

## Appendix A

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

Product Name: True Wireless Earbuds

Trade Mark: HAYLOU

Test Model: Haylou-GT7

FCC ID: 2AMQ6-GT7

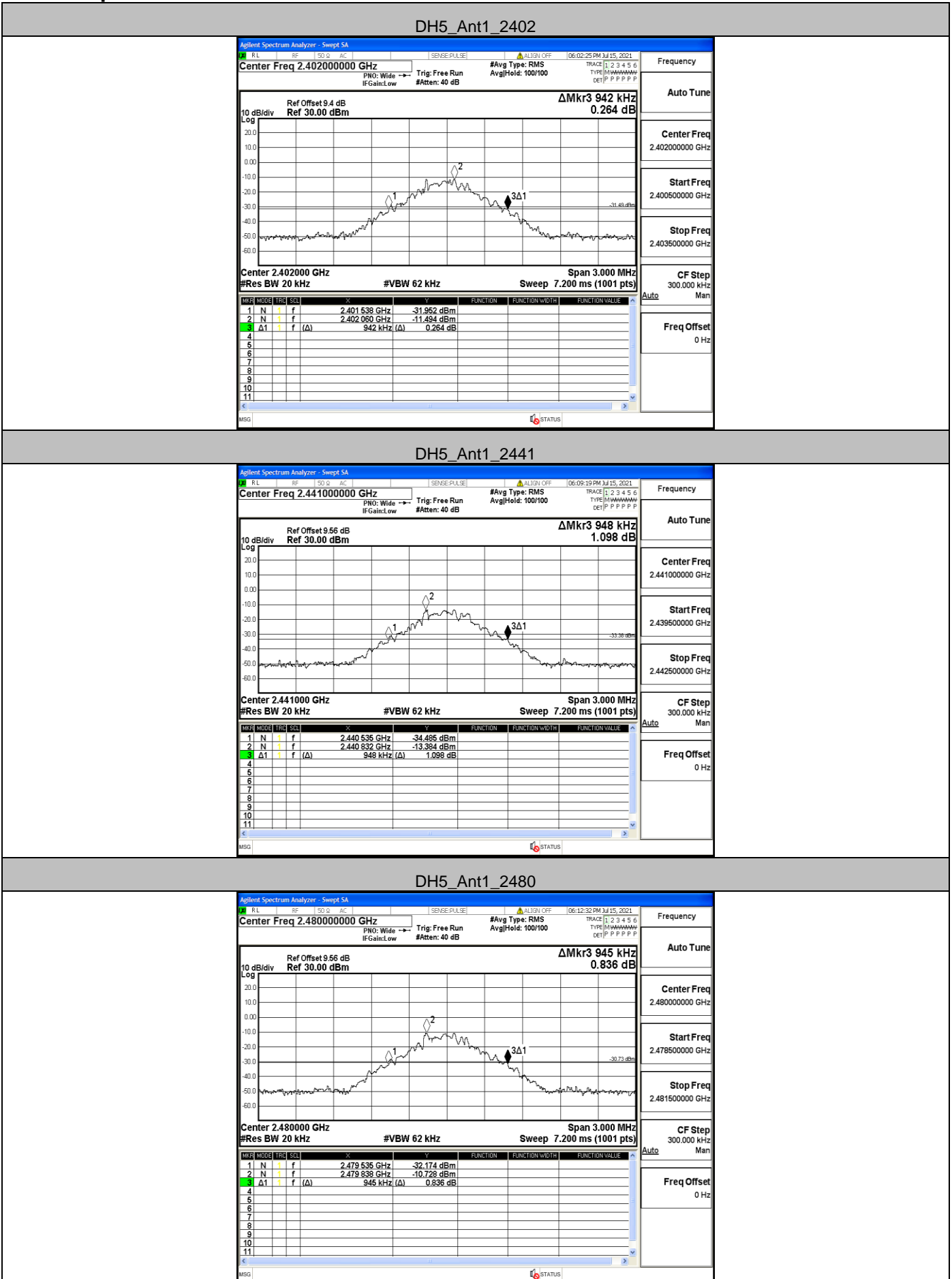
### Environmental Conditions

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

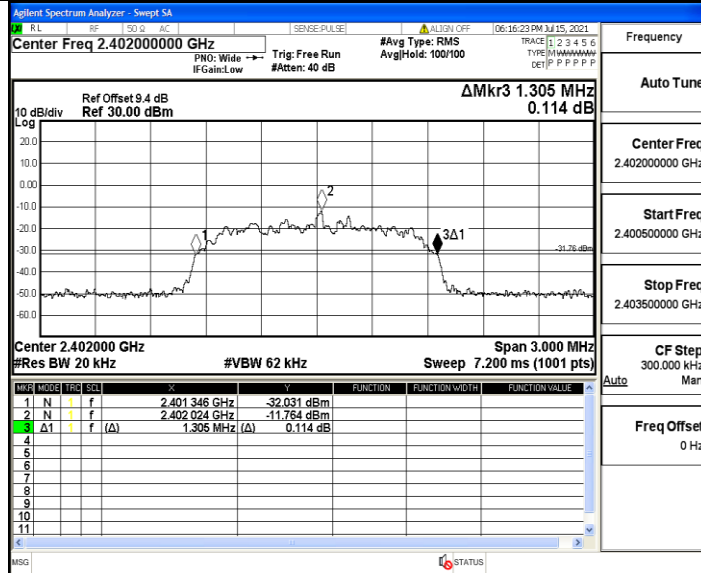
#### A.1 20 dB Bandwidth

| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 0.942         | 2401.538 | 2402.480 | ---        | PASS    |
|          |         | 2441    | 0.948         | 2440.535 | 2441.483 | ---        | PASS    |
|          |         | 2480    | 0.945         | 2479.535 | 2480.480 | ---        | PASS    |
| 2DH5     | Ant1    | 2402    | 1.305         | 2401.346 | 2402.651 | ---        | PASS    |
|          |         | 2441    | 1.320         | 2440.337 | 2441.657 | ---        | PASS    |
|          |         | 2480    | 1.308         | 2479.343 | 2480.651 | ---        | PASS    |
| 3DH5     | Ant1    | 2402    | 1.293         | 2401.349 | 2402.642 | ---        | PASS    |
|          |         | 2441    | 1.293         | 2440.349 | 2441.642 | ---        | PASS    |
|          |         | 2480    | 1.284         | 2479.349 | 2480.633 | ---        | PASS    |

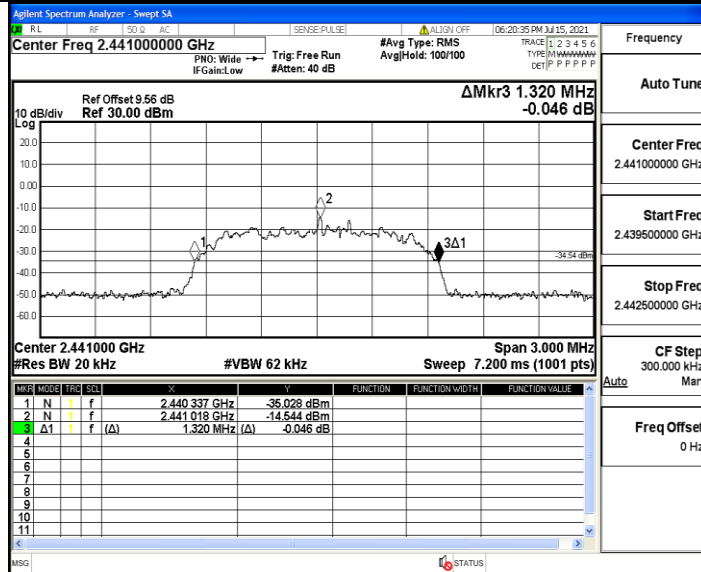
Test Graph



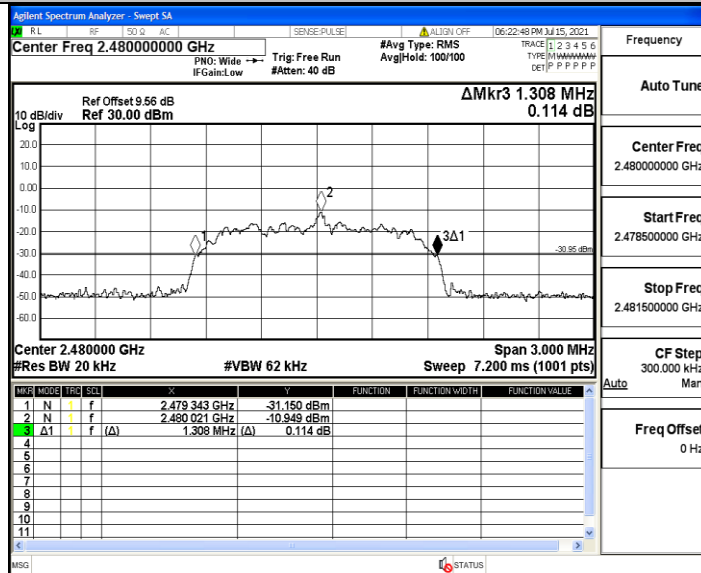
2DH5\_Ant1\_2402



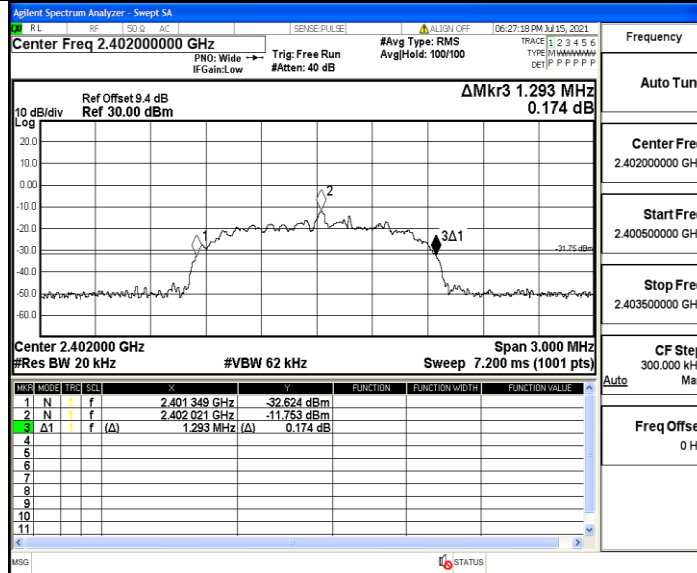
2DH5\_Ant1\_2441



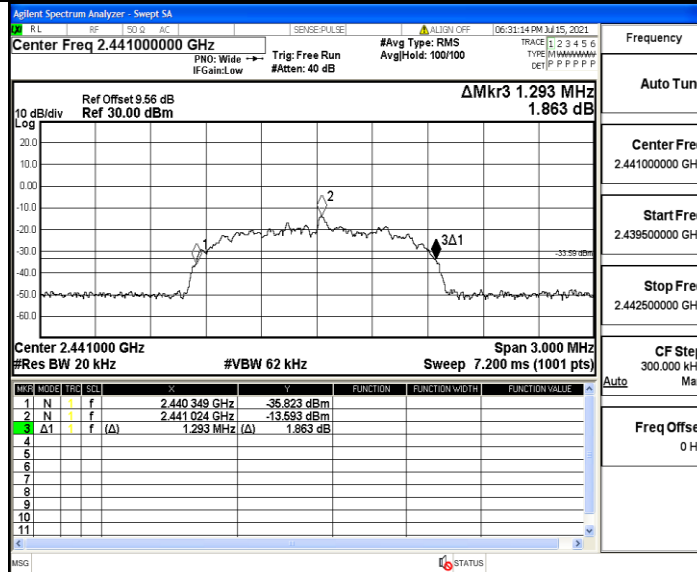
2DH5\_Ant1\_2480



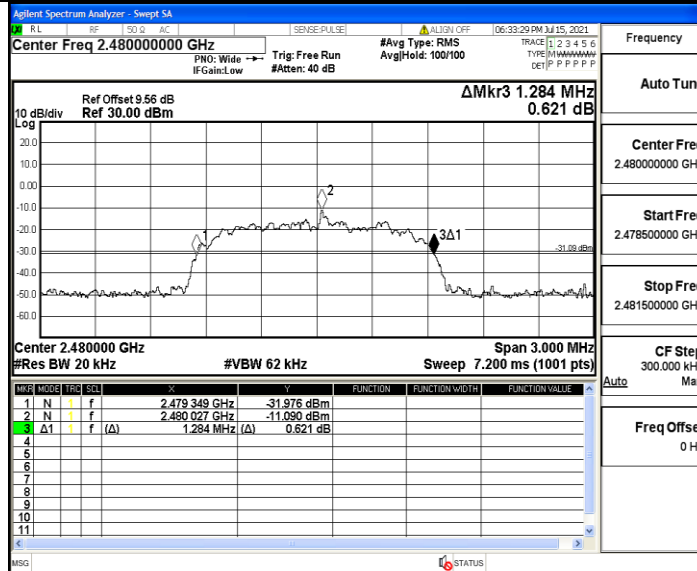
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

