

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth mechanical keyboard

Trade Mark: Keychron

Test Model: Keychron K5

FCC ID: 2ASF4-K5

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 |

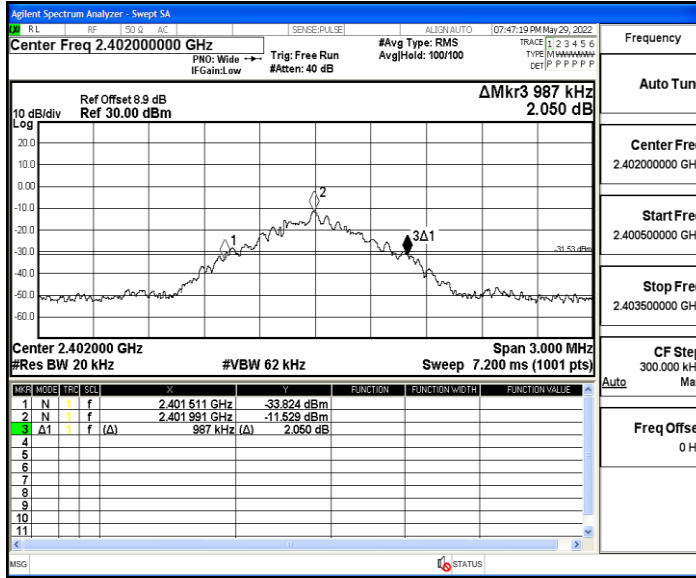
Appendix A: 20dB Emission Bandwidth

Test Result

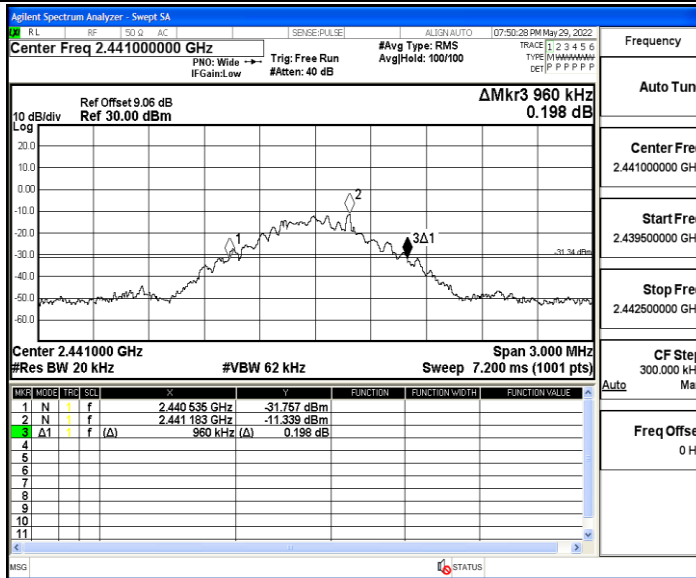
| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5 | Ant1 | 2402 | 0.987 | 2401.511 | 2402.498 | --- | --- |
| | | 2441 | 0.960 | 2440.535 | 2441.495 | --- | --- |
| | | 2480 | 0.987 | 2479.514 | 2480.501 | --- | --- |

Test Graphs

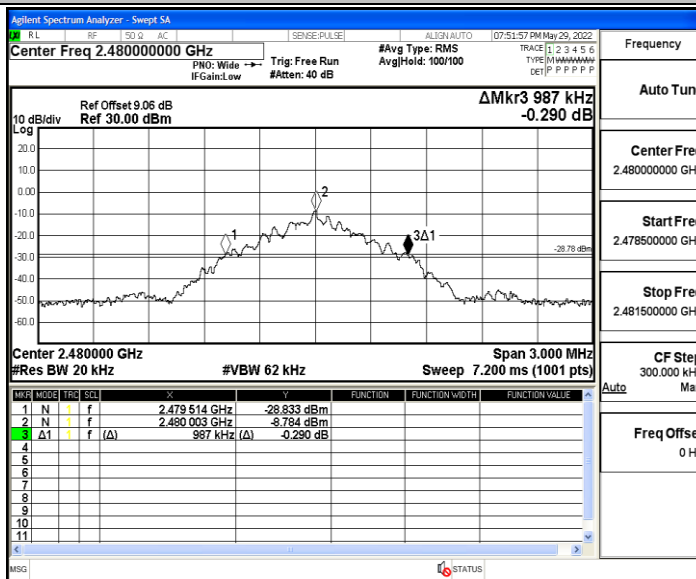
DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



