant1    | 2402           | -1.40                     | ≤30                  | PASS    |
| DH5       | Ant1    | 2441           | -0.28                     | ≤30                  | PASS    |
| DH5       | Ant1    | 2480           | 0.15                      | ≤30                  | PASS    |
| 2DH5      | Ant1    | 2402           | -1.53                     | ≤20.97               | PASS    |
| 2DH5      | Ant1    | 2441           | -0.22                     | ≤20.97               | PASS    |
| 2DH5      | Ant1    | 2480           | 0.34                      | ≤20.97               | PASS    |
| 3DH5      | Ant1    | 2402           | -0.99                     | ≤20.97               | PASS    |
| 3DH5      | Ant1    | 2441           | 0.29                      | ≤20.97               | PASS    |
| 3DH5      | Ant1    | 2480           | 0.88                      | ≤20.97               | PASS    |

## Test Graphs







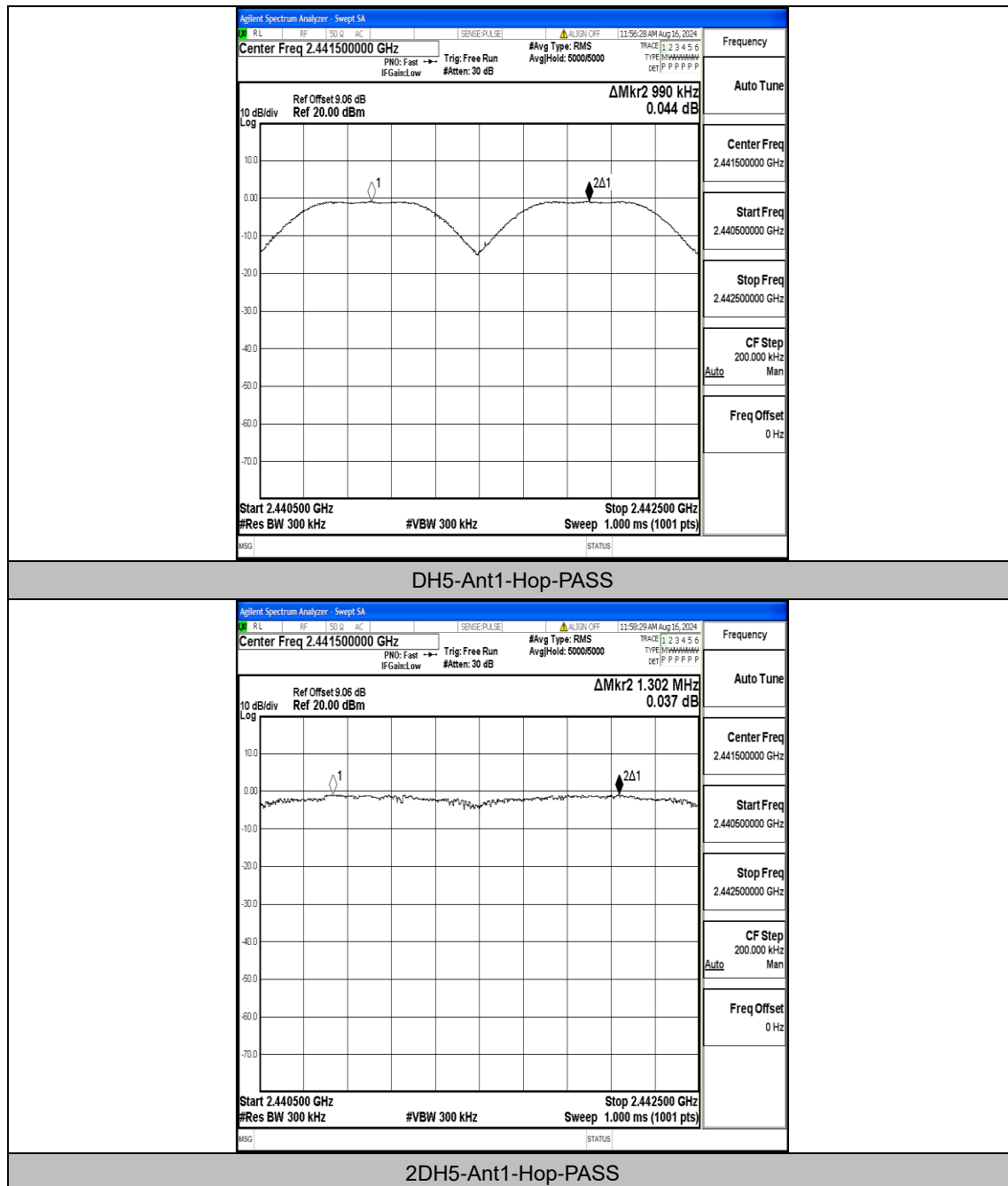


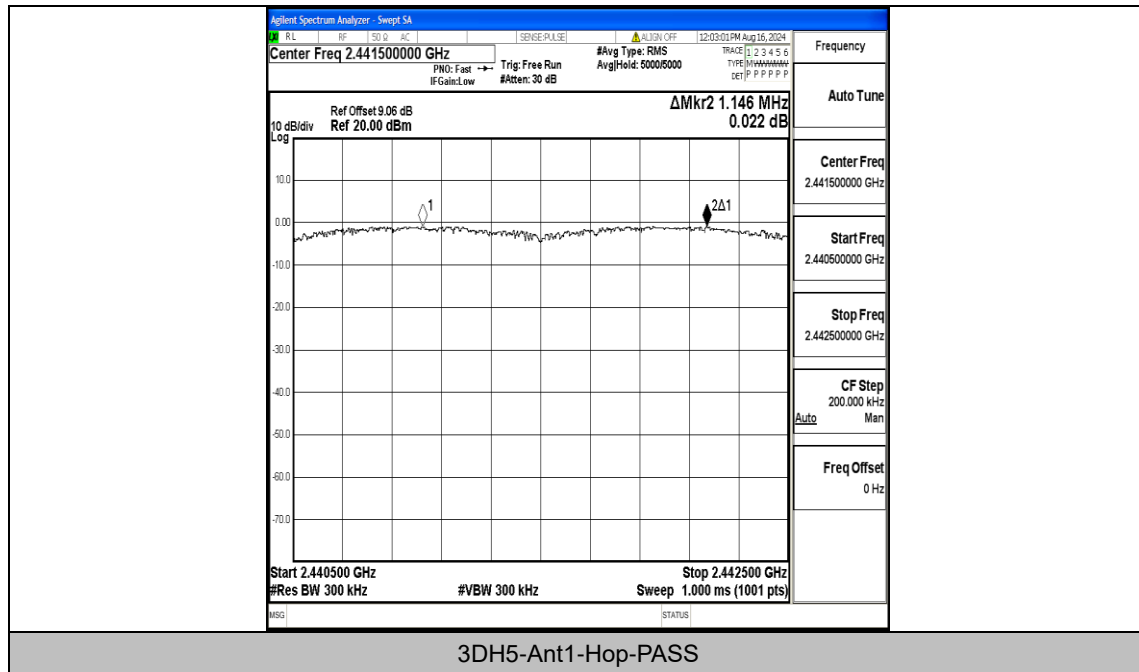
## Appendix D: Carrier frequency separation

### Test Result

| TestMode | Antenna | Frequency[MHz] | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|----------------|-------------|--------------|---------|
| DH5      | Ant1    | Hop            | 0.99        | $\geq 0.957$ | PASS    |
| 2DH5     | Ant1    | Hop            | 1.302       | $\geq 0.880$ | PASS    |
| 3DH5     | Ant1    | Hop            | 1.146       | $\geq 0.898$ | PASS    |

