

## Appendix A

### RF Test Data for BT(Conducted Measurement)

**Product Name: Smart Ear Care Device**

**Test Model: Earsight Ultra**

#### Environmental Conditions

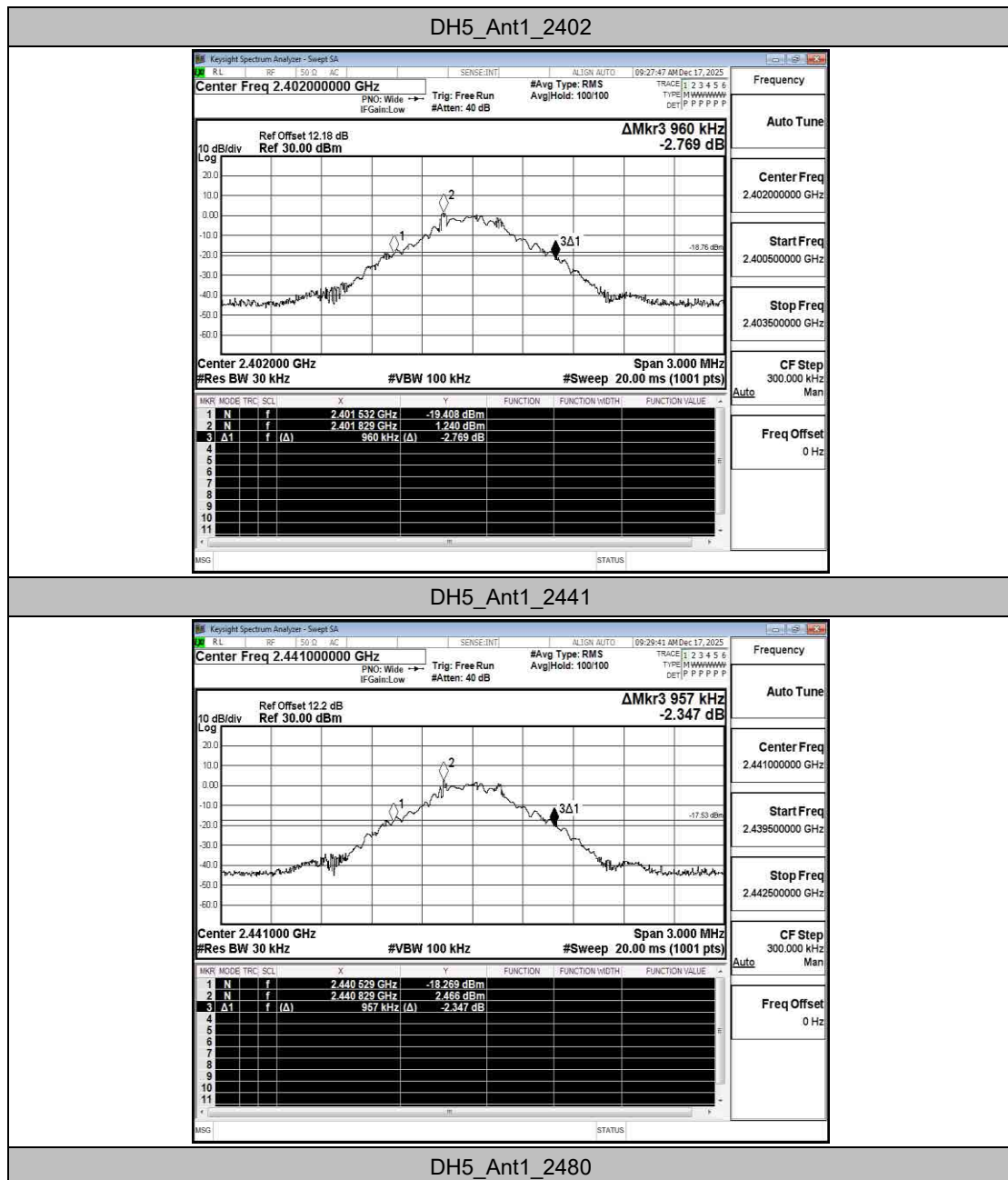
|                    |              |
|--------------------|--------------|
| Temperature:       | 23.4°C       |
| Relative Humidity: | 52.8%        |
| ATM Pressure:      | 100.0 kPa    |
| Test Engineer:     | Suichao Lai  |
| Supervised by:     | Fengliu Tang |

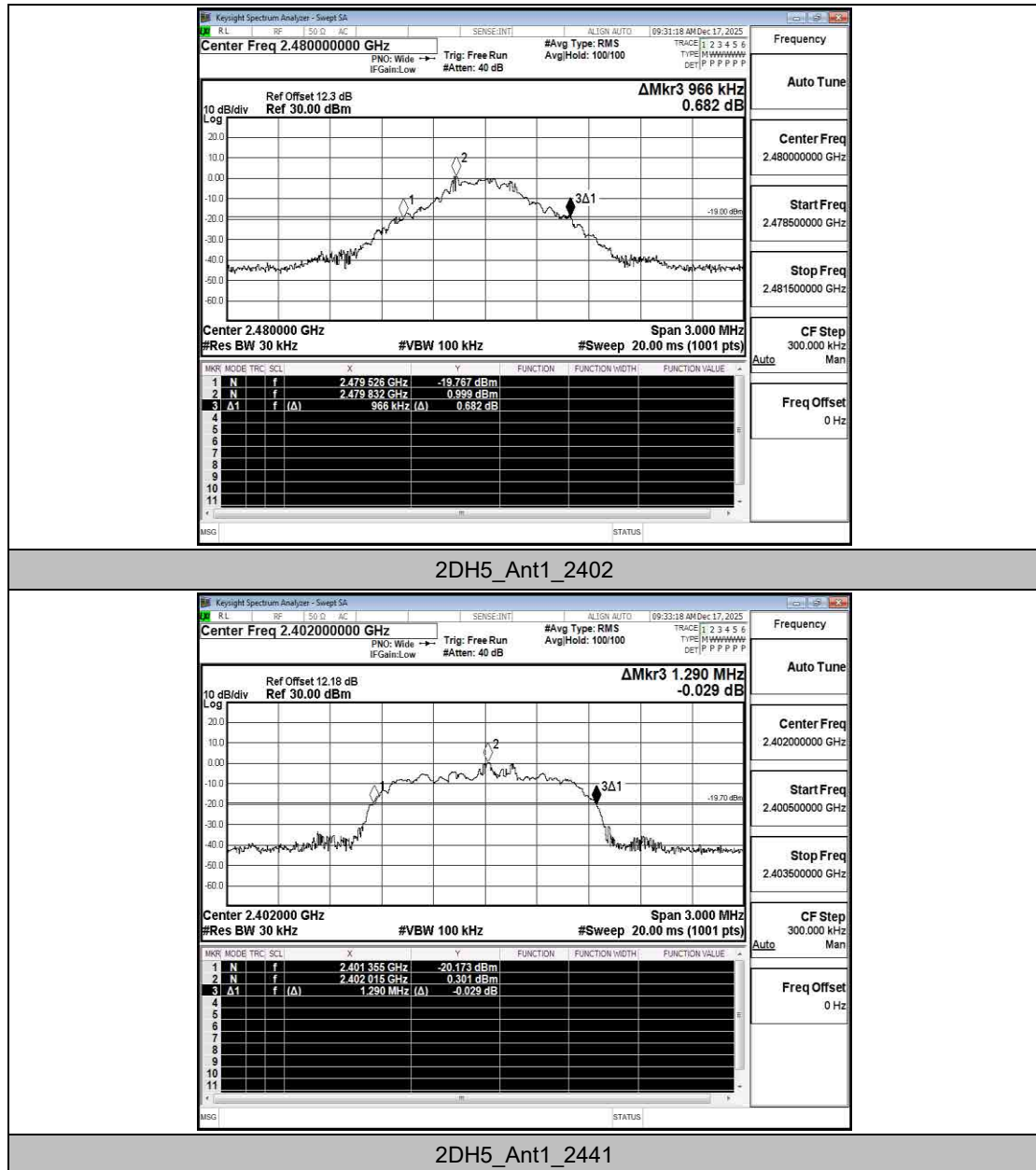
## A.1 20dB Emission Bandwidth

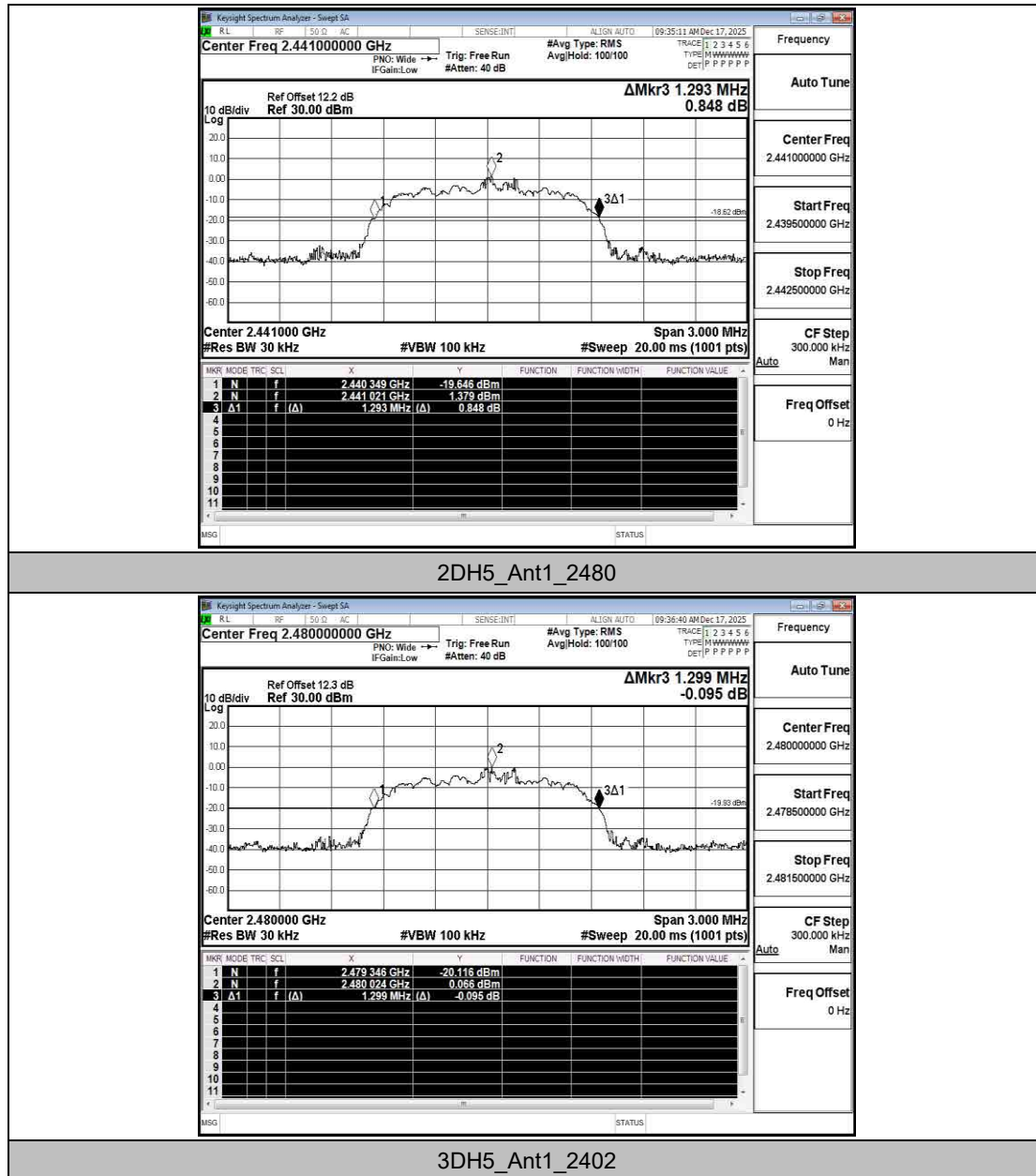
### Test Result

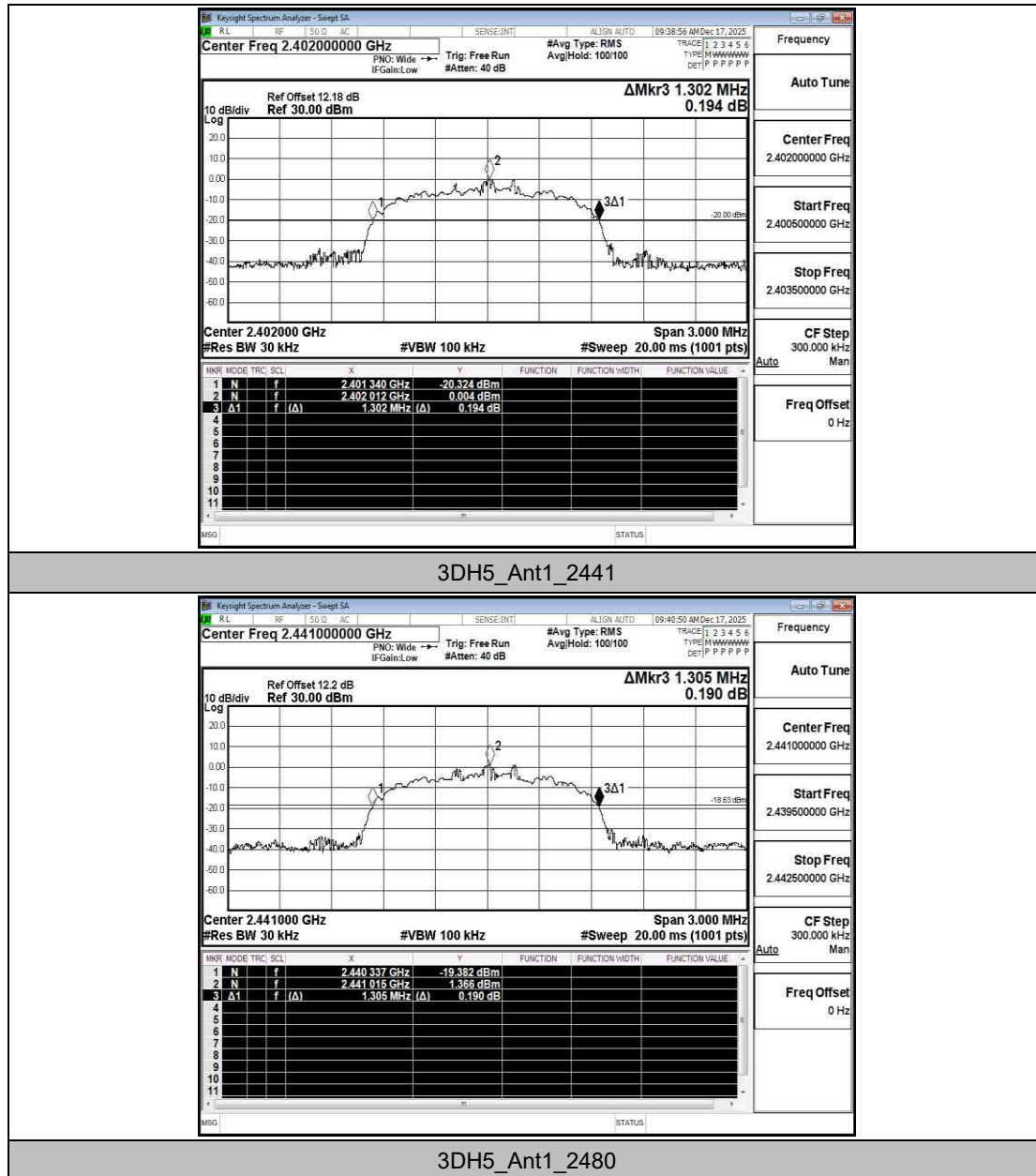
| TestMode | Antenna | Freq(MHz) | 20dB<br>EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|-----------|------------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402      | 0.960            | 2401.532 | 2402.492 | ---        | ---     |
|          |         | 2441      | 0.957            | 2440.529 | 2441.486 | ---        | ---     |
|          |         | 2480      | 0.966            | 2479.526 | 2480.492 | ---        | ---     |
| 2DH5     | Ant1    | 2402      | 1.290            | 2401.355 | 2402.645 | ---        | ---     |
|          |         | 2441      | 1.293            | 2440.349 | 2441.642 | ---        | ---     |
|          |         | 2480      | 1.299            | 2479.346 | 2480.645 | ---        | ---     |
| 3DH5     | Ant1    | 2402      | 1.302            | 2401.340 | 2402.642 | ---        | ---     |
|          |         | 2441      | 1.305            | 2440.337 | 2441.642 | ---        | ---     |
|          |         | 2480      | 1.308            | 2479.337 | 2480.645 | ---        | ---     |

