



## Appendix A

### RF Test Data for BT (Conducted Measurement)

Product Name: Smart Watch

Test Model: TS21

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 24.6° C   |
| Relative Humidity: | 54.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Ken He    |
| Supervised by:     | Li Huan   |

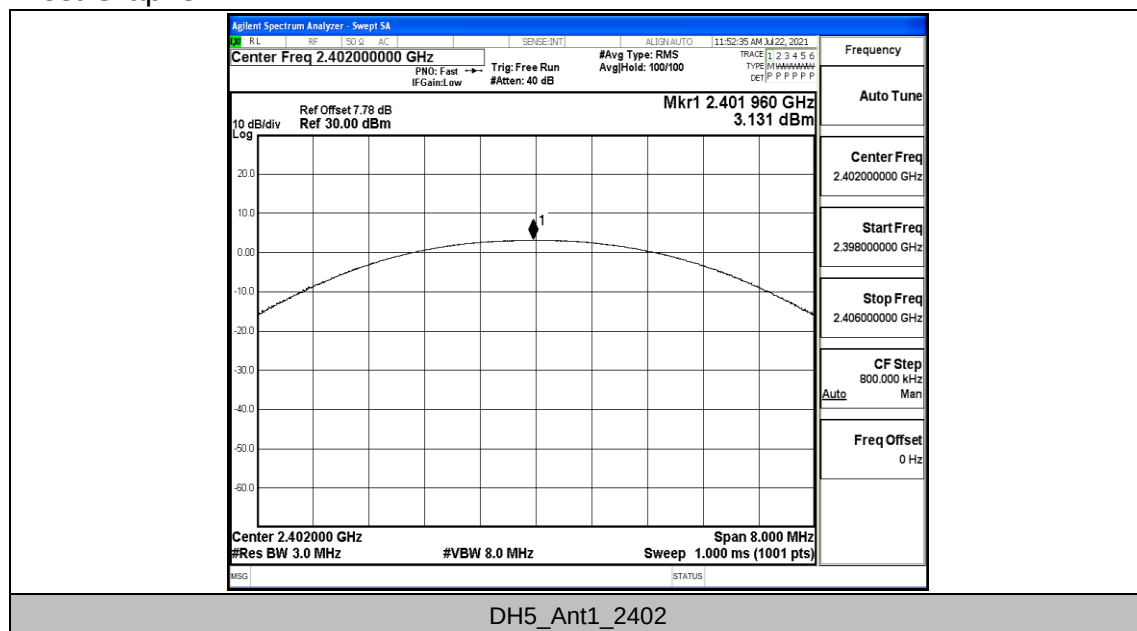


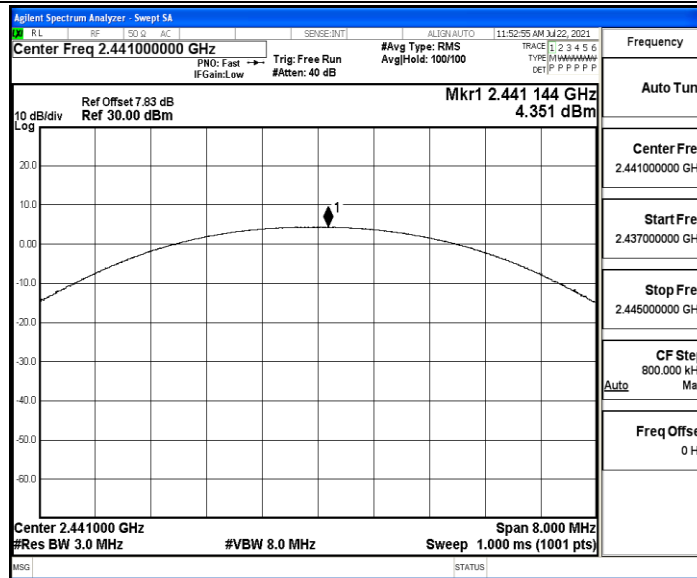
## A.1 Maximum conducted output power

### Test Result

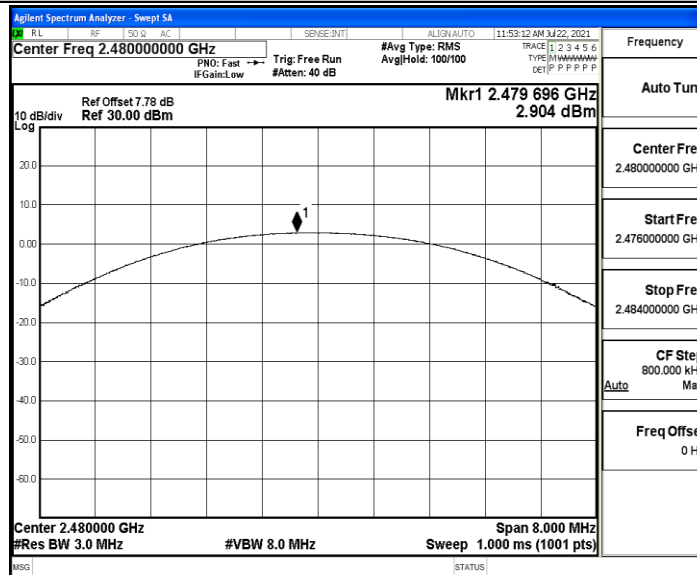
| TestMode | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|-------------|------------|---------|
| DH5      | 2402    | 3.13        | ≤30        | PASS    |
|          | 2441    | 4.35        | ≤30        | PASS    |
|          | 2480    | 2.9         | ≤30        | PASS    |
| 2DH5     | 2402    | 2.35        | ≤21        | PASS    |
|          | 2441    | 3.46        | ≤21        | PASS    |
|          | 2480    | 2.13        | ≤21        | PASS    |
| 3DH5     | 2402    | 2.37        | ≤21        | PASS    |
|          | 2441    | 3.64        | ≤21        | PASS    |
|          | 2480    | 2.26        | ≤21        | PASS    |

### Test Graphs

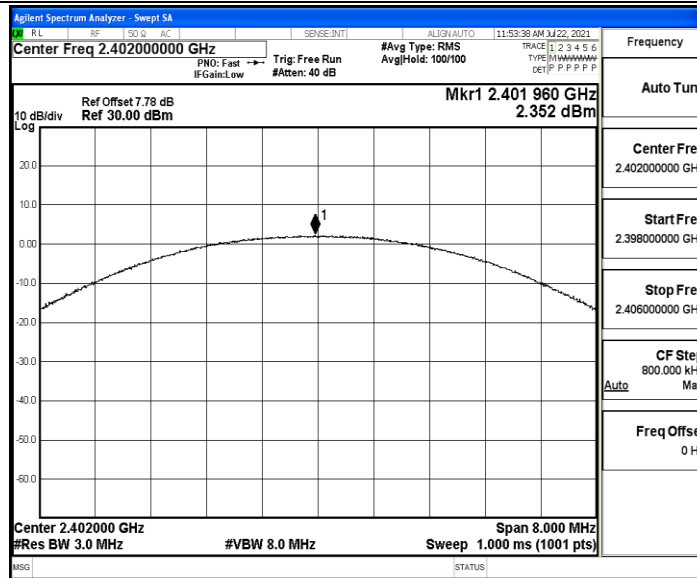




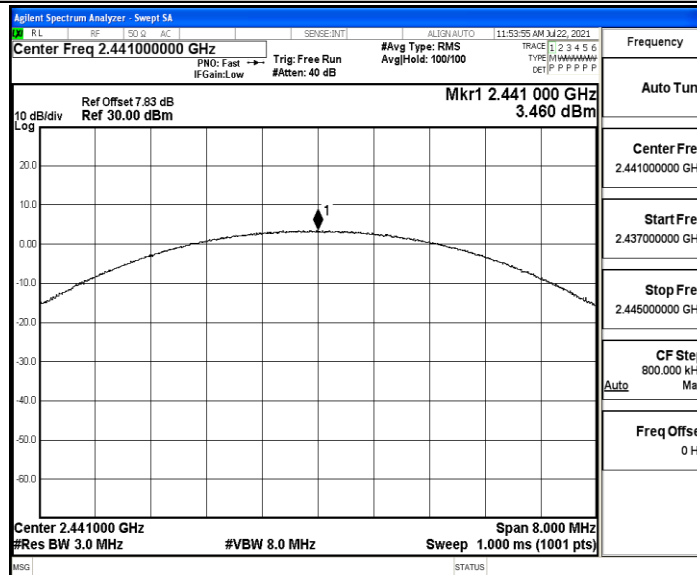
DH5\_Ant1\_2441



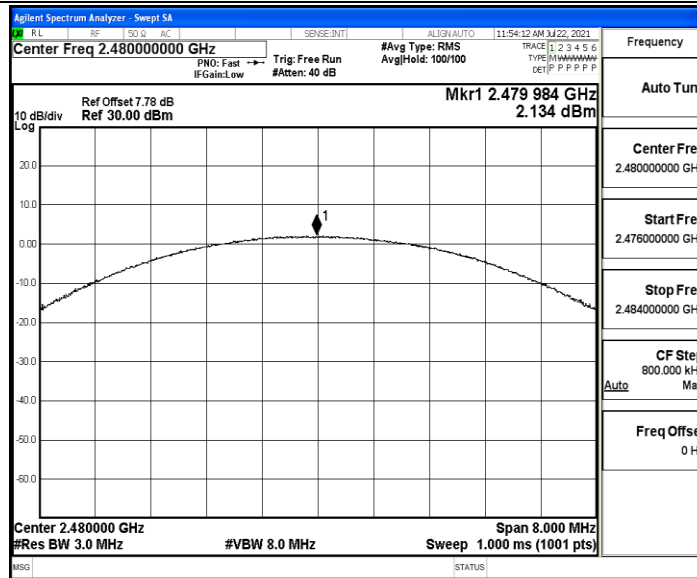
DH5\_Ant1\_2480



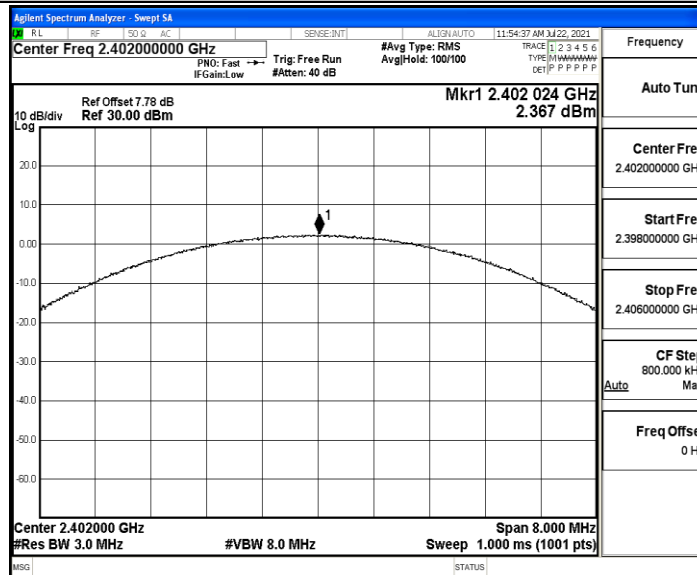
2DH5\_Ant1\_2402



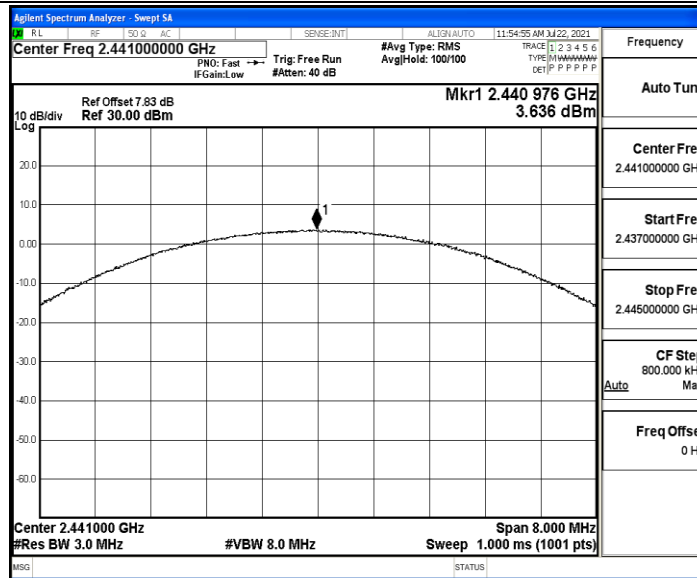
2DH5\_Ant1\_2441



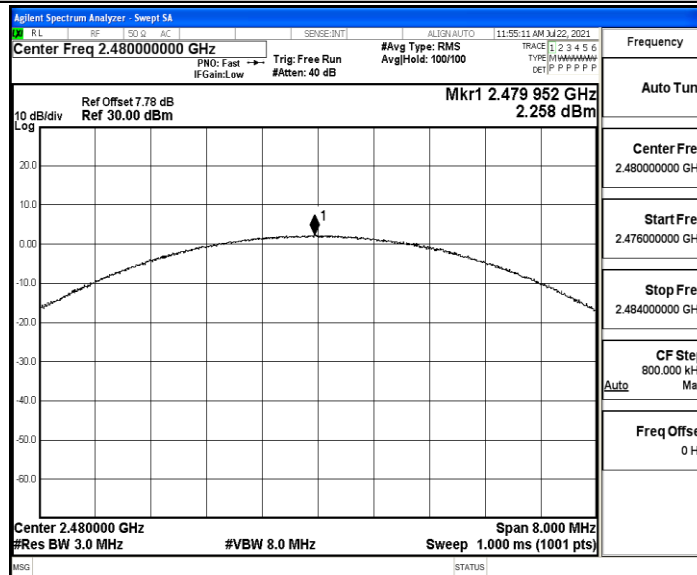
2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