## Test Graphs



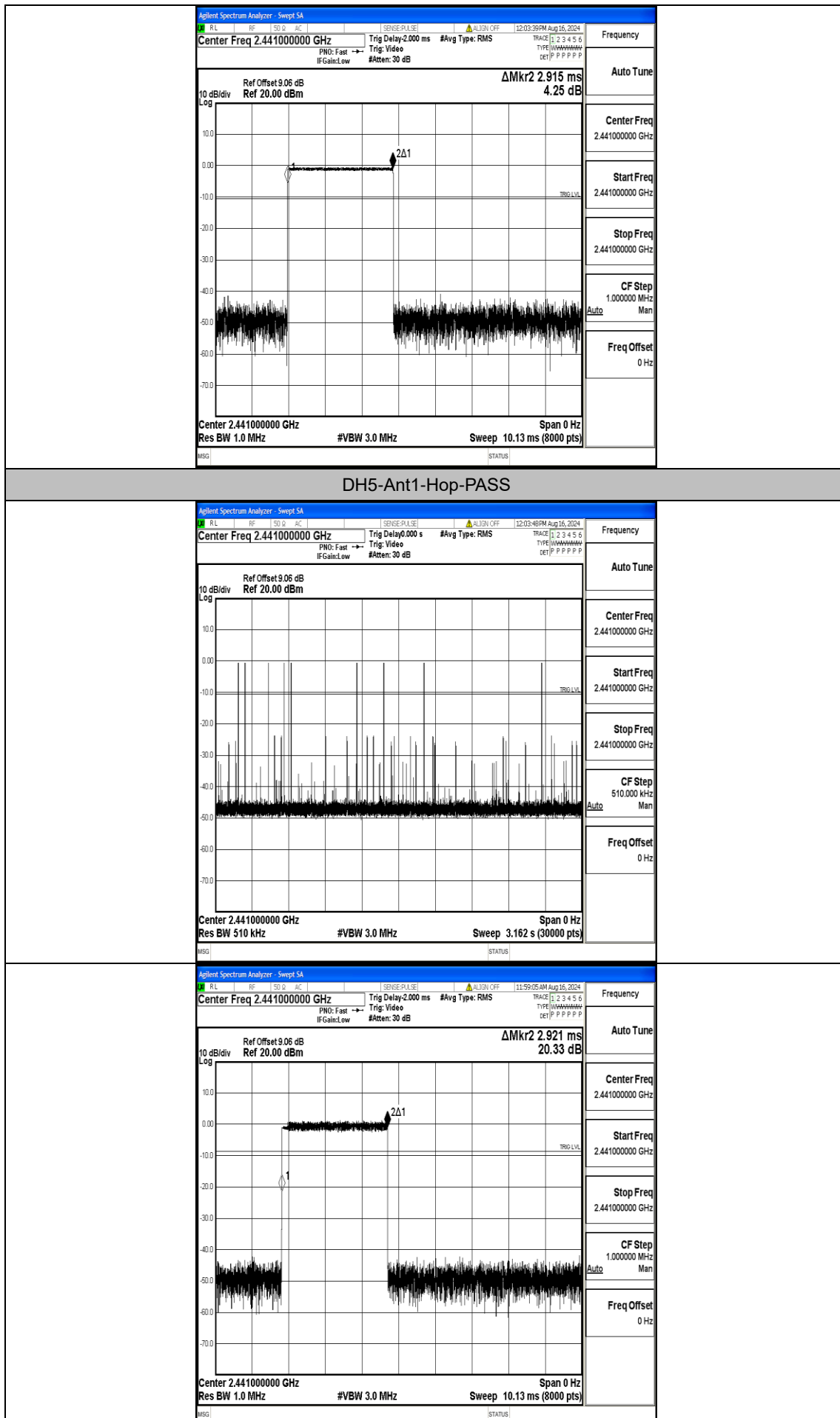


## Appendix E: Time of occupancy

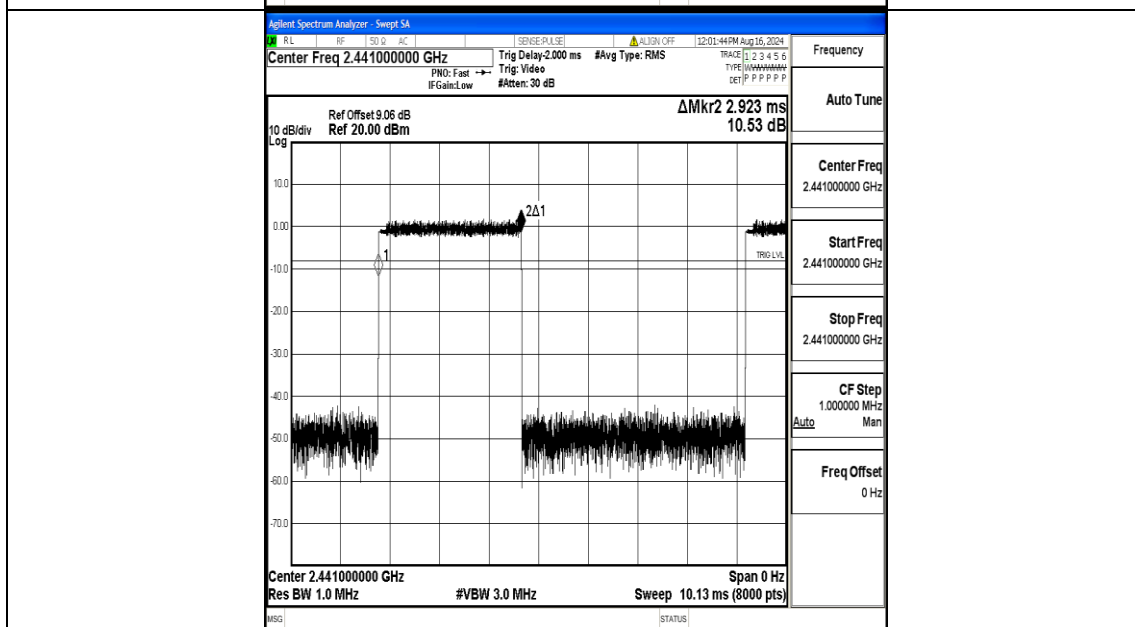
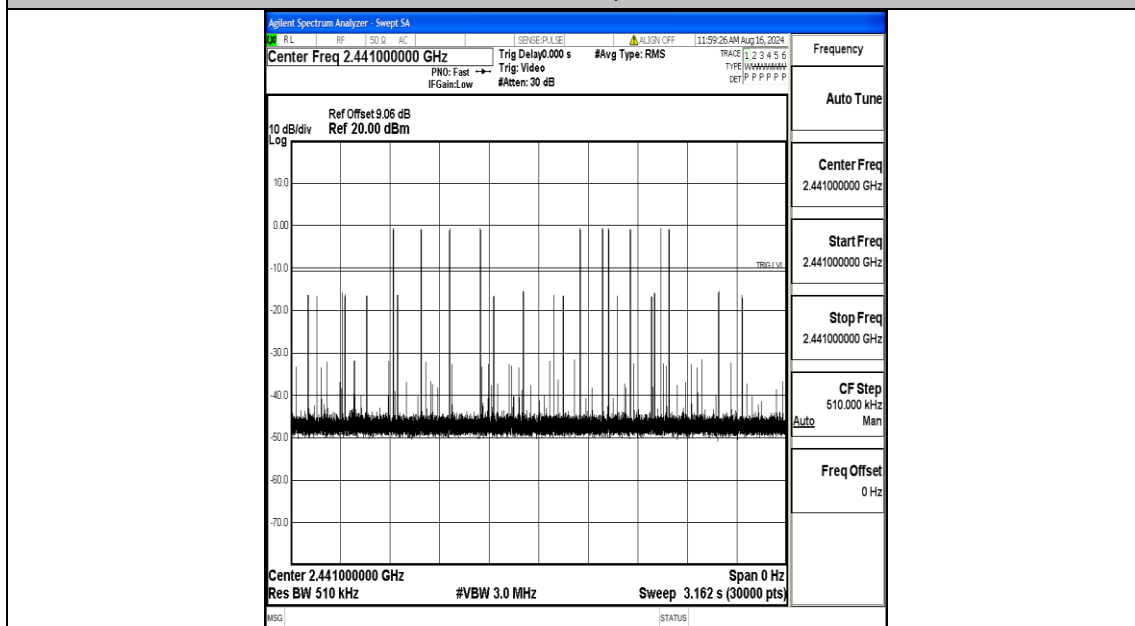
### Test Result

| TestMode | Antenna | Frequency[MHz] | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|----------------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop            | 2.915              | 100                | 0.292     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop            | 2.921              | 110                | 0.321     | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop            | 2.923              | 90                 | 0.263     | ≤0.4     | PASS    |

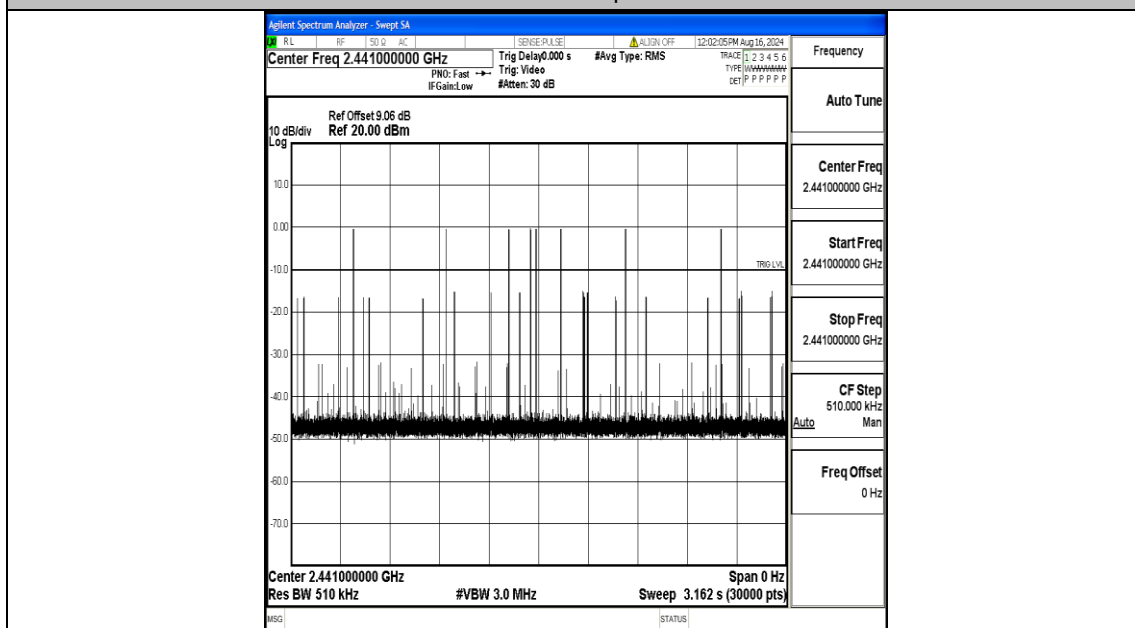
## Test Graphs



## 2DH5-Ant1-Hop-PASS



## 3DH5-Ant1-Hop-PASS

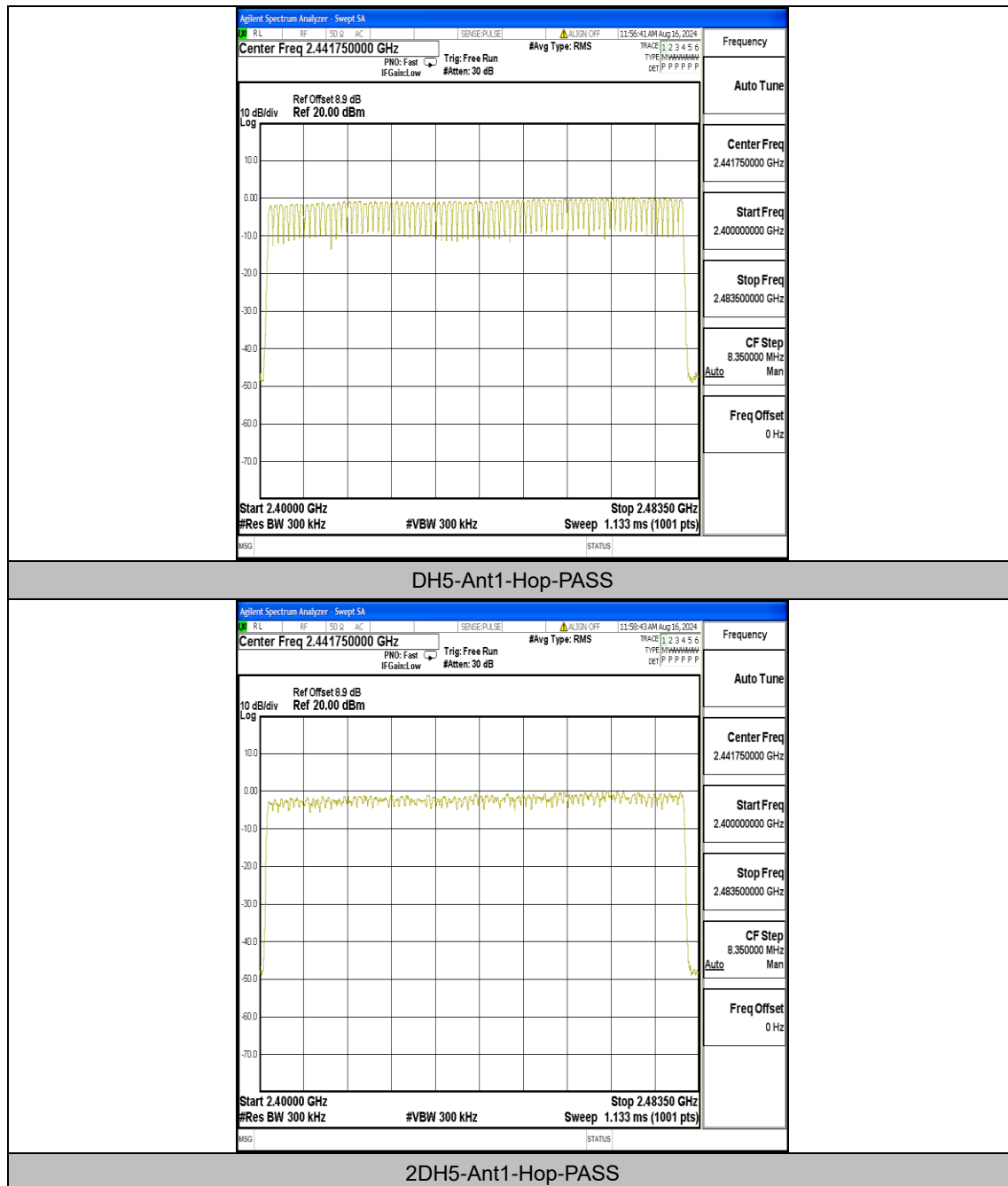


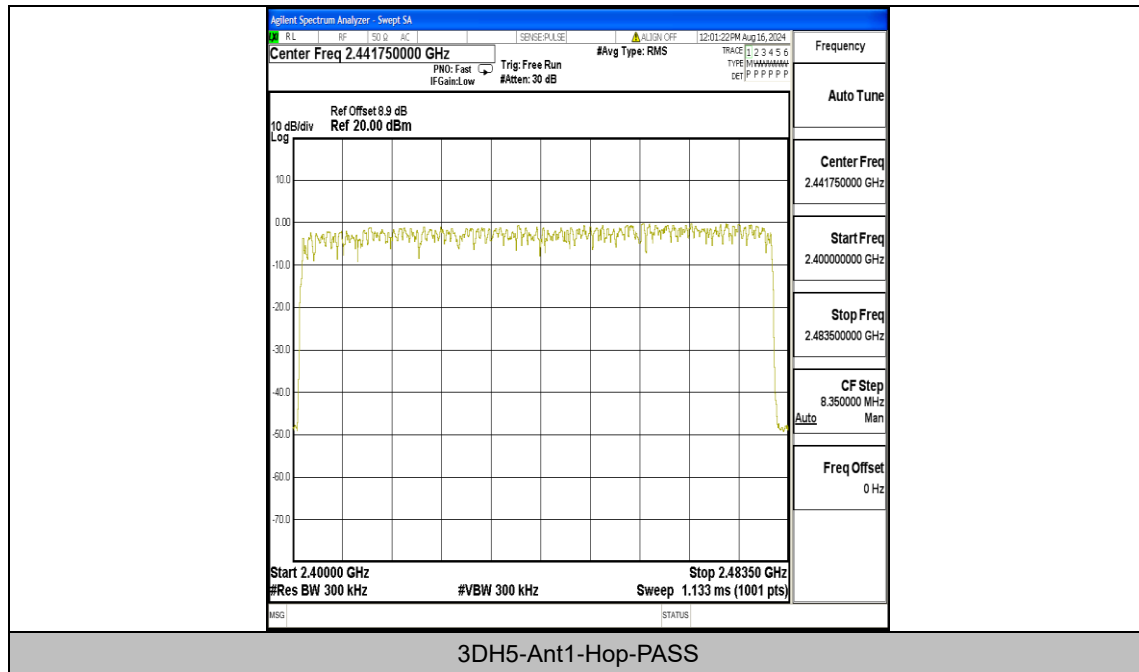
## Appendix F: Number of hopping channels

