



## Appendix for Bluetooth BR/EDR mode

Product Name: Transmitter Duplex

Model No: DS-24 II

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## 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           | 0.942            | 2401.541 | 2402.483 | ---        | ---     |
| DH5      | Ant1    | 2441           | 0.951            | 2440.532 | 2441.483 | ---        | ---     |
| DH5      | Ant1    | 2480           | 0.945            | 2479.541 | 2480.486 | ---        | ---     |
| 2DH5     | Ant1    | 2402           | 1.320            | 2401.340 | 2402.660 | ---        | ---     |
| 2DH5     | Ant1    | 2441           | 1.314            | 2440.343 | 2441.657 | ---        | ---     |
| 2DH5     | Ant1    | 2480           | 1.290            | 2479.367 | 2480.657 | ---        | ---     |
| 3DH5     | Ant1    | 2402           | 1.314            | 2401.346 | 2402.660 | ---        | ---     |
| 3DH5     | Ant1    | 2441           | 1.314            | 2440.346 | 2441.660 | ---        | ---     |
| 3DH5     | Ant1    | 2480           | 1.314            | 2479.346 | 2480.660 | ---        | ---     |

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## Test Graphs





2DH5-Ant1-2402



2DH5-Ant1-2441



2DH5-Ant1-2480





## Appendix B: Maximum conducted output power

### Test Result Peak

| Test Mode | Antenna | Frequency[MHz] | Conducted Peak Power[dBm] | Conducted Limit[dBm] | Verdict |
|-----------|---------|----------------|---------------------------|----------------------|---------|
| DH5       | Ant1    | 2402           | 8.97                      | $\leq 20.97$         | PASS    |
| DH5       | Ant1    | 2441           | 8.95                      | $\leq 20.97$         | PASS    |
| DH5       | Ant1    | 2480           | 9.49                      | $\leq 20.97$         | PASS    |
| 2DH5      | Ant1    | 2402           | 11.20                     | $\leq 30$            | PASS    |
| 2DH5      | Ant1    | 2441           | 11.31                     | $\leq 30$            | PASS    |
| 2DH5      | Ant1    | 2480           | 11.70                     | $\leq 30$            | PASS    |
| 3DH5      | Ant1    | 2402           | 11.68                     | $\leq 30$            | PASS    |
| 3DH5      | Ant1    | 2441           | 11.74                     | $\leq 30$            | PASS    |
| 3DH5      | Ant1    | 2480           | 12.12                     | $\leq 30$            | PASS    |

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## Test Graphs









## Appendix C: Carrier frequency separation

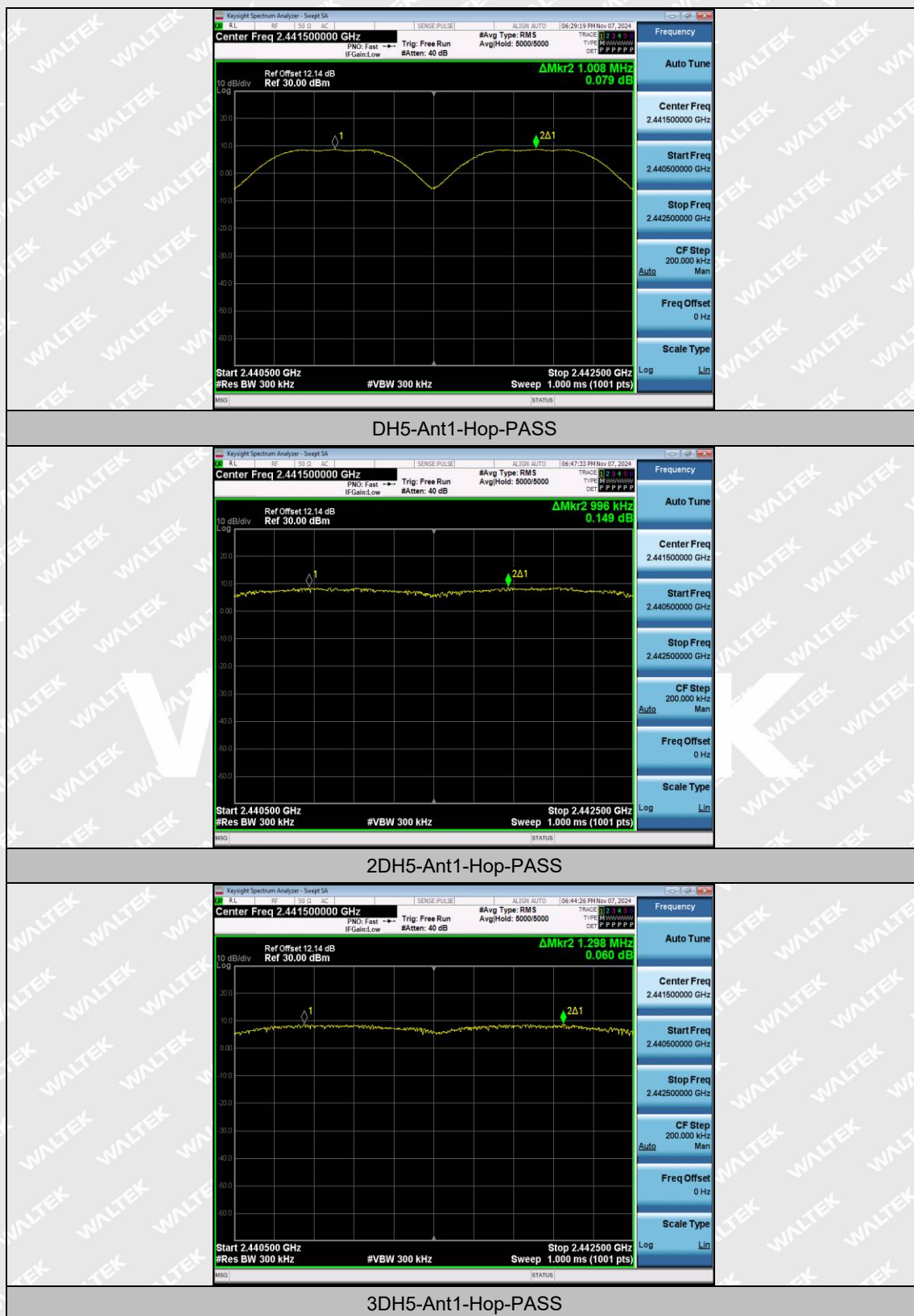
### Test Result

| TestMode | Antenna | Frequency[MHz] | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|----------------|-------------|--------------|---------|
| DH5      | Ant1    | Hop            | 1.008       | $\geq 0.951$ | PASS    |
| 2DH5     | Ant1    | Hop            | 0.996       | $\geq 0.880$ | PASS    |
| 3DH5     | Ant1    | Hop            | 1.298       | $\geq 0.876$ | PASS    |

