

**RF Test Data for BT(BDR/EDR) (Conducted Measurement)****Product Name: Wireless Speaker****Trade Mark: N/A****Test Model: K045****FCC ID: 2AO47-K045****Environmental Conditions**

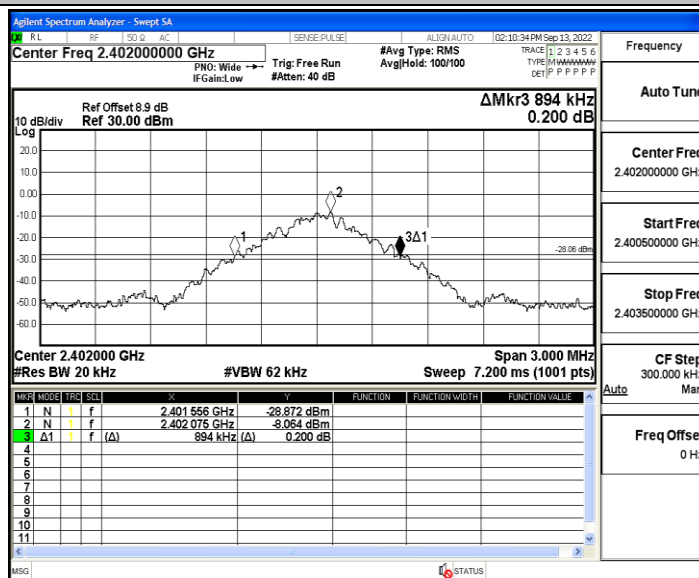
|                    |           |
|--------------------|-----------|
| Temperature:       | 25.5°C    |
| Relative Humidity: | 55%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Anna Hu   |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

**Appendix A: 20dB Emission Bandwidth****Test Result**

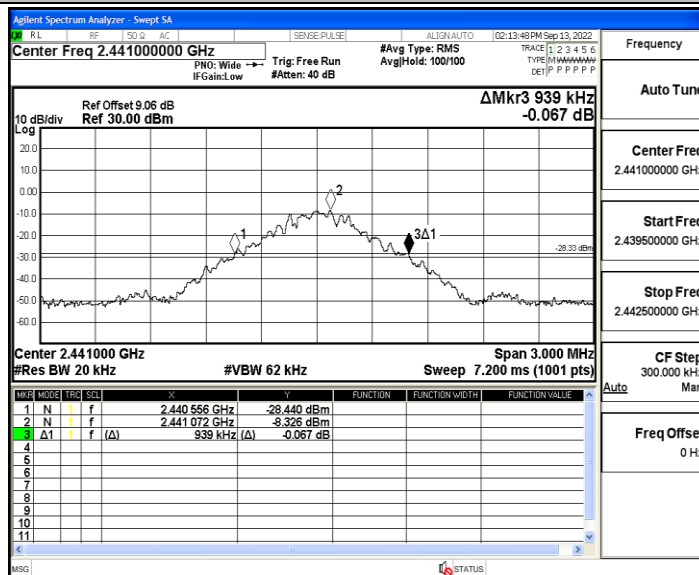
| TestMode | Antenna | Channel | 20db<br>EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|------------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 0.894            | 2401.556 | 2402.450 | ---        | ---     |
|          |         | 2441    | 0.939            | 2440.556 | 2441.495 | ---        | ---     |
|          |         | 2480    | 0.804            | 2479.613 | 2480.417 | ---        | ---     |
| 2DH5     | Ant1    | 2402    | 1.173            | 2401.415 | 2402.588 | ---        | ---     |
|          |         | 2441    | 1.305            | 2440.355 | 2441.660 | ---        | ---     |
|          |         | 2480    | 1.185            | 2479.415 | 2480.600 | ---        | ---     |

## Test Graphs

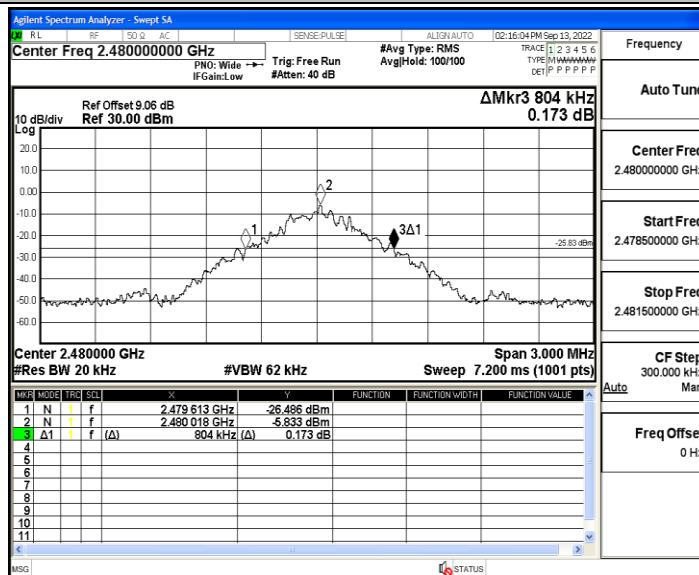
DH5\_Ant1\_2402



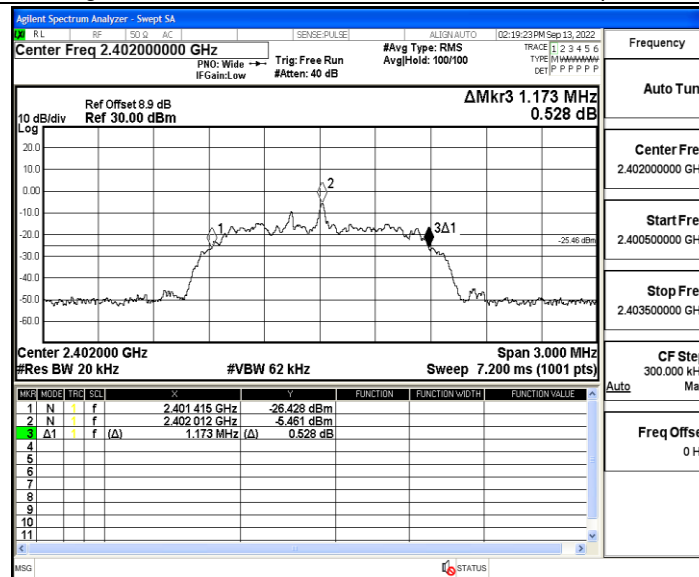
DH5\_Ant1\_2441



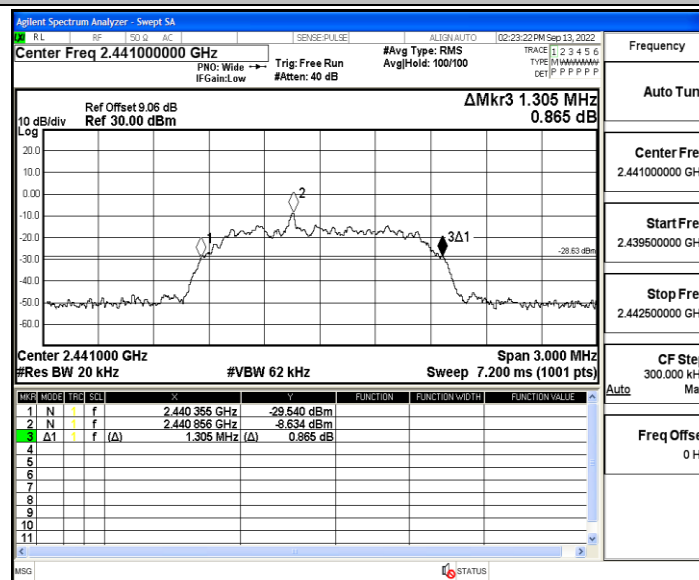
DH5\_Ant1\_2480



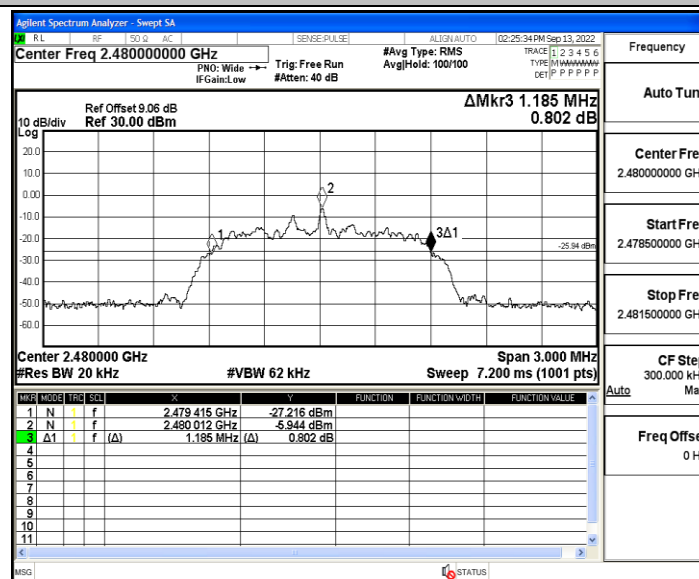
2DH5\_Ant1\_2402



## 2DH5\_Ant1\_2441



## 2DH5\_Ant1\_2480



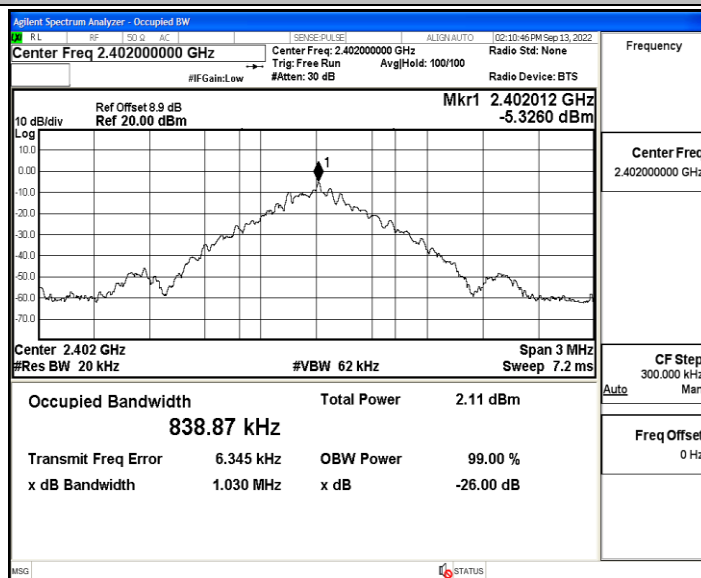
## Appendix B: Occupied Channel Bandwidth

### Test Result

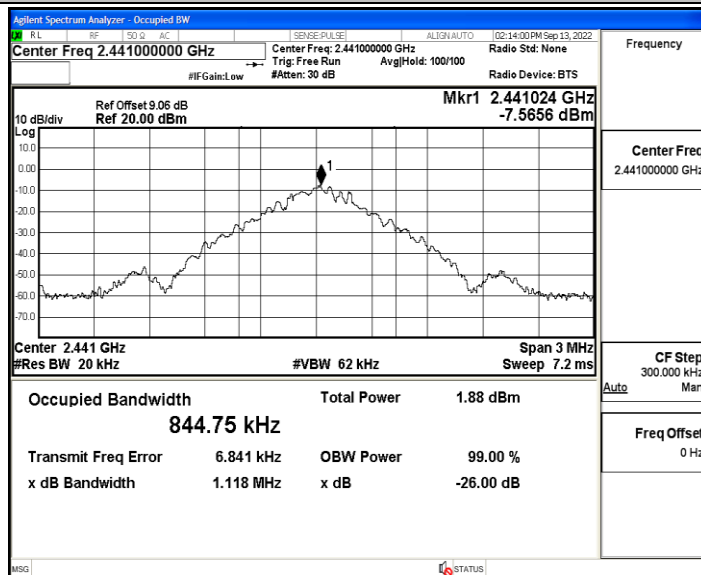
| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|-----------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 0.83887   | 2401.587 | 2402.426 | ---        | ---     |
|          |         | 2441    | 0.84475   | 2440.584 | 2441.429 | ---        | ---     |
|          |         | 2480    | 0.84797   | 2479.583 | 2480.431 | ---        | ---     |
| 2DH5     | Ant1    | 2402    | 1.1691    | 2401.425 | 2402.594 | ---        | ---     |
|          |         | 2441    | 1.1672    | 2440.426 | 2441.593 | ---        | ---     |
|          |         | 2480    | 1.1735    | 2479.424 | 2480.598 | ---        | ---     |