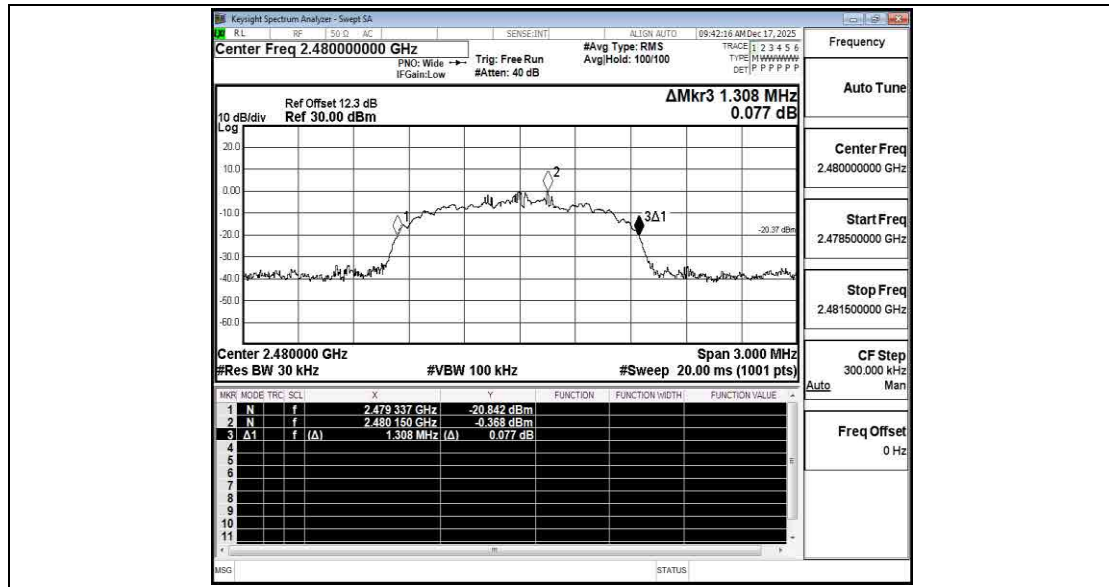
## Test Graphs









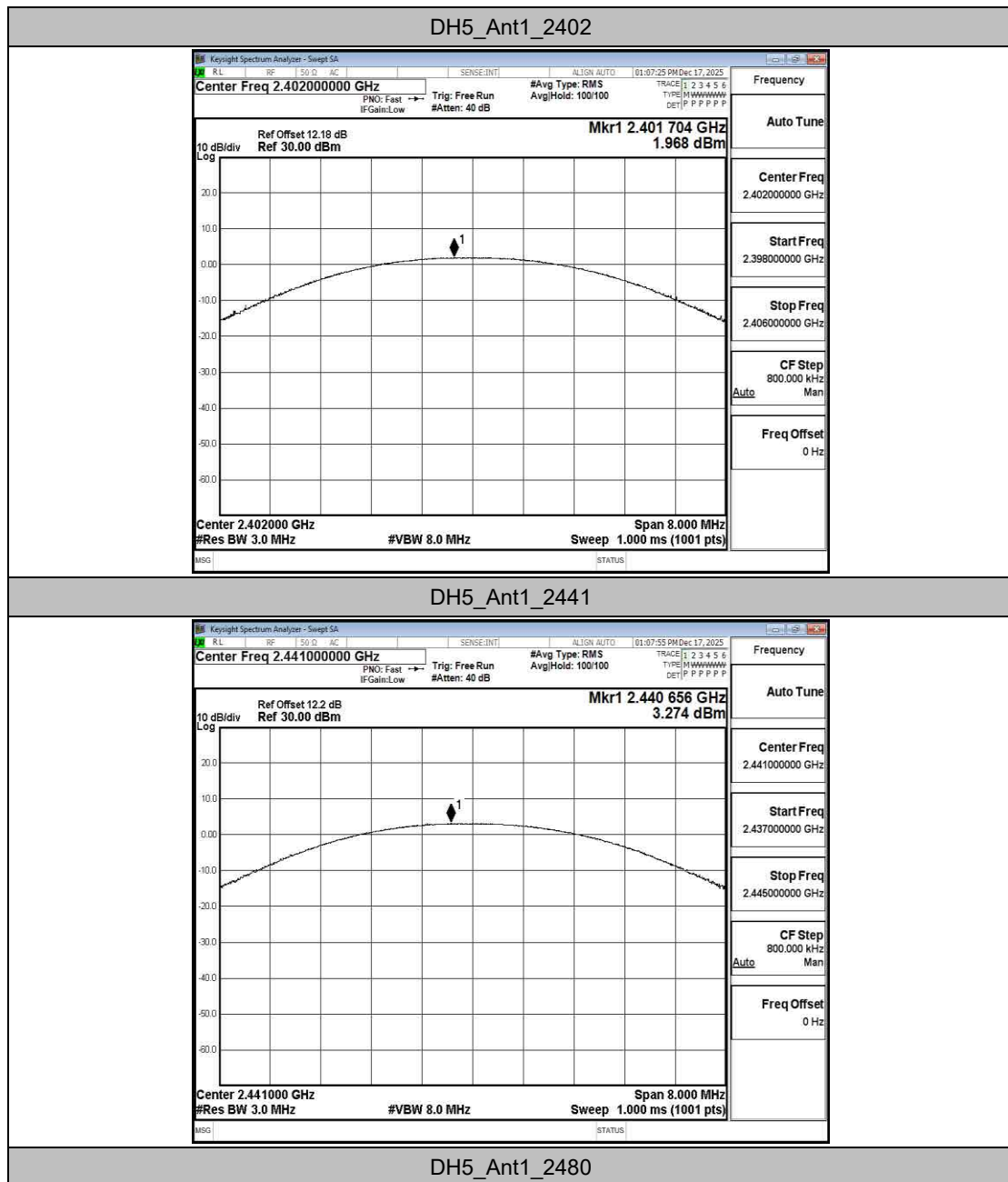


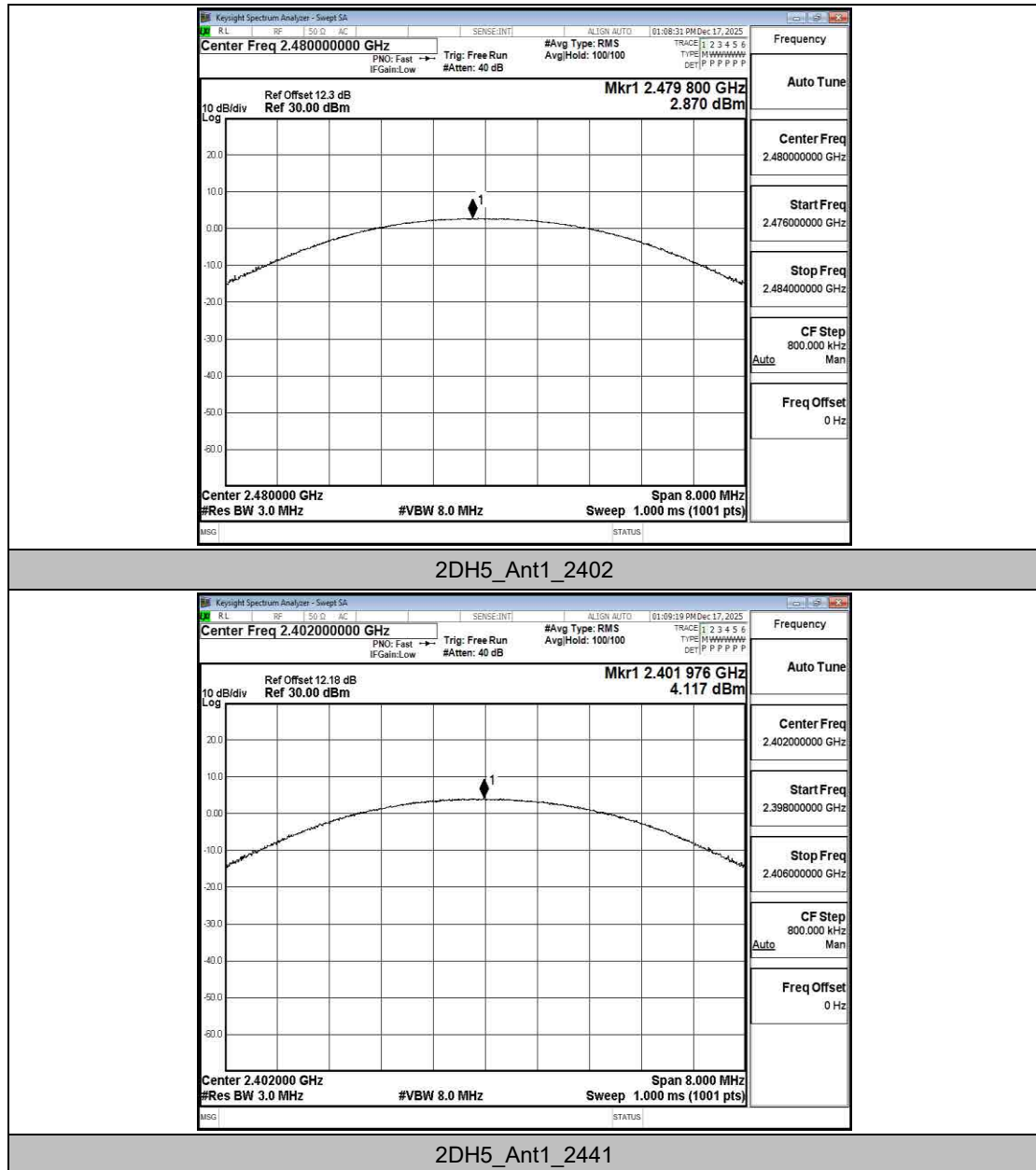
## A.2 Maximum Peak conducted output power

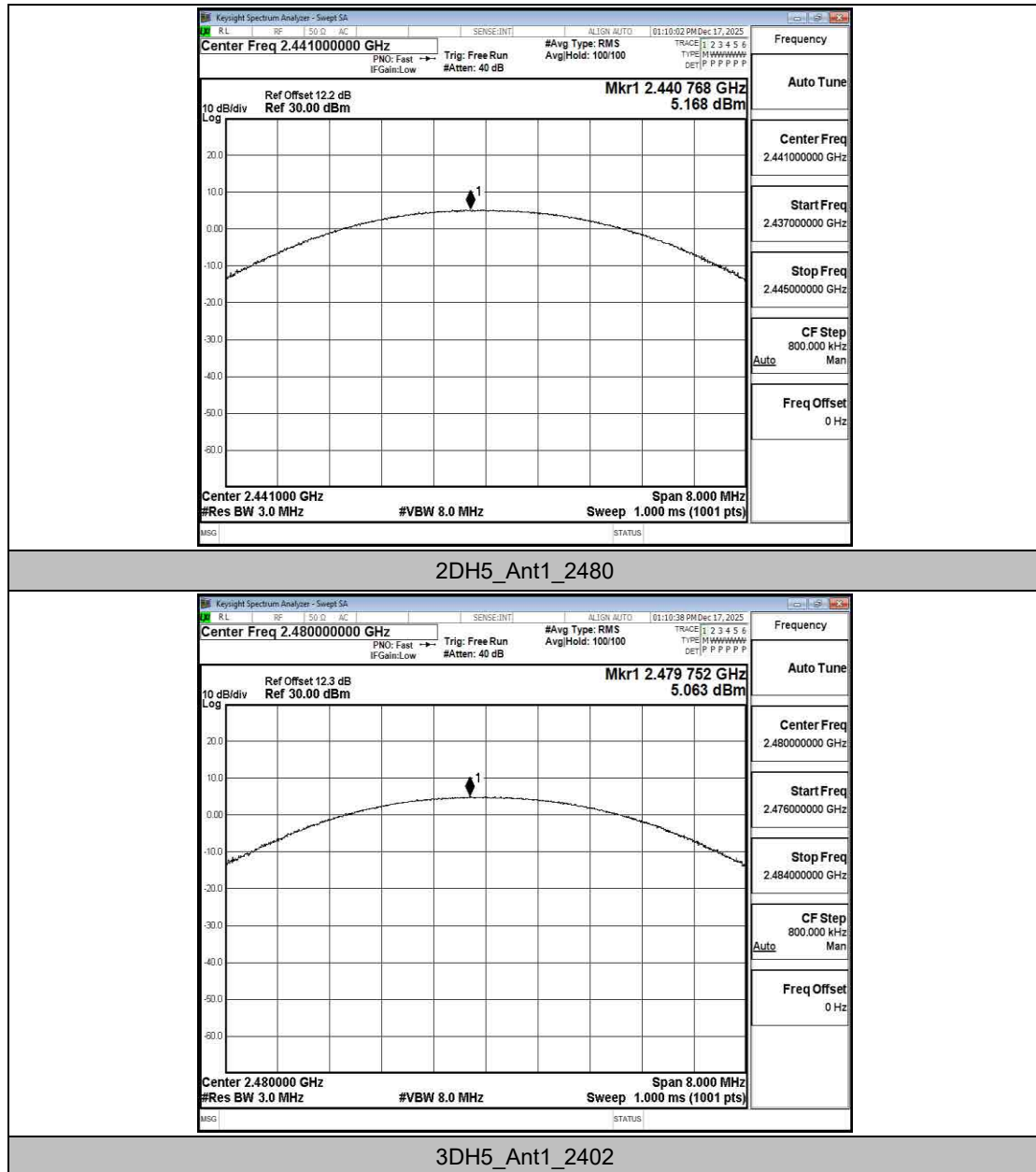
### Test Result Peak

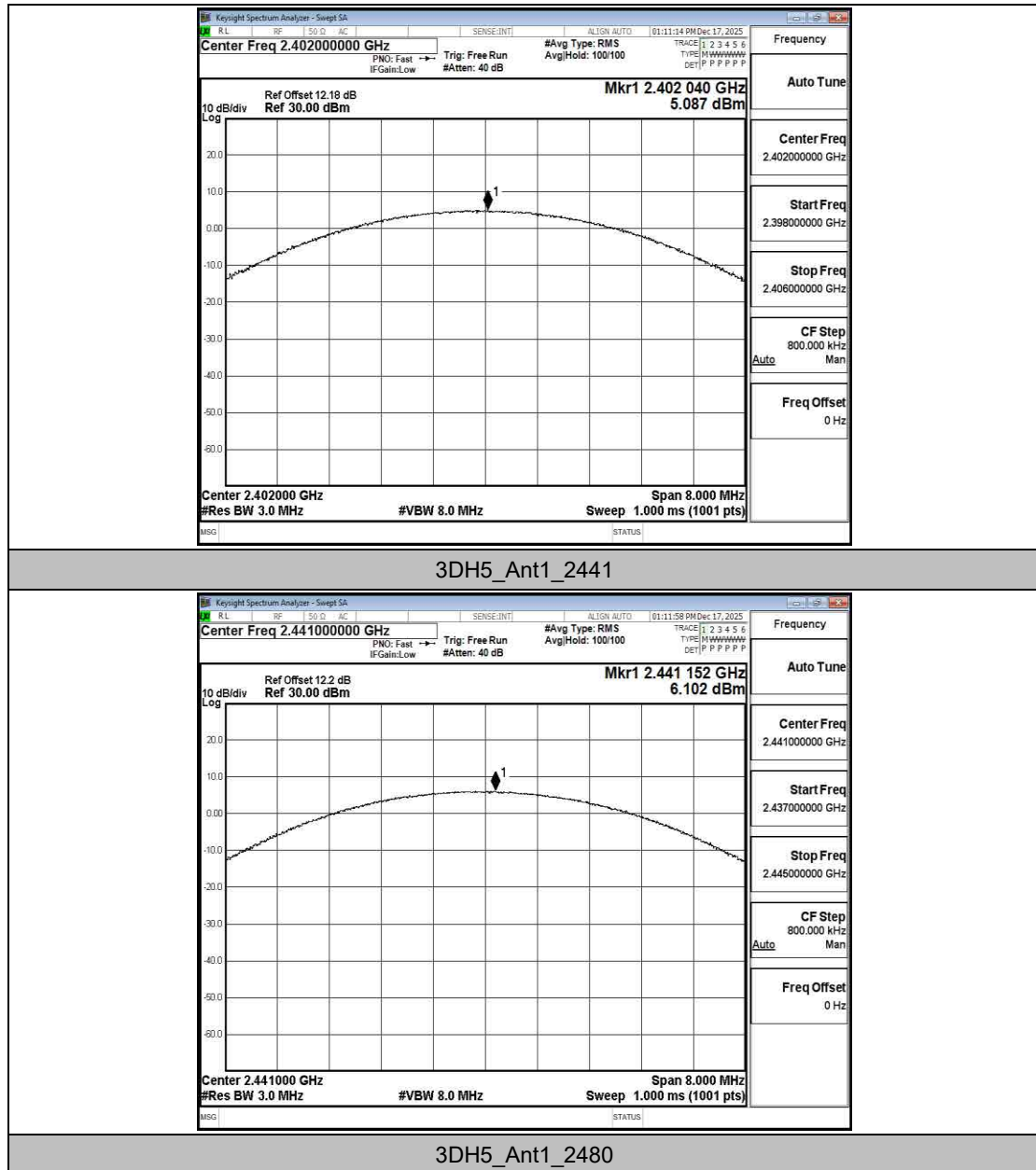
| Test Mode | Antenna | Freq(MHz) | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|-----------|---------|-----------|---------------------------|----------------------|---------|
| DH5       | Ant1    | 2402      | 1.97                      | ≤30                  | PASS    |
|           |         | 2441      | 3.27                      | ≤30                  | PASS    |
|           |         | 2480      | 2.87                      | ≤30                  | PASS    |
| 2DH5      | Ant1    | 2402      | 4.12                      | ≤30                  | PASS    |
|           |         | 2441      | 5.17                      | ≤30                  | PASS    |
|           |         | 2480      | 5.06                      | ≤30                  | PASS    |
| 3DH5      | Ant1    | 2402      | 5.09                      | ≤30                  | PASS    |
|           |         | 2441      | 6.10                      | ≤30                  | PASS    |
|           |         | 2480      | 4.99                      | ≤30                  | PASS    |

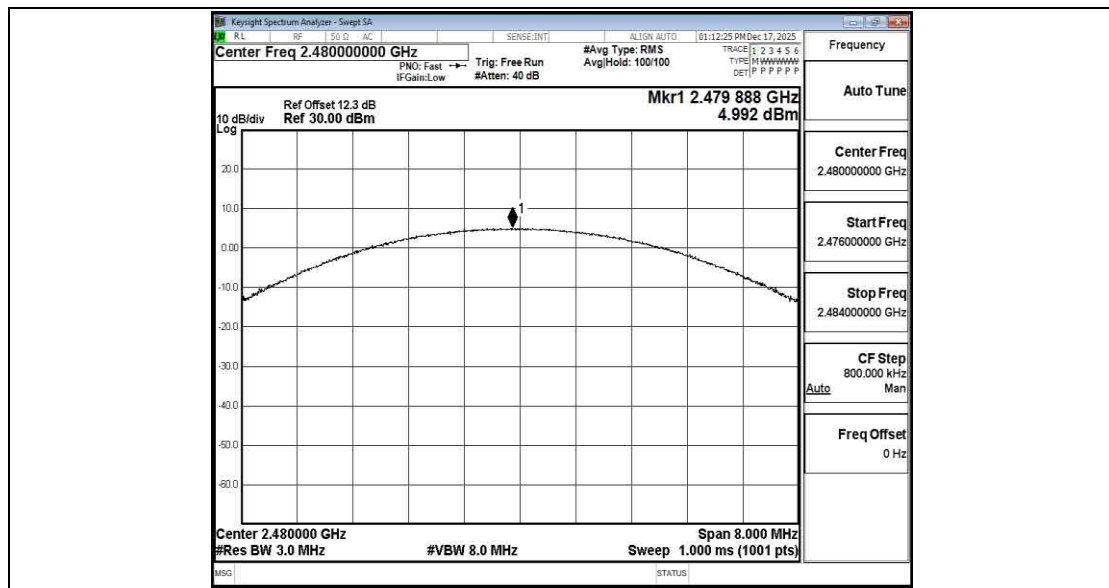
## Test Graphs









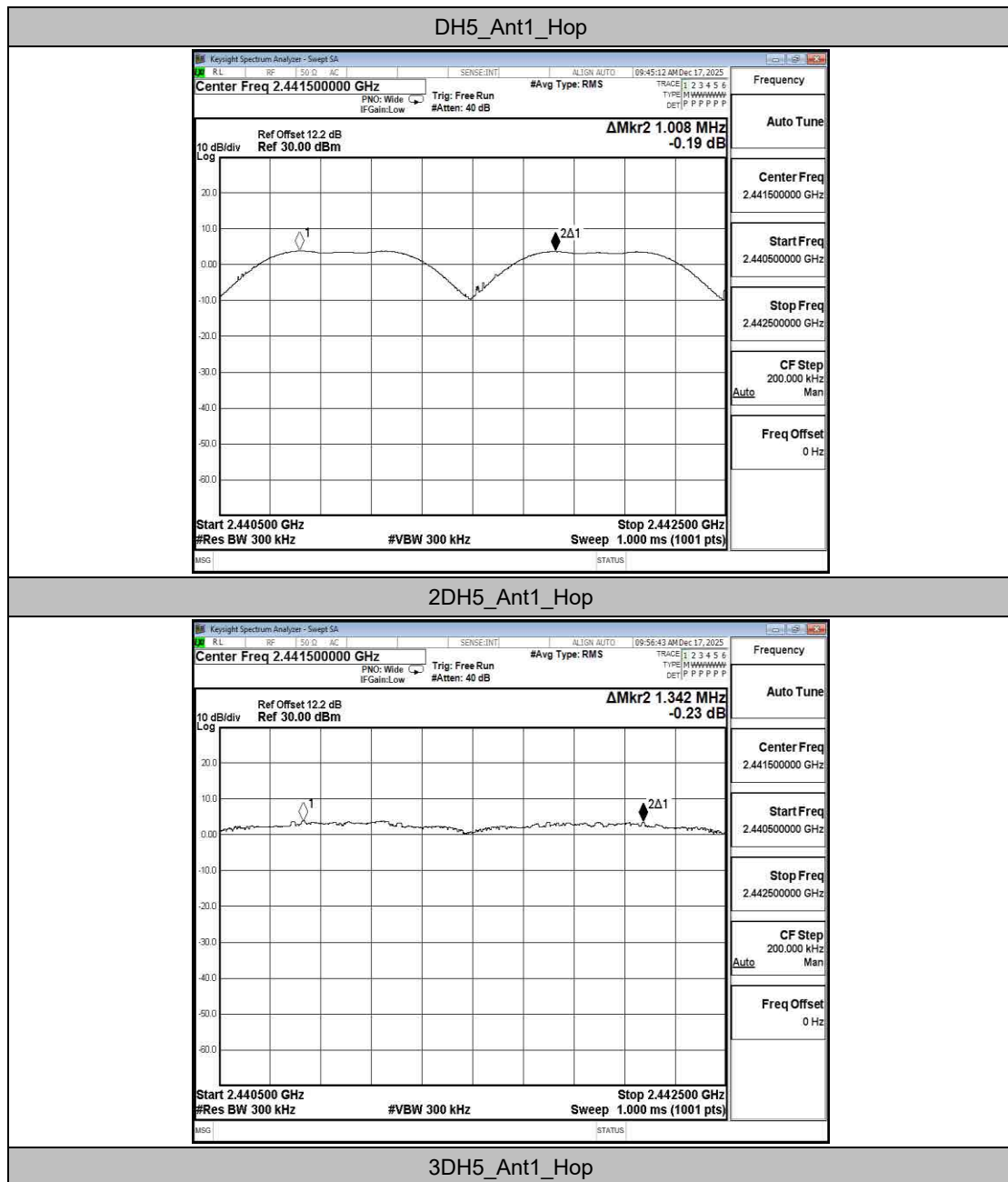


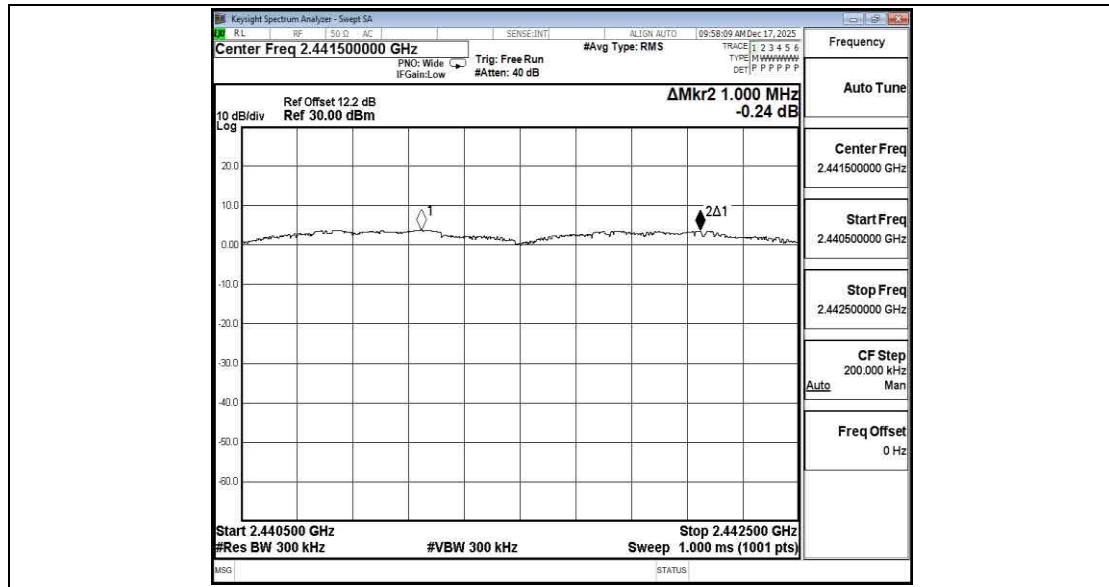
## A.3 Carrier frequency separation

### Test Result

| TestMode | Antenna | Freq(MHz) | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|-----------|-------------|--------------|---------|
| DH5      | Ant1    | Hop       | 1.008       | $\geq 0.966$ | PASS    |
| 2DH5     | Ant1    | Hop       | 1.342       | $\geq 1.299$ | PASS    |
| 3DH5     | Ant1    | Hop       | 1           | $\geq 0.872$ | PASS    |