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## Test Graphs





## Appendix D: Time of occupancy

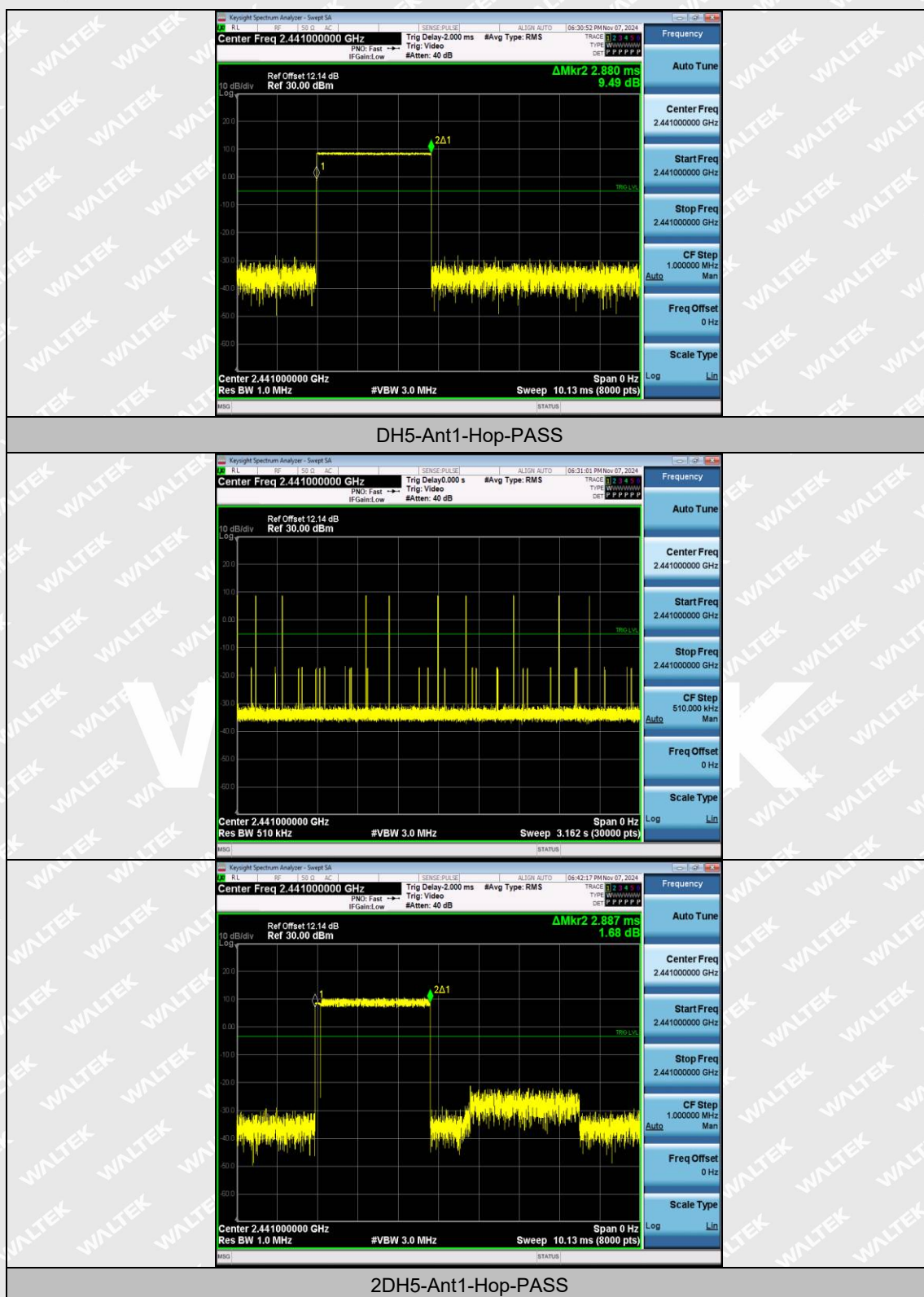
### Test Result

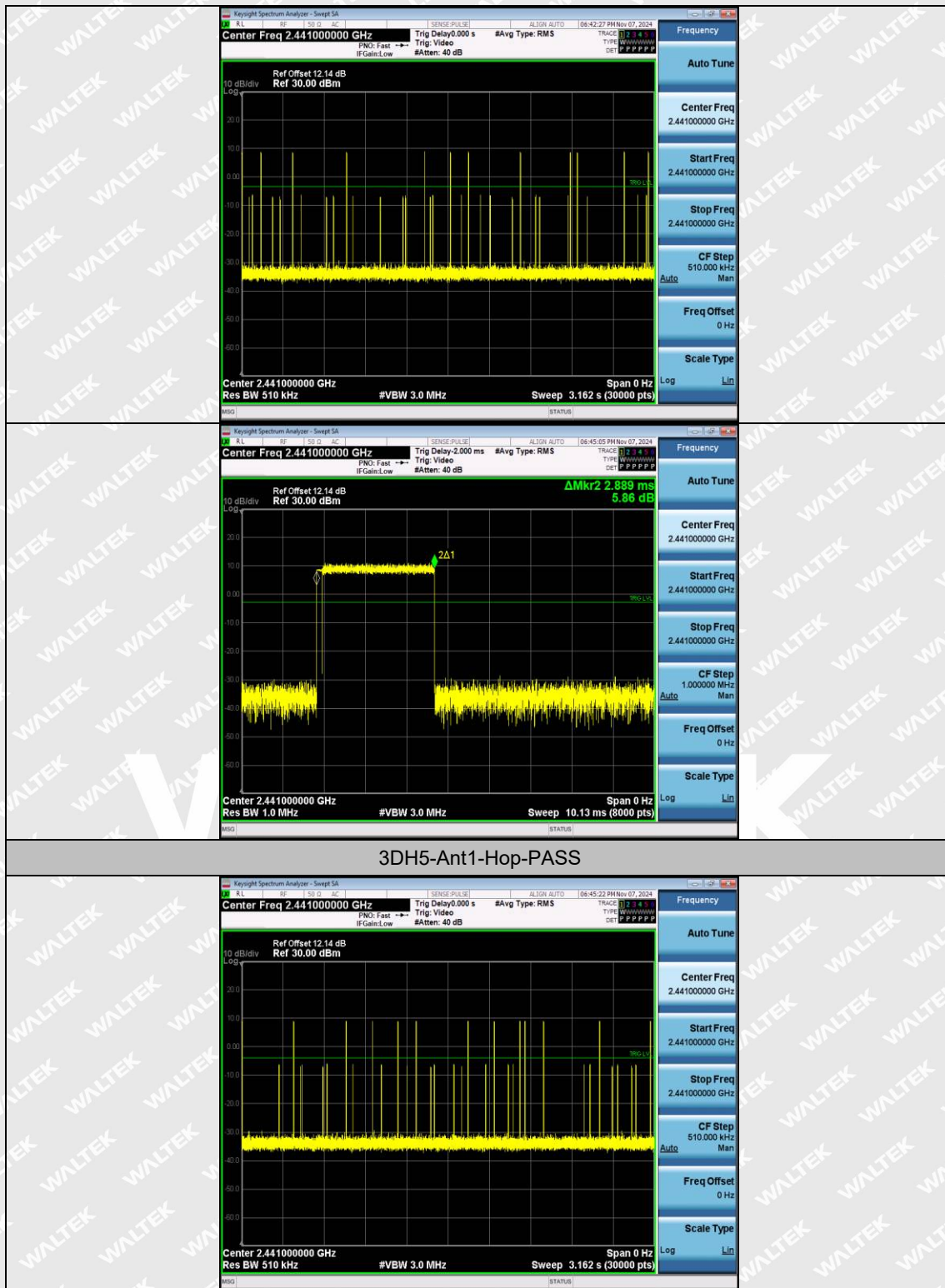
| TestMode | Antenna | Frequency[MHz] | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|----------------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop            | 2.880              | 100                | 0.288     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop            | 2.887              | 120                | 0.346     | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop            | 2.889              | 130                | 0.376     | ≤0.4     | PASS    |

