

## Appendix A

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

Product Name: Bluetooth mechanical keyboard

Trade Mark: N/A

Test Model: keychron K3

FCC ID: 2ASF4-K3

### Environmental Conditions

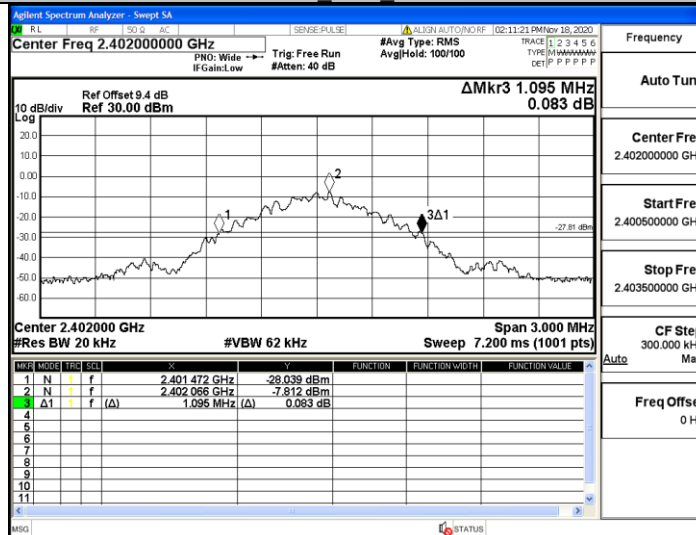
|                    |           |
|--------------------|-----------|
| Temperature:       | 22.8° C   |
| Relative Humidity: | 56%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Anna Hu   |
| Supervised by:     | Hugo Chen |

#### A.1 20 dB Bandwidth

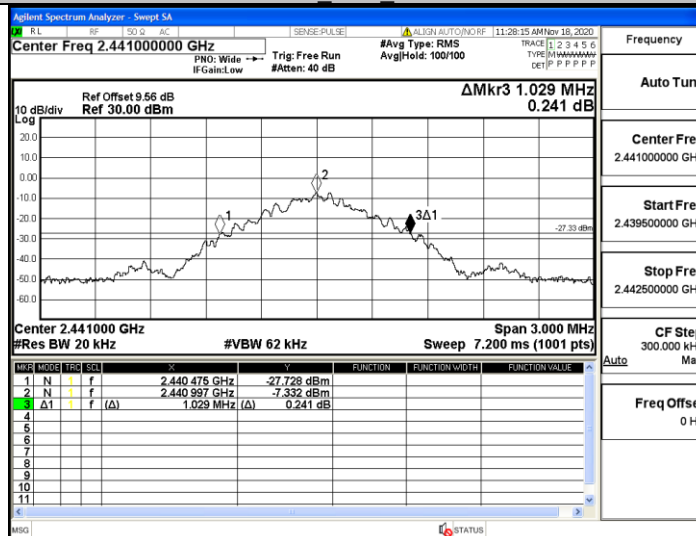
| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 1.095         | 2401.472 | 2402.567 | ---        | PASS    |
|          |         | 2441    | 1.029         | 2440.475 | 2441.504 | ---        | PASS    |
|          |         | 2480    | 1.029         | 2479.481 | 2480.510 | ---        | PASS    |