## Test Graphs



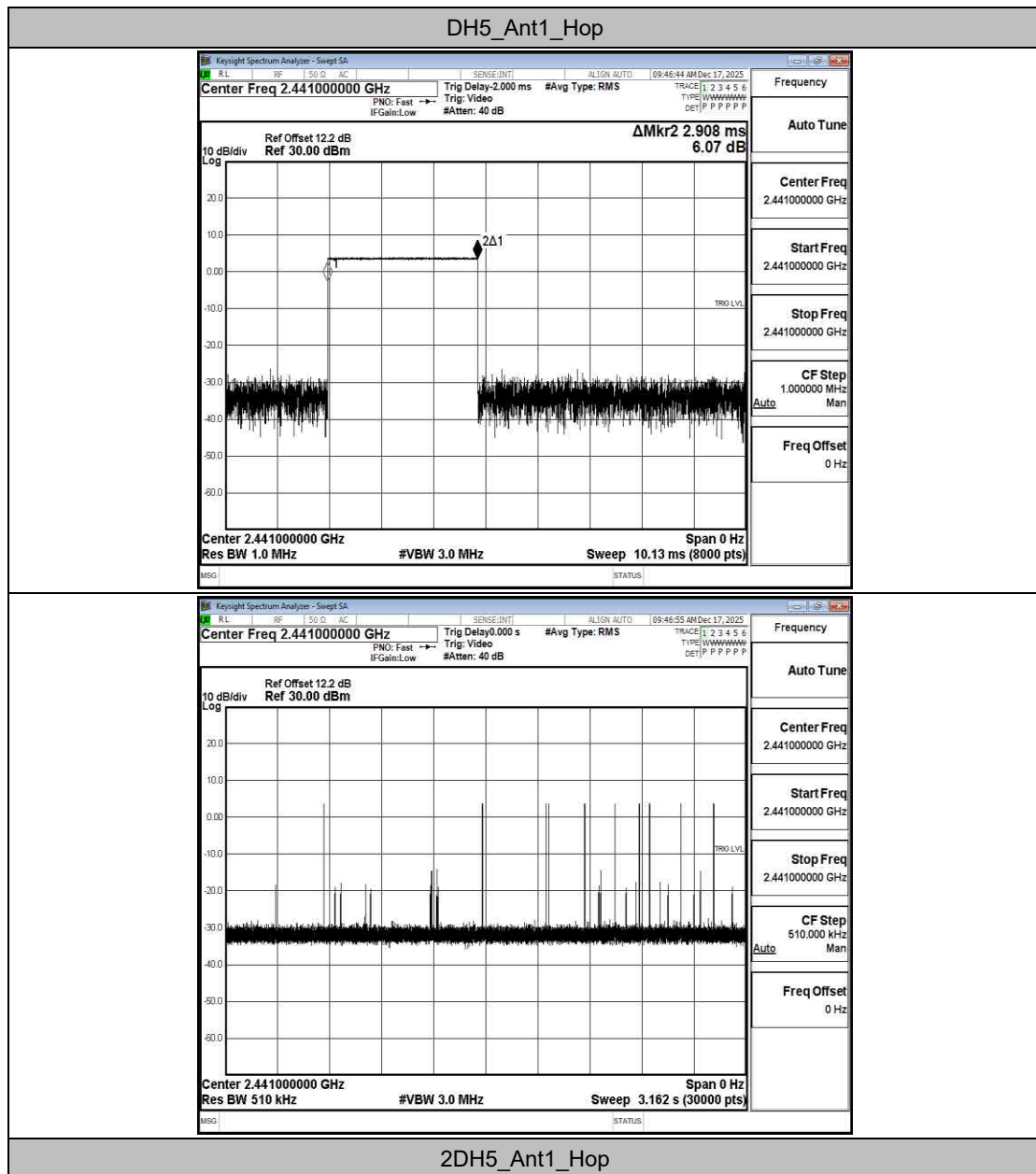


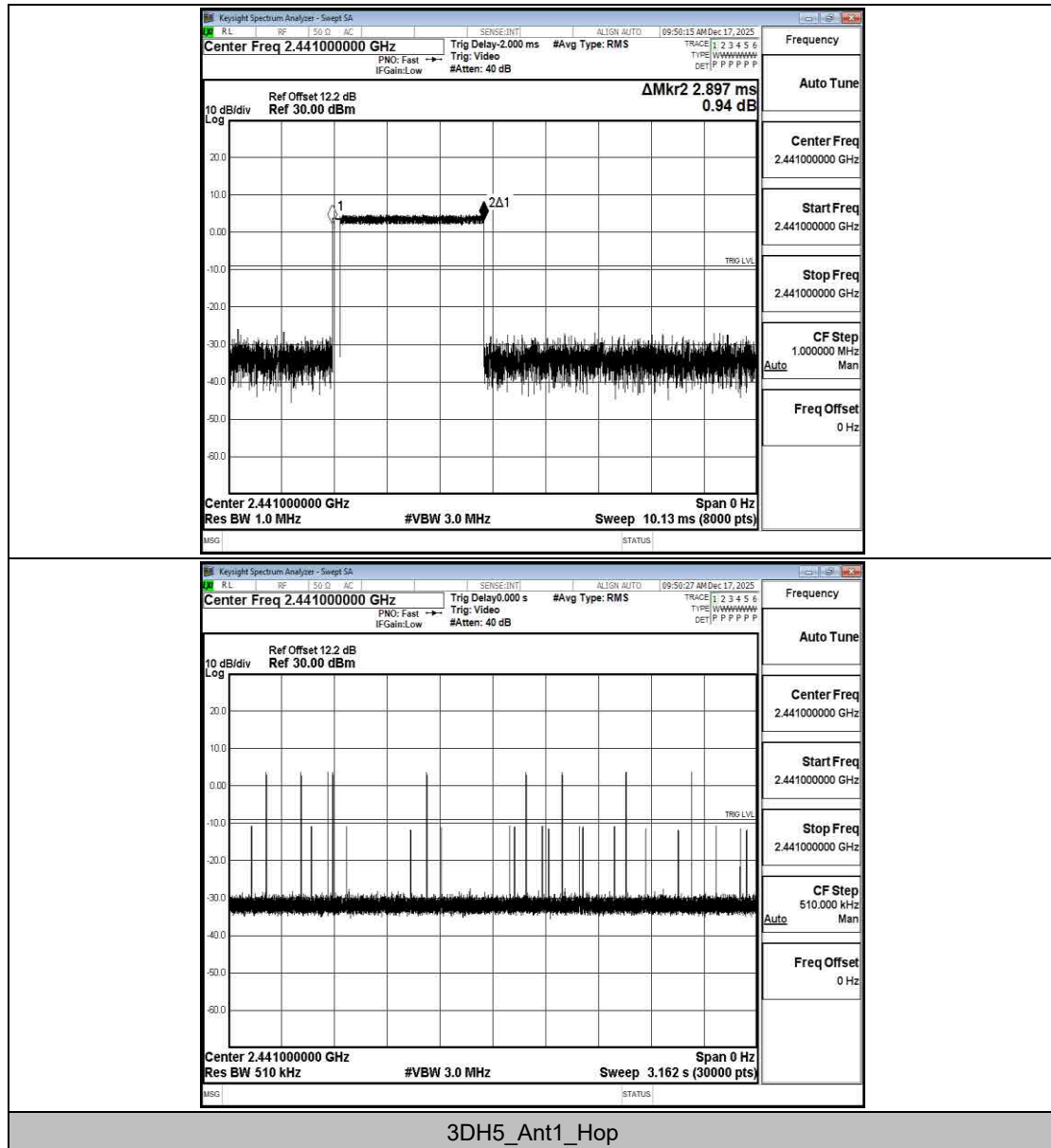
## A.4 Time of occupancy

### Test Result

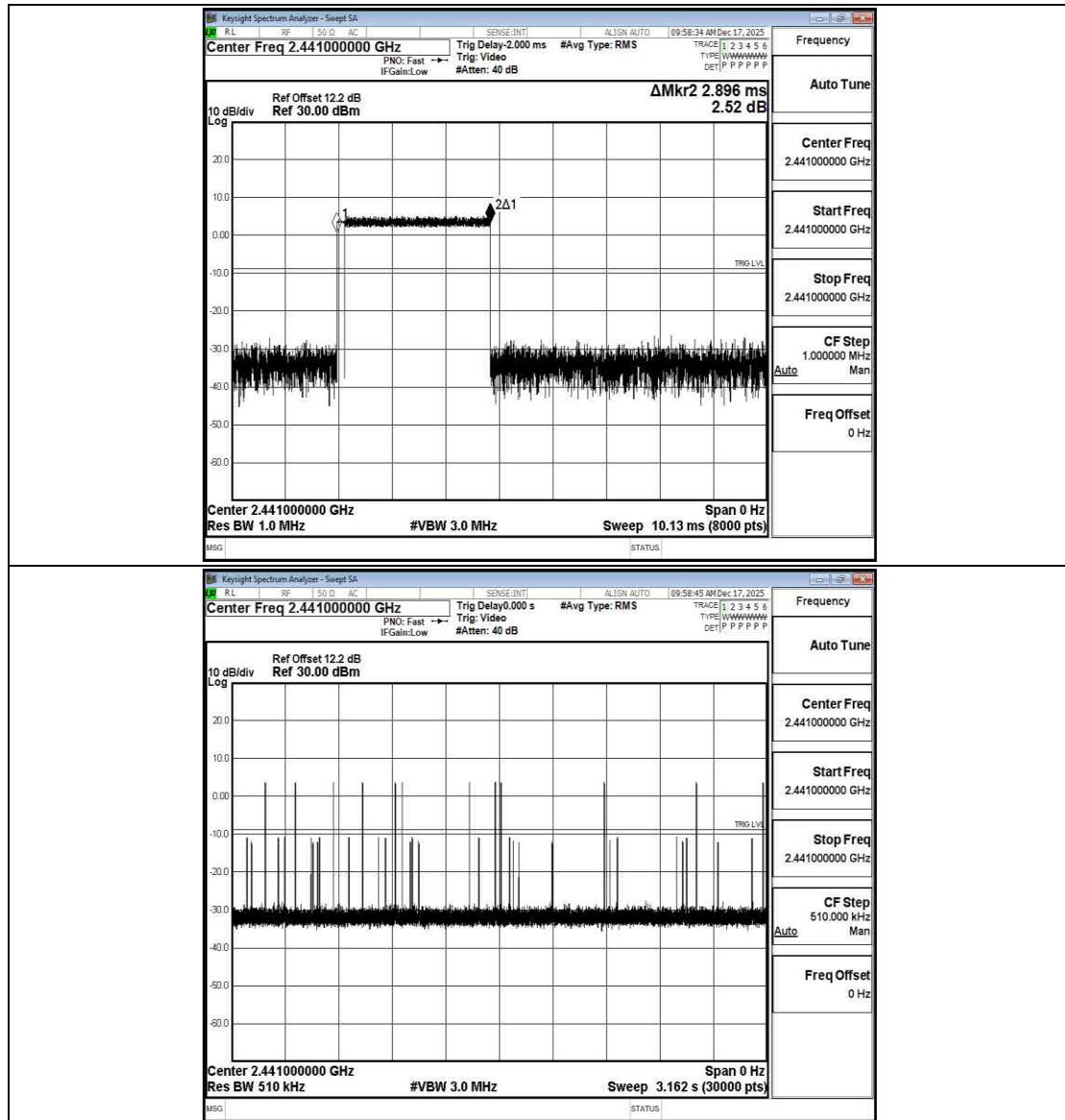
| TestMode | Antenna | Freq(MHz) | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|-----------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop       | 2.908              | 110                | 0.32      | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop       | 2.897              | 100                | 0.29      | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop       | 2.896              | 130                | 0.376     | ≤0.4     | PASS    |

## Test Graphs





3DH5\_Ant1\_Hop

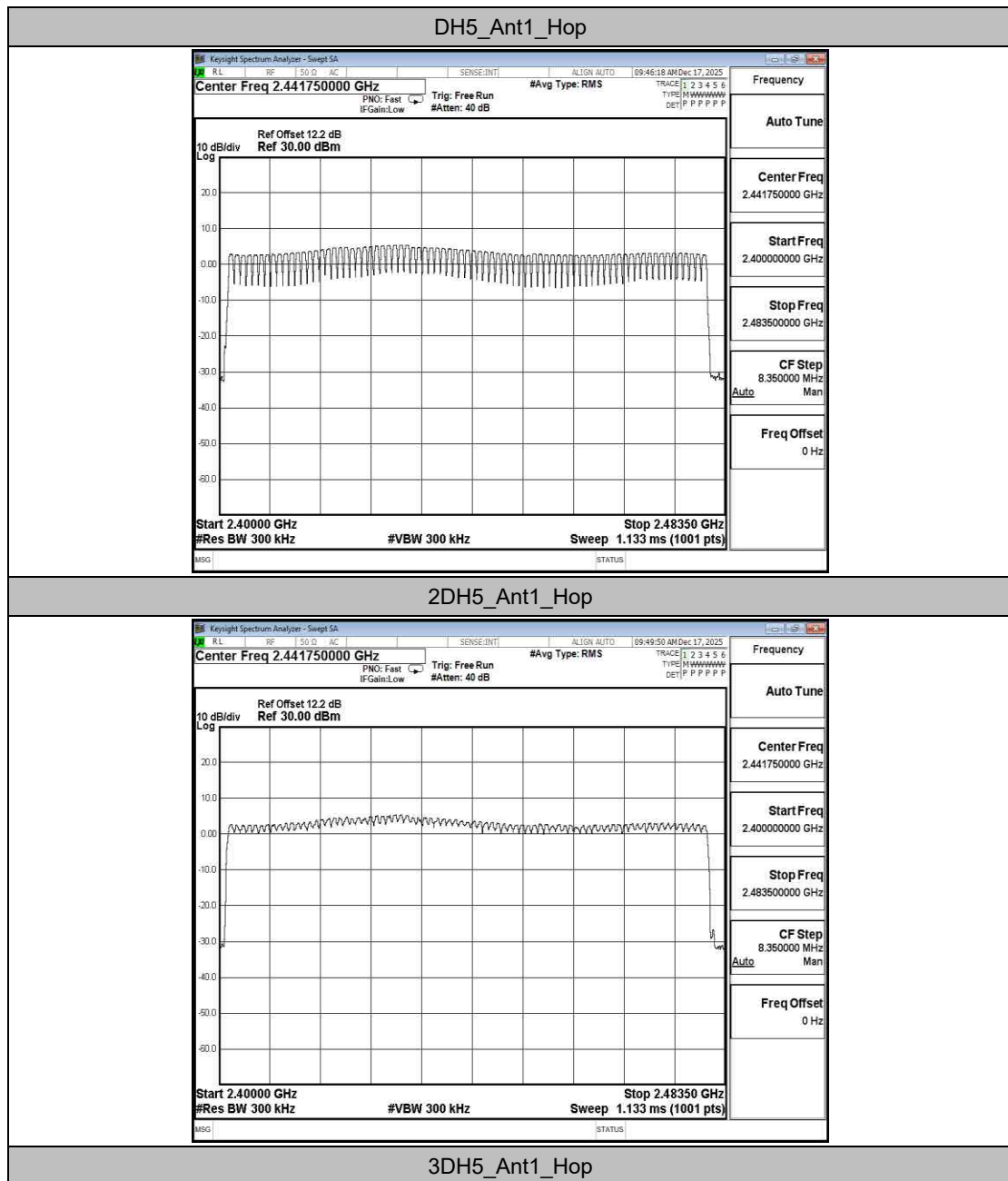


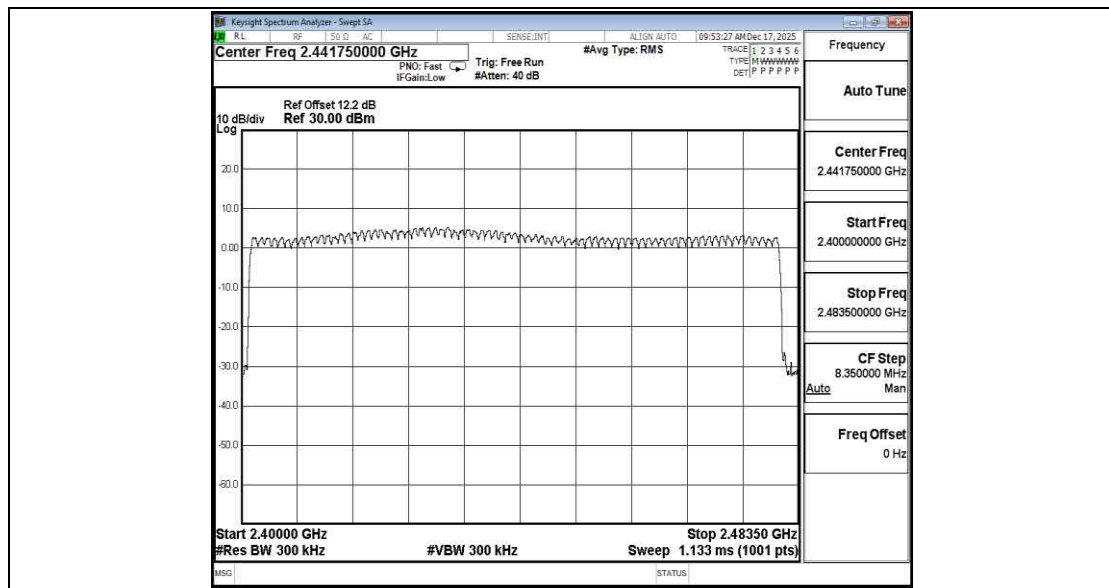
## A.5 Number of hopping channels

### Test Result

| TestMode | Antenna | Freq(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