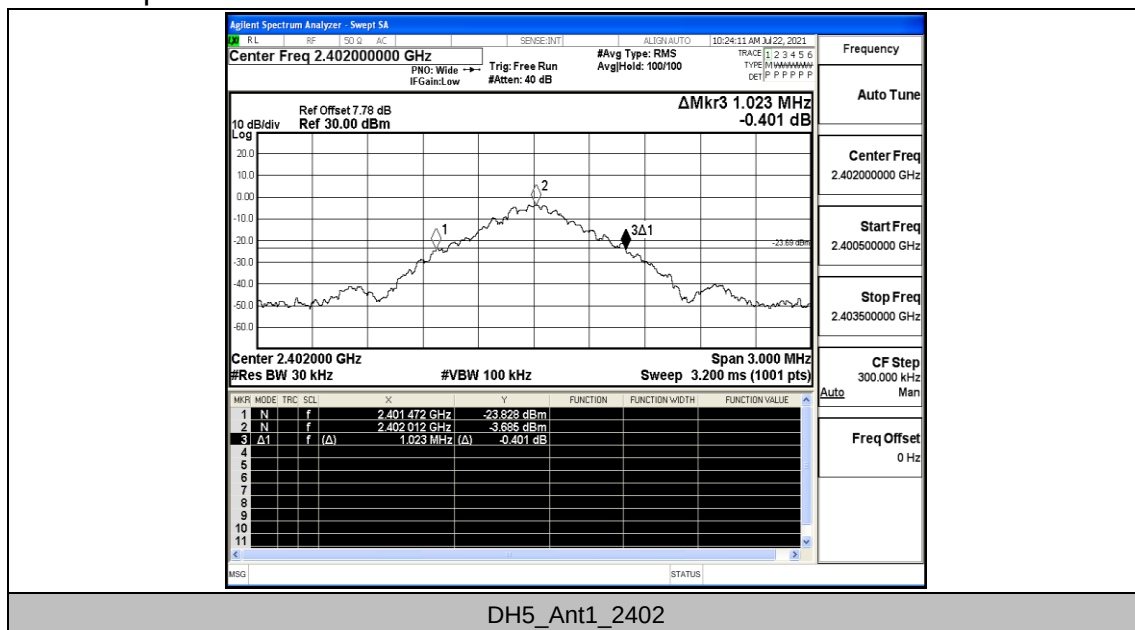


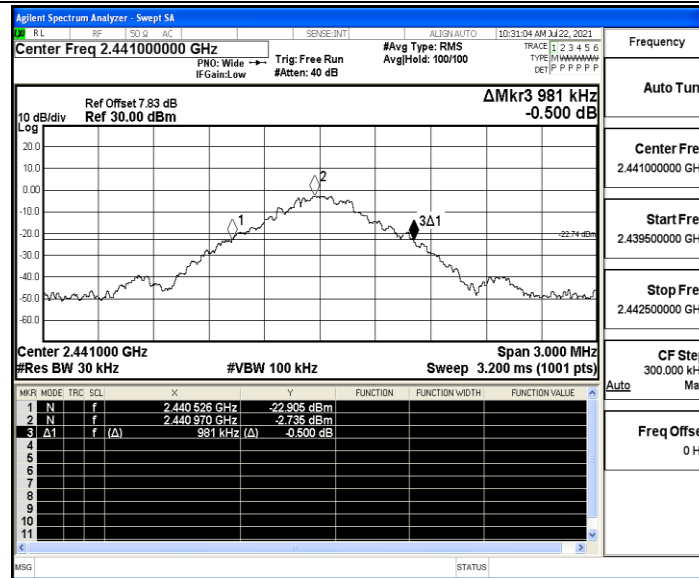
## A.2 20dB Emission Bandwidth

### Test Result

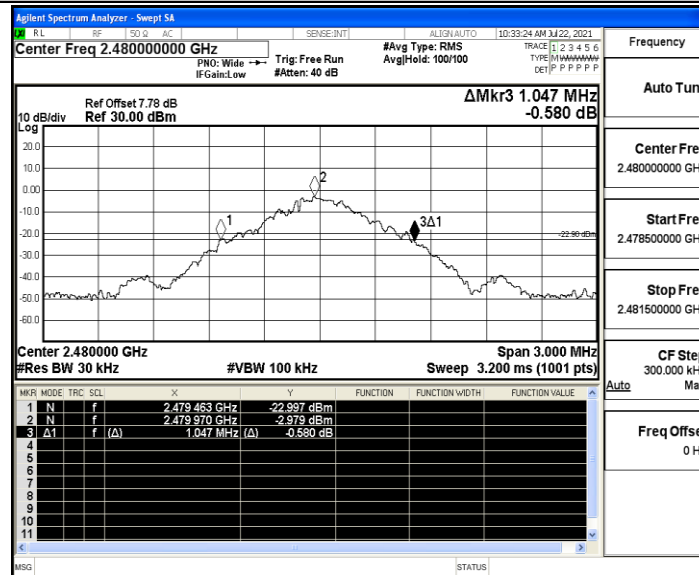
| TestMode | Channel | 20db EBW[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------------|------------|---------|
| DH5      | 2402    | 1.023         | ---        | PASS    |
|          | 2441    | 0.981         | ---        | PASS    |
|          | 2480    | 1.047         | ---        | PASS    |
| 2DH5     | 2402    | 1.287         | ---        | PASS    |
|          | 2441    | 1.329         | ---        | PASS    |
|          | 2480    | 1.293         | ---        | PASS    |
| 3DH5     | 2402    | 1.341         | ---        | PASS    |
|          | 2441    | 1.302         | ---        | PASS    |
|          | 2480    | 1.314         | ---        | PASS    |