## Test Graph

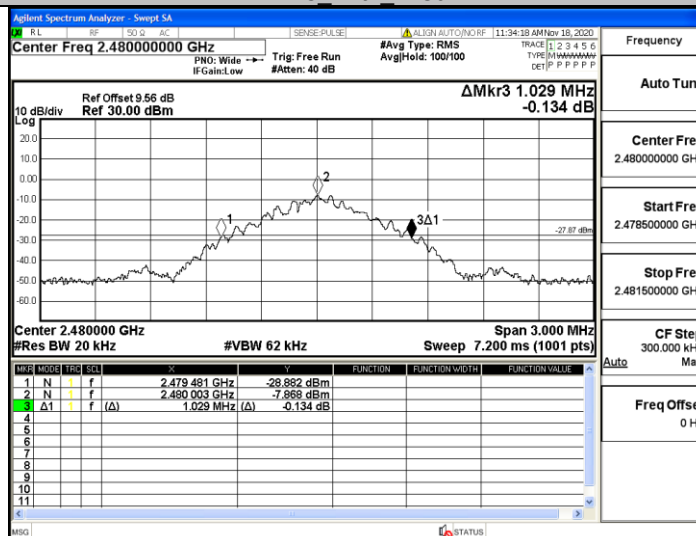
DH5\_Ant1\_2402



DH5\_Ant1\_2441



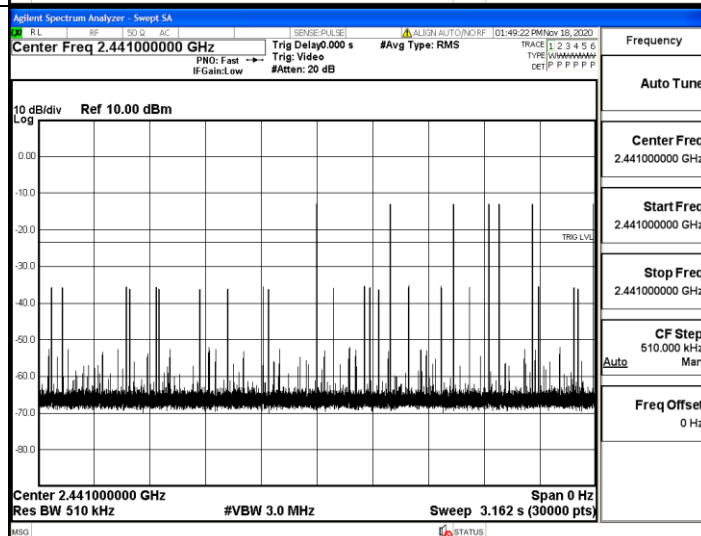
DH5\_Ant1\_2480



A.2 Dwell Time

| TestMode | Antenna | Channel | BurstWidth<br>[ms] | TotalHops [Num] | Result[s] | Limit[s] |
|----------|---------|---------|--------------------|-----------------|-----------|----------|
| DH1      | Ant1    | Hop     | 2.95               | 80              | 0.236     | <=0.4    |

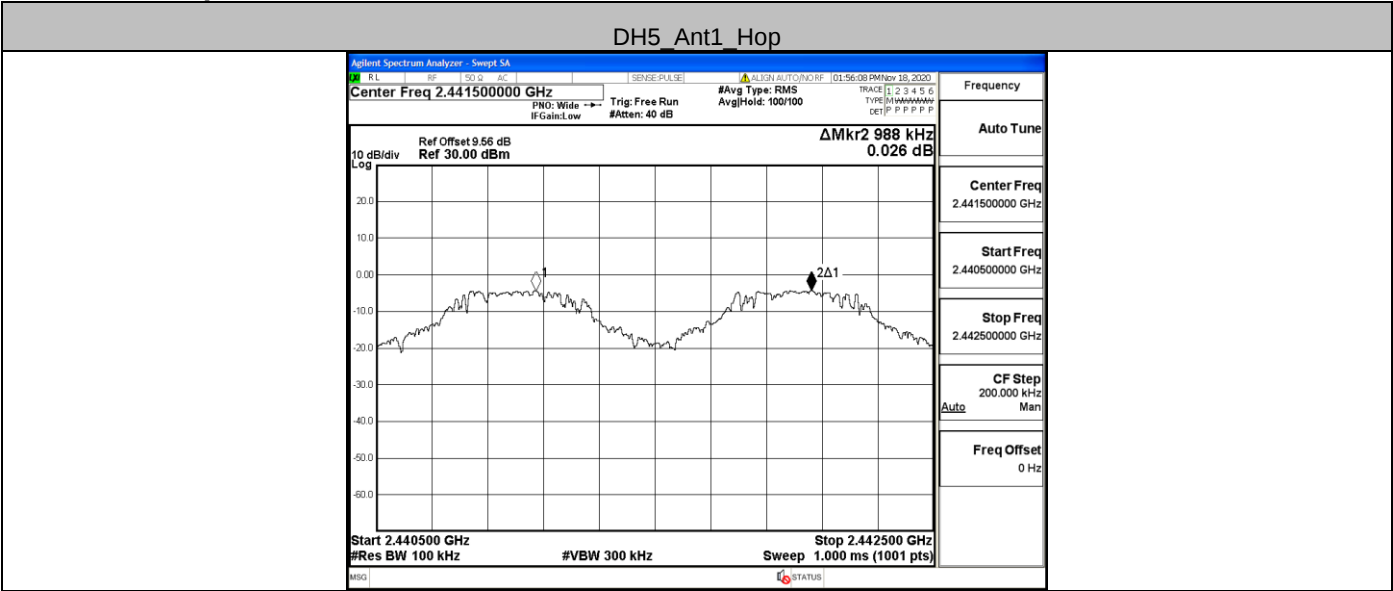
## DH1\_Ant1\_Hop



**A.3 Carrier Frequency Separation**

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 0.988       | $\geq 0.686$ | PASS    |