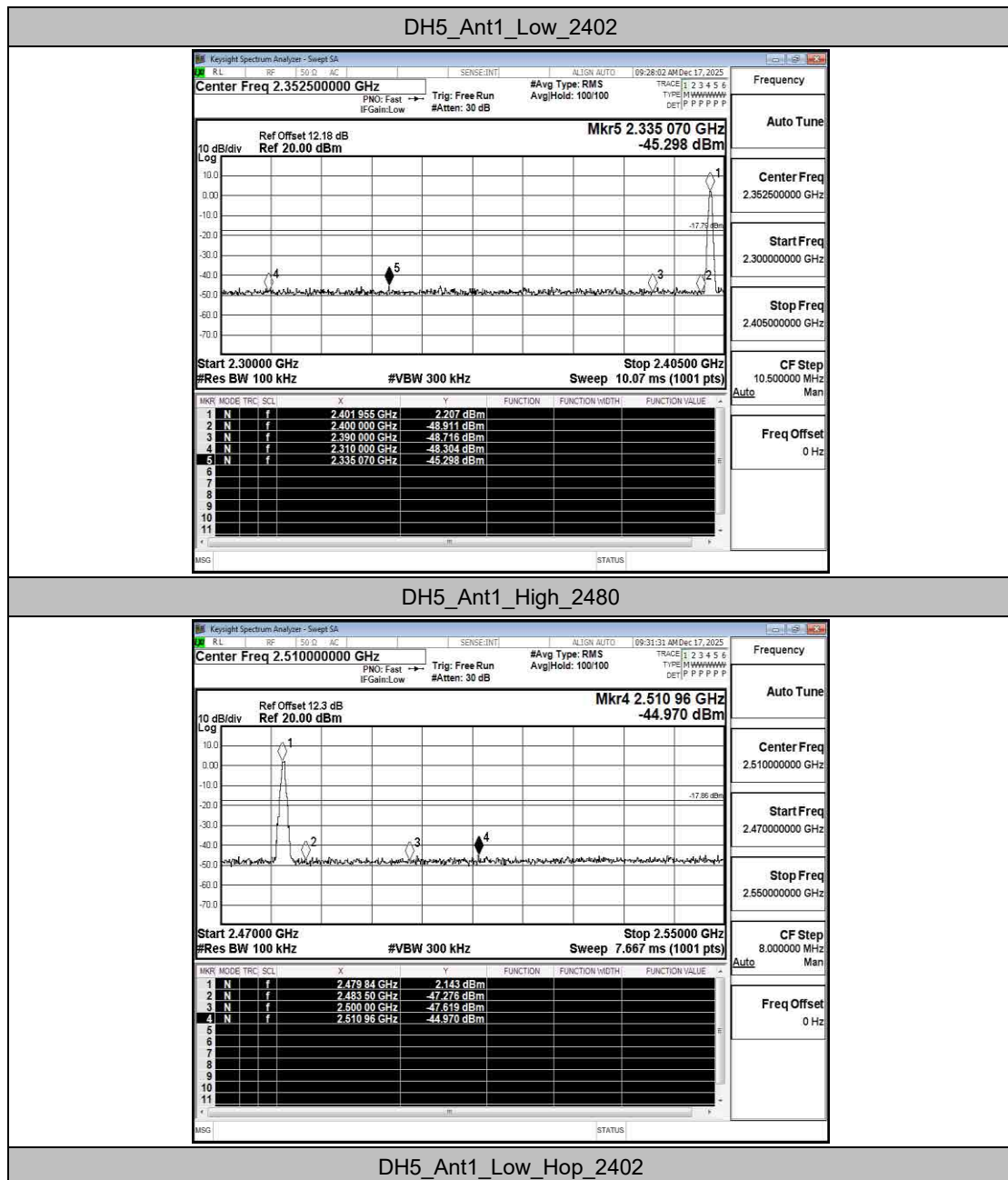


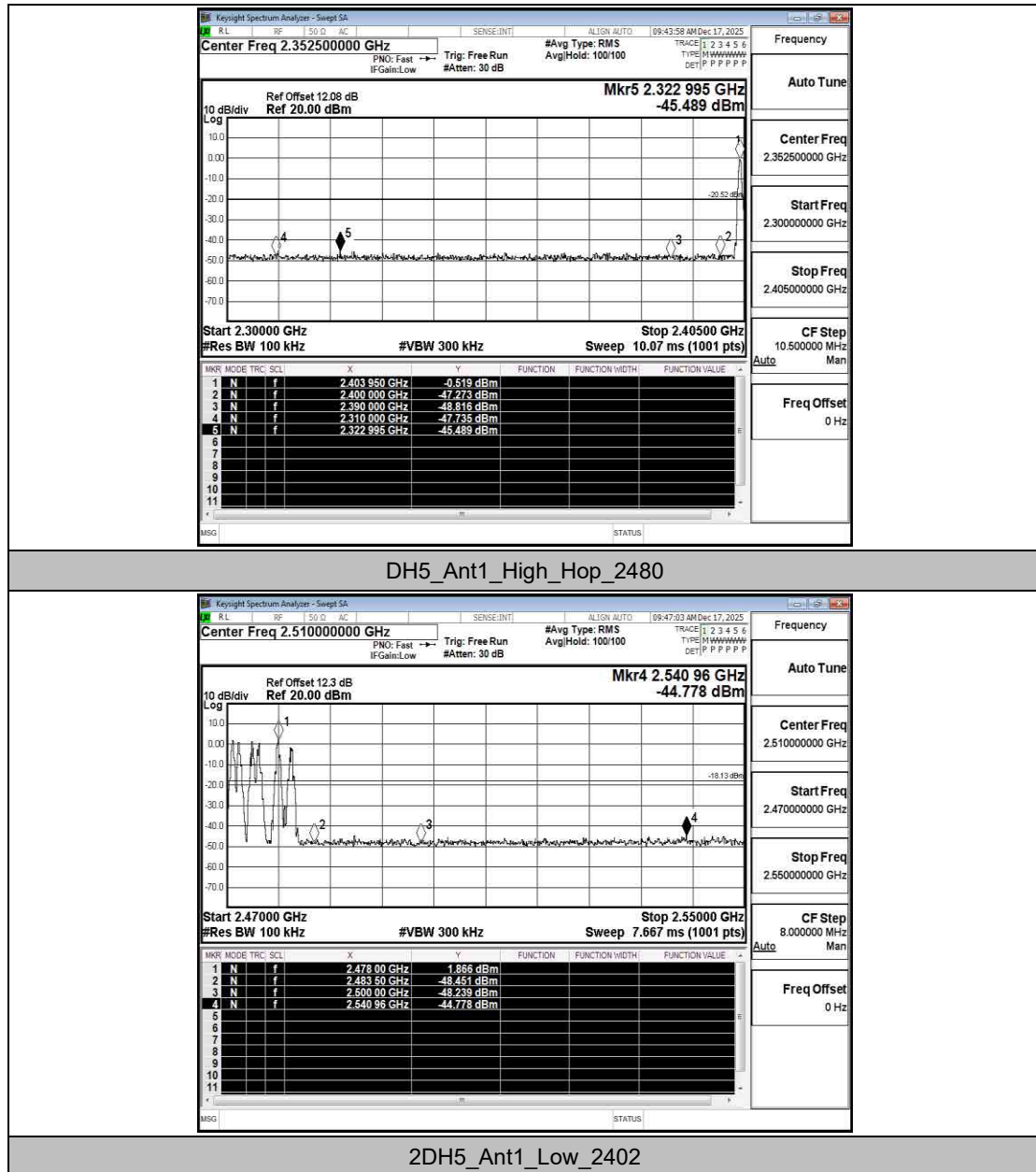
## A.6 Band edge measurements

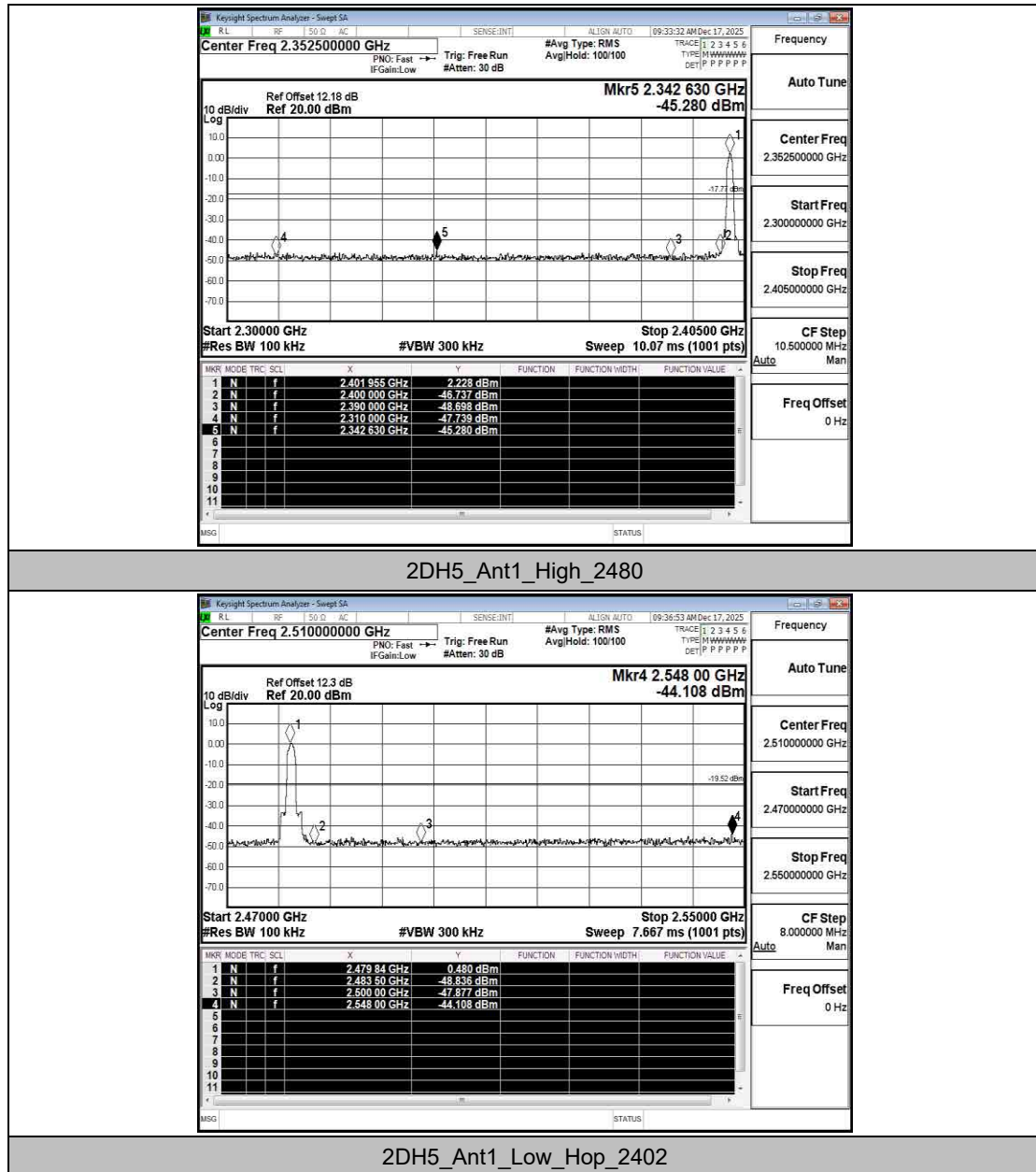
### Test Result

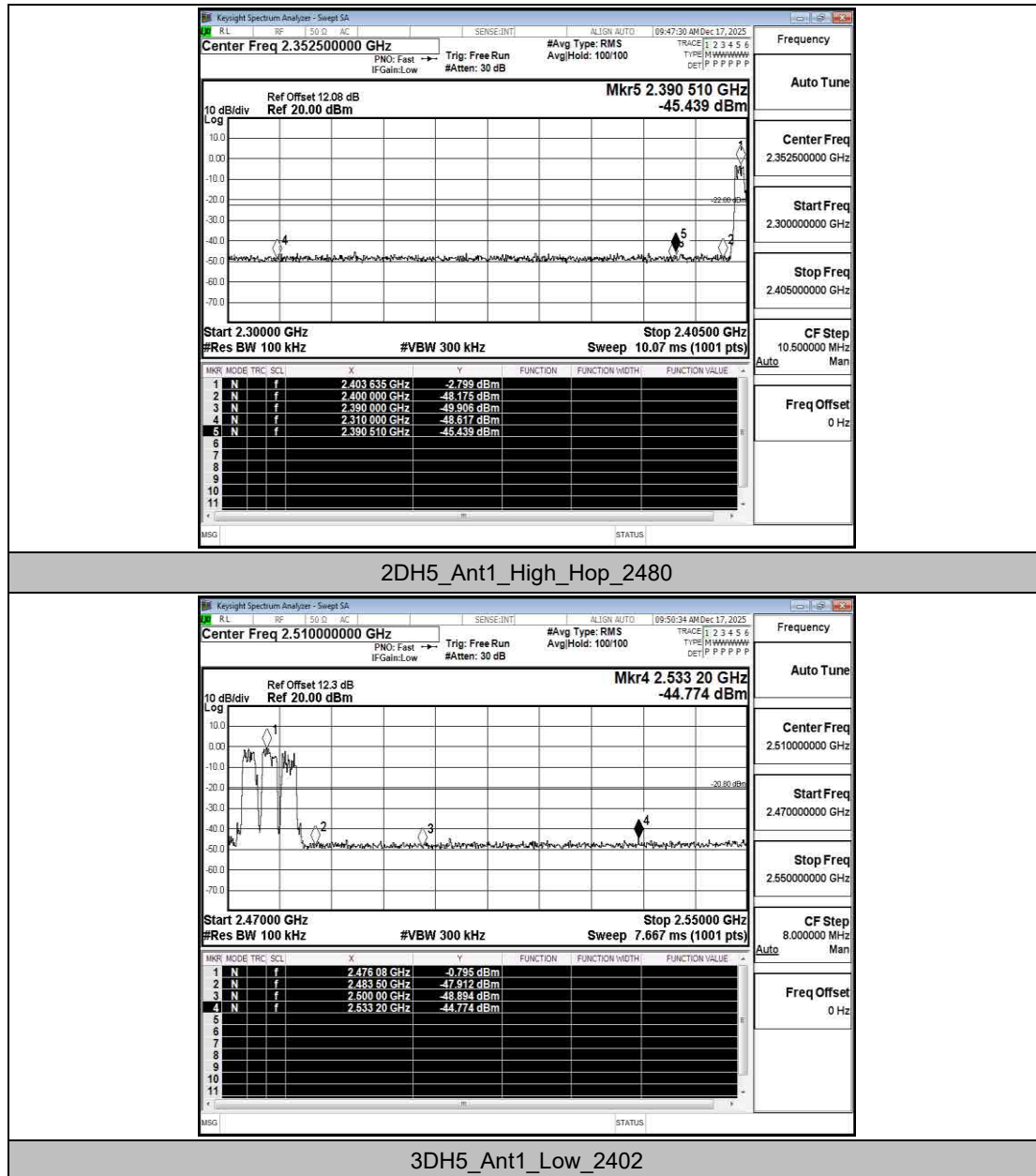
| TestMode | Antenna | ChName | Freq(MHz) | RefLevel [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|----------|---------|--------|-----------|----------------|--------------|---------------|---------|
| DH5      | Ant1    | Low    | 2402      | 2.21           | -45.3        | $\leq -17.79$ | PASS    |
|          |         | High   | 2480      | 2.14           | -44.97       | $\leq -17.86$ | PASS    |
|          |         | Low    | Hop_2402  | -0.52          | -45.49       | $\leq -20.52$ | PASS    |
|          |         | High   | Hop_2480  | 1.87           | -44.78       | $\leq -18.13$ | PASS    |
| 2DH5     | Ant1    | Low    | 2402      | 2.23           | -45.28       | $\leq -17.77$ | PASS    |
|          |         | High   | 2480      | 0.48           | -44.11       | $\leq -19.52$ | PASS    |
|          |         | Low    | Hop_2402  | -2.80          | -45.44       | $\leq -22.8$  | PASS    |
|          |         | High   | Hop_2480  | -0.80          | -44.77       | $\leq -20.8$  | PASS    |
| 3DH5     | Ant1    | Low    | 2402      | 1.84           | -44.8        | $\leq -18.16$ | PASS    |
|          |         | High   | 2480      | 1.02           | -44.9        | $\leq -18.98$ | PASS    |
|          |         | Low    | Hop_2402  | -1.30          | -45.11       | $\leq -21.3$  | PASS    |
|          |         | High   | Hop_2480  | -0.21          | -44.99       | $\leq -20.21$ | PASS    |