### Test Graphs



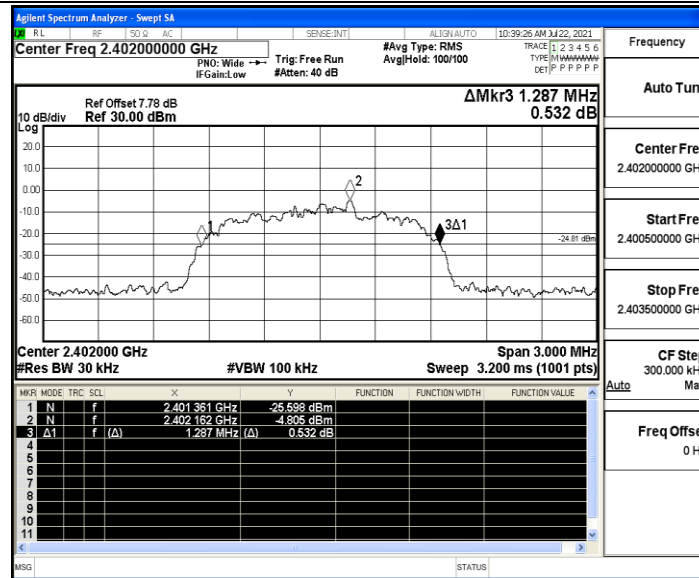


DH5\_Ant1\_2441

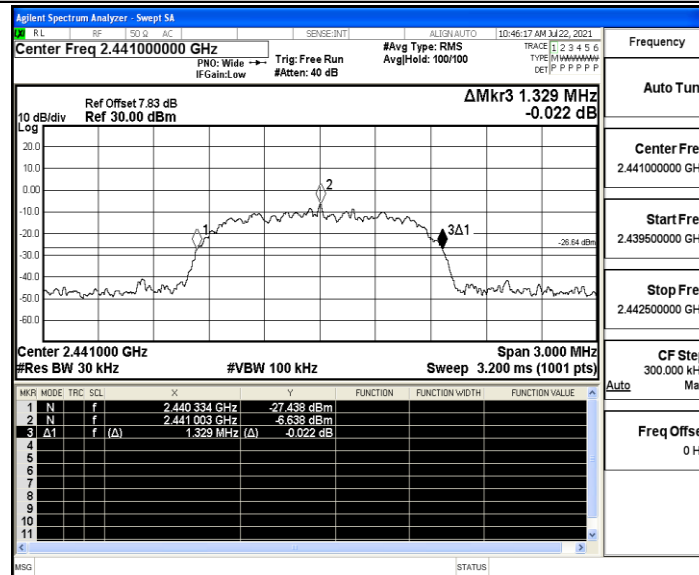


DH5\_Ant1\_2480

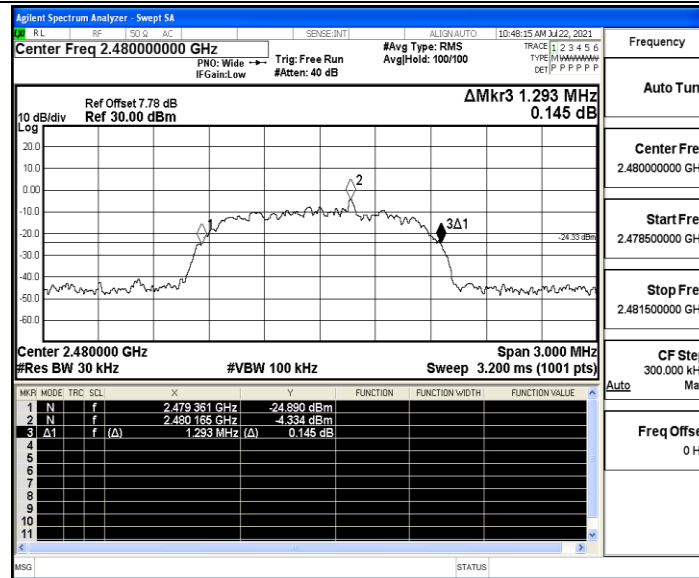




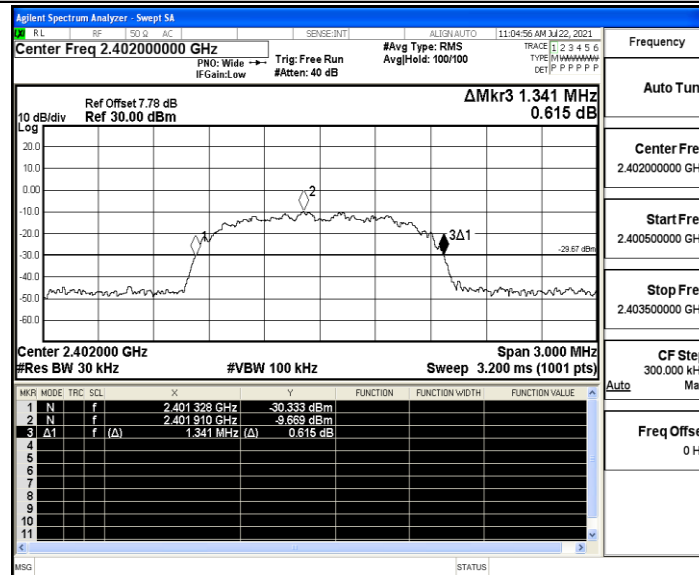
2DH5\_Ant1\_2402



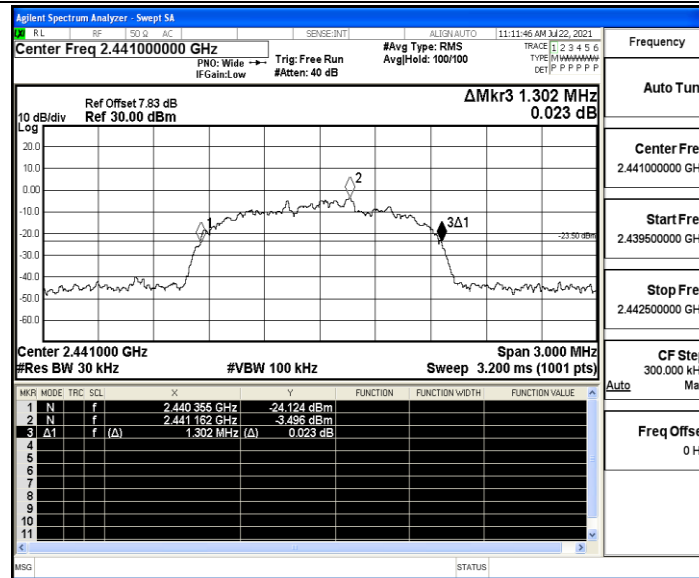
2DH5\_Ant1\_2441



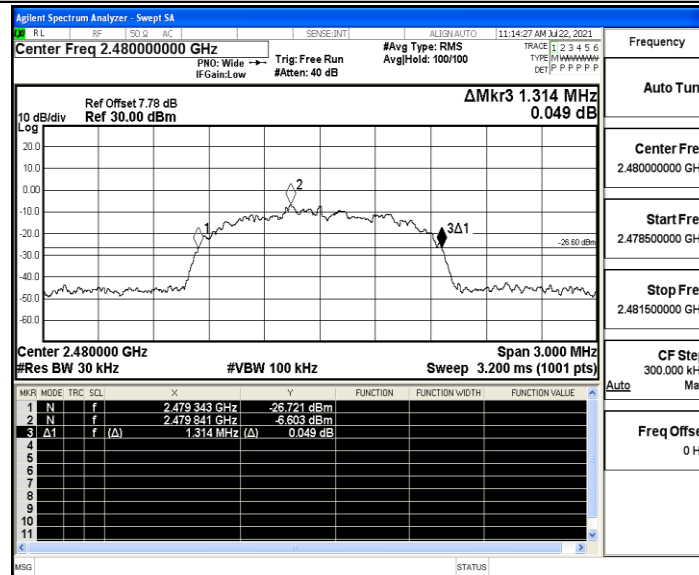
2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

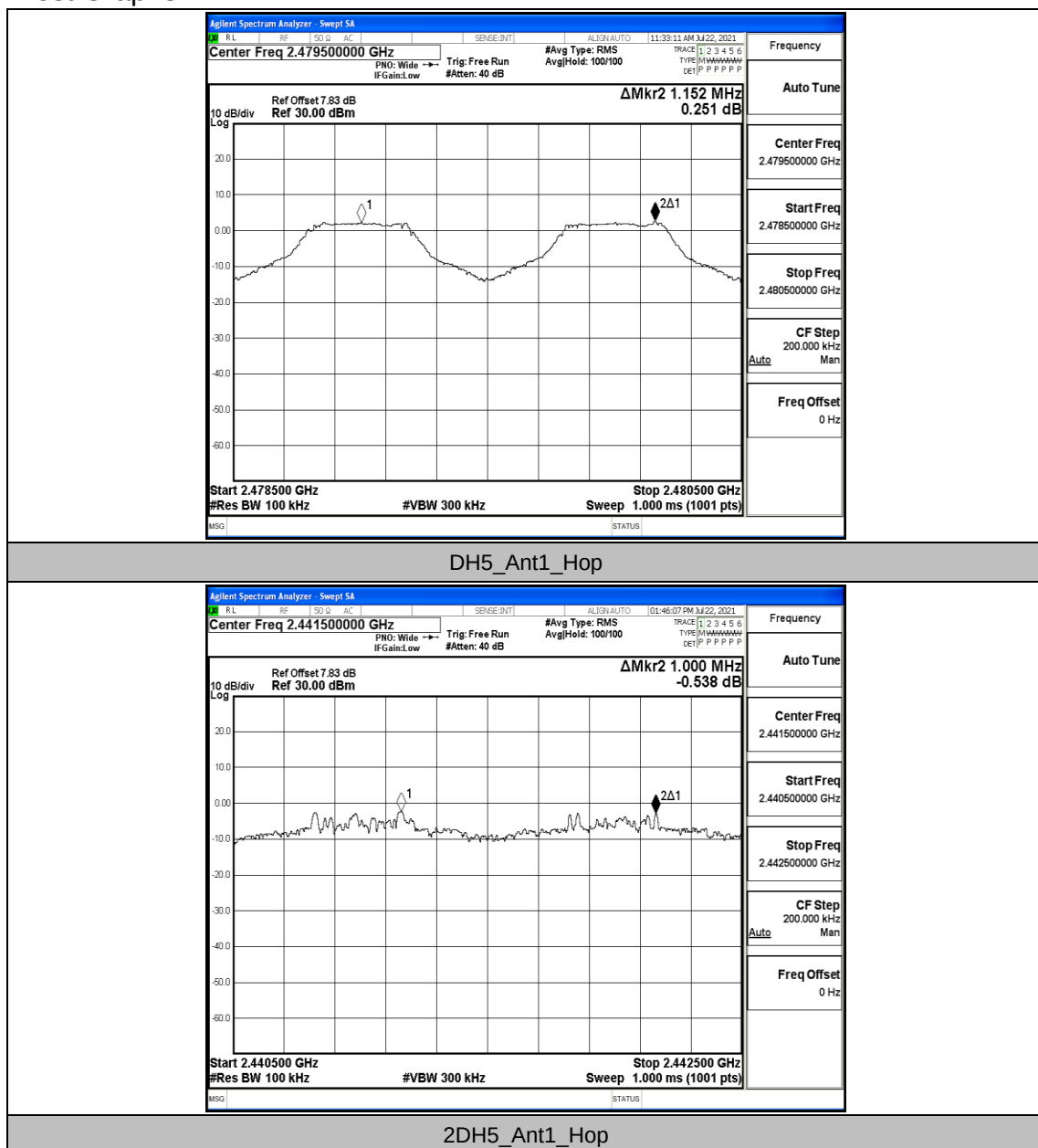


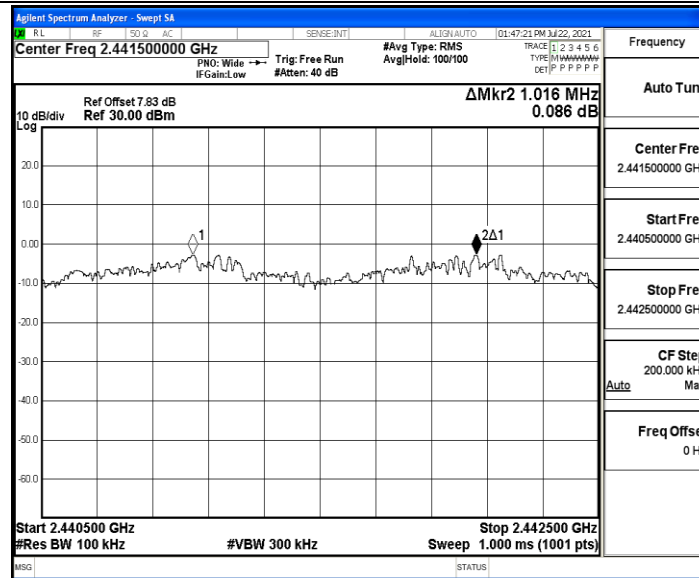
## A.3 Carrier frequency separation

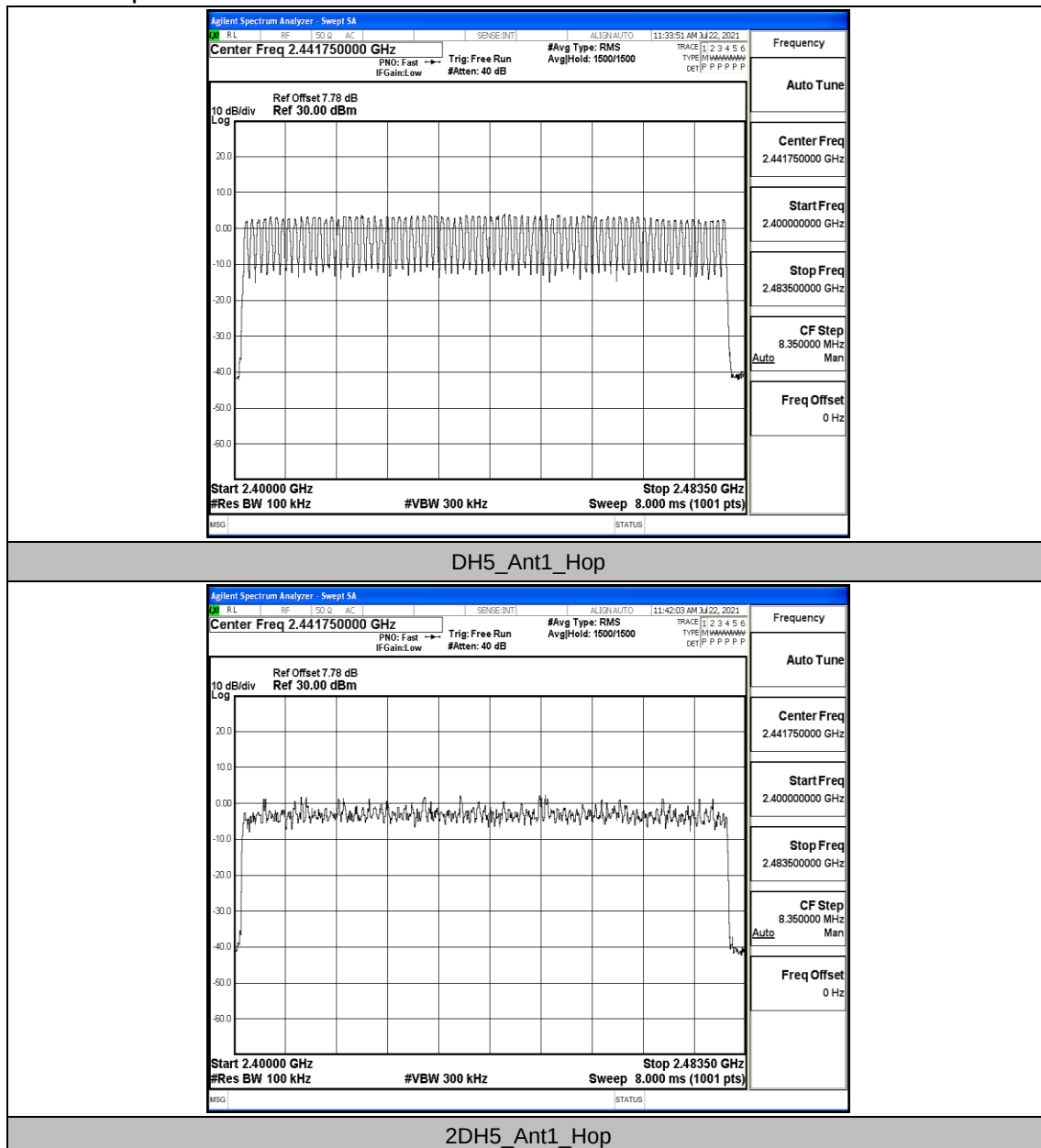
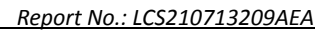
### Test Result

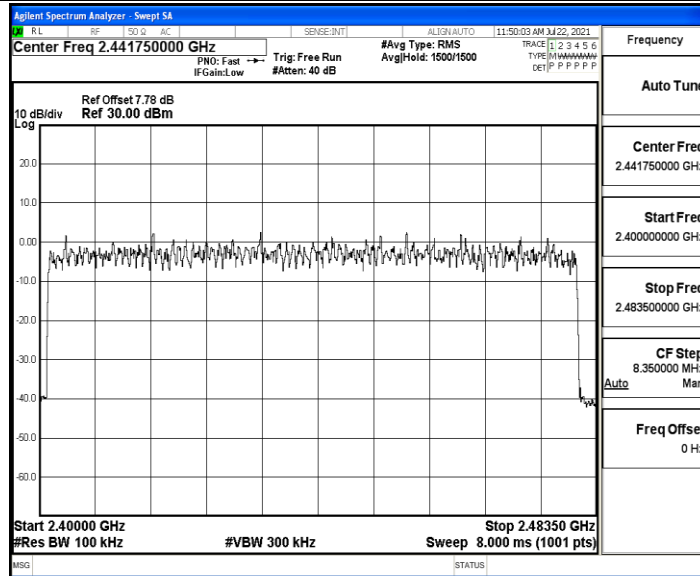
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 1.152       | $\geq 1.047$ | PASS    |
| 2DH5     | Ant1    | Hop     | 1.0         | $\geq 0.886$ | PASS    |
| 3DH5     | Ant1    | Hop     | 1.016       | $\geq 0.894$ | PASS    |