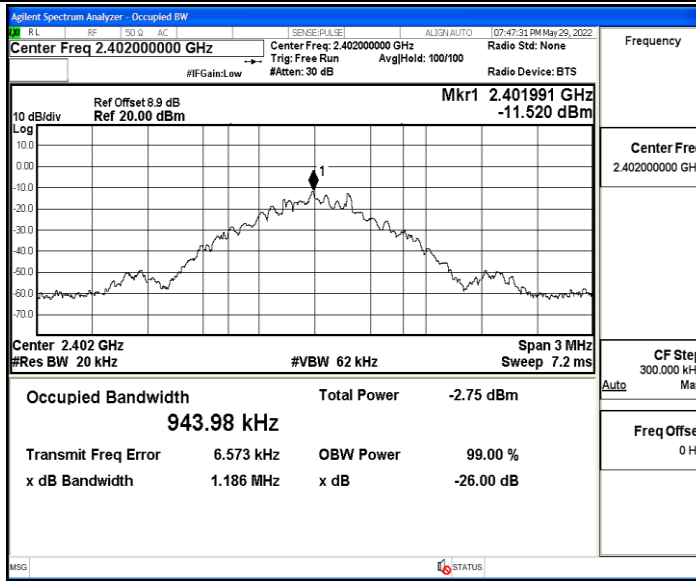
Appendix B: Occupied Channel Bandwidth

Test Result

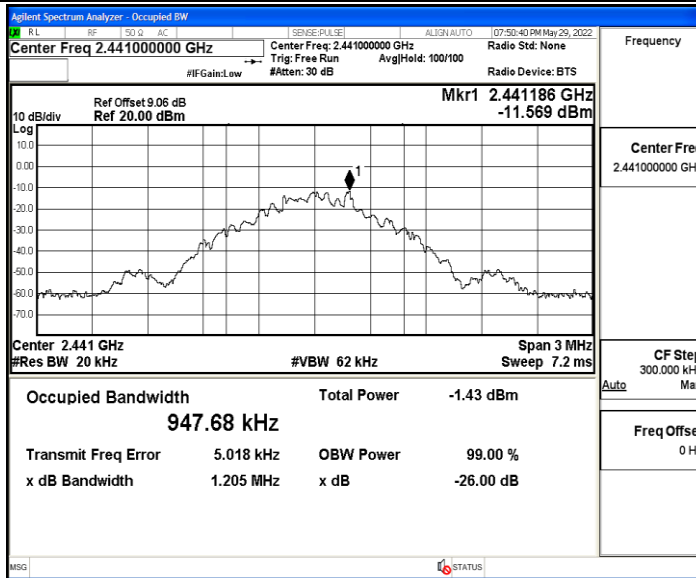
| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-----------|----------|----------|------------|---------|
| DH5 | Ant1 | 2402 | 0.94398 | 2401.535 | 2402.479 | --- | --- |
| | | 2441 | 0.94768 | 2440.531 | 2441.479 | --- | --- |
| | | 2480 | 0.92749 | 2479.550 | 2480.478 | --- | --- |

Test Graphs

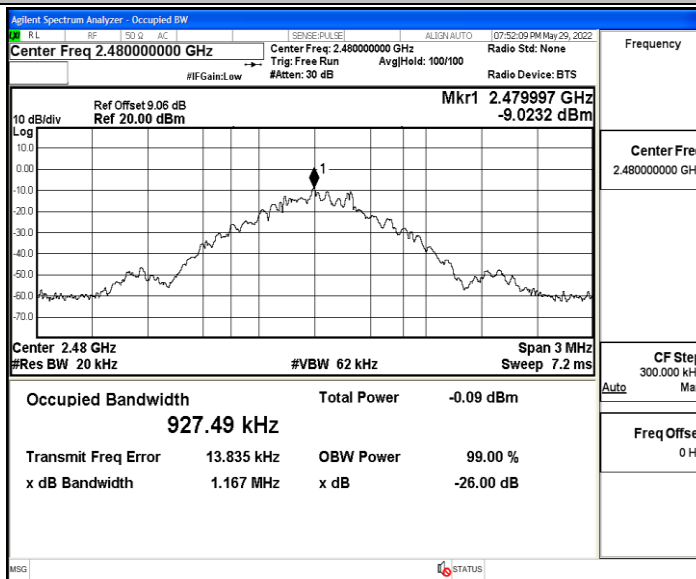
DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



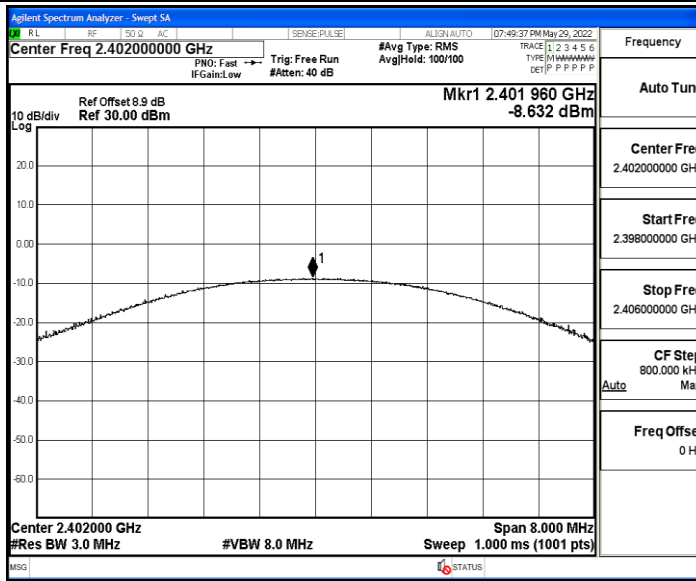
Appendix C: Maximum conducted output power

Test Result

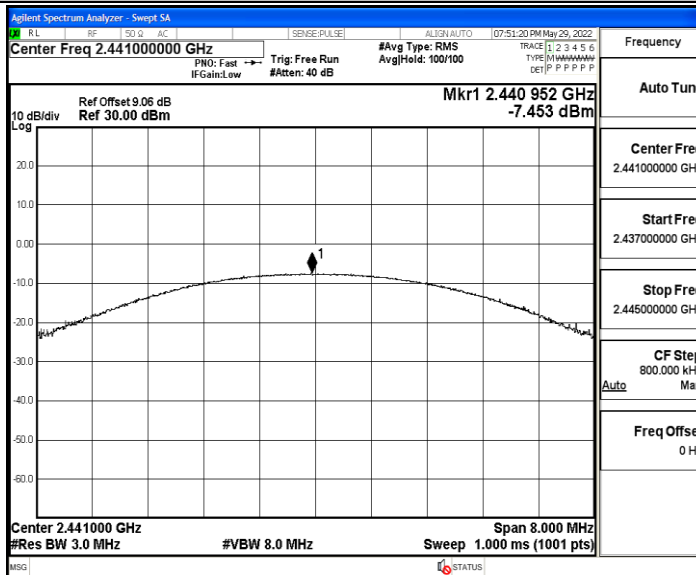
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5 | Ant1 | 2402 | -8.63 | ≤20.97 | PASS |
| | | 2441 | -7.45 | ≤20.97 | PASS |
| | | 2480 | -6.35 | ≤20.97 | PASS |