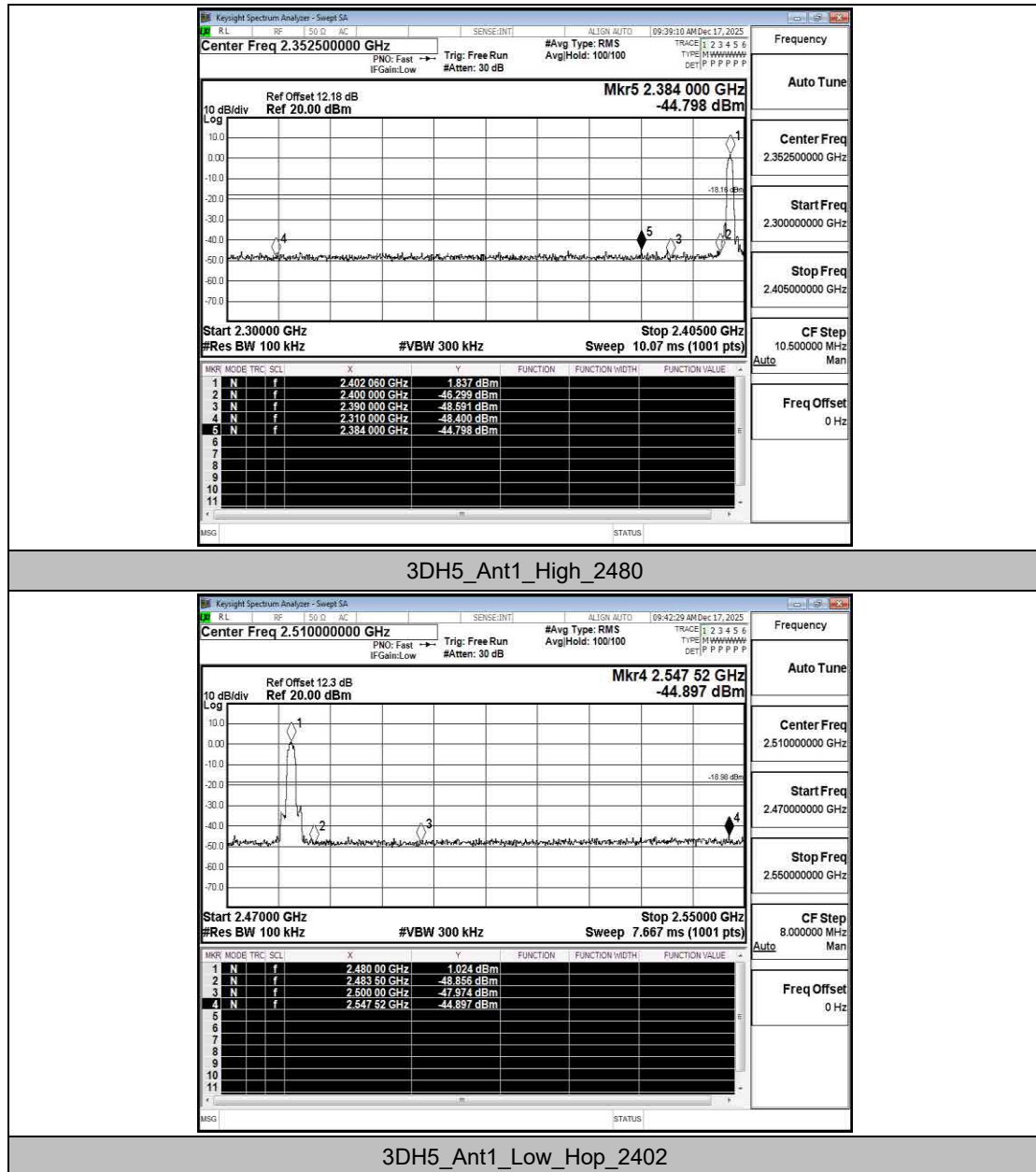
## Test Graphs

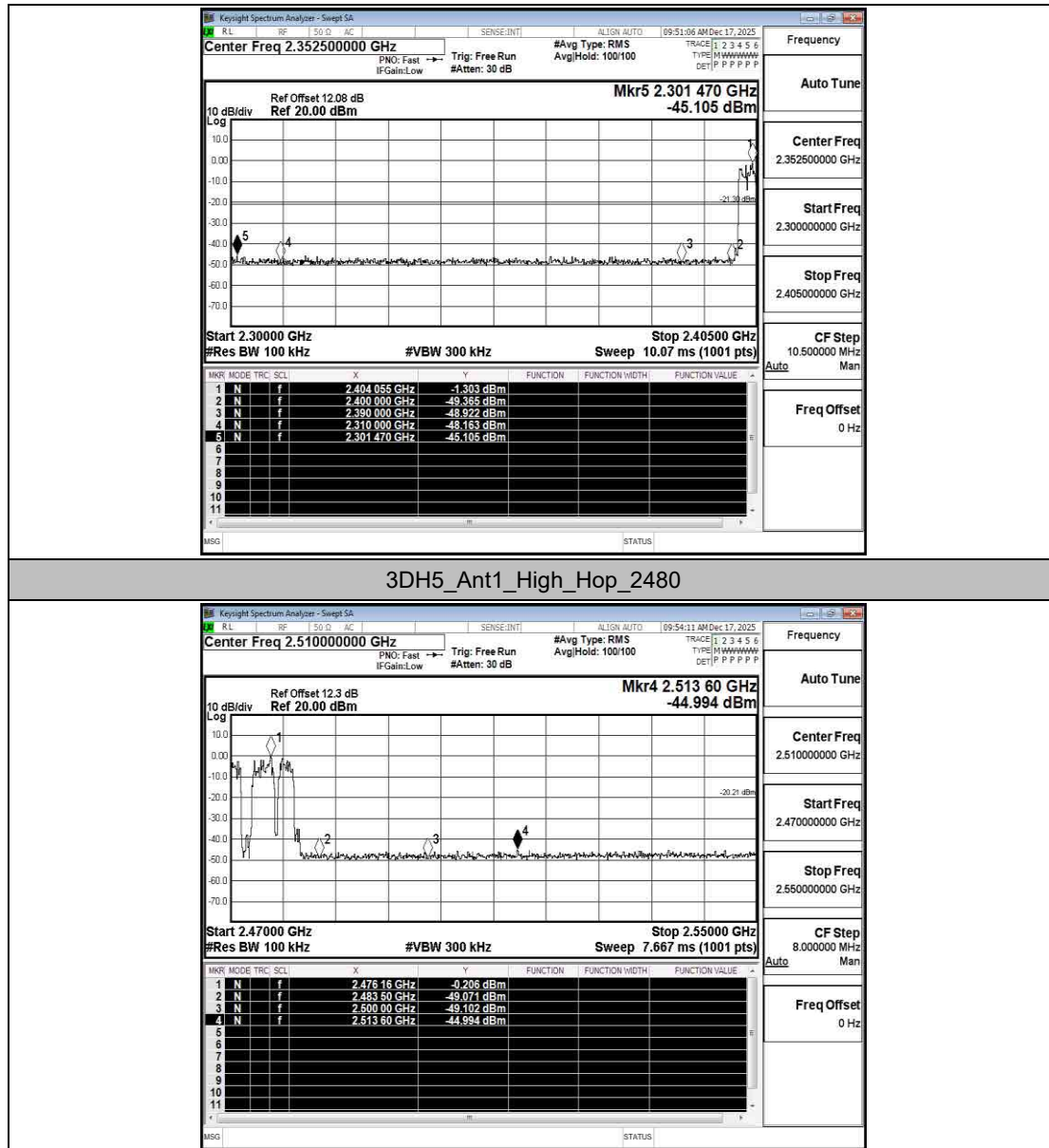










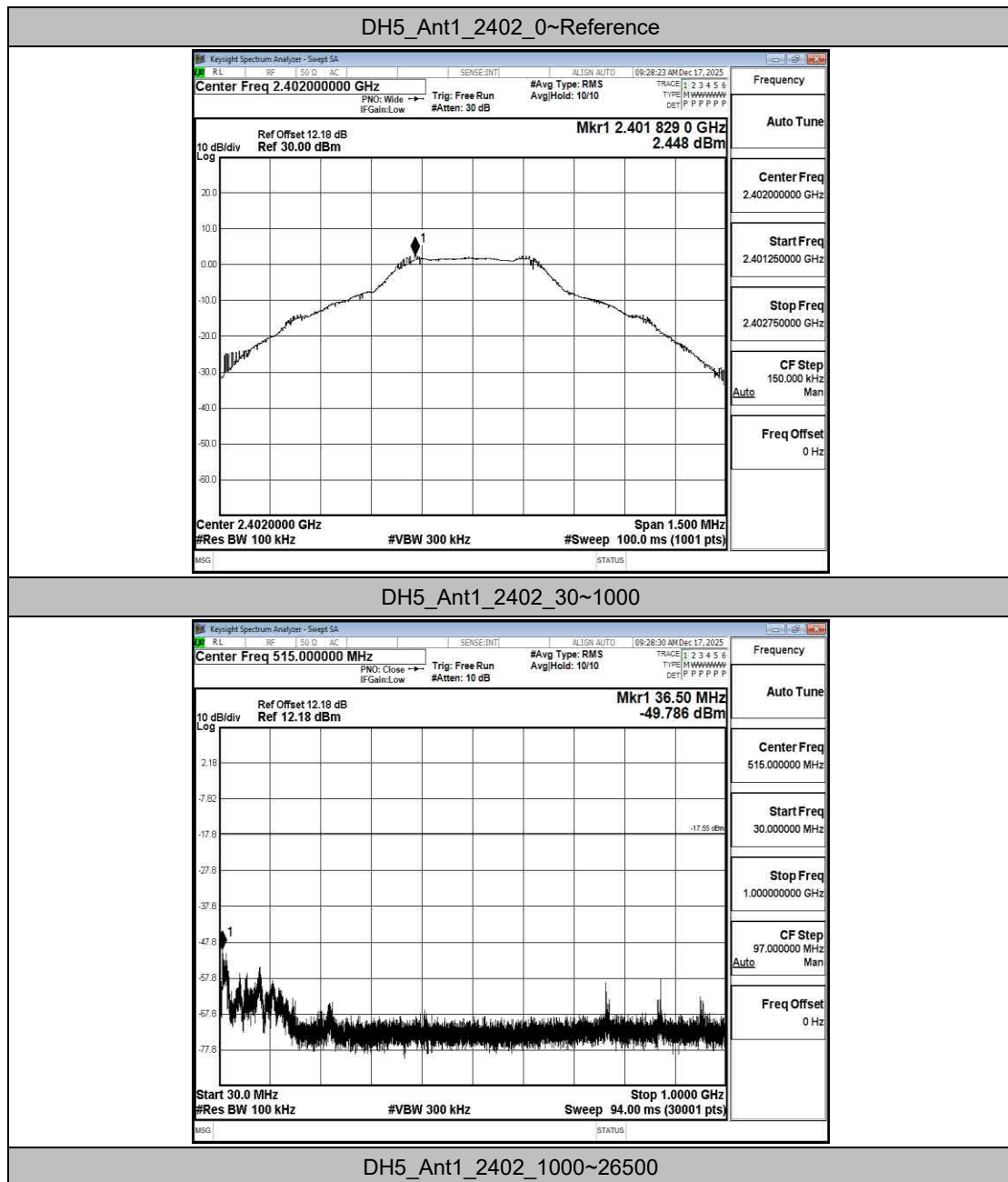


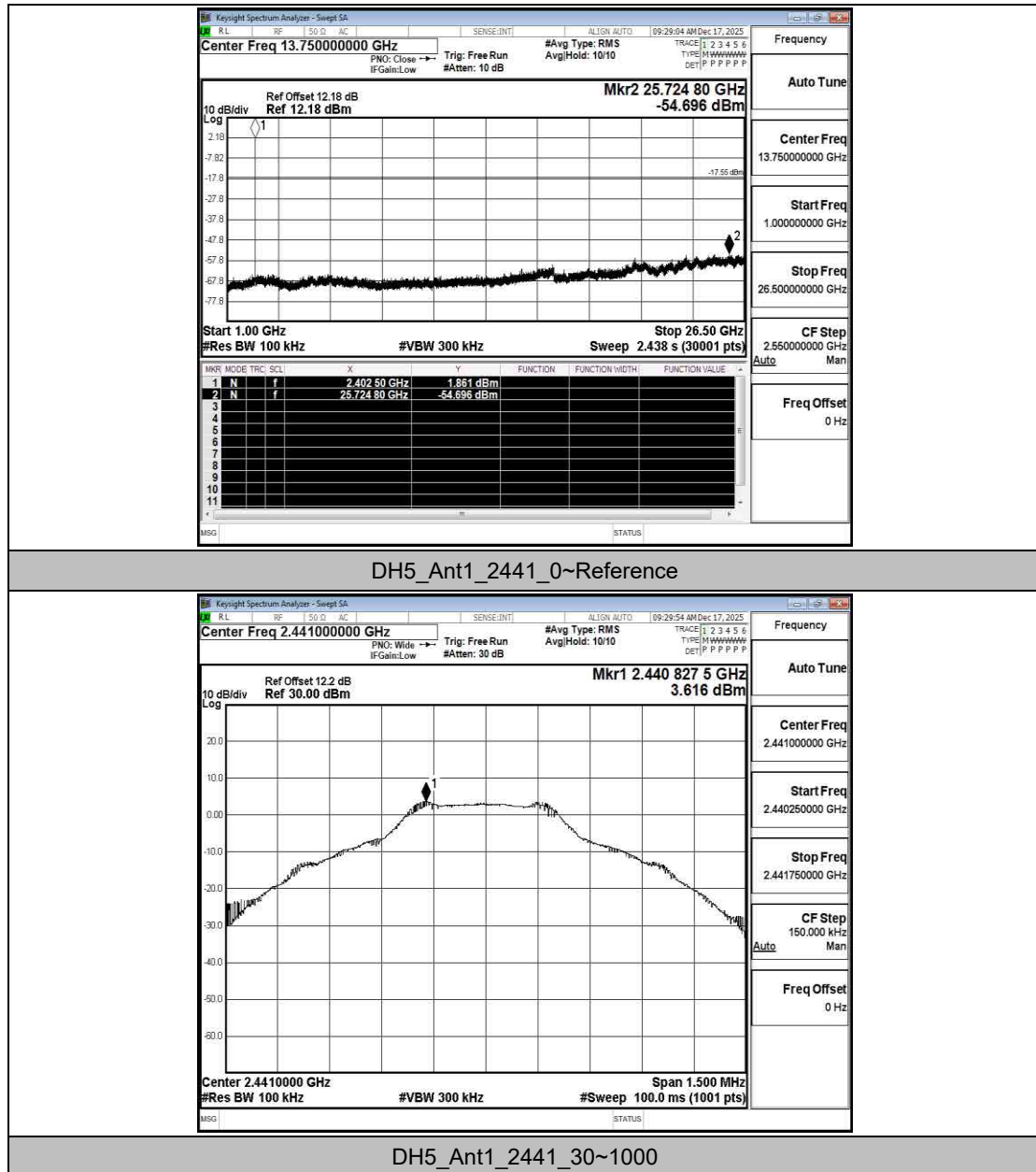
## A.7 Conducted Spurious Emission

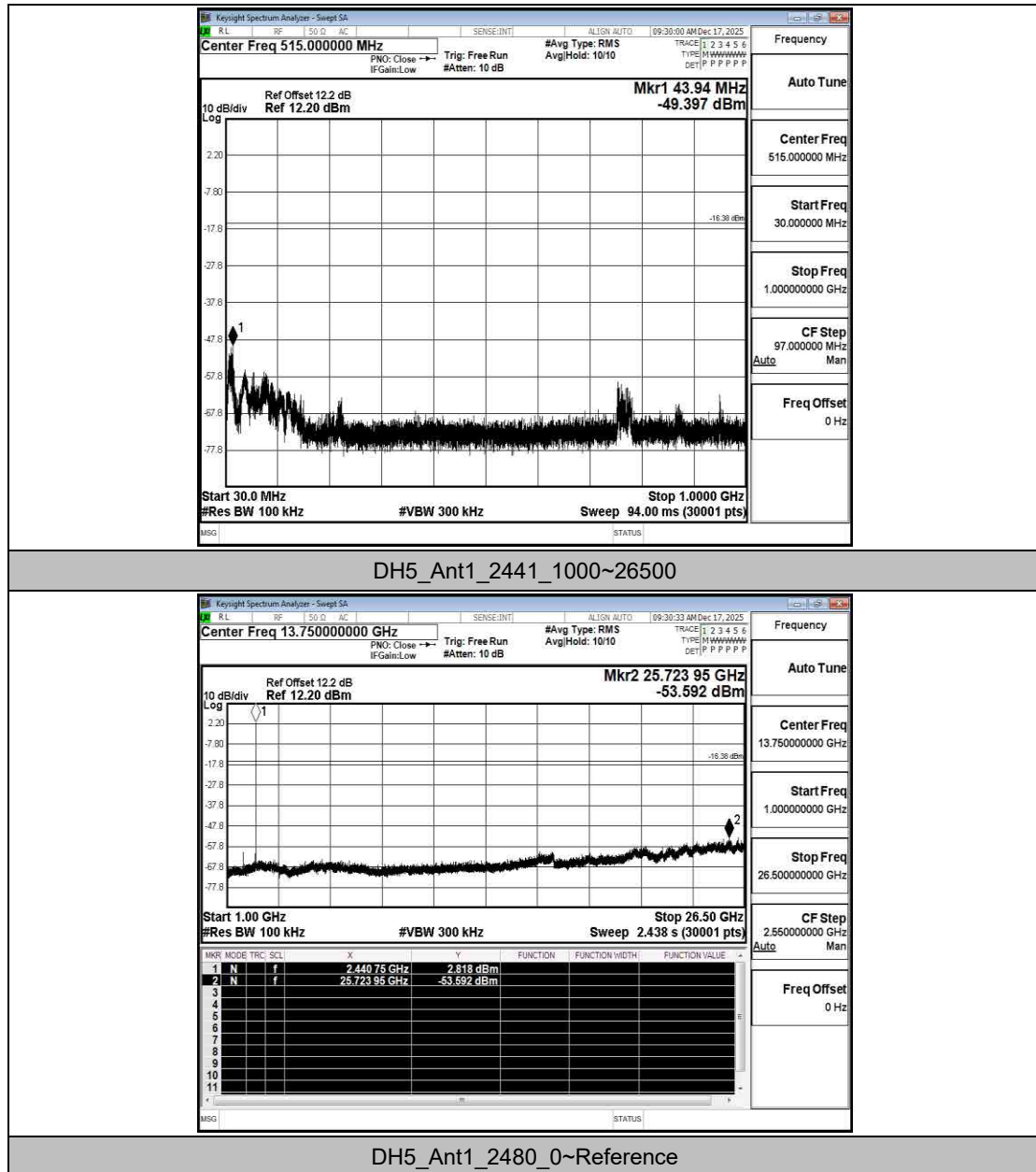
### Test Result

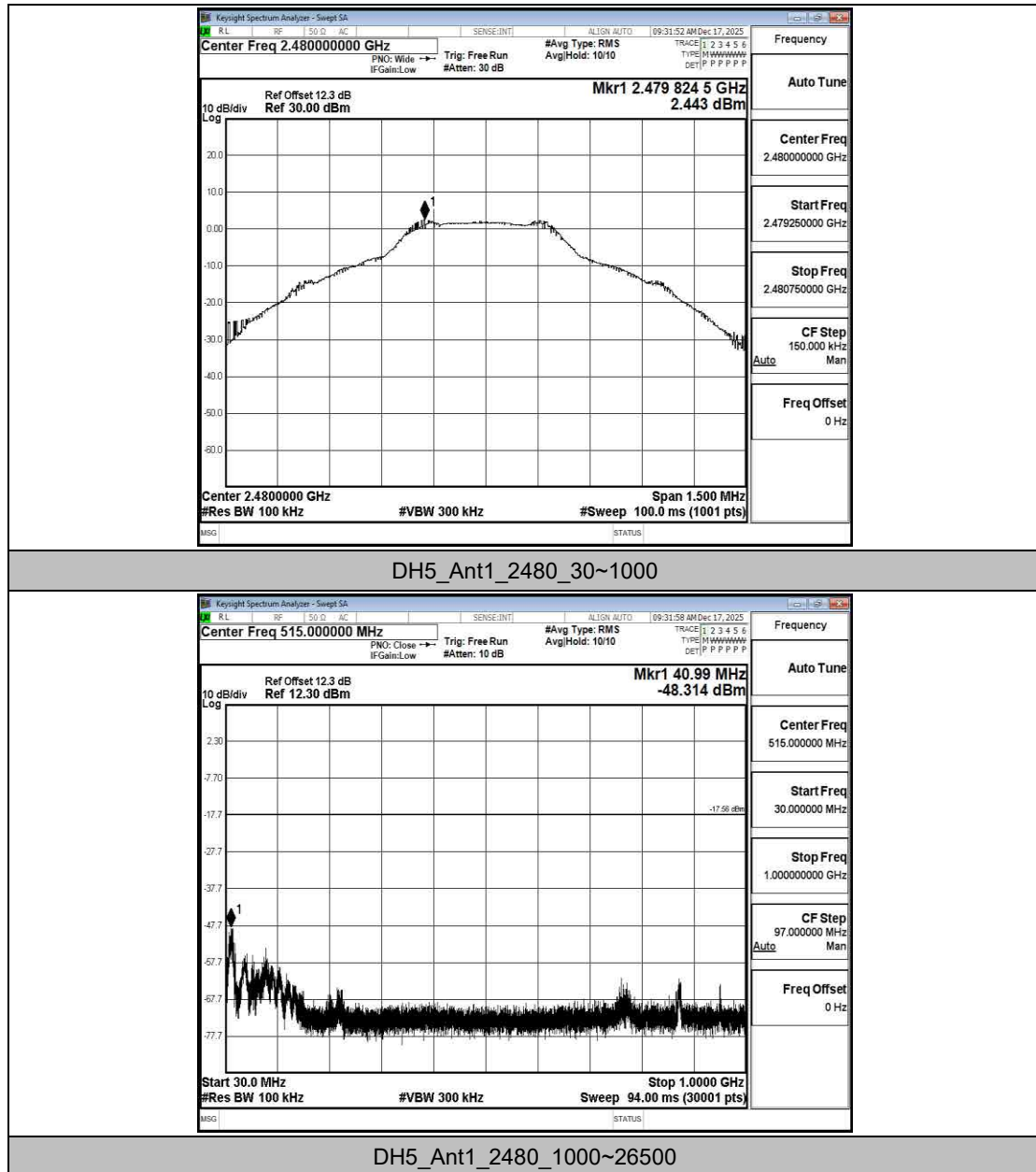
| TestMode | Antenna | Freq(MHz) | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|-----------|-----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | 2402      | Reference       | 2.45           | 2.45         | ---         | PASS    |
|          |         |           | 30~1000         | 2.45           | -49.79       | ≤-17.55     | PASS    |
|          |         |           | 1000~26500      | 2.45           | -54.7        | ≤-17.55     | PASS    |
|          |         | 2441      | Reference       | 3.62           | 3.62         | ---         | PASS    |
|          |         |           | 30~1000         | 3.62           | -49.4        | ≤-16.38     | PASS    |
|          |         |           | 1000~26500      | 3.62           | -53.59       | ≤-16.38     | PASS    |
|          |         | 2480      | Reference       | 2.44           | 2.44         | ---         | PASS    |
|          |         |           | 30~1000         | 2.44           | -48.31       | ≤-17.56     | PASS    |
|          |         |           | 1000~26500      | 2.44           | -54.66       | ≤-17.56     | PASS    |
| 2DH5     | Ant1    | 2402      | Reference       | 2.28           | 2.28         | ---         | PASS    |
|          |         |           | 30~1000         | 2.28           | -48.49       | ≤-17.72     | PASS    |
|          |         |           | 1000~26500      | 2.28           | -51.11       | ≤-17.72     | PASS    |
|          |         | 2441      | Reference       | 3.38           | 3.38         | ---         | PASS    |
|          |         |           | 30~1000         | 3.38           | -48.61       | ≤-16.62     | PASS    |
|          |         |           | 1000~26500      | 3.38           | -53.9        | ≤-16.62     | PASS    |
|          |         | 2480      | Reference       | 2.39           | 2.39         | ---         | PASS    |
|          |         |           | 30~1000         | 2.39           | -48.53       | ≤-17.61     | PASS    |
|          |         |           | 1000~26500      | 2.39           | -54.12       | ≤-17.61     | PASS    |
| 3DH5     | Ant1    | 2402      | Reference       | 2.49           | 2.49         | ---         | PASS    |
|          |         |           | 30~1000         | 2.49           | -48.95       | ≤-17.51     | PASS    |
|          |         |           | 1000~26500      | 2.49           | -50.31       | ≤-17.51     | PASS    |
|          |         | 2441      | Reference       | 3.58           | 3.58         | ---         | PASS    |
|          |         |           | 30~1000         | 3.58           | -51.59       | ≤-16.42     | PASS    |
|          |         |           | 1000~26500      | 3.58           | -49.31       | ≤-16.42     | PASS    |
|          |         | 2480      | Reference       | 2.60           | 2.60         | ---         | PASS    |
|          |         |           | 30~1000         | 2.60           | -49.86       | ≤-17.4      | PASS    |
|          |         |           | 1000~26500      | 2.60           | -50.14       | ≤-17.4      | PASS    |