### Test Graphs









3DH5\_Ant1\_Hop

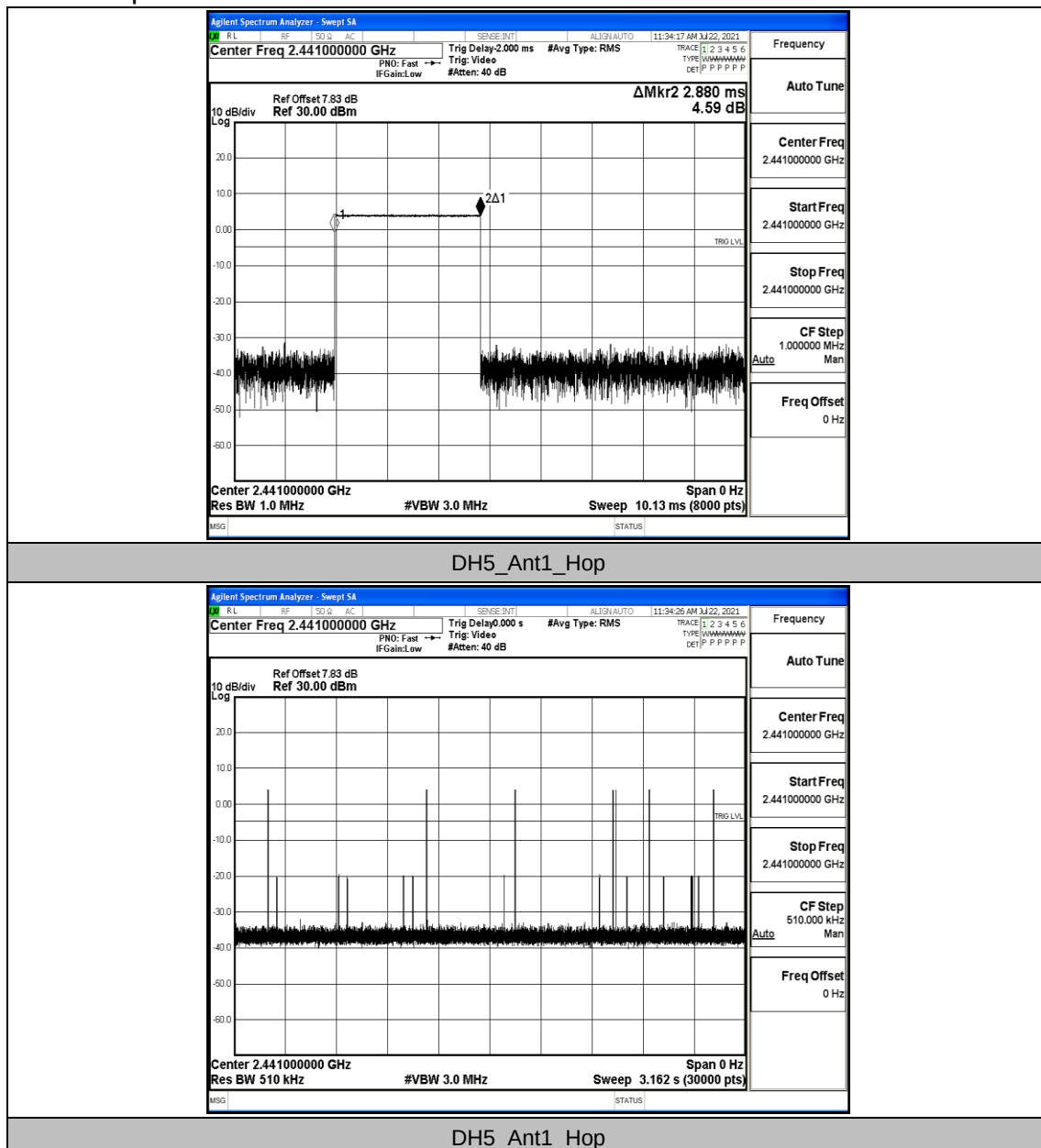


## A.5 Time of occupancy

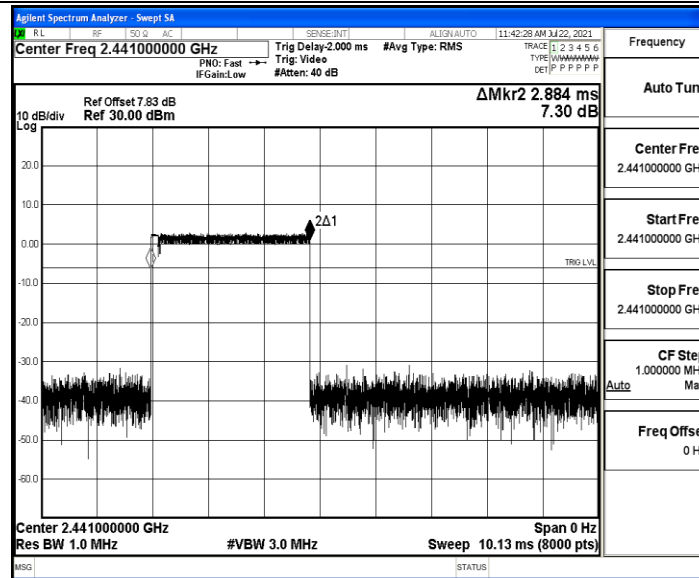
### Test Result

| TestMode | Channel | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Hop     | 2.88               | 80                 | 0.23      | ≤0.4     | PASS    |
| 2DH5     | Hop     | 2.88               | 110                | 0.317     | ≤0.4     | PASS    |
| 3DH5     | Hop     | 2.89               | 70                 | 0.202     | ≤0.4     | PASS    |

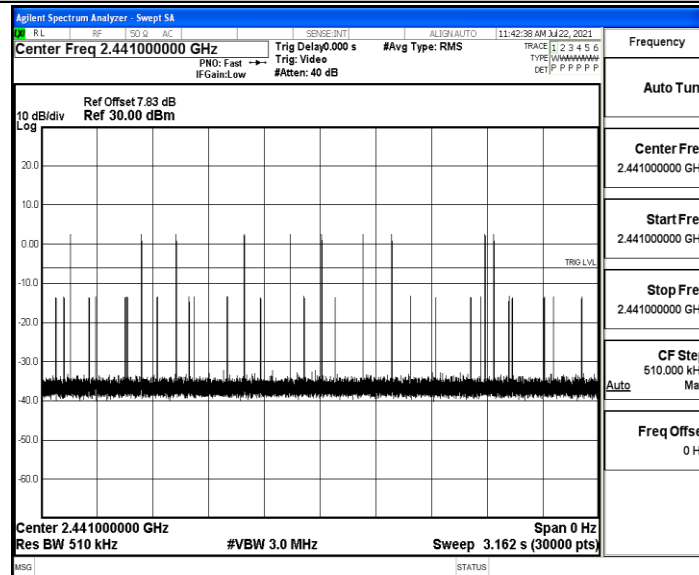
### Test Graphs



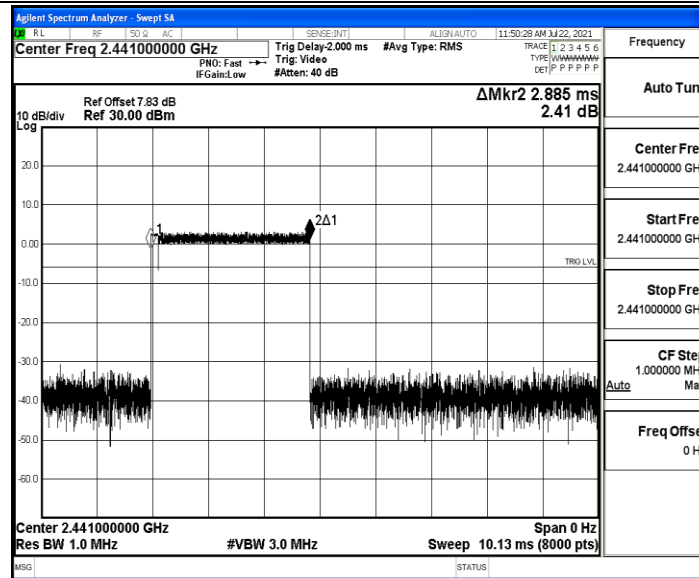




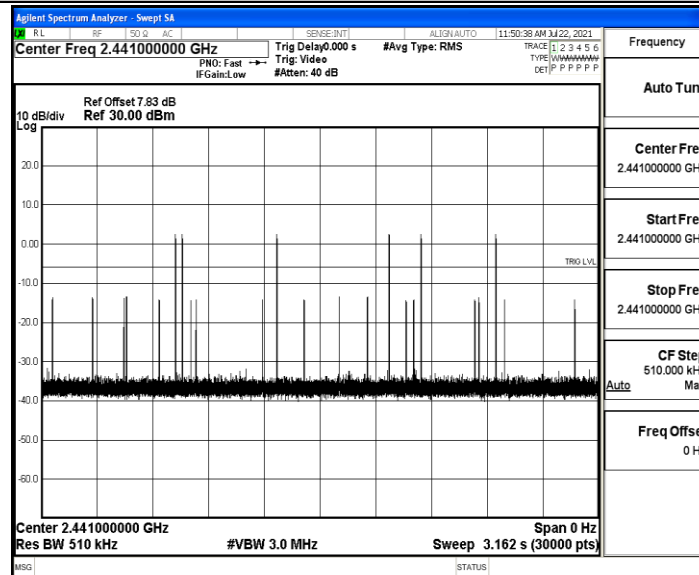
2DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop



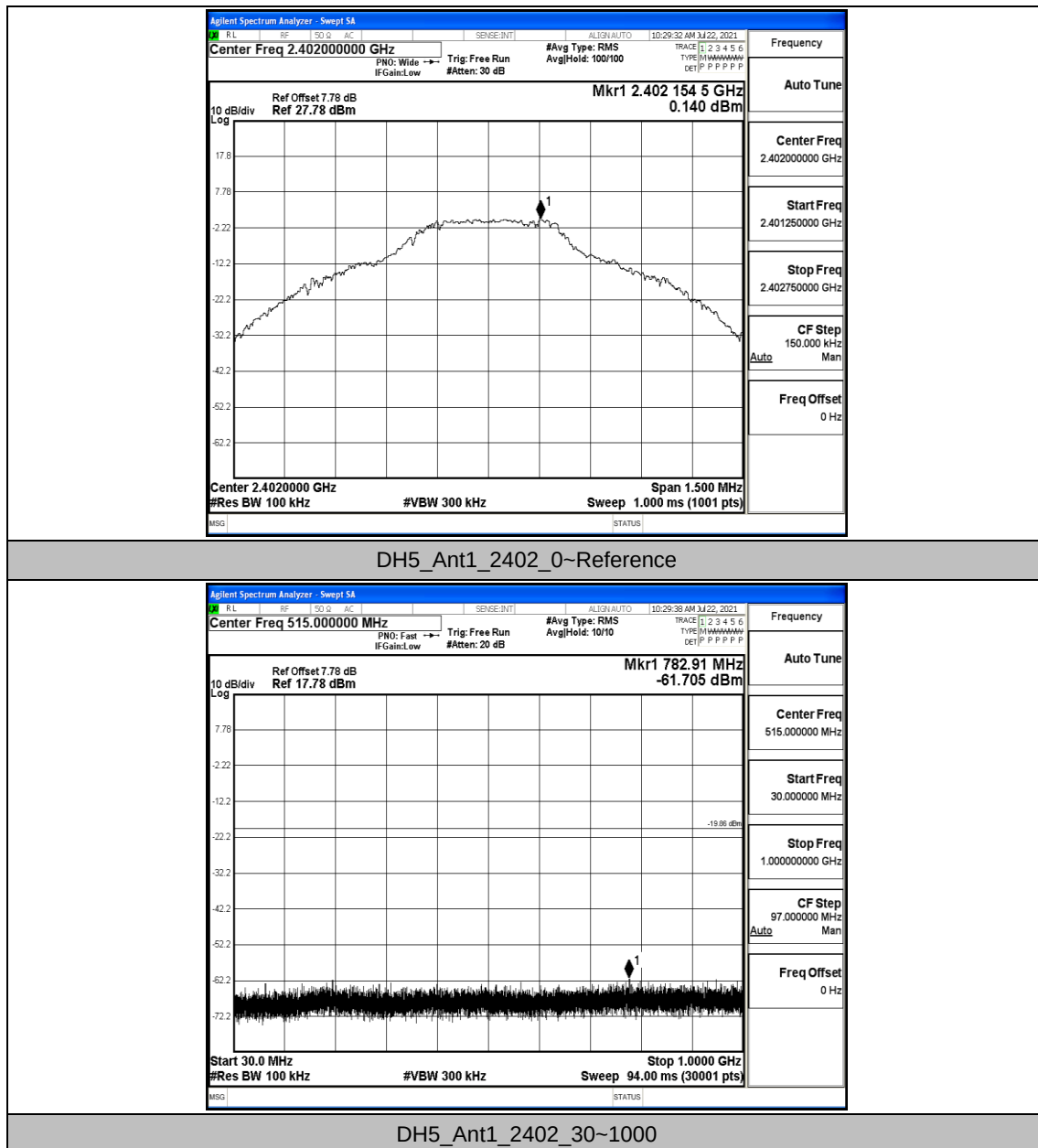
## A.6 Conducted Spurious Emission

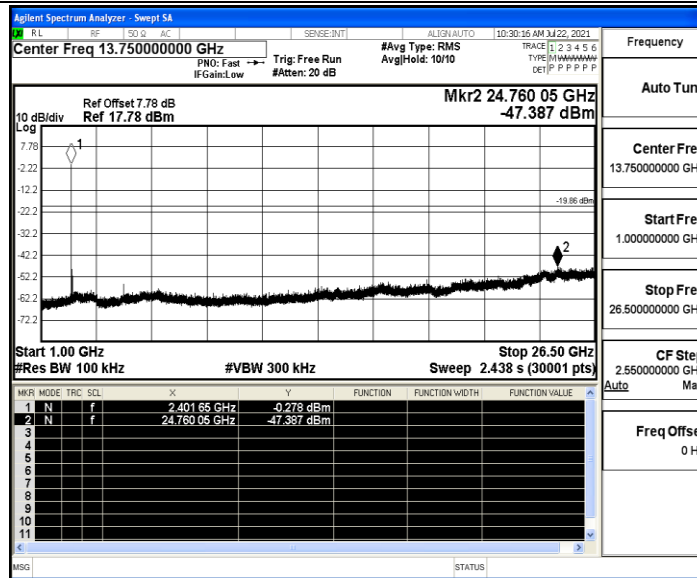
### Test Result

| TestMode | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------------------|-------------------|-----------------|----------------|---------|
| DH5      | 2402    | Reference          | 0.14              | 0.14            | ---            | PASS    |
|          |         | 30~1000            | 0.14              | -61.71          | $\leq -19.86$  | PASS    |
|          |         | 1000~26500         | 0.14              | -47.39          | $\leq -19.86$  | PASS    |
|          | 2441    | Reference          | -0.14             | -0.14           | ---            | PASS    |
|          |         | 30~1000            | -0.14             | -62.24          | $\leq -20.14$  | PASS    |
|          |         | 1000~26500         | -0.14             | -46.63          | $\leq -20.14$  | PASS    |
|          | 2480    | Reference          | -0.94             | -0.94           | ---            | PASS    |
|          |         | 30~1000            | -0.94             | -61.79          | $\leq -20.94$  | PASS    |
|          |         | 1000~26500         | -0.94             | -45.83          | $\leq -20.94$  | PASS    |
| 2DH5     | 2402    | Reference          | -2.37             | -2.37           | ---            | PASS    |
|          |         | 30~1000            | -2.37             | -62.19          | $\leq -22.37$  | PASS    |
|          |         | 1000~26500         | -2.37             | -47.28          | $\leq -22.37$  | PASS    |
|          | 2441    | Reference          | -2.99             | -2.99           | ---            | PASS    |
|          |         | 30~1000            | -2.99             | -62.23          | $\leq -22.99$  | PASS    |
|          |         | 1000~26500         | -2.99             | -48.12          | $\leq -22.99$  | PASS    |
|          | 2480    | Reference          | -3.96             | -3.96           | ---            | PASS    |
|          |         | 30~1000            | -3.96             | -60.77          | $\leq -23.96$  | PASS    |
|          |         | 1000~26500         | -3.96             | -47.37          | $\leq -23.96$  | PASS    |
| 3DH5     | 2402    | Reference          | -1.60             | -1.60           | ---            | PASS    |
|          |         | 30~1000            | -1.60             | -61.19          | $\leq -21.6$   | PASS    |
|          |         | 1000~26500         | -1.60             | -47.83          | $\leq -21.6$   | PASS    |
|          | 2441    | Reference          | -1.07             | -1.07           | ---            | PASS    |
|          |         | 30~1000            | -1.07             | -61.63          | $\leq -21.07$  | PASS    |
|          |         | 1000~26500         | -1.07             | -47.58          | $\leq -21.07$  | PASS    |
|          | 2480    | Reference          | 0.08              | 0.08            | ---            | PASS    |
|          |         | 30~1000            | 0.08              | -61.85          | $\leq -19.92$  | PASS    |
|          |         | 1000~26500         | 0.08              | -47.21          | $\leq -19.92$  | PASS    |