## Test Graphs

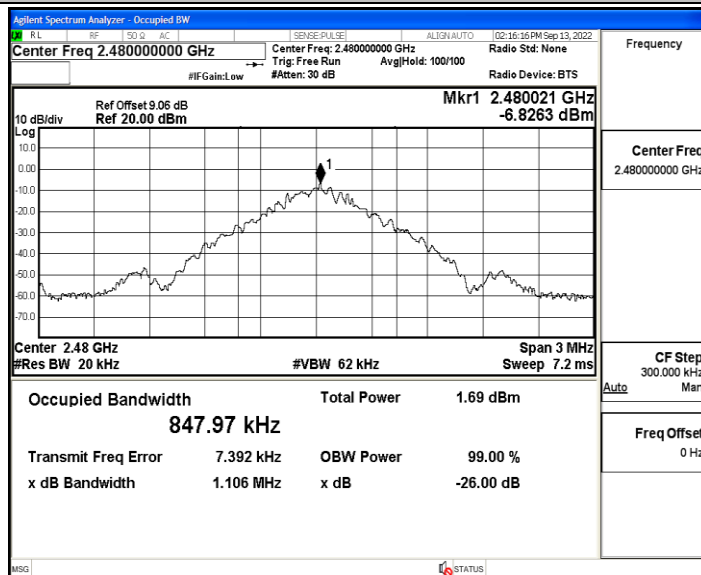
DH5\_Ant1\_2402



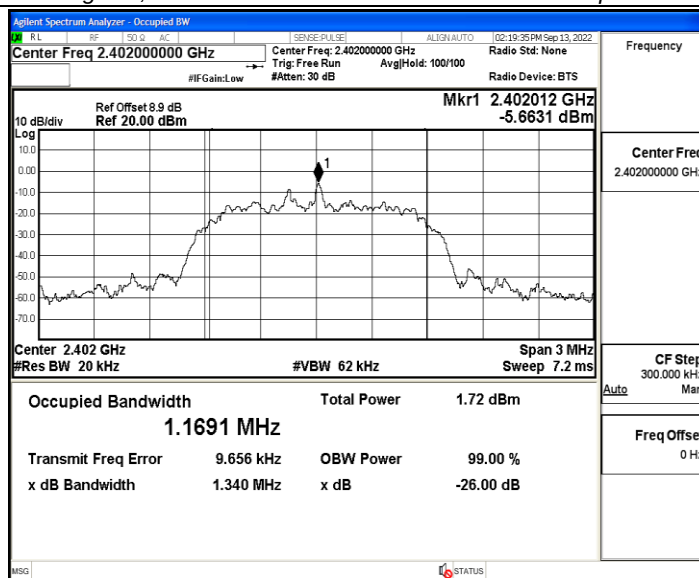
DH5\_Ant1\_2441



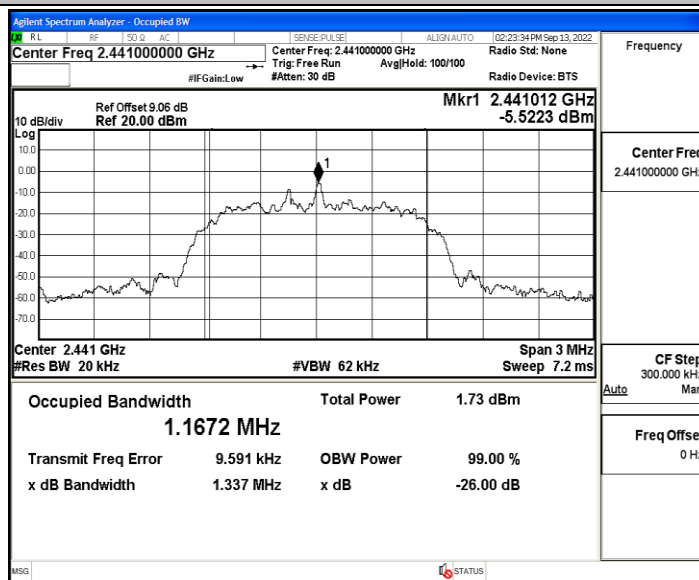
DH5\_Ant1\_2480



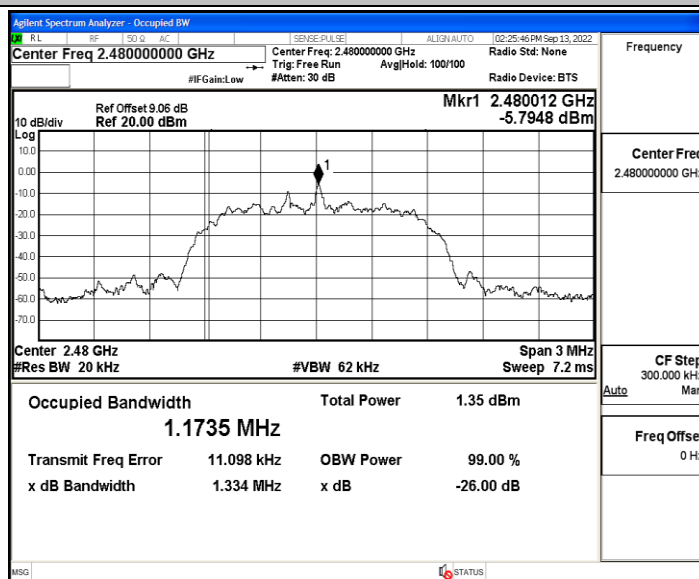
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



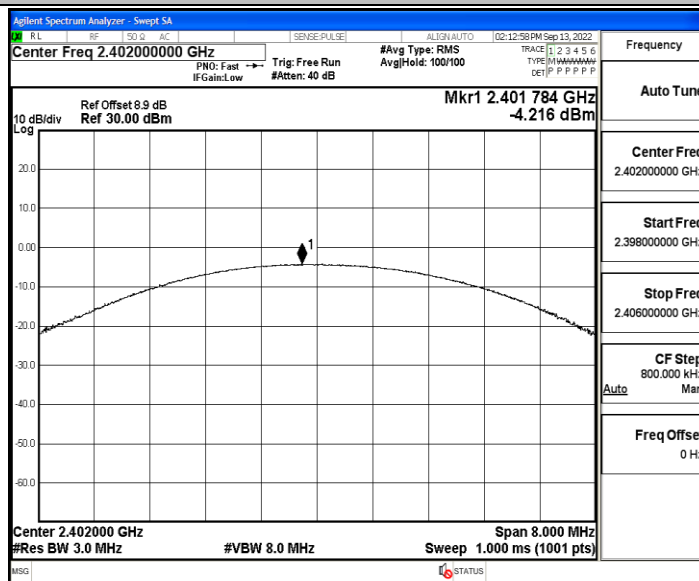
## Appendix C: Maximum Peak conducted output power

### Test Result

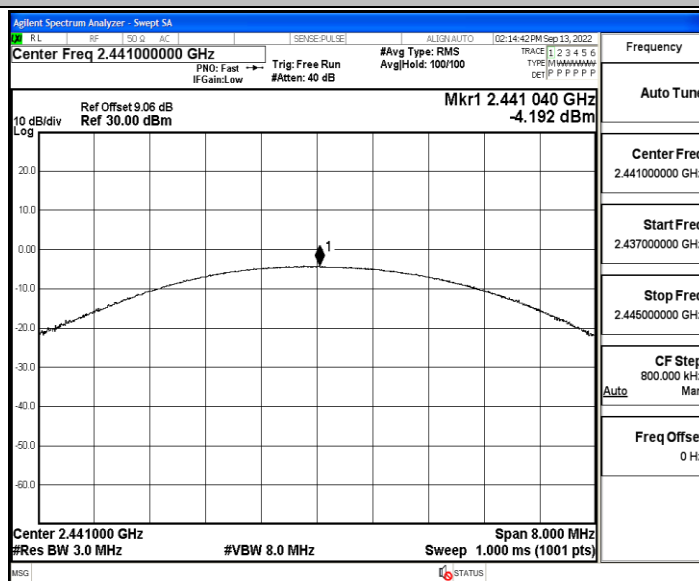
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | 2402    | -4.22       | ≤30        | PASS    |
|          |         | 2441    | -4.19       | ≤30        | PASS    |
|          |         | 2480    | -4.54       | ≤30        | PASS    |
| 2DH5     | Ant1    | 2402    | -3.57       | ≤20.97     | PASS    |
|          |         | 2441    | -3.62       | ≤20.97     | PASS    |
|          |         | 2480    | -3.78       | ≤20.97     | PASS    |