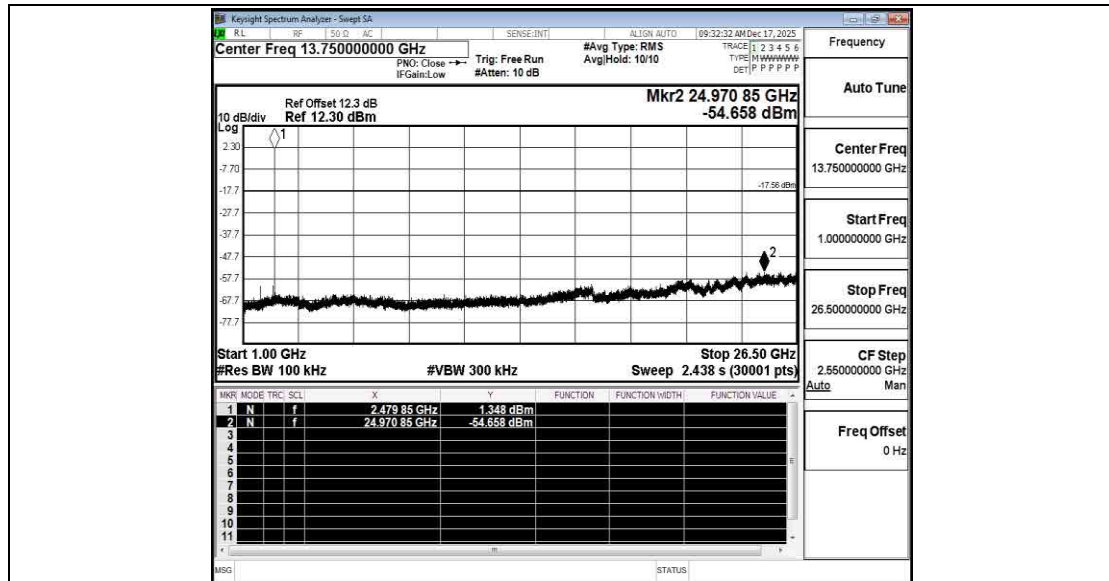
## Test Graphs



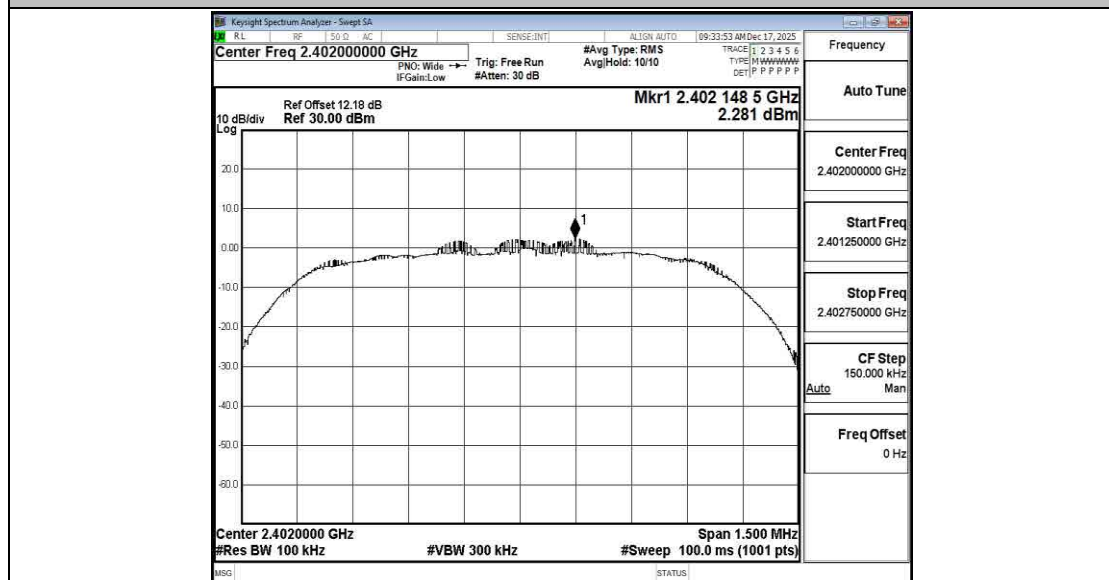




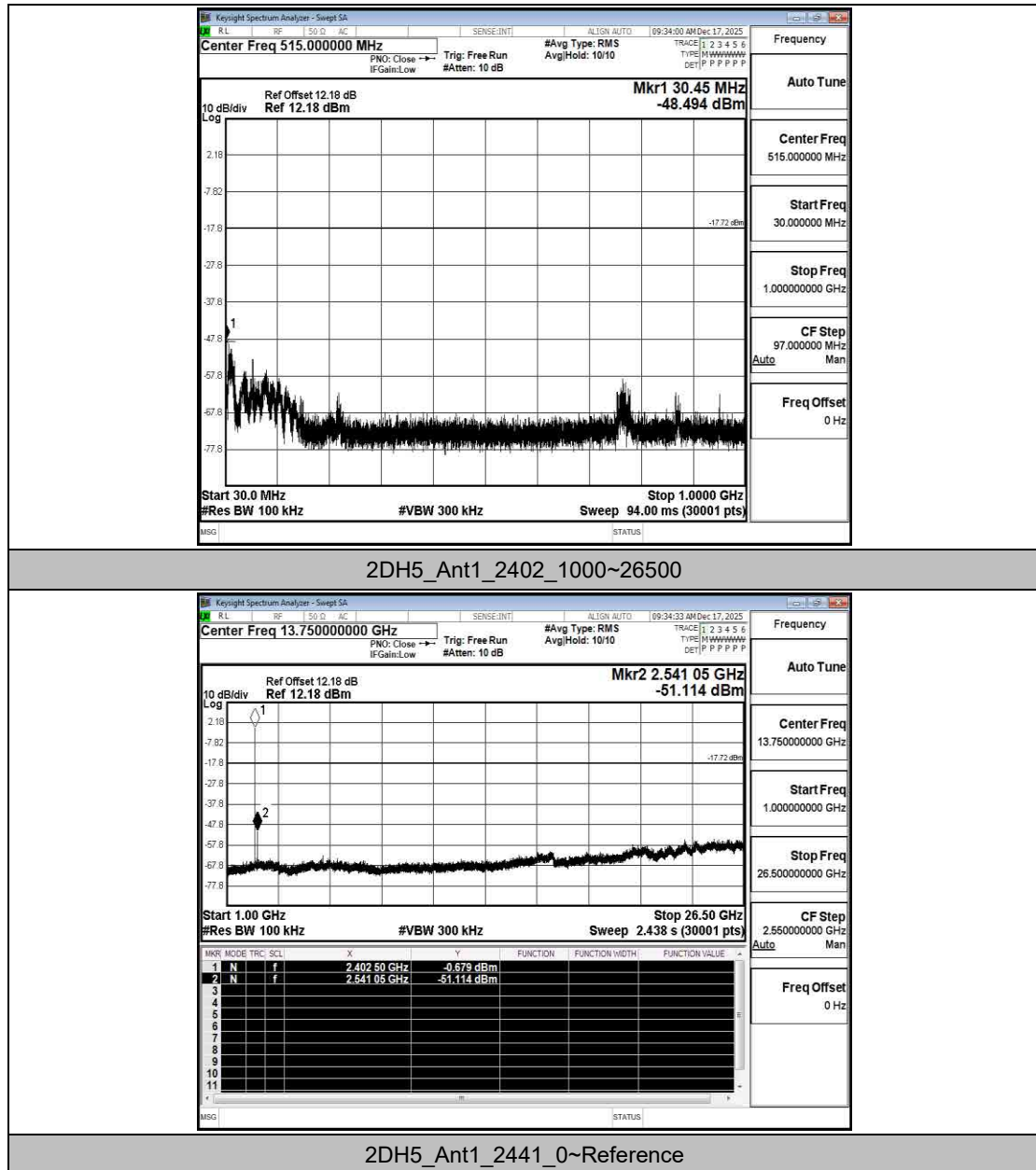


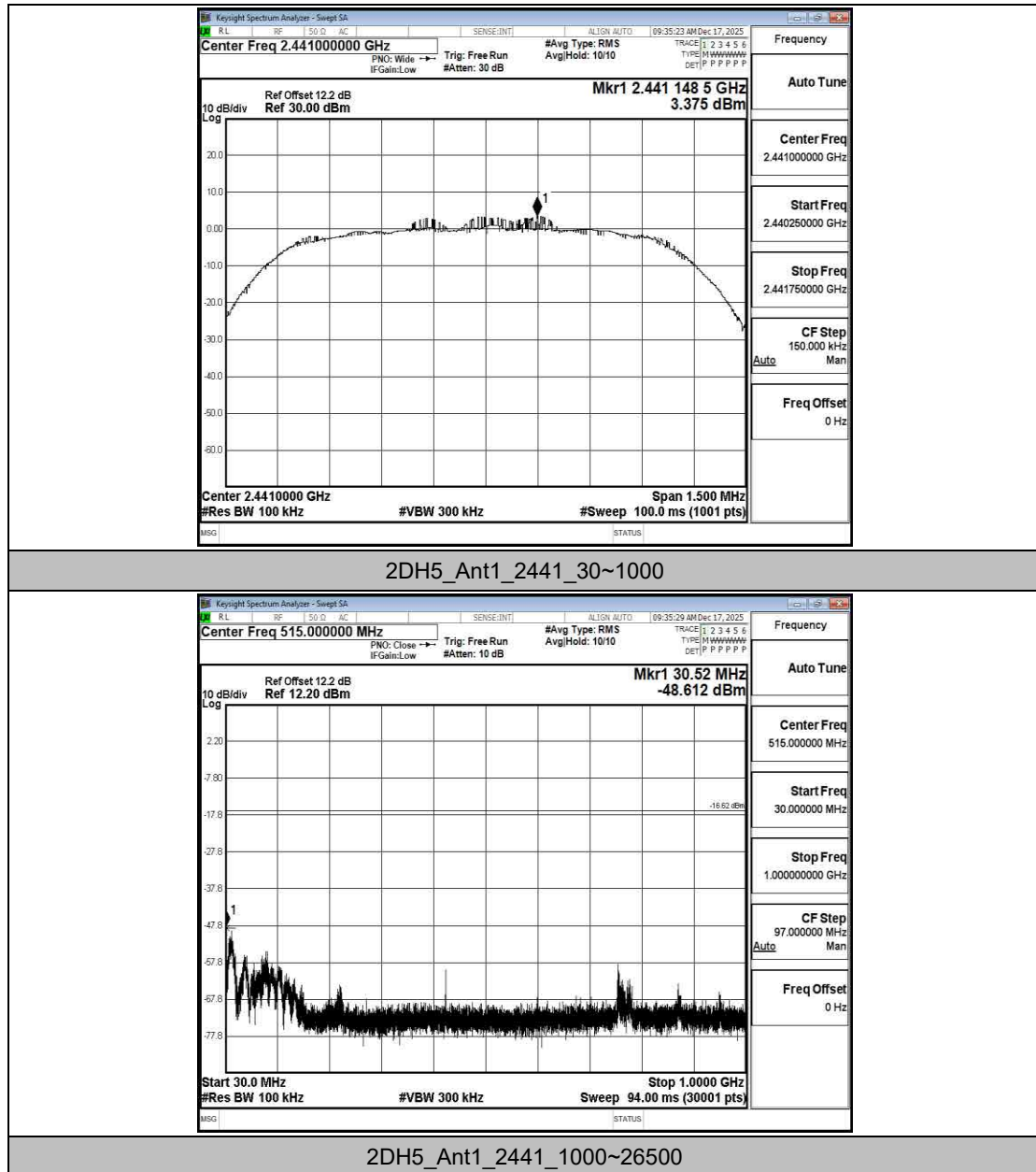


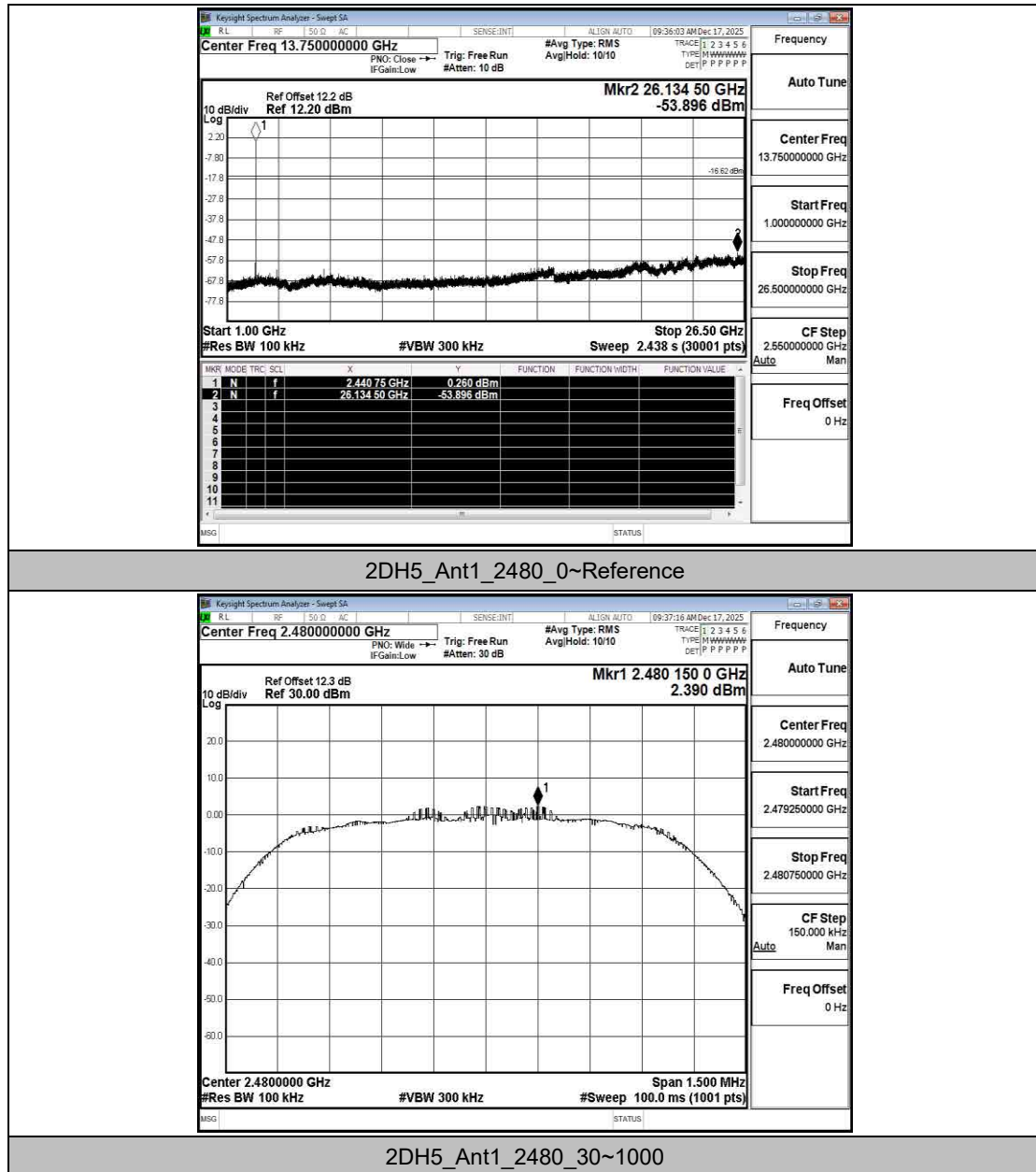
2DH5\_Ant1\_2402\_0~Reference

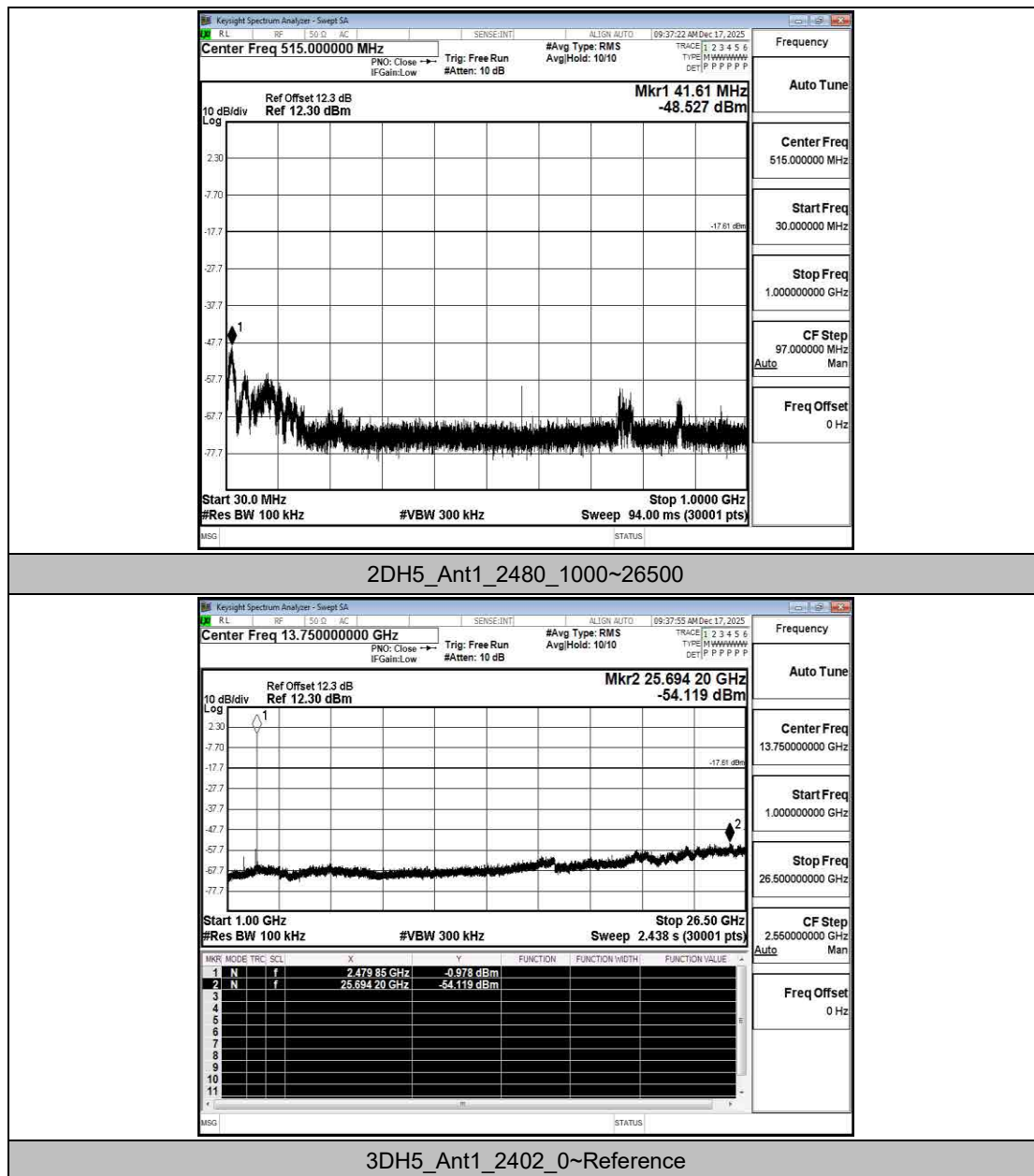


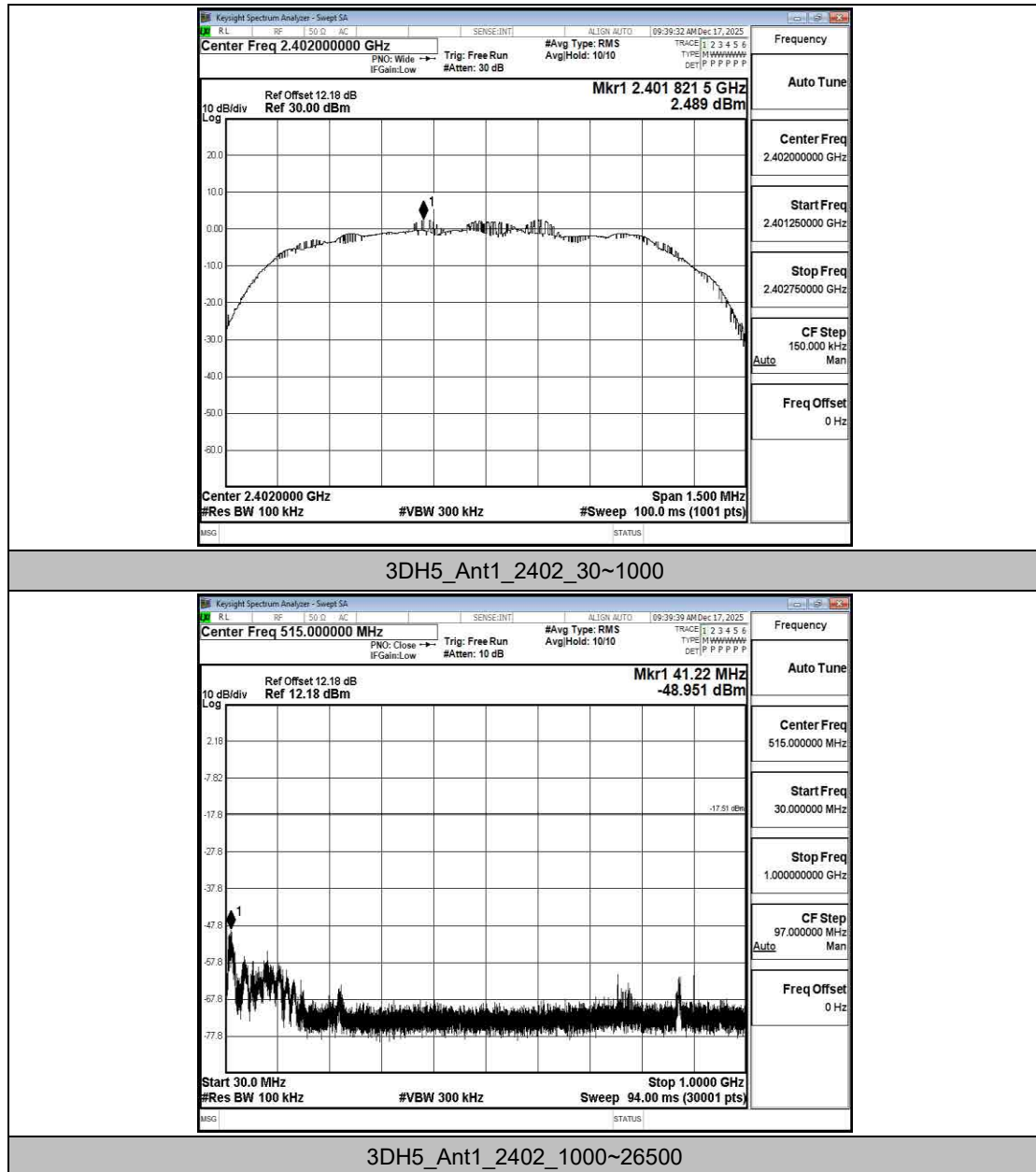
2DH5\_Ant1\_2402\_30~1000

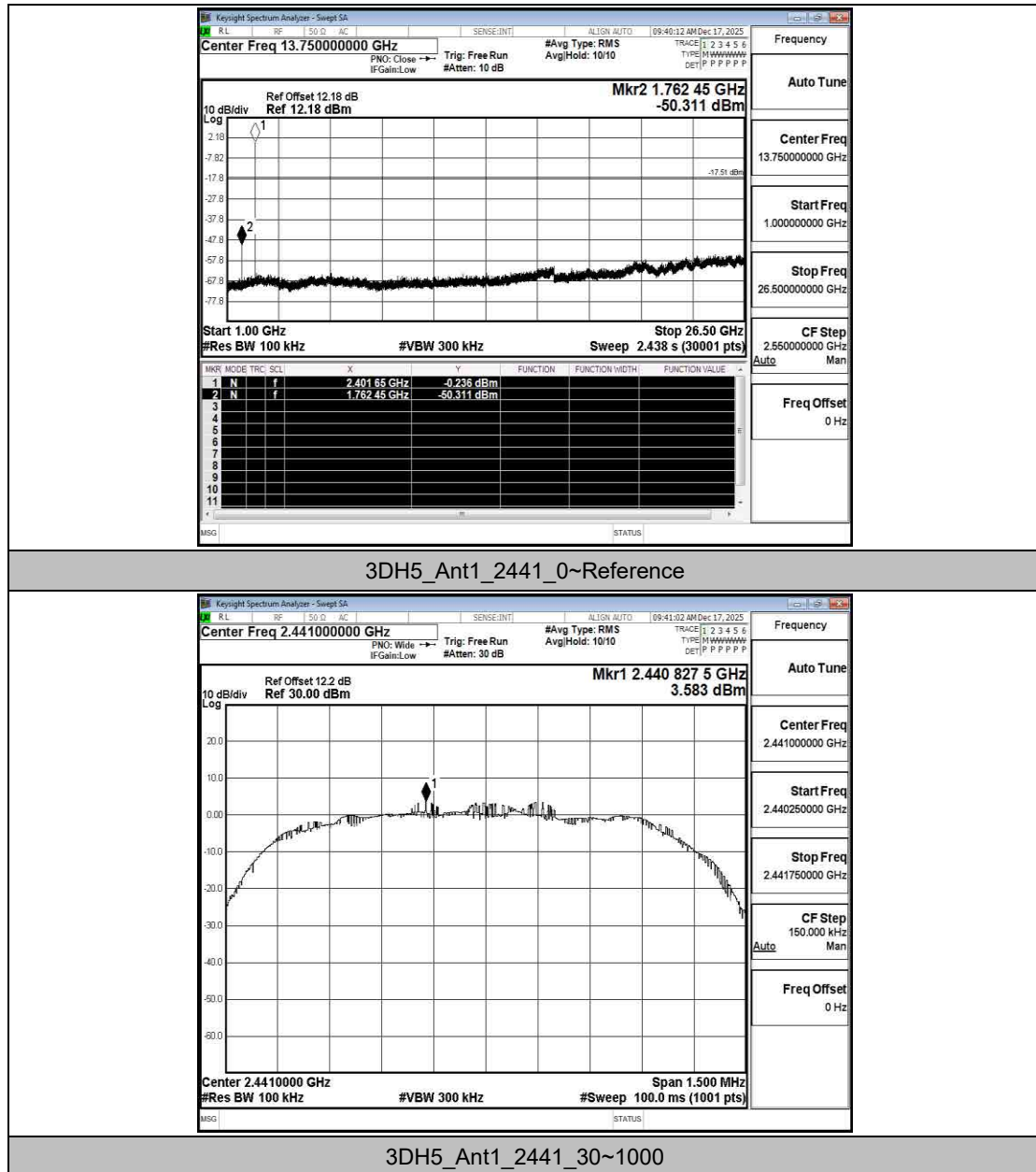


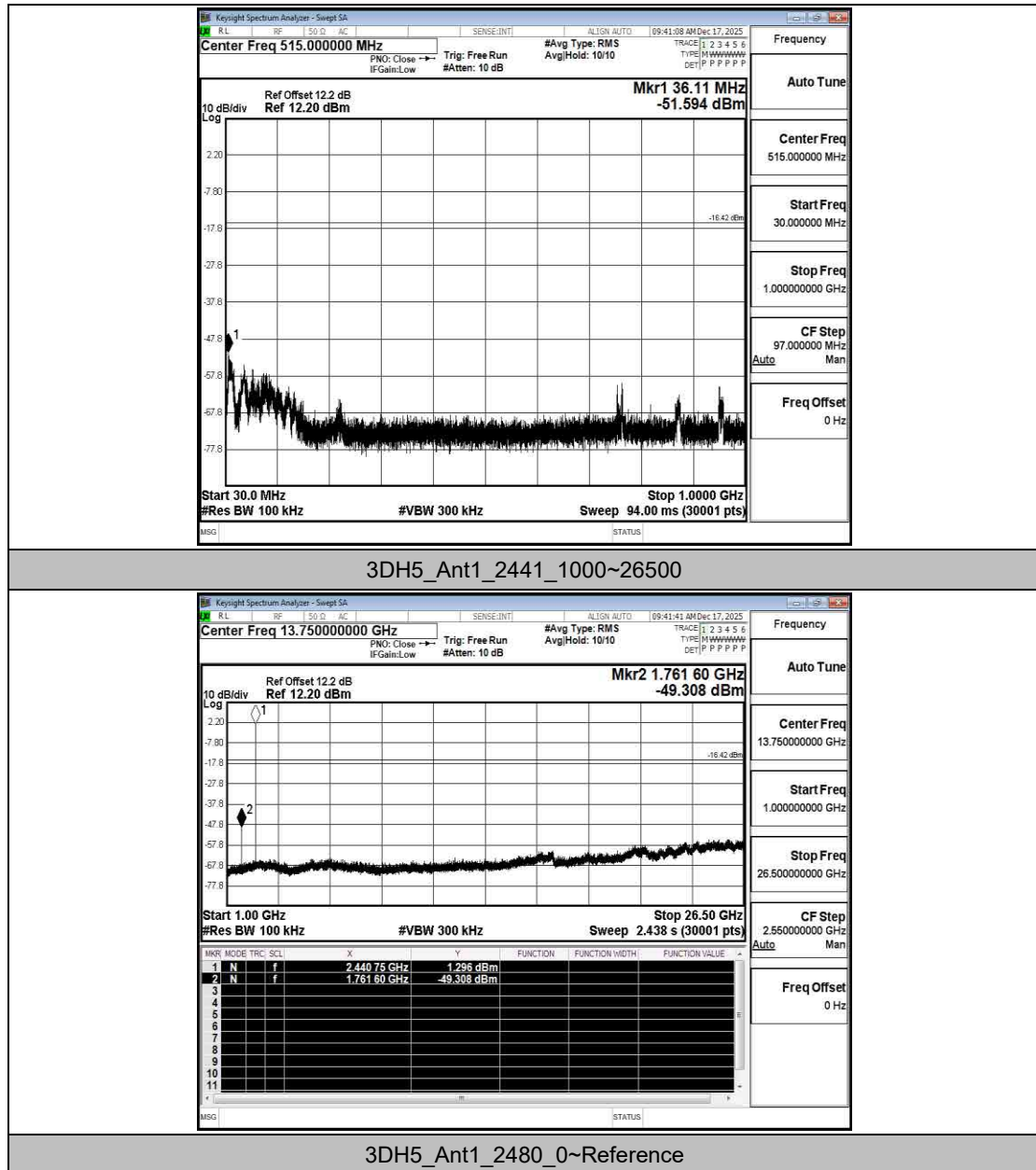


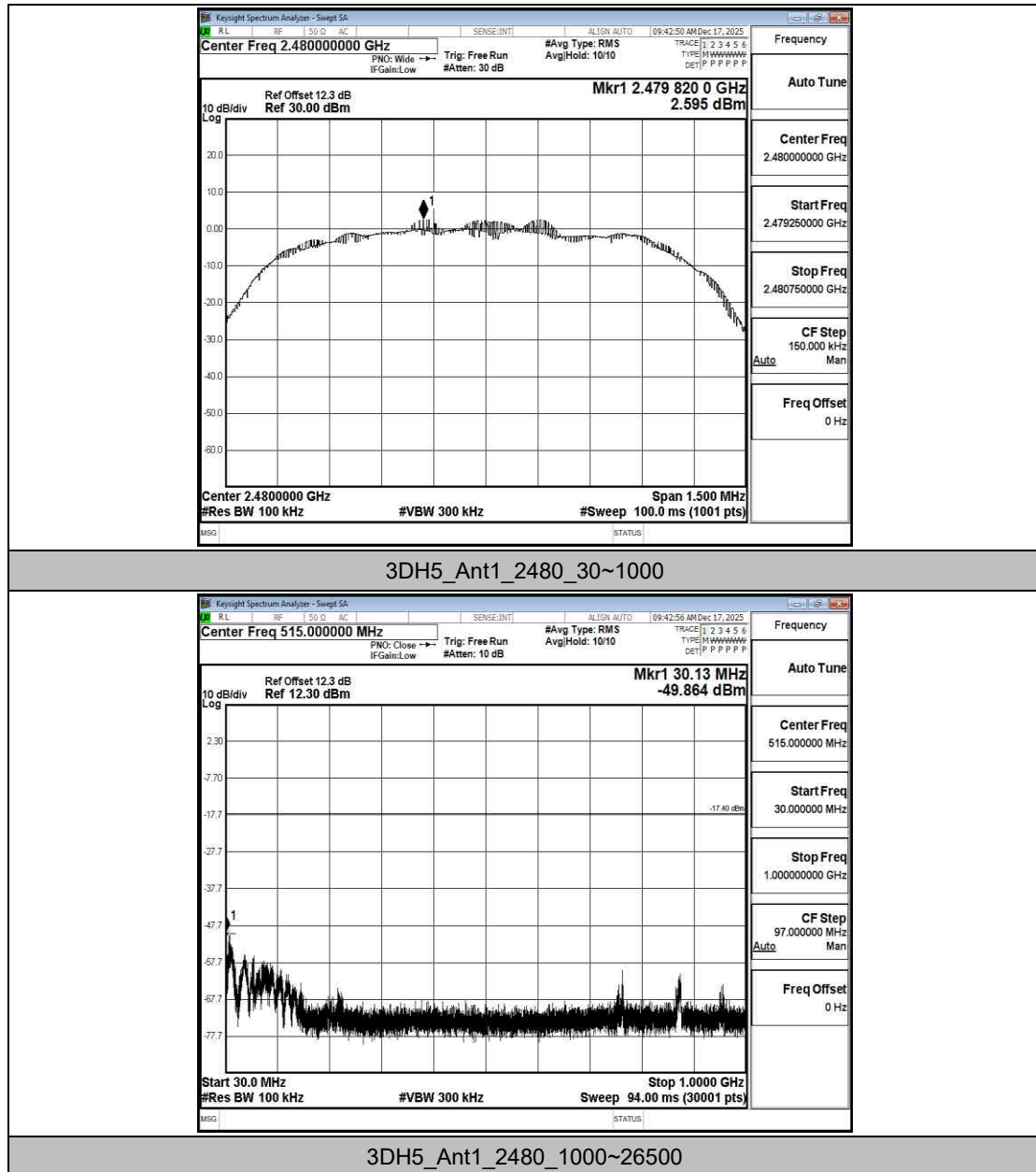


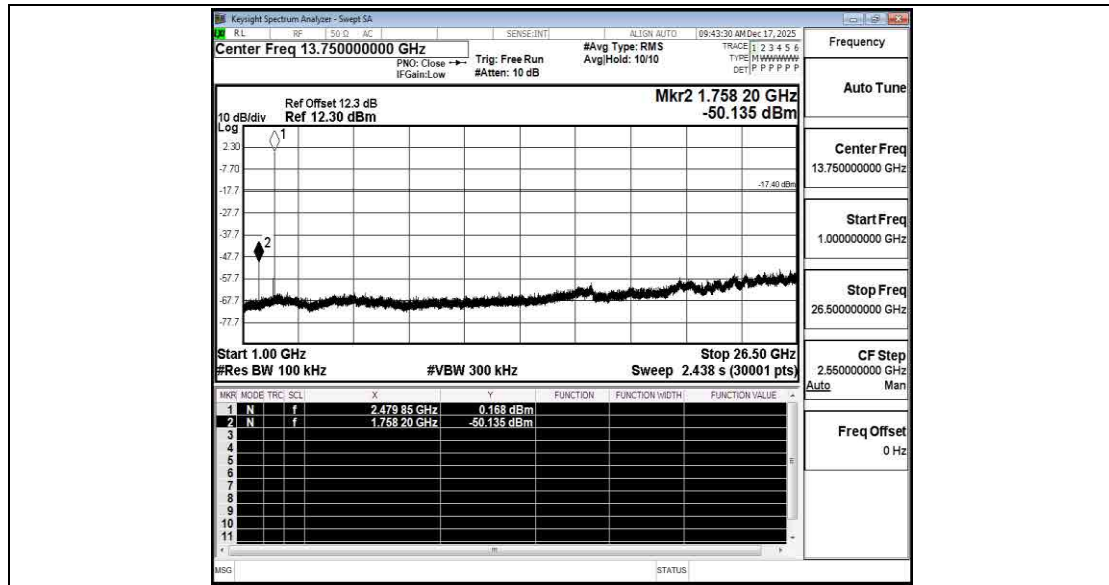










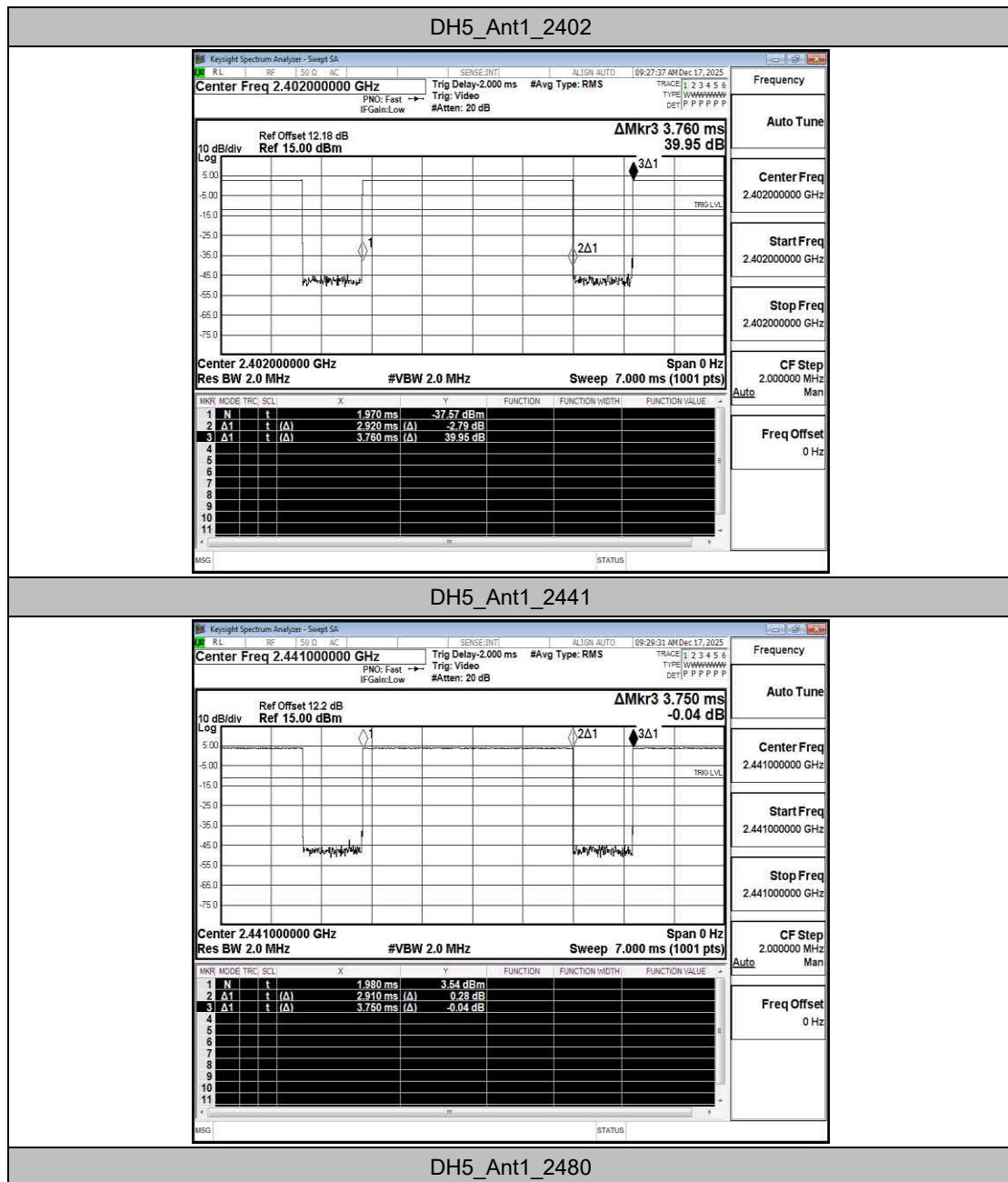


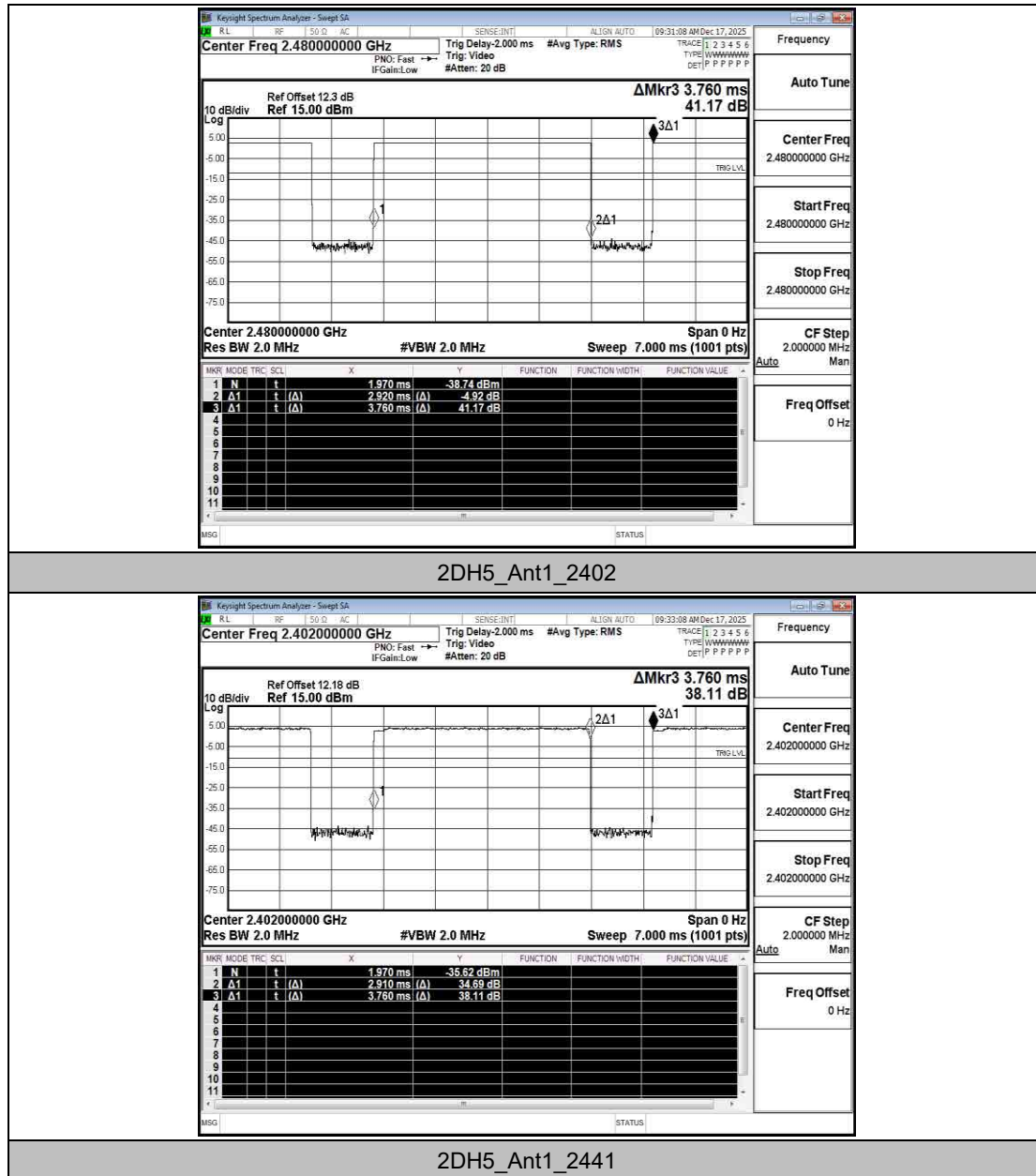
## A.8 Duty Cycle

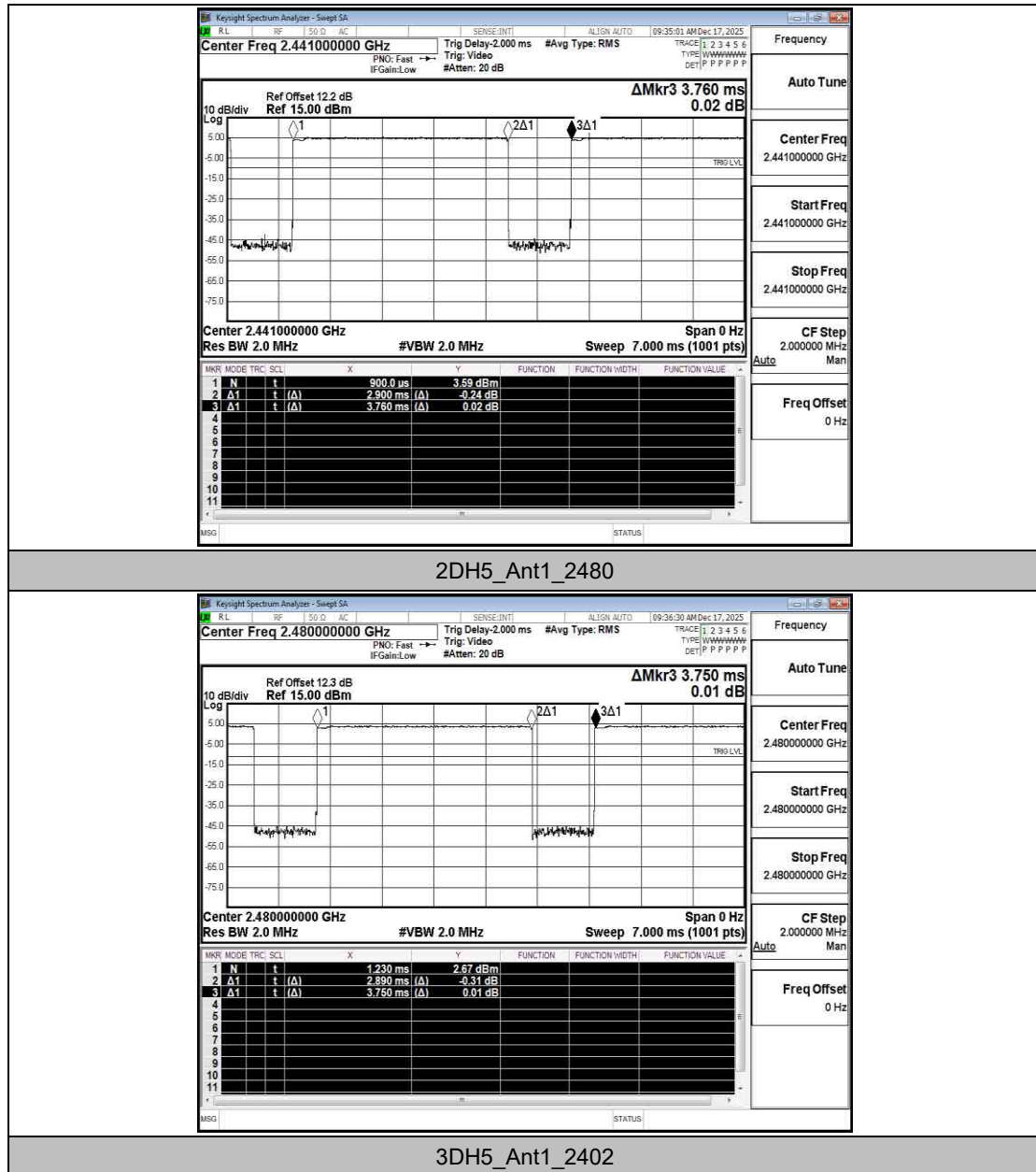
### Test Result

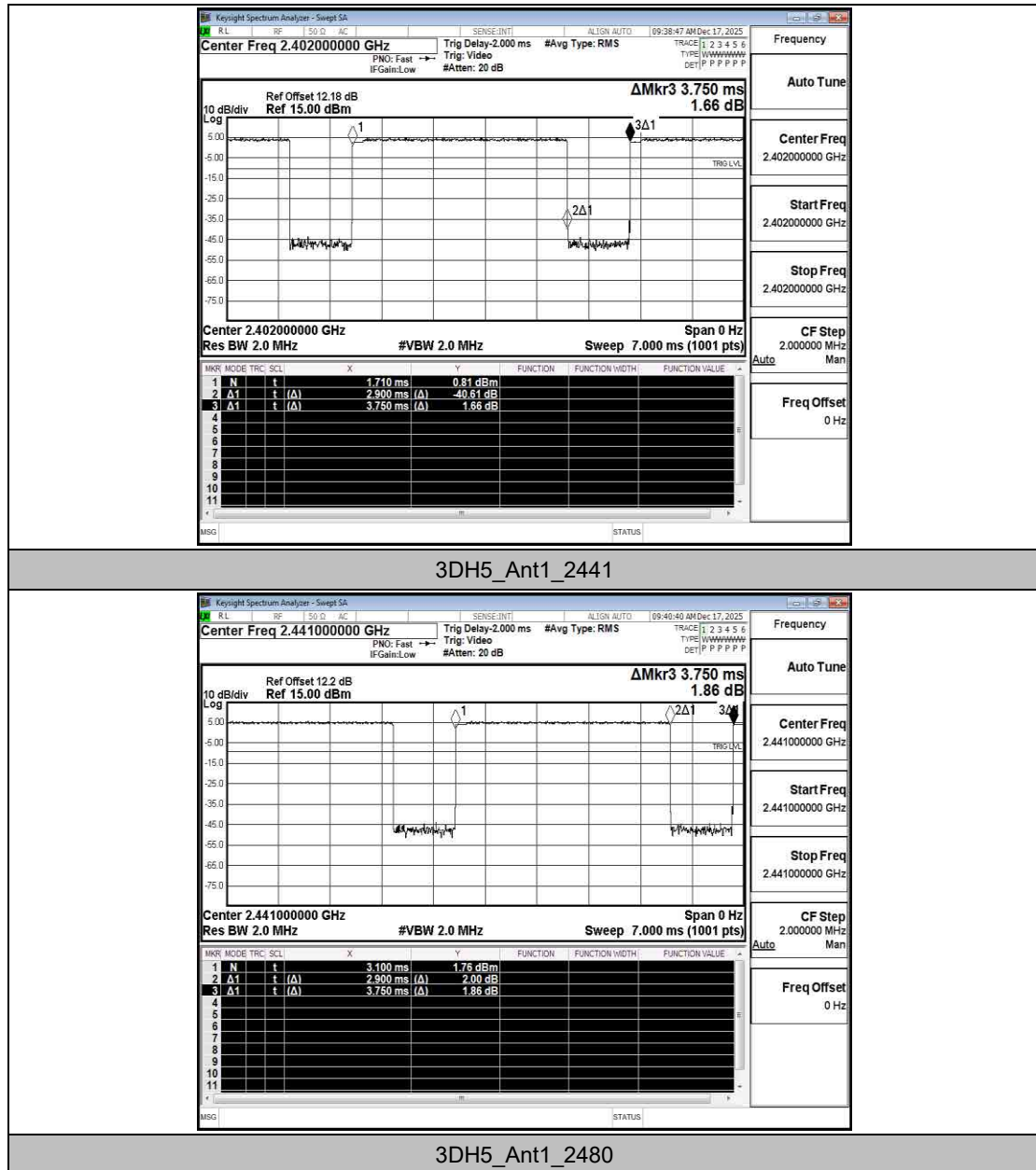
| TestMode | Antenna | Freq(MHz) | ON Time<br>[ms] | Period<br>[ms] | DC<br>[%] | xFactor | Limit | Verdict |
|----------|---------|-----------|-----------------|----------------|-----------|---------|-------|---------|
| DH5      | Ant1    | 2402      | 2.92            | 3.76           | 77.66     | 1.10    | ---   | ---     |
|          |         | 2441      | 2.91            | 3.75           | 77.60     | 1.10    | ---   | ---     |
|          |         | 2480      | 2.92            | 3.76           | 77.66     | 1.10    | ---   | ---     |
| 2DH5     | Ant1    | 2402      | 2.91            | 3.76           | 77.39     | 1.11    | ---   | ---     |
|          |         | 2441      | 2.90            | 3.76           | 77.13     | 1.13    | ---   | ---     |
|          |         | 2480      | 2.89            | 3.75           | 77.07     | 1.13    | ---   | ---     |
| 3DH5     | Ant1    | 2402      | 2.90            | 3.75           | 77.33     | 1.12    | ---   | ---     |
|          |         | 2441      | 2.90            | 3.75           | 77.33     | 1.12    | ---   | ---     |
|          |         | 2480      | 2.89            | 3.75           | 77.07     | 1.13    | ---   | ---     |

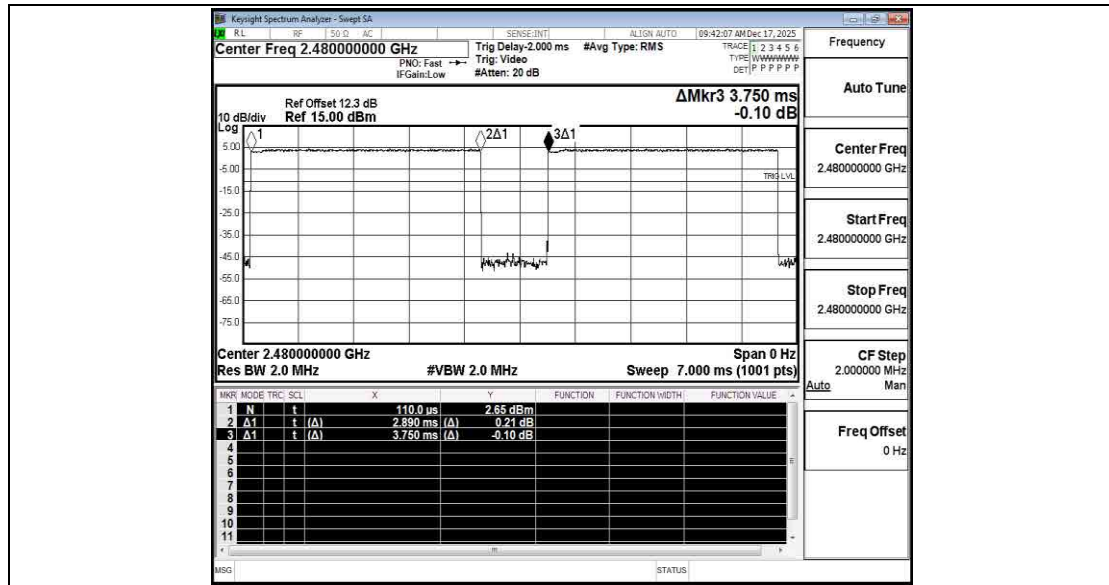
## Test Graphs











## A.9 Emissions in Restricted Bands

### Test Result

| TestMode | Antenna | ChName | Freq (MHz) | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Gain [dBi] | DC Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|----------|---------|--------|------------|----------|------------|--------------|-------------|------------|----------------|-----------------|----------------|---------|
| DH5      | Ant1    | Low    | 2402       | AV       | 2310.000   | -60.62       | ≤-44.30     | 2.00       | 1.10           | 37.68           | ≤54            | PASS    |
|          |         |        |            | AV       | 2319.425   | -60.06       | ≤-44.30     | 2.00       | 1.10           | 38.24           | ≤54            | PASS    |
|          |         |        |            | AV       | 2390.000   | -60.36       | ≤-44.30     | 2.00       | 1.10           | 37.94           | ≤54            | PASS    |
|          |         |        |            | Peak     | 2310.000   | -54.1        | ≤-23.20     | 2.00       | 0.00           | 43.10           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2365.940   | -49.07       | ≤-23.20     | 2.00       | 0.00           | 48.13           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2390.000   | -53.86       | ≤-23.20     | 2.00       | 0.00           | 43.34           | ≤74            | PASS    |