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## Test Graphs







## Appendix E: Number of hopping channels

### Test Result

| TestMode | Antenna | Frequency[MHz] | Result[Num] | Limit[Num] | Verdict |
|----------|---------|----------------|-------------|------------|---------|
| DH5      | Ant1    | Hop            | 79          | $\geq 15$  | PASS    |
| 2DH5     | Ant1    | Hop            | 79          | $\geq 15$  | PASS    |
| 3DH5     | Ant1    | Hop            | 79          | $\geq 15$  | PASS    |

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## Test Graphs





## Appendix F: Reference level measurement

### Test Result

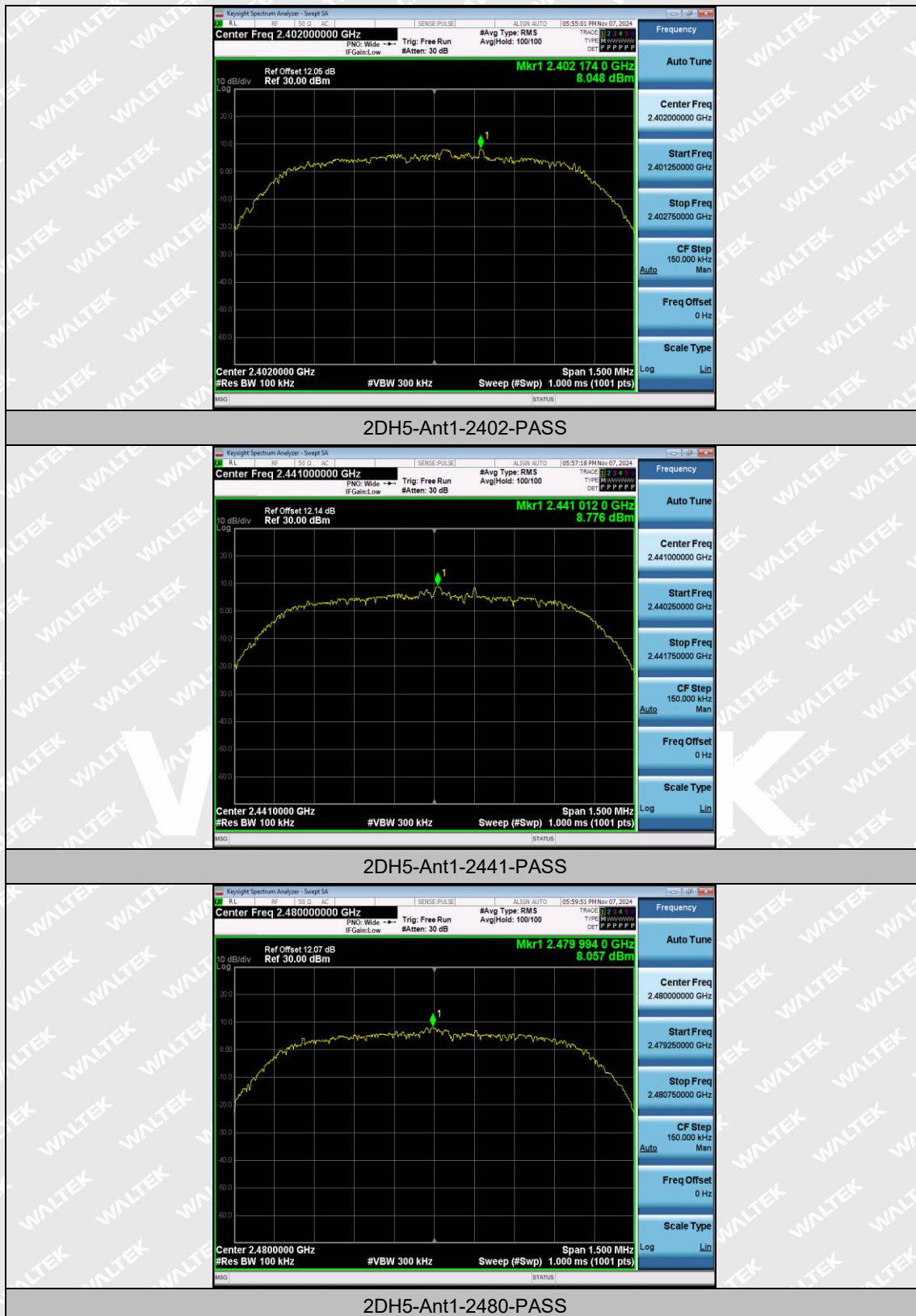
| TestMode | Antenna | Freq(MHz) | Max.Point[MHz] | Result[dBm] |
|----------|---------|-----------|----------------|-------------|
| DH5      | Ant1    | 2402      | 2402.00        | 8.23        |
| DH5      | Ant1    | 2441      | 2440.99        | 8.04        |
| DH5      | Ant1    | 2480      | 2479.99        | 8.53        |
| 2DH5     | Ant1    | 2402      | 2402.17        | 8.05        |
| 2DH5     | Ant1    | 2441      | 2441.01        | 8.78        |
| 2DH5     | Ant1    | 2480      | 2479.99        | 8.06        |
| 3DH5     | Ant1    | 2402      | 2402.16        | 7.83        |
| 3DH5     | Ant1    | 2441      | 2441.00        | 8.65        |
| 3DH5     | Ant1    | 2480      | 2480.18        | 8.39        |