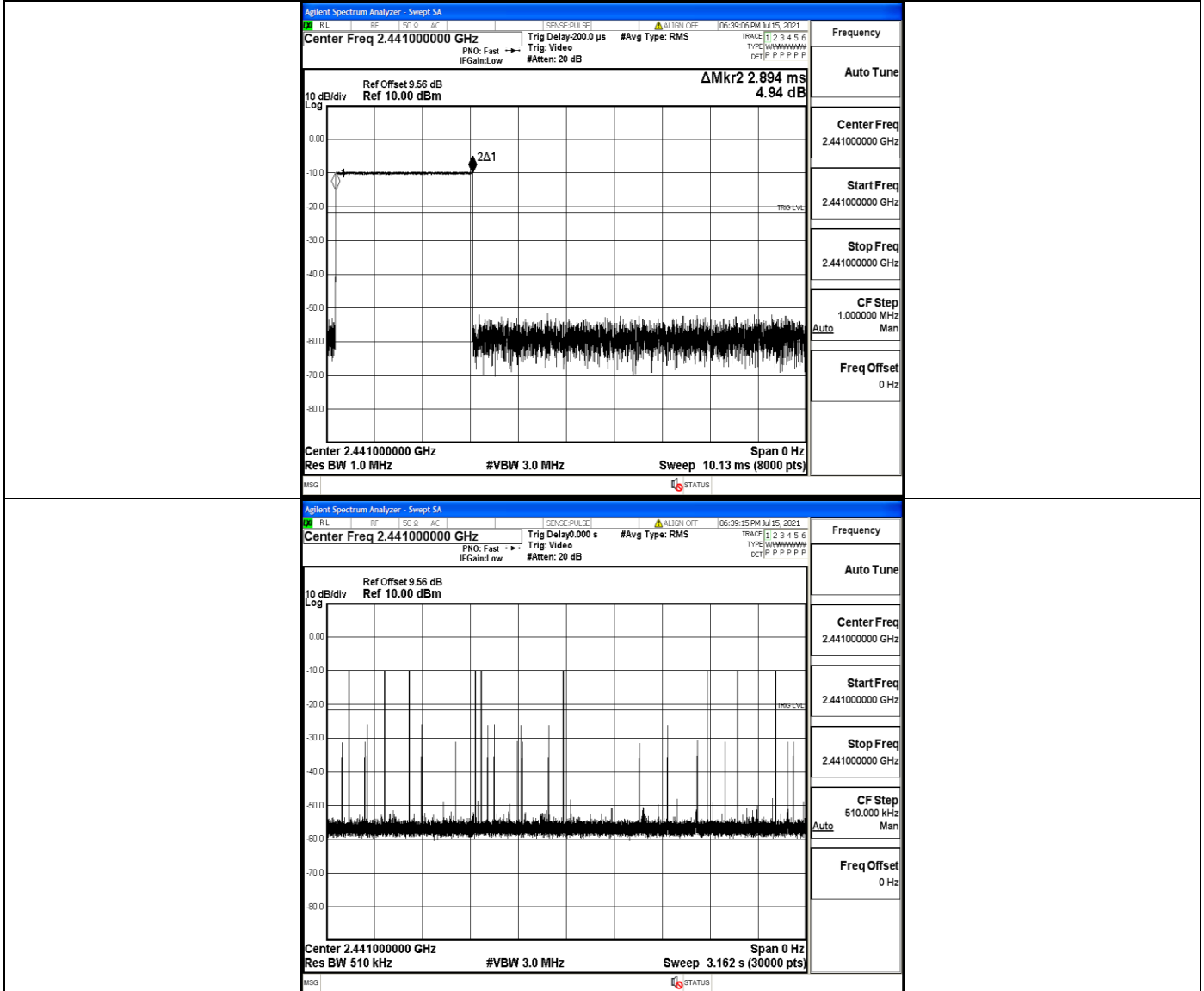


**A.2 Dwell Time**

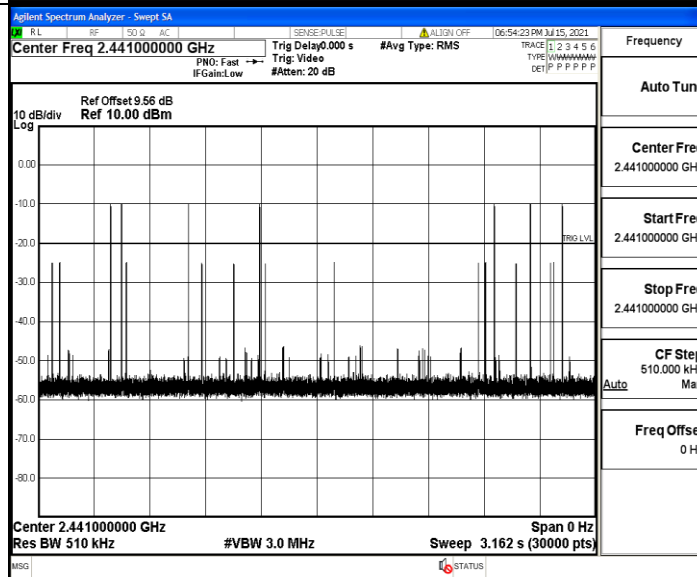
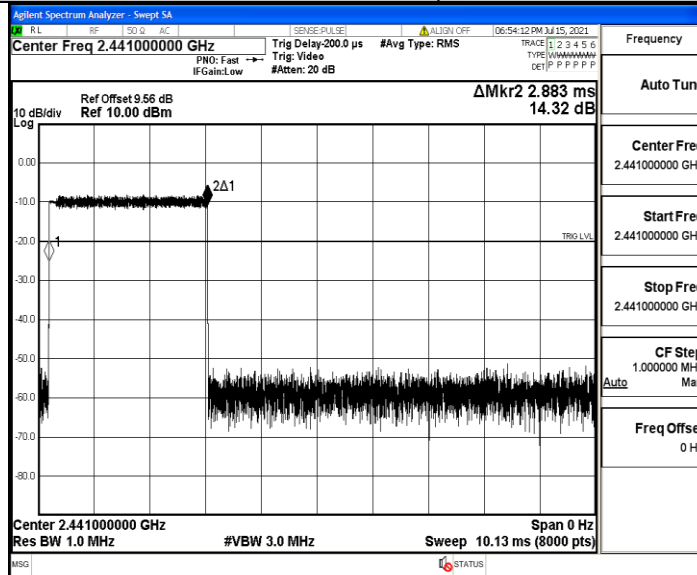
| TestMode | Antenna | Channel | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop     | 2.89               | 100                | 0.289     | <=0.4    | PASS    |
| 2DH5     | Ant1    | Hop     | 2.88               | 80                 | 0.231     | <=0.4    | PASS    |
| 3DH5     | Ant1    | Hop     | 2.88               | 130                | 0.375     | <=0.4    | PASS    |

### Test Graph

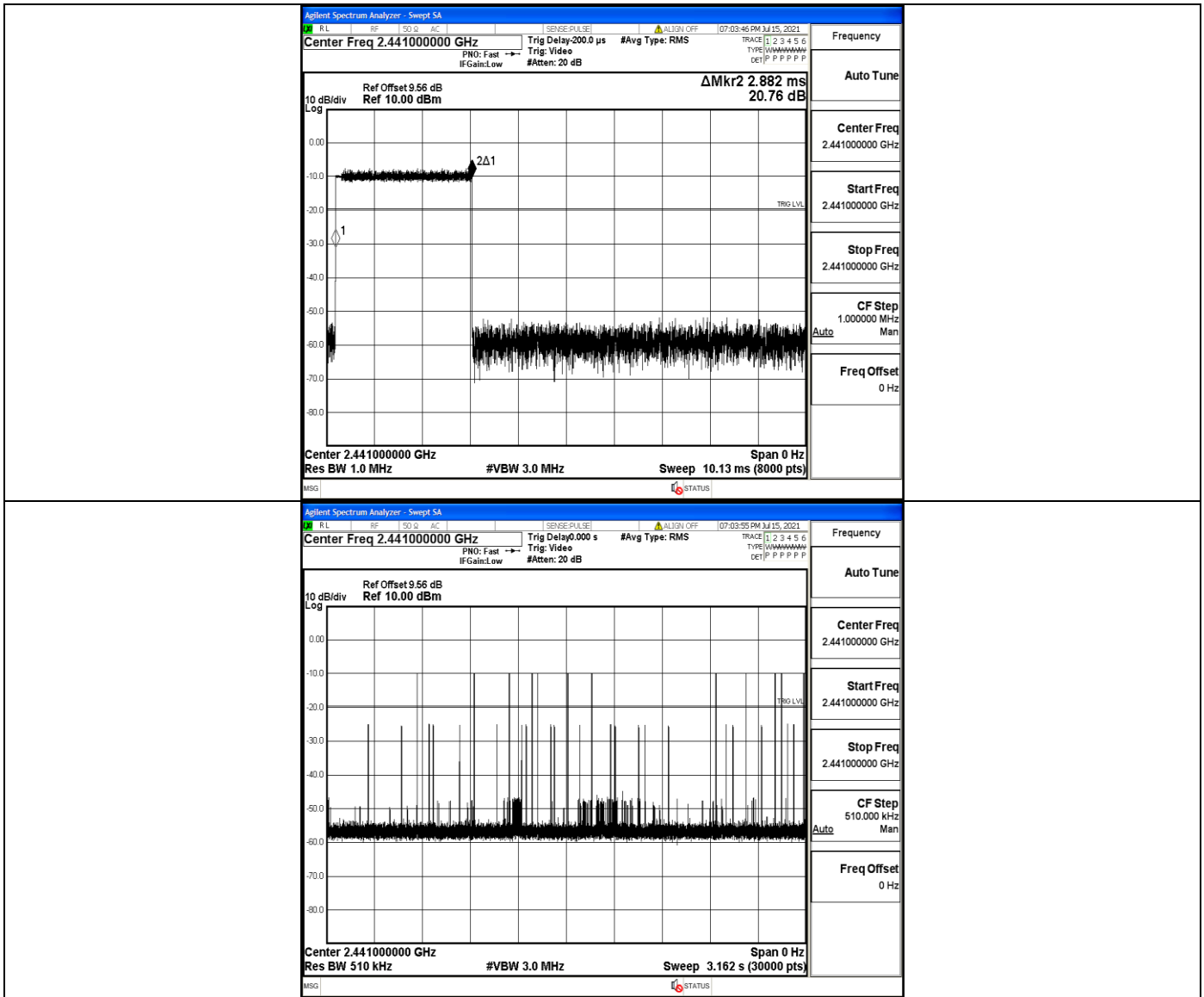
#### DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop

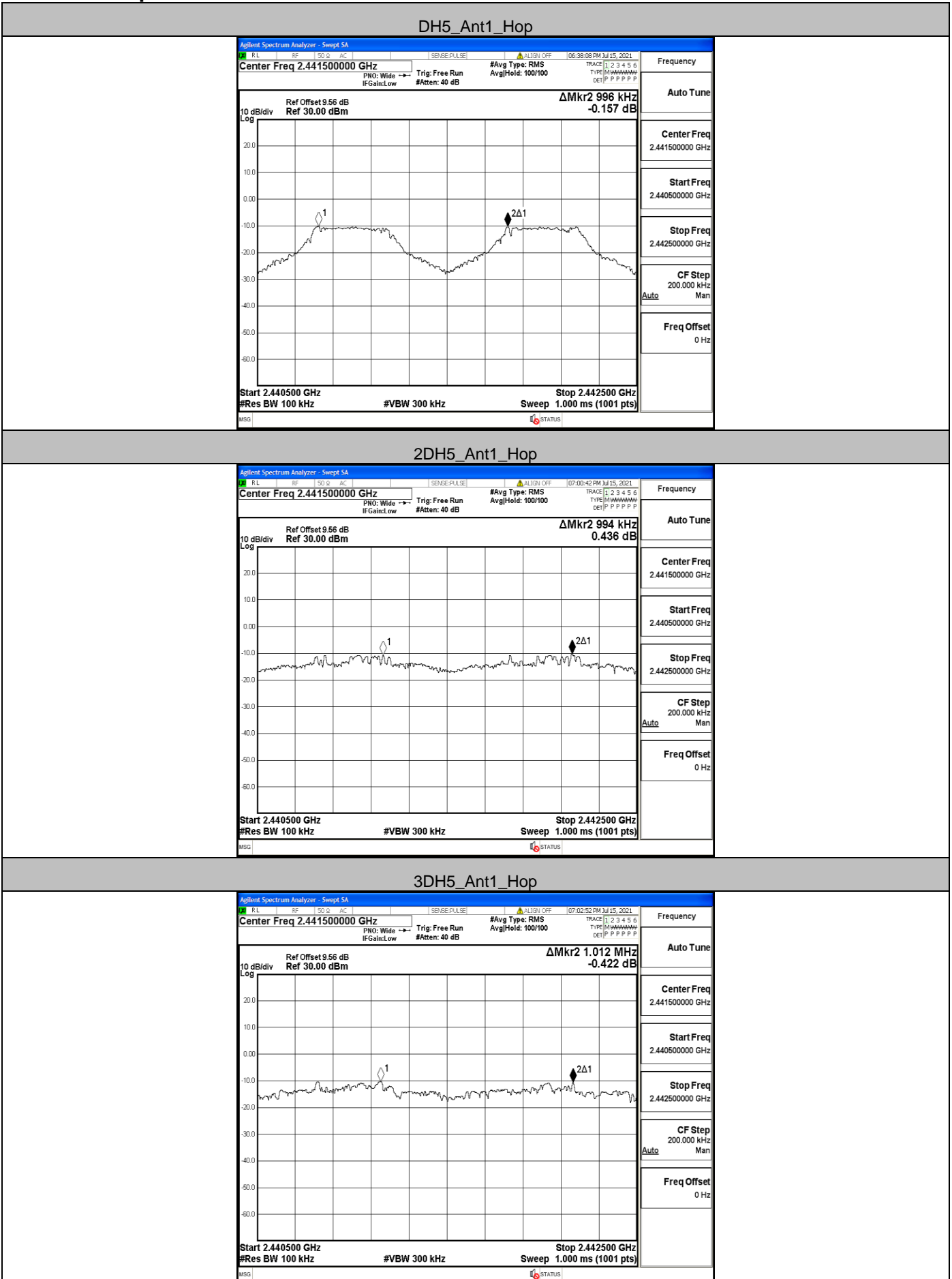




### A.3 Carrier Frequency Separation

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 0.996       | $\geq 0.948$ | PASS    |
| 2DH5     | Ant1    | Hop     | 0.994       | $\geq 0.880$ | PASS    |
| 3DH5     | Ant1    | Hop     | 1.012       | $\geq 0.862$ | PASS    |

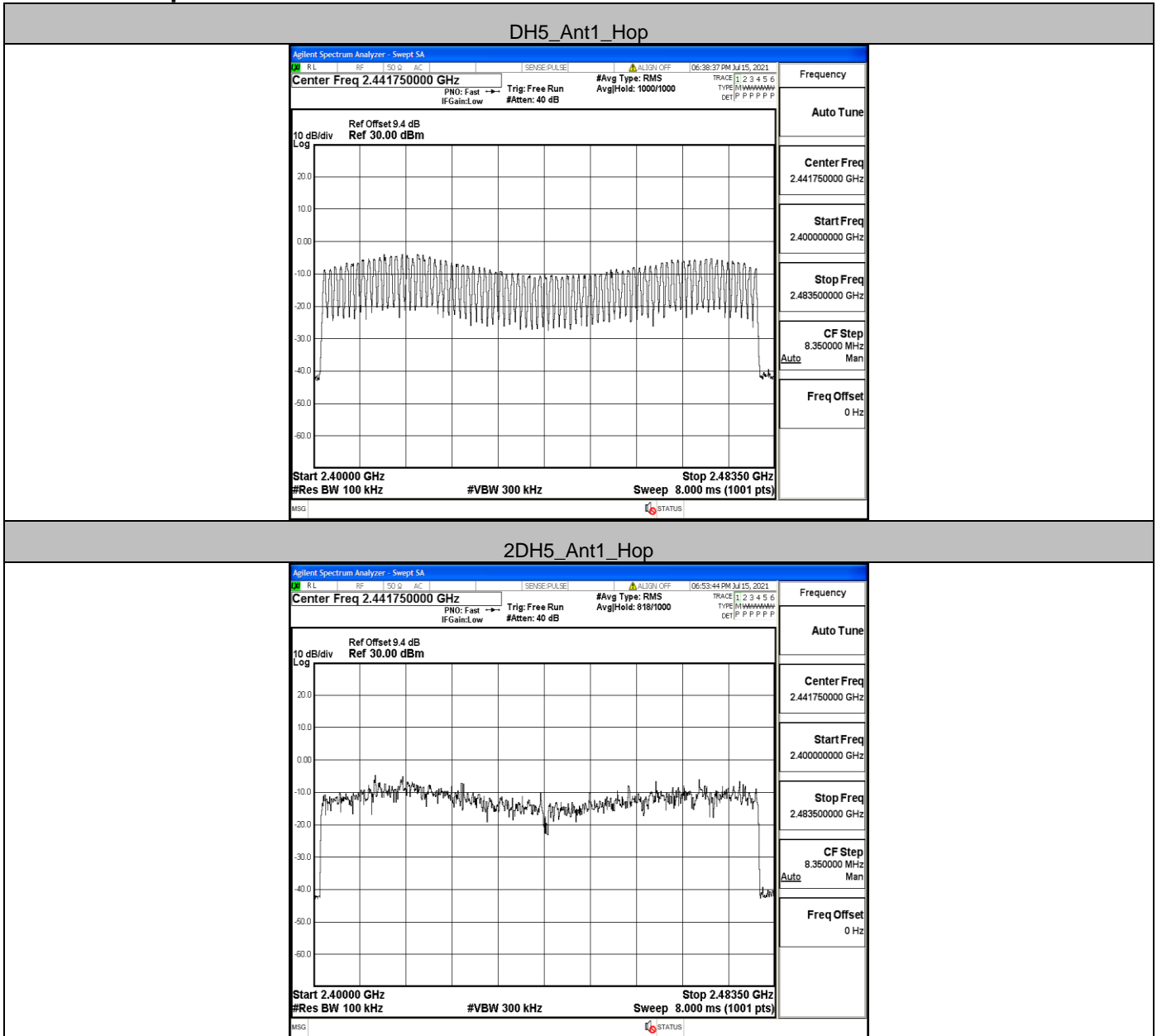
Test Graph



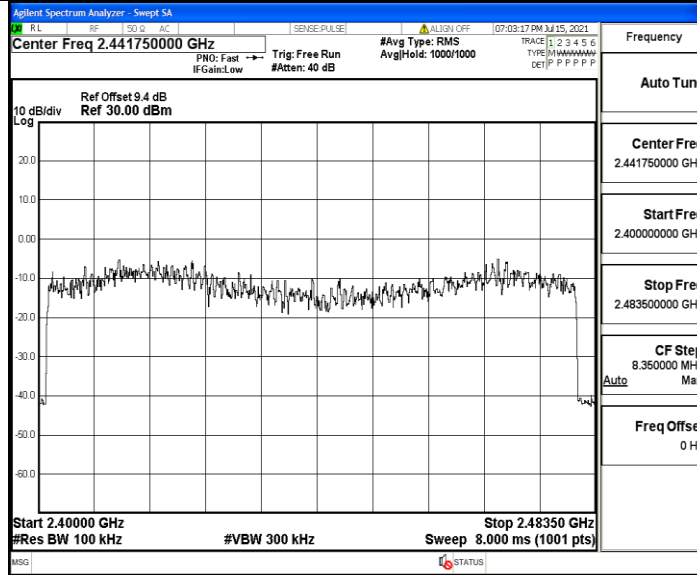
### A.4 Hopping Channel Number

| TestMode | Antenna | Channel | Result[Num] | Limit[Num] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | Hop     | 79          | >=15       | PASS    |
| 2DH5     | Ant1    | Hop     | 79          | >=15       | PASS    |
| 3DH5     | Ant1    | Hop     | 79          | >=15       | PASS    |