### Test Result

| TestMode | 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    |

## Test Graphs



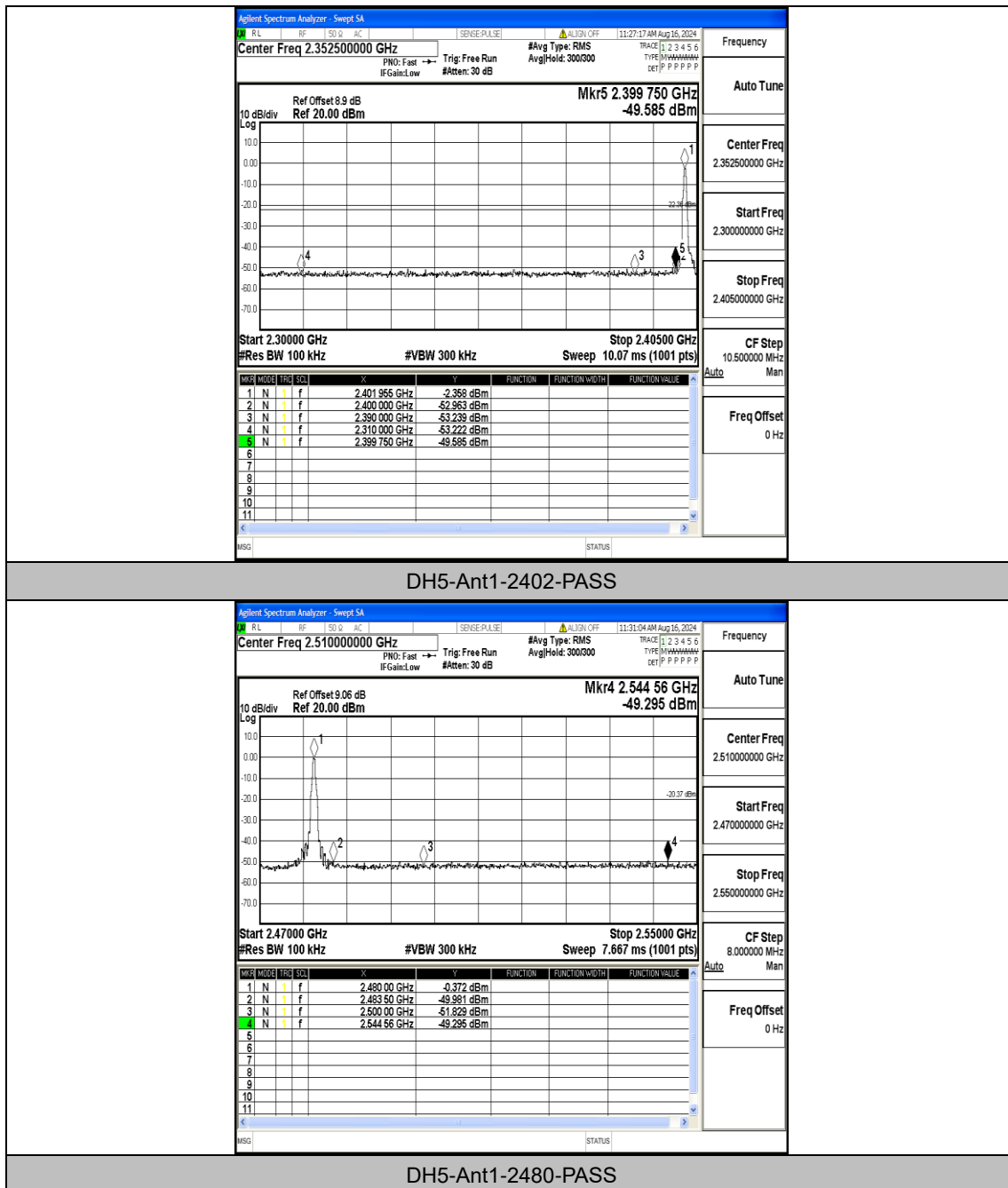


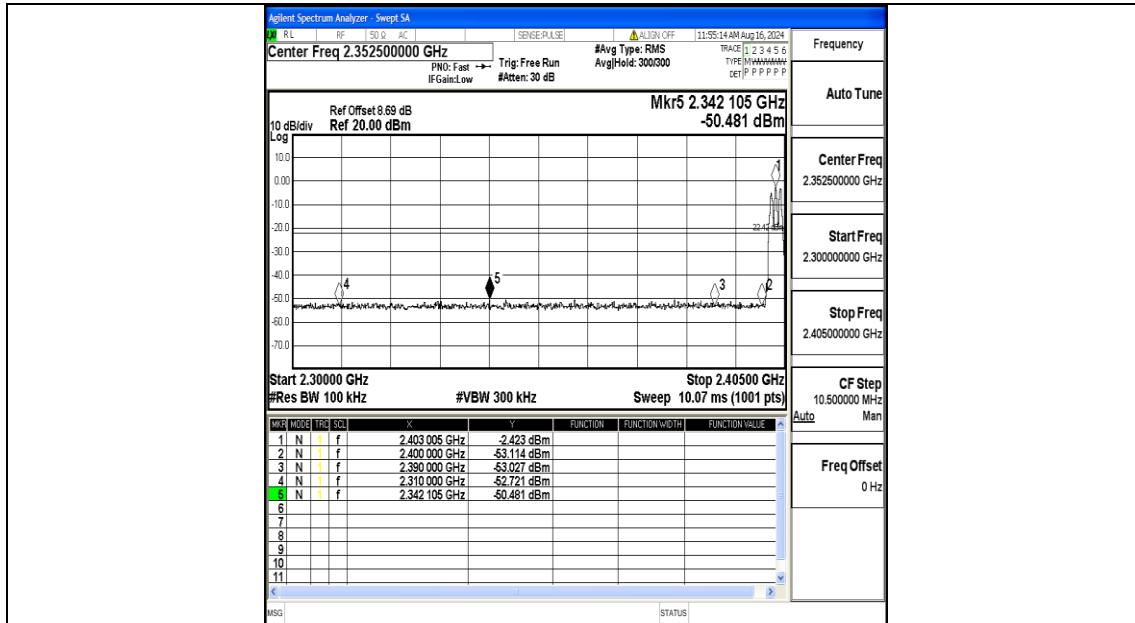
## Appendix G: Band edge measurements

### Test Result

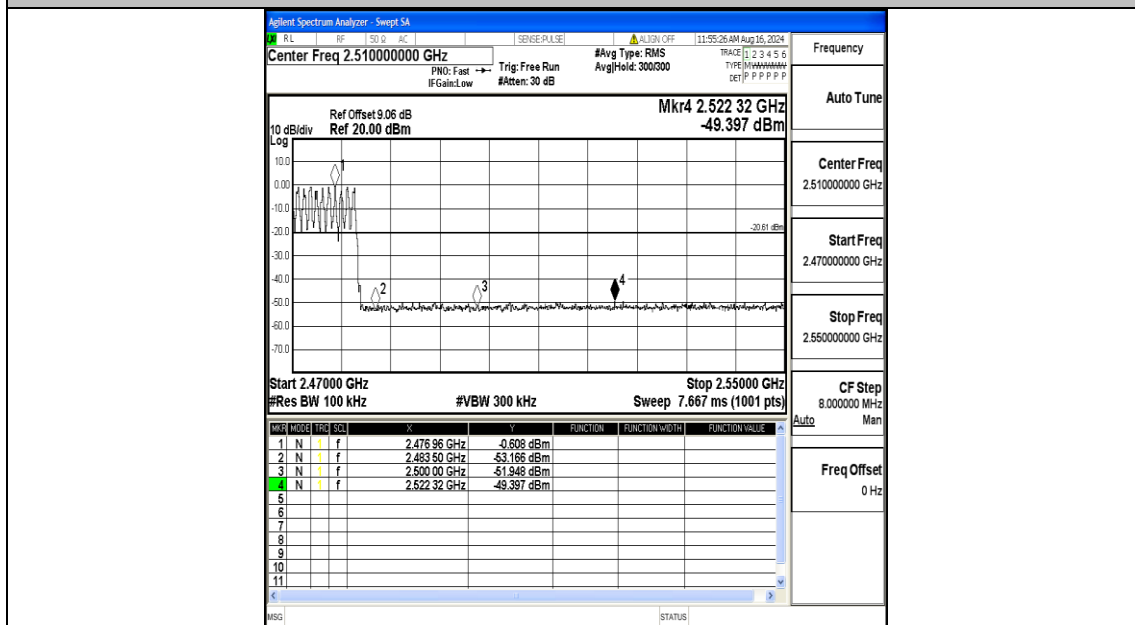
| TestMode | Antenna | ChName | Frequency[MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|--------|----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | Low    | 2402           | -2.36          | -49.59       | ≤-22.36     | PASS    |
| DH5      | Ant1    | High   | 2480           | -0.37          | -49.3        | ≤-20.37     | PASS    |
| DH5      | Ant1    | Low    | Hop_2402       | -2.42          | -50.48       | ≤-22.42     | PASS    |
| DH5      | Ant1    | High   | Hop_2480       | -0.61          | -49.4        | ≤-20.61     | PASS    |
| 2DH5     | Ant1    | Low    | 2402           | -2.37          | -45.03       | ≤-22.37     | PASS    |
| 2DH5     | Ant1    | High   | 2480           | -0.60          | -49.34       | ≤-20.6      | PASS    |
| 2DH5     | Ant1    | Low    | Hop_2402       | -6.04          | -50.76       | ≤-26.04     | PASS    |
| 2DH5     | Ant1    | High   | Hop_2480       | -0.53          | -48.52       | ≤-20.53     | PASS    |
| 3DH5     | Ant1    | Low    | 2402           | -2.45          | -47.4        | ≤-22.45     | PASS    |
| 3DH5     | Ant1    | High   | 2480           | -0.58          | -49.53       | ≤-20.58     | PASS    |
| 3DH5     | Ant1    | Low    | Hop_2402       | -4.66          | -50.13       | ≤-24.66     | PASS    |
| 3DH5     | Ant1    | High   | Hop_2480       | -0.70          | -48.98       | ≤-20.7      | PASS    |