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## Test Graphs









## Appendix G: Band edge measurements

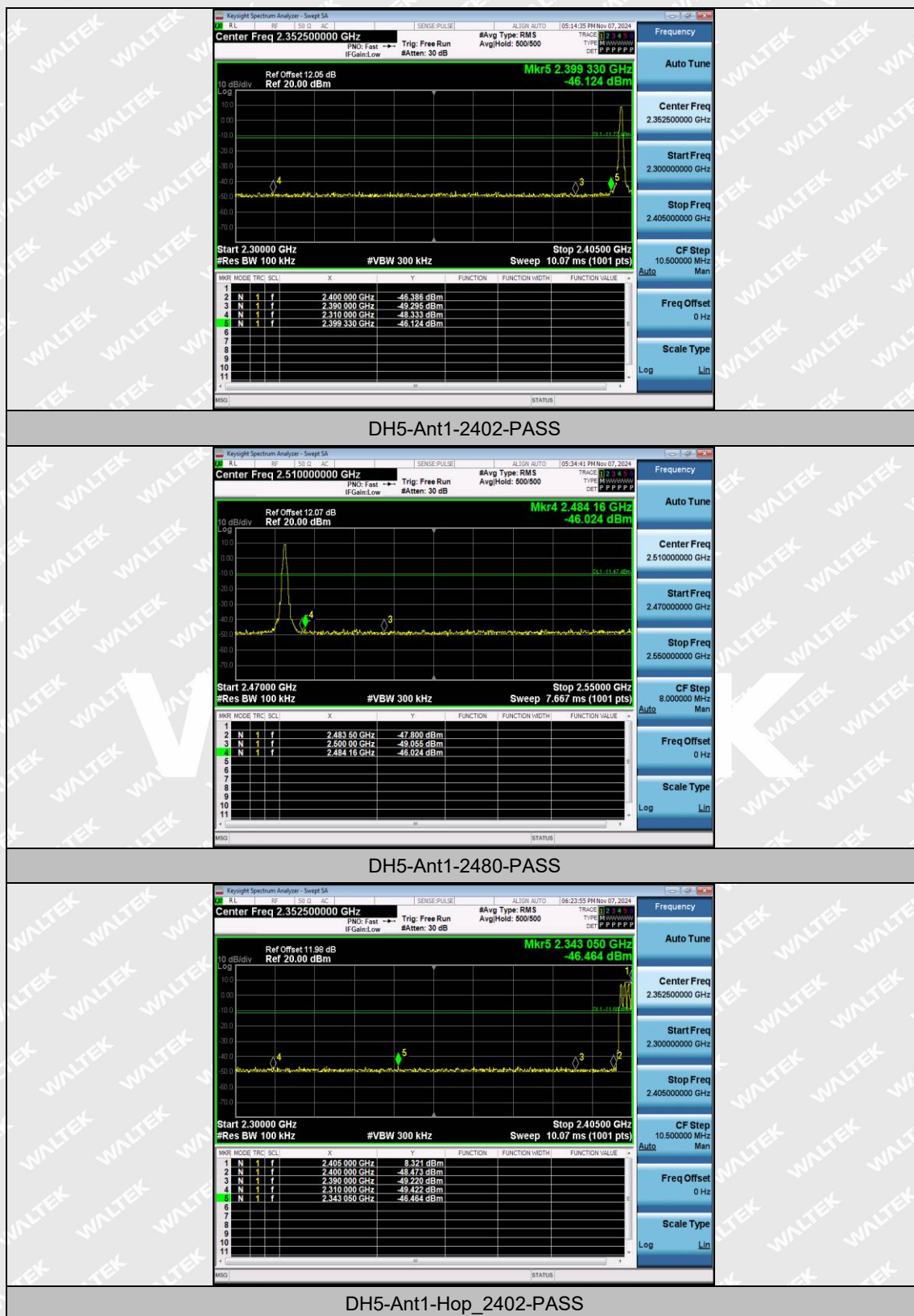
### Test Result

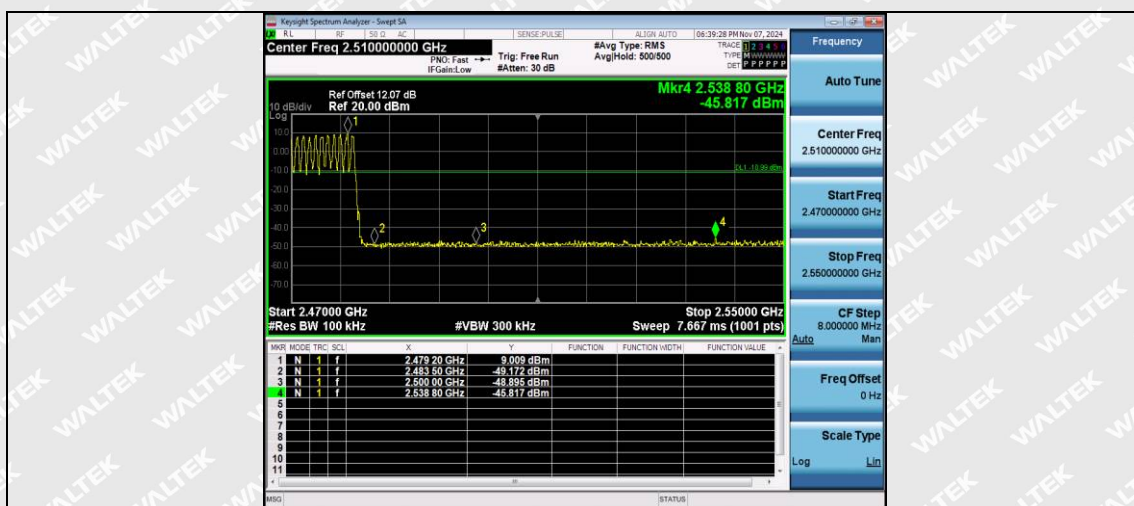
| TestMode | Antenna | ChName | Frequency[MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|----------|---------|--------|----------------|----------------|--------------|---------------|---------|
| DH5      | Ant1    | Low    | 2402           | 8.23           | -46.12       | $\leq -11.77$ | PASS    |
| DH5      | Ant1    | High   | 2480           | 8.53           | -46.02       | $\leq -11.47$ | PASS    |
| DH5      | Ant1    | Low    | Hop_2402       | 8.32           | -46.46       | $\leq -11.68$ | PASS    |
| DH5      | Ant1    | High   | Hop_2480       | 9.01           | -45.82       | $\leq -10.99$ | PASS    |
| 2DH5     | Ant1    | Low    | 2402           | 8.05           | -45.23       | $\leq -11.95$ | PASS    |
| 2DH5     | Ant1    | High   | 2480           | 8.06           | -45.51       | $\leq -11.94$ | PASS    |
| 2DH5     | Ant1    | Low    | Hop_2402       | 8.46           | -46.81       | $\leq -11.54$ | PASS    |
| 2DH5     | Ant1    | High   | Hop_2480       | 6.77           | -45.53       | $\leq -13.24$ | PASS    |
| 3DH5     | Ant1    | Low    | 2402           | 7.83           | -44.8        | $\leq -12.17$ | PASS    |
| 3DH5     | Ant1    | High   | 2480           | 8.39           | -44.44       | $\leq -11.61$ | PASS    |
| 3DH5     | Ant1    | Low    | Hop_2402       | 5.93           | -46.45       | $\leq -14.07$ | PASS    |
| 3DH5     | Ant1    | High   | Hop_2480       | 9.05           | -46.15       | $\leq -10.95$ | PASS    |

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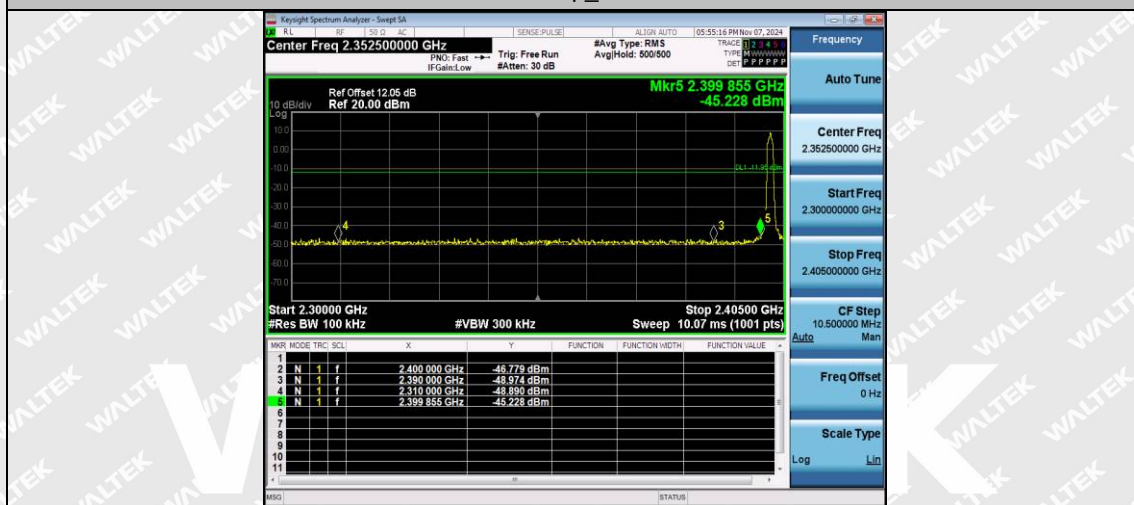