### Test Graph



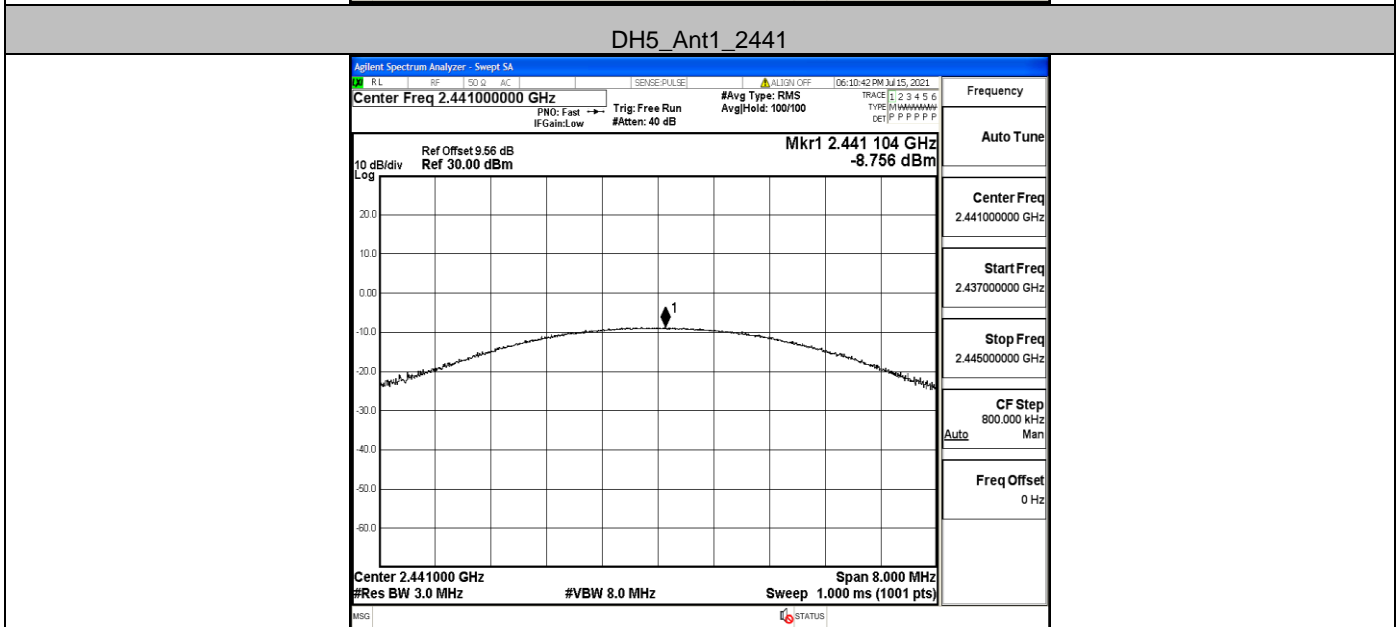
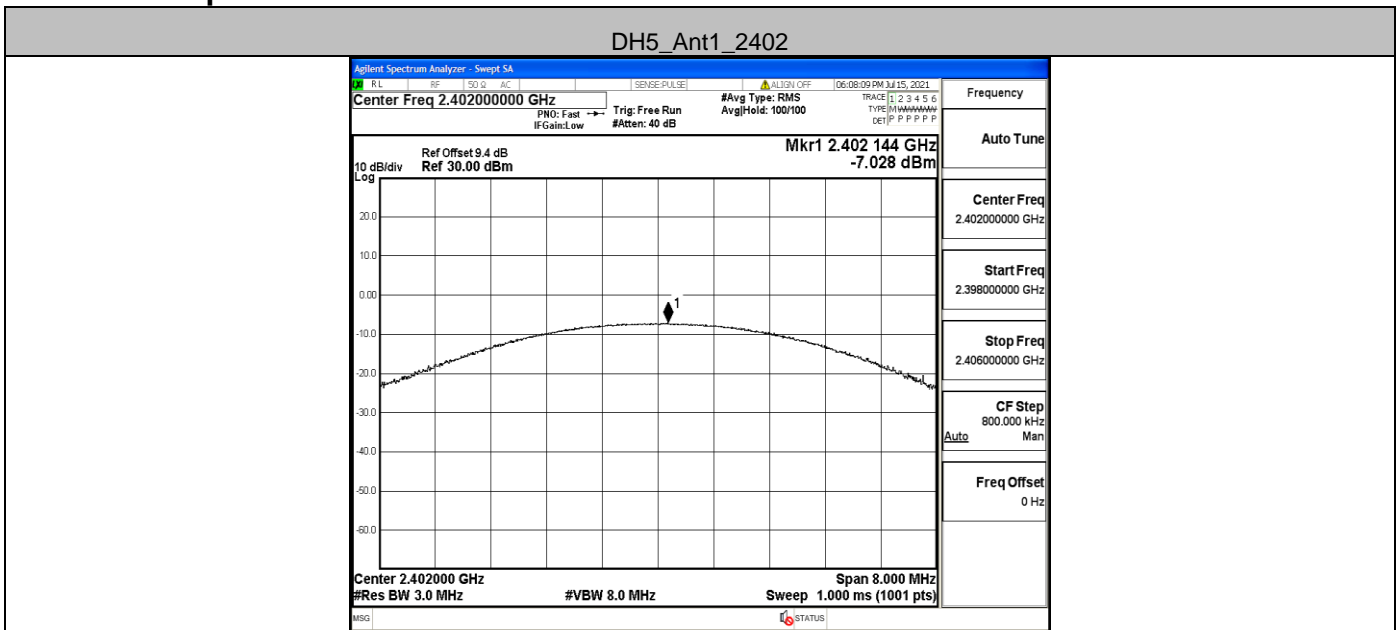
3DH5\_Ant1\_Hop



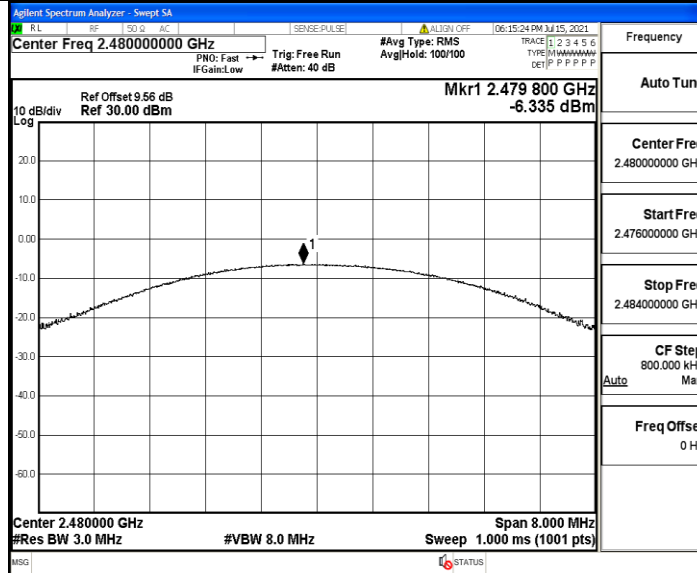
### A.5 Conducted Peak Output Power

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | 2402    | -7.03       | <=30.0     | PASS    |
|          |         | 2441    | -8.76       | <=30.0     | PASS    |
|          |         | 2480    | -6.34       | <=30.0     | PASS    |
| 2DH5     | Ant1    | 2402    | -5.5        | <=20.97    | PASS    |
|          |         | 2441    | -7.16       | <=20.97    | PASS    |
|          |         | 2480    | -4.57       | <=20.97    | PASS    |
| 3DH5     | Ant1    | 2402    | -5.16       | <=20.97    | PASS    |
|          |         | 2441    | -6.79       | <=20.97    | PASS    |
|          |         | 2480    | -4.28       | <=20.97    | PASS    |

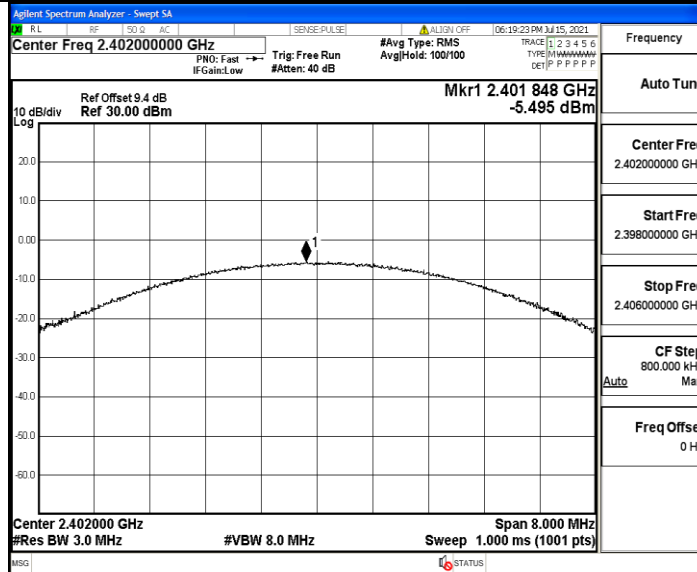
### Test Graph



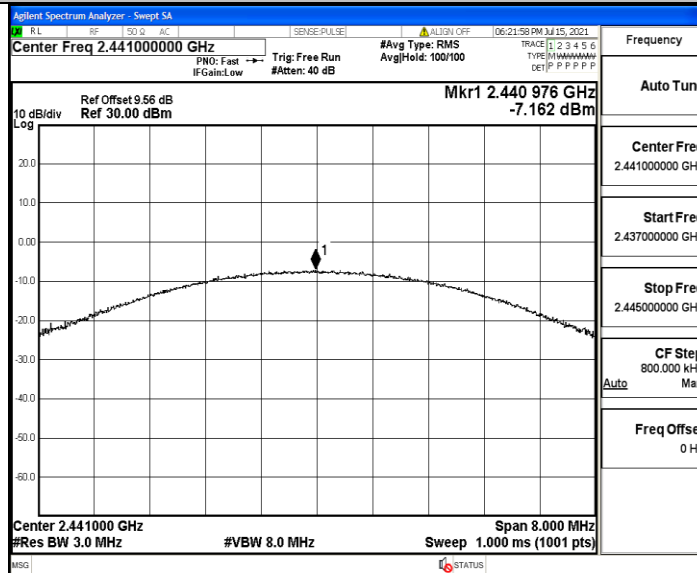
DH5\_Ant1\_2480



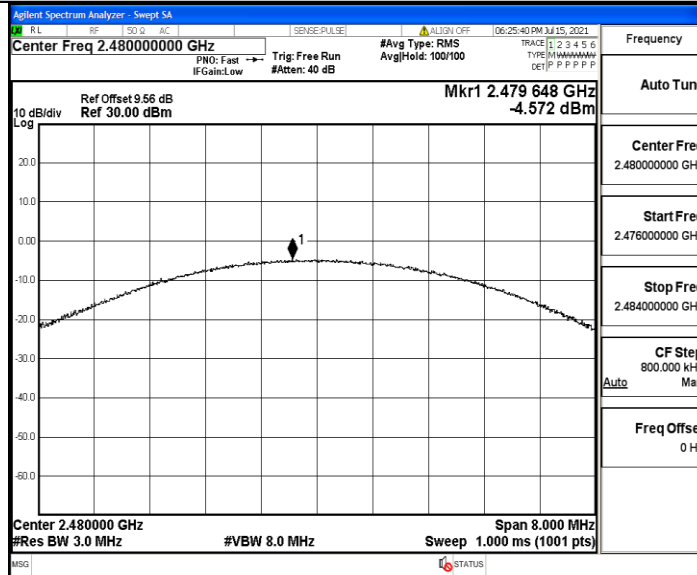
2DH5\_Ant1\_2402



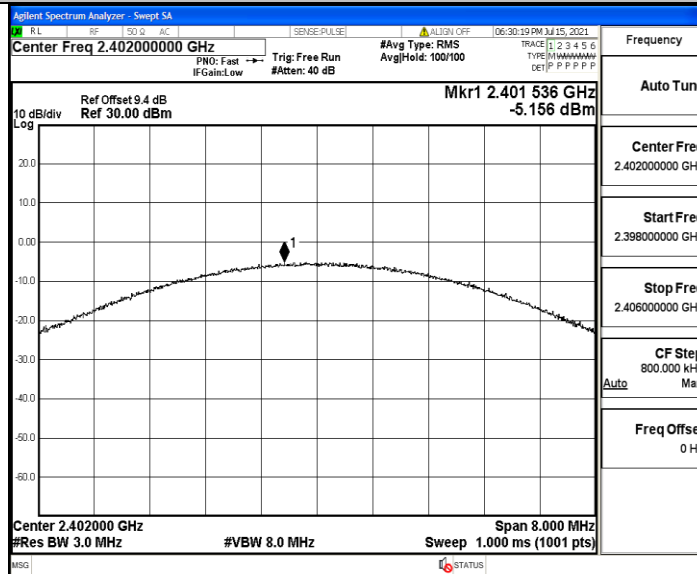
2DH5\_Ant1\_2441



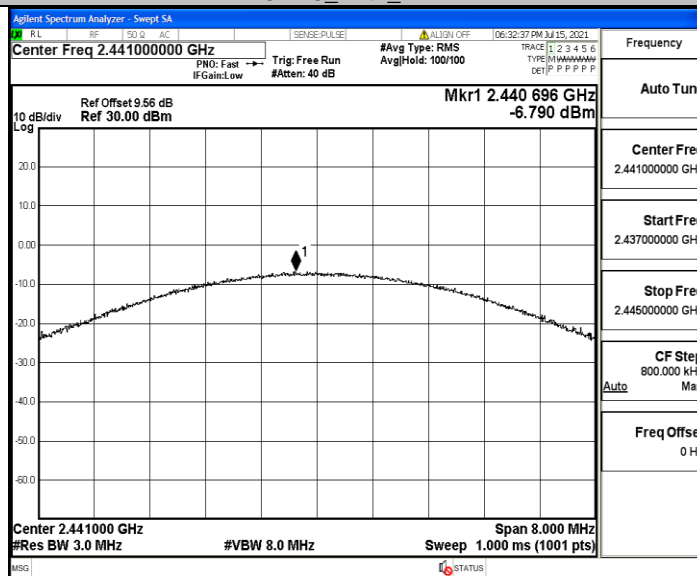
2DH5\_Ant1\_2480



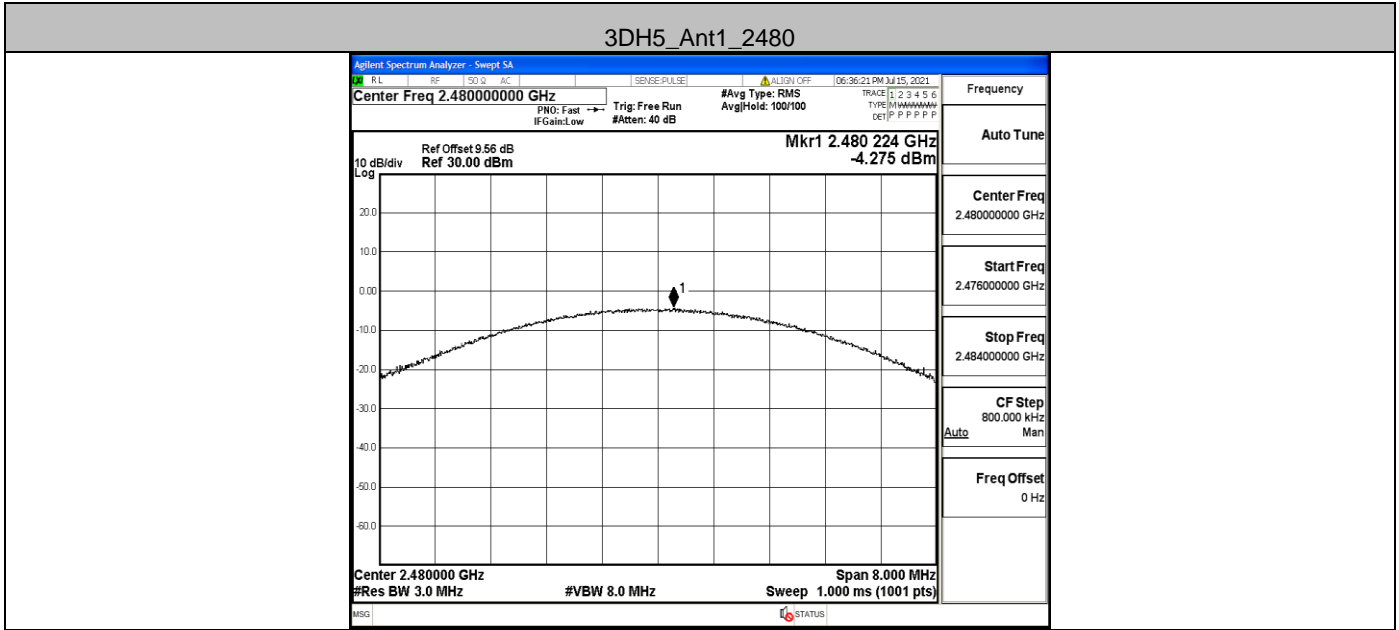
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