## Test Graphs

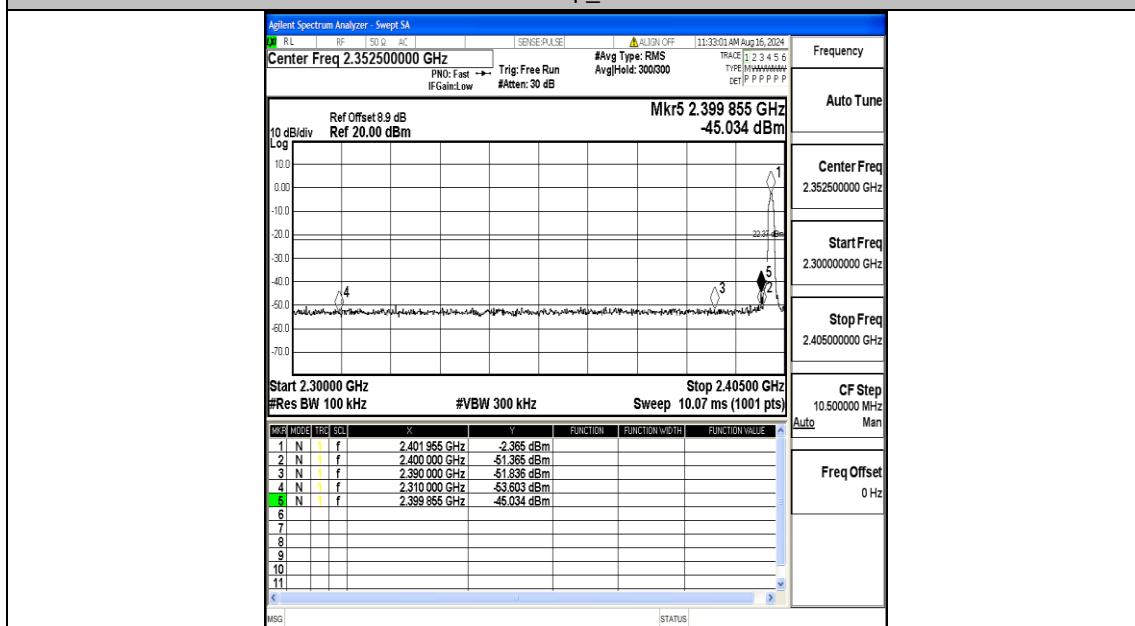




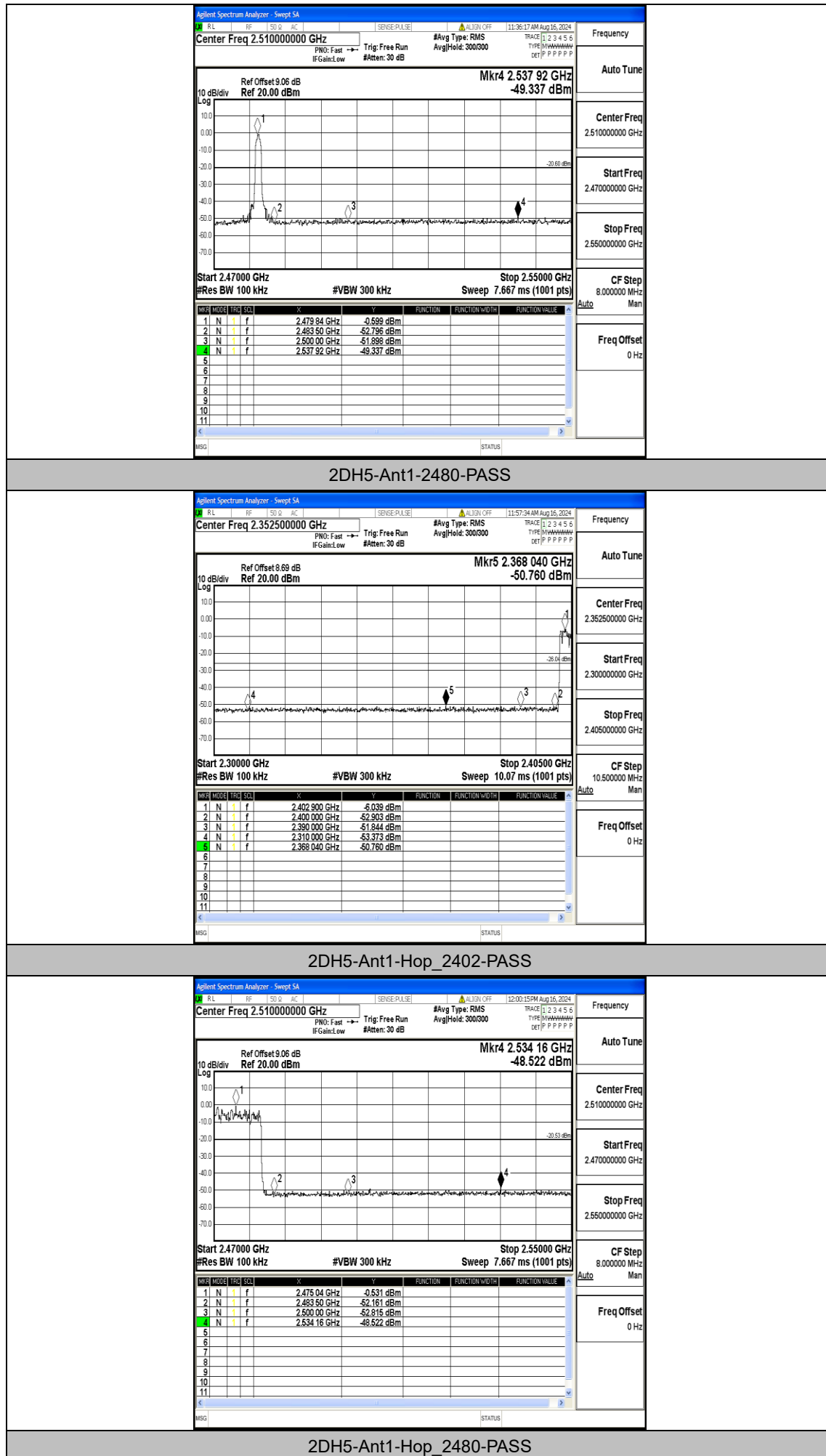
## DH5-Ant1-Hop\_2402-PASS



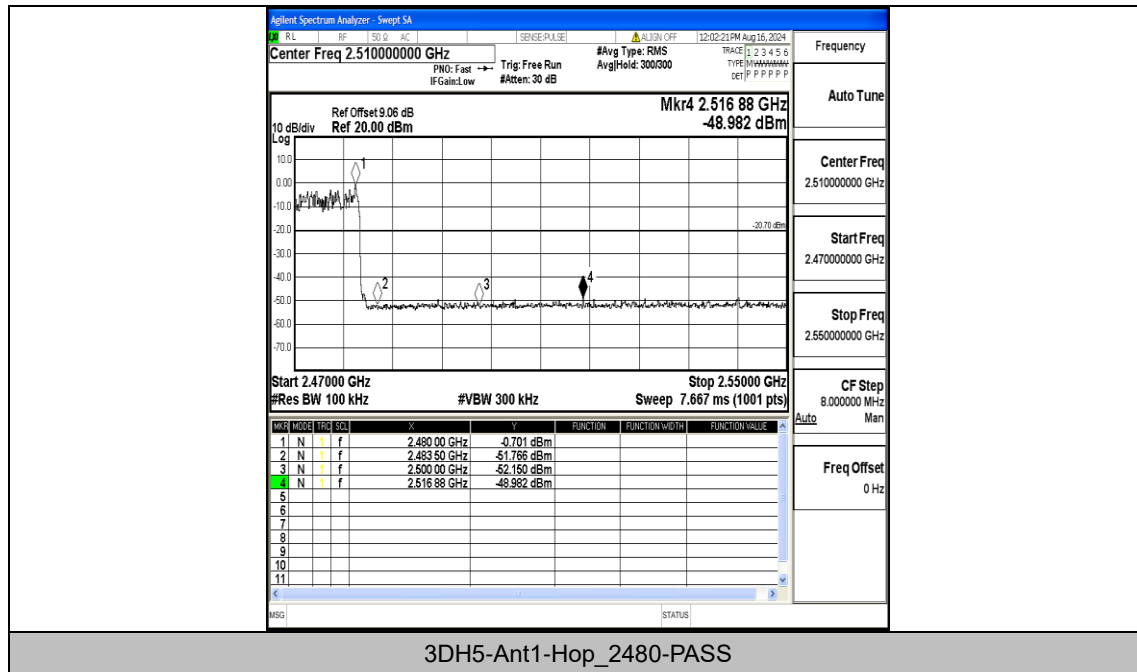
## DH5-Ant1-Hop\_2480-PASS



## 2DH5-Ant1-2402-PASS





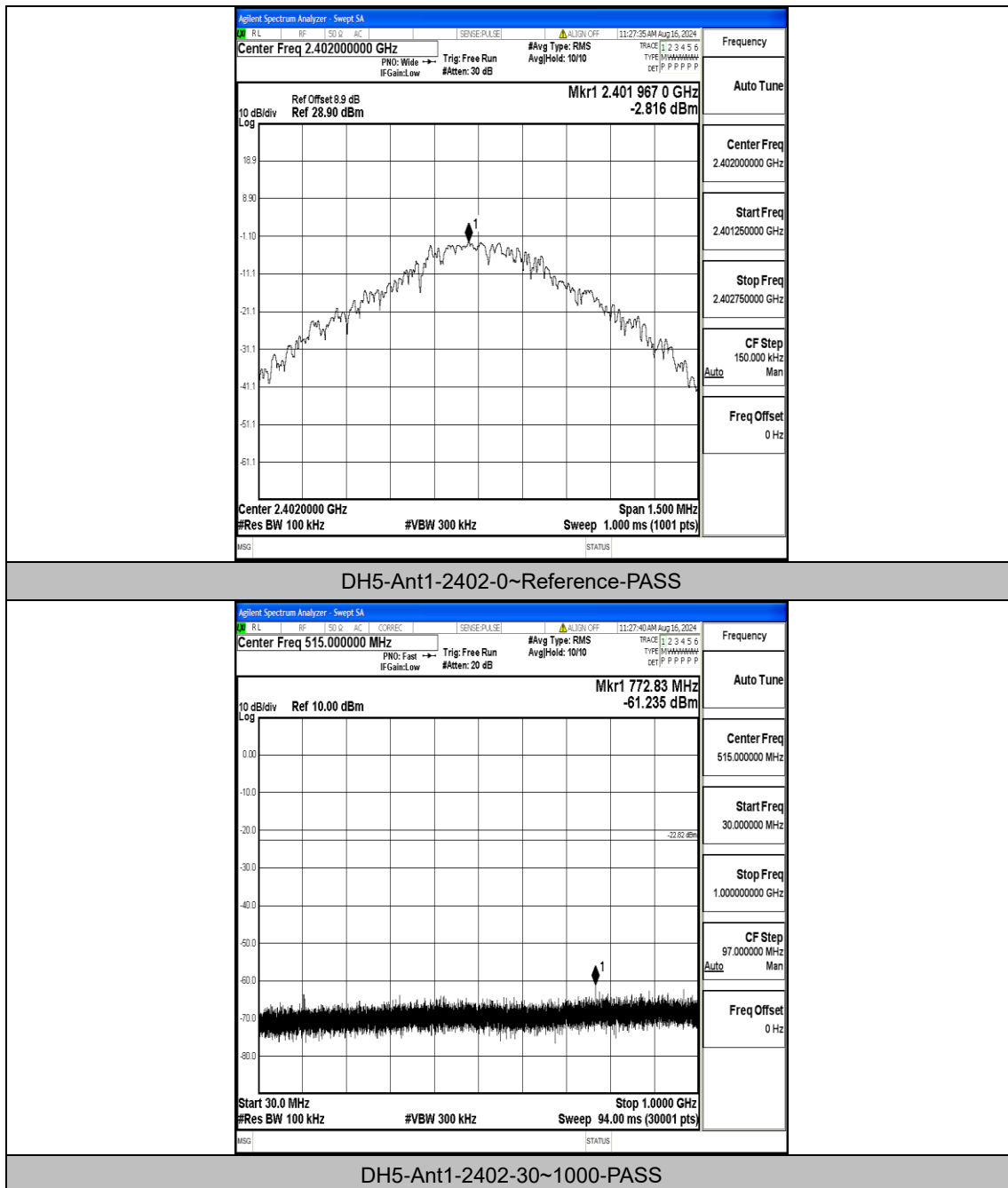


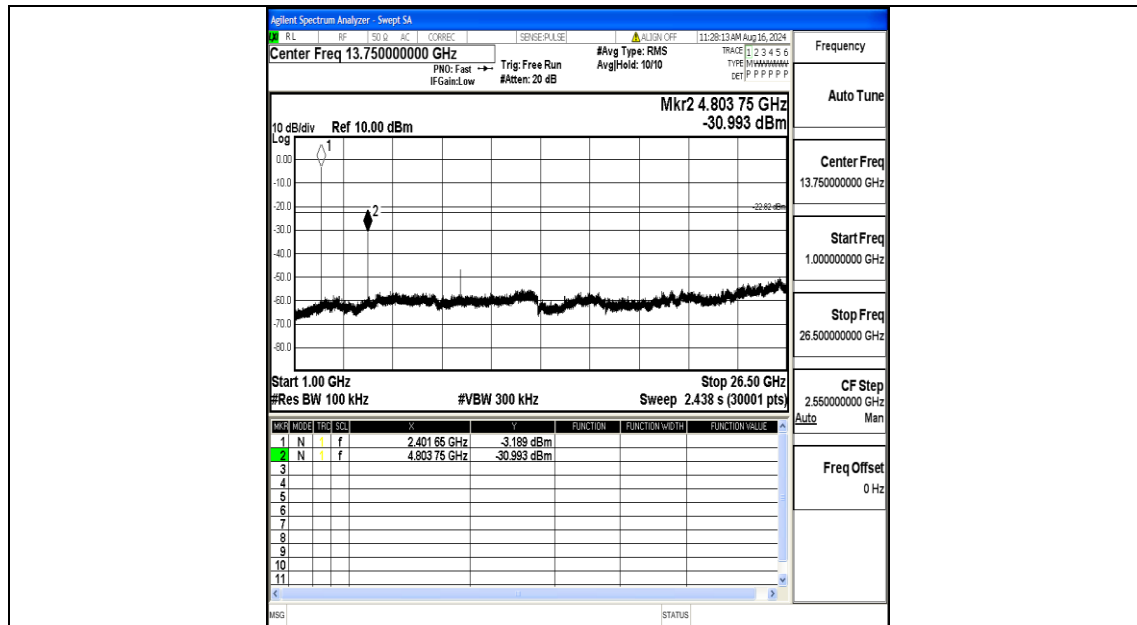
## Appendix H: Conducted Spurious Emission

### Test Result

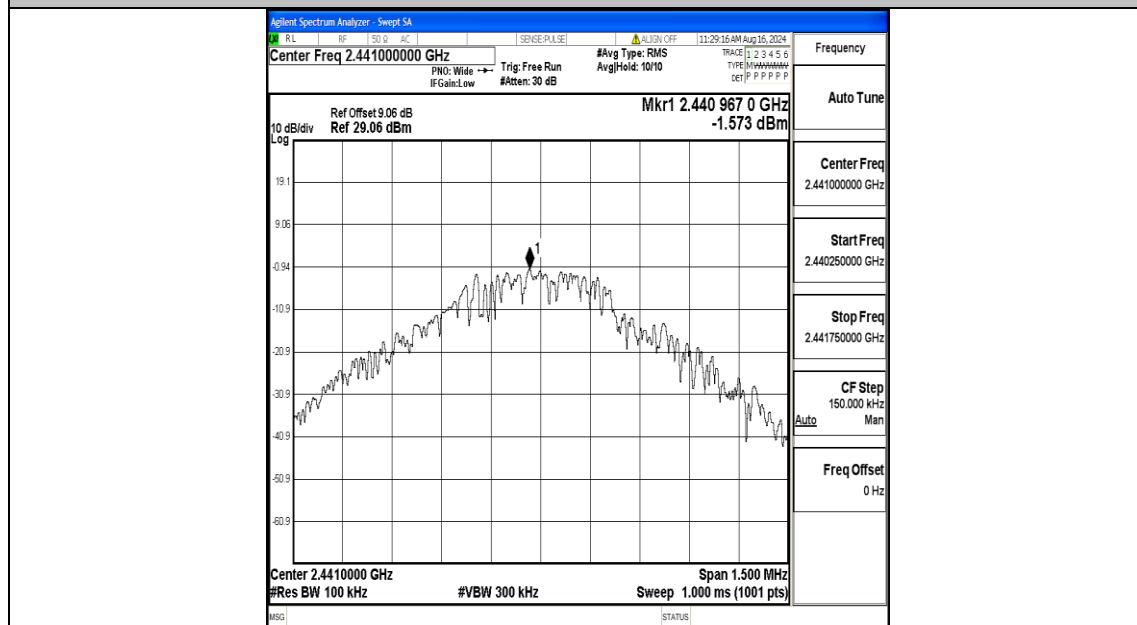
| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|----------------|-----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | 2402           | 0~Reference     | -2.82          | -2.82        | ---         | PASS    |
| DH5      | Ant1    | 2402           | 30~1000         | -2.82          | -61.24       | ≤-22.82     | PASS    |
| DH5      | Ant1    | 2402           | 1000~26500      | -2.82          | -30.99       | ≤-22.82     | PASS    |
| DH5      | Ant1    | 2441           | 0~Reference     | -1.57          | -1.57        | ---         | PASS    |
| DH5      | Ant1    | 2441           | 30~1000         | -1.57          | -62.2        | ≤-21.57     | PASS    |
| DH5      | Ant1    | 2441           | 1000~26500      | -1.57          | -27.64       | ≤-21.57     | PASS    |
| DH5      | Ant1    | 2480           | 0~Reference     | -1.17          | -1.17        | ---         | PASS    |
| DH5      | Ant1    | 2480           | 30~1000         | -1.17          | -62.56       | ≤-21.17     | PASS    |
| DH5      | Ant1    | 2480           | 1000~26500      | -1.17          | -28.9        | ≤-21.17     | PASS    |
| 2DH5     | Ant1    | 2402           | 0~Reference     | -2.50          | -2.50        | ---         | PASS    |
| 2DH5     | Ant1    | 2402           | 30~1000         | -2.50          | -61.99       | ≤-22.5      | PASS    |
| 2DH5     | Ant1    | 2402           | 1000~26500      | -2.50          | -30.46       | ≤-22.5      | PASS    |
| 2DH5     | Ant1    | 2441           | 0~Reference     | -2.69          | -2.69        | ---         | PASS    |
| 2DH5     | Ant1    | 2441           | 30~1000         | -2.69          | -62.63       | ≤-22.69     | PASS    |
| 2DH5     | Ant1    | 2441           | 1000~26500      | -2.69          | -31.31       | ≤-22.69     | PASS    |
| 2DH5     | Ant1    | 2480           | 0~Reference     | -2.55          | -2.55        | ---         | PASS    |
| 2DH5     | Ant1    | 2480           | 30~1000         | -2.55          | -62.49       | ≤-22.55     | PASS    |
| 2DH5     | Ant1    | 2480           | 1000~26500      | -2.55          | -31.54       | ≤-22.55     | PASS    |
| 3DH5     | Ant1    | 2402           | 0~Reference     | -4.50          | -4.50        | ---         | PASS    |
| 3DH5     | Ant1    | 2402           | 30~1000         | -4.50          | -62.08       | ≤-24.5      | PASS    |
| 3DH5     | Ant1    | 2402           | 1000~26500      | -4.50          | -29.67       | ≤-24.5      | PASS    |
| 3DH5     | Ant1    | 2441           | 0~Reference     | -1.42          | -1.42        | ---         | PASS    |
| 3DH5     | Ant1    | 2441           | 30~1000         | -1.42          | -61.96       | ≤-21.42     | PASS    |
| 3DH5     | Ant1    | 2441           | 1000~26500      | -1.42          | -31.99       | ≤-21.42     | PASS    |
| 3DH5     | Ant1    | 2480           | 0~Reference     | -2.50          | -2.50        | ---         | PASS    |
| 3DH5     | Ant1    | 2480           | 30~1000         | -2.50          | -62.23       | ≤-22.5      | PASS    |
| 3DH5     | Ant1    | 2480           | 1000~26500      | -2.50          | -30.95       | ≤-22.5      | PASS    |