## Test Graphs

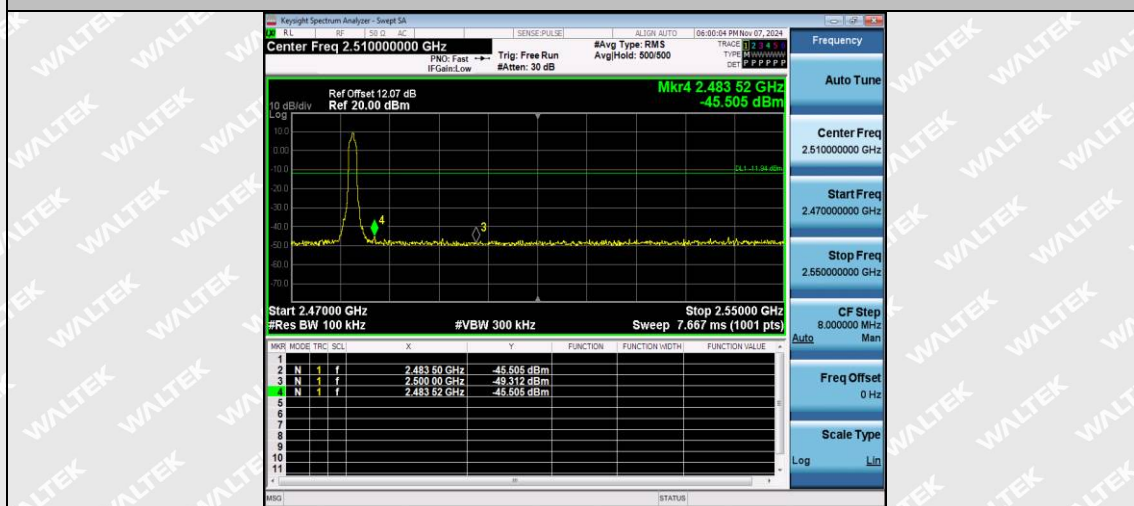




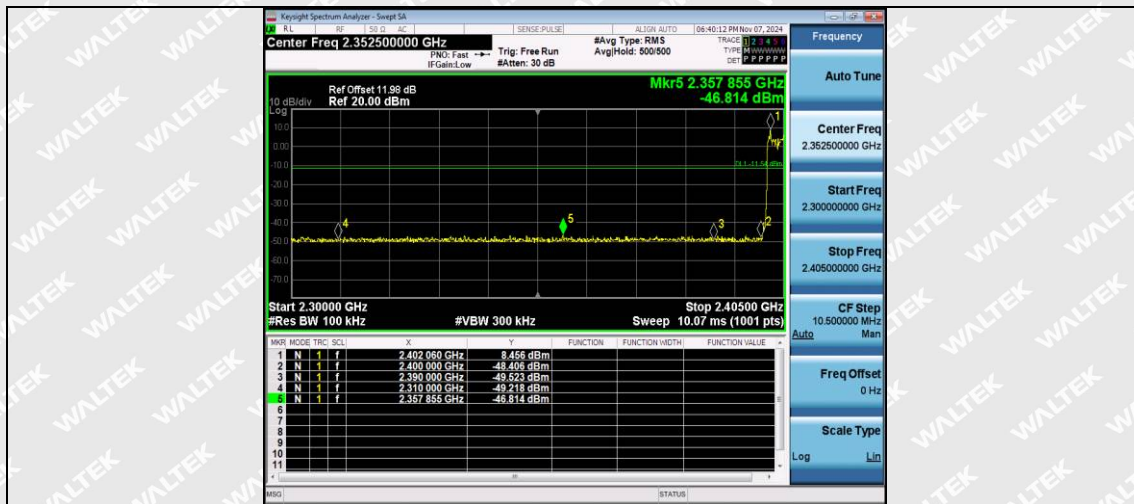
DH5-Ant1-Hop\_2480-PASS



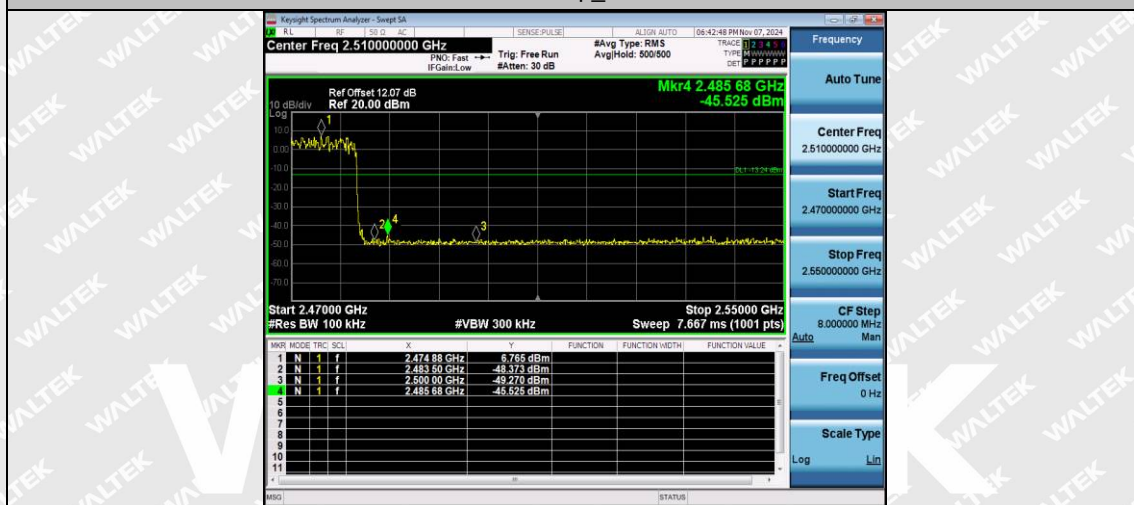
2DH5-Ant1-2402-PASS



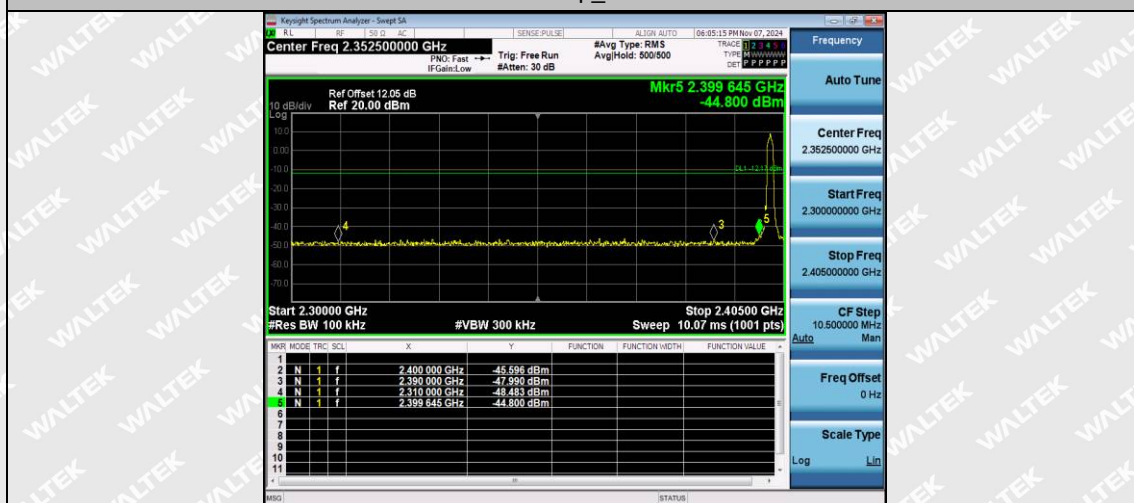
2DH5-Ant1-2480-PASS



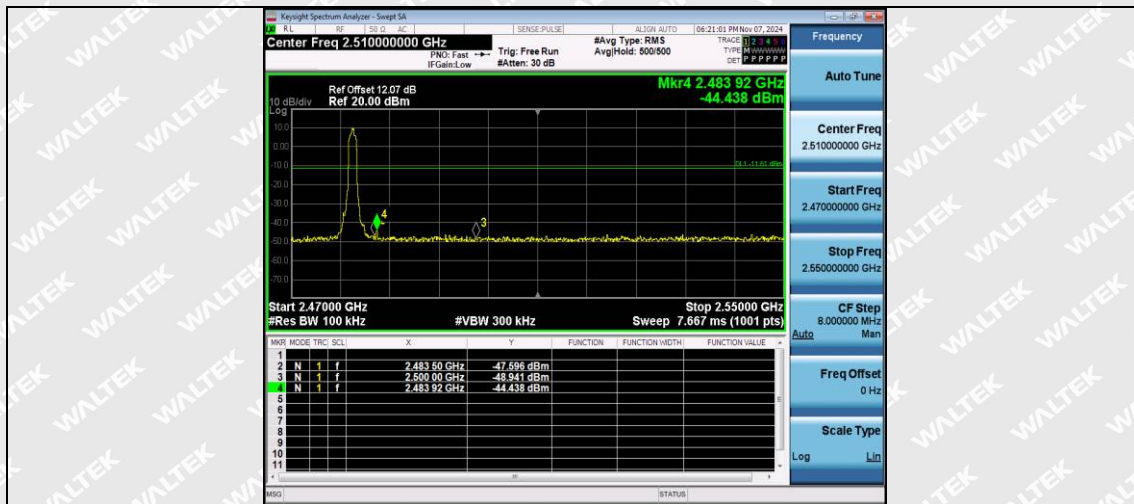
2DH5-Ant1-Hop\_2402-PASS



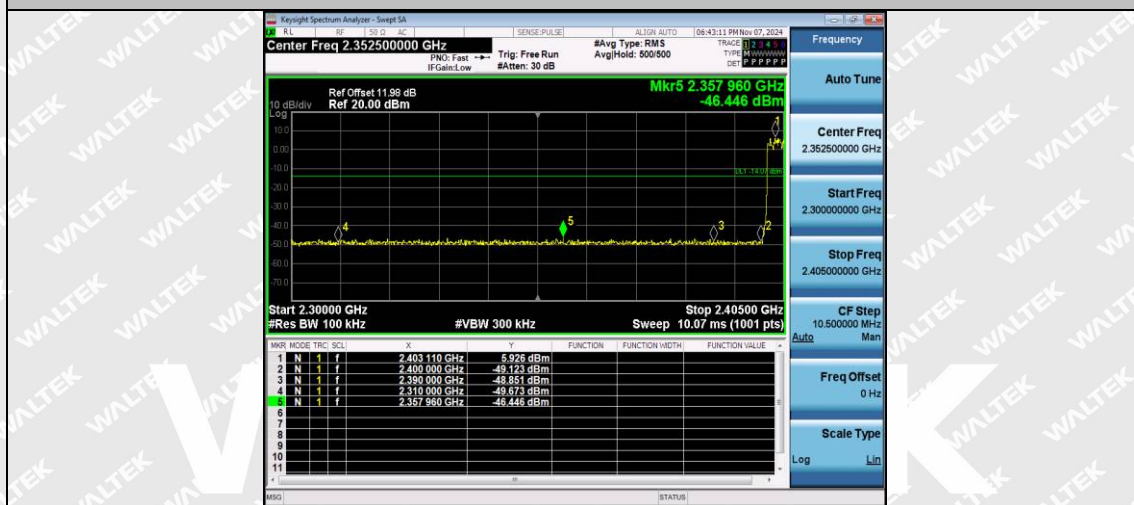
2DH5-Ant1-Hop\_2480-PASS



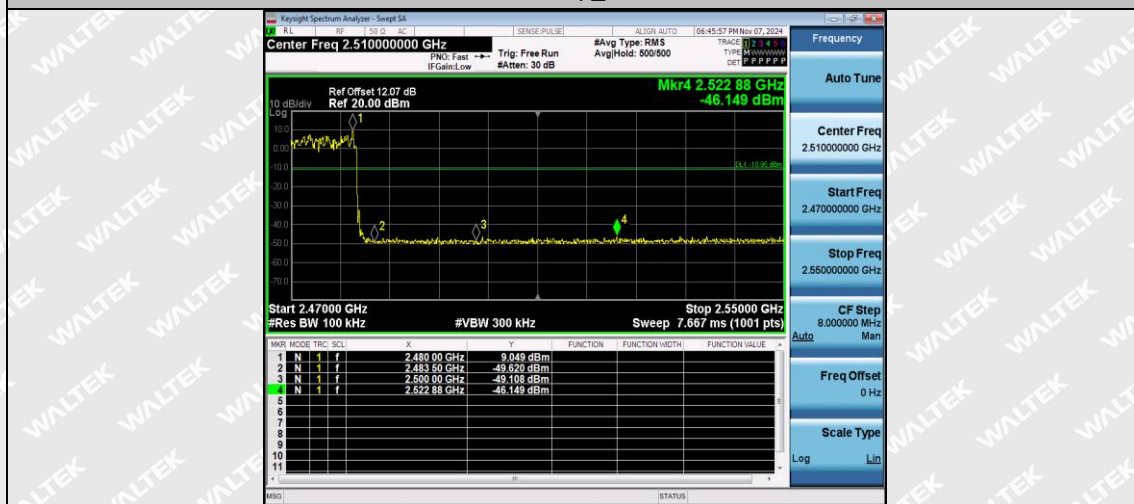
3DH5-Ant1-2402-PASS



3DH5-Ant1-2480-PASS



3DH5-Ant1-Hop\_2402-PASS



3DH5-Ant1-Hop\_2480-PASS



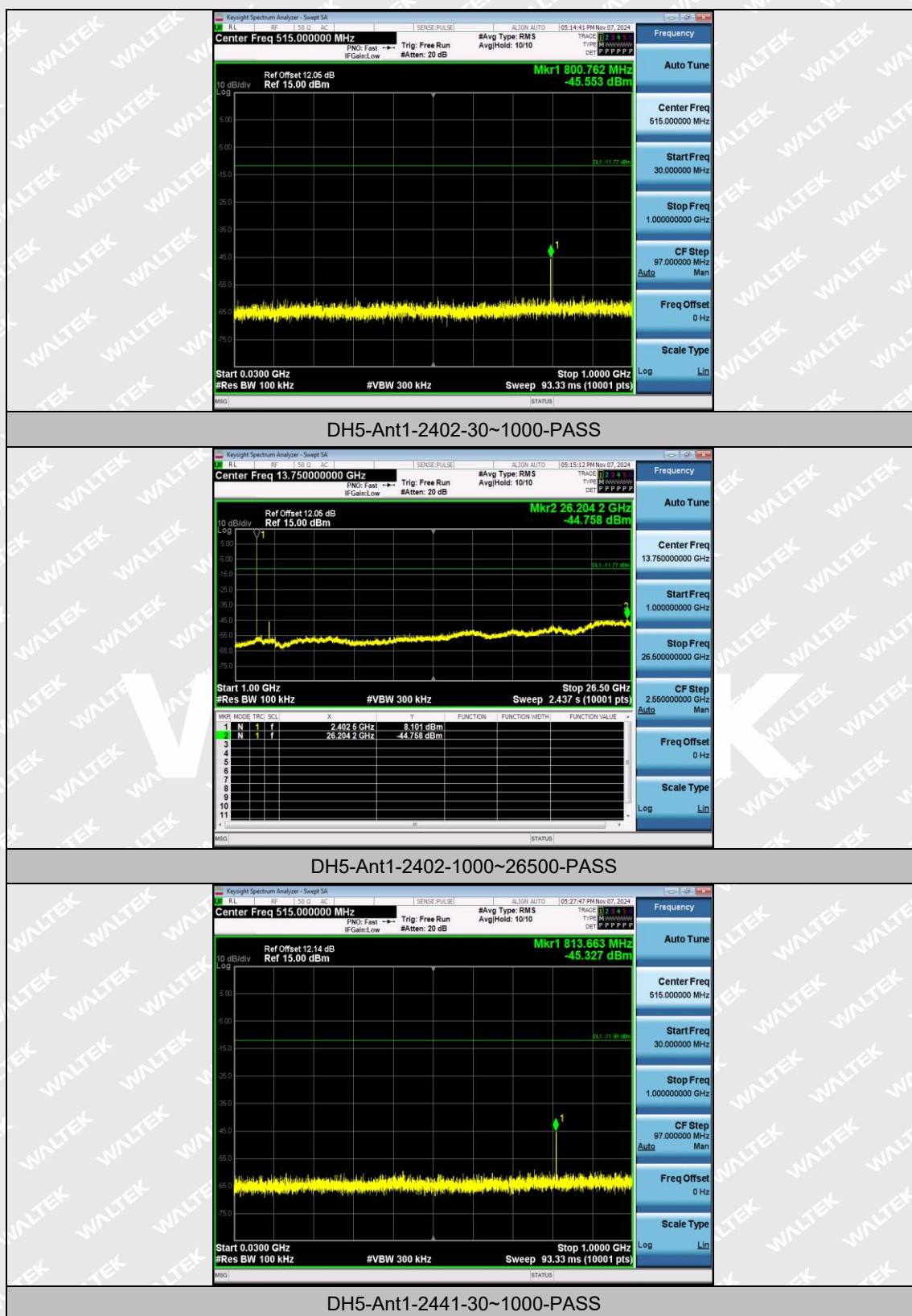
## Appendix H: Conducted Spurious Emission

### Test Result

| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|----------------|-----------------|----------------|--------------|-------------|---------|
| DH5      | Ant1    | 2402           | 30~1000         | 8.23           | -45.55       | ≤-11.77     | PASS    |