### 3DH5\_Ant1\_2480



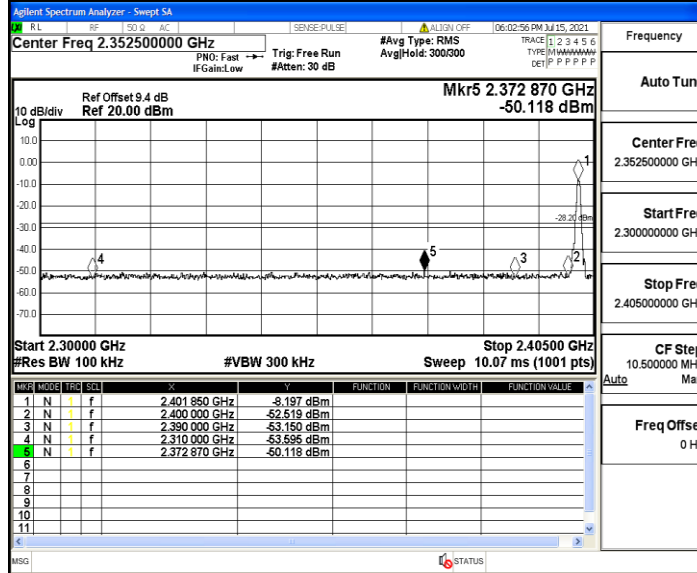


**A.6 Band-edge for RF Conducted Emissions**

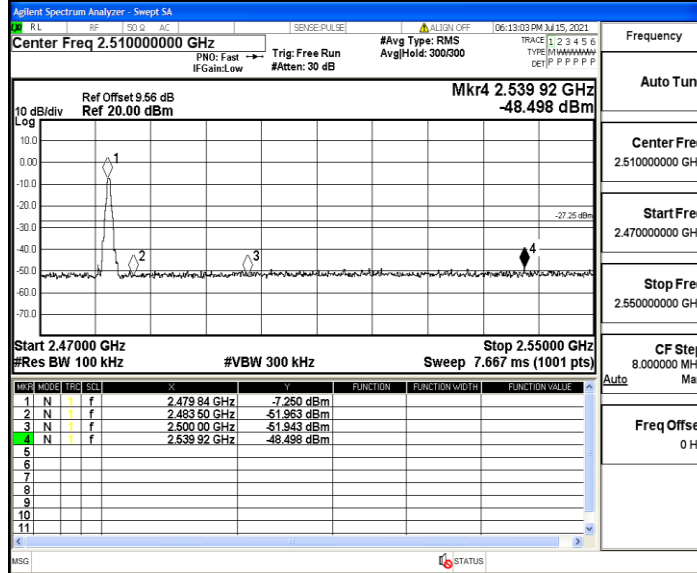
| TestMode | Antenna | ChName | Channel  | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | Low    | 2402     | -8.20             | -50.12          | <=-28.2        | PASS    |
|          |         | High   | 2480     | -7.25             | -48.5           | <=-27.25       | PASS    |
|          |         | Low    | Hop_2402 | -9.09             | -50.24          | <=-29.09       | PASS    |
|          |         | High   | Hop_2480 | -5.31             | -49.5           | <=-25.31       | PASS    |
| 2DH5     | Ant1    | Low    | 2402     | -8.32             | -50             | <=-28.32       | PASS    |
|          |         | High   | 2480     | -7.84             | -48.97          | <=-27.84       | PASS    |
|          |         | Low    | Hop_2402 | -9.33             | -50.39          | <=-29.33       | PASS    |
|          |         | High   | Hop_2480 | -5.75             | -48.79          | <=-25.75       | PASS    |
| 3DH5     | Ant1    | Low    | 2402     | -8.50             | -48.76          | <=-28.5        | PASS    |
|          |         | High   | 2480     | -7.65             | -49.28          | <=-27.65       | PASS    |
|          |         | Low    | Hop_2402 | -11.00            | -50.38          | <=-31          | PASS    |
|          |         | High   | Hop_2480 | -4.91             | -49.24          | <=-24.91       | PASS    |