Test Graphs

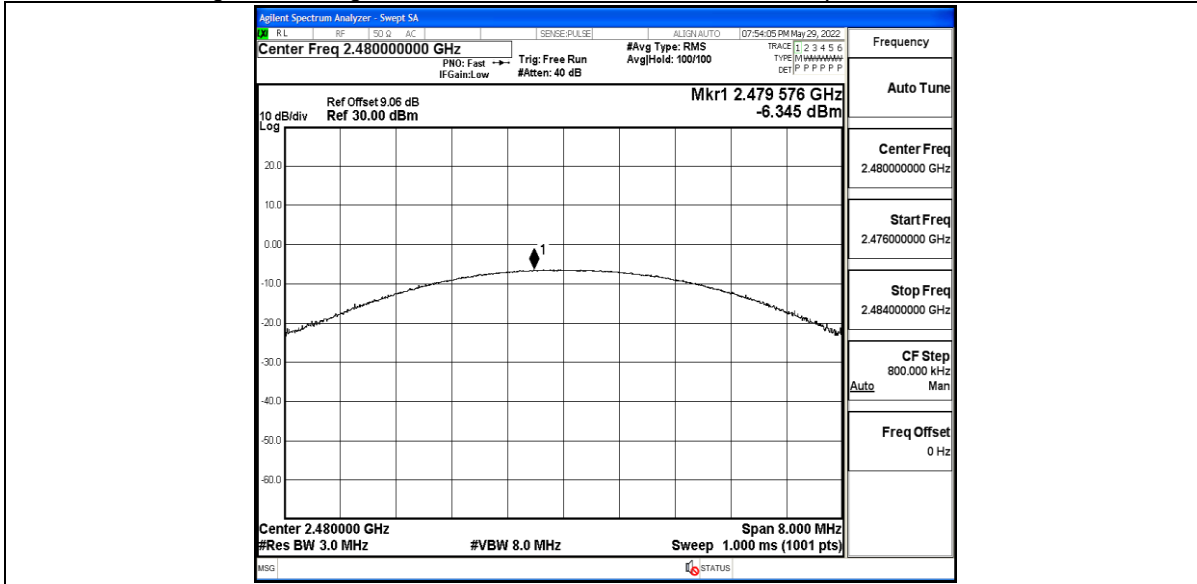
DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480

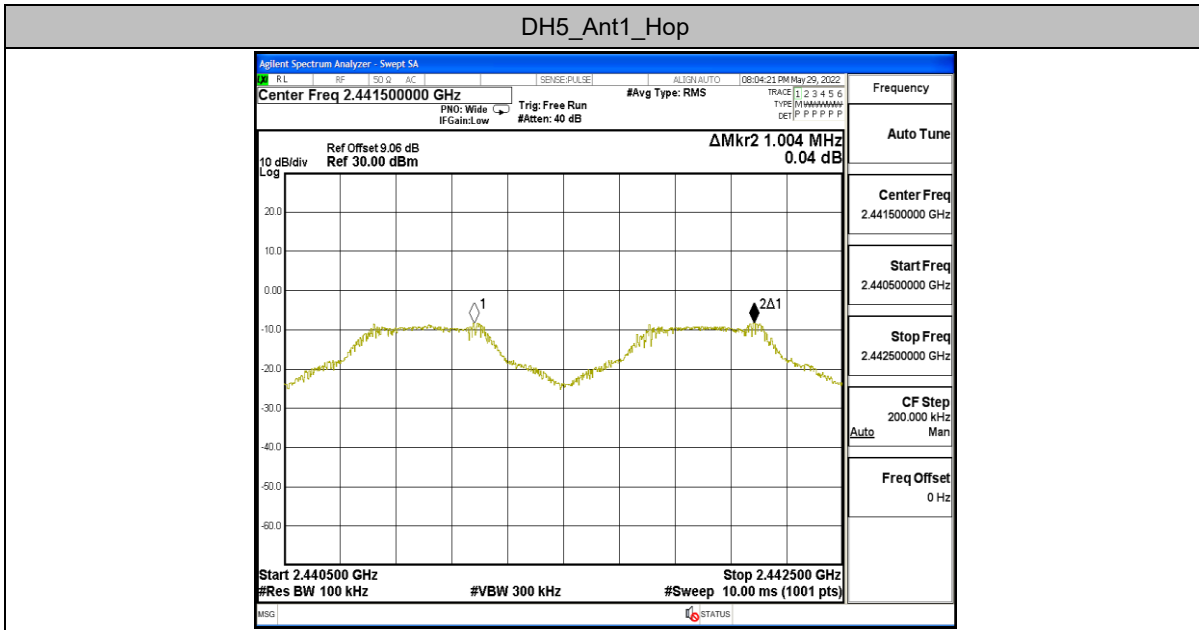


Appendix D: Carrier frequency separation

Test Result

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5 | Ant1 | Hop | 1.004 | ≥0.987 | PASS |

Test Graphs



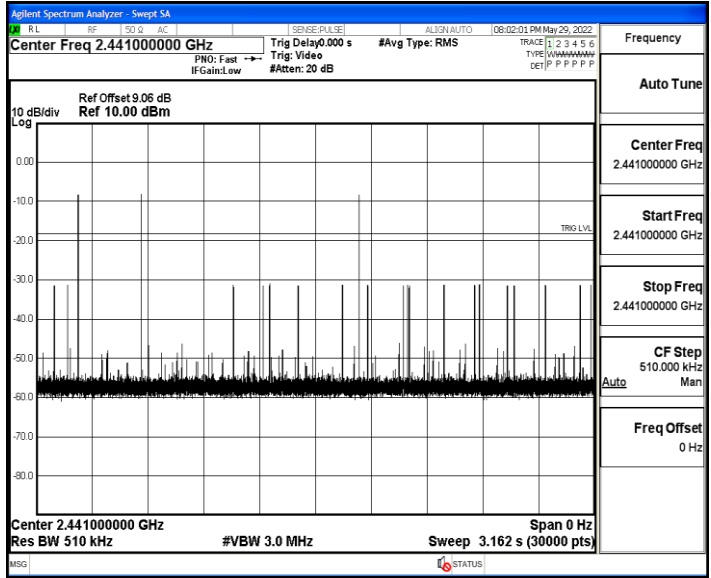
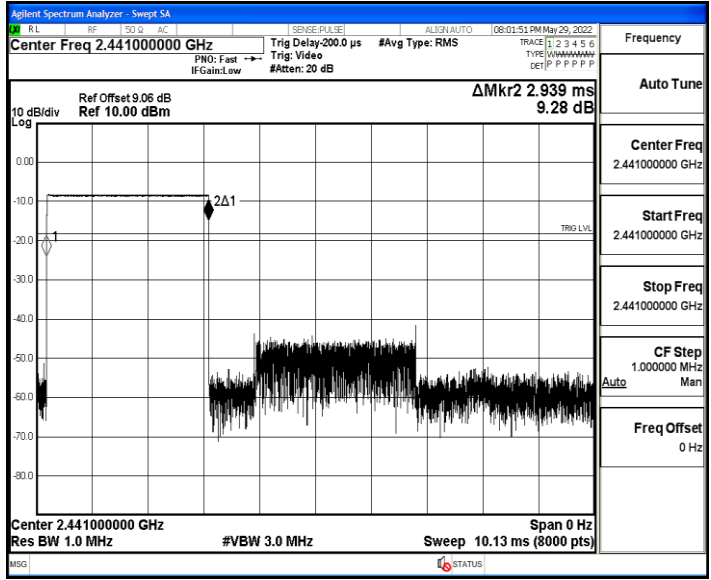
Appendix E: Time of occupancy