## Test Graphs

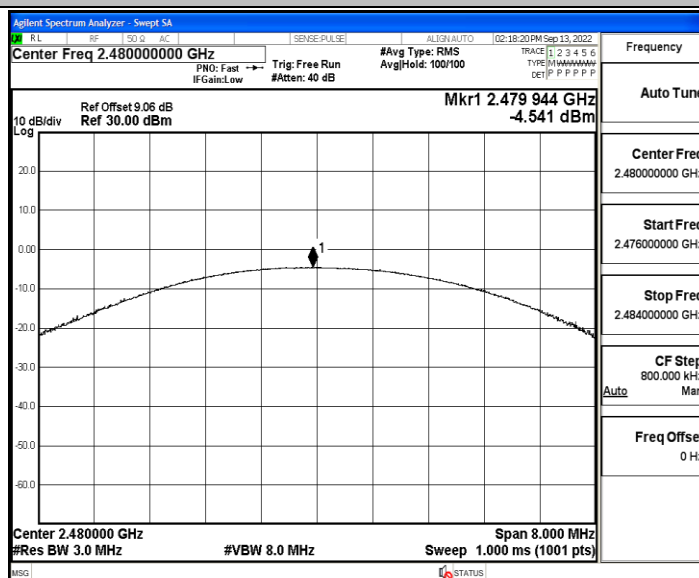
DH5\_Ant1\_2402



DH5\_Ant1\_2441

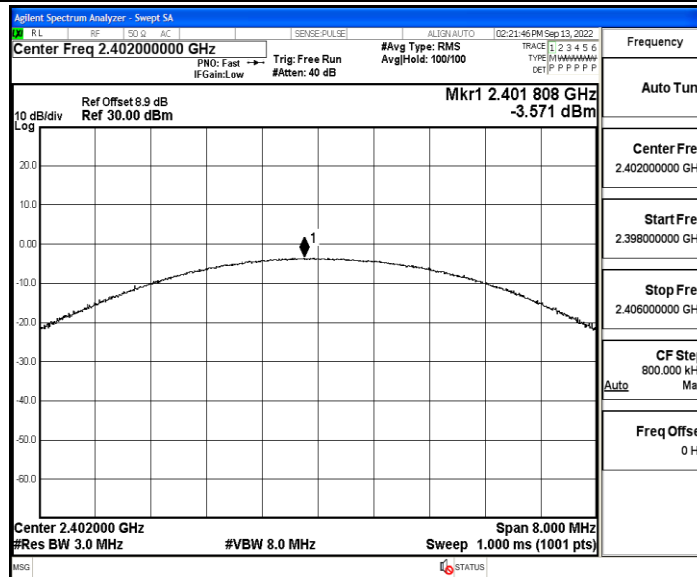


DH5\_Ant1\_2480

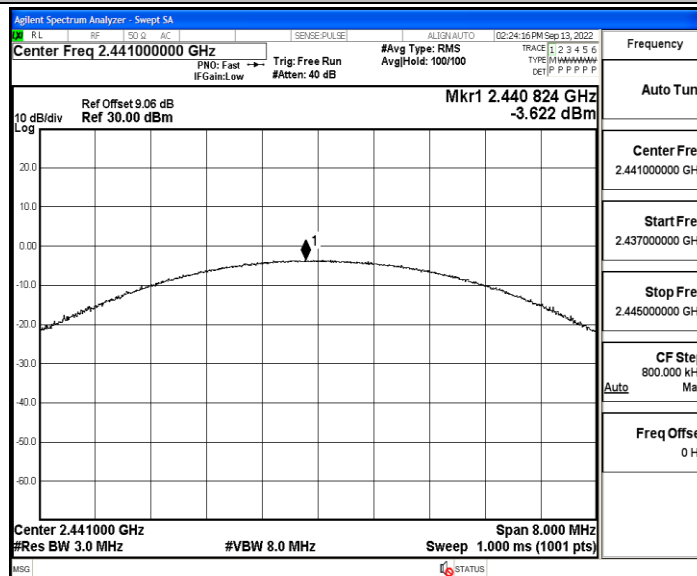




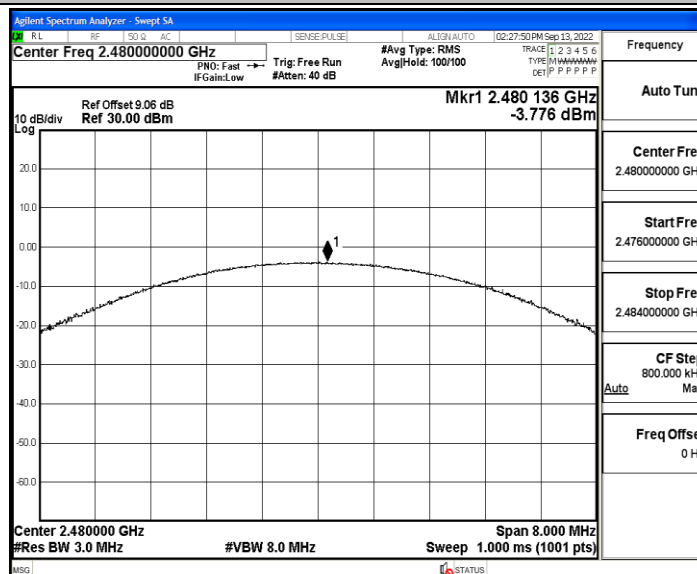
## 2DH5\_Ant1\_2402



## 2DH5\_Ant1\_2441



## 2DH5\_Ant1\_2480

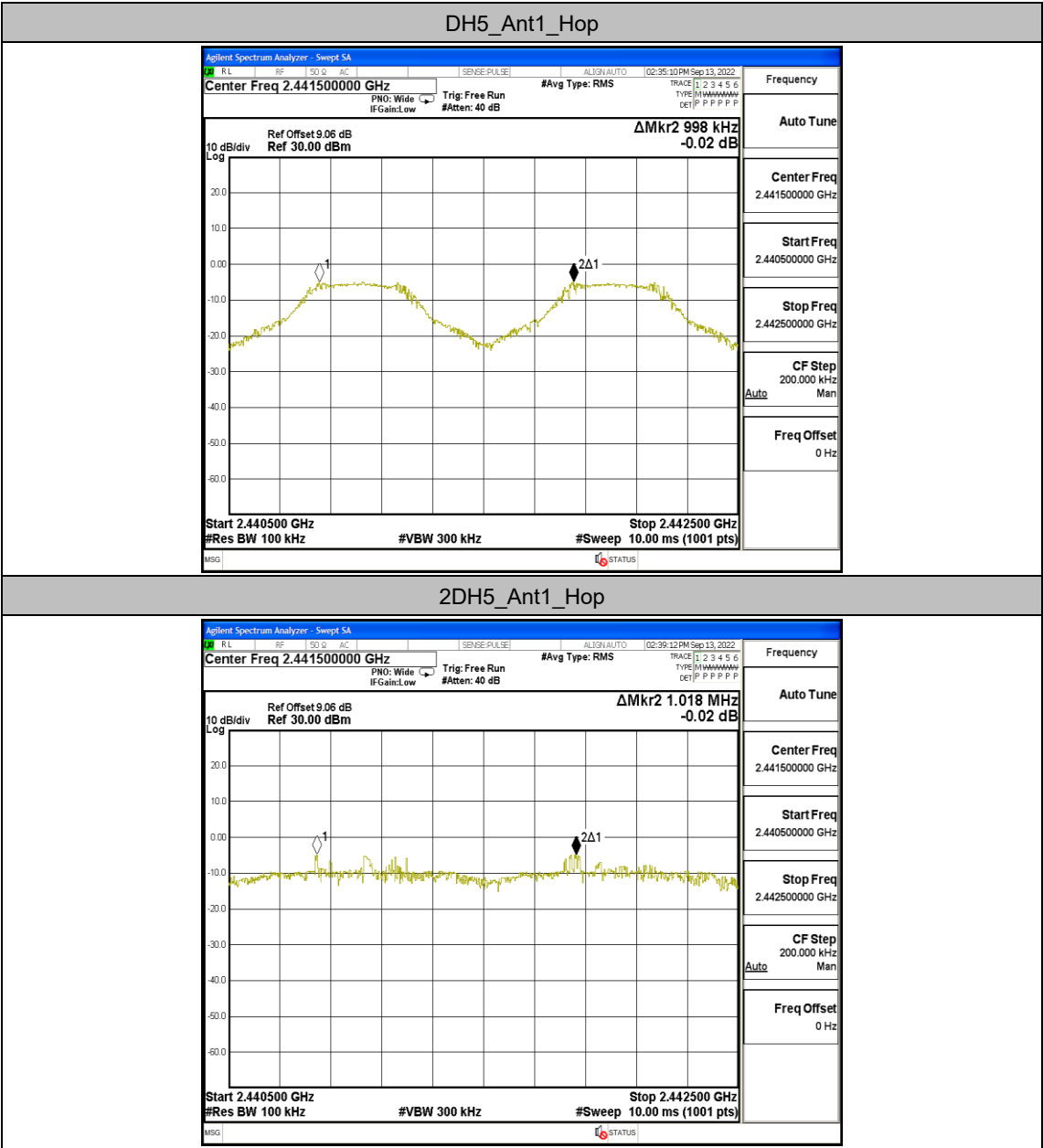


## Appendix D: Carrier frequency separation

### Test Result

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 0.998       | $\geq 0.939$ | PASS    |
| 2DH5     | Ant1    | Hop     | 1.018       | $\geq 0.870$ | PASS    |

Test Graphs

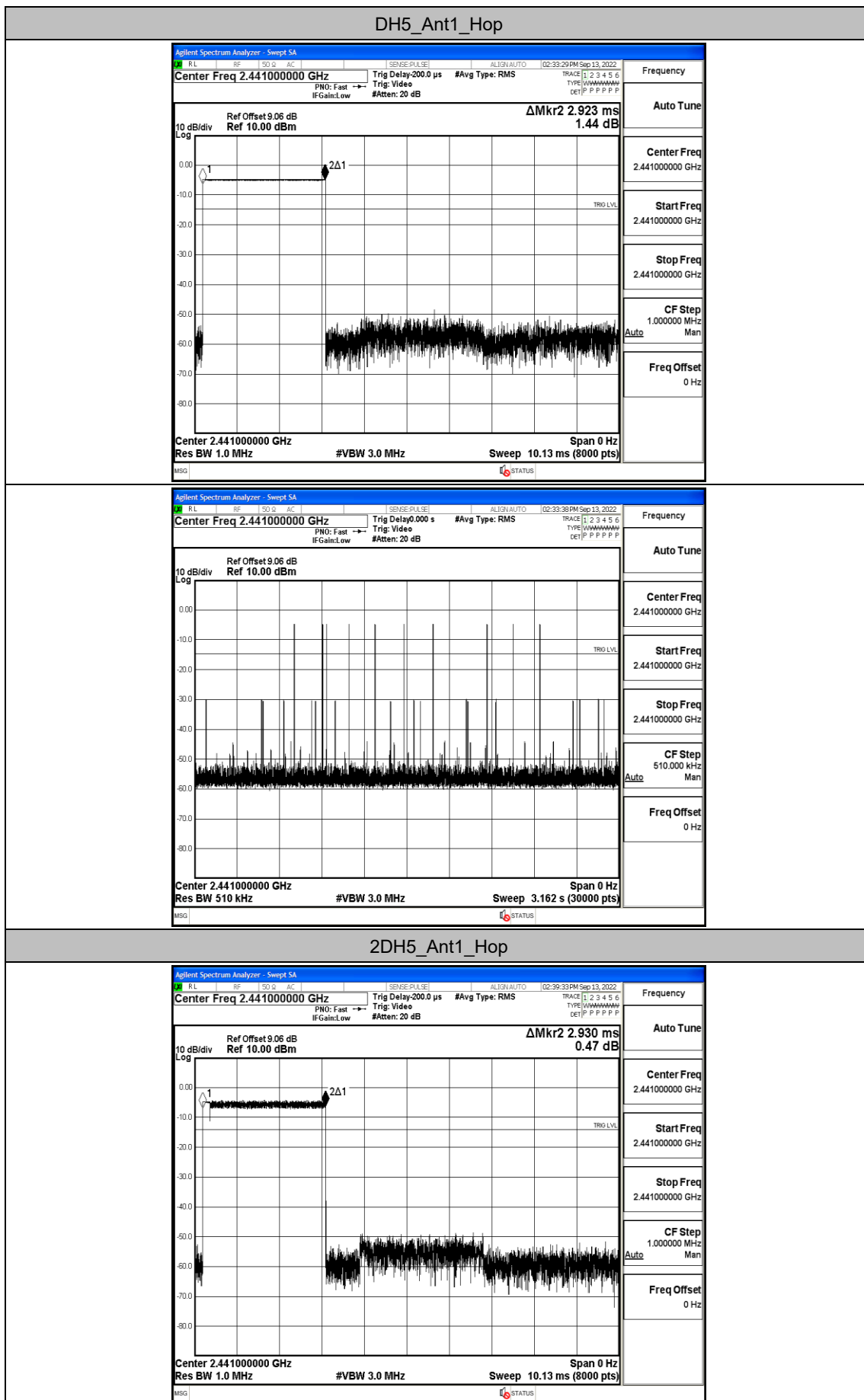


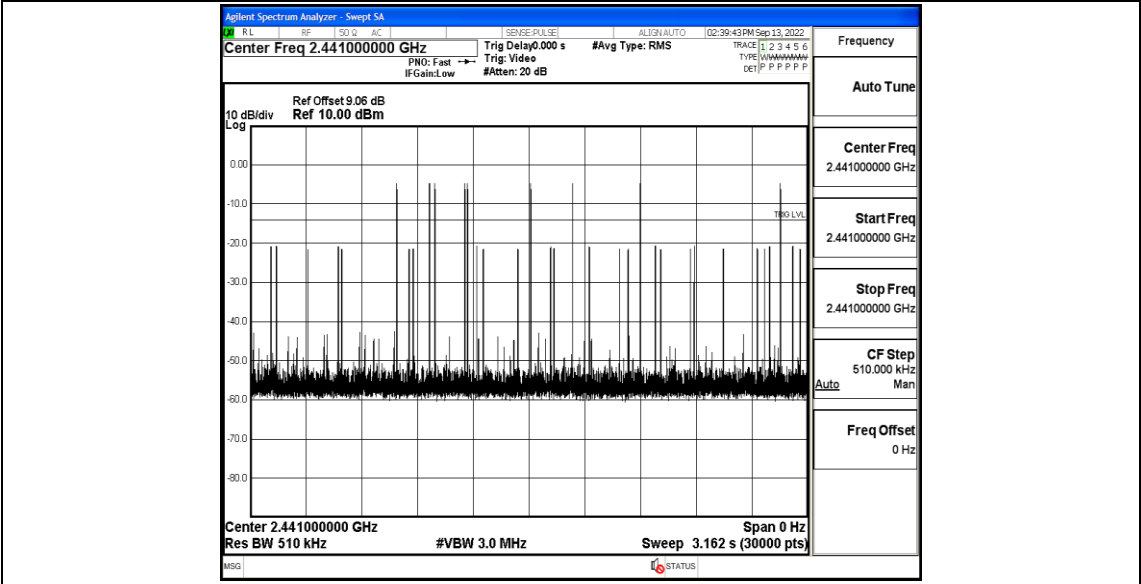
## Appendix E: Time of occupancy

### Test Result

| TestMode | Antenna | Channel | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop     | 2.92               | 110                | 0.322     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop     | 2.93               | 100                | 0.293     | ≤0.4     | PASS    |

