

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

Product Name: Wireless speaker

Trade Mark: BarbetSound

Test Model: RS31

FCC ID: 2ATOY-RS31

### Environmental Conditions

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

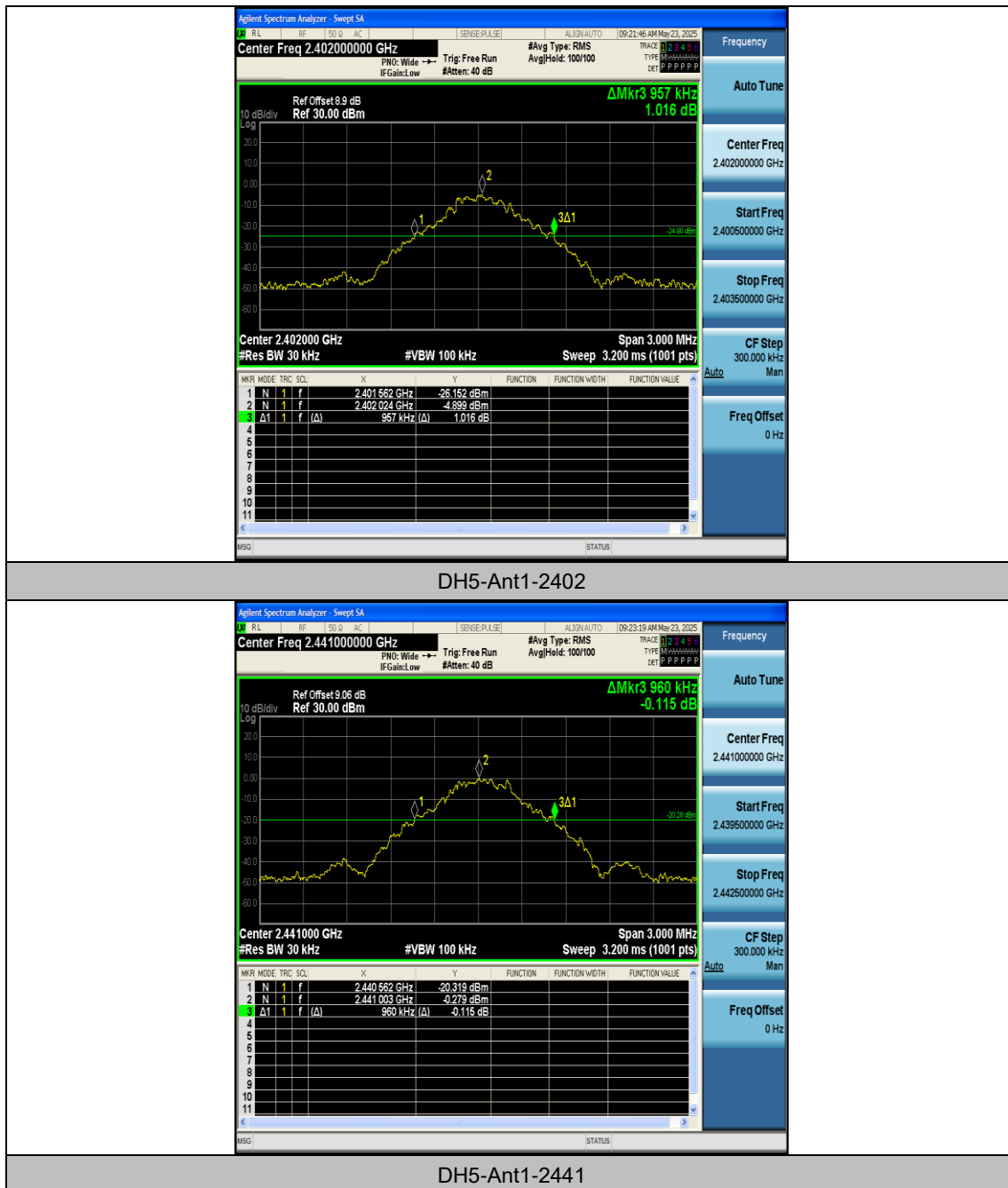
## Appendix A: 20dB Emission Bandwidth

### Test Result

| Test Mode | Antenna | Frequency [MHz] | 20db EBW [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|----------------|----------|----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.957          | 2401.562 | 2402.519 | ---         | ---     |
| DH5       | Ant1    | 2441            | 0.960          | 2440.562 | 2441.522 | ---         | ---     |
| DH5       | Ant1    | 2480            | 0.951          | 2479.562 | 2480.513 | ---         | ---     |
| 2DH5      | Ant1    | 2402            | 1.317          | 2401.367 | 2402.684 | ---         | ---     |
| 2DH5      | Ant1    | 2441            | 1.344          | 2440.355 | 2441.699 | ---         | ---     |
| 2DH5      | Ant1    | 2480            | 1.317          | 2479.364 | 2480.681 | ---         | ---     |
| 3DH5      | Ant1    | 2402            | 1.317          | 2401.373 | 2402.690 | ---         | ---     |
| 3DH5      | Ant1    | 2441            | 1.320          | 2440.373 | 2441.693 | ---         | ---     |
| 3DH5      | Ant1    | 2480            | 1.308          | 2479.376 | 2480.684 | ---         | ---     |

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs





DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



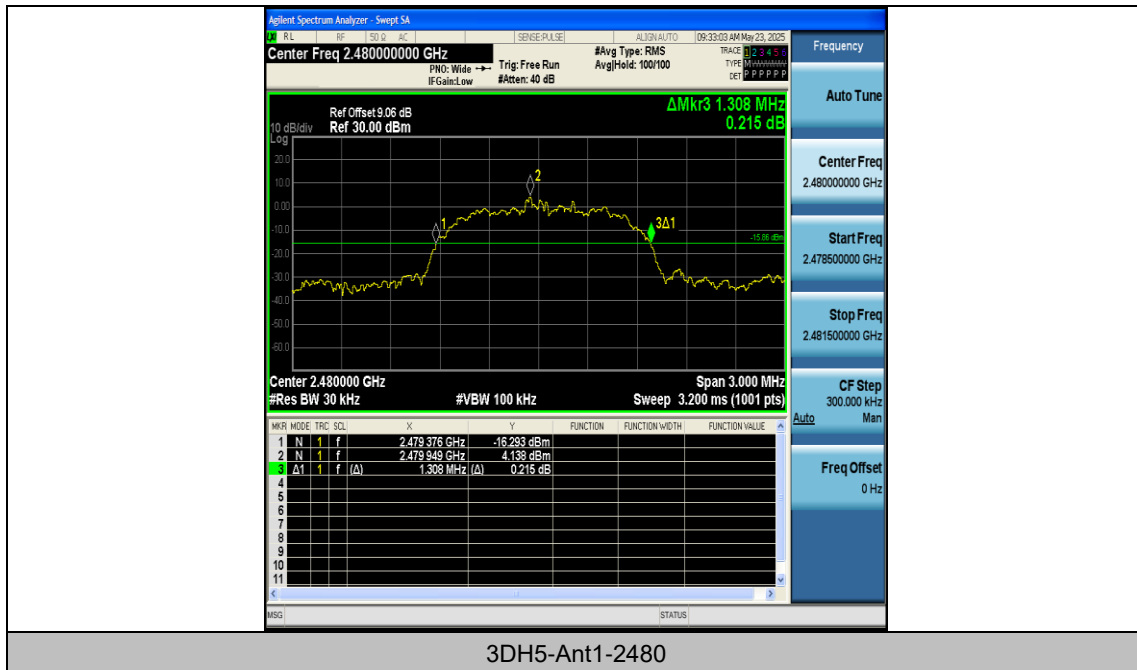
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



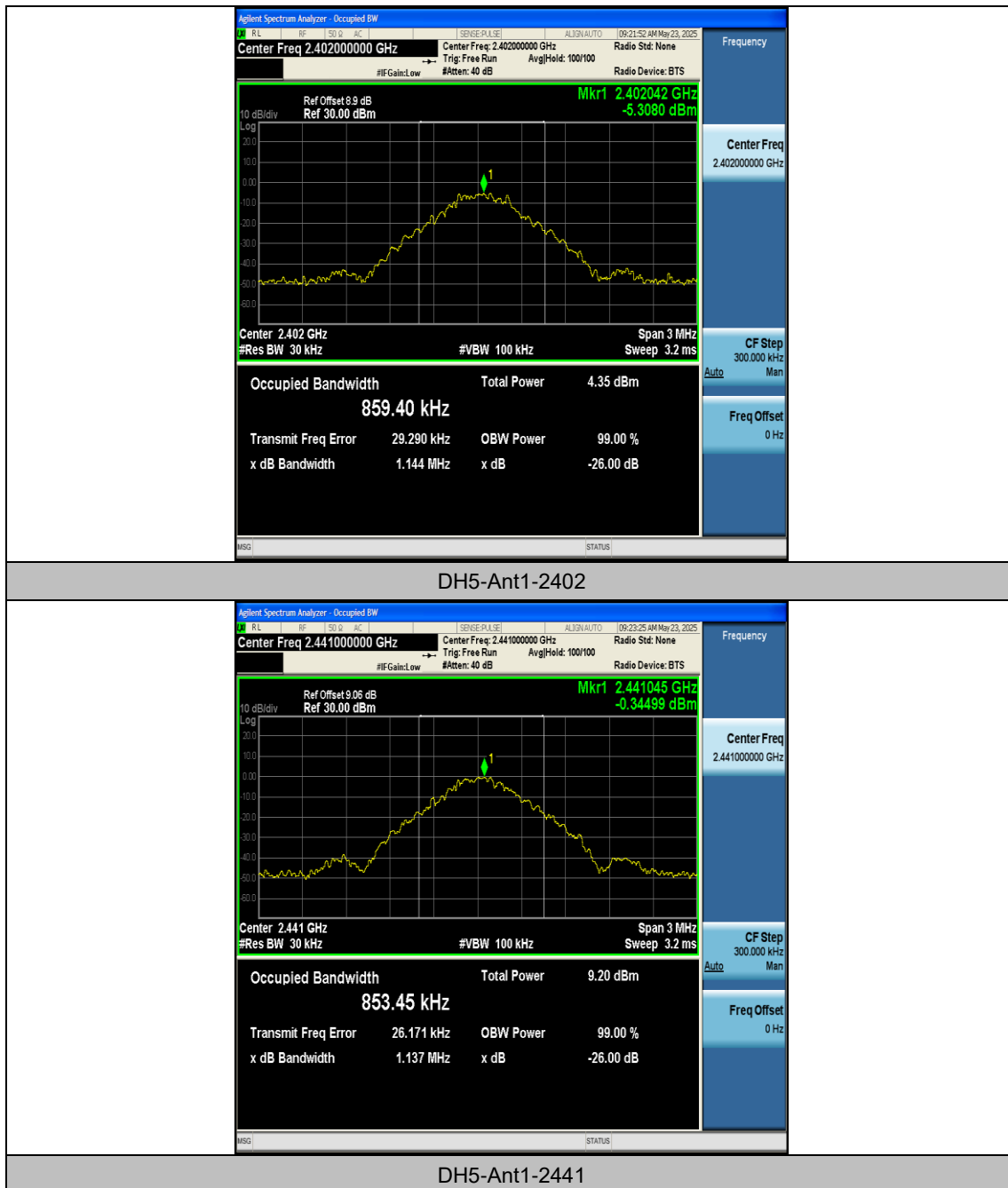
## Appendix B: Occupied Channel Bandwidth

### Test Result

| Test Mode | Antenna | Frequency [MHz] | OCB [MHz] | FL [MHz]  | FH [MHz]  | Limit [MHz] | Verdict |
|-----------|---------|-----------------|-----------|-----------|-----------|-------------|---------|
| DH5       | Ant1    | 2402            | 0.85940   | 2401.5996 | 2402.4590 | ---         | ---     |
| DH5       | Ant1    | 2441            | 0.85345   | 2440.5994 | 2441.4529 | ---         | ---     |
| DH5       | Ant1    | 2480            | 0.86975   | 2479.5966 | 2480.4664 | ---         | ---     |
| 2DH5      | Ant1    | 2402            | 1.1807    | 2401.4356 | 2402.6163 | ---         | ---     |
| 2DH5      | Ant1    | 2441            | 1.1819    | 2440.4371 | 2441.6190 | ---         | ---     |
| 2DH5      | Ant1    | 2480            | 1.1934    | 2479.4337 | 2480.6271 | ---         | ---     |
| 3DH5      | Ant1    | 2402            | 1.1771    | 2401.4432 | 2402.6203 | ---         | ---     |
| 3DH5      | Ant1    | 2441            | 1.1926    | 2440.4336 | 2441.6262 | ---         | ---     |
| 3DH5      | Ant1    | 2480            | 1.1895    | 2479.4359 | 2480.6254 | ---         | ---     |