Test Result

| TestMode | Antenna | Channel | BurstWidth [ms] | TotalHops [Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5 | Ant1 | Hop | 2.94 | 40 | 0.118 | ≤0.4 | PASS |

Test Graphs

DH5_Ant1_Hop

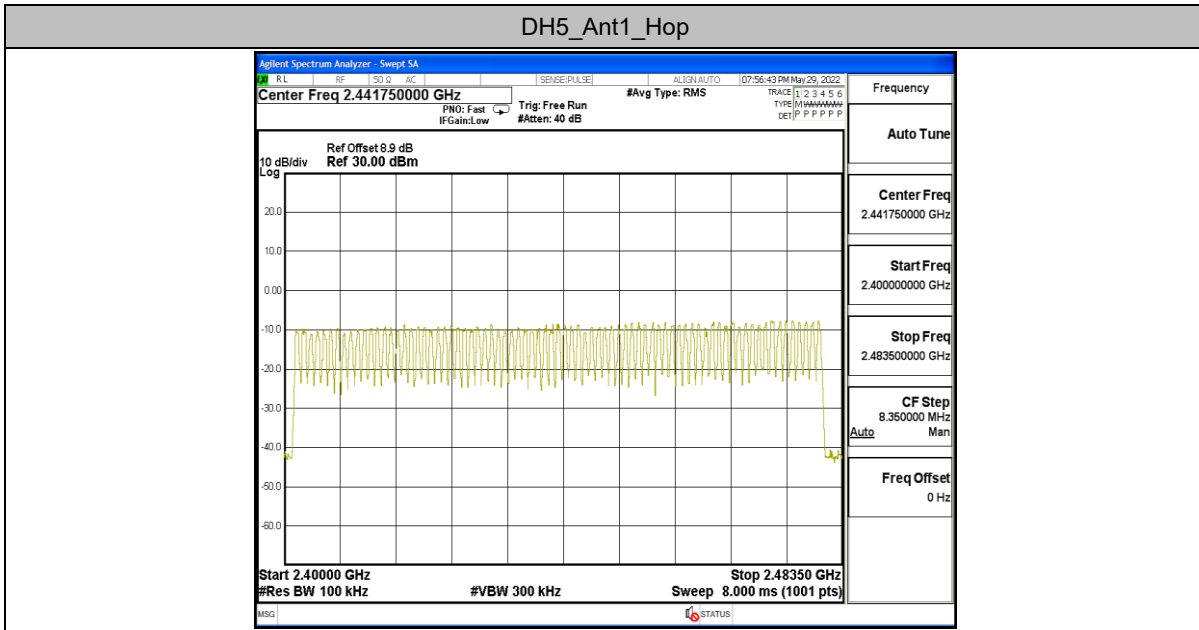


Appendix F: Number of hopping channels

Test Result

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

Test Graphs



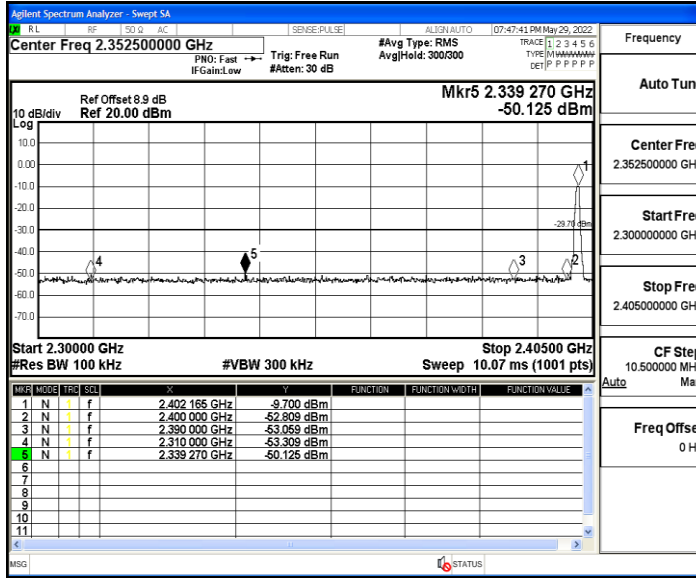
Appendix G: Band edge measurements

Test Result

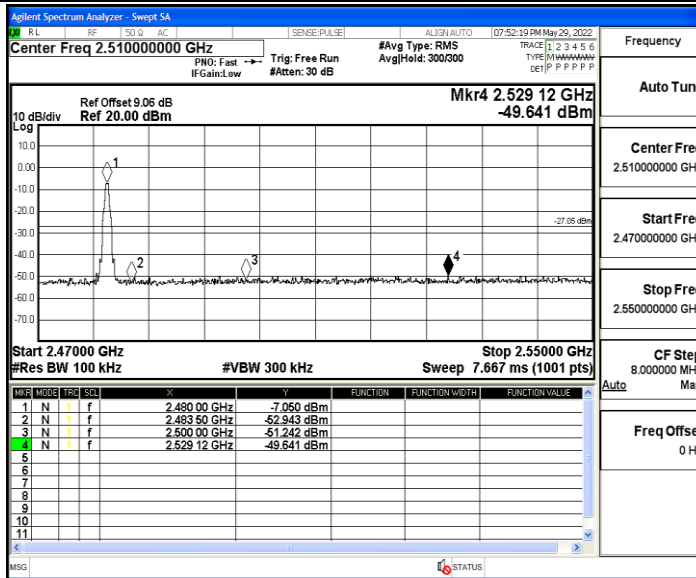
| TestMode | Antenna | ChName | Channel | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5 | Ant1 | Low | 2402 | -9.70 | -50.13 | ≤ -29.7 | PASS |
| | | High | 2480 | -7.05 | -49.64 | ≤ -27.05 | PASS |
| | | Low | Hop_2402 | -10.20 | -50.21 | ≤ -30.2 | PASS |
| | | High | Hop_2480 | -7.36 | -49.29 | ≤ -27.36 | PASS |