Test Graph

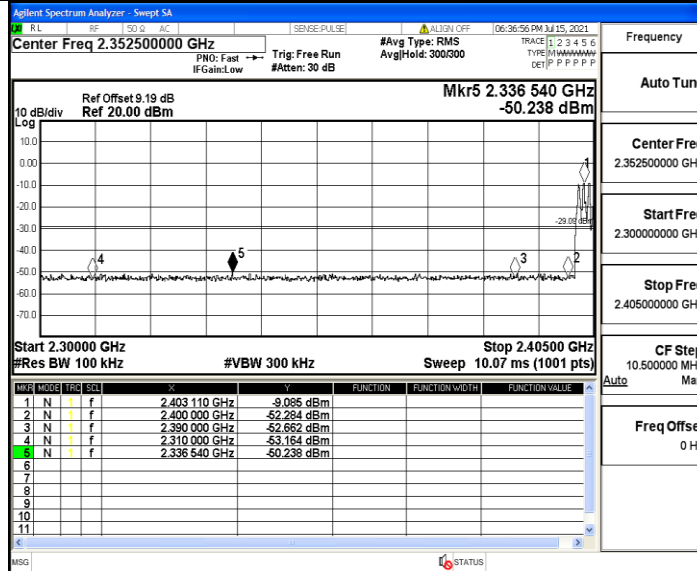
DH5\_Ant1\_Low\_2402



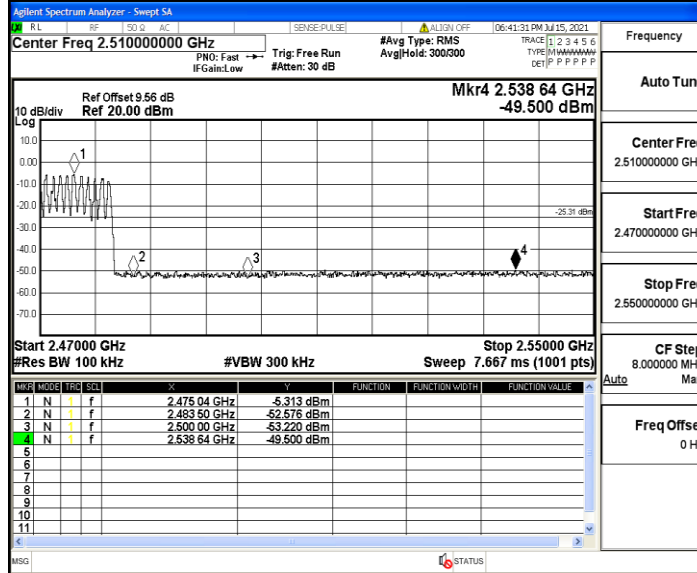
DH5\_Ant1\_High\_2480



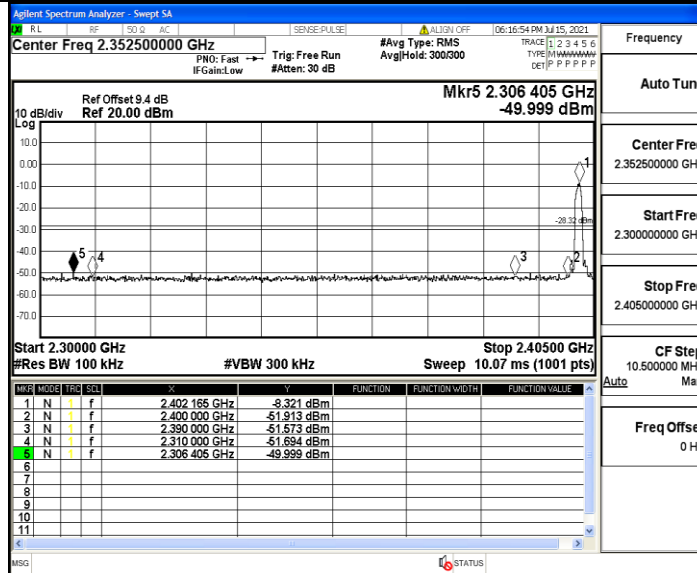
DH5\_Ant1\_Low\_Hop\_2402



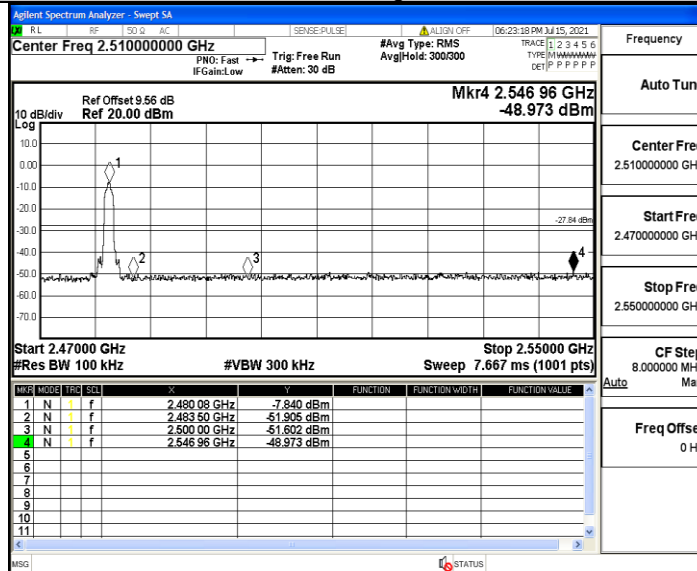
DH5\_Ant1\_High\_Hop\_2480



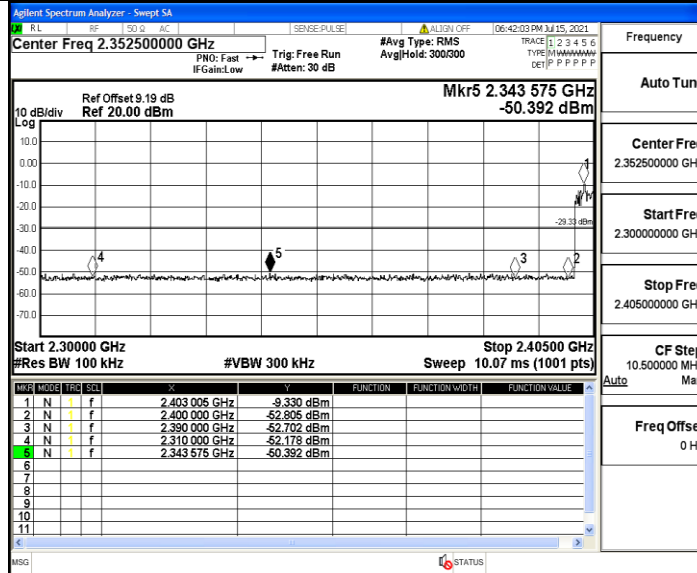
2DH5\_Ant1\_Low\_2402



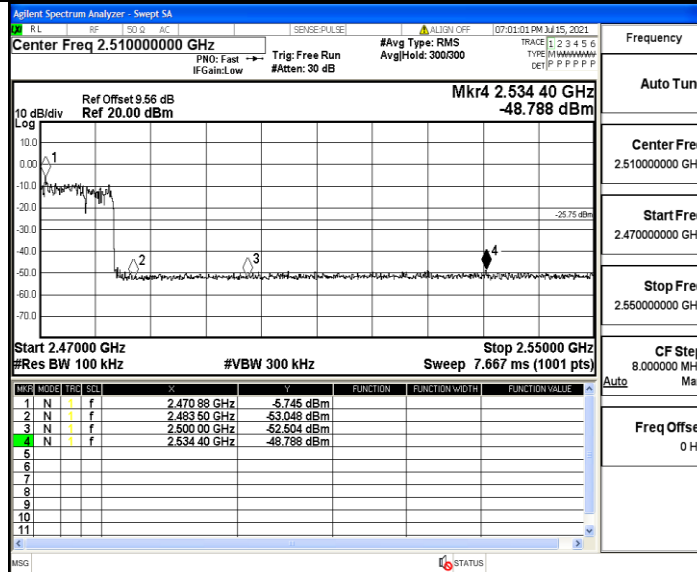
2DH5\_Ant1\_High\_2480



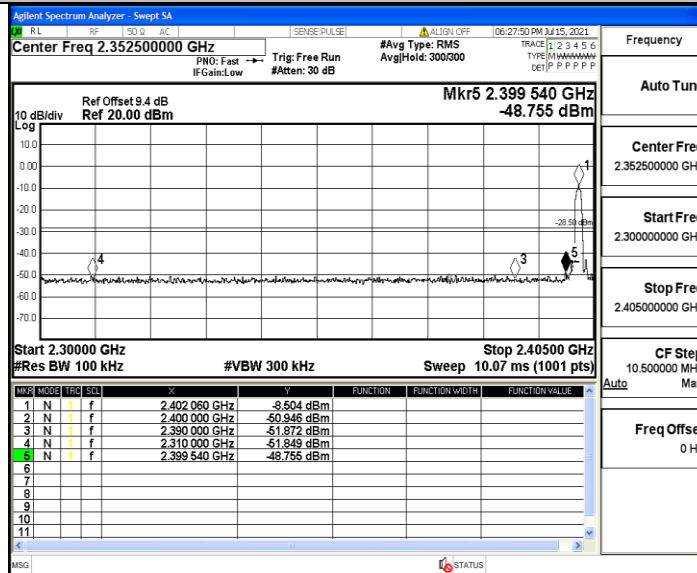
2DH5\_Ant1\_Low\_Hop\_2402



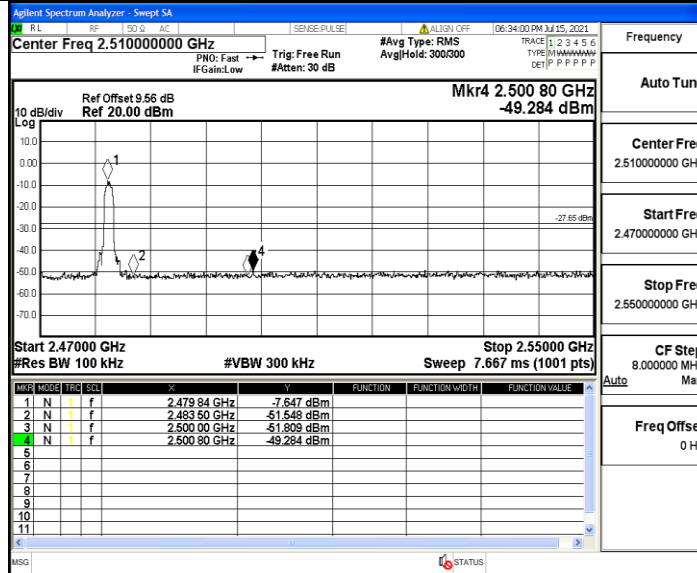
2DH5\_Ant1\_High\_Hop\_2480



3DH5\_Ant1\_Low\_2402

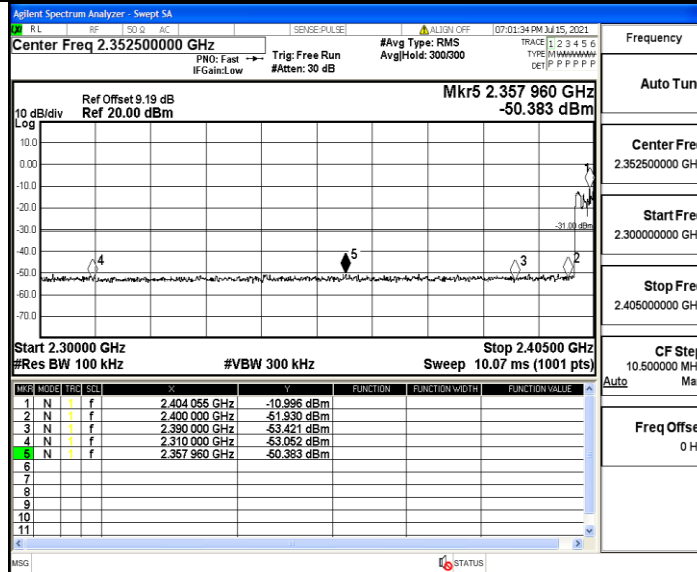


3DH5\_Ant1\_High\_2480



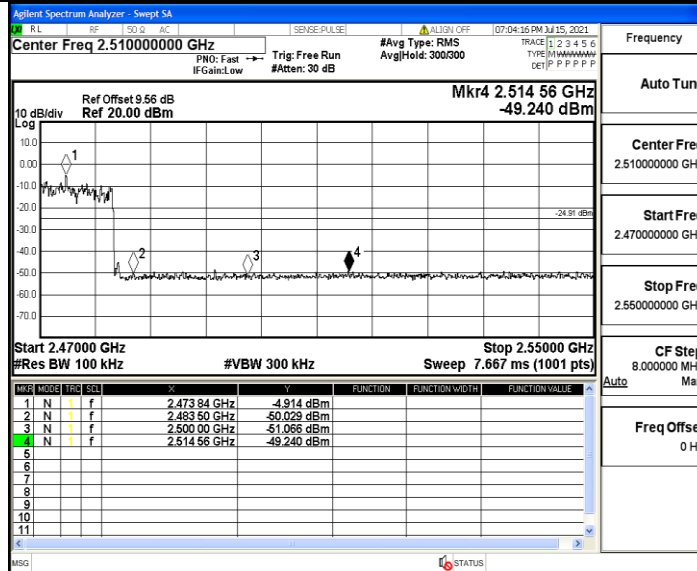
|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.510000000 GHz |
| Start Freq  | 2.470000000 GHz |
| Stop Freq   | 2.550000000 GHz |
| CF Step     | 8.000000 MHz    |
| Freq Offset | 0 Hz            |

3DH5\_Ant1\_Low\_Hop\_2402



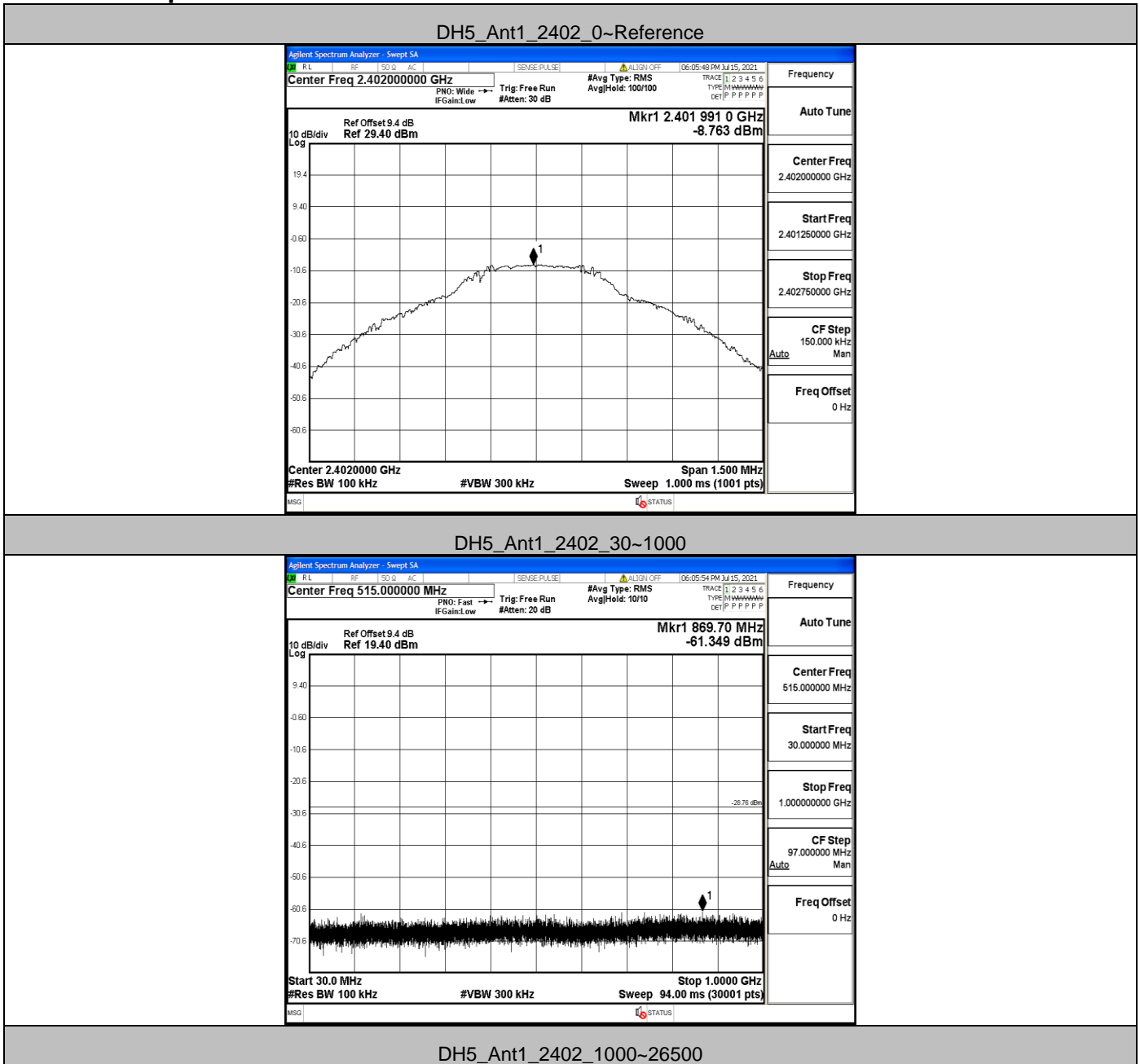
|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.352500000 GHz |
| Start Freq  | 2.300000000 GHz |
| Stop Freq   | 2.405000000 GHz |
| CF Step     | 10.500000 MHz   |
| Freq Offset | 0 Hz            |

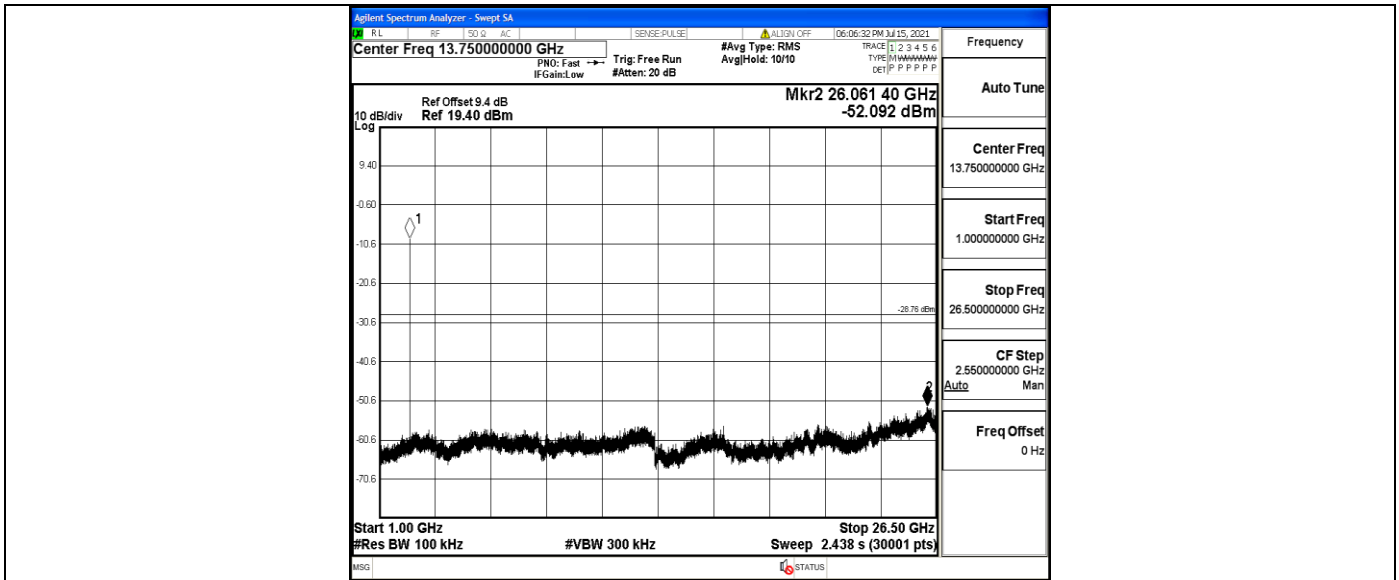
3DH5\_Ant1\_High\_Hop\_2480



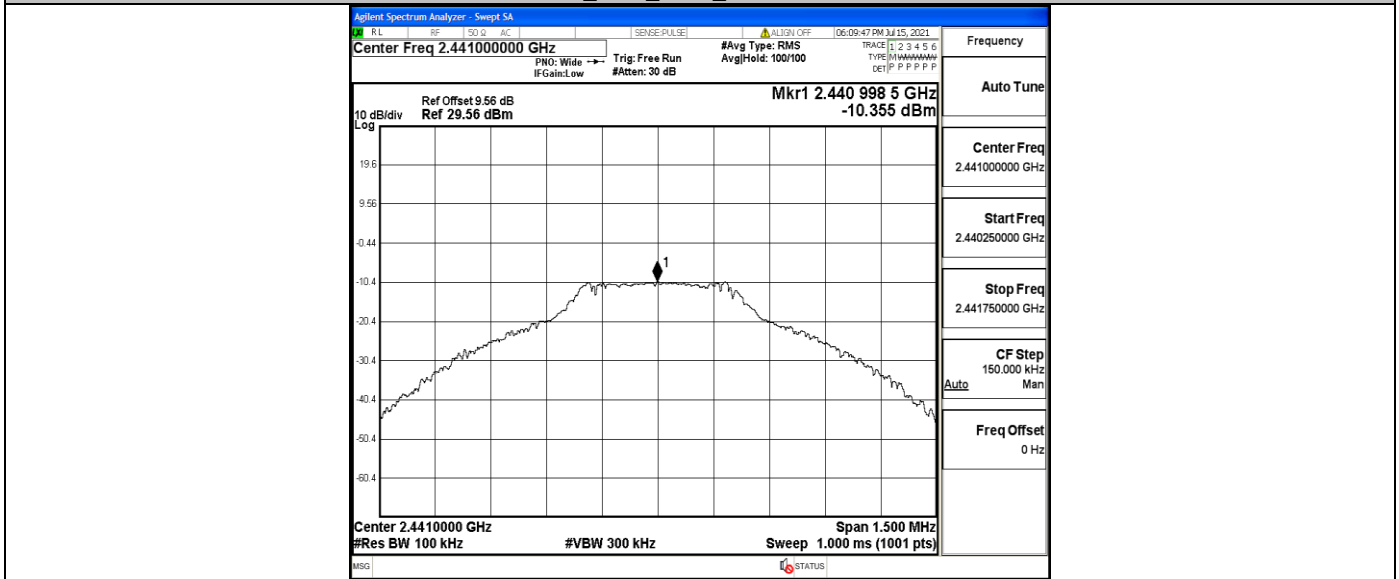
|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.510000000 GHz |
| Start Freq  | 2.470000000 GHz |
| Stop Freq   | 2.550000000 GHz |
| CF Step     | 8.000000 MHz    |
| Freq Offset | 0 Hz            |