## Test Graphs

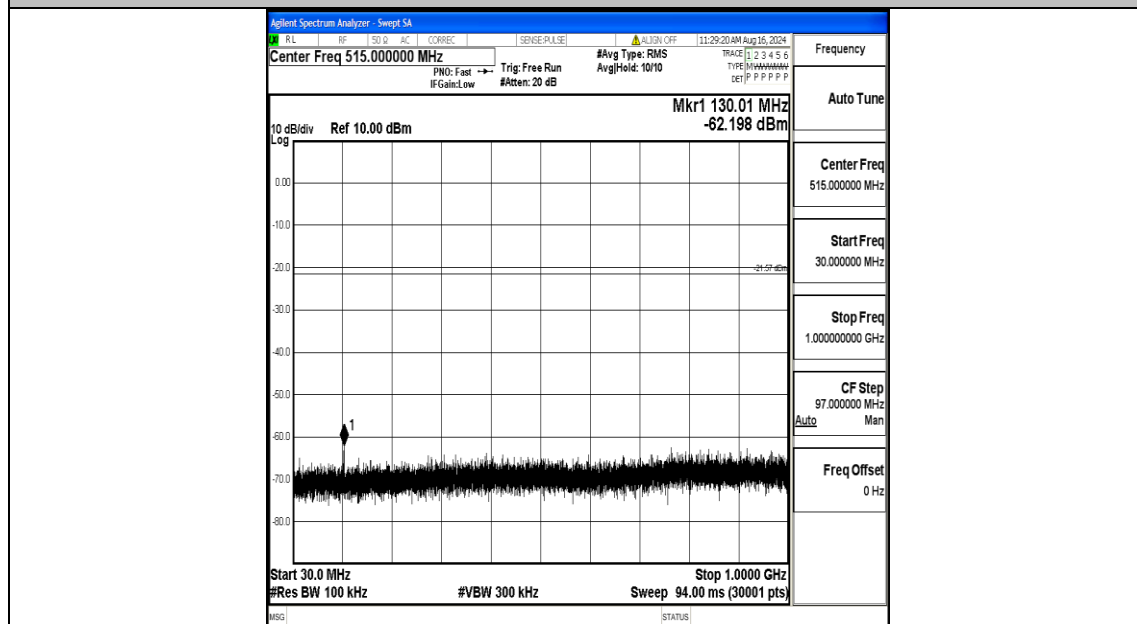




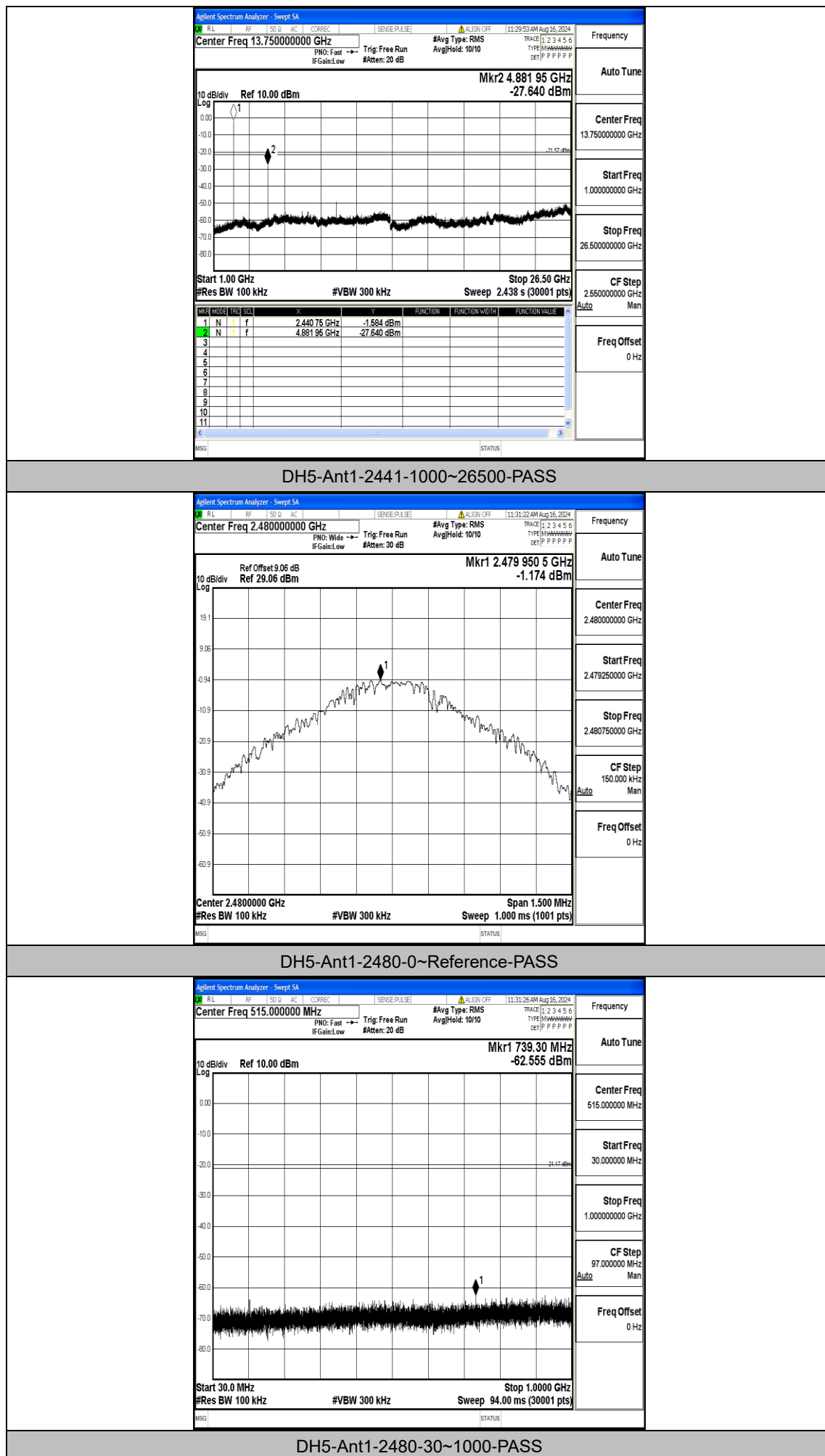
DH5-Ant1-2402-1000~26500-PASS

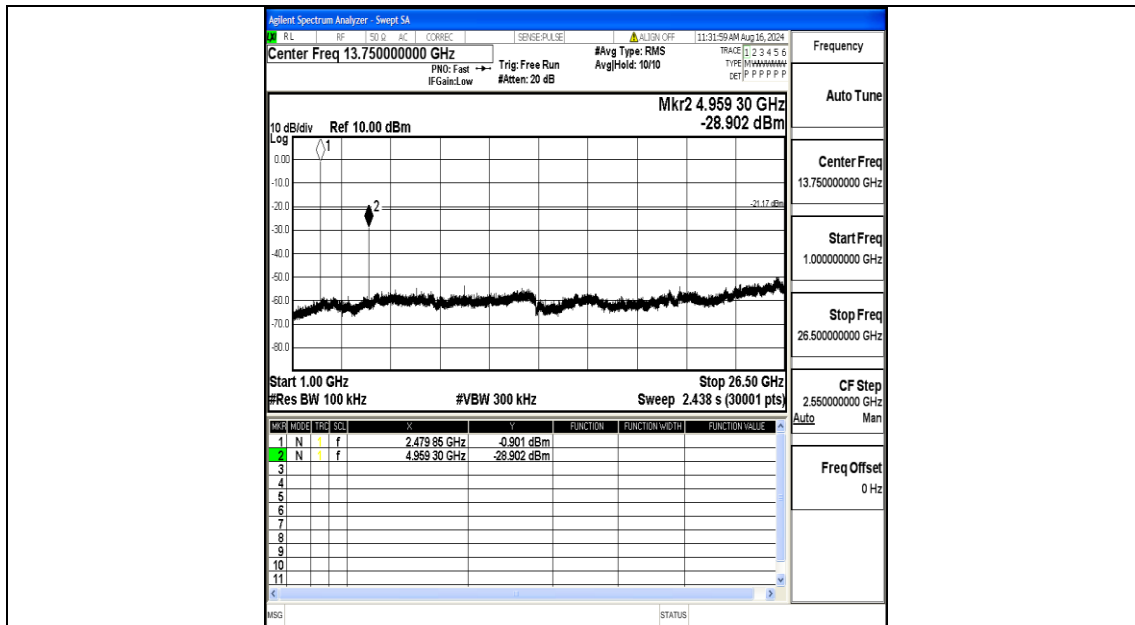


DH5-Ant1-2441-0~Reference-PASS

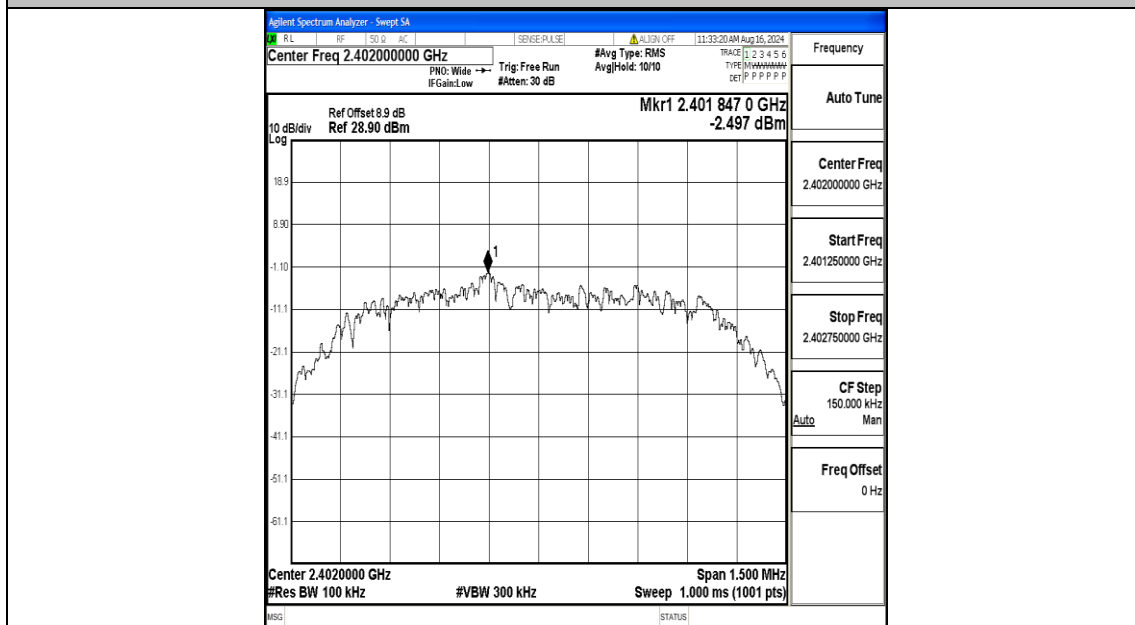


DH5-Ant1-2441-30~1000-PASS

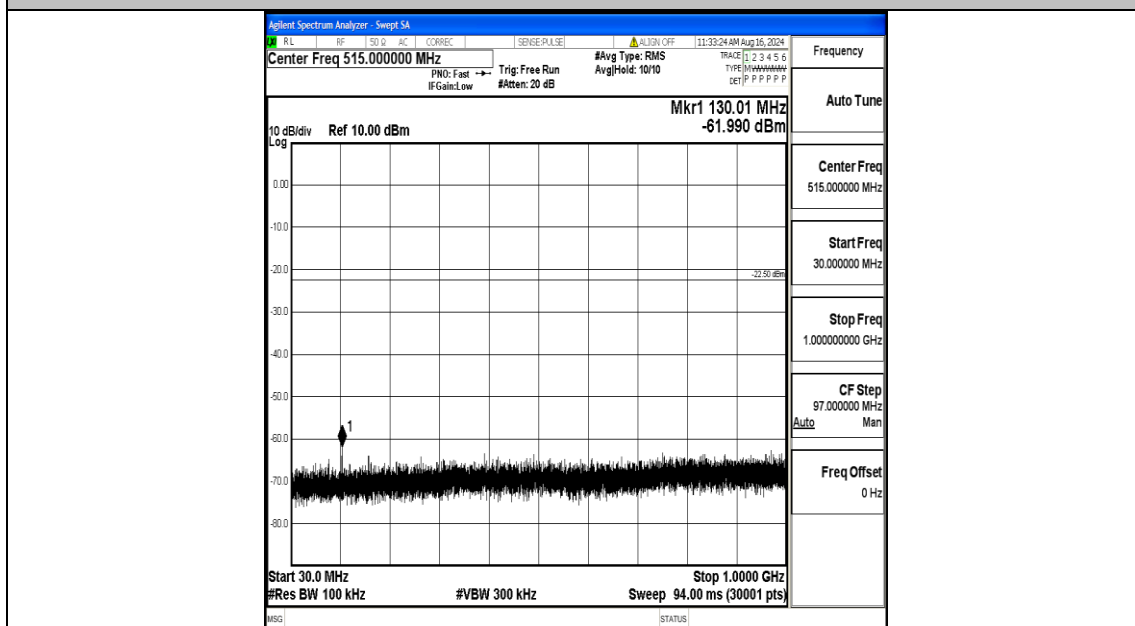




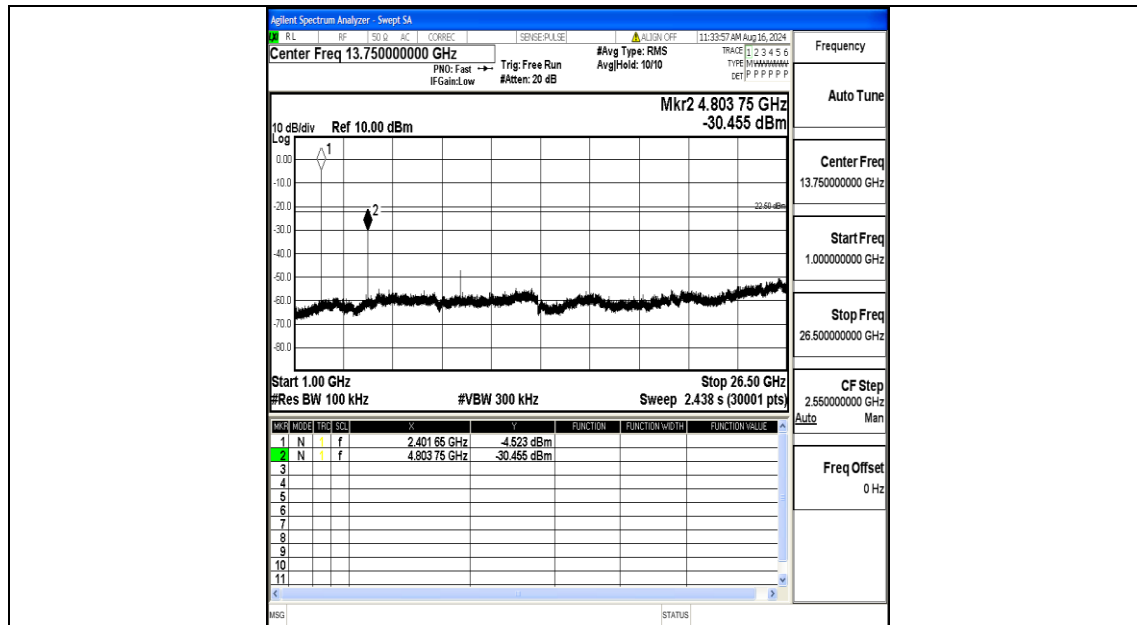
DH5-Ant1-2480-1000~26500-PASS



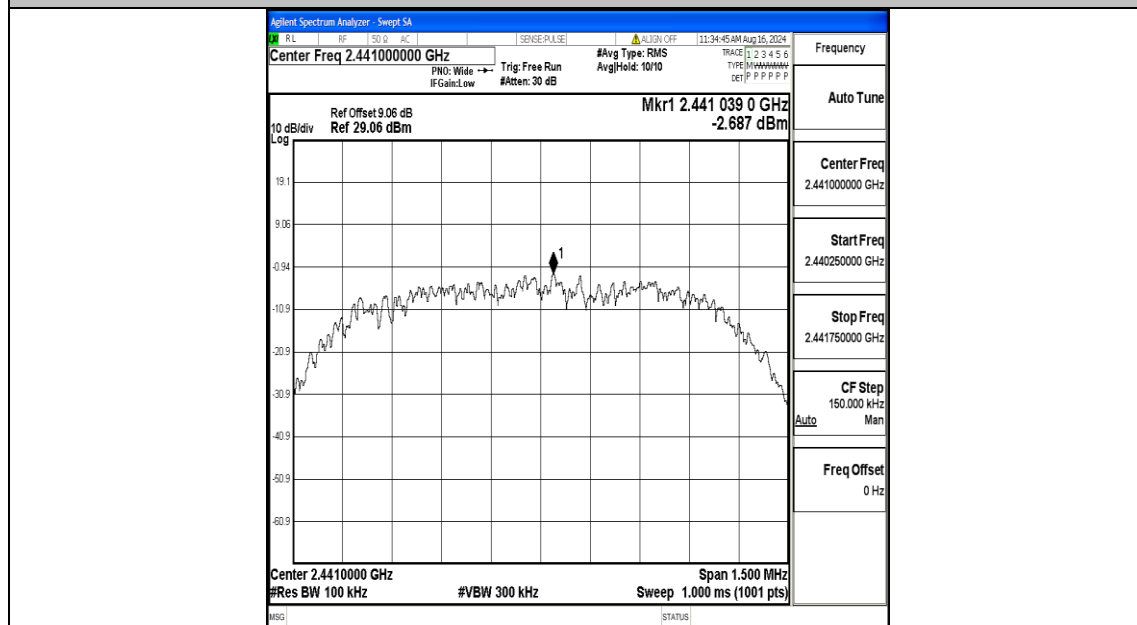