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs





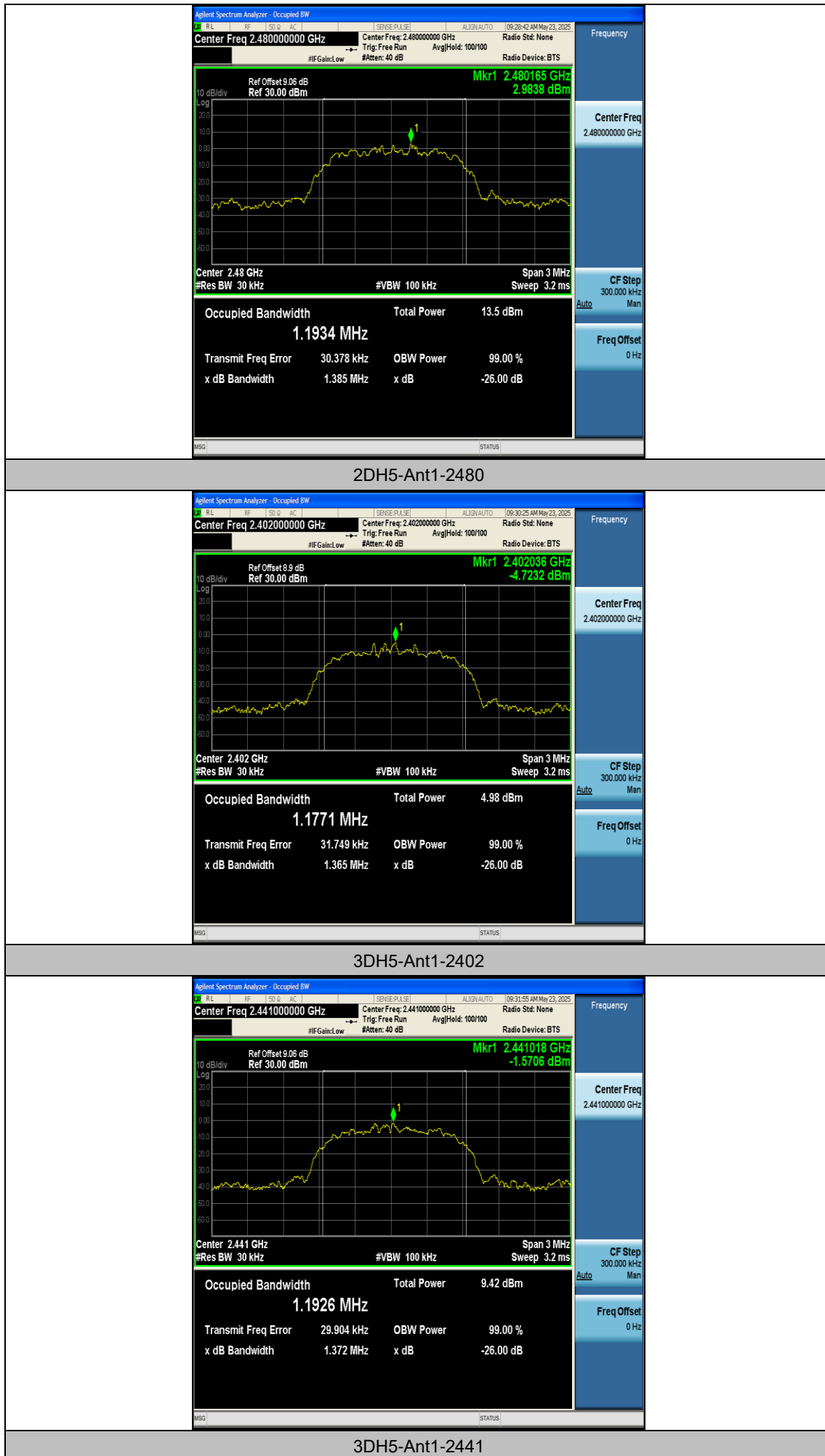
DH5-Ant1-2480

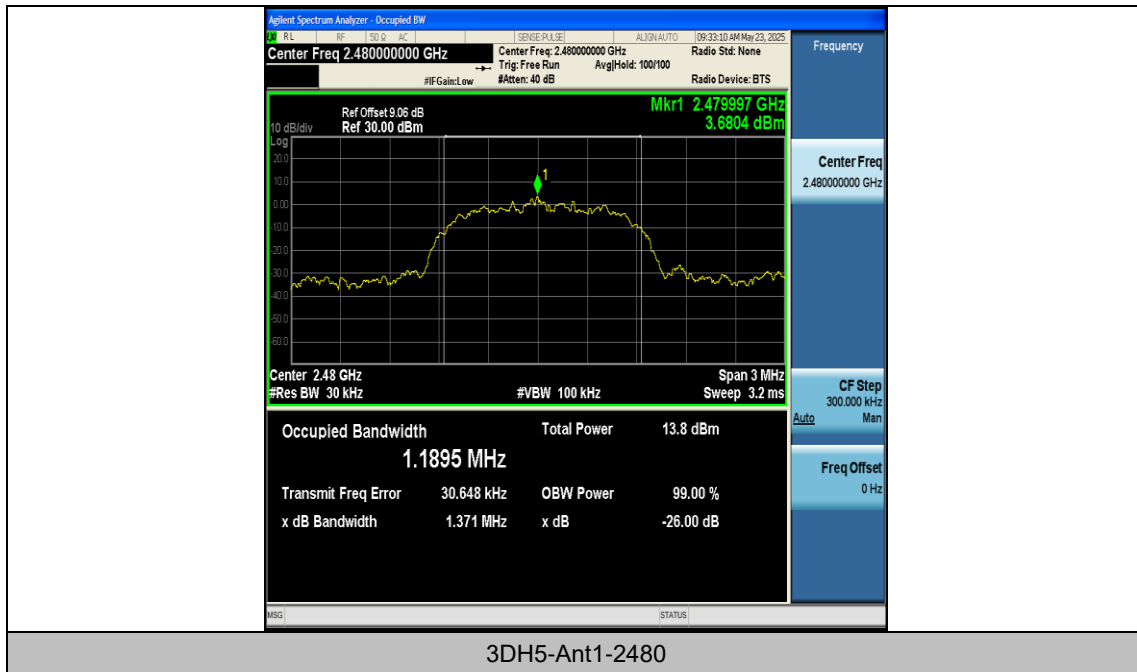


2DH5-Ant1-2402



2DH5-Ant1-2441





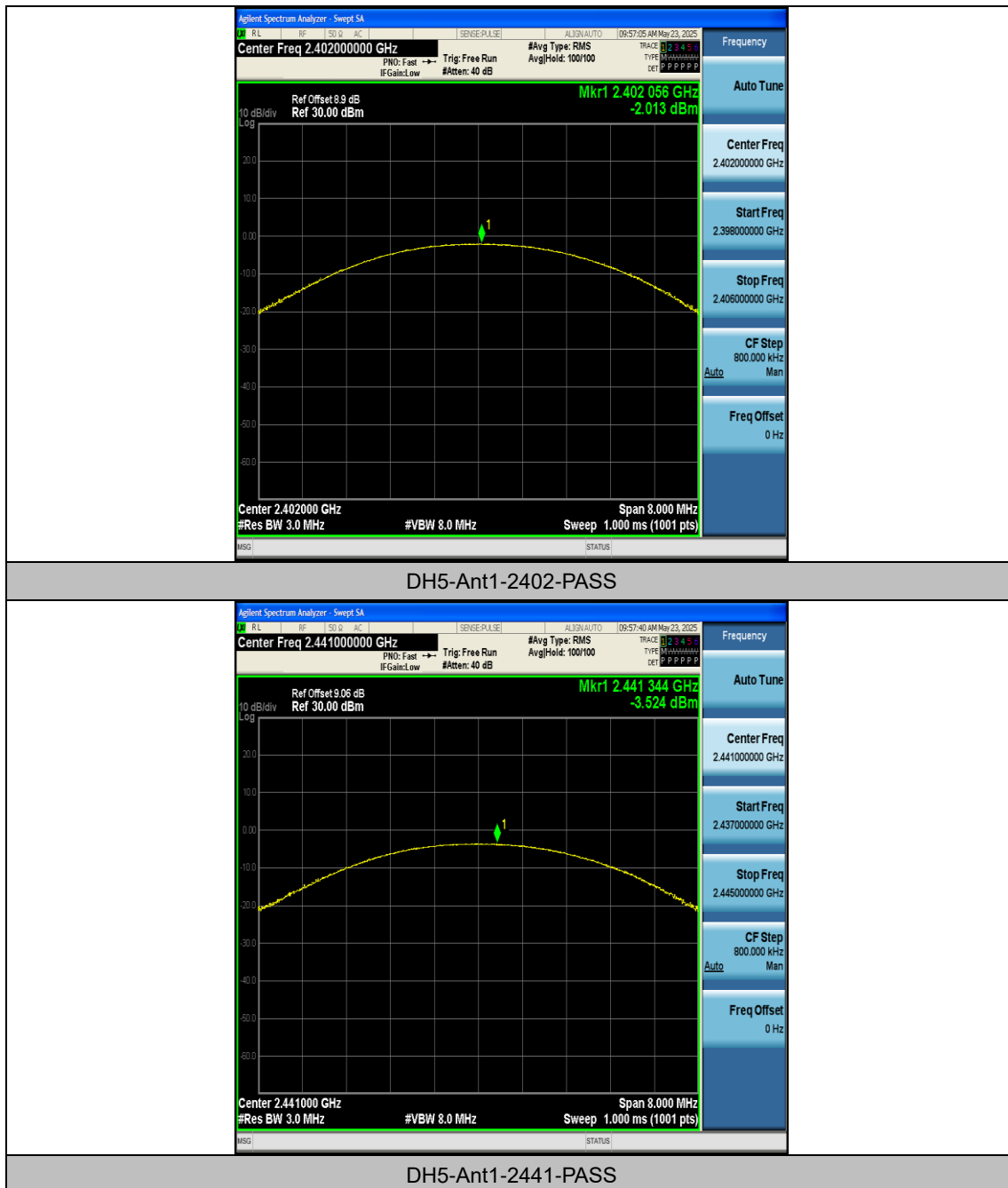
## Appendix C: Maximum peak conducted output power

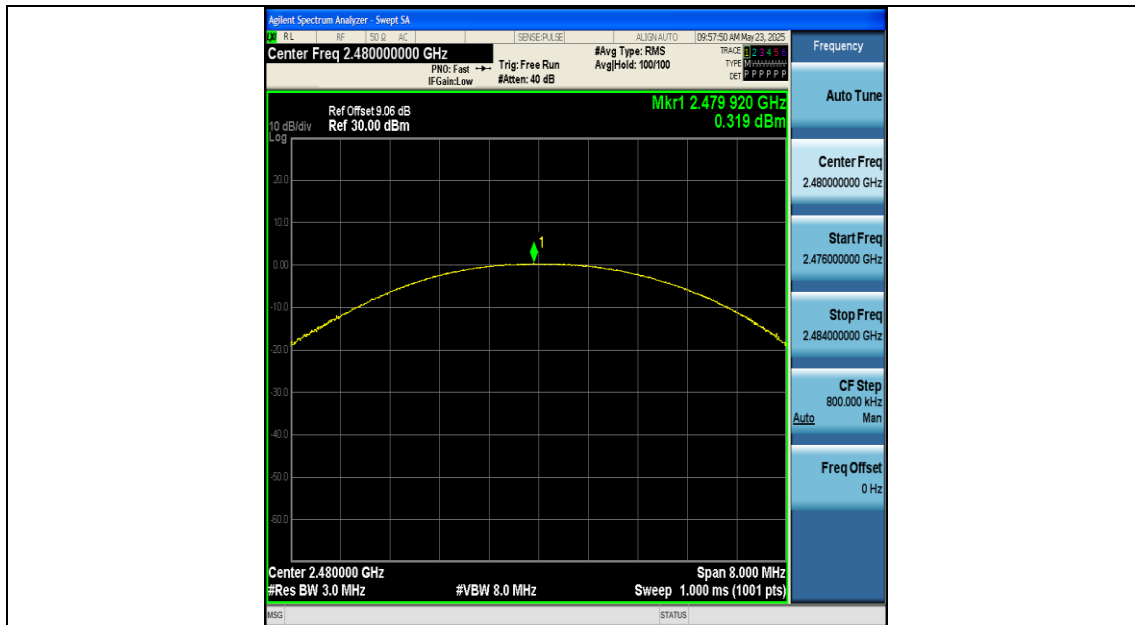
### Test Result

| Test Mode | Antenna | Frequency [MHz] | Conducted Peak Power [dBm] | Conducted Limit [dBm] | Verdict |
|-----------|---------|-----------------|----------------------------|-----------------------|---------|
| DH5       | Ant1    | 2402            | -2.01                      | ≤30                   | PASS    |
| DH5       | Ant1    | 2441            | -3.52                      | ≤30                   | PASS    |
| DH5       | Ant1    | 2480            | 0.32                       | ≤30                   | PASS    |
| 2DH5      | Ant1    | 2402            | 0.39                       | ≤20.97                | PASS    |
| 2DH5      | Ant1    | 2441            | -1.40                      | ≤20.97                | PASS    |
| 2DH5      | Ant1    | 2480            | -0.61                      | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2402            | 0.92                       | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2441            | -0.94                      | ≤20.97                | PASS    |
| 3DH5      | Ant1    | 2480            | 0.14                       | ≤20.97                | PASS    |

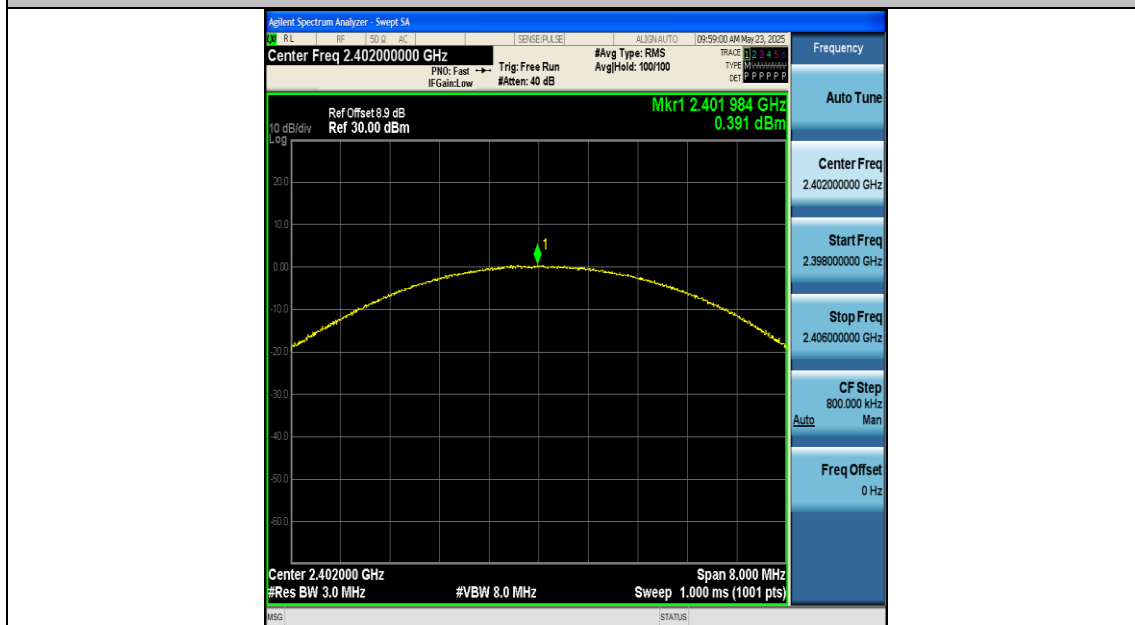
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs

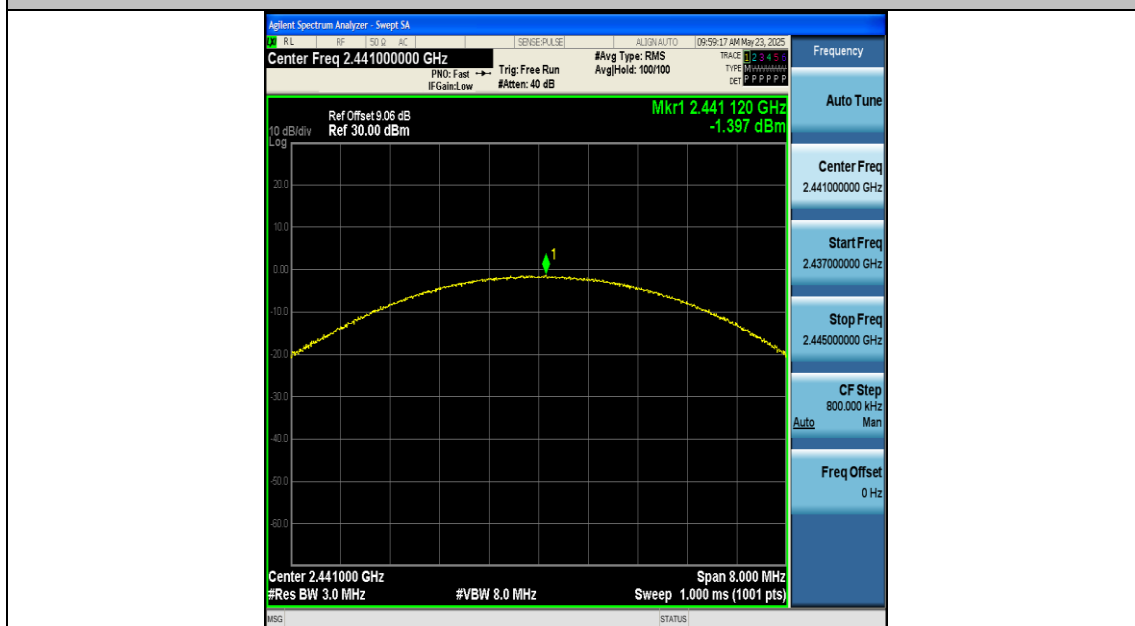




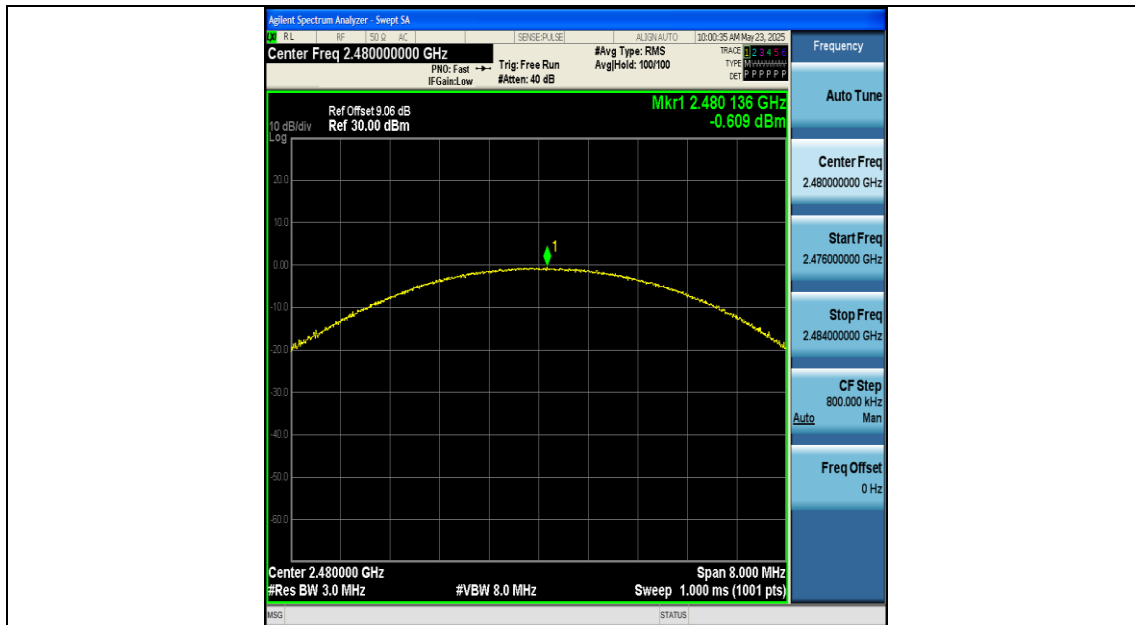
DH5-Ant1-2480-PASS



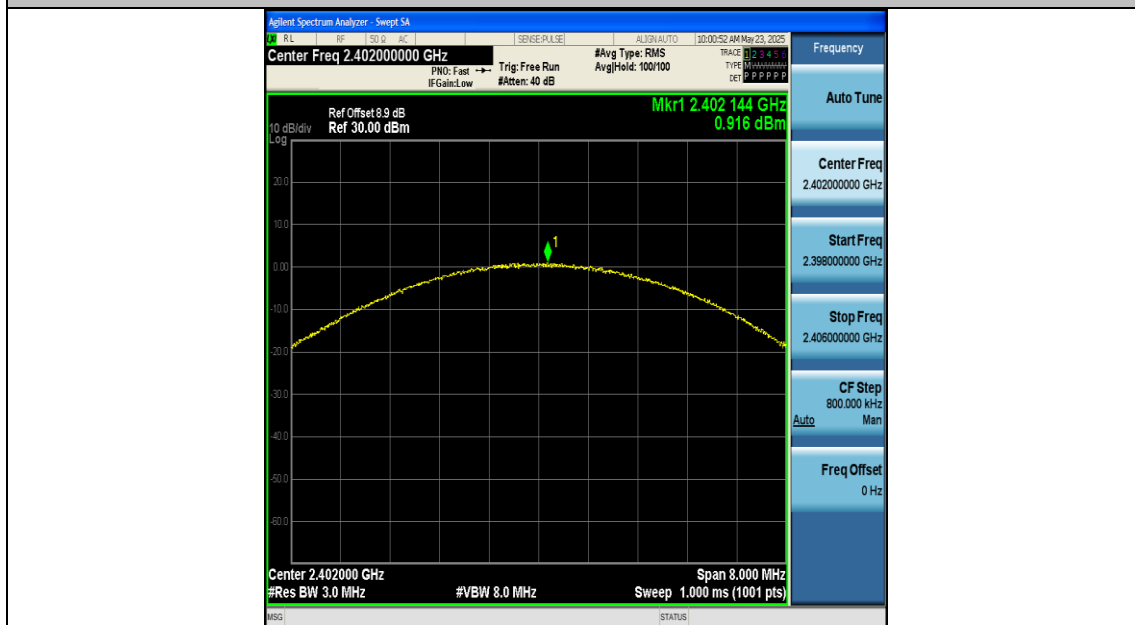
2DH5-Ant1-2402-PASS



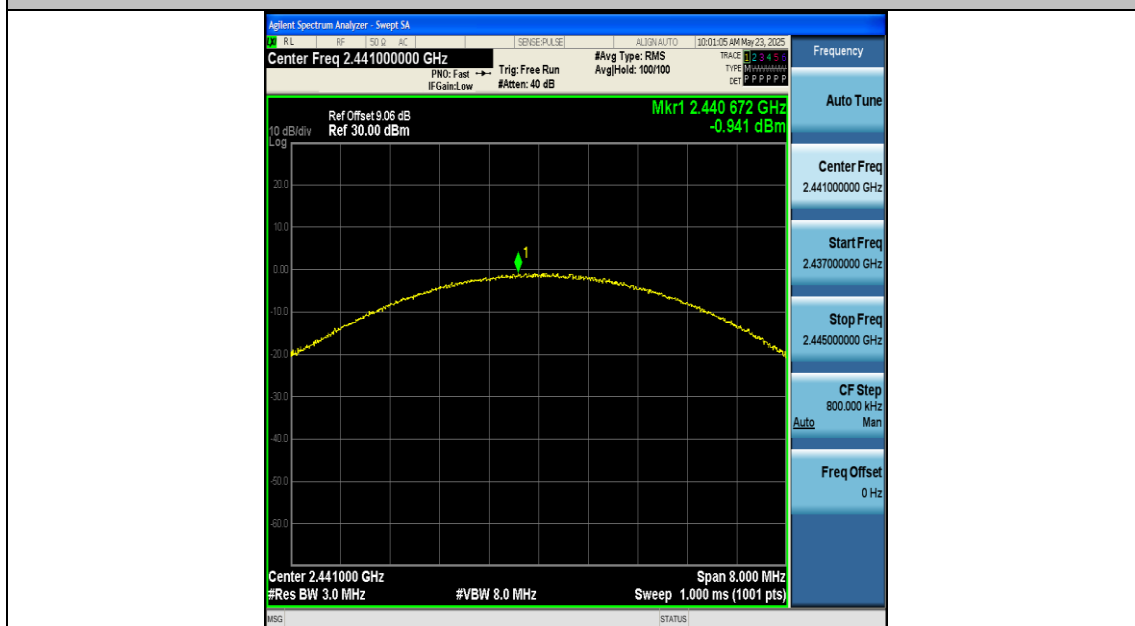
2DH5-Ant1-2441-PASS



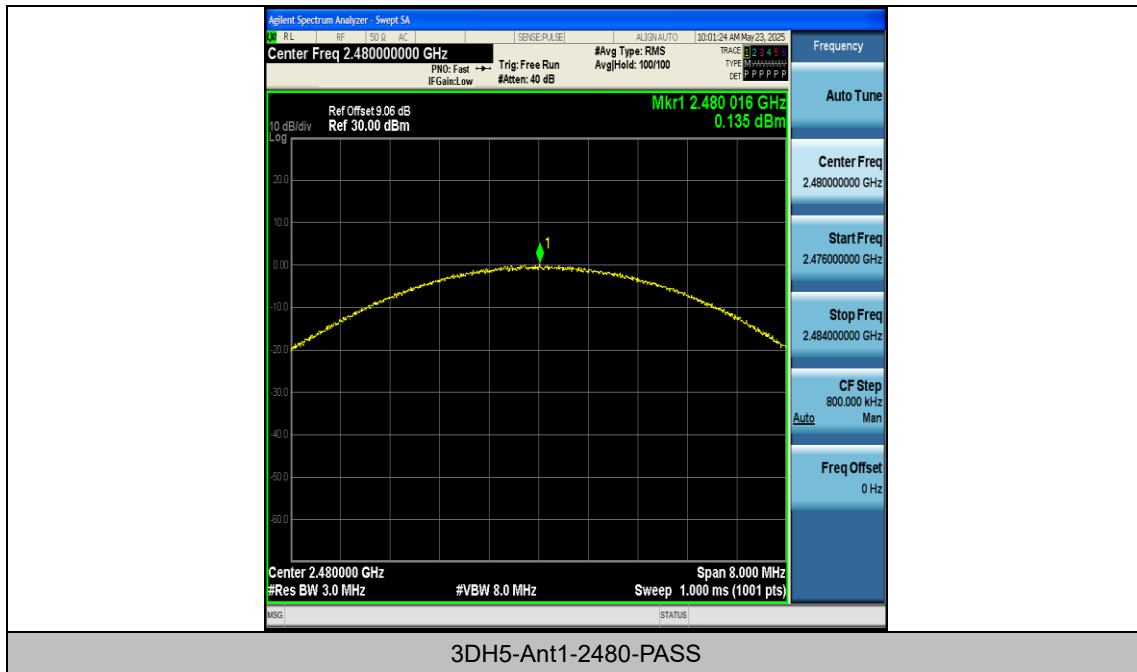
2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



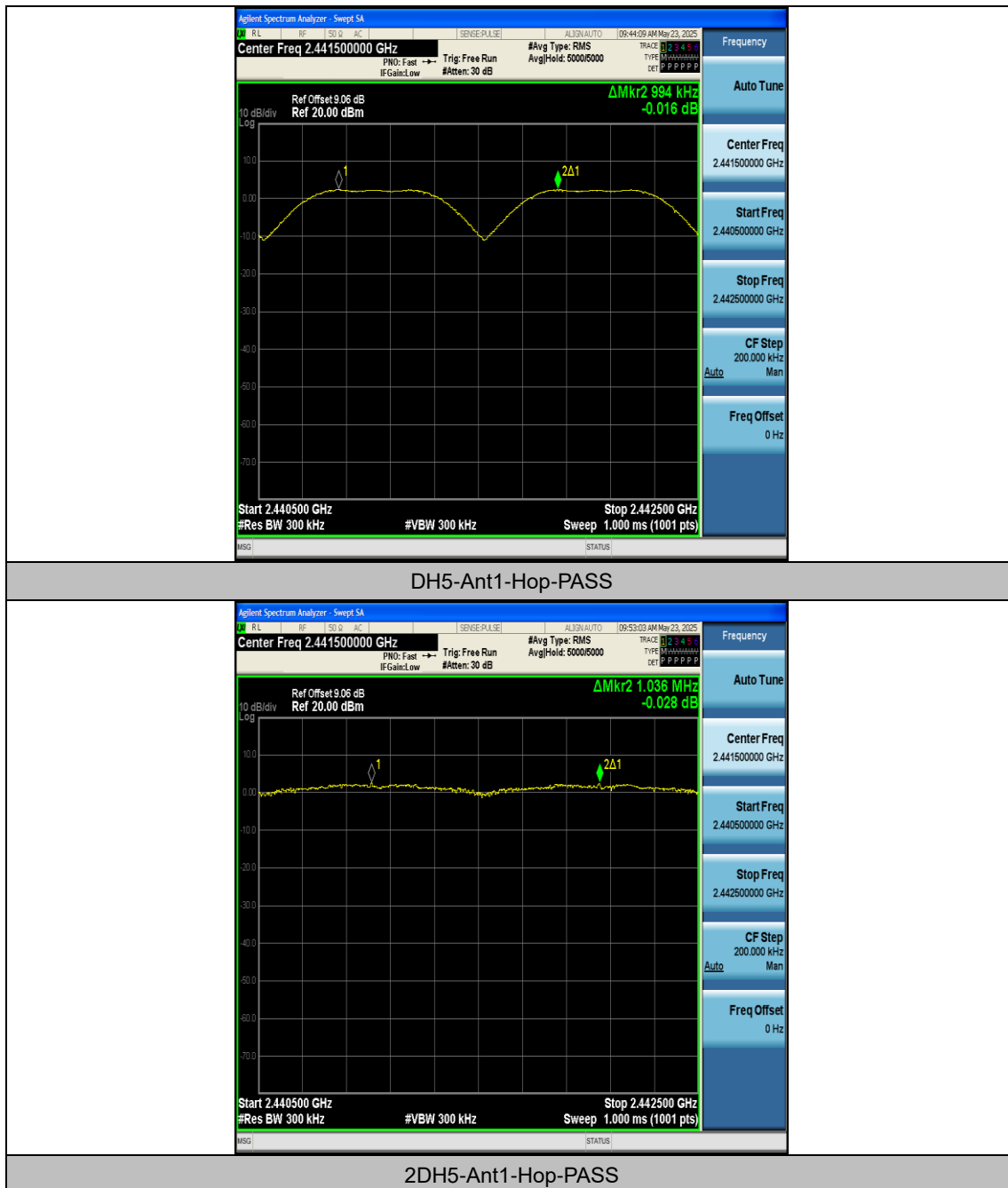
## Appendix D: Carrier frequency separation

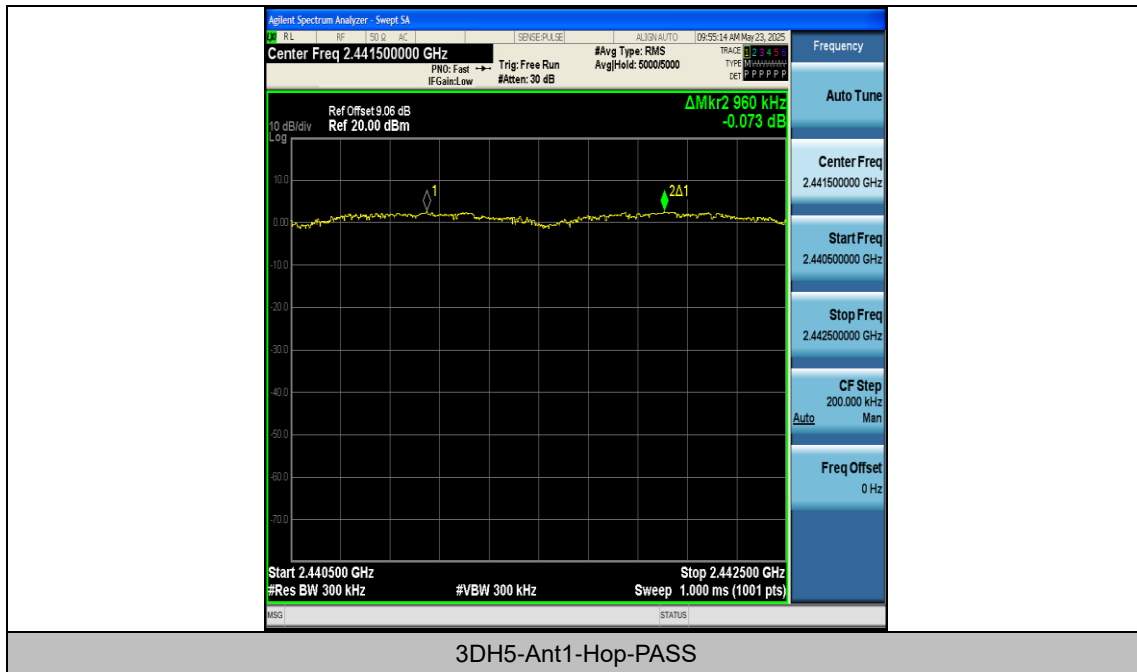
### Test Result

| Test Mode | Antenna | Frequency<br>[MHz] | Result<br>[MHz] | Limit<br>[MHz] | Verdict |
|-----------|---------|--------------------|-----------------|----------------|---------|
| DH5       | Ant1    | Hop                | 0.994           | $\geq 0.960$   | PASS    |
| 2DH5      | Ant1    | Hop                | 1.036           | $\geq 0.896$   | PASS    |
| 3DH5      | Ant1    | Hop                | 0.96            | $\geq 0.880$   | PASS    |

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs





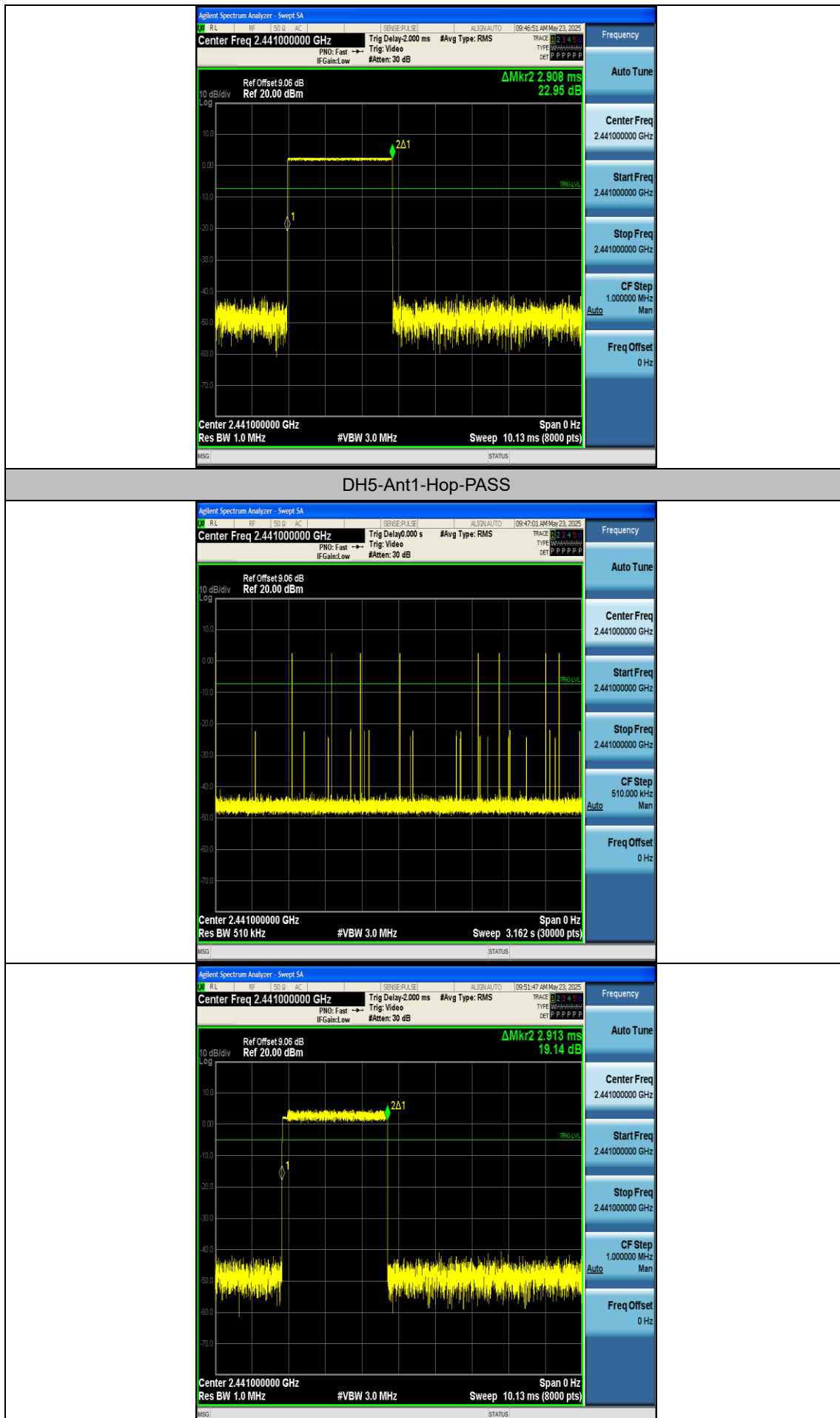
## Appendix E: Time of occupancy

### Test Result

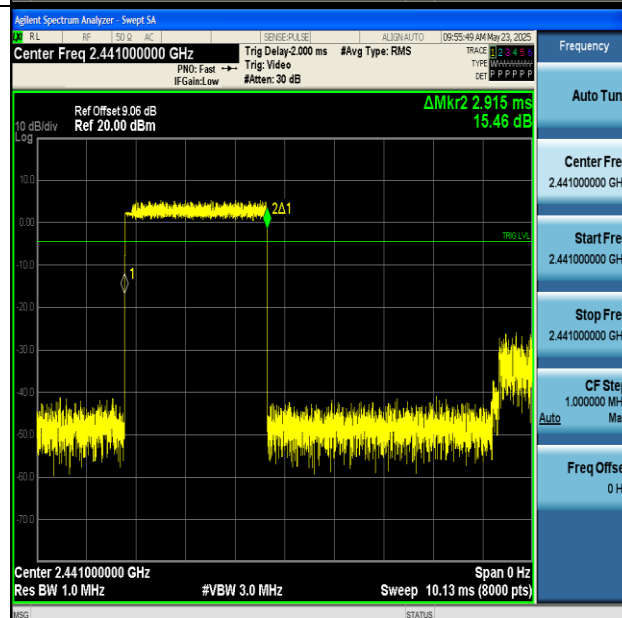
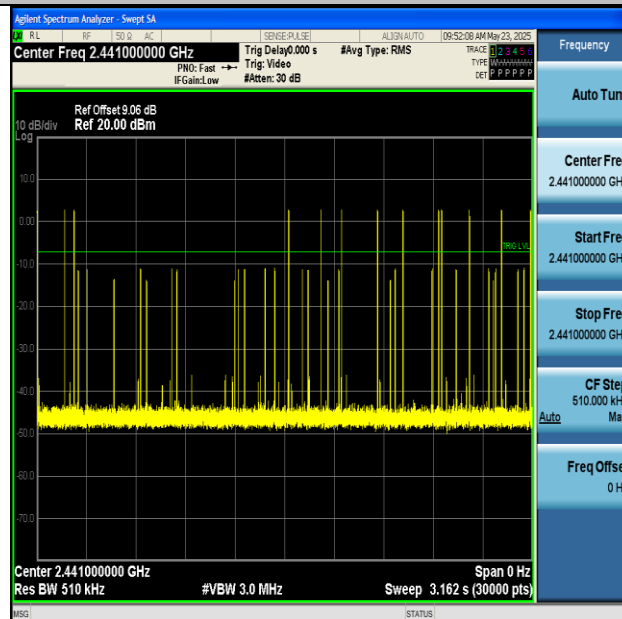
| Test Mode | Antenna | Frequency [MHz] | Burst Width [ms] | TotalHops [Num] | Result [s] | Limit [s] | Verdict |
|-----------|---------|-----------------|------------------|-----------------|------------|-----------|---------|
| DH5       | Ant1    | Hop             | 2.908            | 90              | 0.262      | ≤0.4      | PASS    |
| 2DH5      | Ant1    | Hop             | 2.913            | 130             | 0.379      | ≤0.4      | PASS    |
| 3DH5      | Ant1    | Hop             | 2.915            | 60              | 0.175      | ≤0.4      | PASS    |