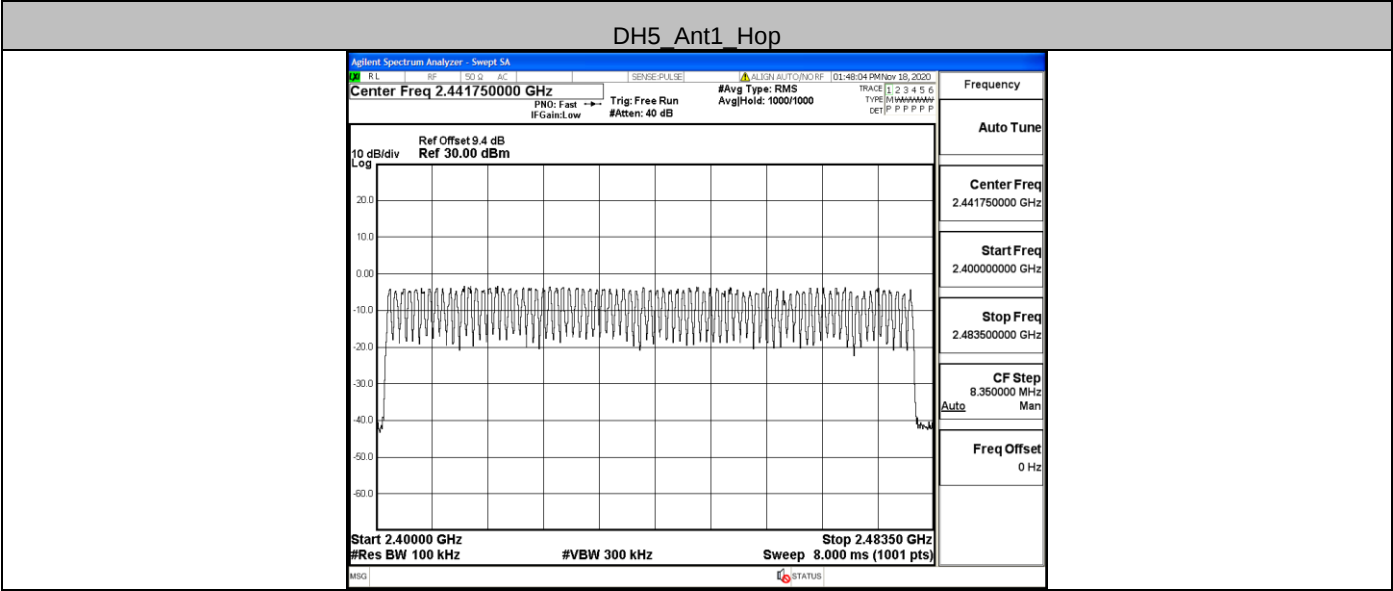
Test Graph



A.4 Hopping Channel Number

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

Test Graph

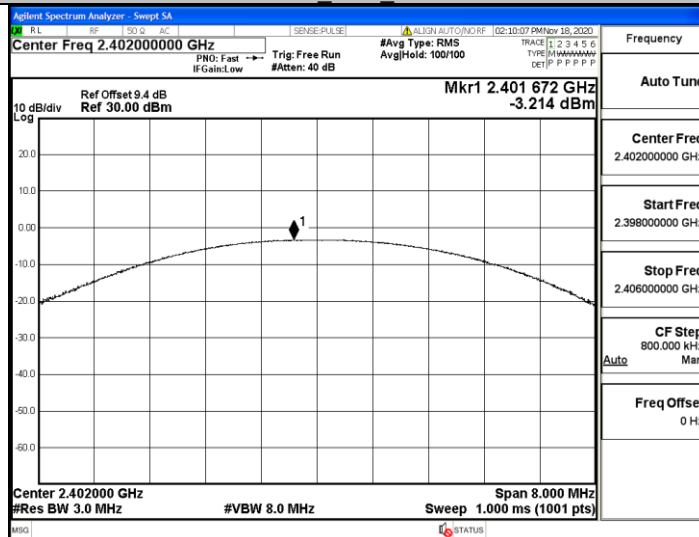


## A.5 Conducted Peak Output Power

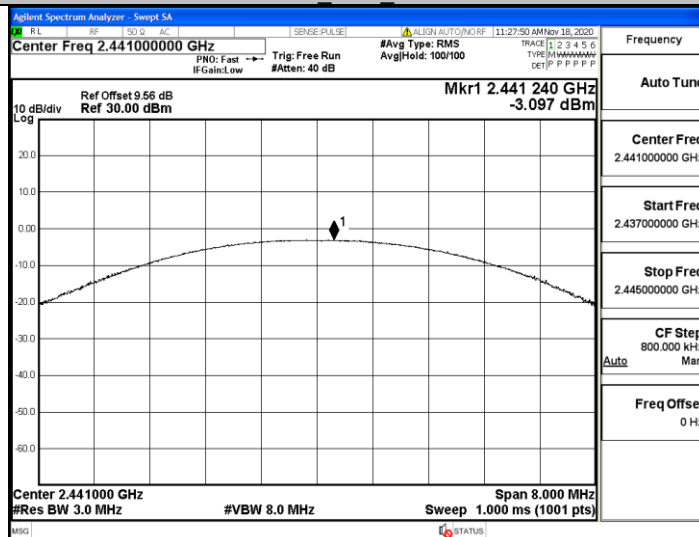
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | 2402    | -3.21       | <=20.97    | PASS    |
|          |         | 2441    | -3.10       | <=30       | PASS    |
|          |         | 2480    | -3.59       | <=20.97    | PASS    |