Test Graphs

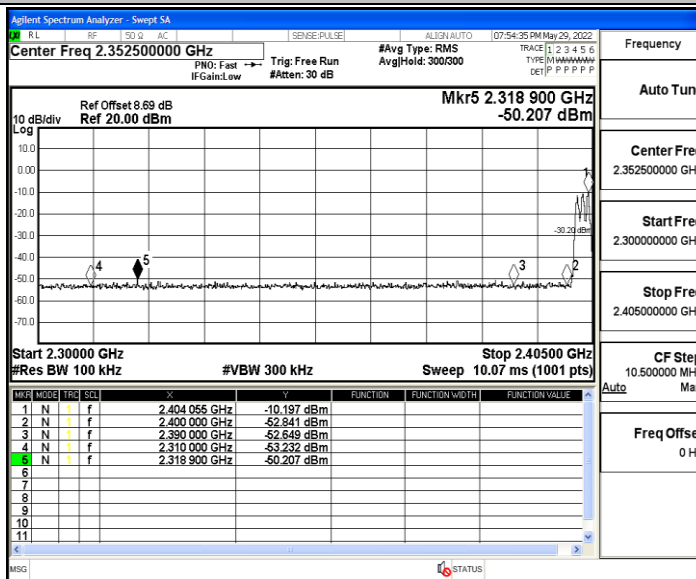
DH5_Ant1_Low_2402



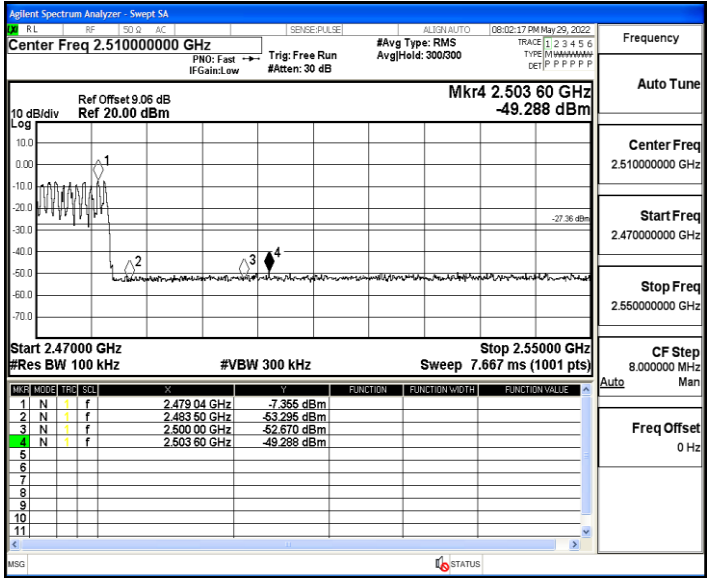
DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480



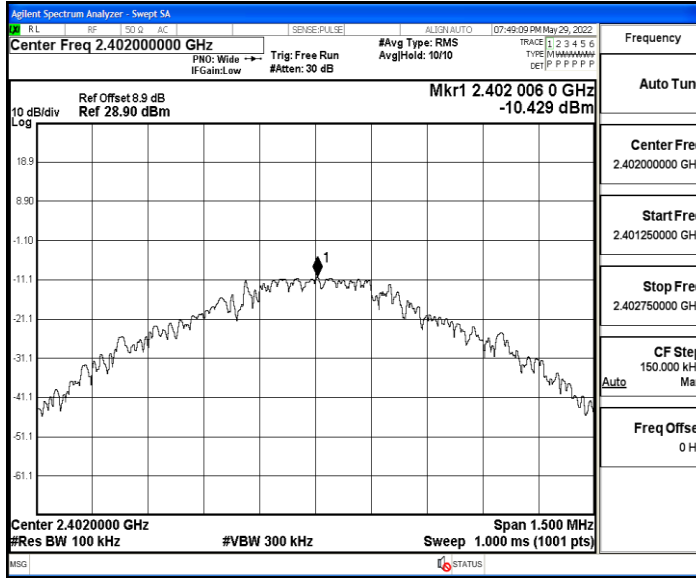
Appendix H: Conducted Spurious Emission

Test Result

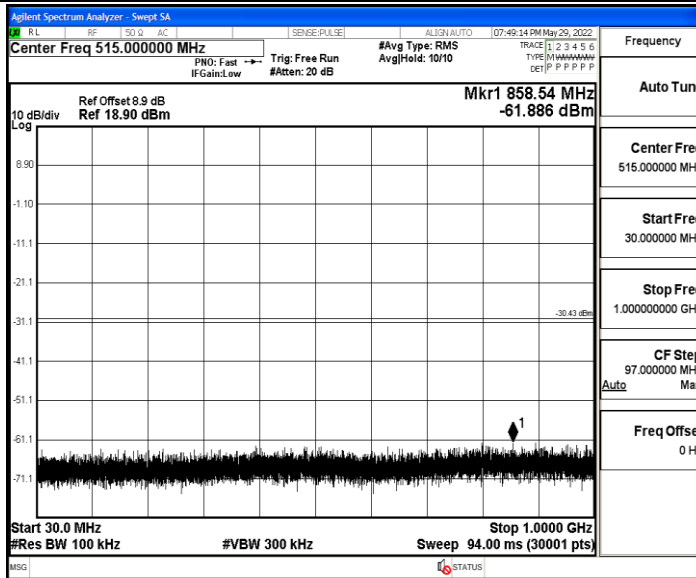
| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|---------|--------------------|-------------------|-----------------|----------------|---------|
| DH5 | Ant1 | 2402 | Reference | -10.43 | -10.43 | --- | PASS |
| | | | 30~1000 | -10.43 | -61.89 | ≤-30.43 | PASS |
| | | | 1000~26500 | -10.43 | -51.73 | ≤-30.43 | PASS |
| | | 2441 | Reference | -8.63 | -8.63 | --- | PASS |
| | | | 30~1000 | -8.63 | -61.72 | ≤-28.63 | PASS |
| | | | 1000~26500 | -8.63 | -51.75 | ≤-28.63 | PASS |
| | | 2480 | Reference | -7.98 | -7.98 | --- | PASS |
| | | | 30~1000 | -7.98 | -61.38 | ≤-27.98 | PASS |
| | | | 1000~26500 | -7.98 | -50.76 | ≤-27.98 | PASS |