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

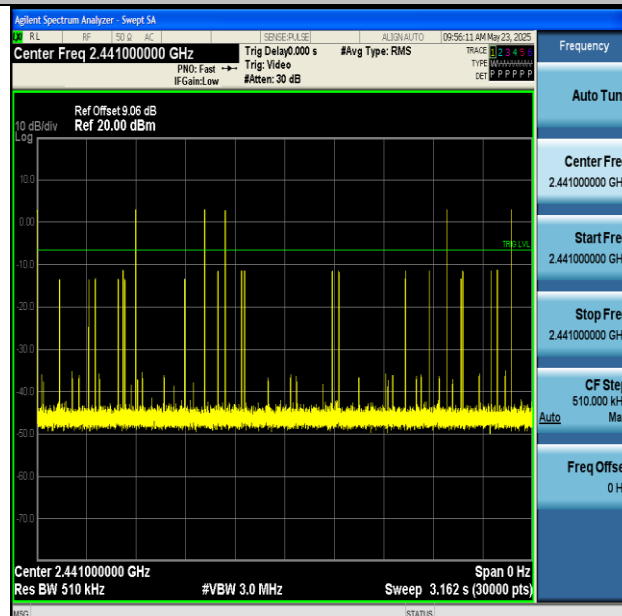
## Test Graphs



## 2DH5-Ant1-Hop-PASS



## 3DH5-Ant1-Hop-PASS



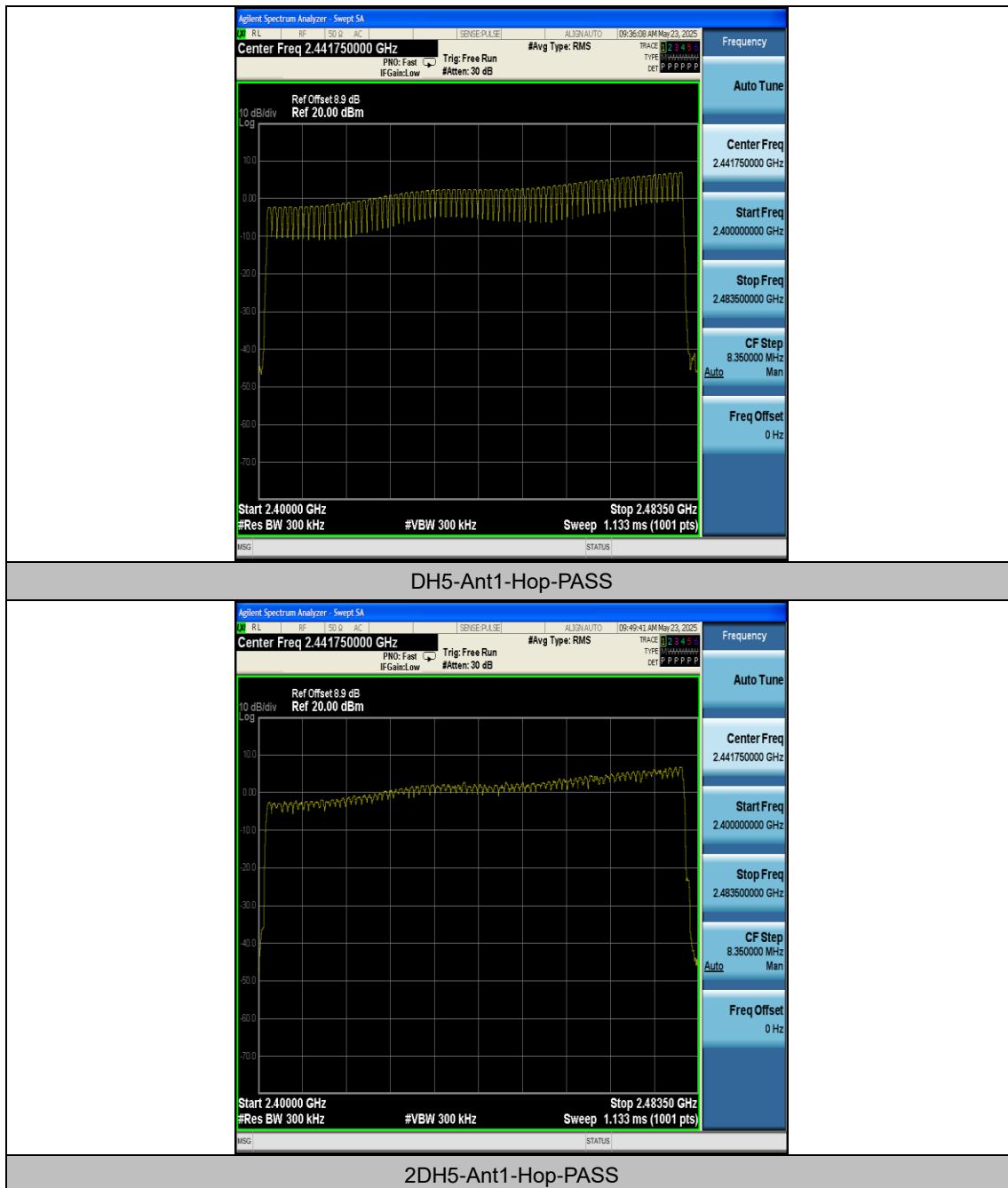
## Appendix F: Number of hopping channels

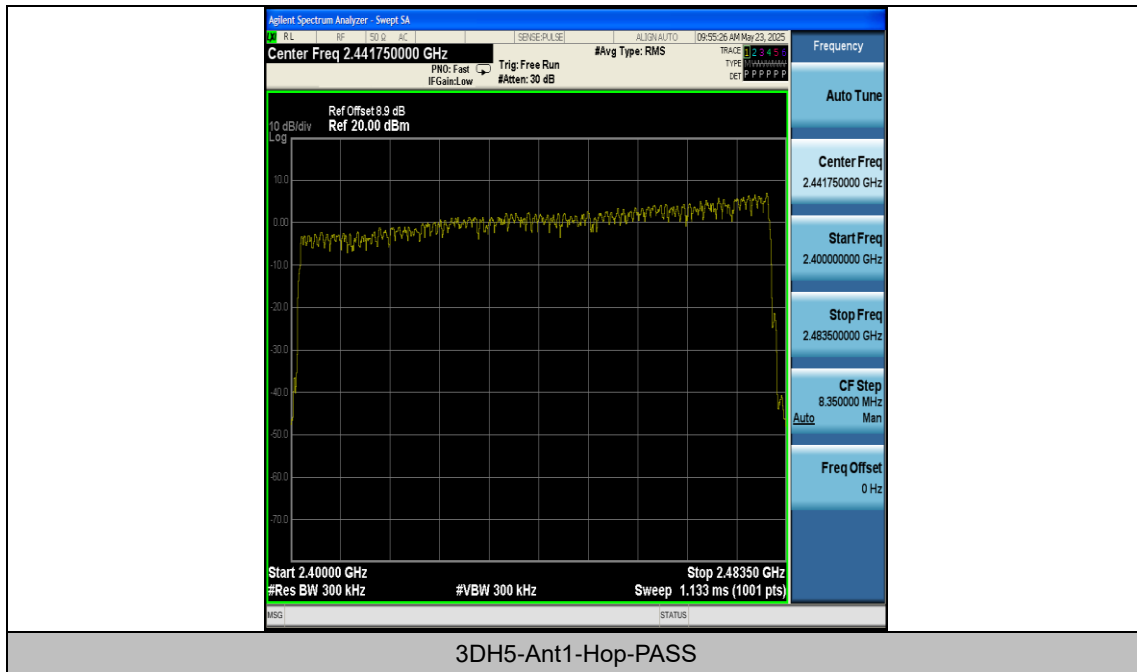
### Test Result

| 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    |

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs





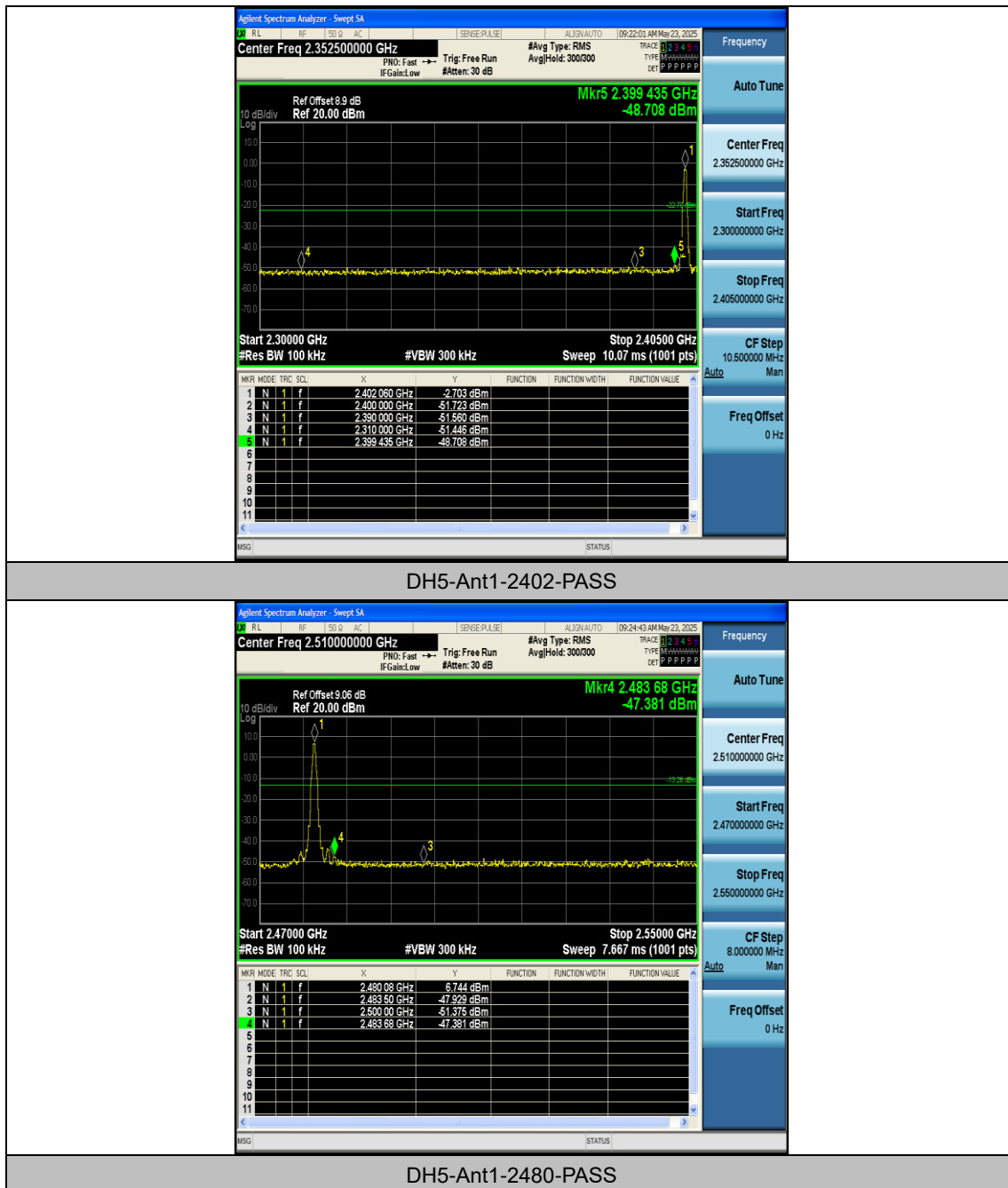
## Appendix G: Band edge measurements

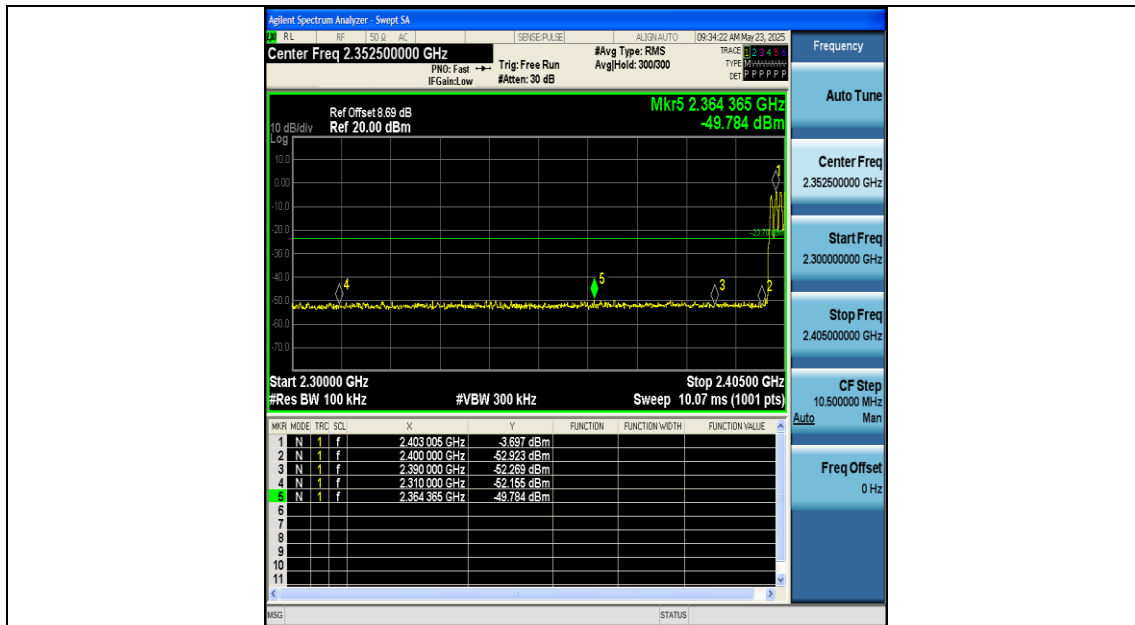
### Test Result

| Test Mode | Antenna | Ch.Name | Frequency [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|-----------|---------|---------|-----------------|----------------|--------------|---------------|---------|
| DH5       | Ant1    | Low     | 2402            | -2.70          | -48.71       | $\leq -22.7$  | PASS    |
| DH5       | Ant1    | High    | 2480            | 6.74           | -47.38       | $\leq -13.26$ | PASS    |
| DH5       | Ant1    | Low     | Hop_2402        | -3.70          | -49.78       | $\leq -23.7$  | PASS    |
| DH5       | Ant1    | High    | Hop_2480        | 5.81           | -49.11       | $\leq -14.19$ | PASS    |
| 2DH5      | Ant1    | Low     | 2402            | -2.87          | -49.58       | $\leq -22.87$ | PASS    |
| 2DH5      | Ant1    | High    | 2480            | 6.97           | -48.31       | $\leq -13.03$ | PASS    |
| 2DH5      | Ant1    | Low     | Hop_2402        | -5.45          | -49.11       | $\leq -25.45$ | PASS    |
| 2DH5      | Ant1    | High    | Hop_2480        | 4.12           | -48.4        | $\leq -15.88$ | PASS    |
| 3DH5      | Ant1    | Low     | 2402            | -2.64          | -49.85       | $\leq -22.64$ | PASS    |
| 3DH5      | Ant1    | High    | 2480            | 6.22           | -48.07       | $\leq -13.78$ | PASS    |
| 3DH5      | Ant1    | Low     | Hop_2402        | -5.22          | -48.69       | $\leq -25.22$ | PASS    |
| 3DH5      | Ant1    | High    | Hop_2480        | 6.71           | -48.52       | $\leq -13.29$ | PASS    |

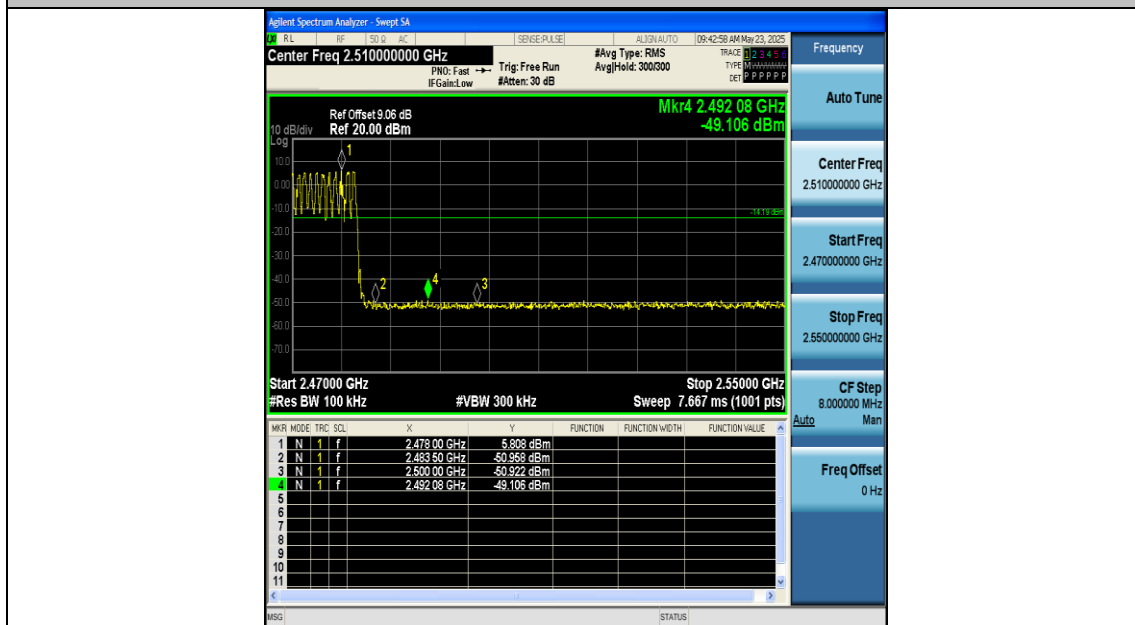
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs