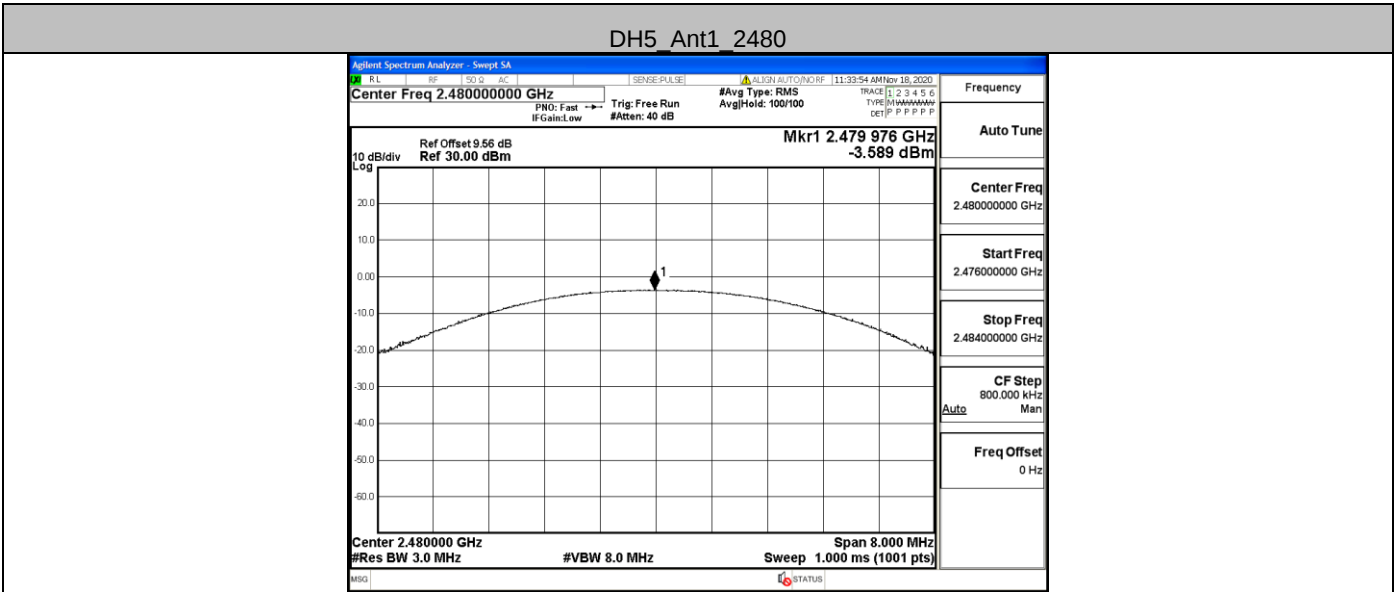
## Test Graph

DH5\_Ant1\_2402



DH5\_Ant1\_2441



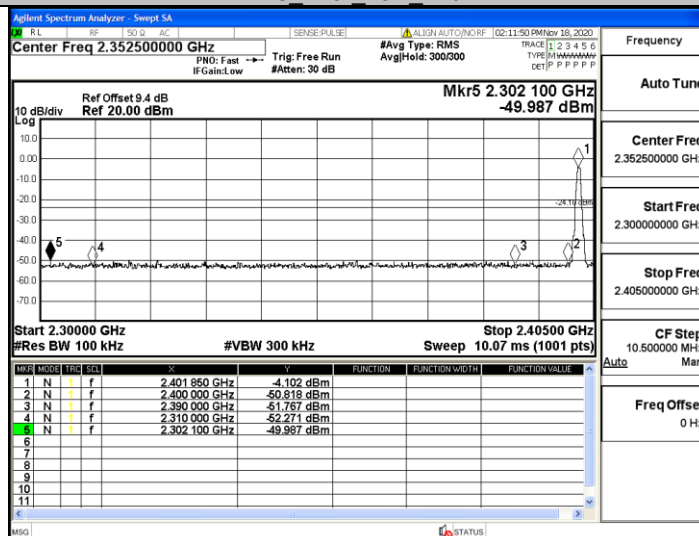


**A.6 Band-edge for RF Conducted Emissions**

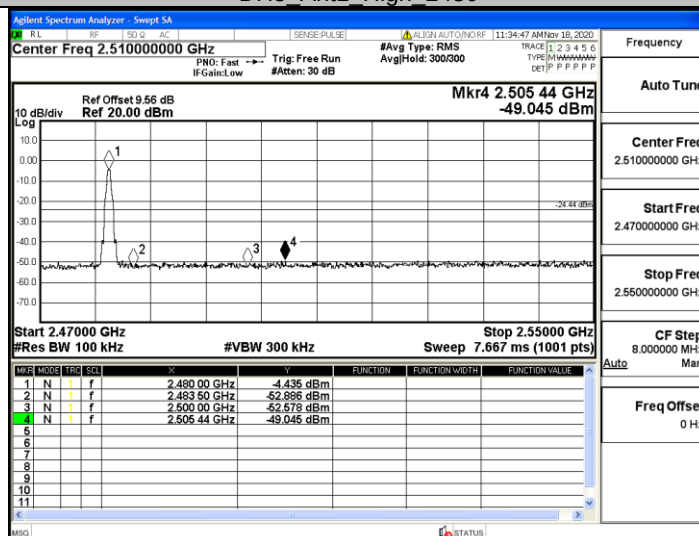
| TestMode | Antenna | ChName | Channel  | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | Low    | 2402     | -4.10             | -49.99          | <=-24.1        | PASS    |
|          |         | High   | 2480     | -4.43             | -49.05          | <=-24.44       | PASS    |
|          |         | Low    | Hop_2402 | -4.12             | -50.21          | <=-24.12       | PASS    |
|          |         | High   | Hop_2480 | -4.10             | -48.98          | <=-24.1        | PASS    |