## Test Graphs





## Appendix F: Number of hopping channels

### Test Result

| TestMode | Antenna | Channel | Result[Num] | Limit[Num] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | Hop     | 79          | ≥15        | PASS    |
| 2DH5     | Ant1    | Hop     | 79          | ≥15        | PASS    |

Test Graphs





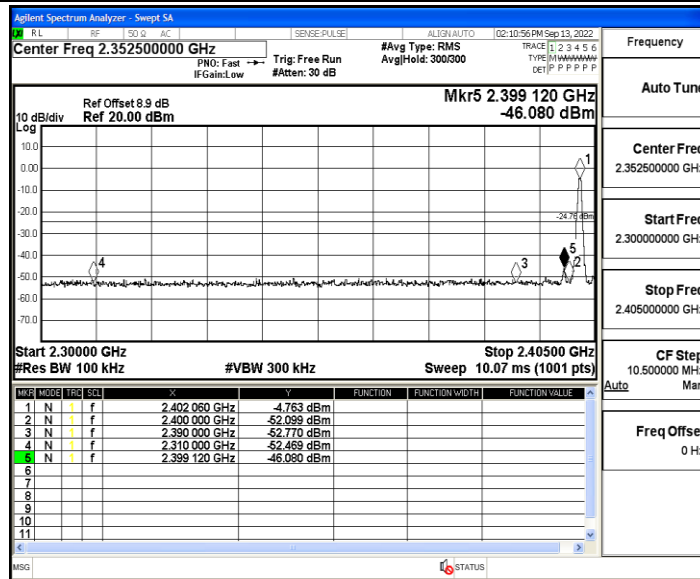
## Appendix G: Band edge measurements

### Test Result

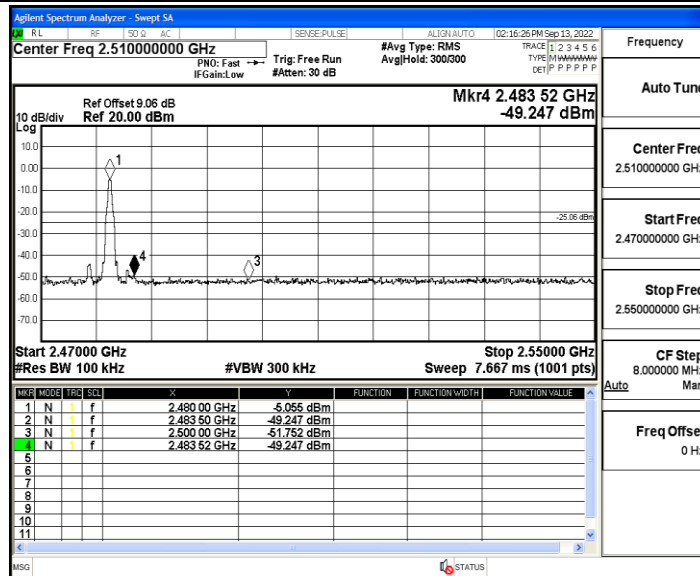
| TestMode | Antenna | ChName | Channel  | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | Low    | 2402     | -4.76             | -46.08          | $\leq -24.76$  | PASS    |
|          |         | High   | 2480     | -5.06             | -49.25          | $\leq -25.06$  | PASS    |
|          |         | Low    | Hop_2402 | -6.06             | -49.91          | $\leq -26.06$  | PASS    |
|          |         | High   | Hop_2480 | -5.26             | -49.89          | $\leq -25.26$  | PASS    |
| 2DH5     | Ant1    | Low    | 2402     | -4.74             | -47.51          | $\leq -24.74$  | PASS    |
|          |         | High   | 2480     | -5.08             | -49.01          | $\leq -25.08$  | PASS    |
|          |         | Low    | Hop_2402 | -8.25             | -49.77          | $\leq -28.25$  | PASS    |
|          |         | High   | Hop_2480 | -5.04             | -49.72          | $\leq -25.04$  | PASS    |

## Test Graphs

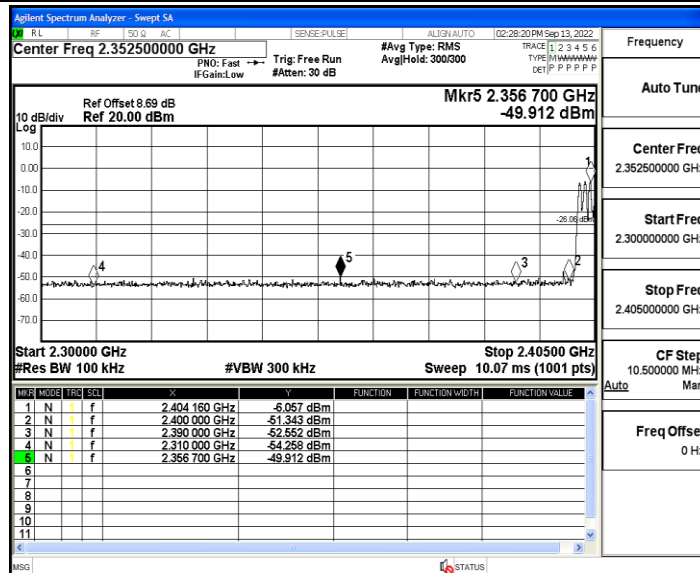
DH5\_Ant1\_Low\_2402



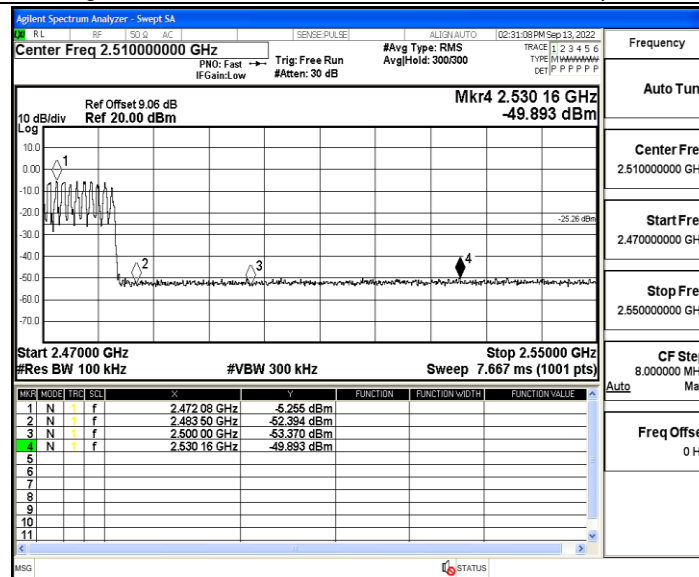
DH5\_Ant1\_High\_2480



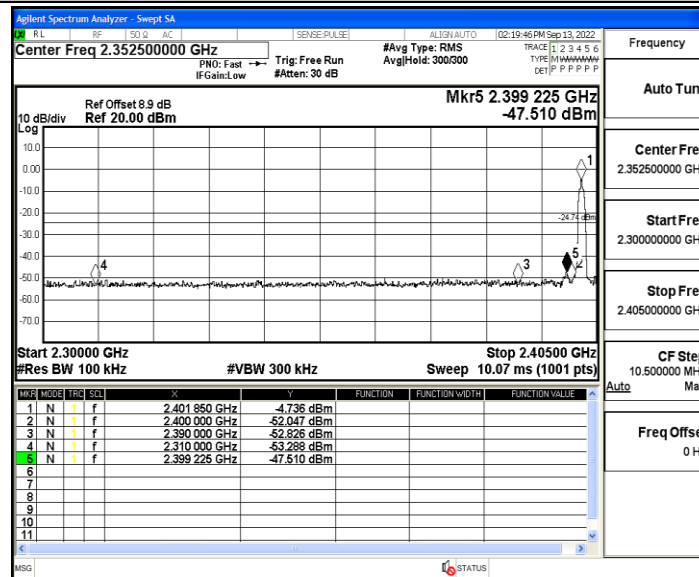
DH5\_Ant1\_Low\_Hop\_2402



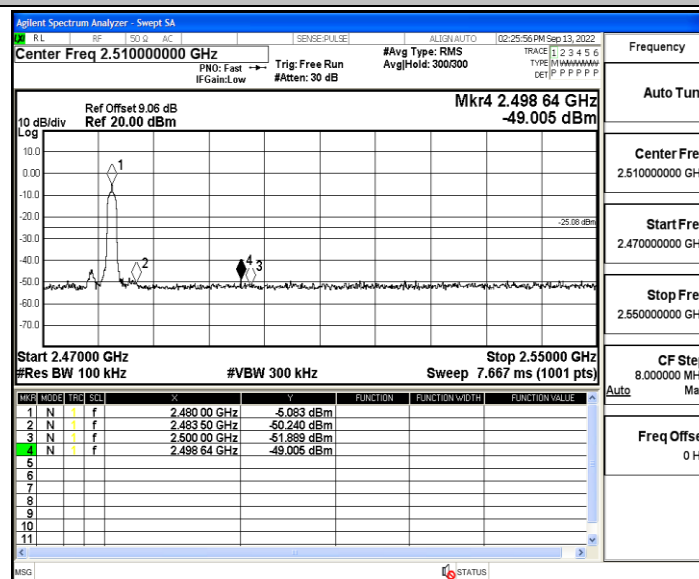
DH5\_Ant1\_High\_Hop\_2480



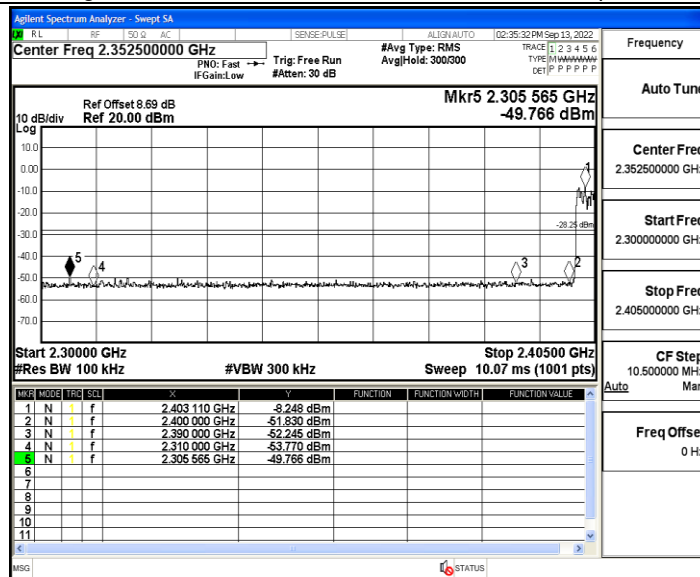
2DH5\_Ant1\_Low\_2402



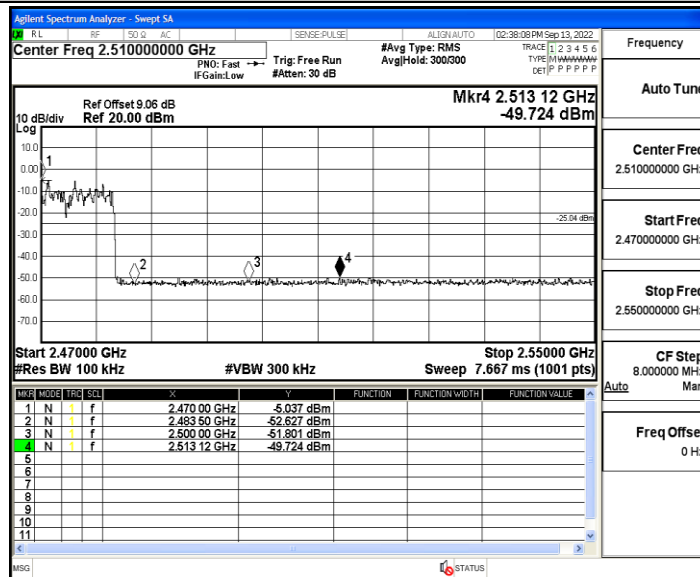
2DH5\_Ant1\_High\_2480



2DH5\_Ant1\_Low\_Hop\_2402



## 2DH5\_Ant1\_High\_Hop\_2480



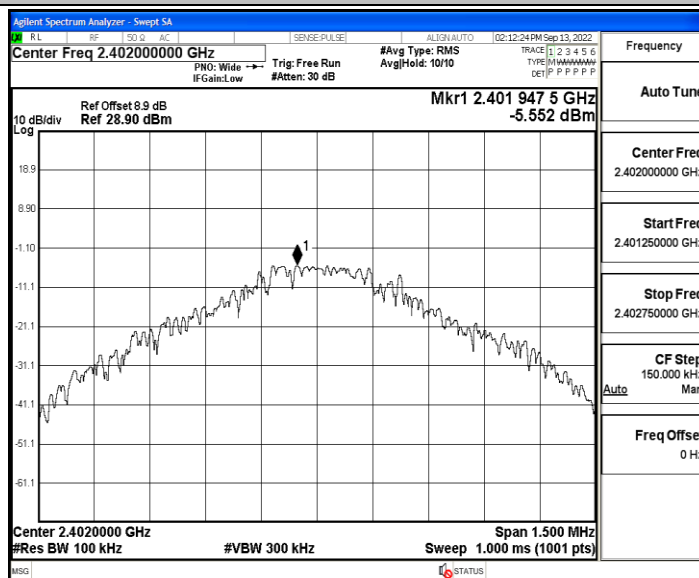
## Appendix H: Conducted Spurious Emission