|          |         | High   | 2480       | AV       | 2483.500   | -60.14       | ≤-44.30     | 2.00       | 1.10           | 38.16           | ≤54            | PASS    |
|          |         |        |            | AV       | 2483.680   | -59.35       | ≤-44.30     | 2.00       | 1.10           | 38.95           | ≤54            | PASS    |
|          |         |        |            | AV       | 2500.000   | -61.17       | ≤-44.30     | 2.00       | 1.10           | 37.13           | ≤54            | PASS    |
|          |         |        |            | Peak     | 2483.500   | -50.6        | ≤-23.20     | 2.00       | 0.00           | 46.60           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2484.800   | -46.95       | ≤-23.20     | 2.00       | 0.00           | 50.25           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2500.000   | -52.65       | ≤-23.20     | 2.00       | 0.00           | 44.55           | ≤74            | PASS    |
|          |         | Low    | Hop_2402   | Peak     | 2310.000   | -51.9        | ≤-23.20     | 2.00       | 0.00           | 45.30           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2390.000   | -50.33       | ≤-23.20     | 2.00       | 0.00           | 46.87           | ≤74            | PASS    |
|          |         | High   | Hop_2480   | Peak     | 2483.500   | -51.65       | ≤-23.20     | 2.00       | 0.00           | 45.55           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2493.120   | -49.53       | ≤-23.20     | 2.00       | 0.00           | 47.67           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2500.000   | -51.51       | ≤-23.20     | 2.00       | 0.00           | 45.69           | ≤74            | PASS    |
| 2DH5     | Ant1    | Low    | 2402       | AV       | 2310.000   | -60.69       | ≤-44.31     | 2.00       | 1.11           | 37.62           | ≤54            | PASS    |
|          |         |        |            | AV       | 2364.470   | -59.98       | ≤-44.31     | 2.00       | 1.11           | 38.33           | ≤54            | PASS    |
|          |         |        |            | AV       | 2390.000   | -60.91       | ≤-44.31     | 2.00       | 1.11           | 37.40           | ≤54            | PASS    |
|          |         |        |            | Peak     | 2310.000   | -52.75       | ≤-23.20     | 2.00       | 0.00           | 44.45           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2316.695   | -49.7        | ≤-23.20     | 2.00       | 0.00           | 47.50           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2390.000   | -52.93       | ≤-23.20     | 2.00       | 0.00           | 44.27           | ≤74            | PASS    |
|          |         | High   | 2480       | AV       | 2483.500   | -57.29       | ≤-44.33     | 2.00       | 1.13           | 41.04           | ≤54            | PASS    |
|          |         |        |            | AV       | 2483.520   | -57.29       | ≤-44.33     | 2.00       | 1.13           | 41.04           | ≤54            | PASS    |
|          |         |        |            | AV       | 2500.000   | -60.71       | ≤-44.33     | 2.00       | 1.13           | 37.62           | ≤54            | PASS    |