2DH5-Ant1-2402-0~Reference-PASS



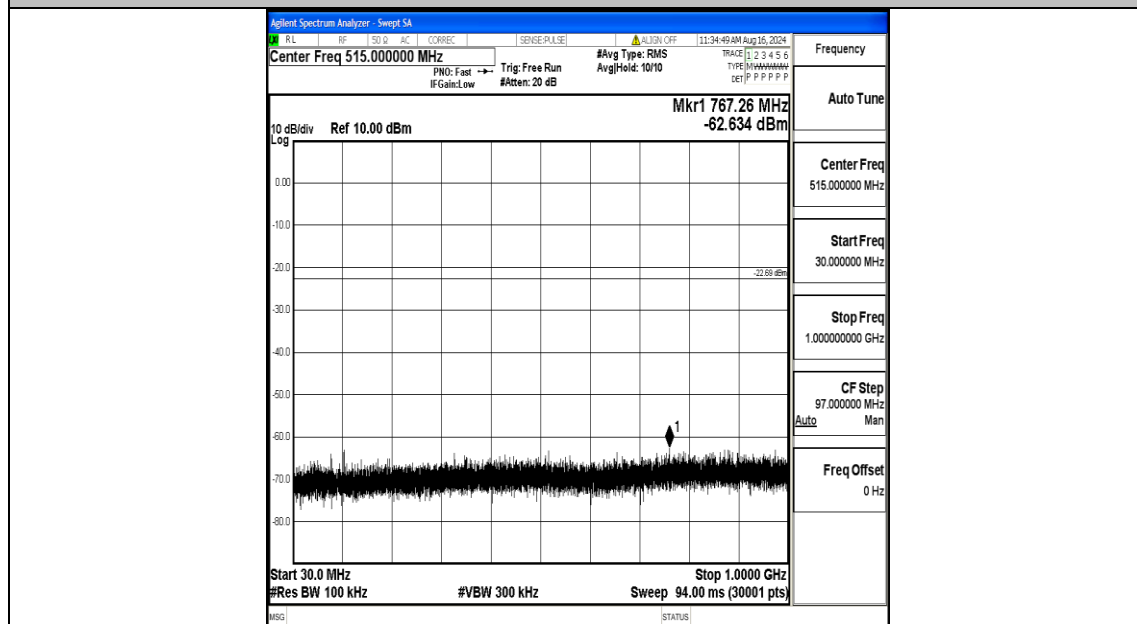
2DH5-Ant1-2402-30~1000-PASS



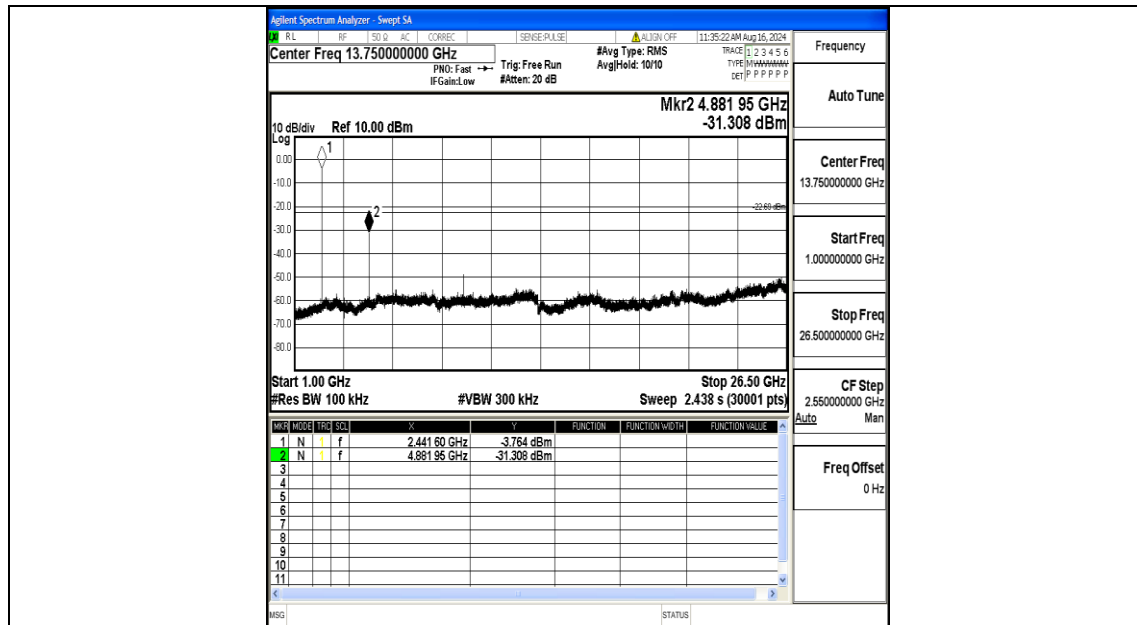
2DH5-Ant1-2402-1000~26500-PASS



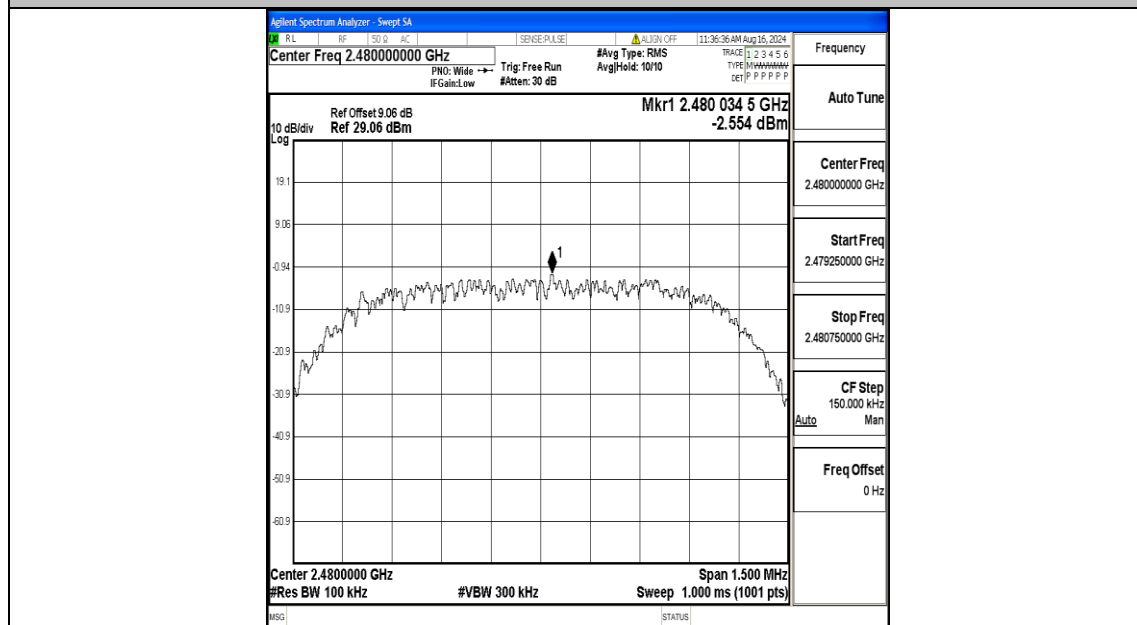
2DH5-Ant1-2441-0~Reference-PASS



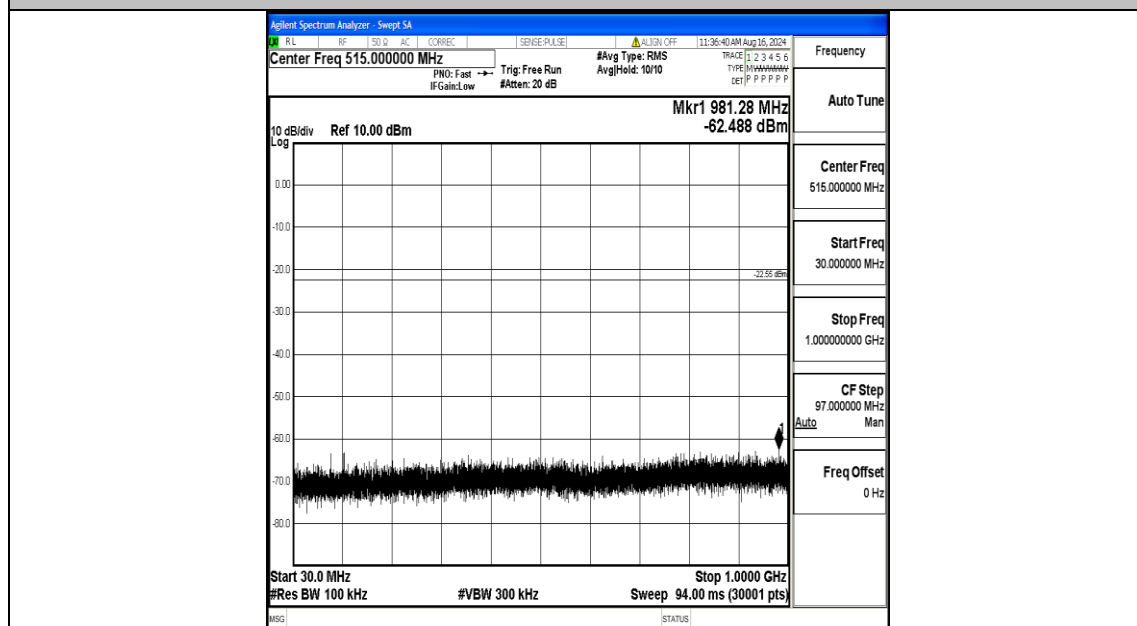
2DH5-Ant1-2441-30~1000-PASS



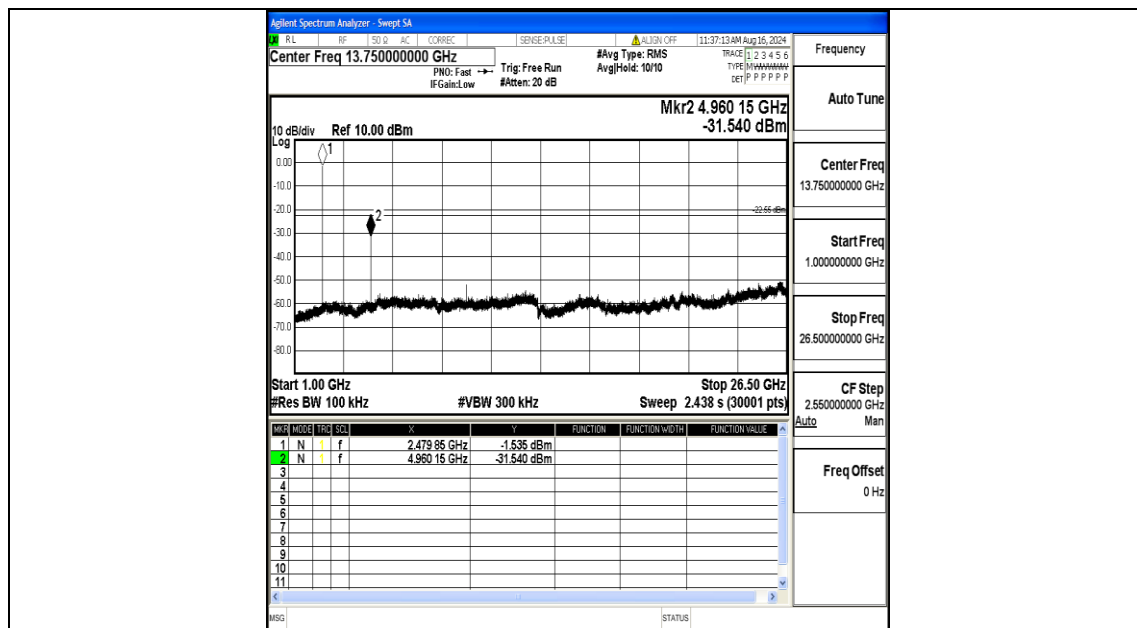
2DH5-Ant1-2441-1000~26500-PASS