### Test Result

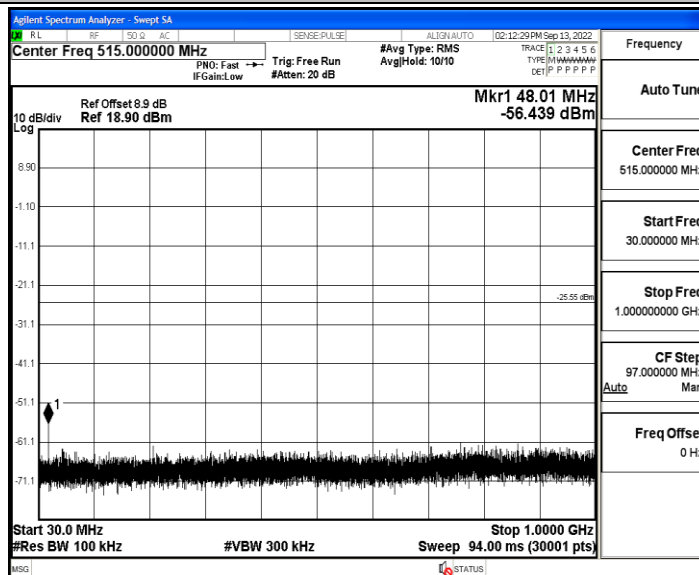
| TestMode | Antenna | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|---------|--------------------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | 2402    | Reference          | -5.55             | -5.55           | ---            | PASS    |
|          |         |         | 30~1000            | -5.55             | -56.44          | ≤-25.55        | PASS    |
|          |         |         | 1000~26500         | -5.55             | -49.94          | ≤-25.55        | PASS    |
|          |         | 2441    | Reference          | -5.12             | -5.12           | ---            | PASS    |
|          |         |         | 30~1000            | -5.12             | -59.48          | ≤-25.12        | PASS    |
|          |         |         | 1000~26500         | -5.12             | -50.12          | ≤-25.12        | PASS    |
|          |         | 2480    | Reference          | -5.66             | -5.66           | ---            | PASS    |
|          |         |         | 30~1000            | -5.66             | -59.55          | ≤-25.66        | PASS    |
|          |         |         | 1000~26500         | -5.66             | -48.4           | ≤-25.66        | PASS    |
| 2DH5     | Ant1    | 2402    | Reference          | -8.87             | -8.87           | ---            | PASS    |
|          |         |         | 30~1000            | -8.87             | -55.82          | ≤-28.87        | PASS    |
|          |         |         | 1000~26500         | -8.87             | -51.17          | ≤-28.87        | PASS    |
|          |         | 2441    | Reference          | -9.15             | -9.15           | ---            | PASS    |
|          |         |         | 30~1000            | -9.15             | -55.72          | ≤-29.15        | PASS    |
|          |         |         | 1000~26500         | -9.15             | -51.48          | ≤-29.15        | PASS    |
|          |         | 2480    | Reference          | -5.49             | -5.49           | ---            | PASS    |
|          |         |         | 30~1000            | -5.49             | -54.18          | ≤-25.49        | PASS    |
|          |         |         | 1000~26500         | -5.49             | -50.69          | ≤-25.49        | PASS    |