## Test Graph

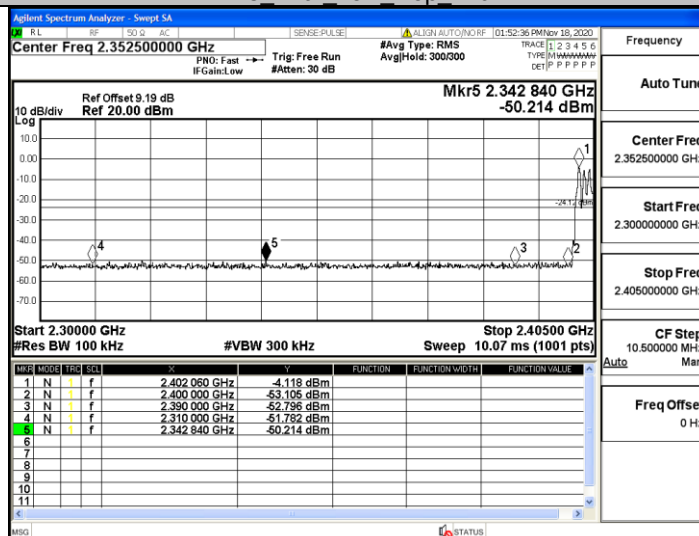
DH5\_Ant1\_Low\_2402

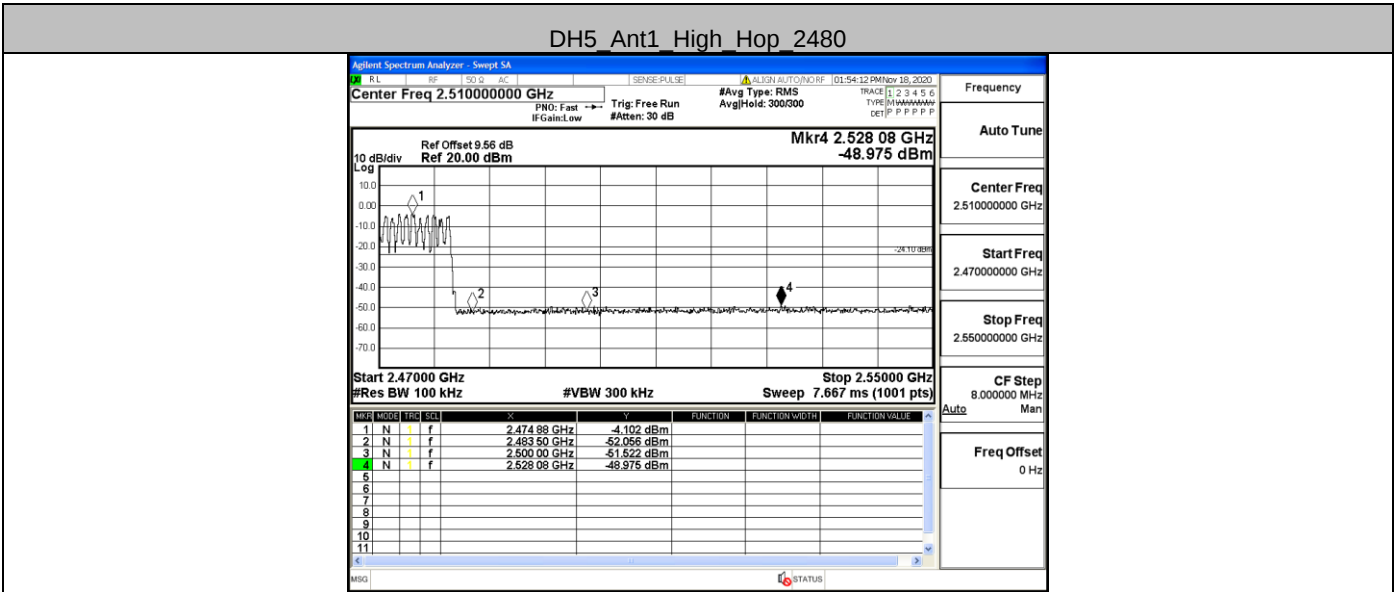


DH5\_Ant1\_High\_2480



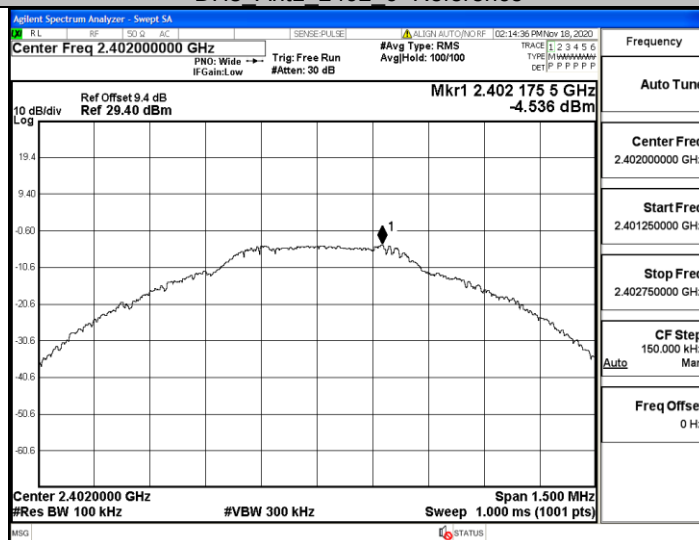
DH5\_Ant1\_Low\_Hop\_2402



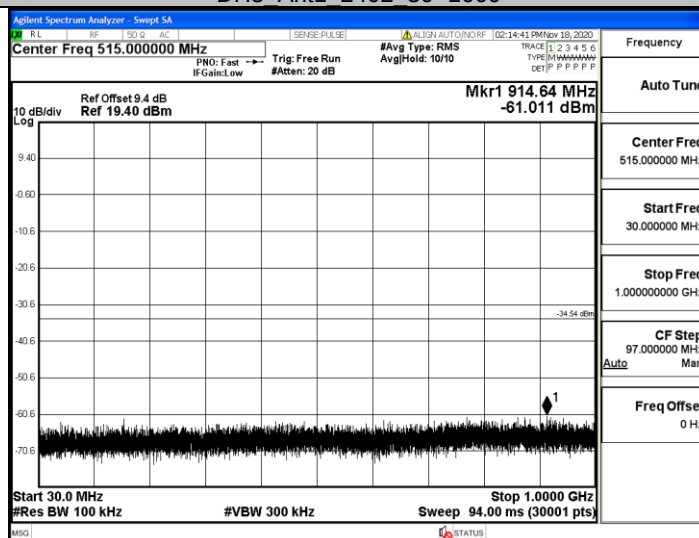


## A.7 RF Conducted Spurious Emissions Test Graph

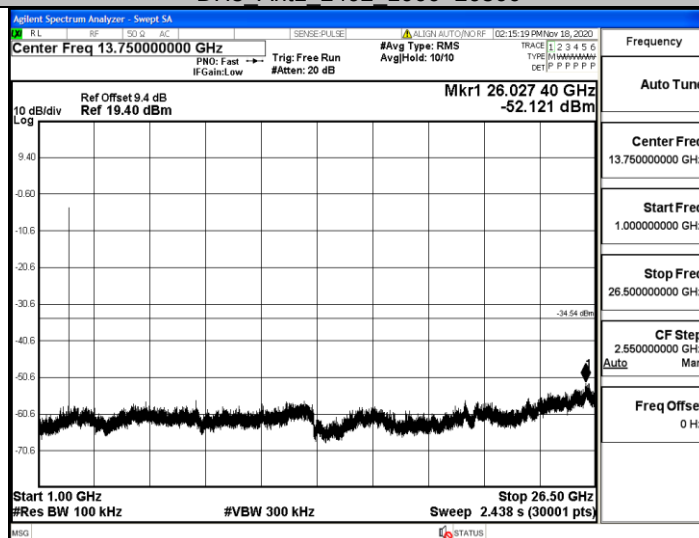
DH5\_Ant1\_2402\_0-Reference



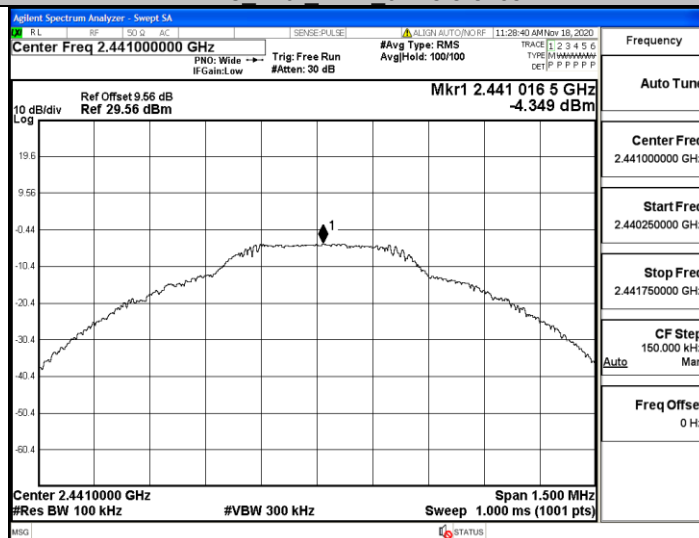
DH5\_Ant1\_2402\_30~1000



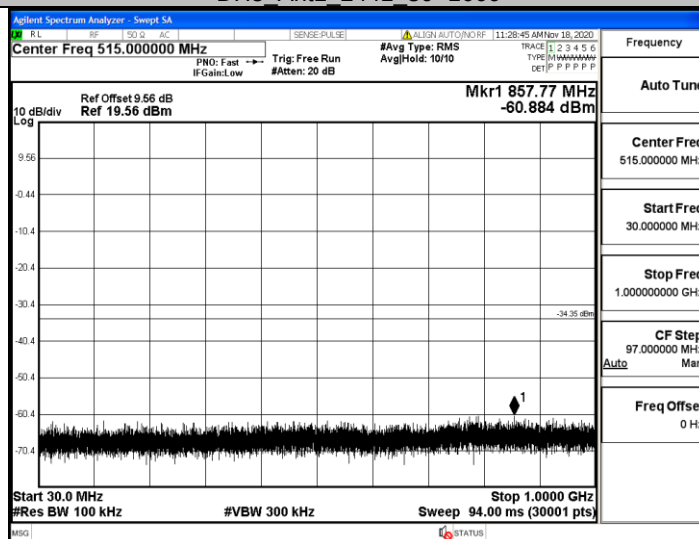