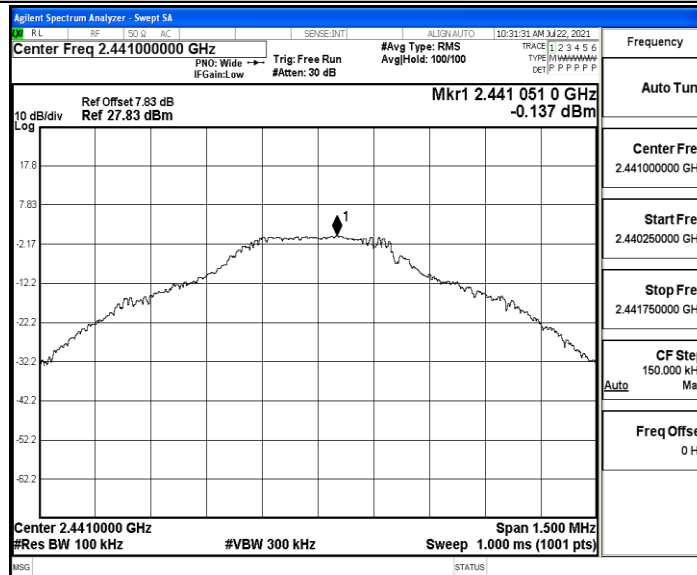


## Test Graphs

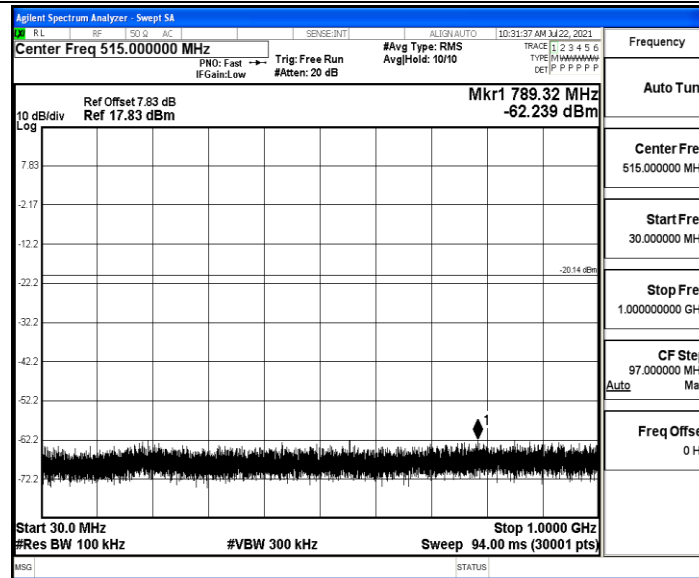




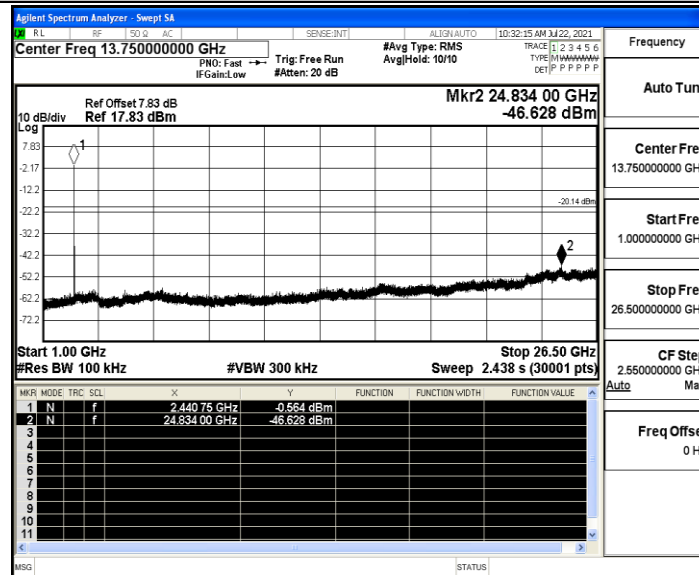
DH5\_Ant1\_2402\_1000~26500



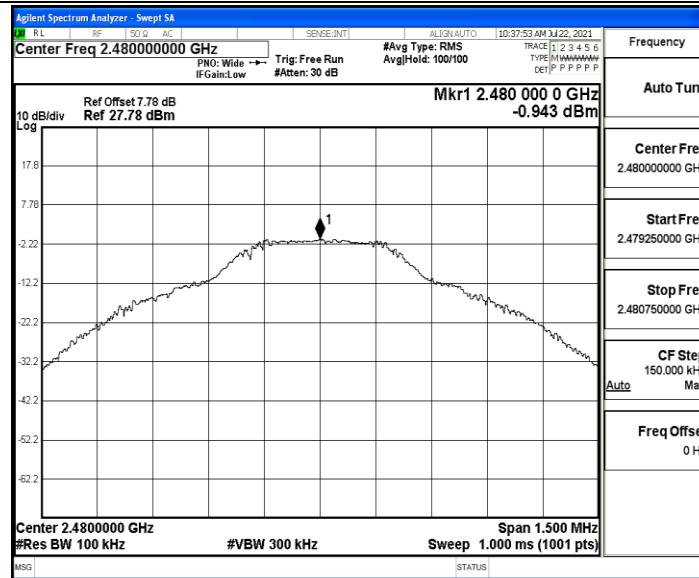
DH5\_Ant1\_2441\_0~Reference



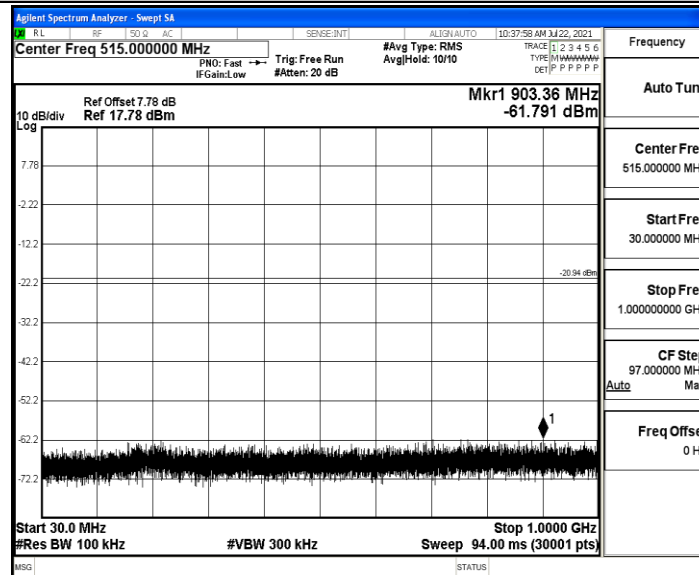
DH5\_Ant1\_2441\_30~1000



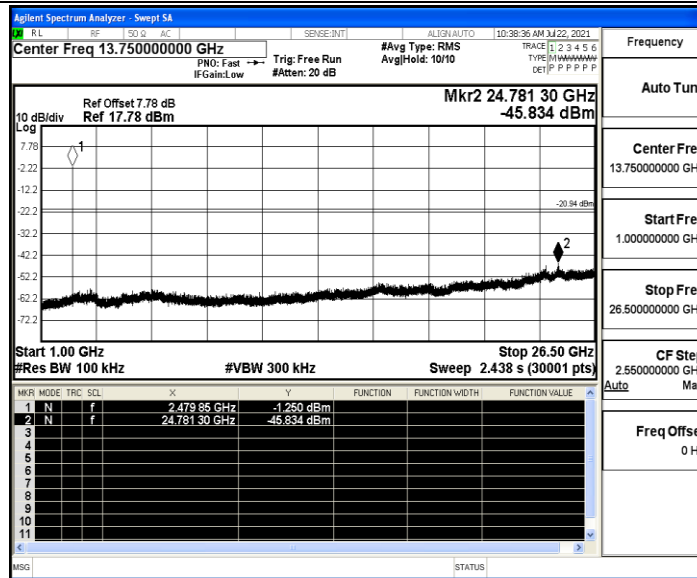
DH5\_Ant1\_2441\_1000~26500



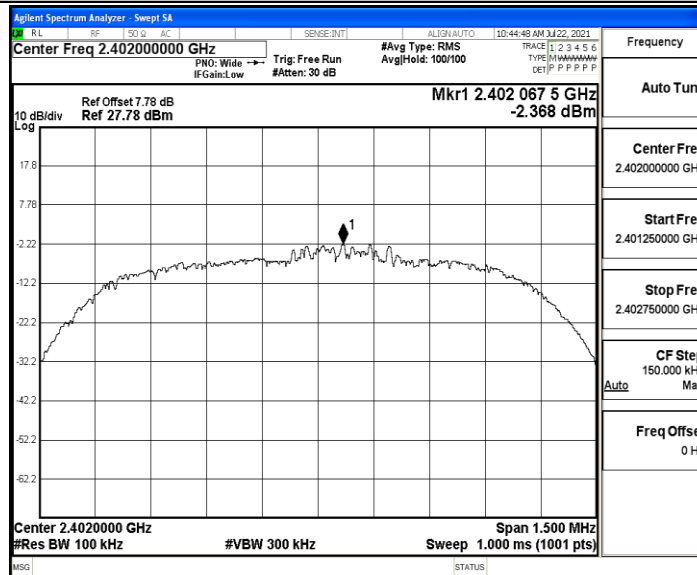
DH5\_Ant1\_2480\_0~Reference



DH5\_Ant1\_2480\_30~1000

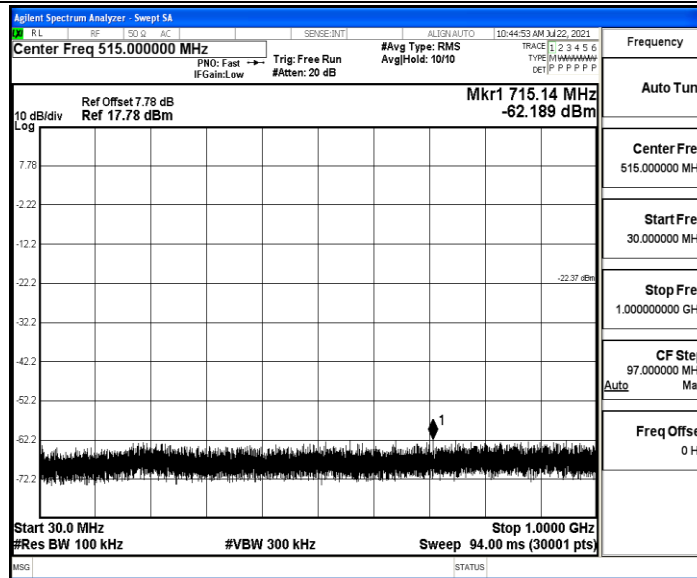


DH5\_Ant1\_2480\_1000~26500

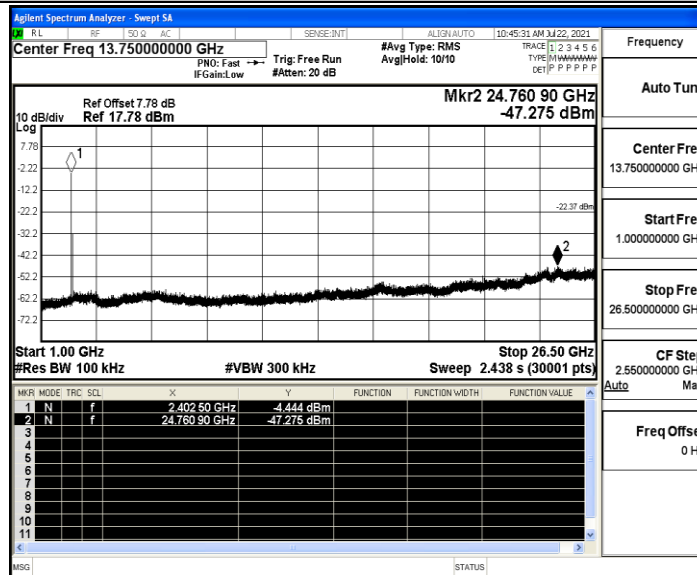


2DH5\_Ant1\_2402\_0~Reference

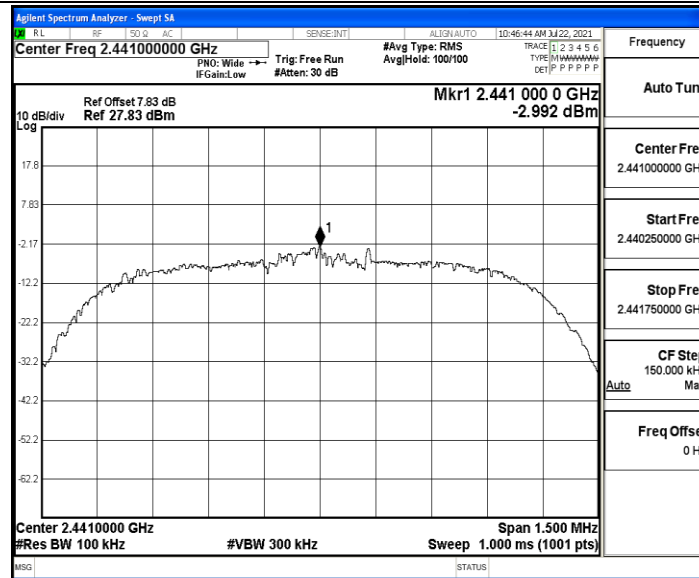




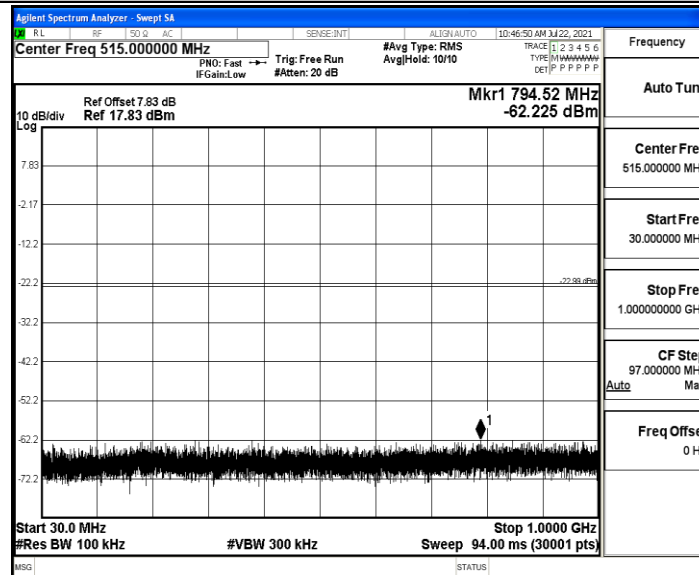
2DH5\_Ant1\_2402\_30~1000



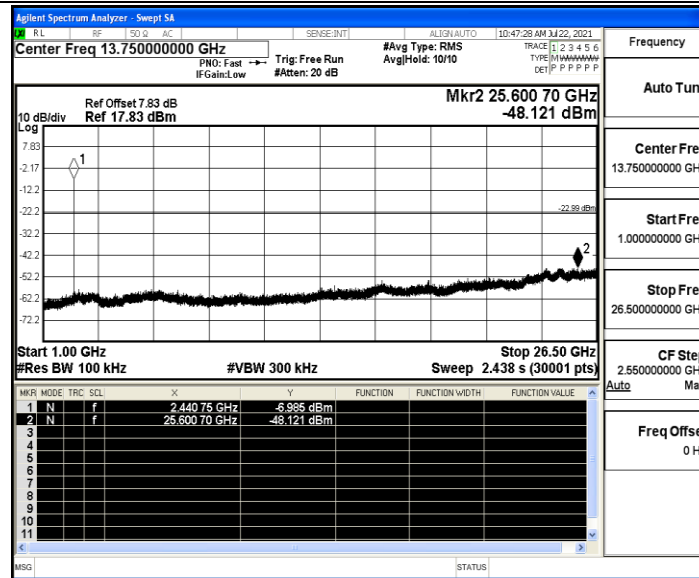
2DH5\_Ant1\_2402\_1000~26500



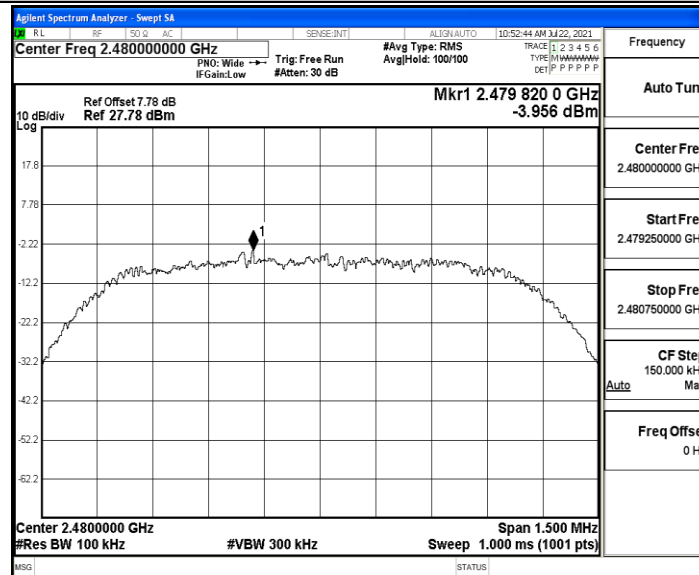
2DH5\_Ant1\_2441\_0~Reference



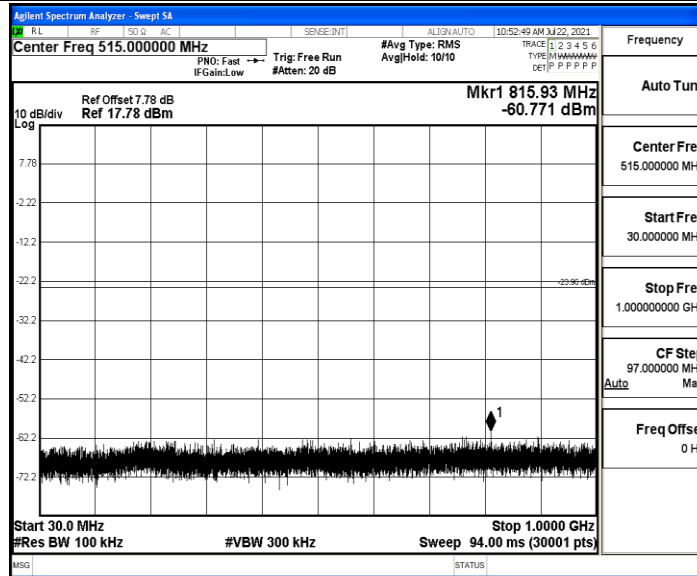
2DH5\_Ant1\_2441\_30~1000



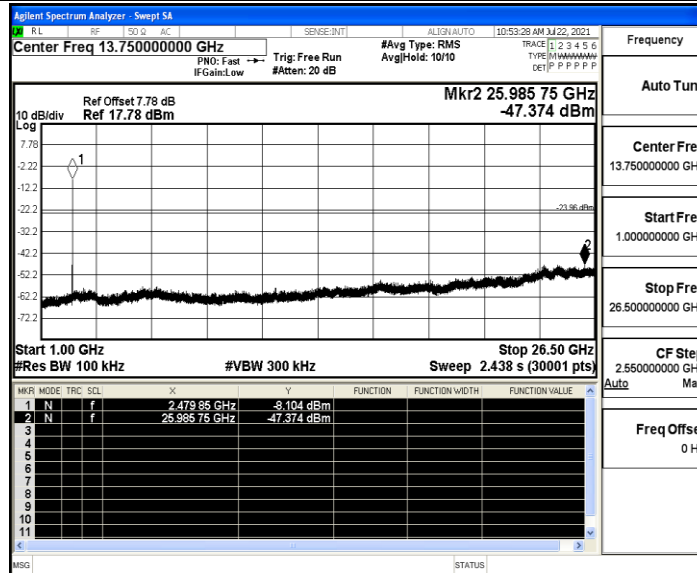
2DH5\_Ant1\_2441\_1000~26500



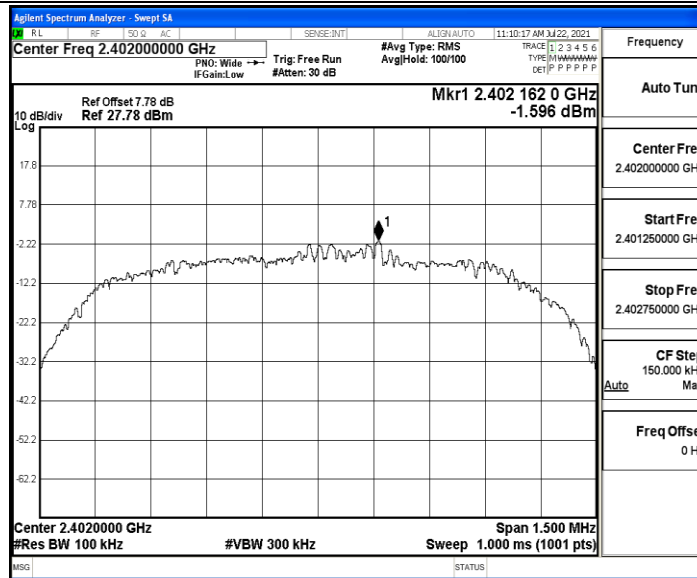
2DH5\_Ant1\_2480\_0~Reference



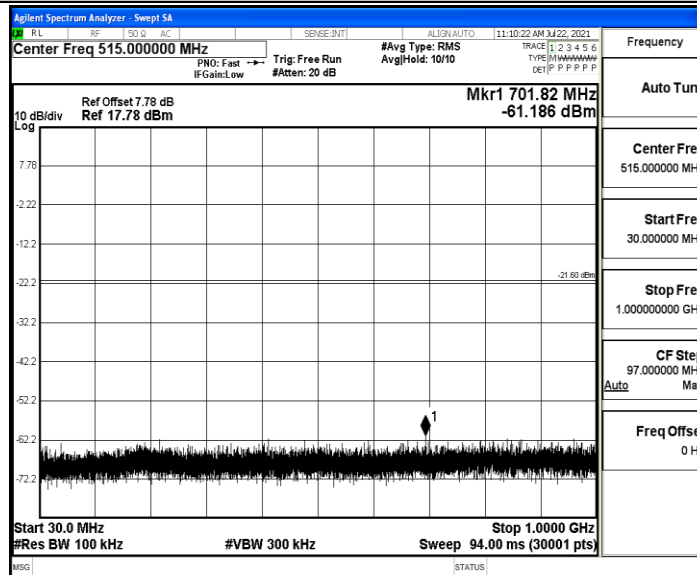
2DH5\_Ant1\_2480\_30~1000



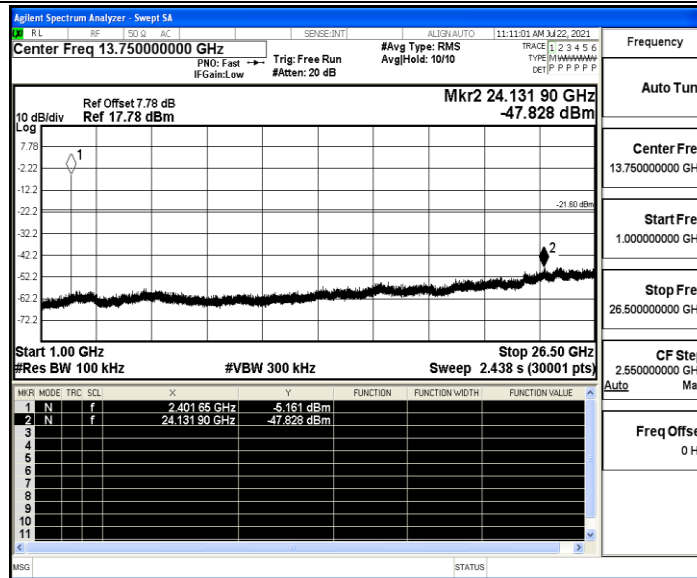