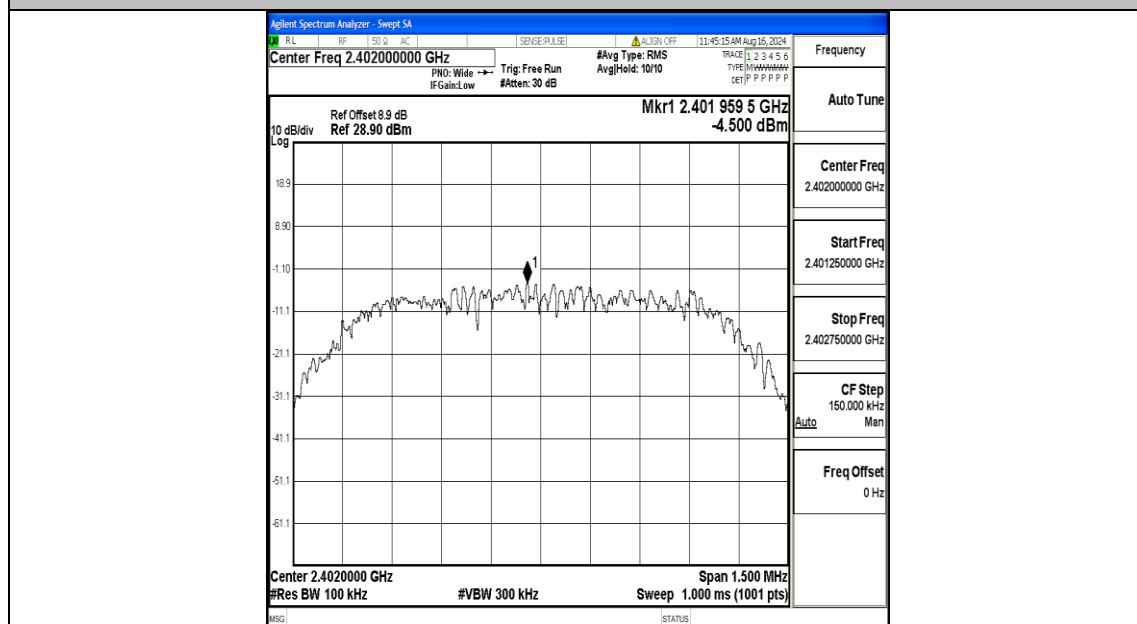
2DH5-Ant1-2480-0~Reference-PASS



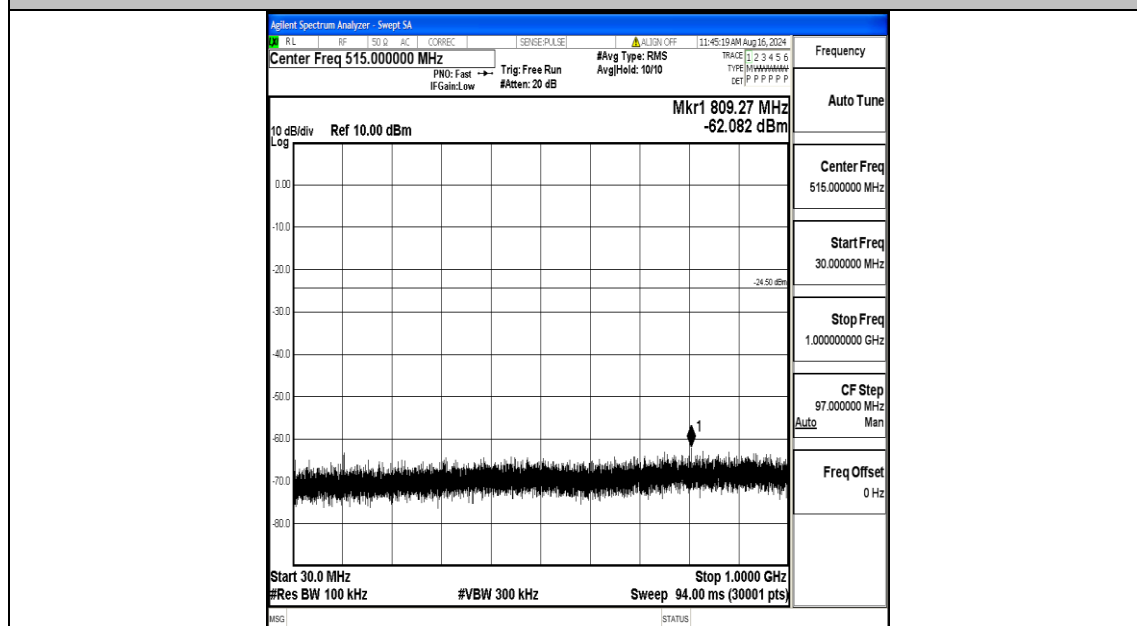
2DH5-Ant1-2480-30~1000-PASS



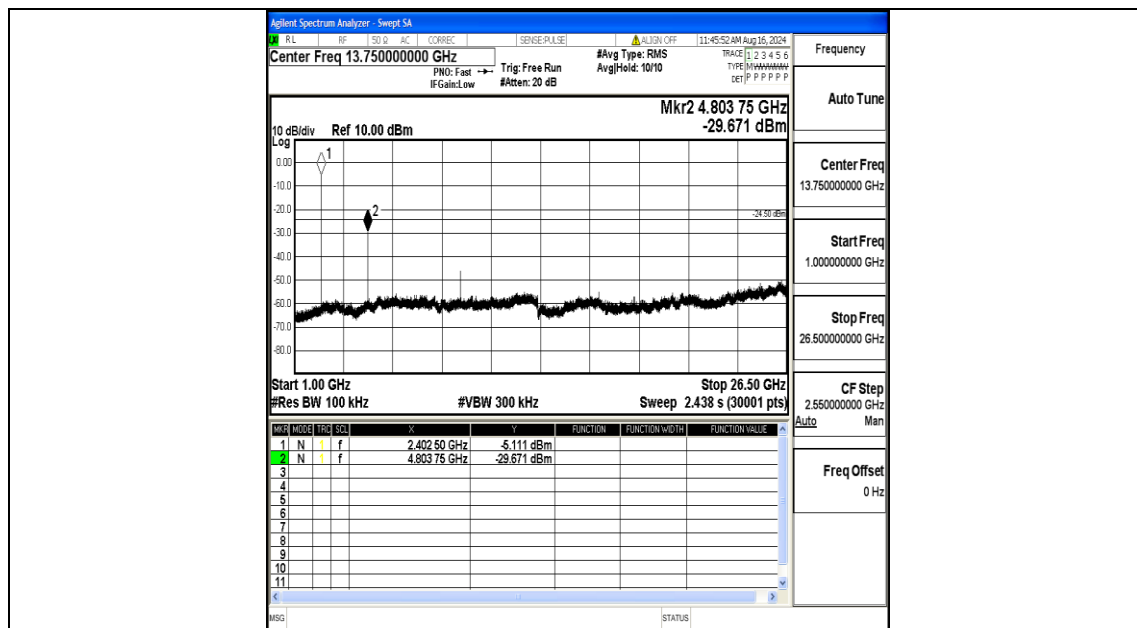
2DH5-Ant1-2480-1000~26500-PASS



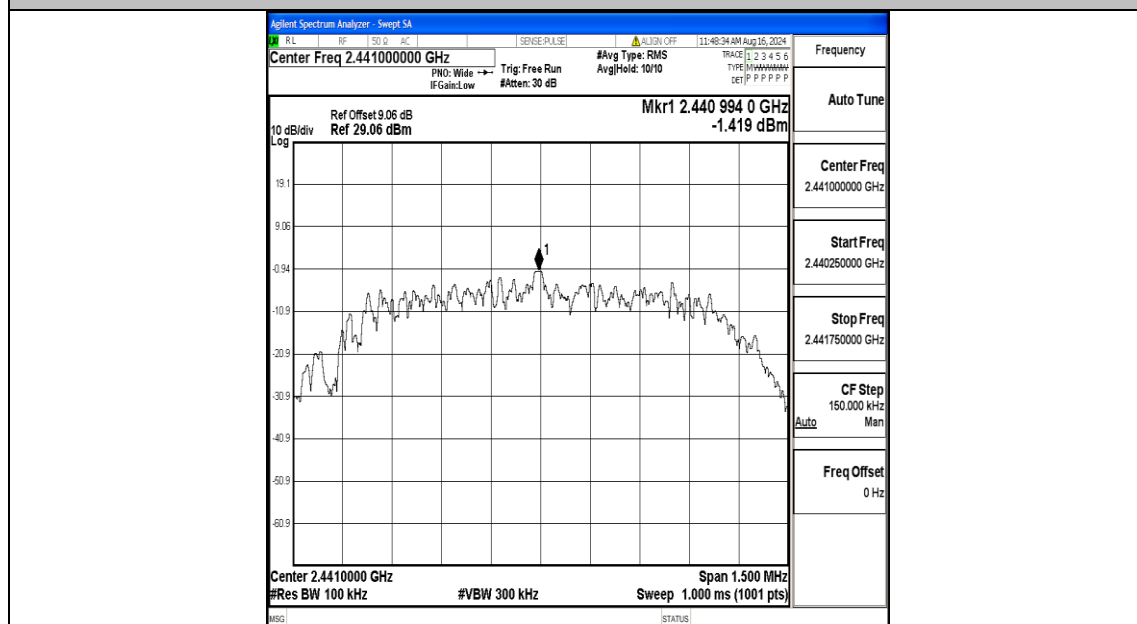
3DH5-Ant1-2402-0~Reference-PASS



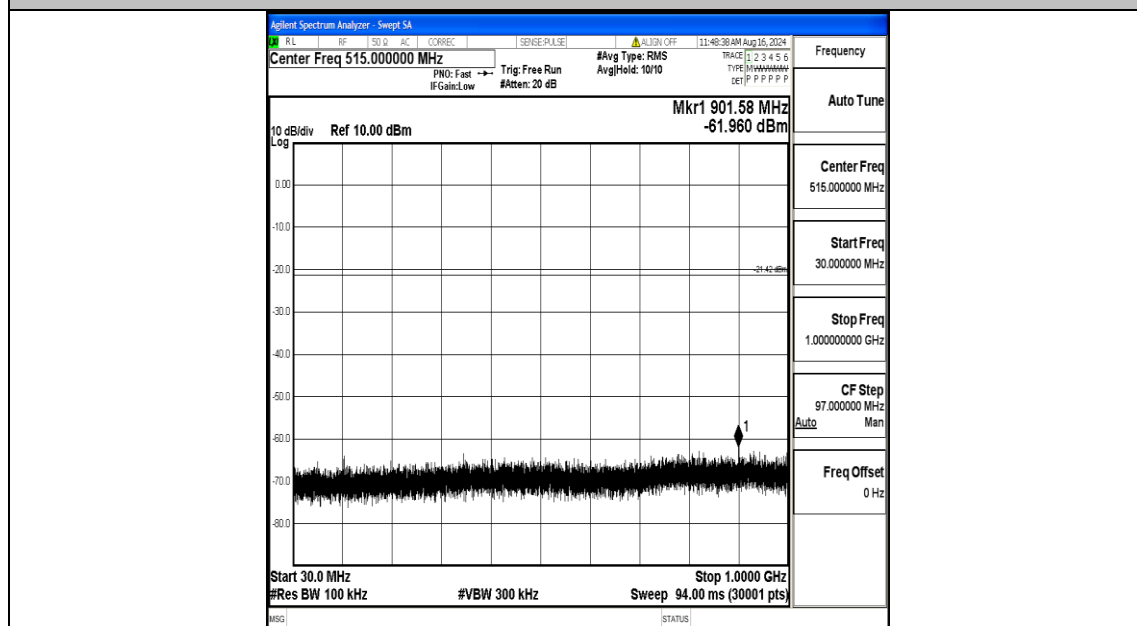
3DH5-Ant1-2402-30~1000-PASS



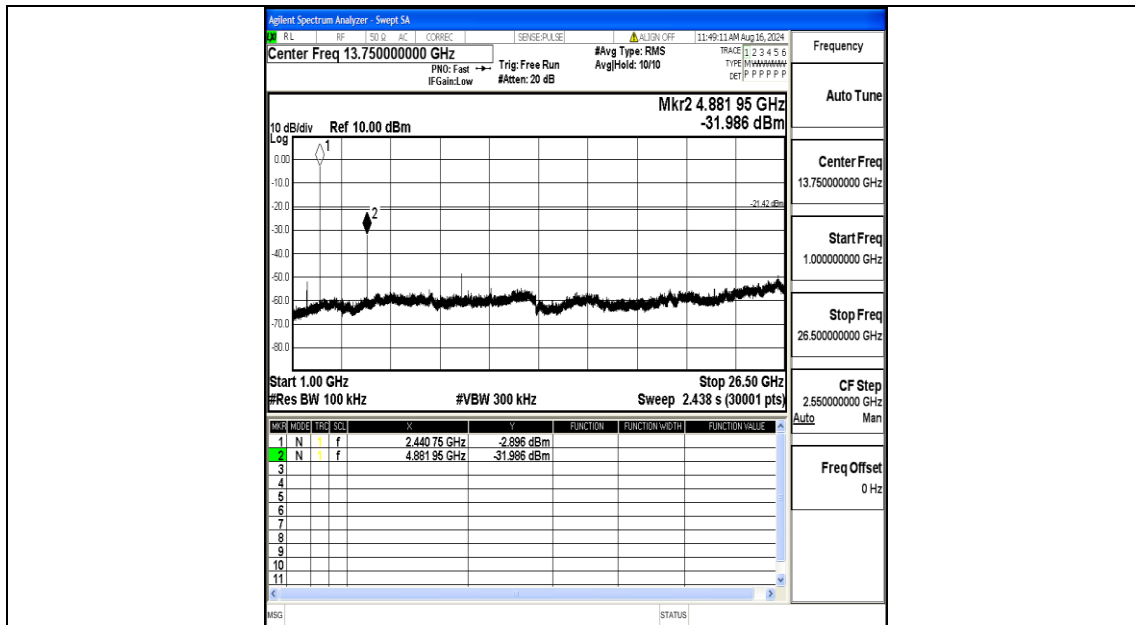