Test Graphs

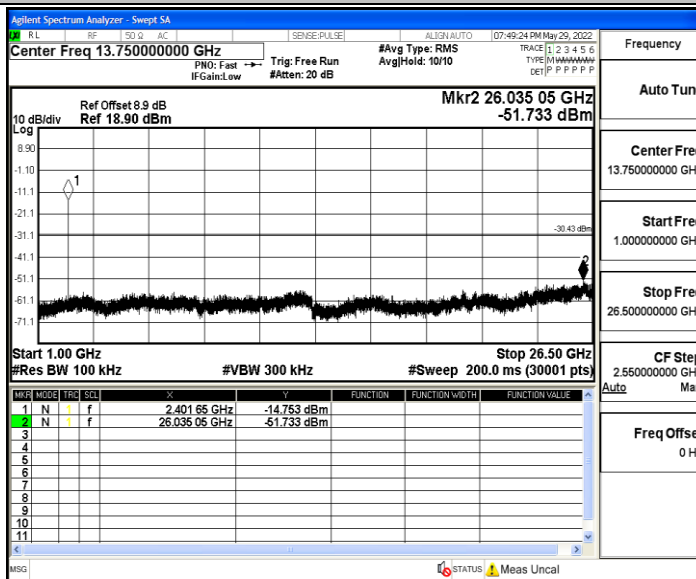
DH5_Ant1_2402_0~Reference



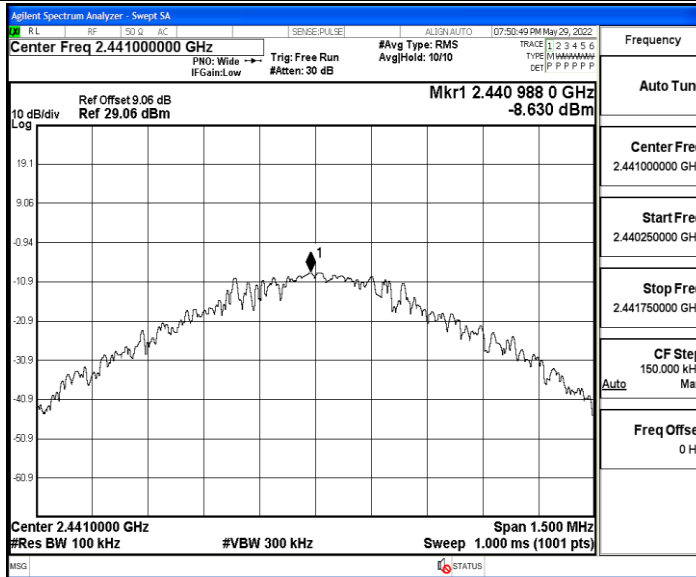
DH5_Ant1_2402_30~1000



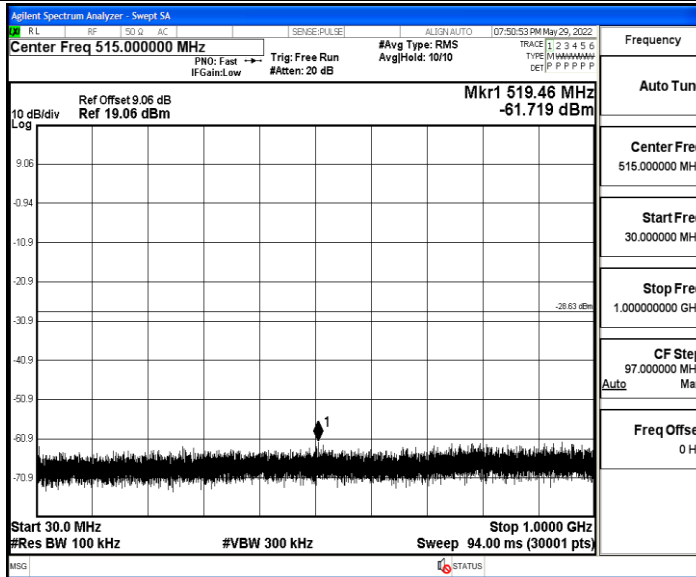
DH5_Ant1_2402_1000~26500



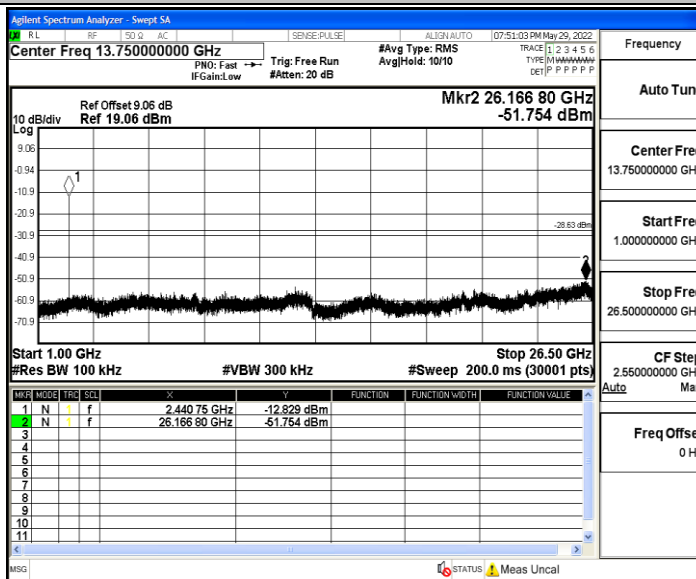
DH5_Ant1_2441_0~Reference



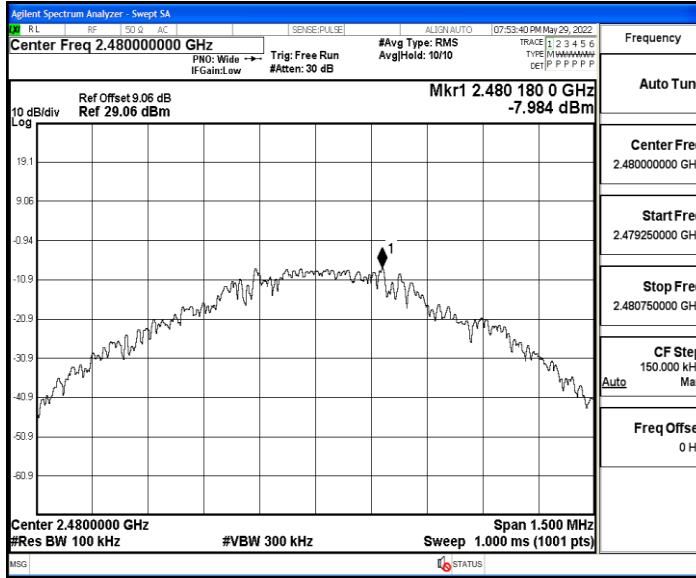
DH5_Ant1_2441_30~1000



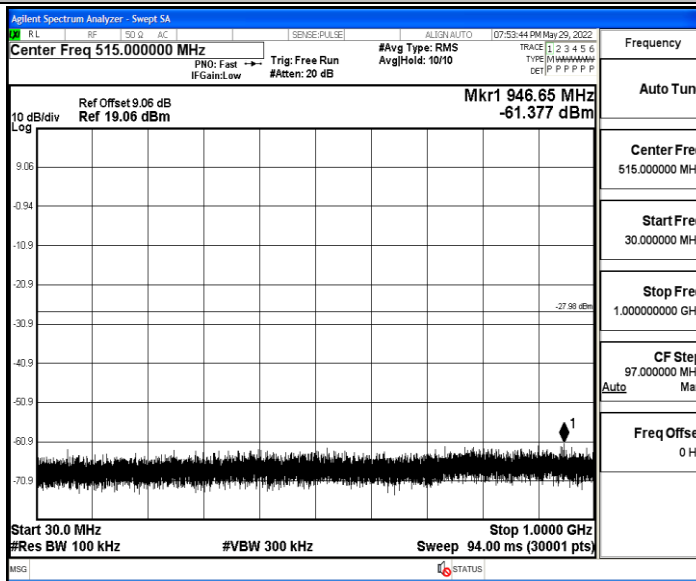
DH5_Ant1_2441_1000~26500



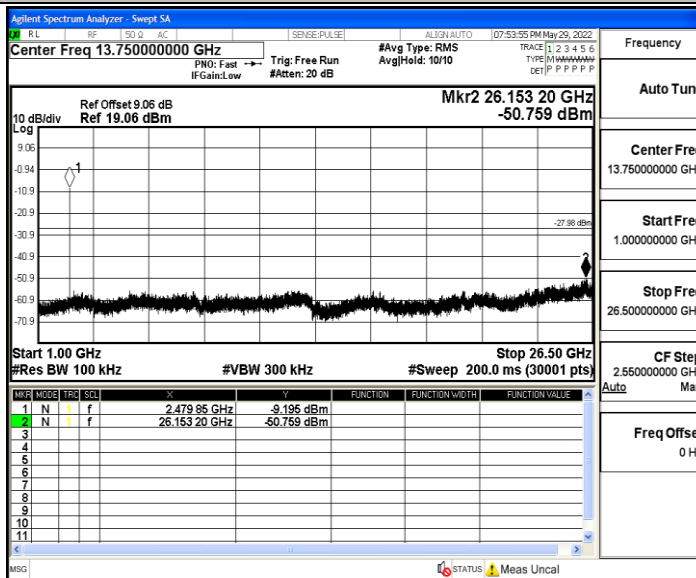
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500