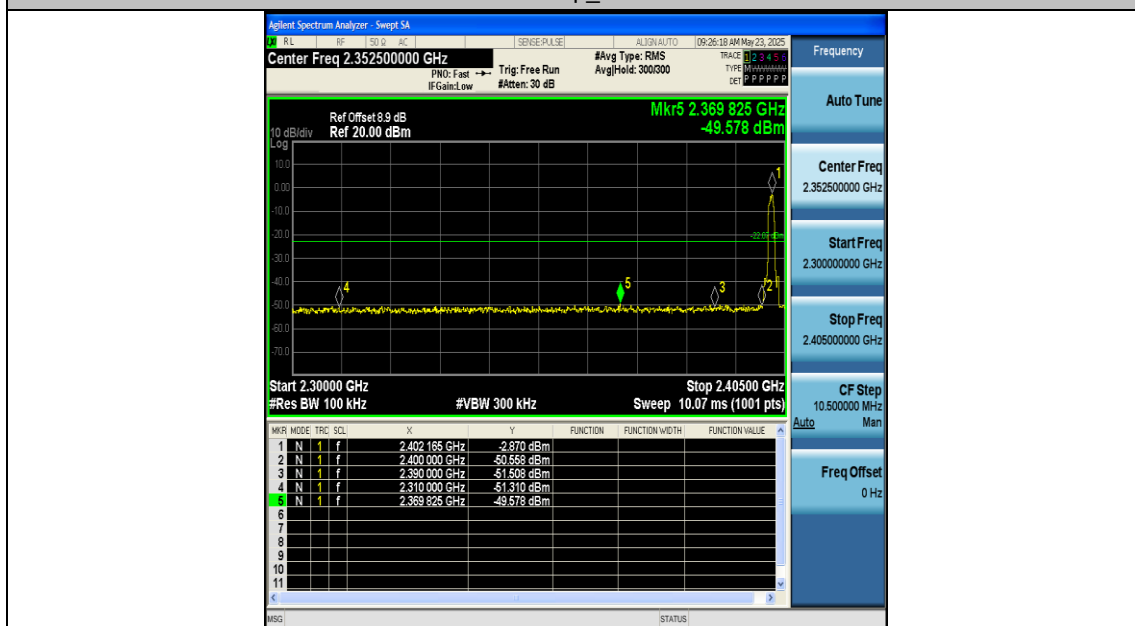




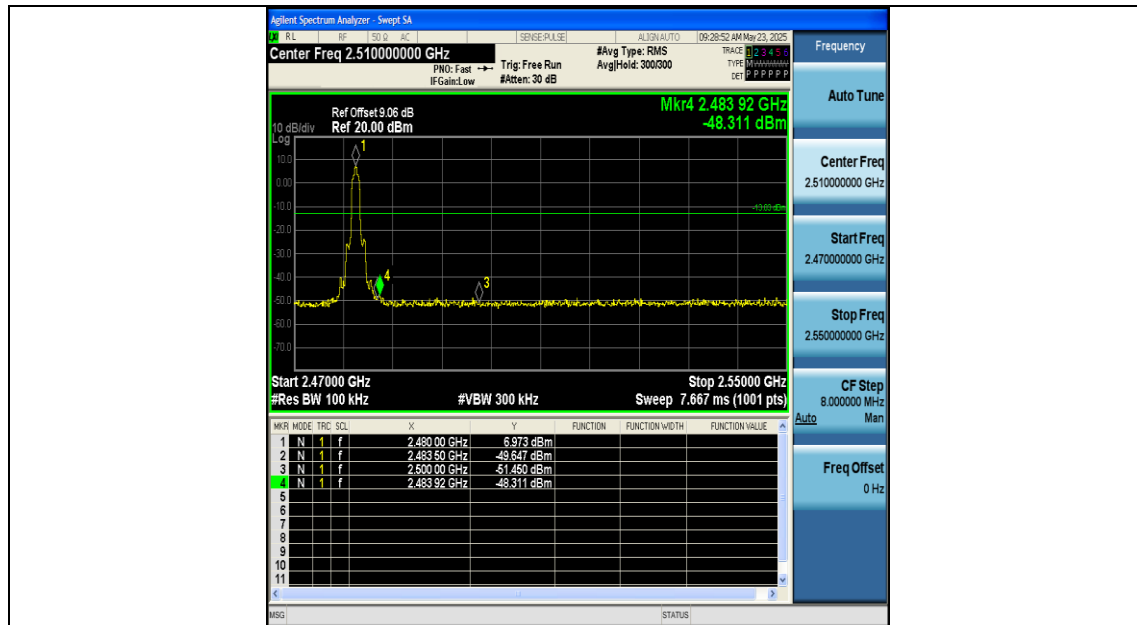
DH5-Ant1-Hop\_2402-PASS



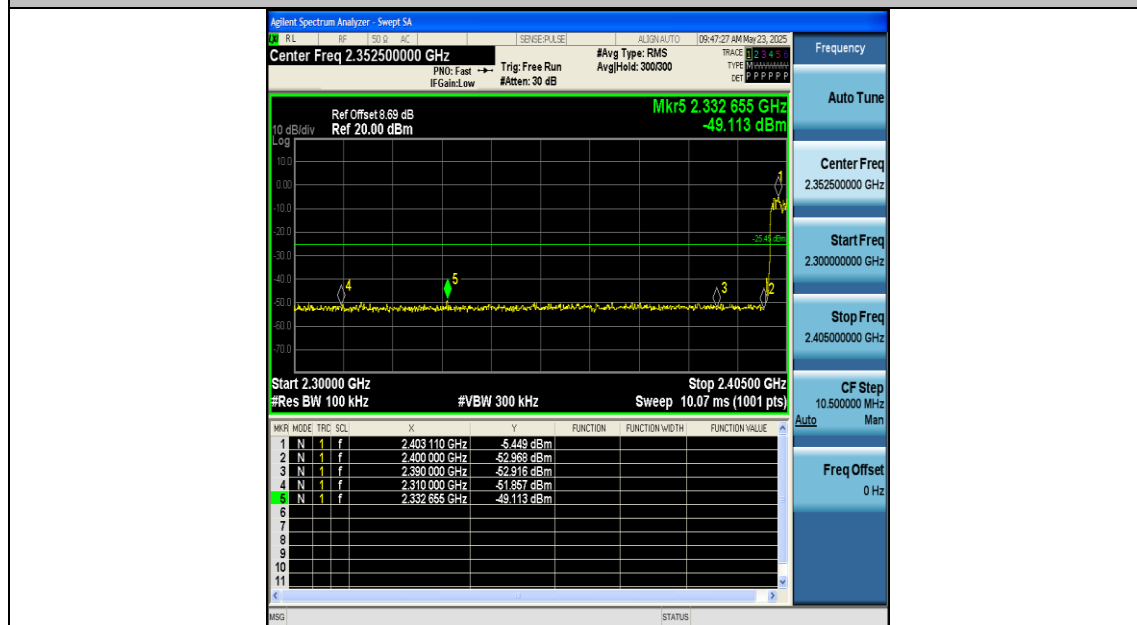
DH5-Ant1-Hop\_2480-PASS



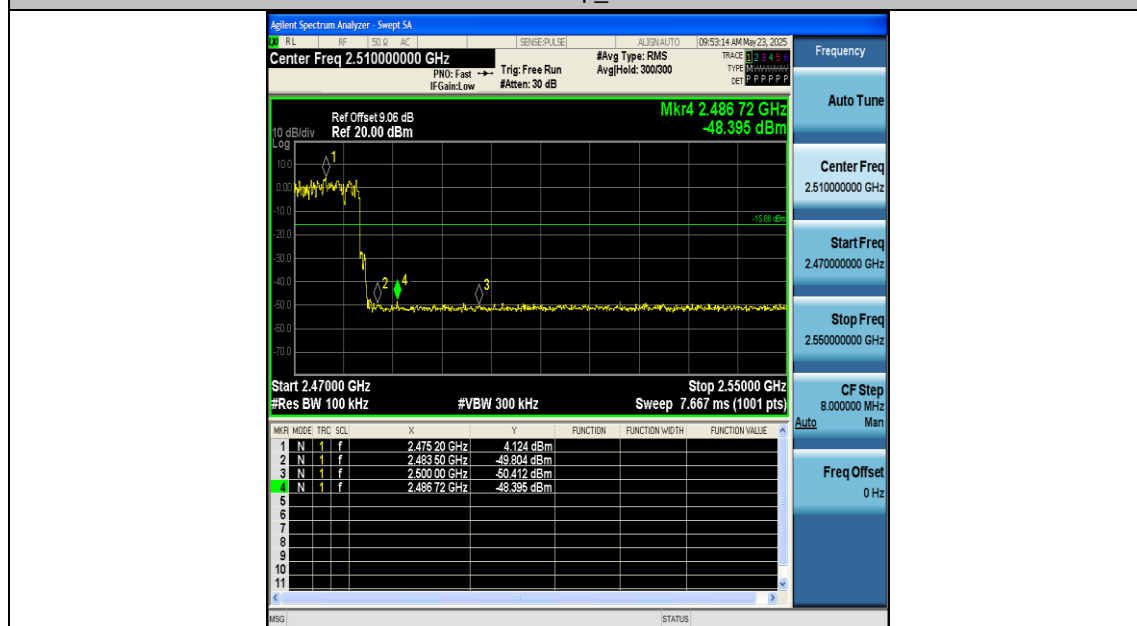
2DH5-Ant1-2402-PASS



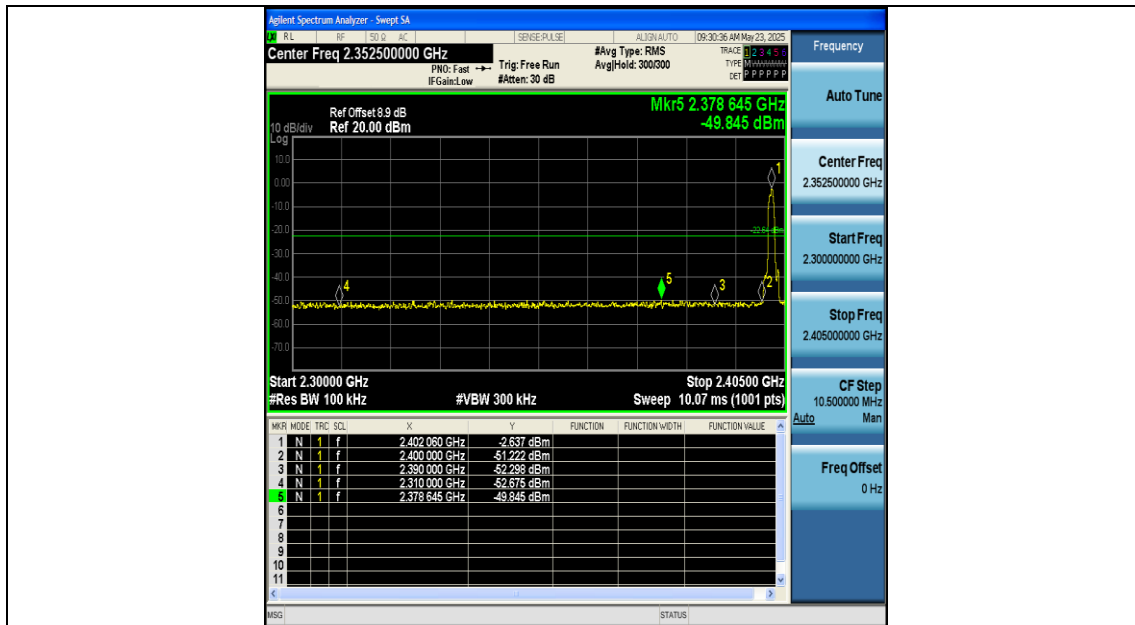
2DH5-Ant1-2480-PASS



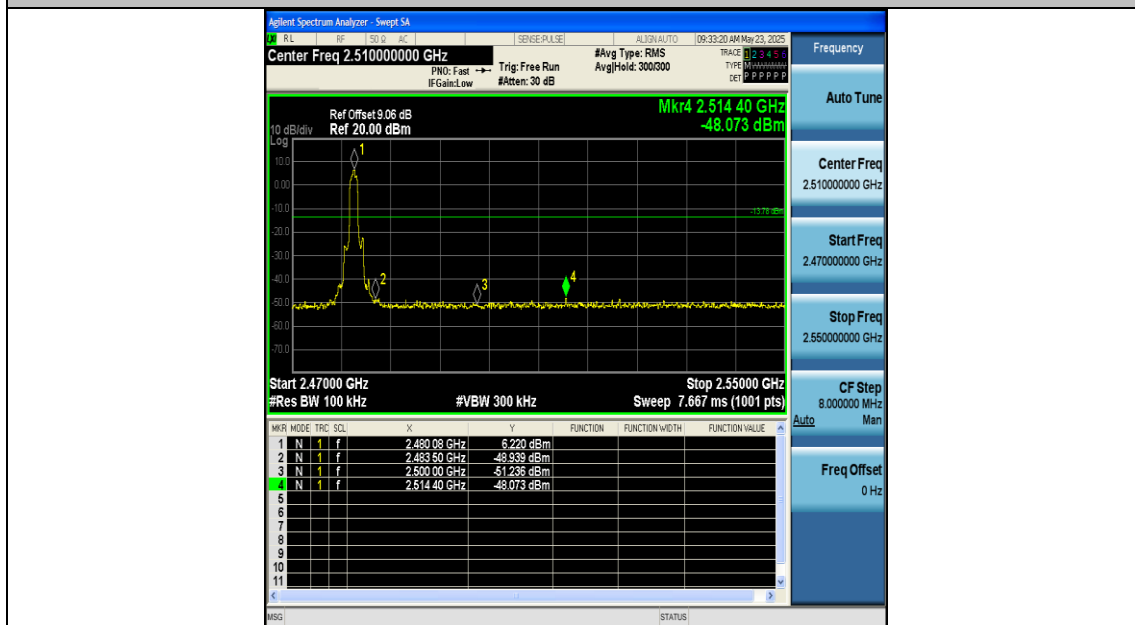
2DH5-Ant1-Hop\_2402-PASS



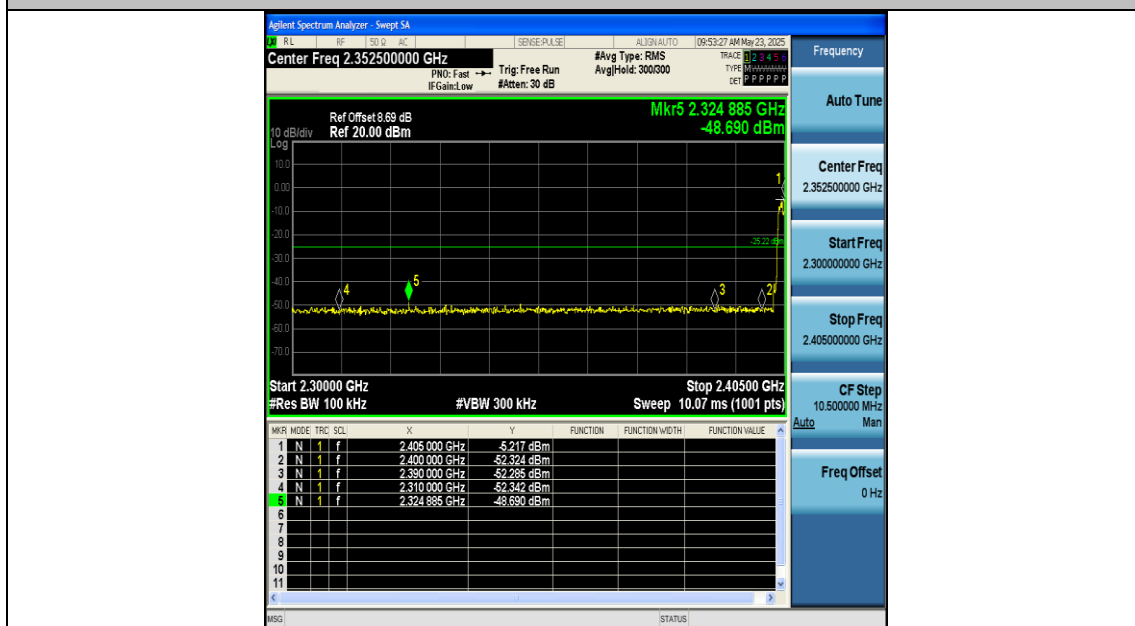
2DH5-Ant1-Hop\_2480-PASS



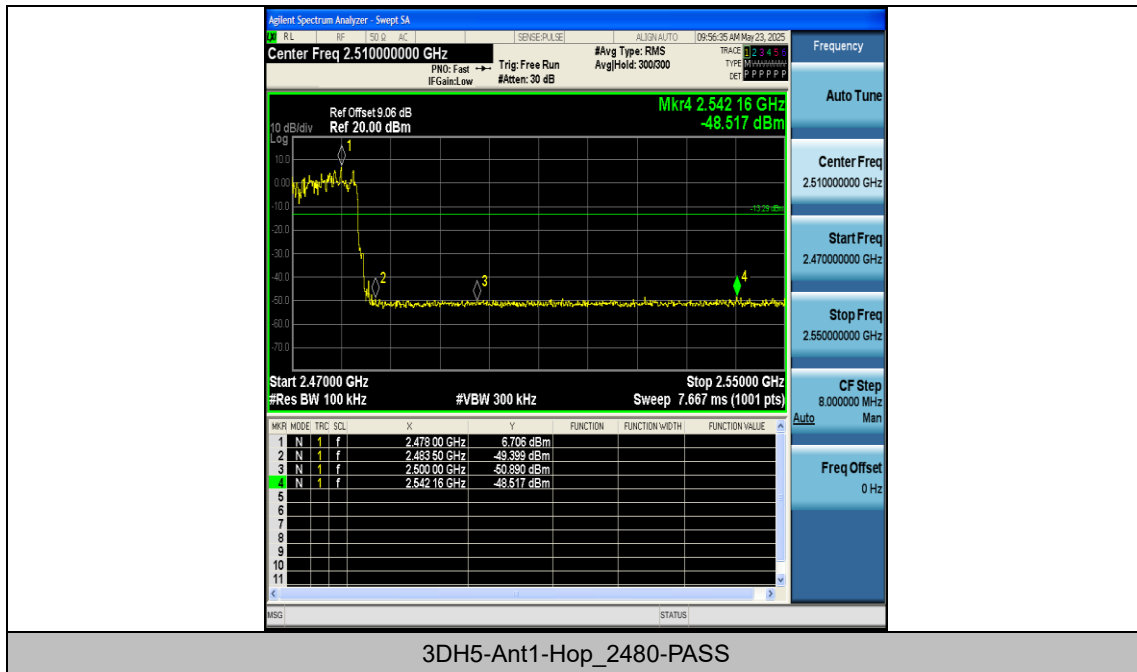
3DH5-Ant1-2402-PASS



3DH5-Ant1-2480-PASS



3DH5-Ant1-Hop\_2402-PASS



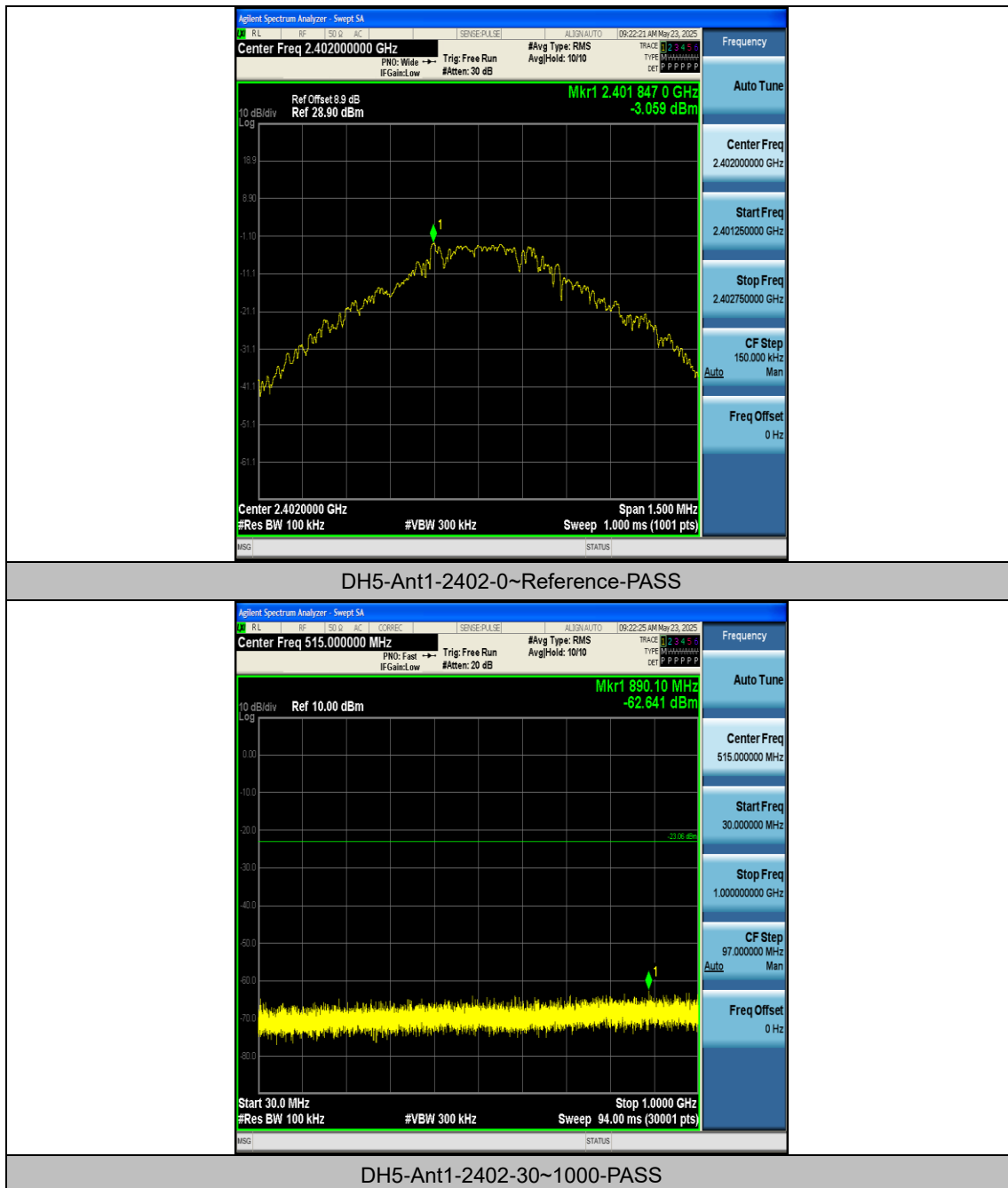
## Appendix H: Conducted Spurious Emission

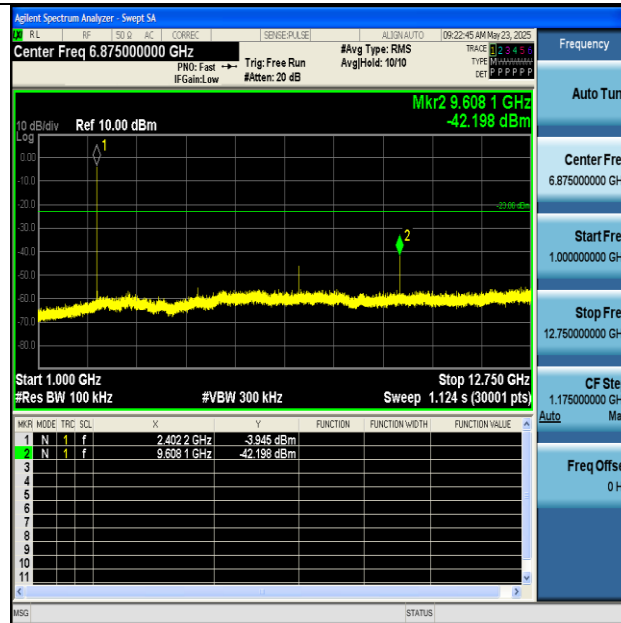
### Test Result

| Test Mode | Antenna | Frequency [MHz] | Freq. Range [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|-----------------|-------------------|------------------|--------------|-------------|---------|
| DH5       | Ant1    | 2402            | 0~Reference       | -3.06            | -3.06        | ---         | PASS    |
| DH5       | Ant1    | 2402            | 30~1000           | -3.06            | -62.64       | ≤-23.06     | PASS    |
| DH5       | Ant1    | 2402            | 1000~12750        | -3.06            | -42.2        | ≤-23.06     | PASS    |
| DH5       | Ant1    | 2441            | 0~Reference       | 1.62             | 1.62         | ---         | PASS    |
| DH5       | Ant1    | 2441            | 30~1000           | 1.62             | -62.76       | ≤-18.38     | PASS    |
| DH5       | Ant1    | 2441            | 1000~12750        | 1.62             | -42.17       | ≤-18.38     | PASS    |
| DH5       | Ant1    | 2480            | 0~Reference       | 6.46             | 6.46         | ---         | PASS    |
| DH5       | Ant1    | 2480            | 30~1000           | 6.46             | -63.29       | ≤-13.54     | PASS    |
| DH5       | Ant1    | 2480            | 1000~12750        | 6.46             | -42.27       | ≤-13.54     | PASS    |
| 2DH5      | Ant1    | 2402            | 0~Reference       | -2.73            | -2.73        | ---         | PASS    |