DH5\_Ant1\_2402\_1000~26500



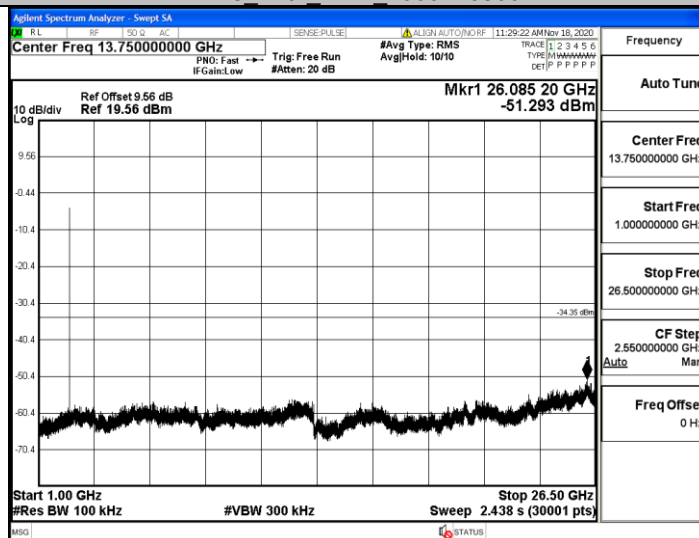
## DH5\_Ant1\_2441\_0-Reference



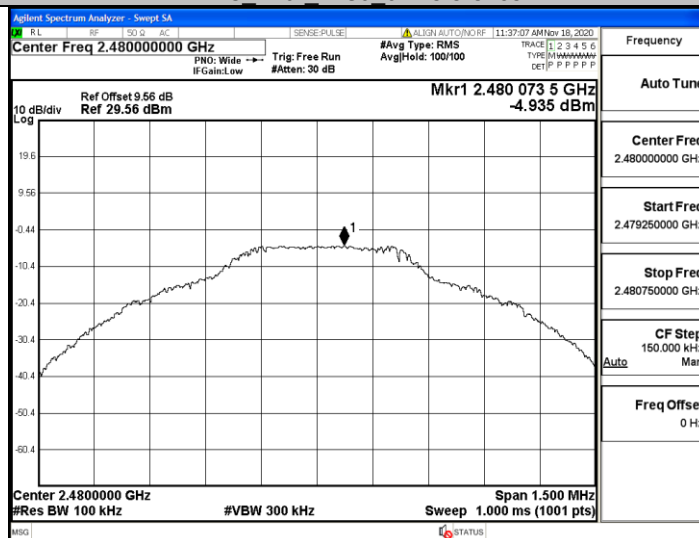
## DH5\_Ant1\_2441\_30-1000



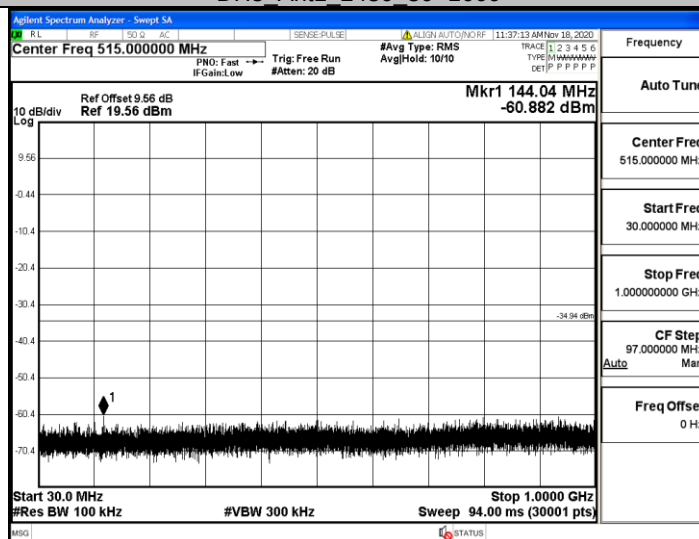
## DH5\_Ant1\_2441\_1000-26500



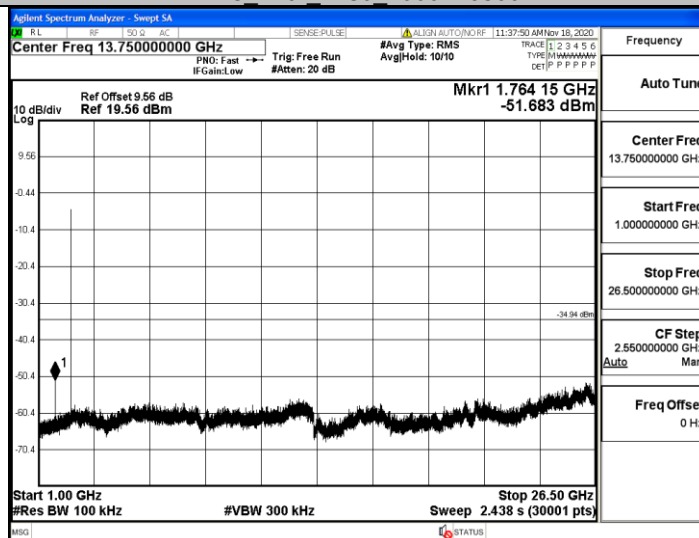
## DH5\_Ant1\_2480\_0-Reference



## DH5\_Ant1\_2480\_30~1000



## DH5\_Ant1\_2480\_1000~26500



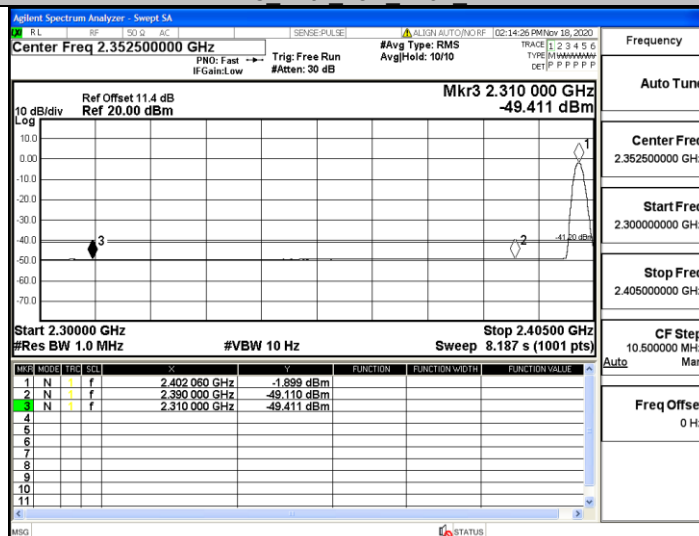
**A.8 Restrict-band band-edge measurements**

| TestMode | Antenna | ChName | Channel | Detector | Freq(MHz) | Result(dBm) | Limit(dBm) | Verdict |