## Test Graphs

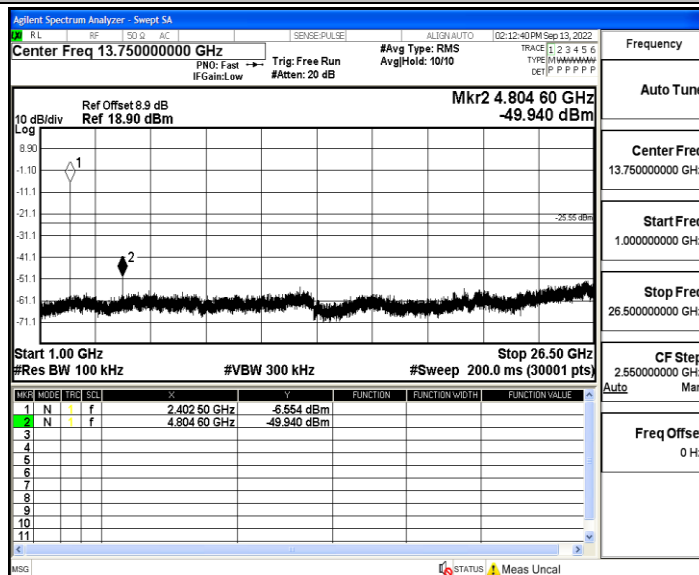
DH5\_Ant1\_2402\_0~Reference



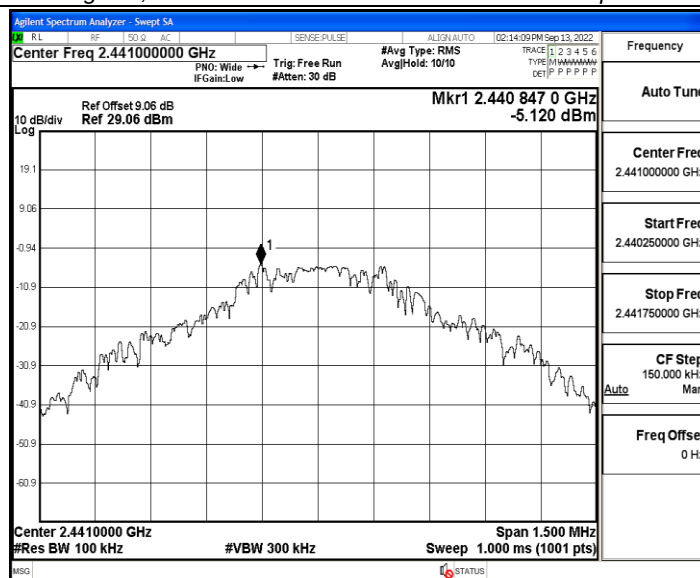
DH5\_Ant1\_2402\_30~1000



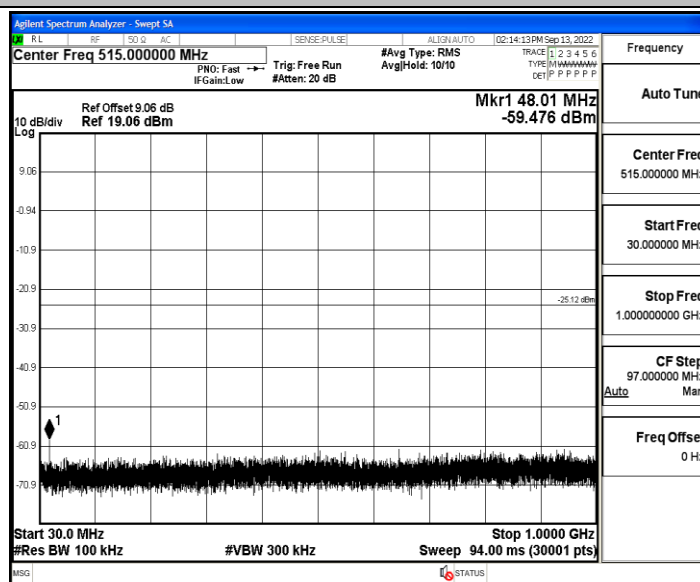
DH5\_Ant1\_2402\_1000~26500



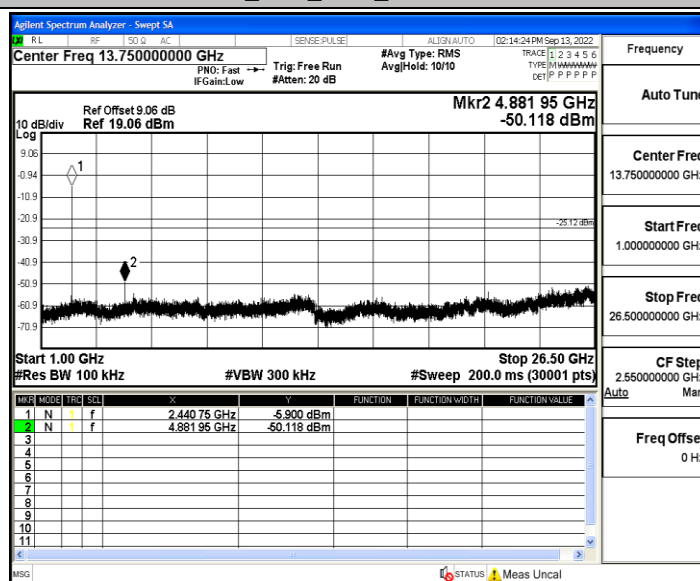
DH5\_Ant1\_2441\_0~Reference



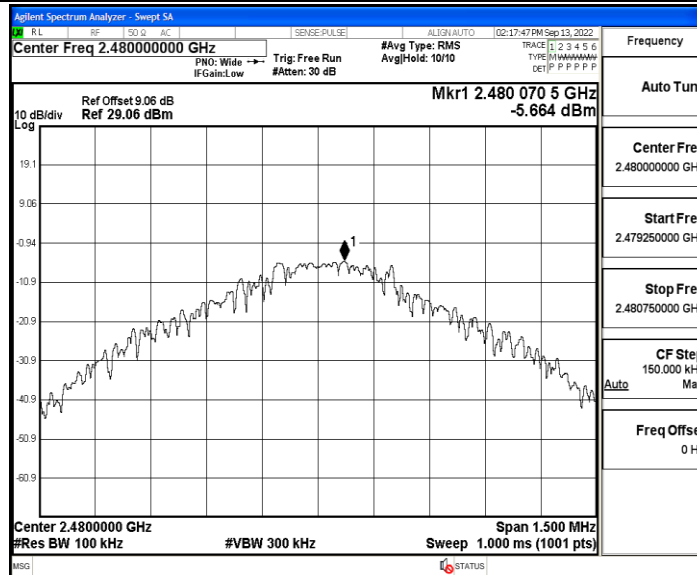
DH5\_Ant1\_2441\_30~1000



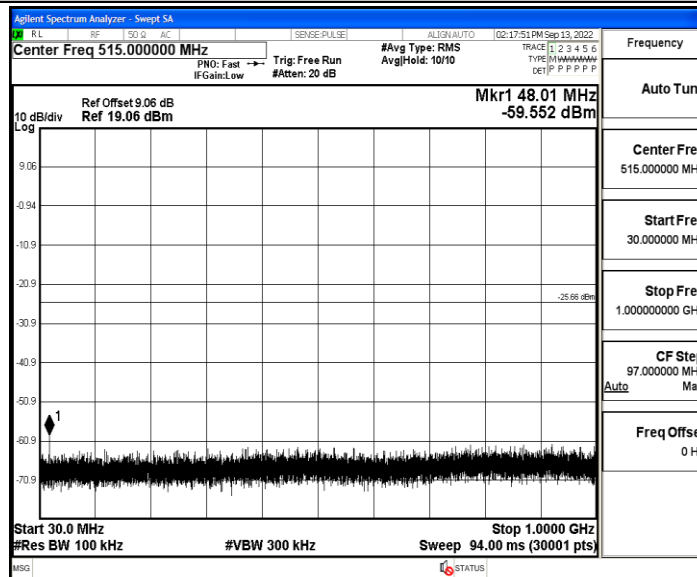
DH5\_Ant1\_2441\_1000~26500



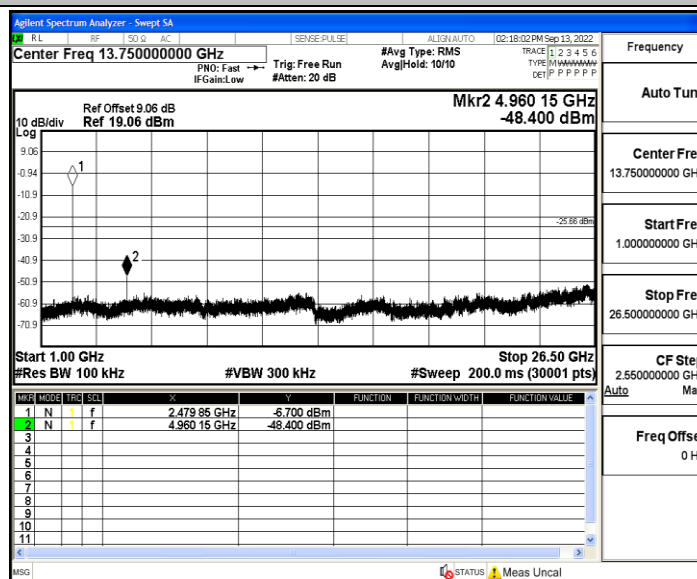
DH5\_Ant1\_2480\_0~Reference



DH5\_Ant1\_2480\_30~1000

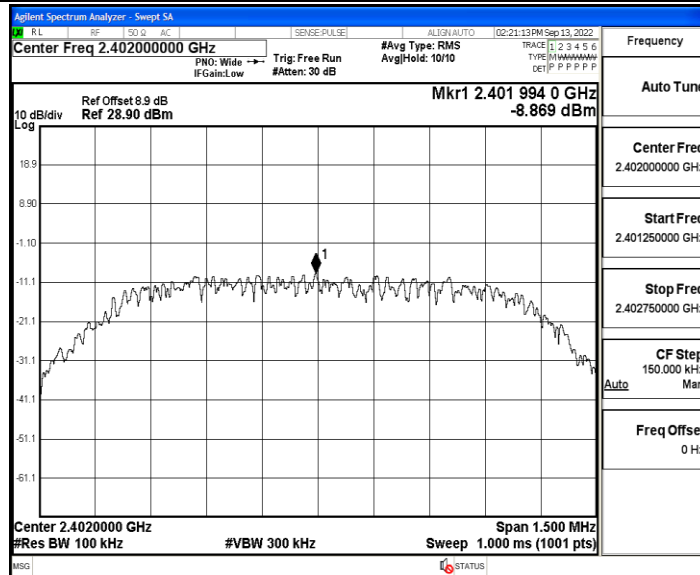


DH5\_Ant1\_2480\_1000~26500

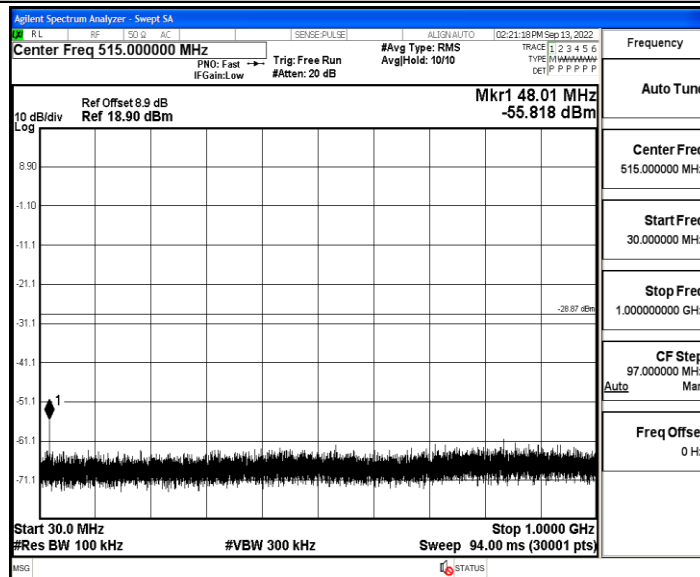


2DH5\_Ant1\_2402\_0~Reference

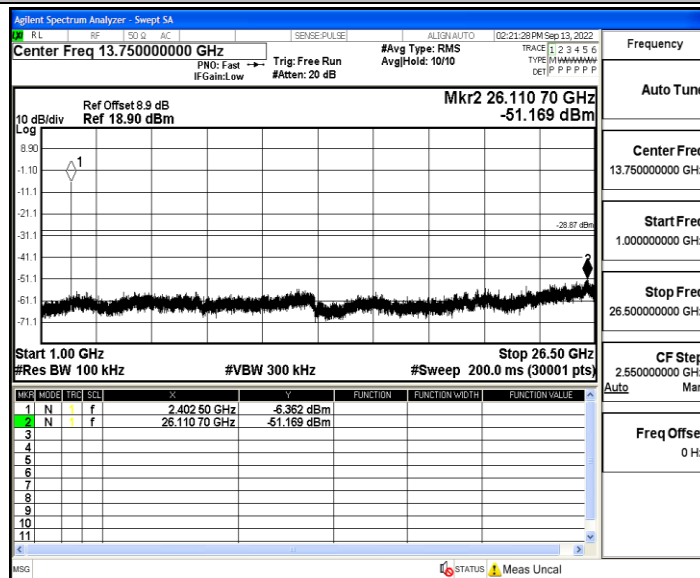




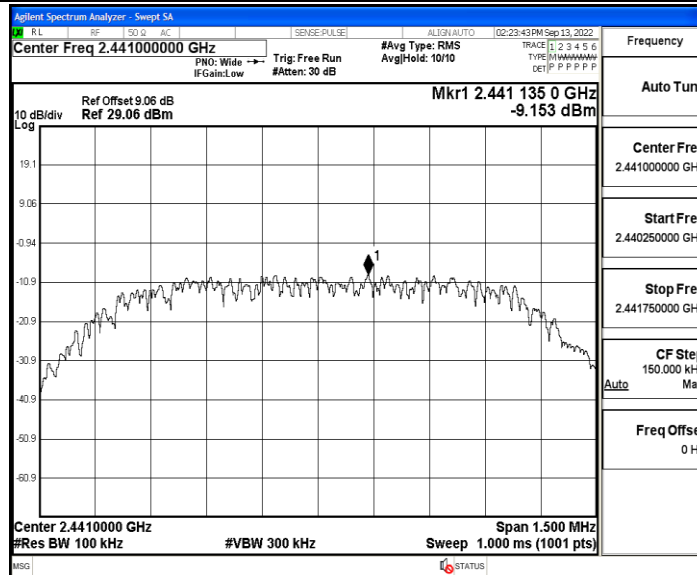
2DH5\_Ant1\_2402\_30~1000



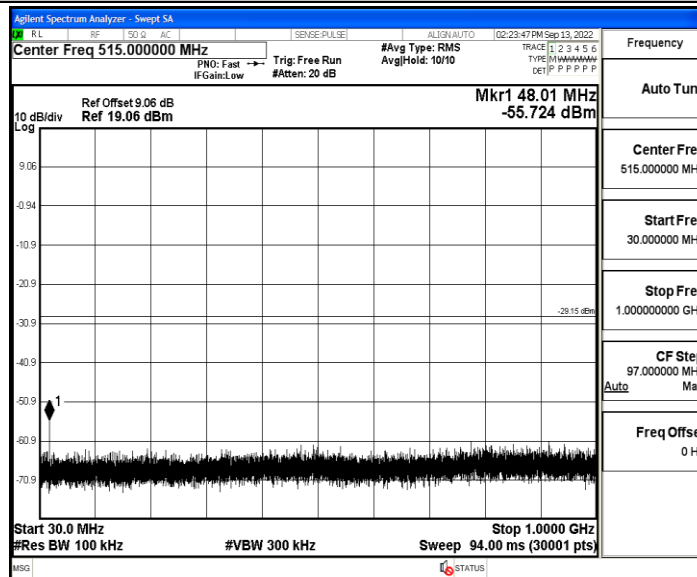
2DH5\_Ant1\_2402\_1000~26500



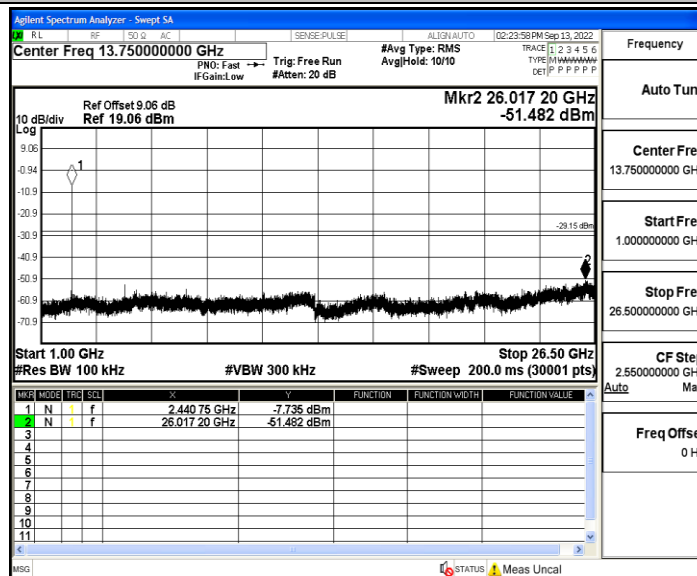
2DH5\_Ant1\_2441\_0~Reference



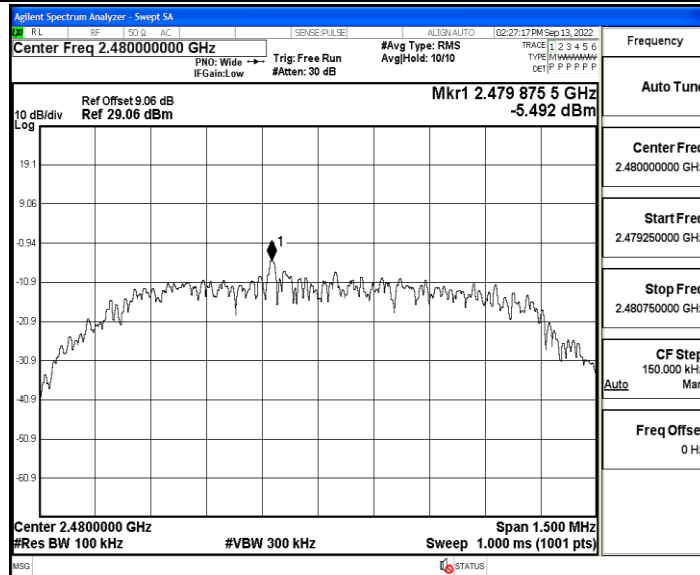
2DH5\_Ant1\_2441\_30~1000



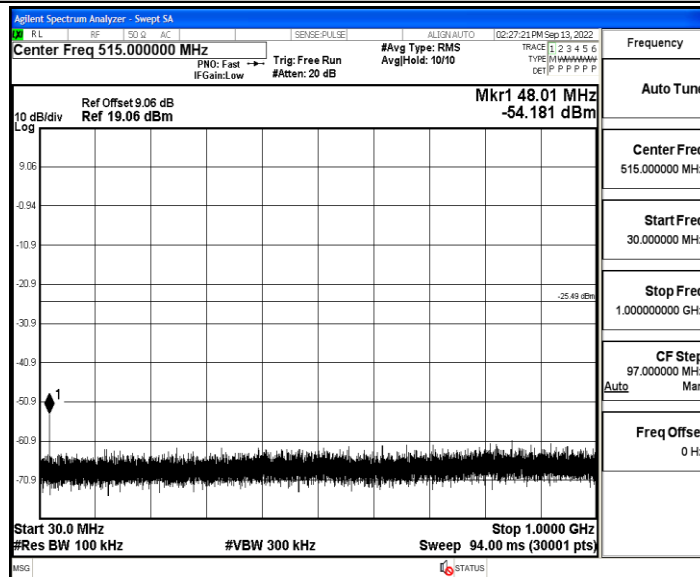
2DH5\_Ant1\_2441\_1000~26500



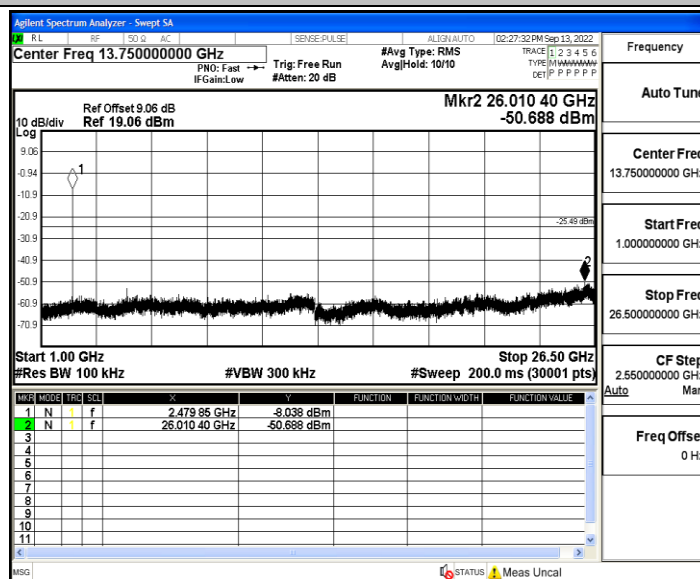
2DH5\_Ant1\_2480\_0~Reference



2DH5\_Ant1\_2480\_30~1000



2DH5\_Ant1\_2480\_1000~26500



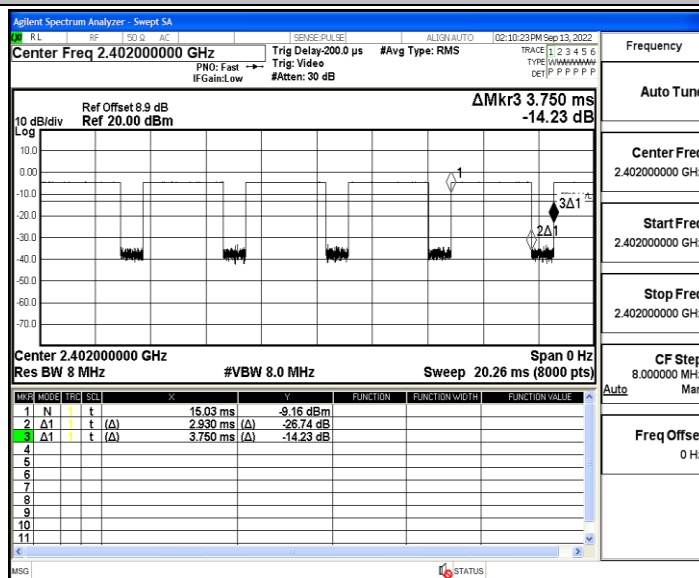
## Appendix I: Duty Cycle

### Test Result

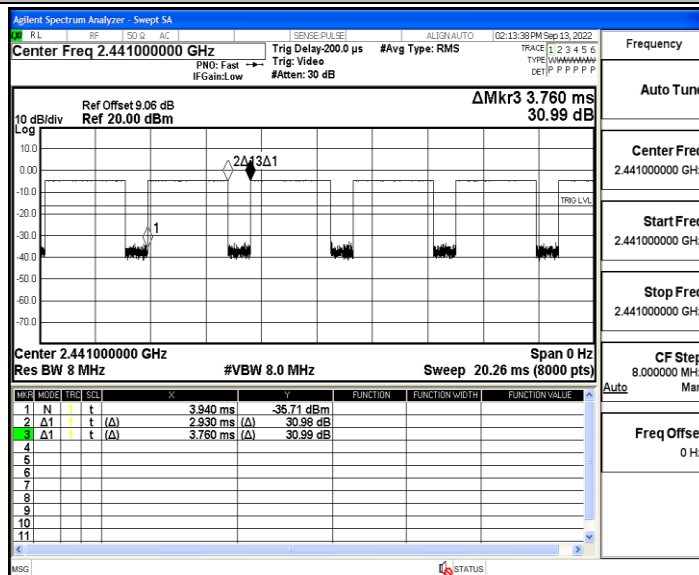