| DH5      | Ant1    | 2402           | 1000~26500      | 8.23           | -44.76       | ≤-11.77     | PASS    |
| DH5      | Ant1    | 2441           | 30~1000         | 8.04           | -45.33       | ≤-11.96     | PASS    |
| DH5      | Ant1    | 2441           | 1000~26500      | 8.04           | -43.98       | ≤-11.96     | PASS    |
| DH5      | Ant1    | 2480           | 30~1000         | 8.53           | -44.75       | ≤-11.47     | PASS    |
| DH5      | Ant1    | 2480           | 1000~26500      | 8.53           | -44.65       | ≤-11.47     | PASS    |
| 2DH5     | Ant1    | 2402           | 30~1000         | 8.05           | -48.31       | ≤-11.95     | PASS    |
| 2DH5     | Ant1    | 2402           | 1000~26500      | 8.05           | -42.85       | ≤-11.95     | PASS    |
| 2DH5     | Ant1    | 2441           | 30~1000         | 8.78           | -45.48       | ≤-11.22     | PASS    |
| 2DH5     | Ant1    | 2441           | 1000~26500      | 8.78           | -43.35       | ≤-11.22     | PASS    |
| 2DH5     | Ant1    | 2480           | 30~1000         | 8.06           | -45.87       | ≤-11.94     | PASS    |
| 2DH5     | Ant1    | 2480           | 1000~26500      | 8.06           | -43.24       | ≤-11.94     | PASS    |
| 3DH5     | Ant1    | 2402           | 30~1000         | 7.83           | -49.17       | ≤-12.17     | PASS    |
| 3DH5     | Ant1    | 2402           | 1000~26500      | 7.83           | -44.67       | ≤-12.17     | PASS    |
| 3DH5     | Ant1    | 2441           | 30~1000         | 8.65           | -48.67       | ≤-11.35     | PASS    |
| 3DH5     | Ant1    | 2441           | 1000~26500      | 8.65           | -41.82       | ≤-11.35     | PASS    |
| 3DH5     | Ant1    | 2480           | 30~1000         | 8.39           | -46.61       | ≤-11.61     | PASS    |
| 3DH5     | Ant1    | 2480           | 1000~26500      | 8.39           | -44.06       | ≤-11.61     | PASS    |