|----------|---------|--------|---------|----------|-----------|-------------|------------|---------|
| DH5      | Ant1    | Low    | 2402    | AV       | 2310.000  | -49.42      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2390.000  | -49.11      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2310.000  | -48.12      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2390.000  | -42.70      | <=-21.20   | PASS    |
|          |         | High   | 2480    | AV       | 2483.500  | -48.39      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2500.000  | -48.34      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2483.500  | -41.36      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2500.000  | -43.28      | <=-21.20   | PASS    |

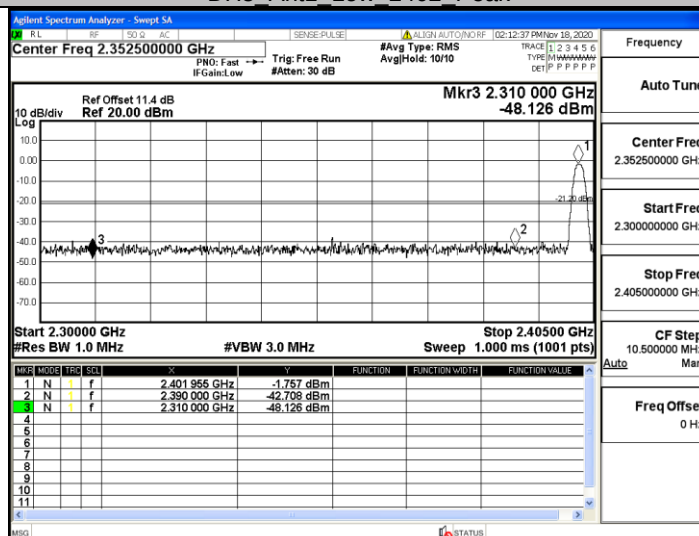
Note:

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.

## DH5 Ant1 Low 2402 AV



## DH5 Ant1 Low 2402 Peak



## DH5 Ant1 High 2480 AV