| TestMode | Antenna | Channel | Transmission<br>Duration [ms] | Transmission<br>Period [ms] | Duty Cycle [%] | 1/T[kHz] |
|----------|---------|---------|-------------------------------|-----------------------------|----------------|----------|
| DH5      | Ant1    | 2402    | 2.93                          | 3.75                        | 78.13          | 0.34     |
|          |         | 2441    | 2.93                          | 3.76                        | 77.93          | 0.34     |
|          |         | 2480    | 2.93                          | 3.75                        | 78.13          | 0.34     |
| 2DH5     | Ant1    | 2402    | 2.93                          | 3.75                        | 78.13          | 0.34     |
|          |         | 2441    | 2.93                          | 3.75                        | 78.13          | 0.34     |
|          |         | 2480    | 2.94                          | 3.75                        | 78.40          | 0.34     |

## Test Graphs

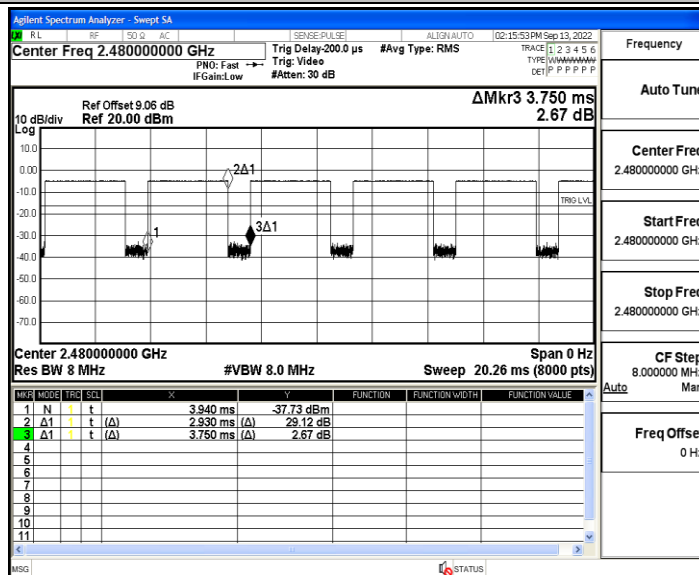
DH5\_Ant1\_2402



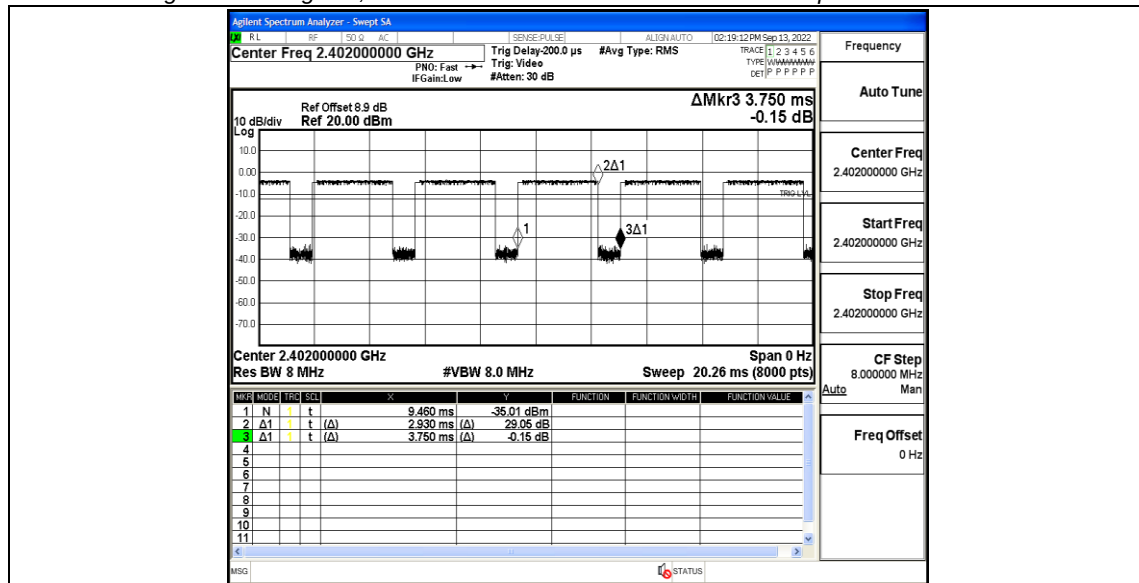
DH5\_Ant1\_2441



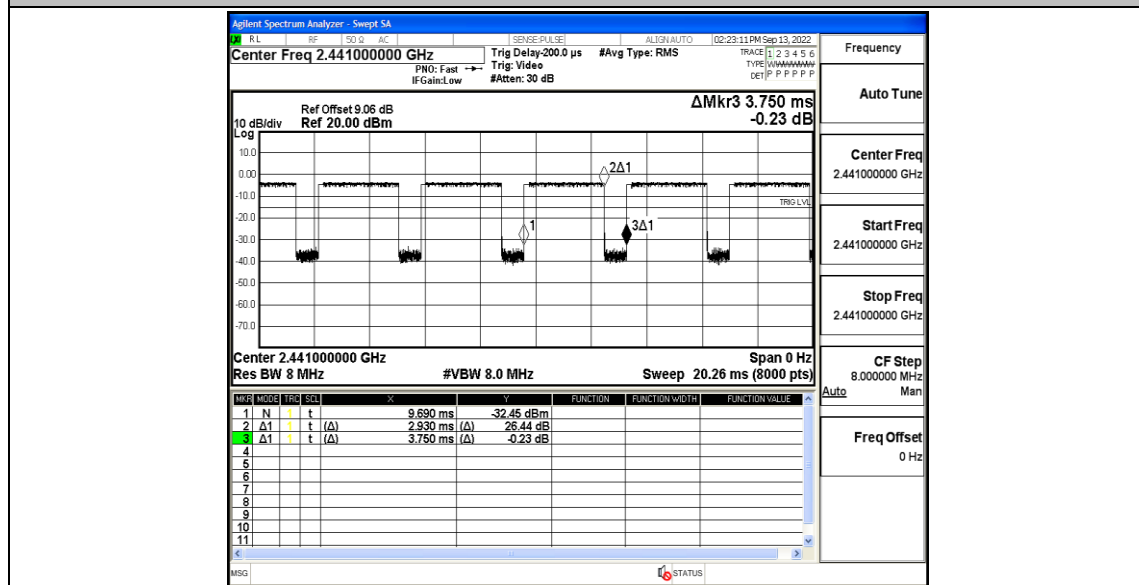
DH5\_Ant1\_2480



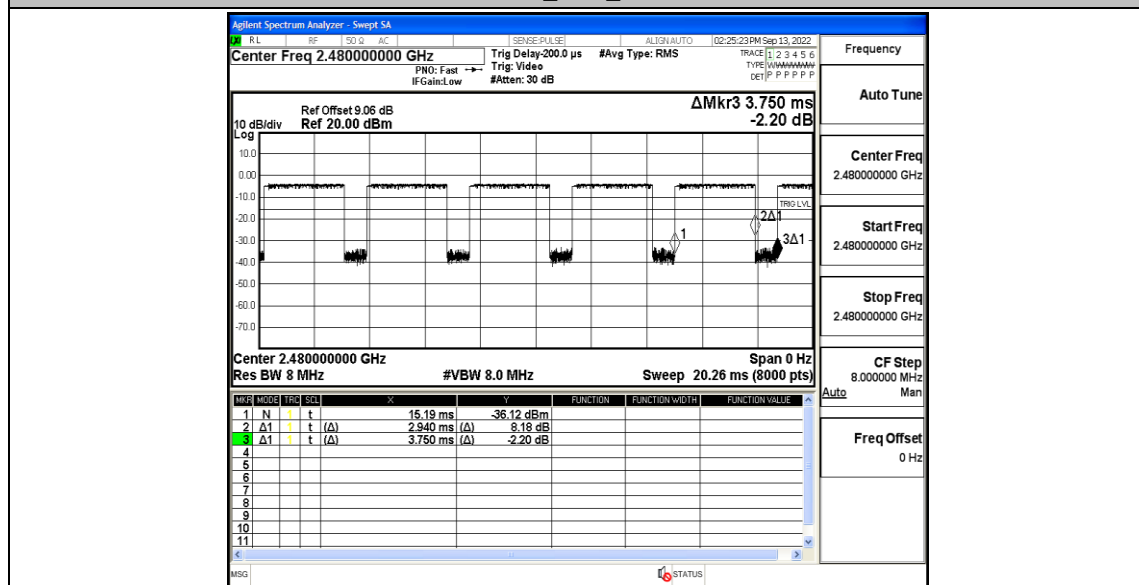
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