2DH5\_Ant1\_2480\_1000~26500



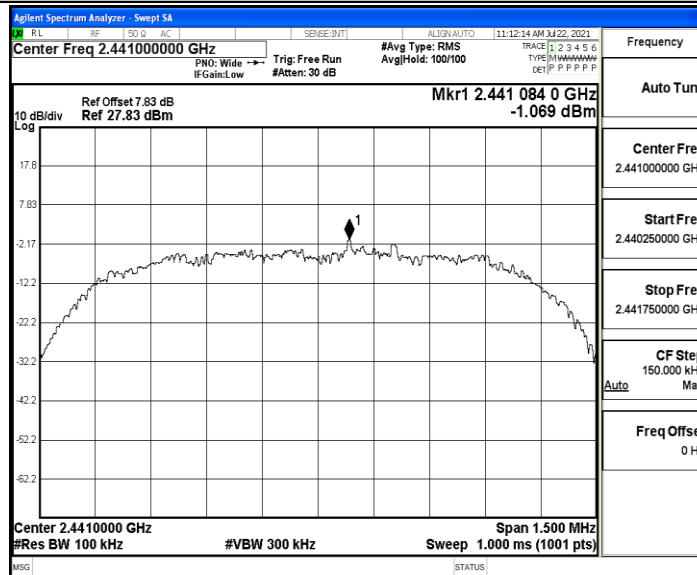
3DH5\_Ant1\_2402\_0~Reference



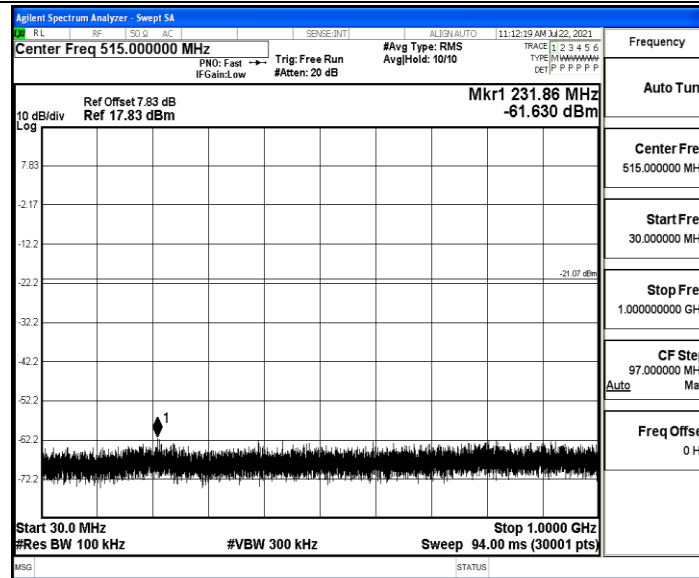
3DH5\_Ant1\_2402\_30~1000



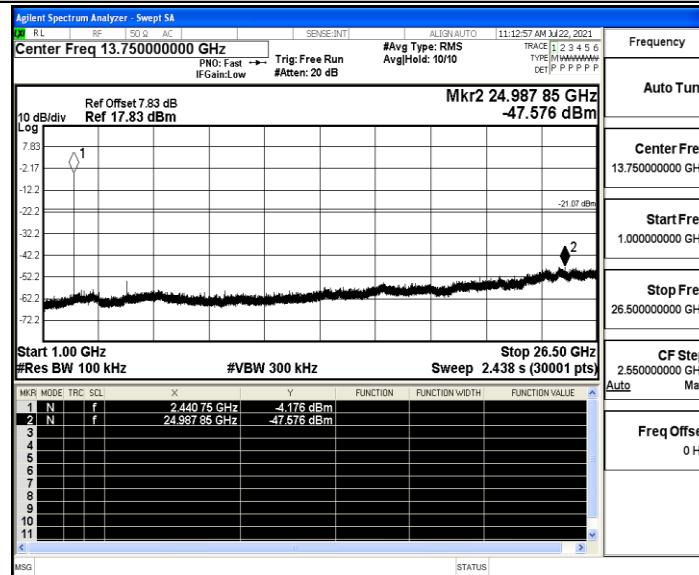
3DH5\_Ant1\_2402\_1000~26500



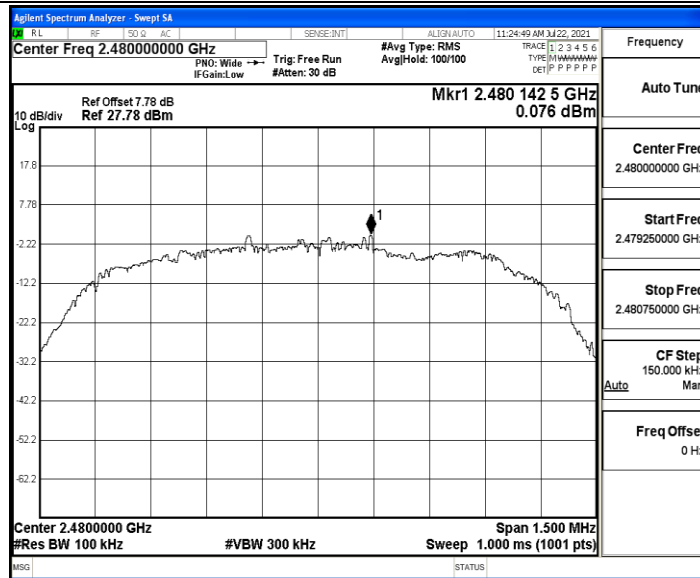
3DH5\_Ant1\_2441\_0~Reference



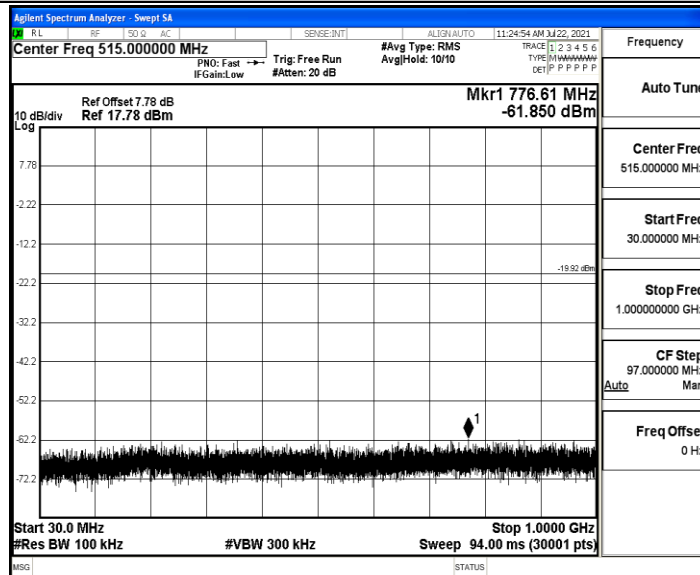
3DH5\_Ant1\_2441\_30~1000



3DH5\_Ant1\_2441\_1000~26500

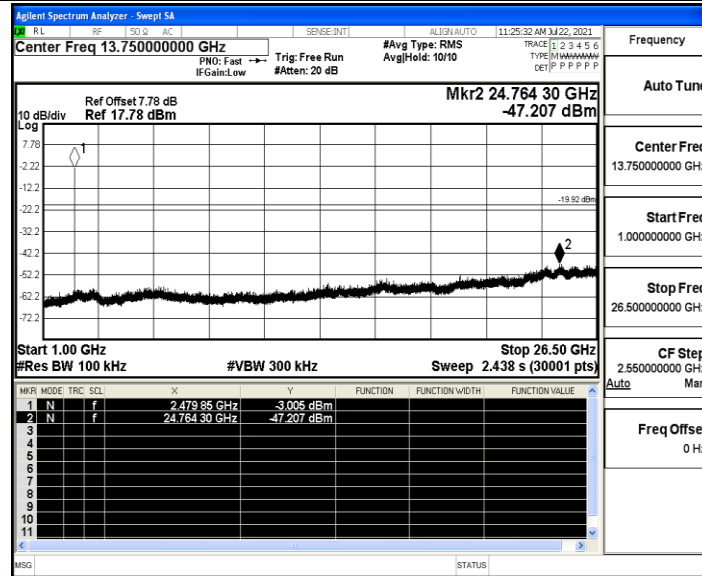


3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000





3DH5\_Ant1\_2480\_1000~26500



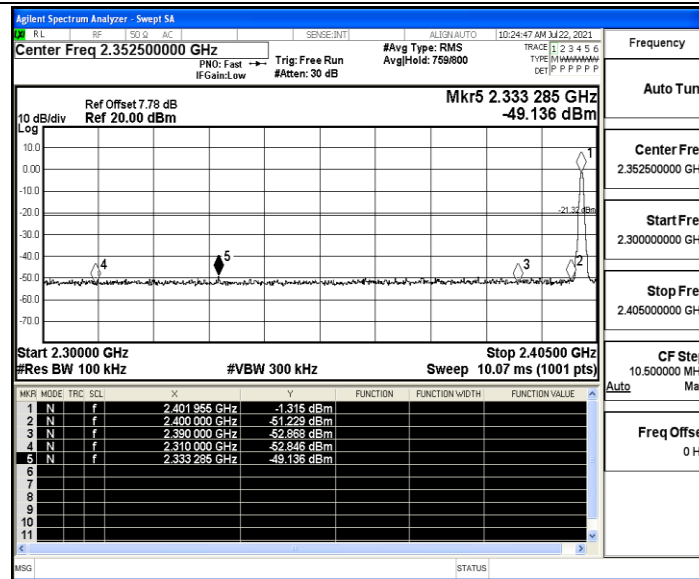
## A.7 Band edge measurements

### Test Result

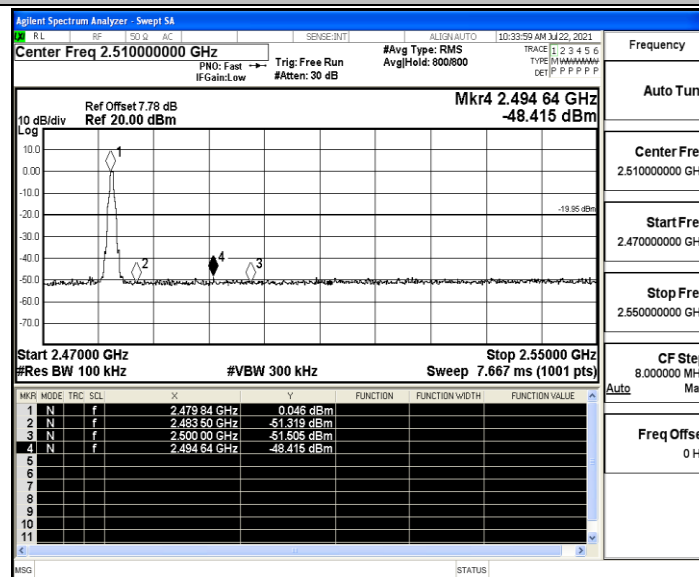
| TestMode | ChName | Channel  | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5      | Low    | 2402     | -1.32             | -49.14          | $\leq -21.32$  | PASS    |
|          | High   | 2480     | 0.05              | -48.42          | $\leq -19.95$  | PASS    |
|          | Low    | Hop_2402 | 2.26              | -49.73          | $\leq -17.74$  | PASS    |
|          | High   | Hop_2480 | 2.72              | -48.33          | $\leq -17.28$  | PASS    |