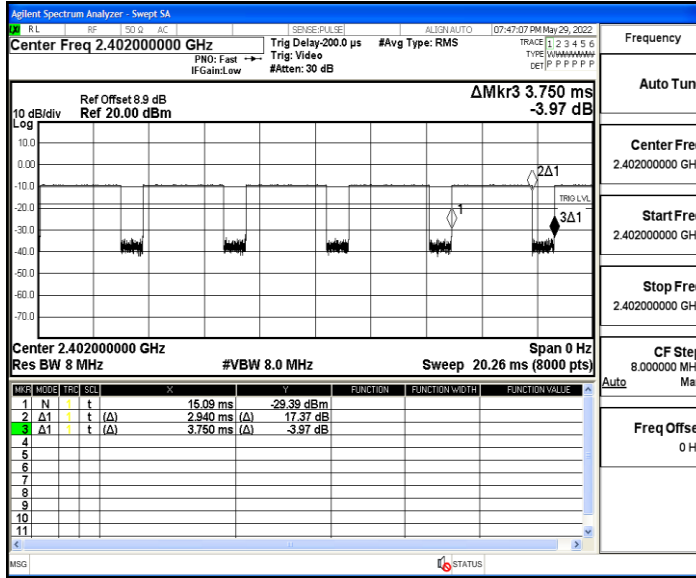
Appendix I: Duty Cycle

Test Result

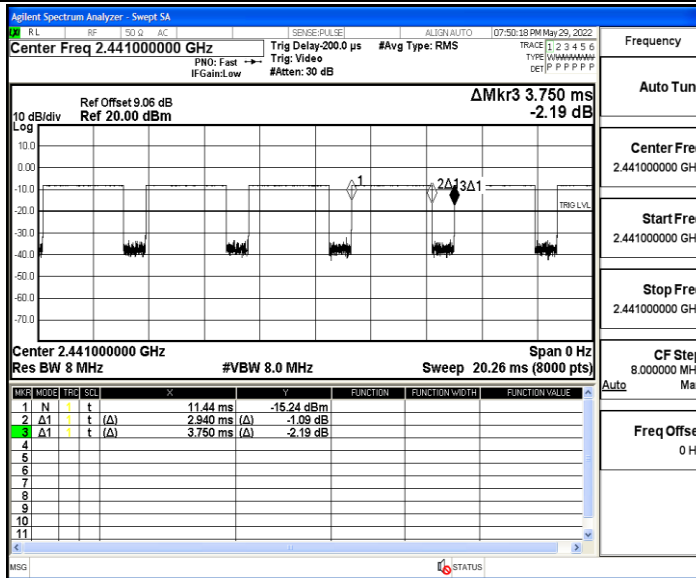
| TestMode | Antenna | Channel | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | 1/T[kHz] |
|----------|---------|---------|----------------------------|--------------------------|----------------|----------|
| DH5 | Ant1 | 2402 | 2.94 | 3.75 | 78.40 | 0.34 |
| | | 2441 | 2.94 | 3.75 | 78.40 | 0.34 |
| | | 2480 | 2.94 | 3.75 | 78.40 | 0.34 |