| 2DH5      | Ant1    | 2402            | 30~1000           | -2.73            | -63.39       | ≤-22.73     | PASS    |
| 2DH5      | Ant1    | 2402            | 1000~12750        | -2.73            | -42.48       | ≤-22.73     | PASS    |
| 2DH5      | Ant1    | 2441            | 0~Reference       | 2.12             | 2.12         | ---         | PASS    |
| 2DH5      | Ant1    | 2441            | 30~1000           | 2.12             | -62.08       | ≤-17.88     | PASS    |
| 2DH5      | Ant1    | 2441            | 1000~12750        | 2.12             | -42.2        | ≤-17.88     | PASS    |
| 2DH5      | Ant1    | 2480            | 0~Reference       | 4.97             | 4.97         | ---         | PASS    |
| 2DH5      | Ant1    | 2480            | 30~1000           | 4.97             | -62.69       | ≤-15.03     | PASS    |
| 2DH5      | Ant1    | 2480            | 1000~12750        | 4.97             | -42.7        | ≤-15.03     | PASS    |
| 3DH5      | Ant1    | 2402            | 0~Reference       | -2.75            | -2.75        | ---         | PASS    |
| 3DH5      | Ant1    | 2402            | 30~1000           | -2.75            | -62.51       | ≤-22.75     | PASS    |
| 3DH5      | Ant1    | 2402            | 1000~12750        | -2.75            | -42.35       | ≤-22.75     | PASS    |
| 3DH5      | Ant1    | 2441            | 0~Reference       | -0.47            | -0.47        | ---         | PASS    |
| 3DH5      | Ant1    | 2441            | 30~1000           | -0.47            | -62.95       | ≤-20.47     | PASS    |
| 3DH5      | Ant1    | 2441            | 1000~12750        | -0.47            | -42.43       | ≤-20.47     | PASS    |
| 3DH5      | Ant1    | 2480            | 0~Reference       | 6.02             | 6.02         | ---         | PASS    |
| 3DH5      | Ant1    | 2480            | 30~1000           | 6.02             | -62.44       | ≤-13.98     | PASS    |
| 3DH5      | Ant1    | 2480            | 1000~12750        | 6.02             | -42.72       | ≤-13.98     | PASS    |

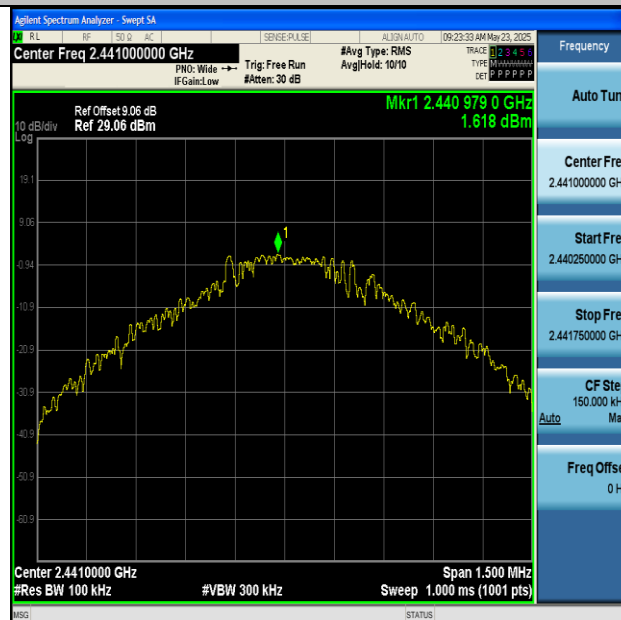
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