## Appendix J: Emissions in Restricted Bands

### Test Result

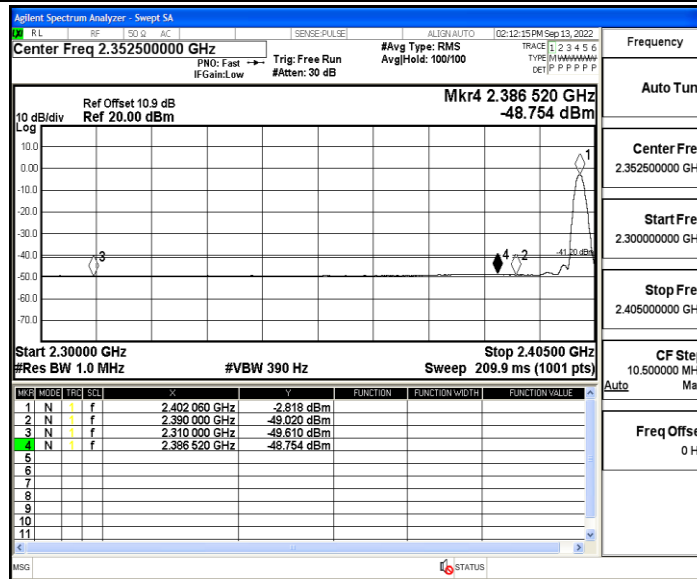
| TestMode | Antenna | ChName | Channel | Detector | Freq(MHz) | Result(dBm) | Limit(dBm) | Verdict |
|----------|---------|--------|---------|----------|-----------|-------------|------------|---------|
| DH5      | Ant1    | Low    | 2402    | AV       | 2310.000  | -49.61      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2386.520  | -48.75      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2390.000  | -49.02      | ≤-41.20    | PASS    |
|          |         |        |         | Peak     | 2310.000  | -40.95      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2353.760  | -39.54      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2390.000  | -42.86      | ≤-21.20    | PASS    |
|          |         | High   | 2480    | AV       | 2483.500  | -46.46      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2483.520  | -46.46      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2500.000  | -48.25      | ≤-41.20    | PASS    |
|          |         |        |         | Peak     | 2483.500  | -38.86      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2497.280  | -38.65      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2500.000  | -41.99      | ≤-21.20    | PASS    |
| 2DH5     | Ant1    | Low    | 2402    | AV       | 2310.000  | -49.56      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2383.895  | -48.73      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2390.000  | -48.86      | ≤-41.20    | PASS    |
|          |         |        |         | Peak     | 2310.000  | -41.66      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2372.660  | -39.01      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2390.000  | -41.64      | ≤-21.20    | PASS    |
|          |         | High   | 2480    | AV       | 2483.500  | -47.48      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2483.520  | -47.48      | ≤-41.20    | PASS    |
|          |         |        |         | AV       | 2500.000  | -48.17      | ≤-41.20    | PASS    |
|          |         |        |         | Peak     | 2483.500  | -38.87      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2493.360  | -38.79      | ≤-21.20    | PASS    |
|          |         |        |         | Peak     | 2500.000  | -42.39      | ≤-21.20    | PASS    |

#### Note:

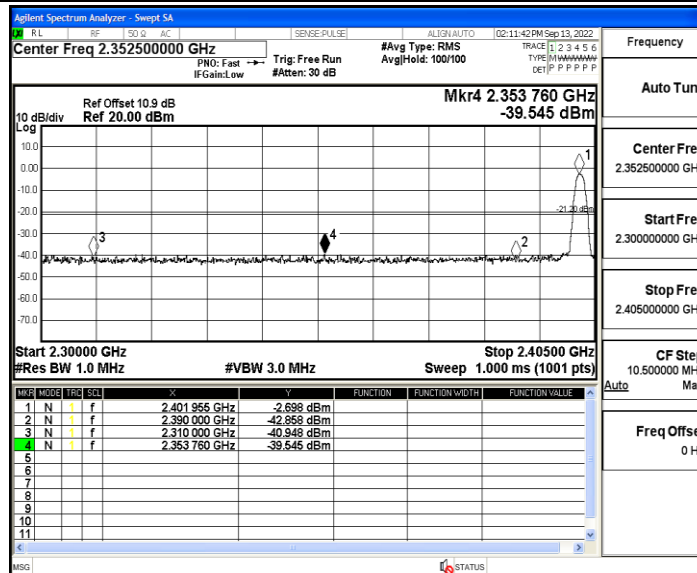
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

## Test Graphs

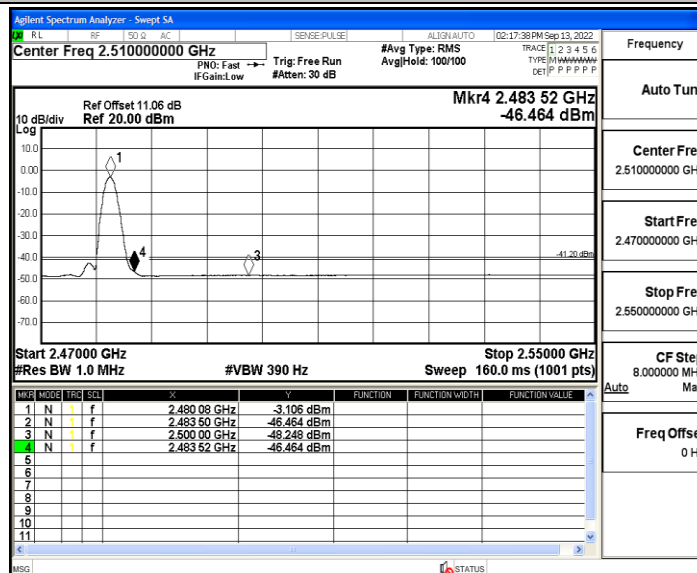
DH5\_Ant1\_Low\_2402\_AV



DH5\_Ant1\_Low\_2402\_Peak

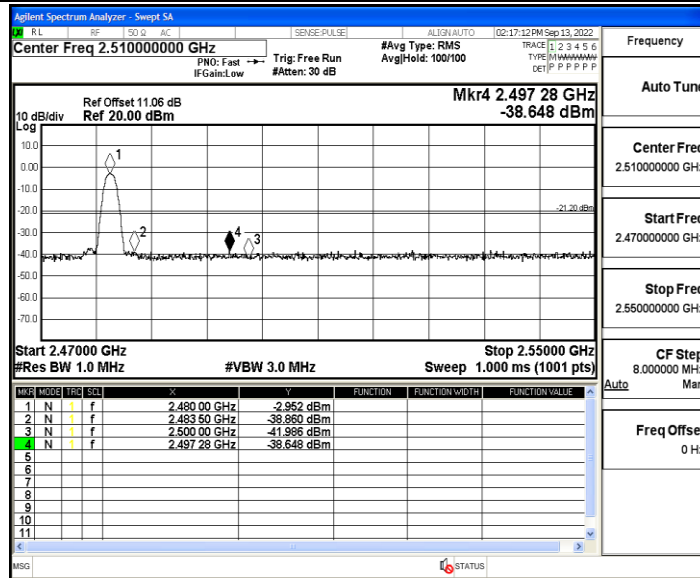


DH5\_Ant1\_High\_2480\_AV

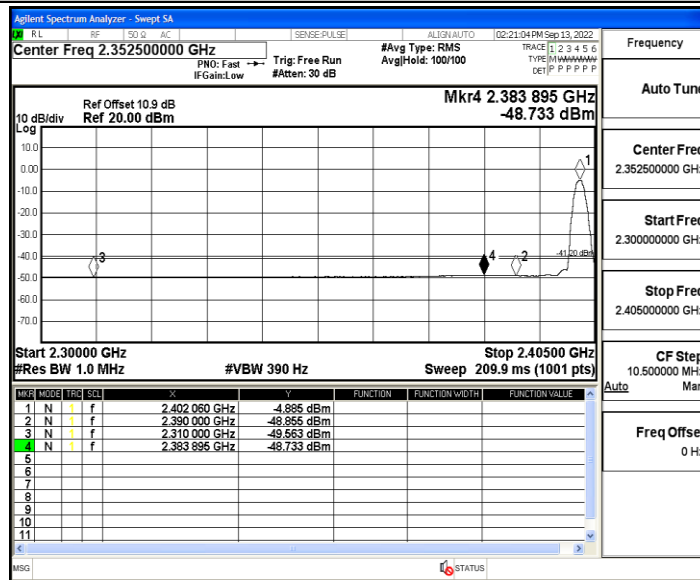


DH5\_Ant1\_High\_2480\_Peak

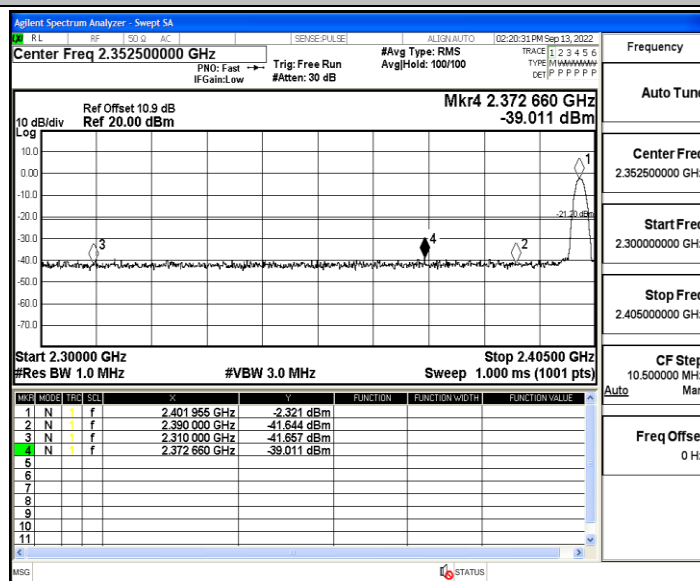




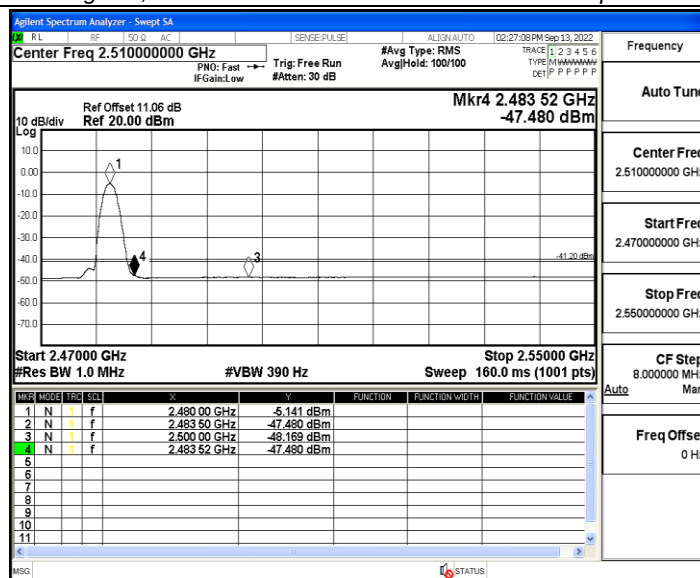
2DH5\_Ant1\_Low\_2402\_AV



2DH5\_Ant1\_Low\_2402\_Peak



2DH5\_Ant1\_High\_2480\_AV



## 2DH5\_Ant1\_High\_2480\_Peak