### A.7 RF Conducted Spurious Emissions Test Graph

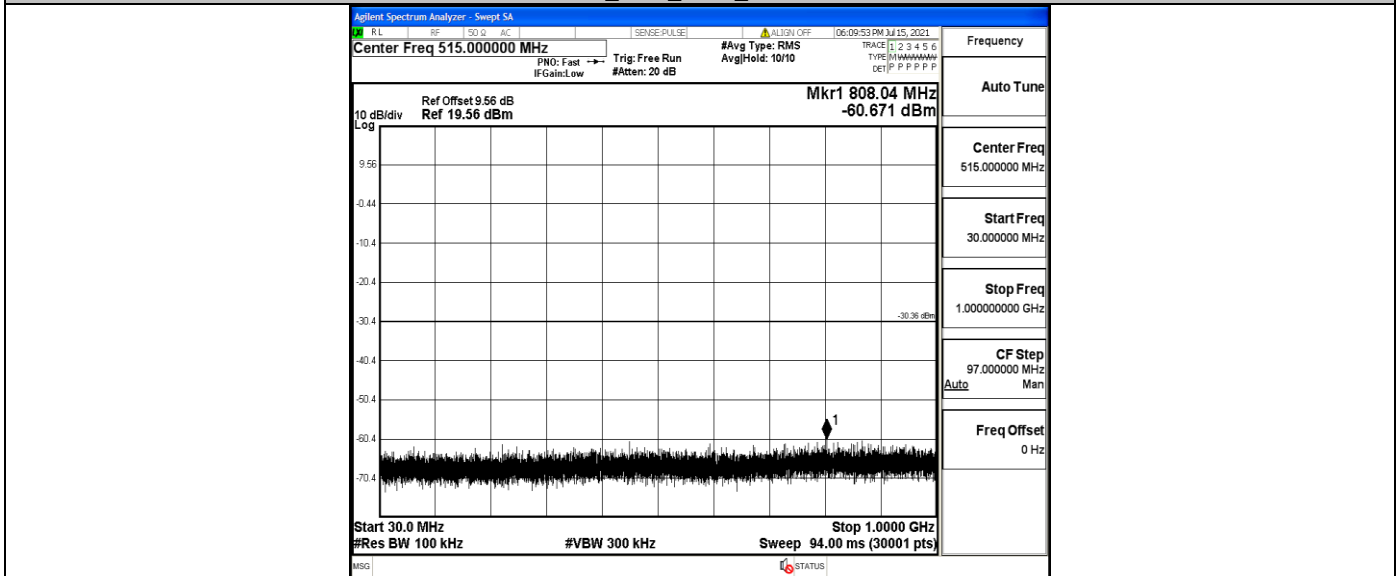




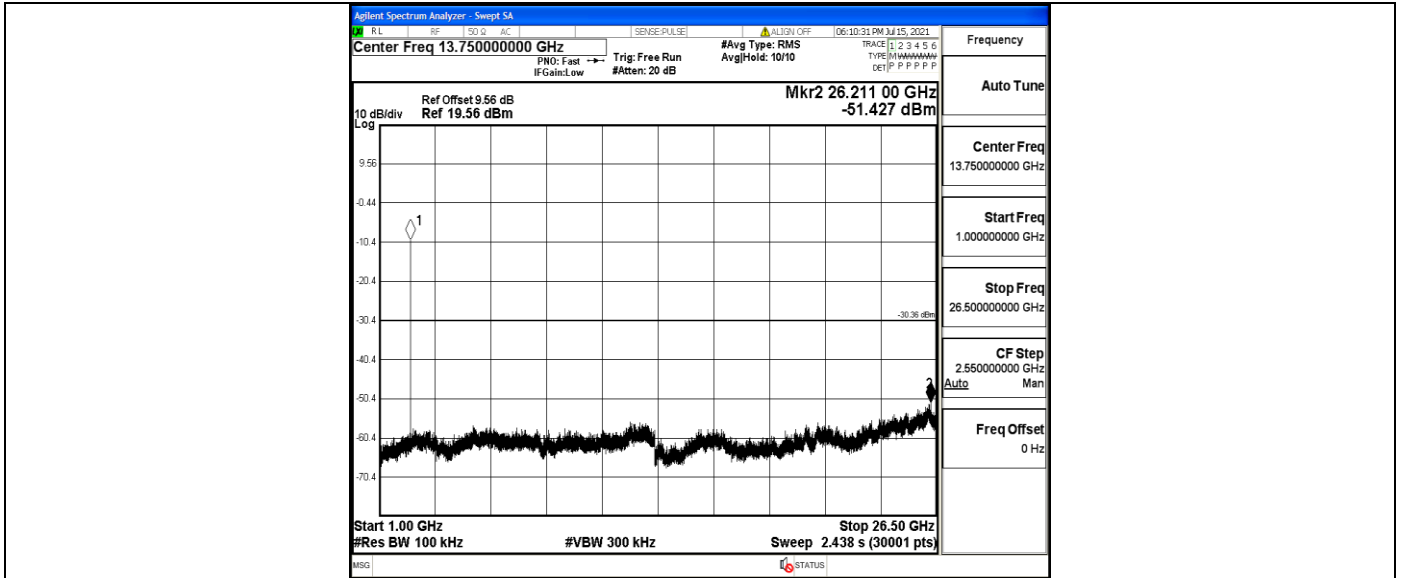
DH5\_Ant1\_2441\_0~Reference



DH5\_Ant1\_2441\_30~1000

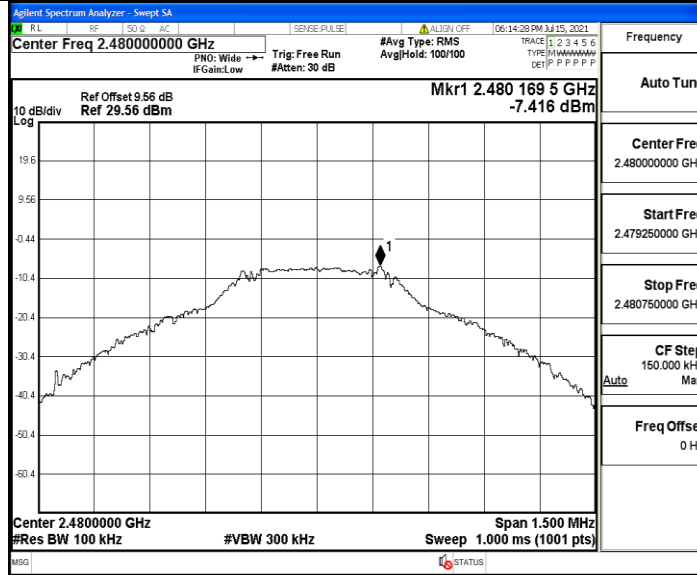


DH5\_Ant1\_2441\_1000~26500

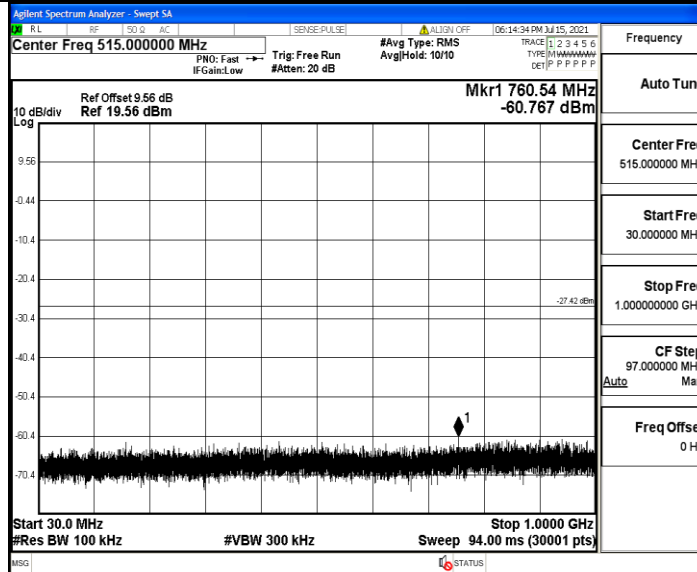




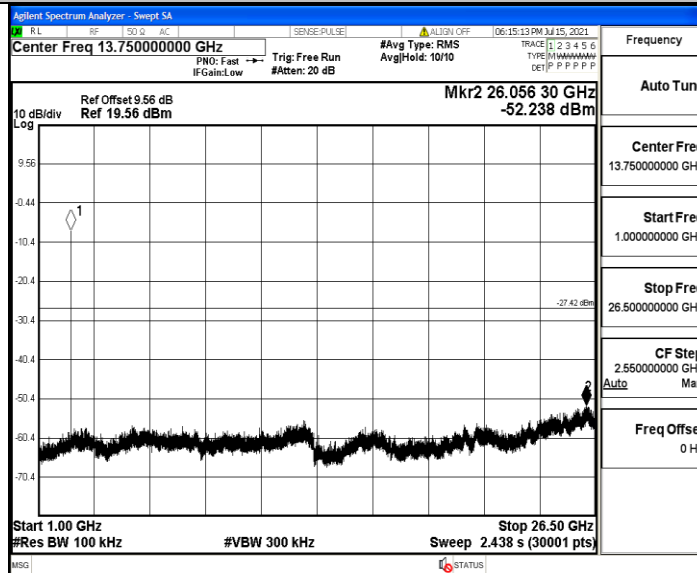
DH5\_Ant1\_2480\_0~Reference



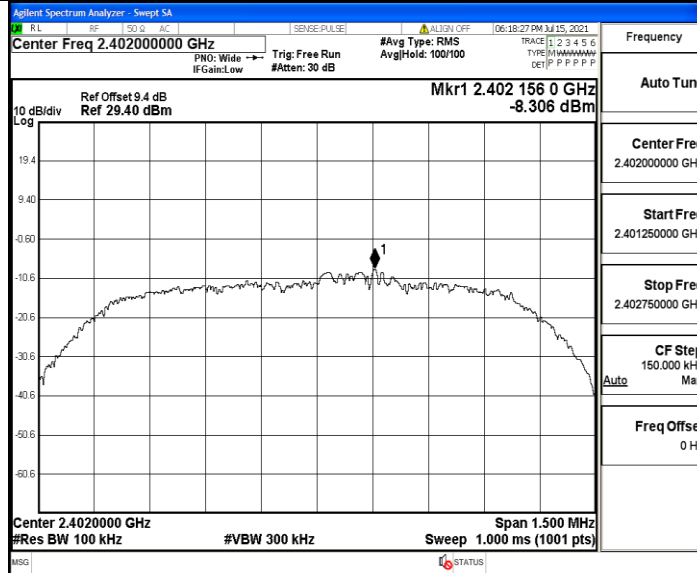
DH5\_Ant1\_2480\_30~1000



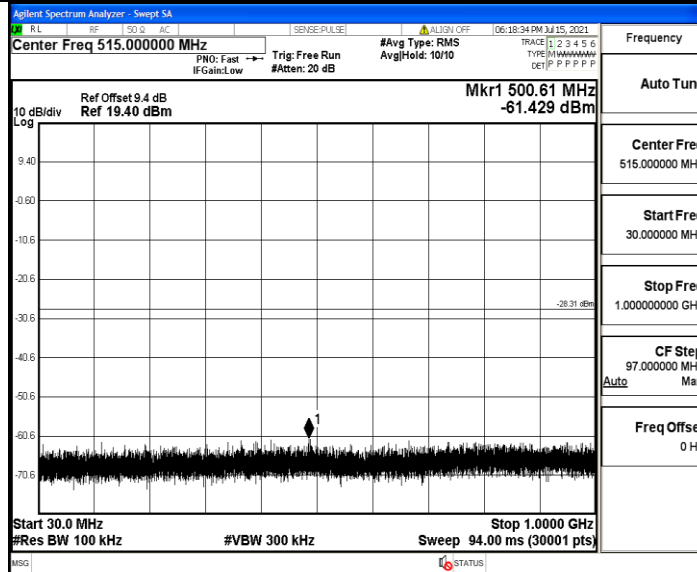
DH5\_Ant1\_2480\_1000~26500



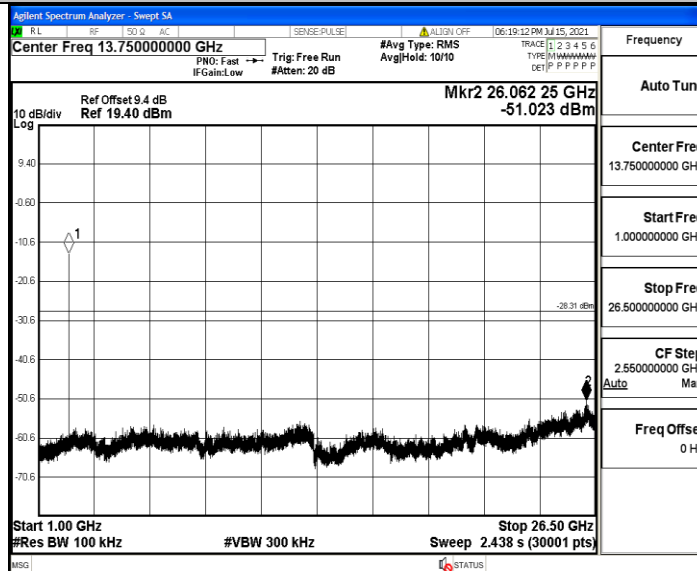
2DH5\_Ant1\_2402\_0~Reference



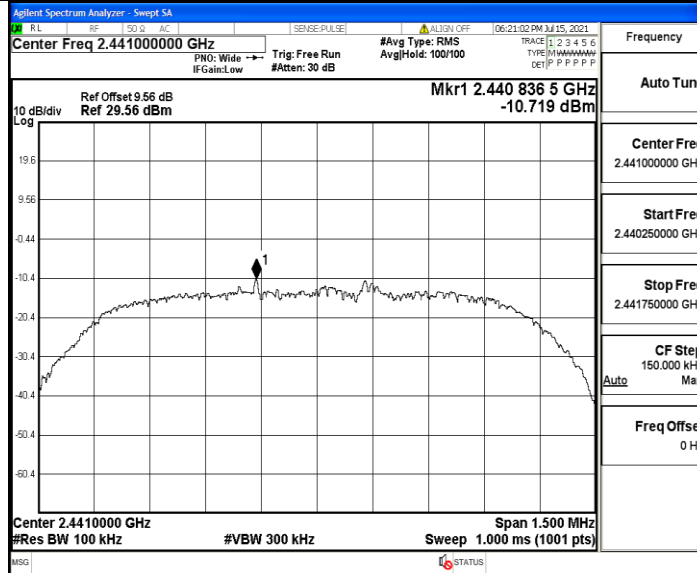
2DH5\_Ant1\_2402\_30~1000



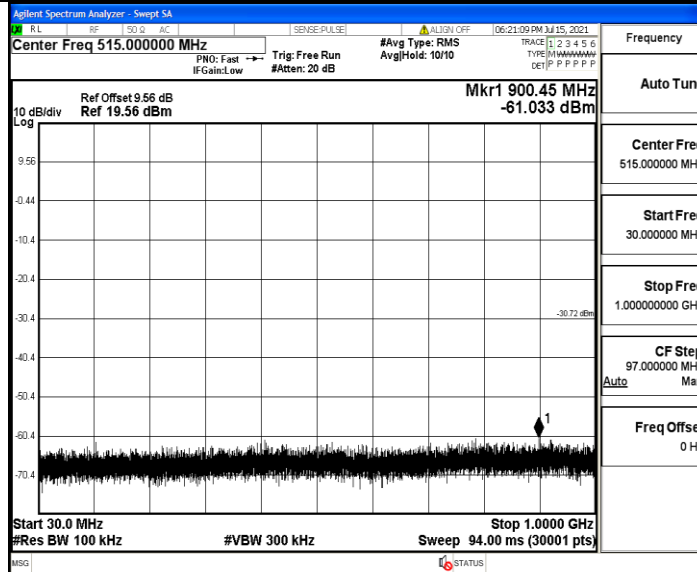
2DH5\_Ant1\_2402\_1000~26500



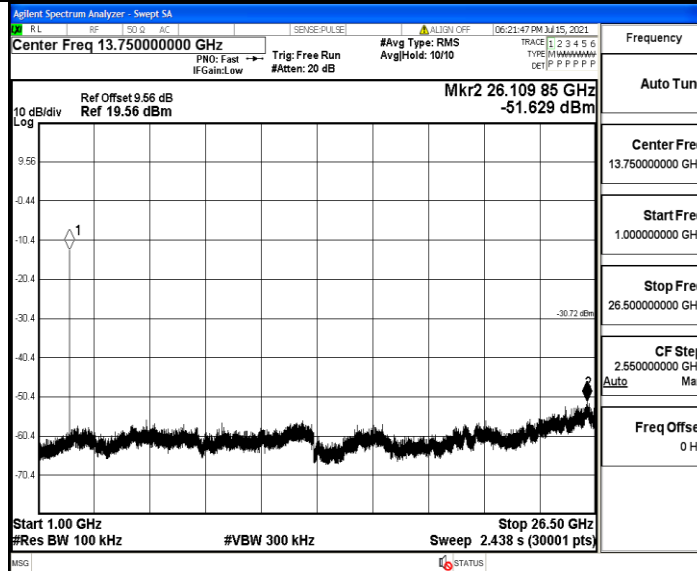
2DH5\_Ant1\_2441\_0~Reference



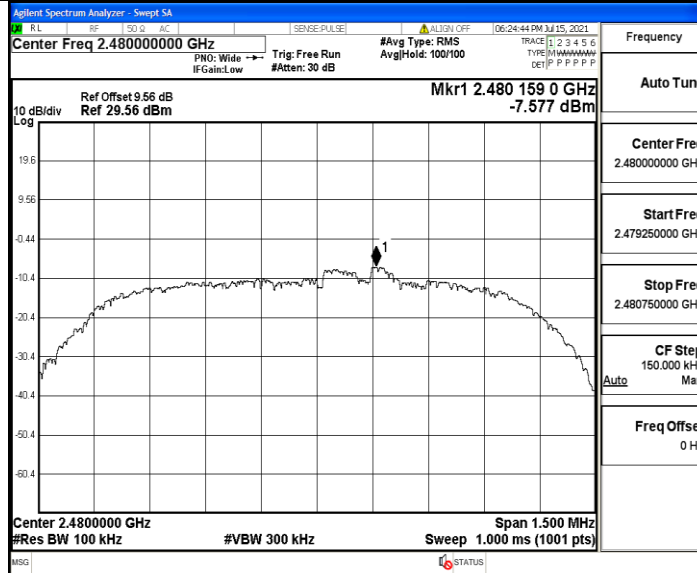