## Test Graphs

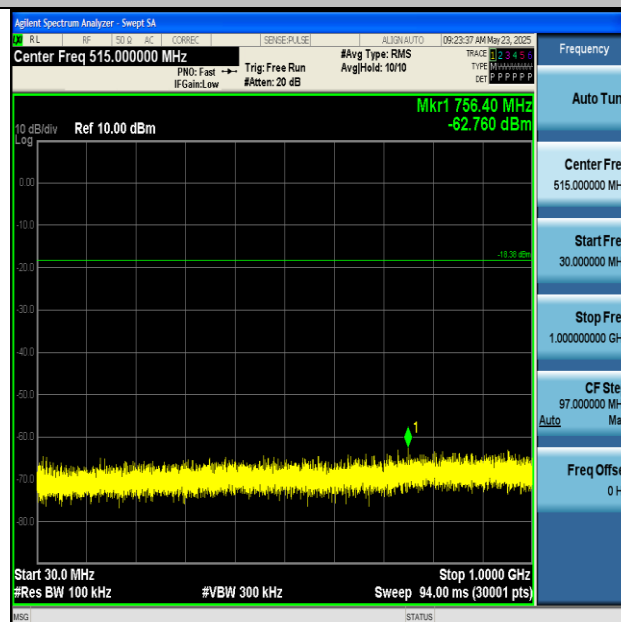




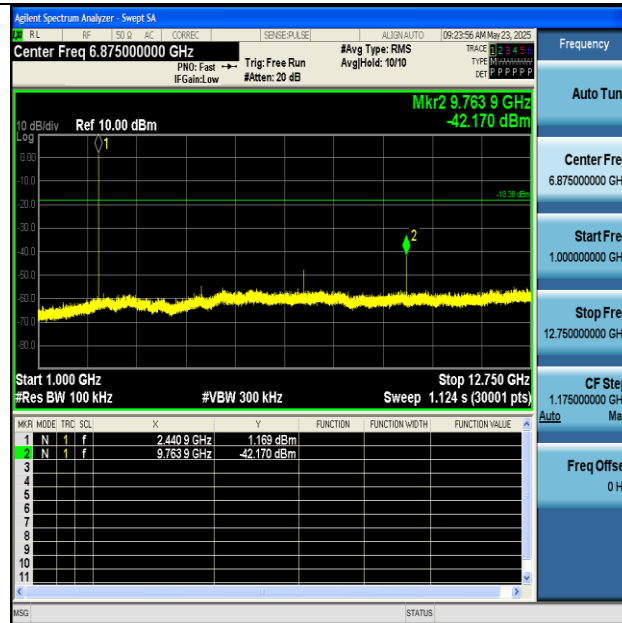
DH5-Ant1-2402-1000~12750-PASS



DH5-Ant1-2441-0~Reference-PASS



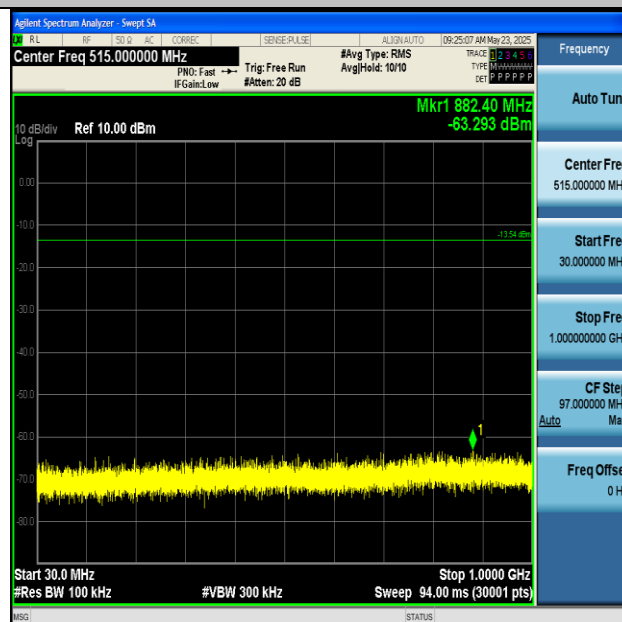
DH5-Ant1-2441-30~1000-PASS



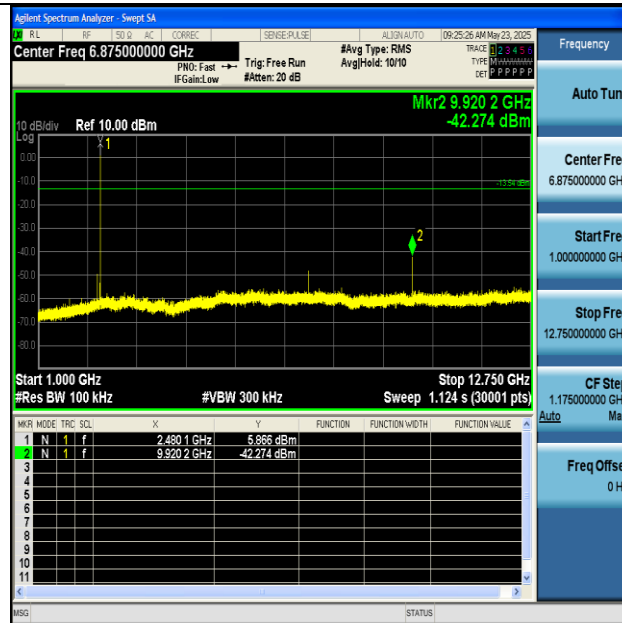
DH5-Ant1-2441-1000~12750-PASS



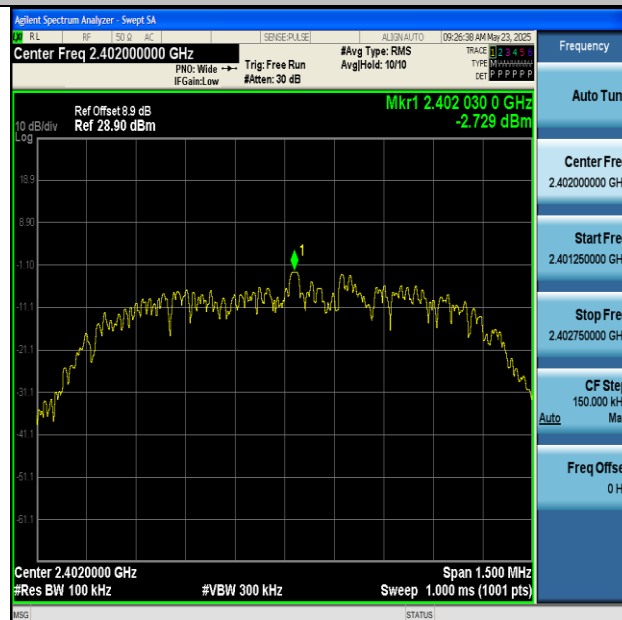
DH5-Ant1-2480-0~Reference-PASS



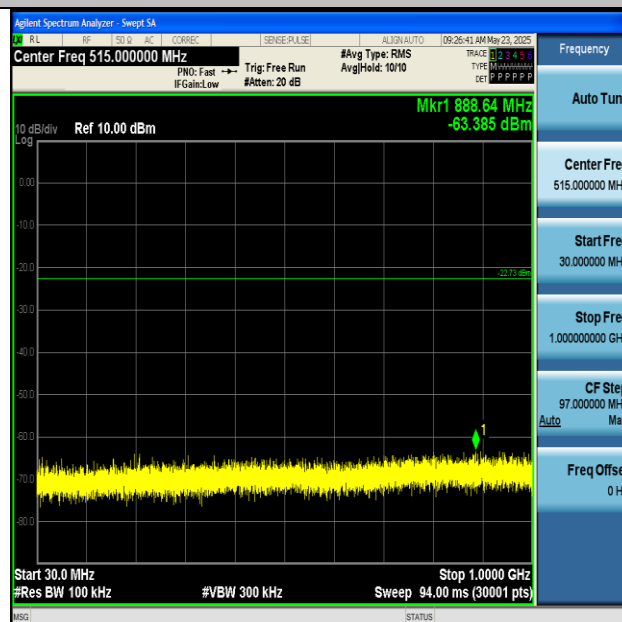
DH5-Ant1-2480-30~1000-PASS



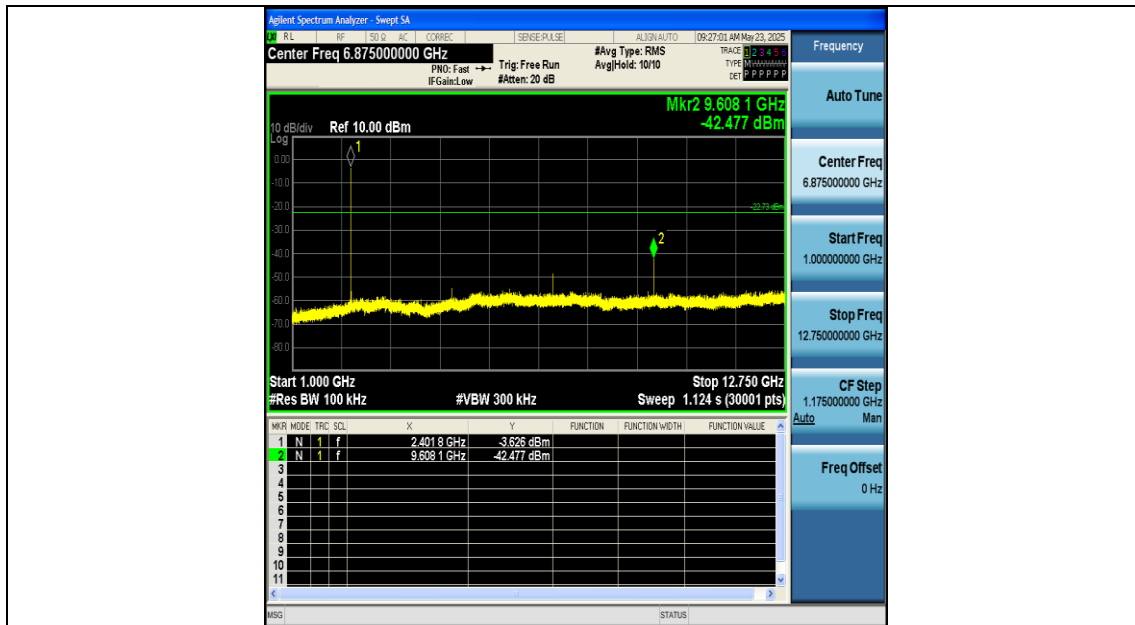
DH5-Ant1-2480-1000~12750-PASS



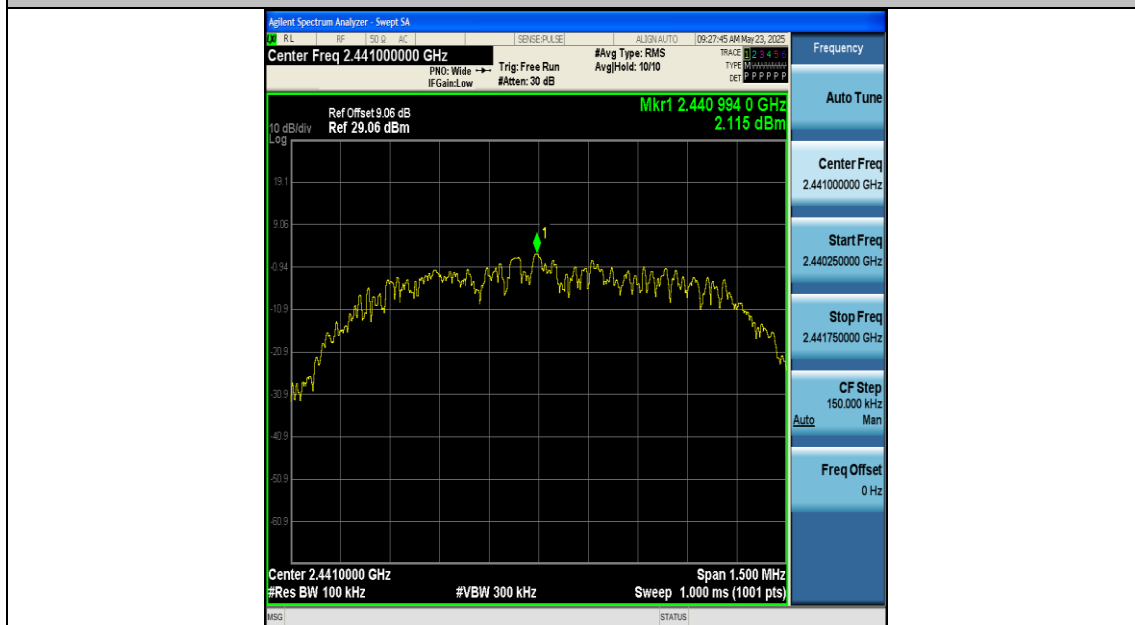
2DH5-Ant1-2402-0~Reference-PASS



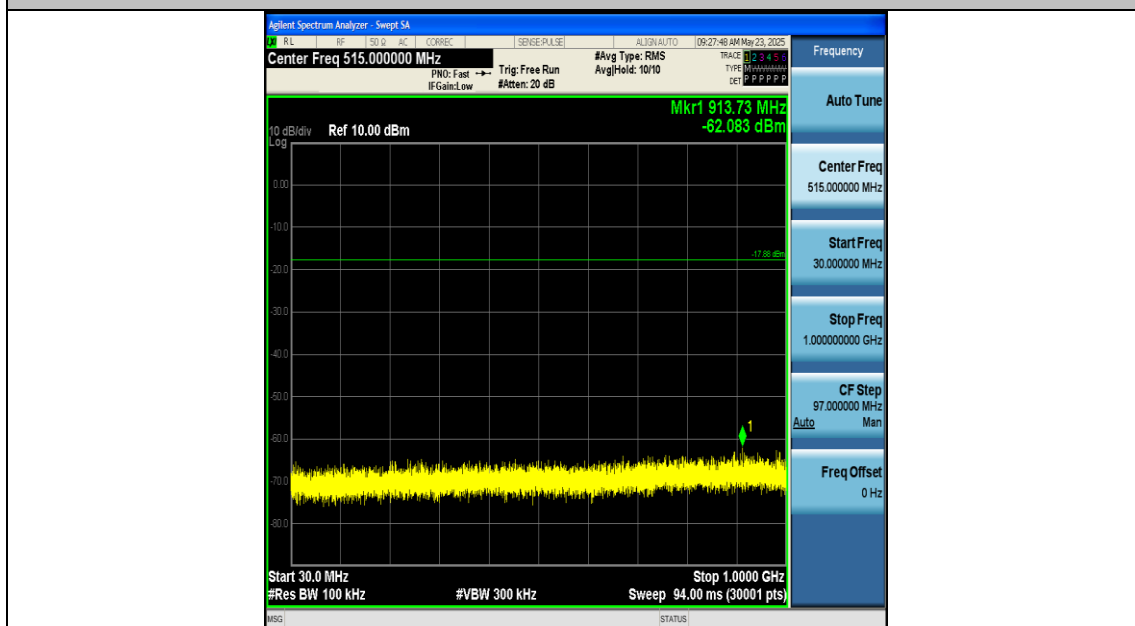
2DH5-Ant1-2402-30~1000-PASS



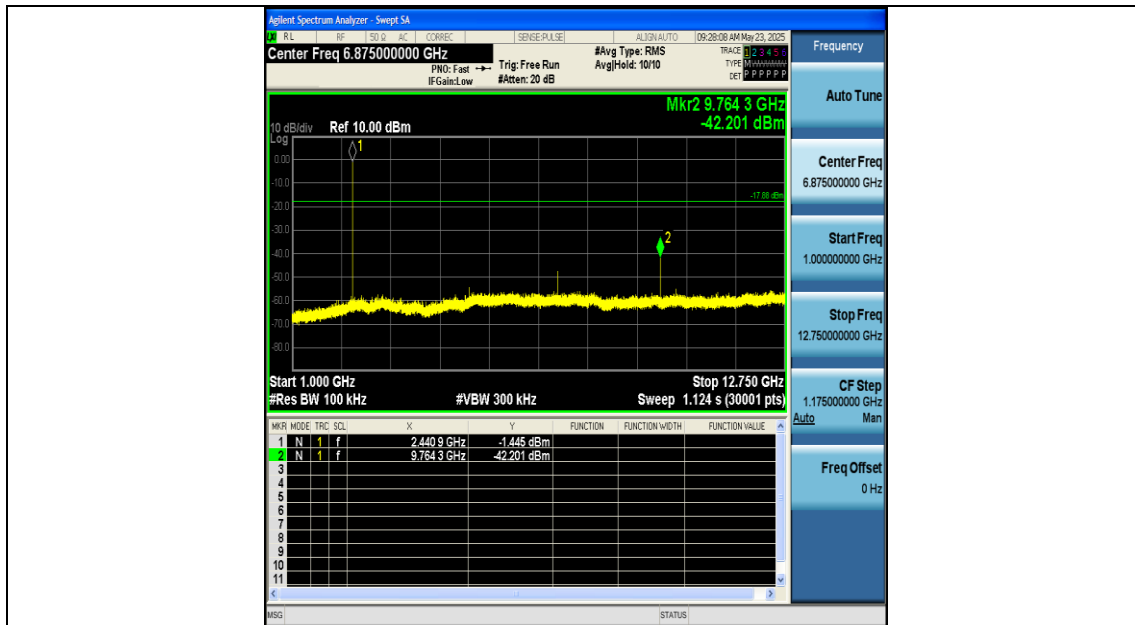
2DH5-Ant1-2402-1000~12750-PASS



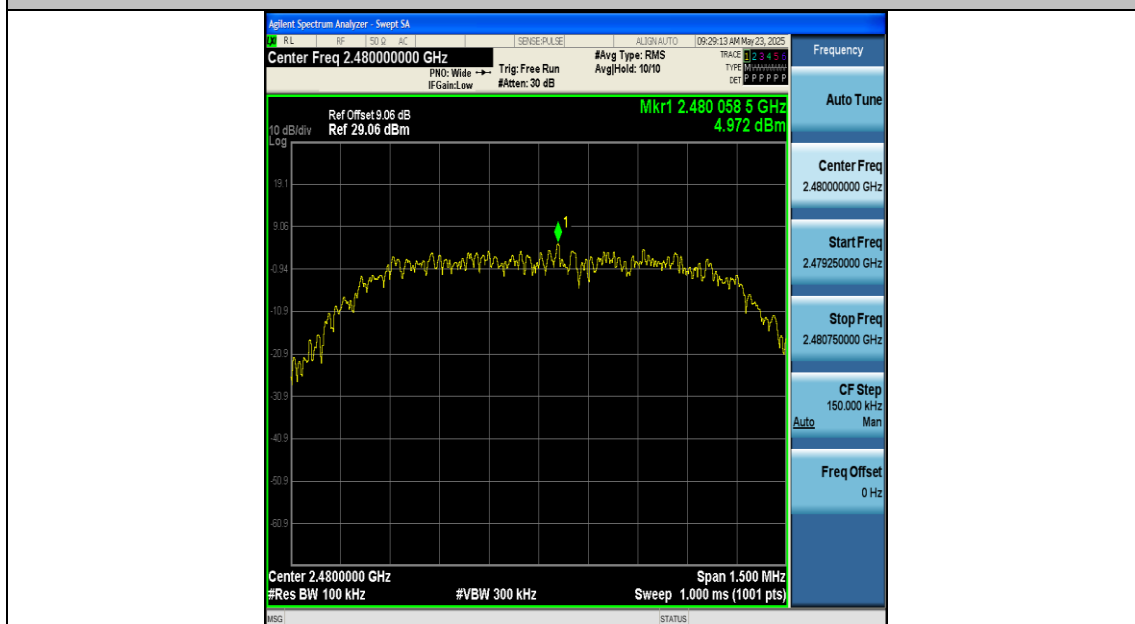
2DH5-Ant1-2441-0~Reference-PASS



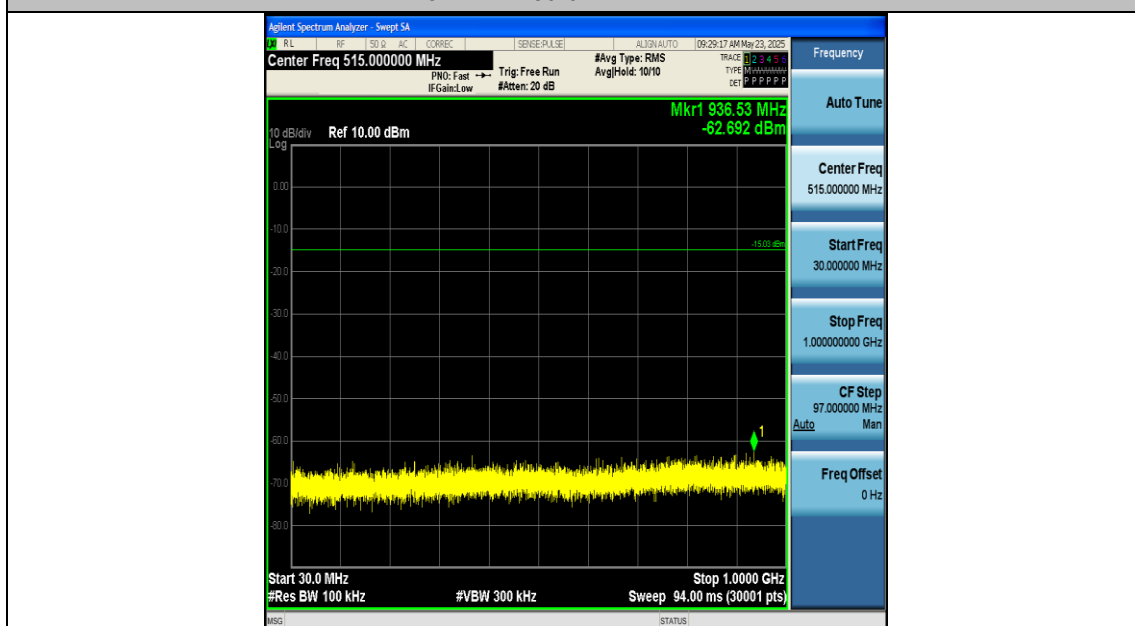
2DH5-Ant1-2441-30~1000-PASS



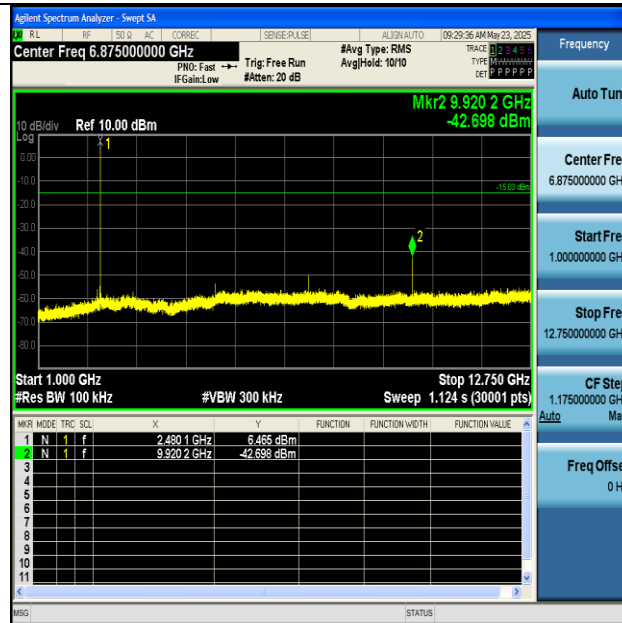
2DH5-Ant1-2441-1000~12750-PASS



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



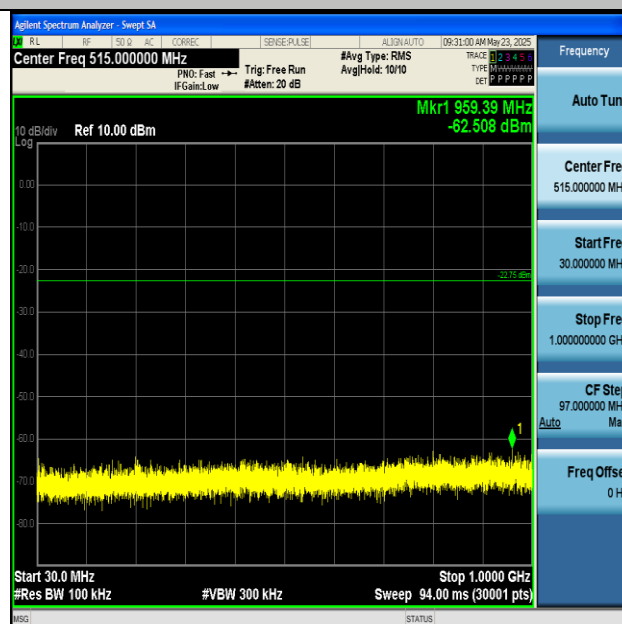
2DH5-Ant1-2480-30~1000-PASS



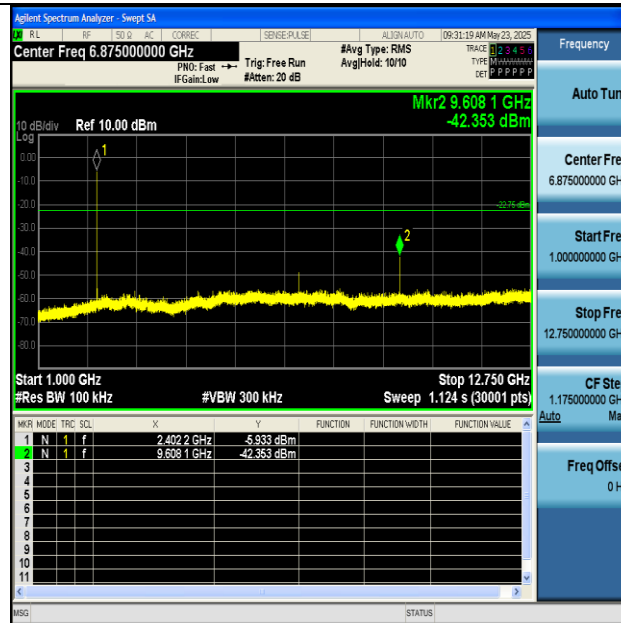