## 3DH5-Ant1-2402-1000~26500-PASS



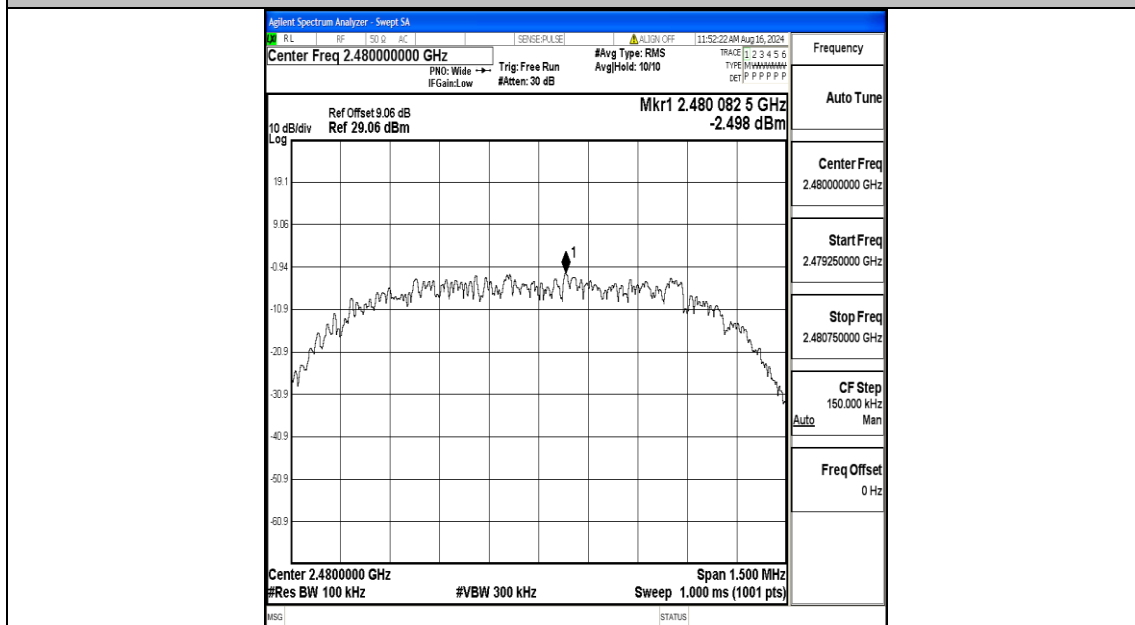
## 3DH5-Ant1-2441-0~Reference-PASS



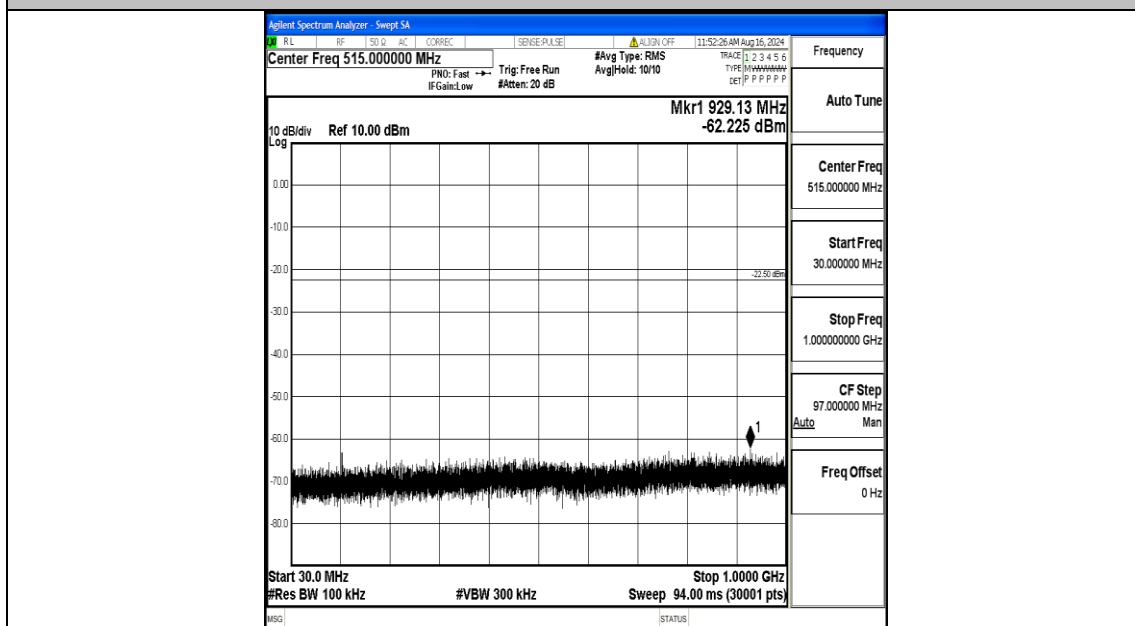
## 3DH5-Ant1-2441-30~1000-PASS



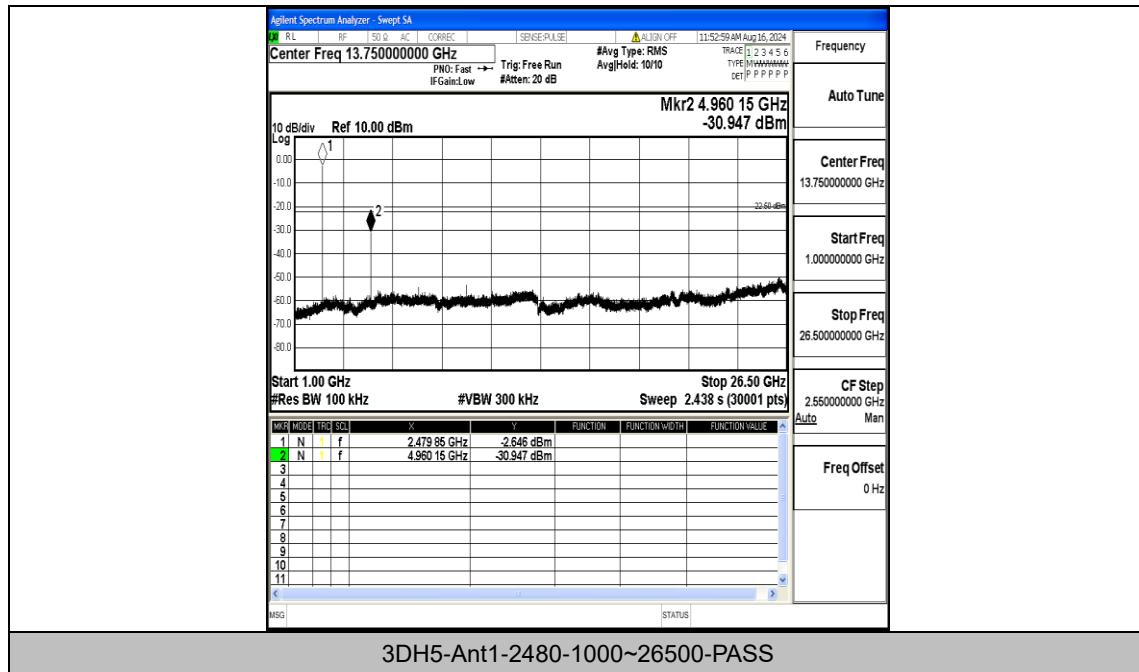
## 3DH5-Ant1-2441-1000~26500-PASS



## 3DH5-Ant1-2480-0~Reference-PASS



## 3DH5-Ant1-2480-30~1000-PASS



## Appendix I: Duty Cycle

### Test Result

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

## Test Graphs