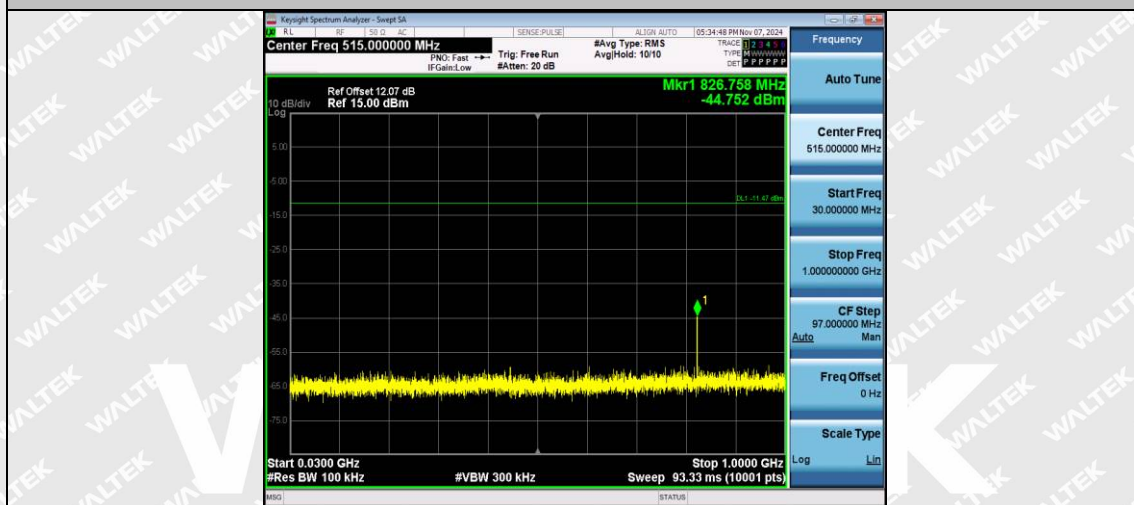


## Test Graphs





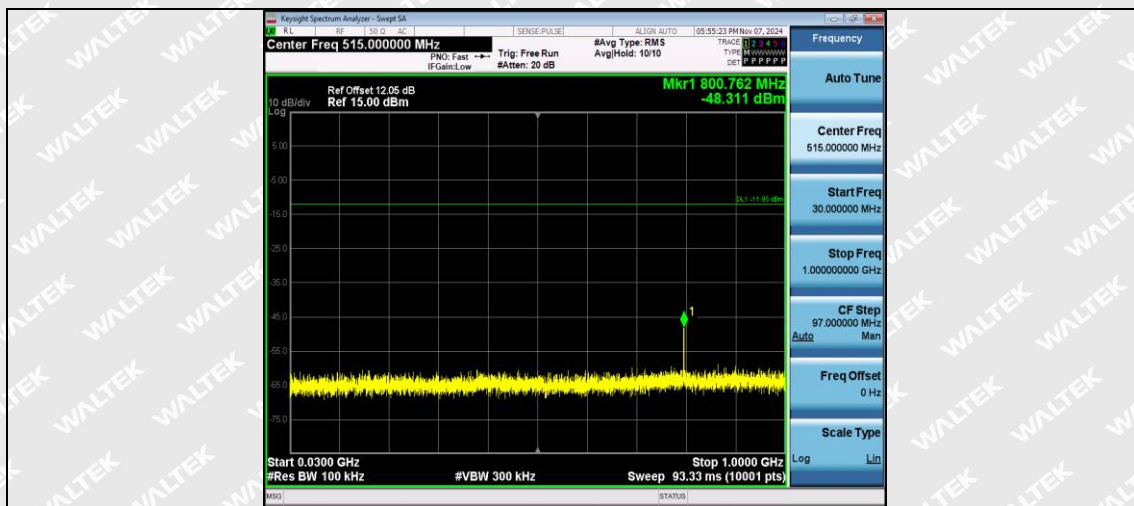
DH5-Ant1-2441-1000~26500-PASS



DH5-Ant1-2480-30~1000-PASS



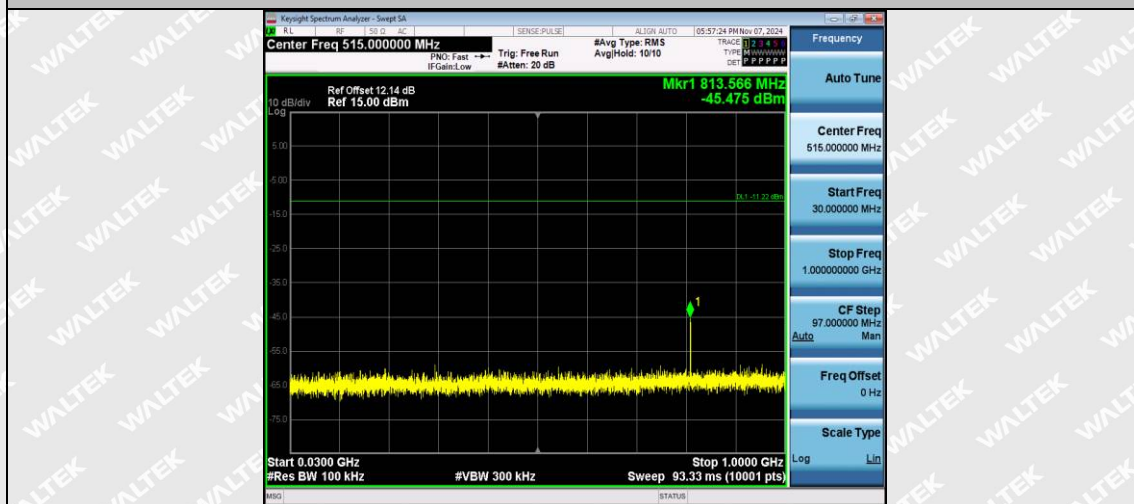
DH5-Ant1-2480-1000~26500-PASS



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



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



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



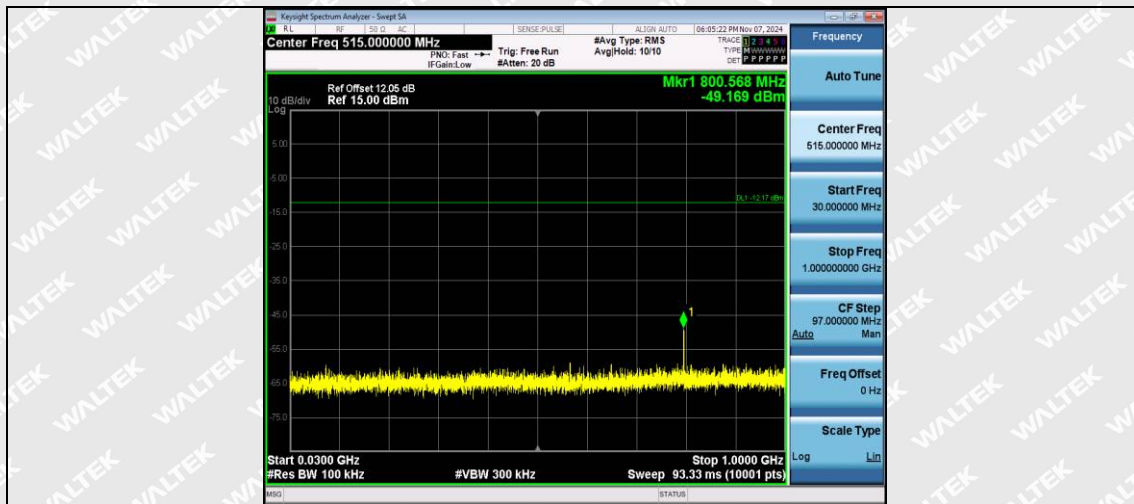
2DH5-Ant1-2441-1000~26500-PASS



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



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



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



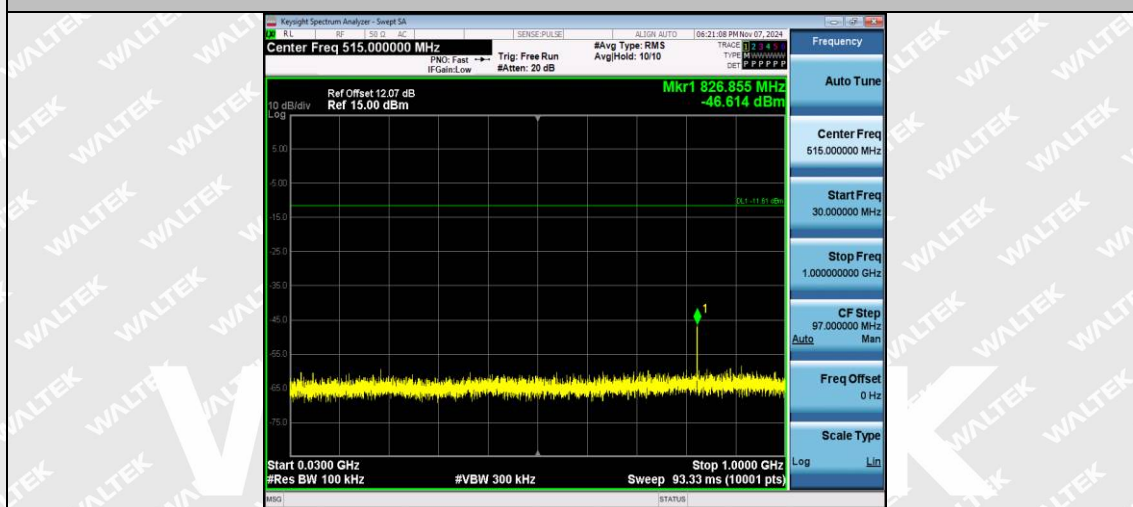
3DH5-Ant1-2402-1000~26500-PASS



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



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



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



3DH5-Ant1-2480-1000~26500-PASS