Test Graphs

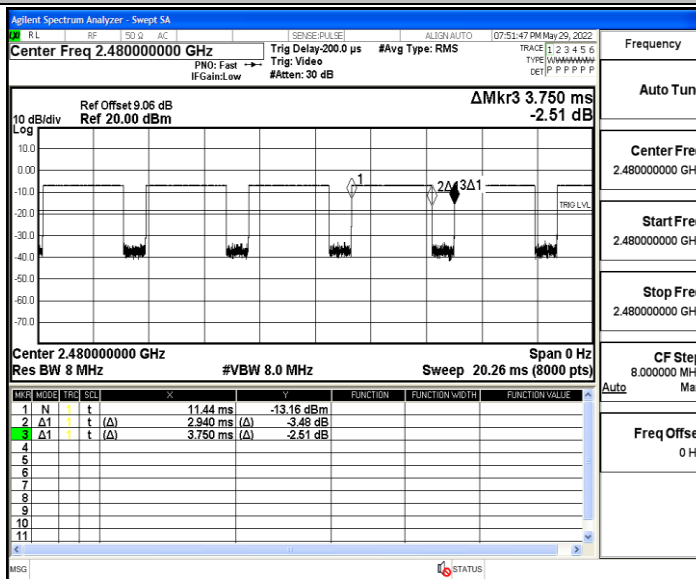
DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



Appendix J: Emissions in Restricted Bands

Test Result

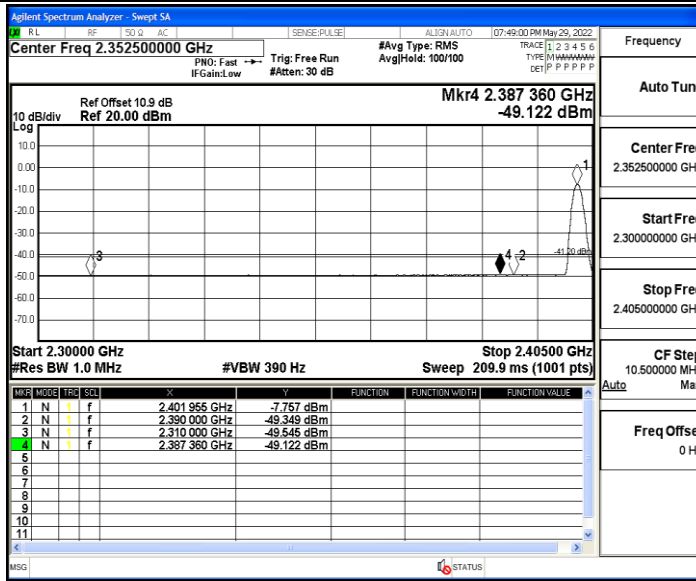
| TestMode | Antenna | ChName | Channel | Detector | Freq(MHz) | Result(dBm) | Limit(dBm) | Verdict |
|----------|---------|--------|---------|----------|-----------|-------------|------------|---------|
| DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -49.55 | ≤-41.20 | PASS |
| | | | | AV | 2387.360 | -49.12 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -49.35 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -42.41 | ≤-21.20 | PASS |
| | | | | Peak | 2352.290 | -39.1 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -41.78 | ≤-21.20 | PASS |
| | | High | 2480 | AV | 2483.500 | -48.76 | ≤-41.20 | PASS |
| | | | | AV | 2498.880 | -48.44 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -48.62 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -42.97 | ≤-21.20 | PASS |
| | | | | Peak | 2495.280 | -38.95 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -40.24 | ≤-21.20 | PASS |

Note:

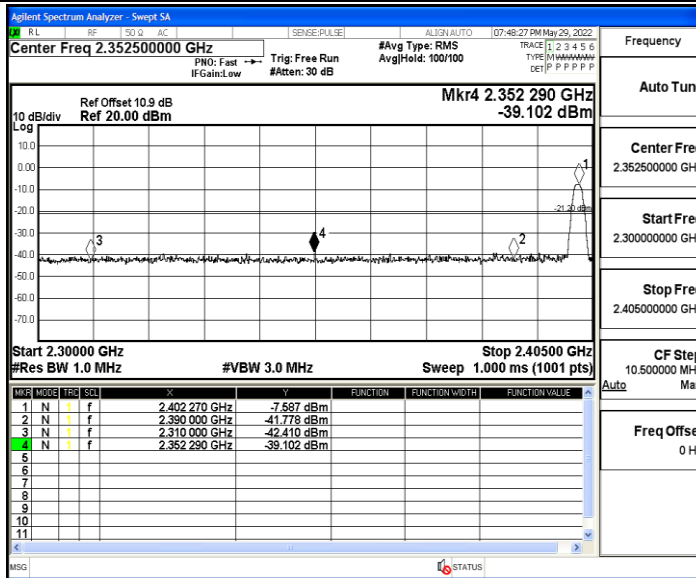
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

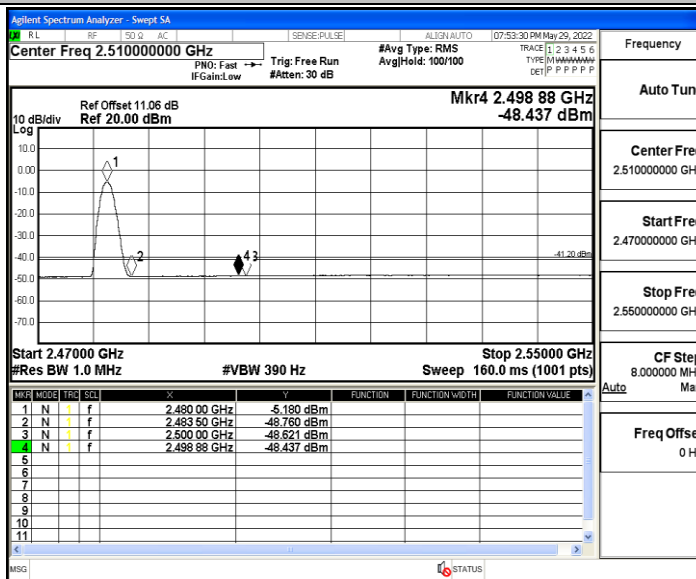
DH5_Ant1_Low_2402_AV



DH5_Ant1_Low_2402_Peak



DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