2DH5\_Ant1\_2441\_30~1000



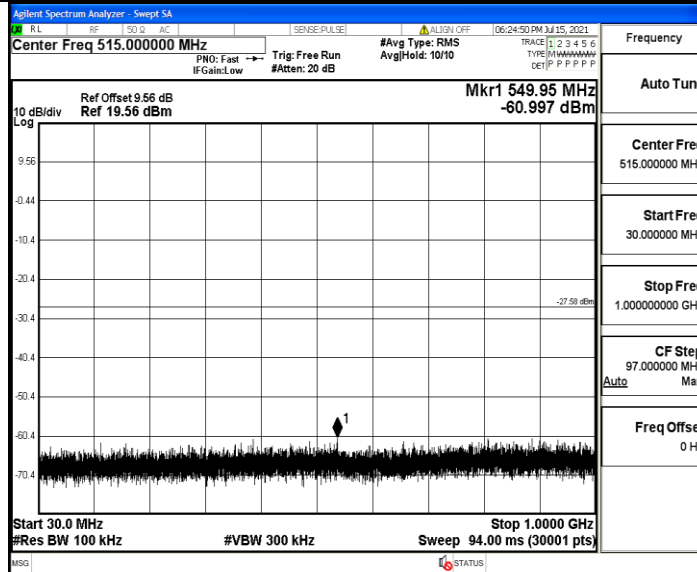
2DH5\_Ant1\_2441\_1000~26500



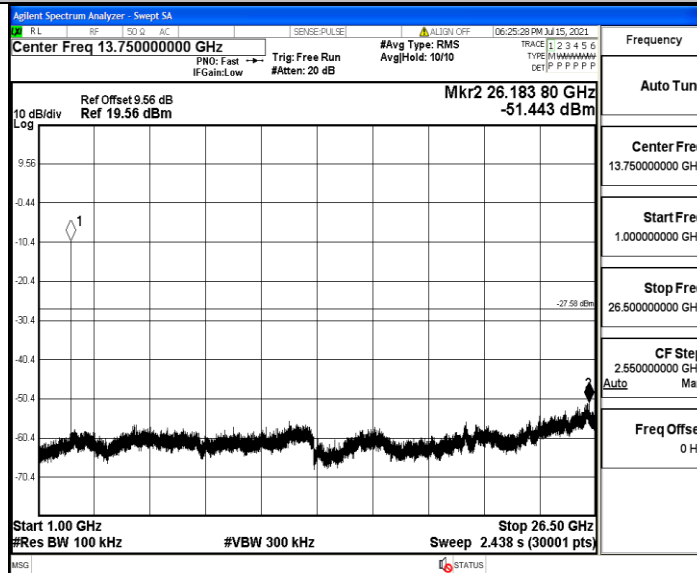
2DH5\_Ant1\_2480\_0~Reference



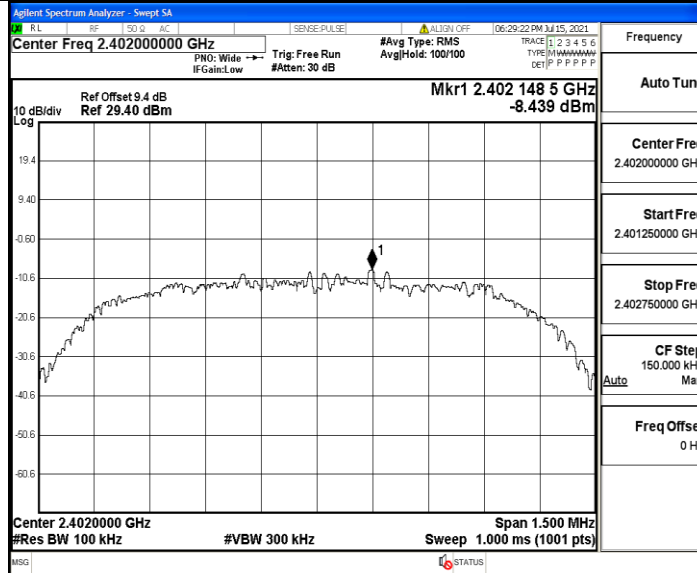
2DH5\_Ant1\_2480\_30~1000



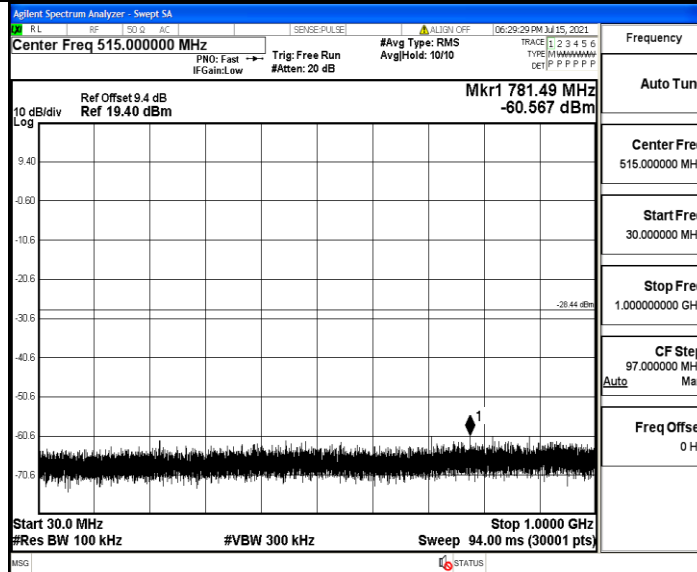
2DH5\_Ant1\_2480\_1000~26500



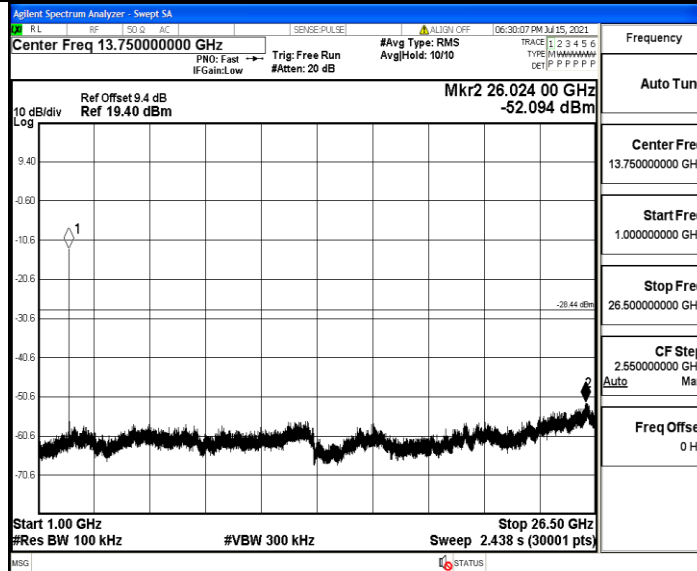
3DH5\_Ant1\_2402\_0~Reference



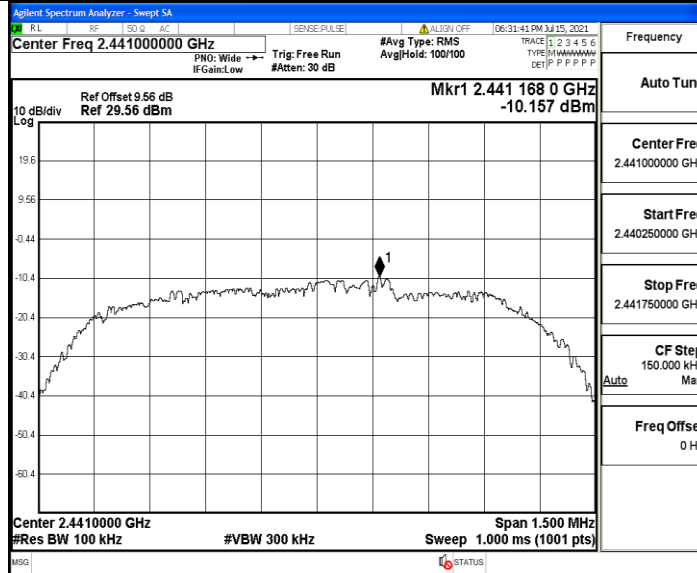
3DH5\_Ant1\_2402\_30~1000



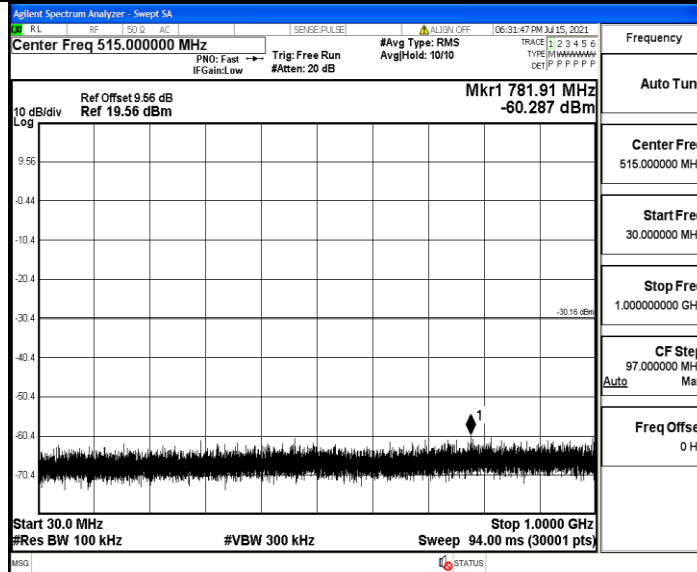
3DH5\_Ant1\_2402\_1000~26500



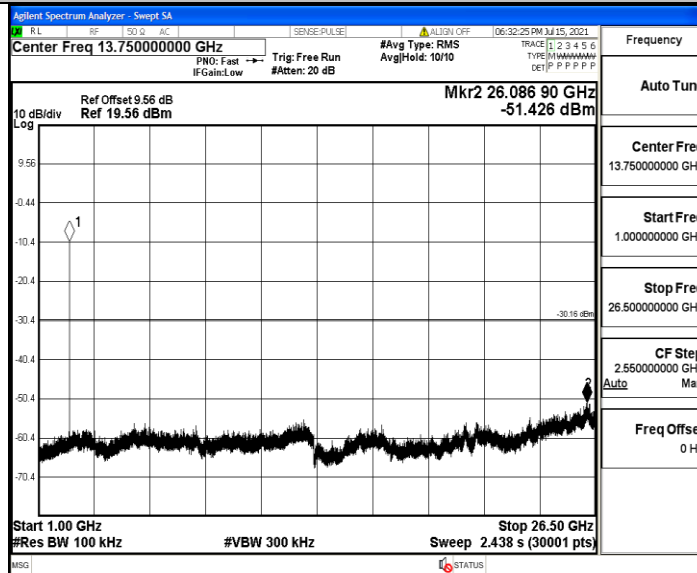
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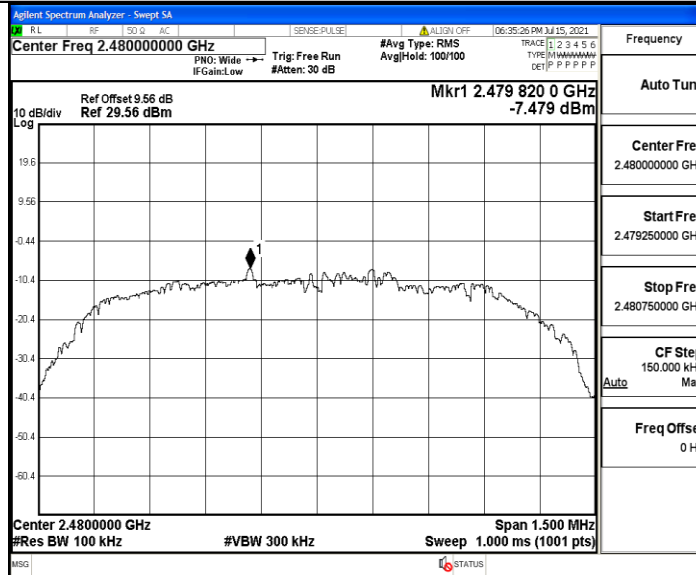
3DH5\_Ant1\_2441\_30~1000



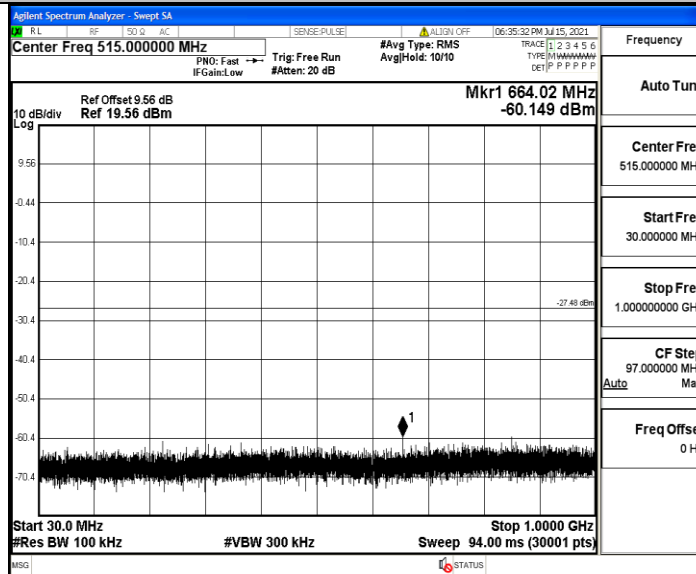
3DH5\_Ant1\_2441\_1000~26500



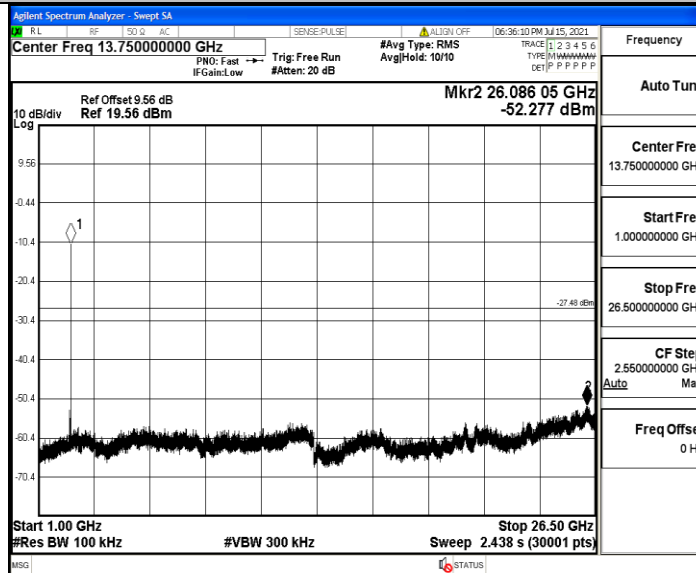
3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000