2DH5-Ant1-2480-1000~12750-PASS



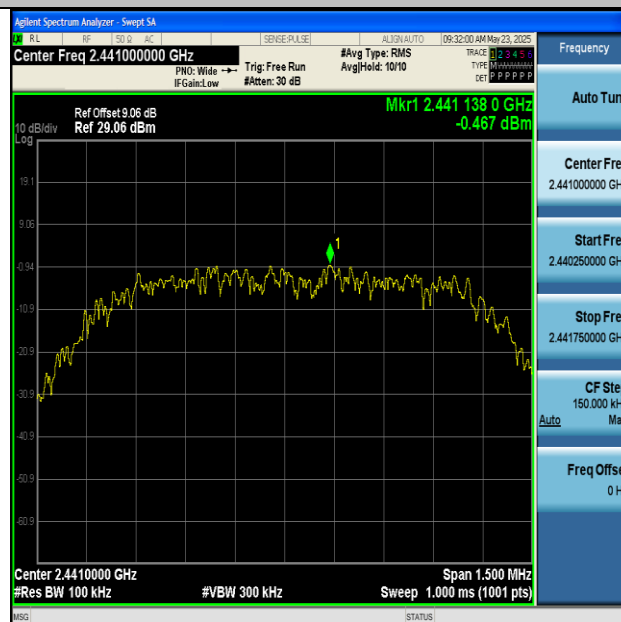
3DH5-Ant1-2402-0~Reference-PASS



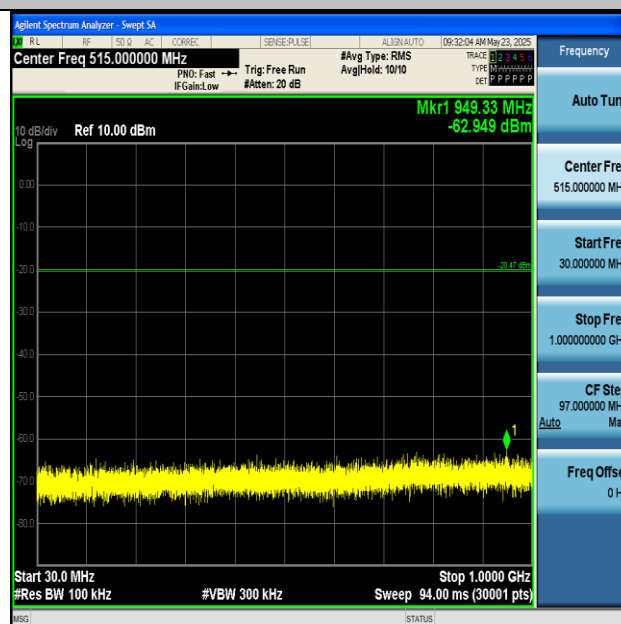
3DH5-Ant1-2402-30~1000-PASS



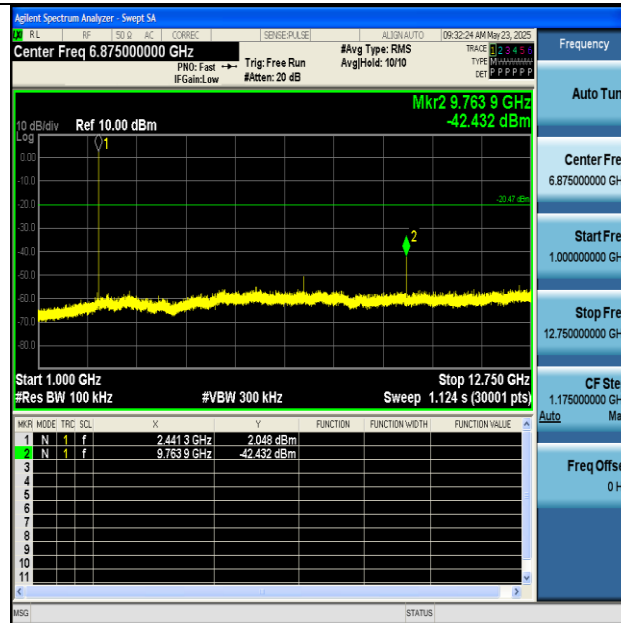
3DH5-Ant1-2402-1000~12750-PASS



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



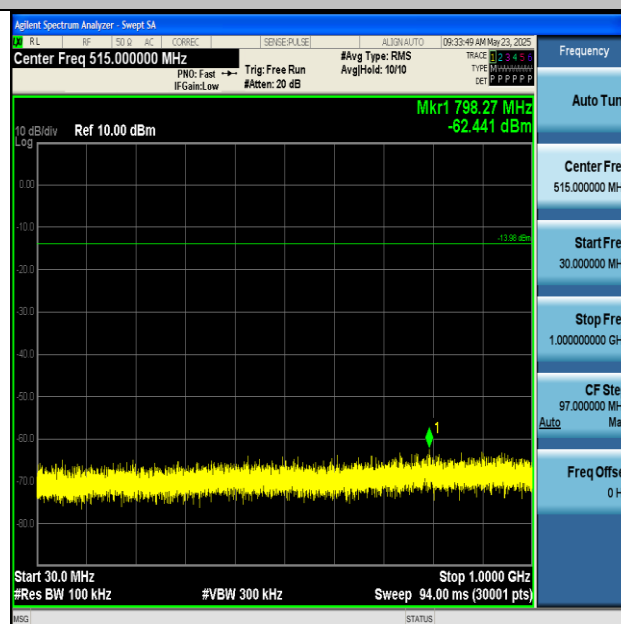
3DH5-Ant1-2441-30~1000-PASS



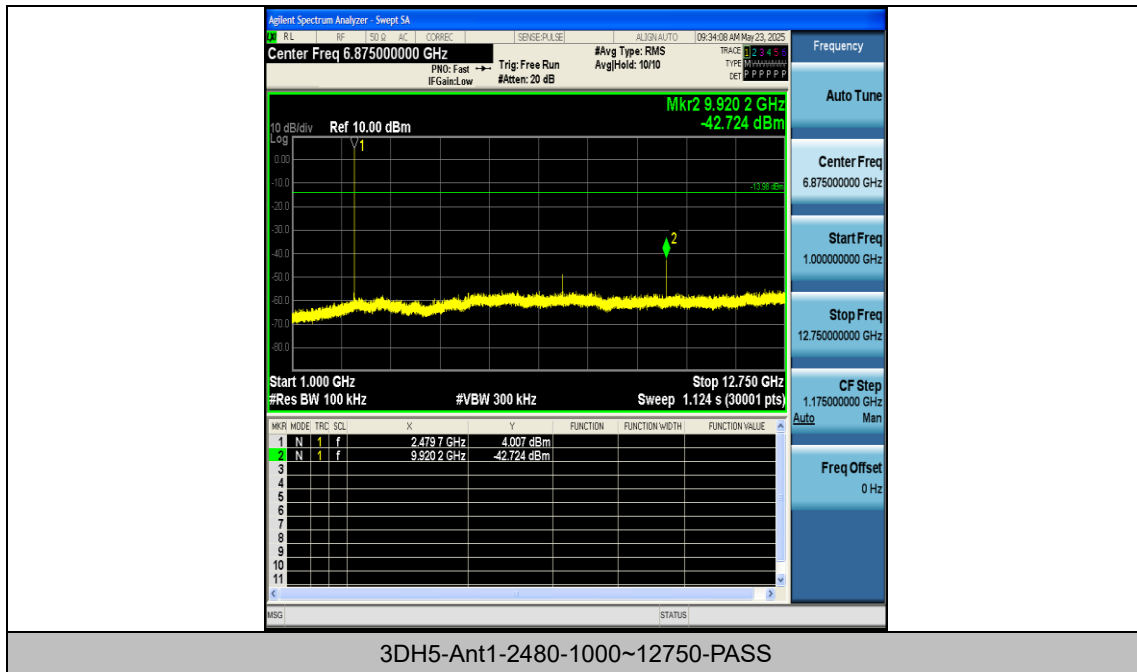
3DH5-Ant1-2441-1000~12750-PASS



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



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



## Appendix I: Duty Cycle

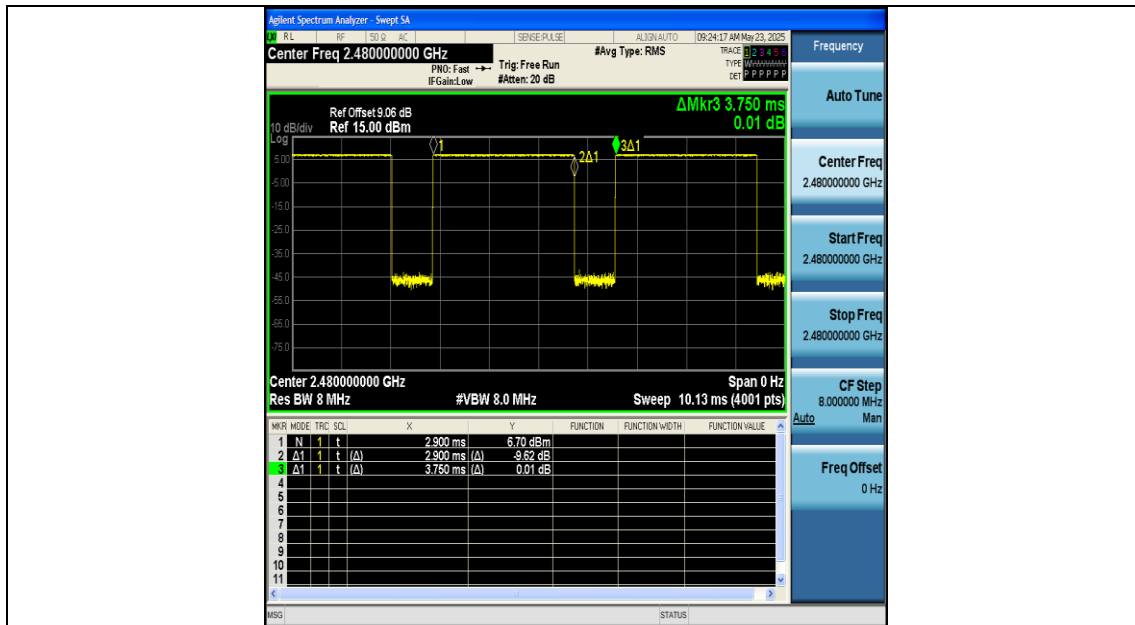
### Test Result

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

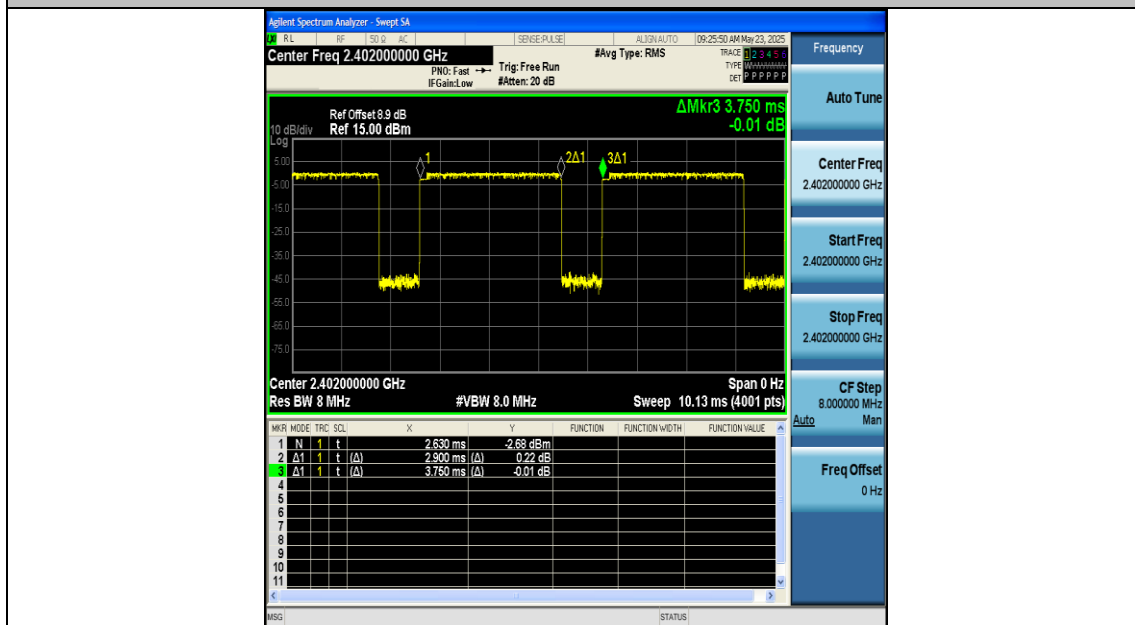
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

## Test Graphs

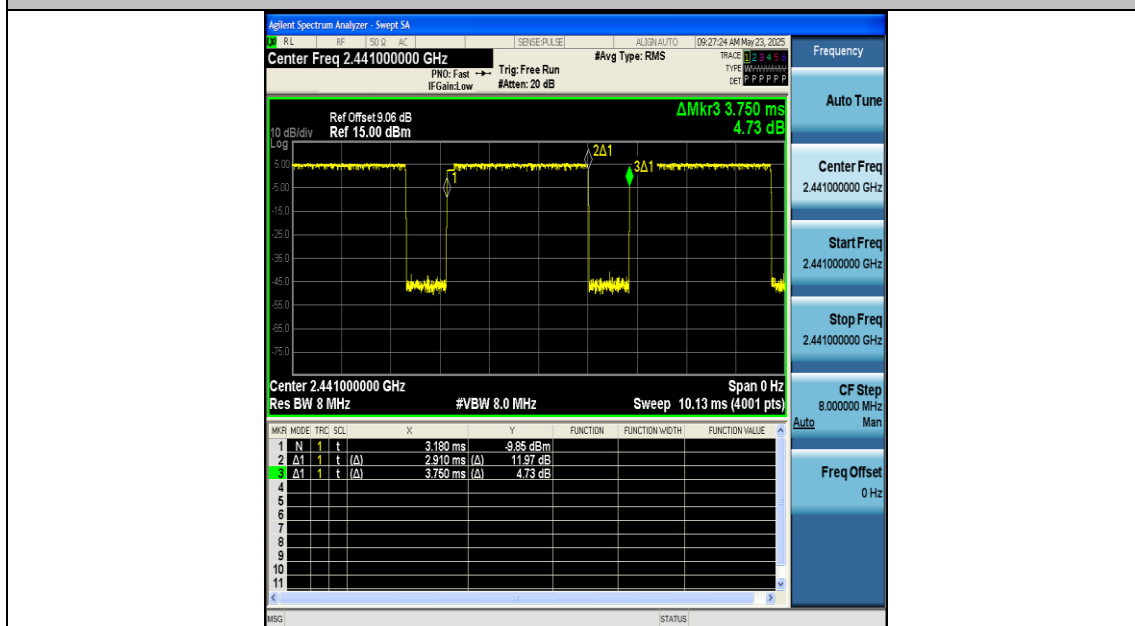




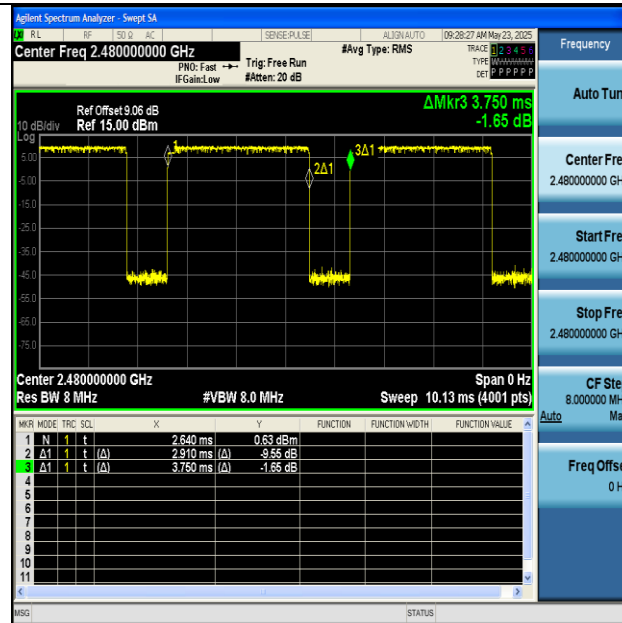
NTNV-DH5-Ant1-2480



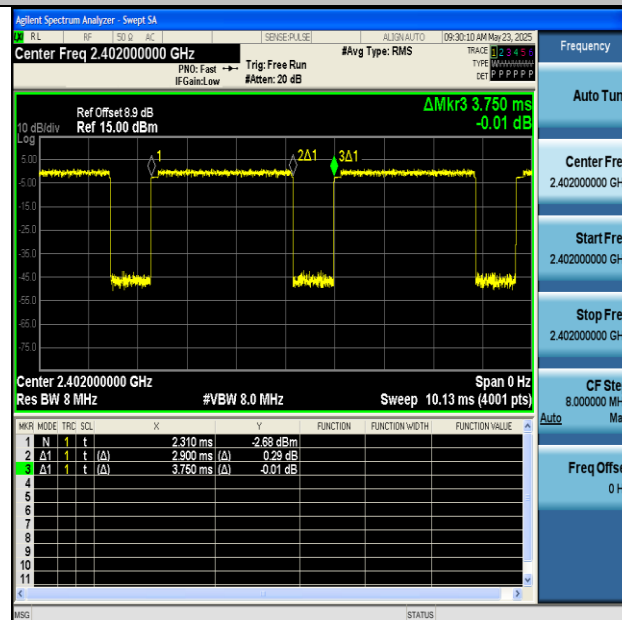
NTNV-2DH5-Ant1-2402



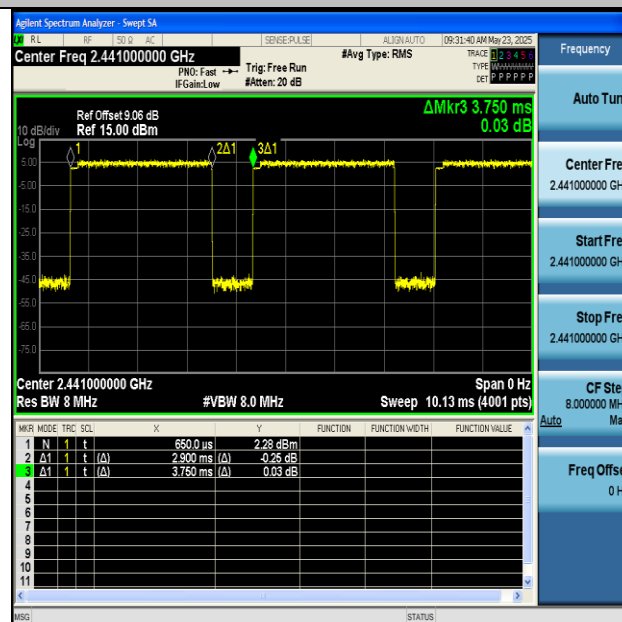
NTNV-2DH5-Ant1-2441



NTNV-2DH5-Ant1-2480



NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441