|          |         |        |            | Peak     | 2483.500   | -48.45       | ≤-23.20     | 2.00       | 0.00           | 48.75           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2483.680   | -46.99       | ≤-23.20     | 2.00       | 0.00           | 50.21           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2500.000   | -51.18       | ≤-23.20     | 2.00       | 0.00           | 46.02           | ≤74            | PASS    |
|          |         | Low    | Hop_2402   | Peak     | 2310.000   | -53.11       | ≤-23.20     | 2.00       | 0.00           | 44.09           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2332.340   | -50.11       | ≤-23.20     | 2.00       | 0.00           | 47.09           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2390.000   | -50.4        | ≤-23.20     | 2.00       | 0.00           | 46.80           | ≤74            | PASS    |
|          |         | High   | Hop_2480   | Peak     | 2483.500   | -52.84       | ≤-23.20     | 2.00       | 0.00           | 44.36           | ≤74            | PASS    |
|          |         |        |            | Peak     | 2484.640   | -48.18       | ≤-23.20     | 2.00       | 0.00           | 49.02           | ≤74            | PASS    |

|      |      |      |          |      |          |        |         |      |      |       |     |      |
|------|------|------|----------|------|----------|--------|---------|------|------|-------|-----|------|
|      |      |      |          | Peak | 2500.000 | -52.31 | ≤-23.20 | 2.00 | 0.00 | 44.89 | ≤74 | PASS |
| 3DH5 | Ant1 | Low  | 2402     | AV   | 2310.000 | -60.99 | ≤-44.32 | 2.00 | 1.12 | 37.33 | ≤54 | PASS |
|      |      |      |          | AV   | 2331.815 | -60.19 | ≤-44.32 | 2.00 | 1.12 | 38.13 | ≤54 | PASS |
|      |      |      |          | AV   | 2390.000 | -60.9  | ≤-44.32 | 2.00 | 1.12 | 37.42 | ≤54 | PASS |
|      |      |      |          | Peak | 2310.000 | -53.58 | ≤-23.20 | 2.00 | 0.00 | 43.62 | ≤74 | PASS |
|      |      |      |          | Peak | 2360.165 | -50.01 | ≤-23.20 | 2.00 | 0.00 | 47.19 | ≤74 | PASS |
|      |      |      |          | Peak | 2390.000 | -52.67 | ≤-23.20 | 2.00 | 0.00 | 44.53 | ≤74 | PASS |
|      |      | High | 2480     | AV   | 2483.500 | -56.38 | ≤-44.33 | 2.00 | 1.13 | 41.95 | ≤54 | PASS |
|      |      |      |          | AV   | 2483.520 | -56.38 | ≤-44.33 | 2.00 | 1.13 | 41.95 | ≤54 | PASS |
|      |      |      |          | AV   | 2500.000 | -60.46 | ≤-44.33 | 2.00 | 1.13 | 37.87 | ≤54 | PASS |
|      |      |      |          | Peak | 2483.500 | -46.17 | ≤-23.20 | 2.00 | 0.00 | 51.03 | ≤74 | PASS |
|      |      |      |          | Peak | 2483.600 | -44.57 | ≤-23.20 | 2.00 | 0.00 | 52.63 | ≤74 | PASS |
|      |      |      |          | Peak | 2500.000 | -52.04 | ≤-23.20 | 2.00 | 0.00 | 45.16 | ≤74 | PASS |
|      |      | Low  | Hop_2402 | Peak | 2310.000 | -52.55 | ≤-23.20 | 2.00 | 0.00 | 44.65 | ≤74 | PASS |
|      |      |      |          | Peak | 2364.260 | -49.58 | ≤-23.20 | 2.00 | 0.00 | 47.62 | ≤74 | PASS |
|      |      |      |          | Peak | 2390.000 | -53.59 | ≤-23.20 | 2.00 | 0.00 | 43.61 | ≤74 | PASS |
|      |      | High | Hop_2480 | Peak | 2483.500 | -52.21 | ≤-23.20 | 2.00 | 0.00 | 44.99 | ≤74 | PASS |
|      |      |      |          | Peak | 2485.760 | -50.23 | ≤-23.20 | 2.00 | 0.00 | 46.97 | ≤74 | PASS |
|      |      |      |          | Peak | 2500.000 | -52.29 | ≤-23.20 | 2.00 | 0.00 | 44.91 | ≤74 | PASS |

## Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

## Test Graphs