3DH5\_Ant1\_2480\_1000~26500



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

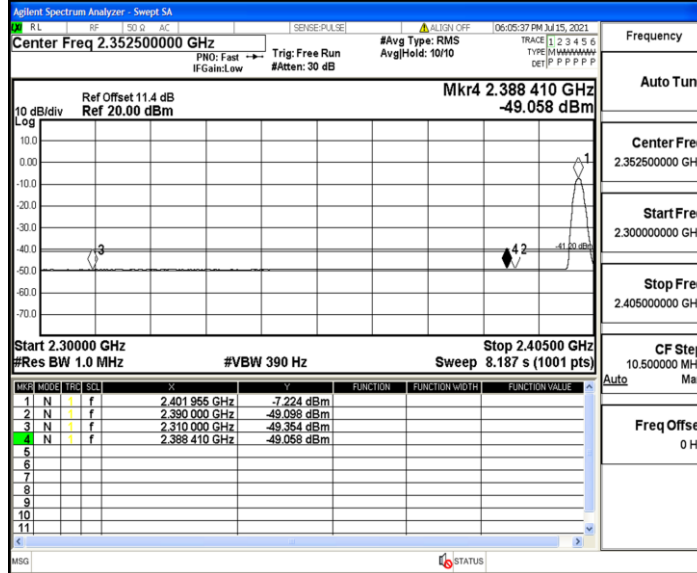
| TestMode | Antenna | ChName | Channel | Detector | Freq<br>( MHz ) | Result(dBm) | Limit(dBm) | Verdict |
|----------|---------|--------|---------|----------|-----------------|-------------|------------|---------|
| DH5      | Ant1    | Low    | 2402    | AV       | 2310.000        | -49.35      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2388.410        | -49.06      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2390.000        | -49.1       | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2310.000        | -45.48      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2378.750        | -39.51      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2390.000        | -46.28      | <=-21.20   | PASS    |
|          |         | High   | 2480    | AV       | 2483.500        | -48.2       | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2500.000        | -47.87      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2483.500        | -41.08      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2493.840        | -38.39      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2500.000        | -41.46      | <=-21.20   | PASS    |
| 2DH5     | Ant1    | Low    | 2402    | AV       | 2310.000        | -48.9       | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2378.645        | -48.56      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2390.000        | -48.67      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2310.000        | -41.83      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2363.735        | -38.38      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2390.000        | -42.25      | <=-21.20   | PASS    |
|          |         | High   | 2480    | AV       | 2483.500        | -48.21      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2495.520        | -47.88      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2500.000        | -47.98      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2483.500        | -39.84      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2485.120        | -38.22      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2500.000        | -41.05      | <=-21.20   | PASS    |
| 3DH5     | Ant1    | Low    | 2402    | AV       | 2310.000        | -49.01      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2389.460        | -48.55      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2390.000        | -48.71      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2310.000        | -41.88      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2349.665        | -38.7       | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2390.000        | -42.28      | <=-21.20   | PASS    |
|          |         | High   | 2480    | AV       | 2483.500        | -48.18      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2499.600        | -47.83      | <=-41.20   | PASS    |
|          |         |        |         | AV       | 2500.000        | -48.02      | <=-41.20   | PASS    |
|          |         |        |         | Peak     | 2483.500        | -40.57      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2488.880        | -37.58      | <=-21.20   | PASS    |
|          |         |        |         | Peak     | 2500.000        | -41.22      | <=-21.20   | PASS    |



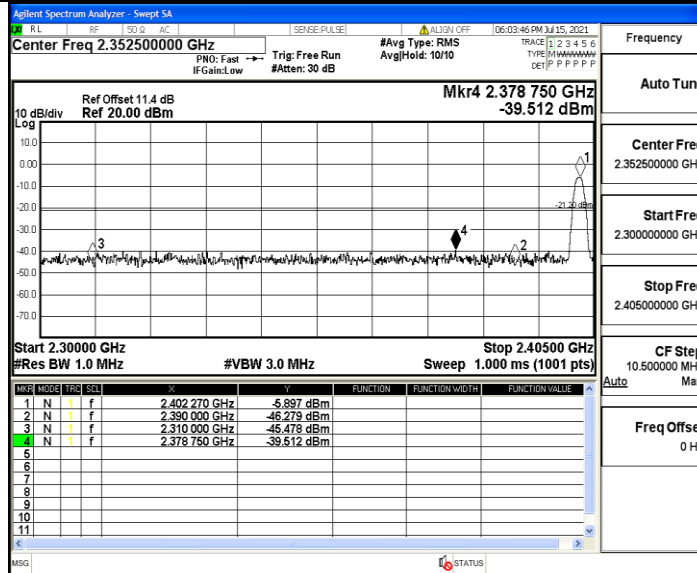
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

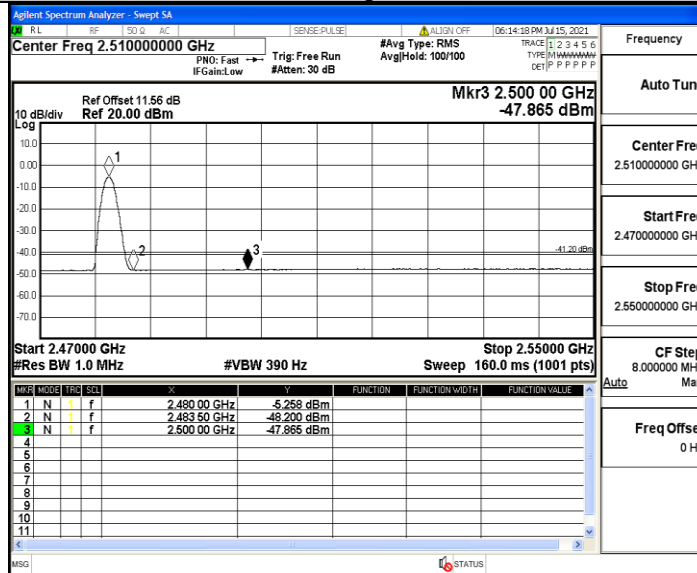
DH5\_Ant1\_Low\_2402\_AV



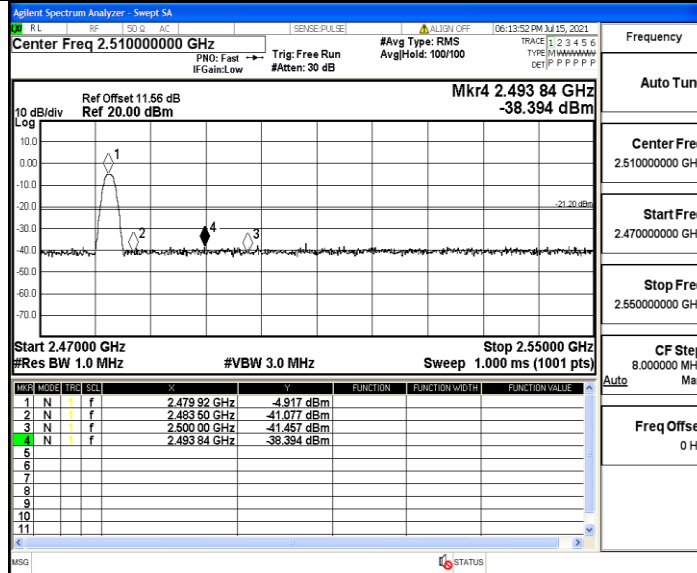
DH5\_Ant1\_Low\_2402\_Peak



DH5\_Ant1\_High\_2480\_AV

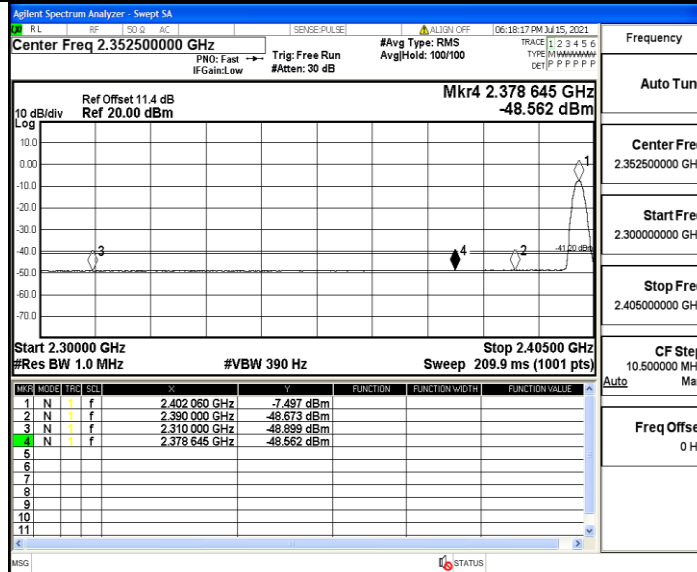


DH5\_Ant1\_High\_2480\_Peak



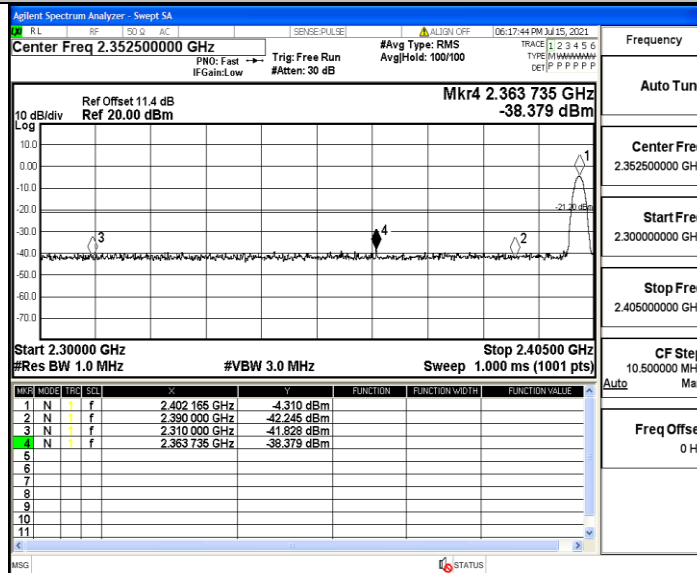
|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.510000000 GHz |
| Start Freq  | 2.470000000 GHz |
| Stop Freq   | 2.550000000 GHz |
| CF Step     | 8.000000 MHz    |
| Freq Offset | 0 Hz            |

2DH5\_Ant1\_Low\_2402\_AV



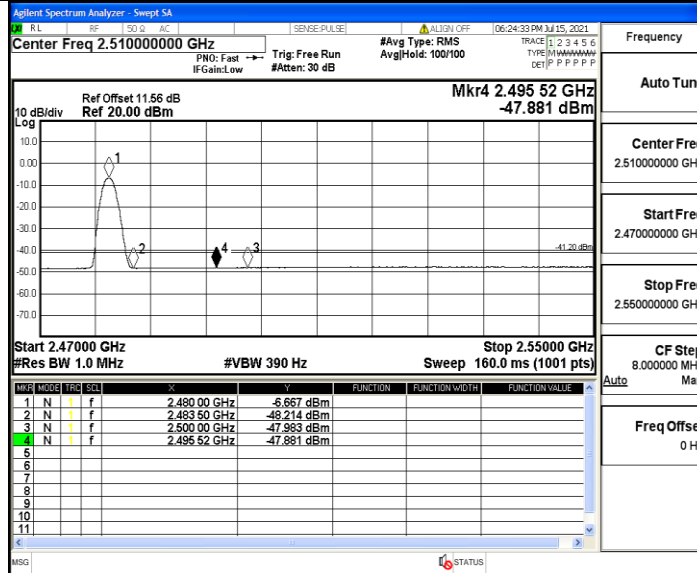
|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.352500000 GHz |
| Start Freq  | 2.300000000 GHz |
| Stop Freq   | 2.405000000 GHz |
| CF Step     | 10.500000 MHz   |
| Freq Offset | 0 Hz            |

2DH5\_Ant1\_Low\_2402\_Peak

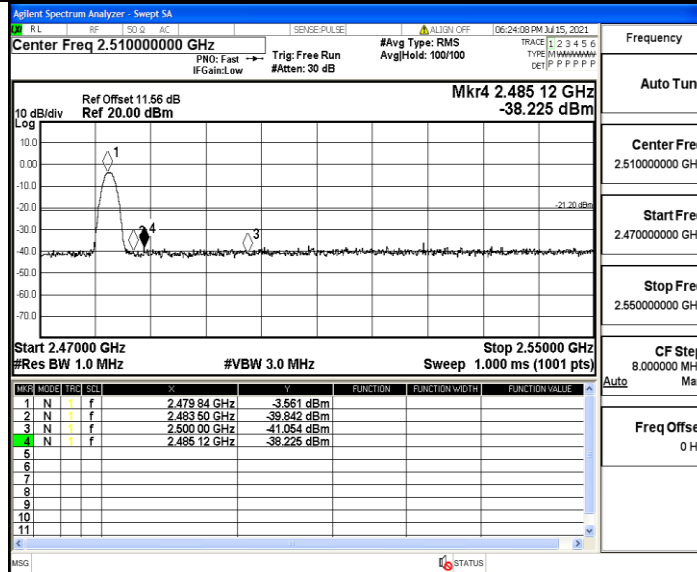


|             |                 |
|-------------|-----------------|
| Frequency   | Auto Tune       |
| Center Freq | 2.352500000 GHz |
| Start Freq  | 2.300000000 GHz |
| Stop Freq   | 2.405000000 GHz |
| CF Step     | 10.500000 MHz   |
| Freq Offset | 0 Hz            |

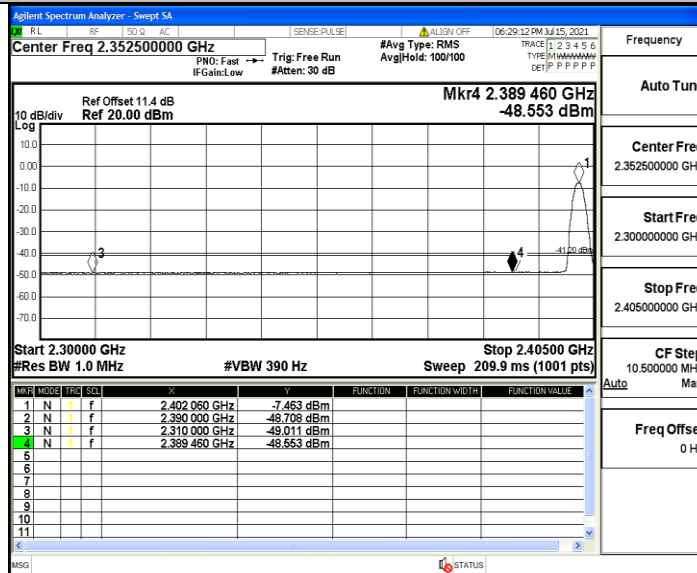
2DH5\_Ant1\_High\_2480\_AV



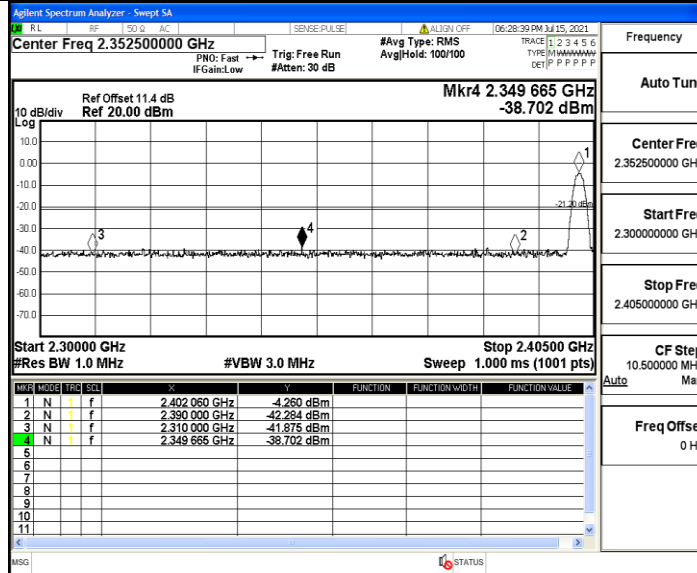
2DH5\_Ant1\_High\_2480\_Peak



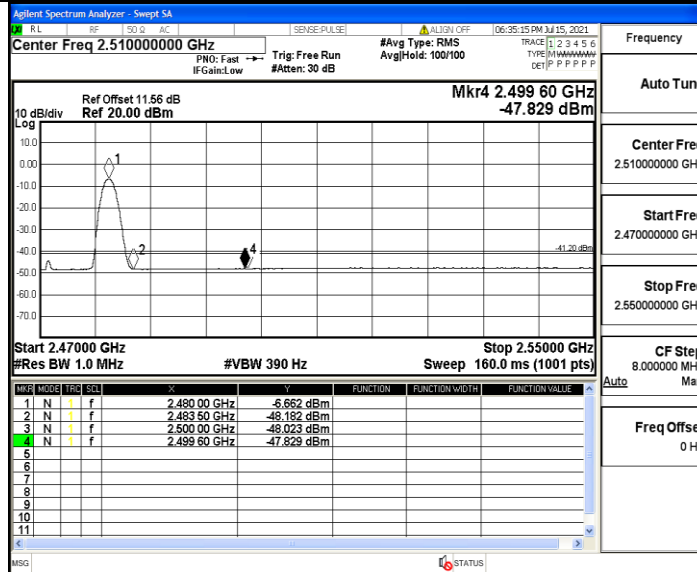
3DH5\_Ant1\_Low\_2402\_AV



3DH5\_Ant1\_Low\_2402\_Peak



3DH5\_Ant1\_High\_2480\_AV



3DH5\_Ant1\_High\_2480\_Peak