| 2DH5     | Low    | 2402     | -2.16             | -49.23          | $\leq -22.16$  | PASS    |
|          | High   | 2480     | -1.27             | -47.3           | $\leq -21.27$  | PASS    |
|          | Low    | Hop_2402 | -2.35             | -49.67          | $\leq -22.35$  | PASS    |
|          | High   | Hop_2480 | -1.10             | -48.48          | $\leq -21.1$   | PASS    |
| 3DH5     | Low    | 2402     | -3.90             | -49.17          | $\leq -23.9$   | PASS    |
|          | High   | 2480     | -5.05             | -48.65          | $\leq -25.05$  | PASS    |
|          | Low    | Hop_2402 | 0.03              | -49.45          | $\leq -19.97$  | PASS    |
|          | High   | Hop_2480 | 1.15              | -48.63          | $\leq -18.85$  | PASS    |



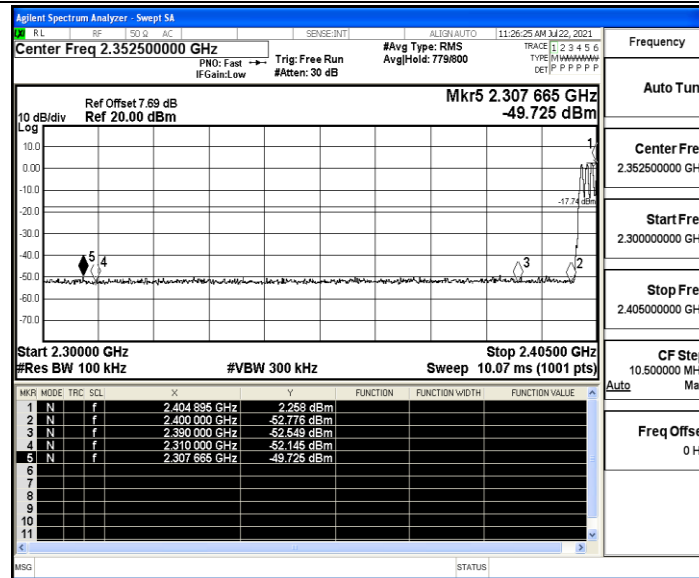
## Test Graphs



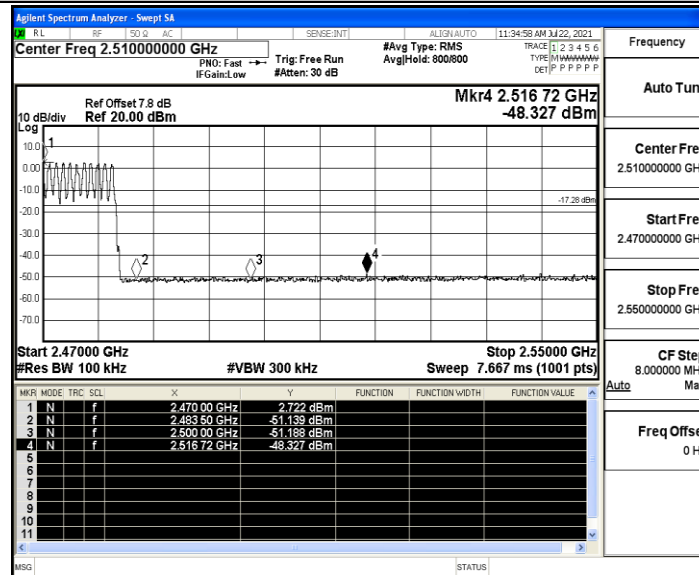
DH5\_Ant1\_Low\_2402



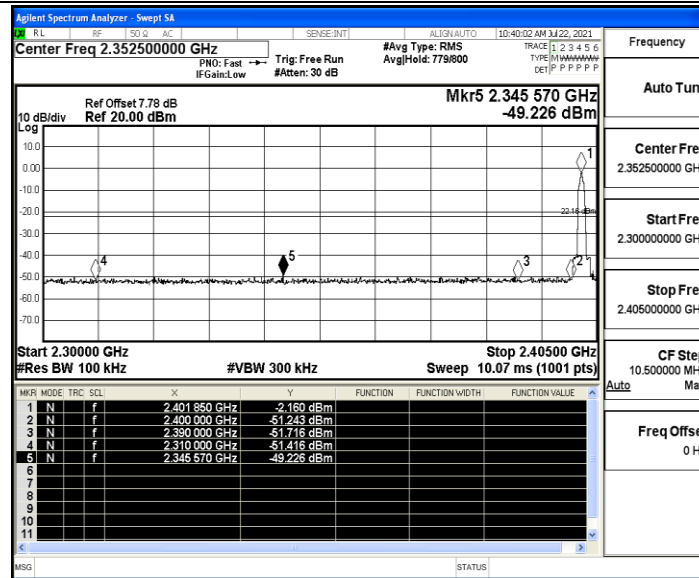
DH5\_Ant1\_High\_2480



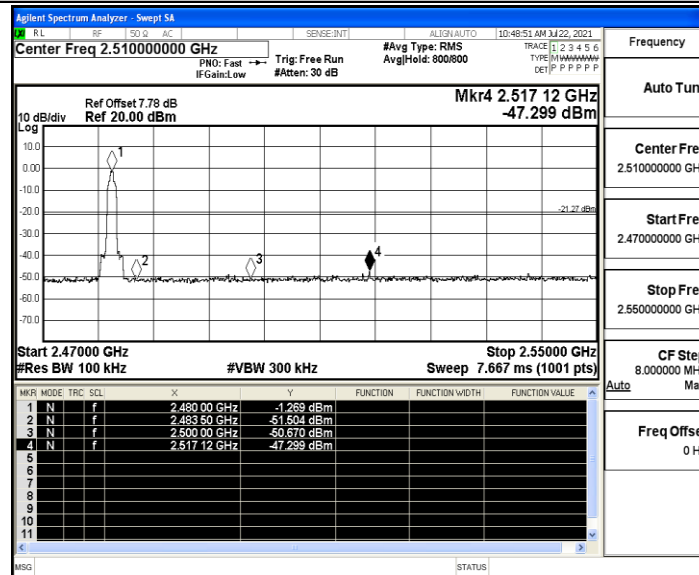
DH5\_Ant1\_Low\_Hop\_2402



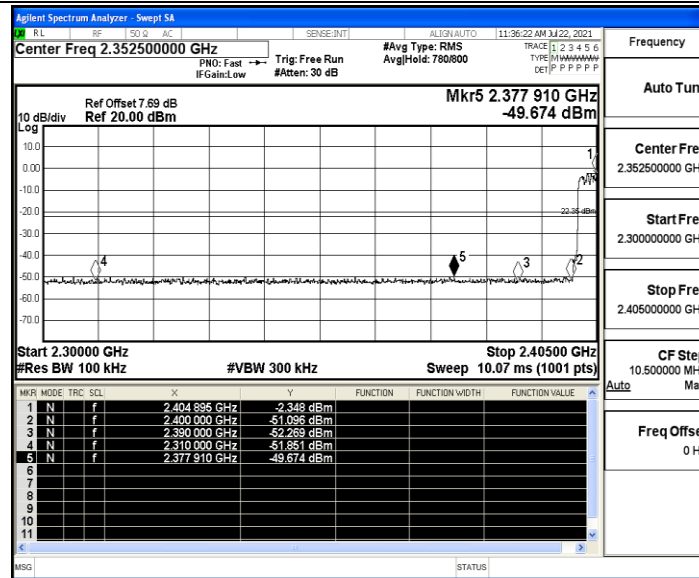
DH5\_Ant1\_High\_Hop\_2480



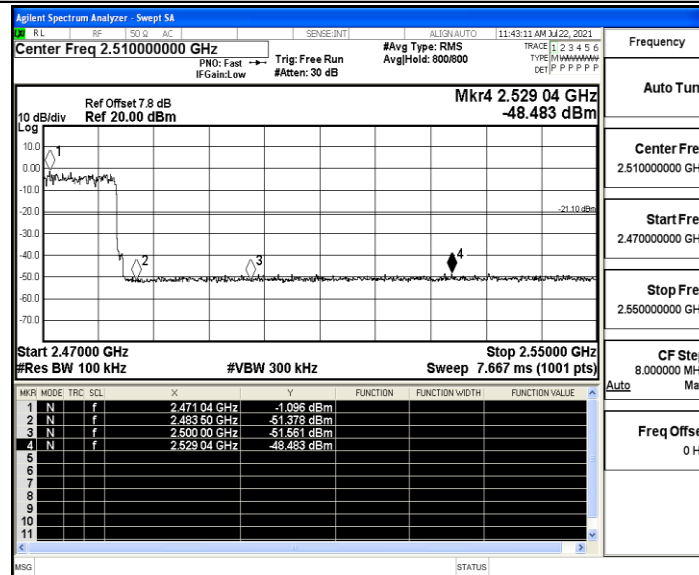
2DH5\_Ant1\_Low\_2402



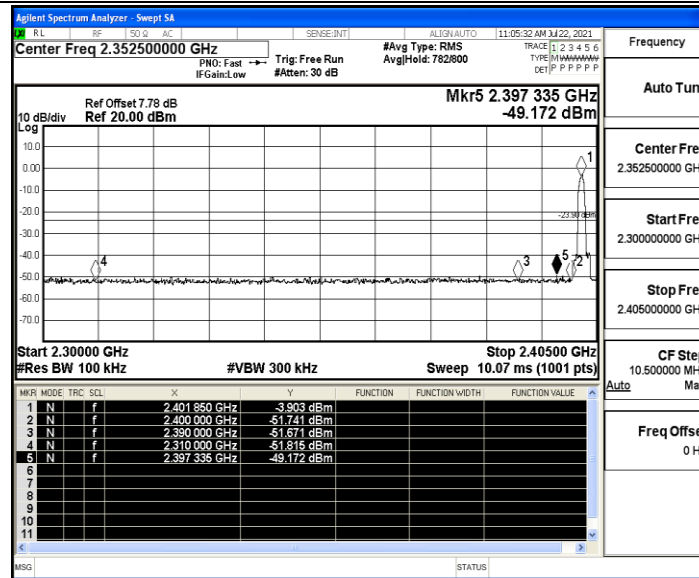
2DH5\_Ant1\_High\_2480



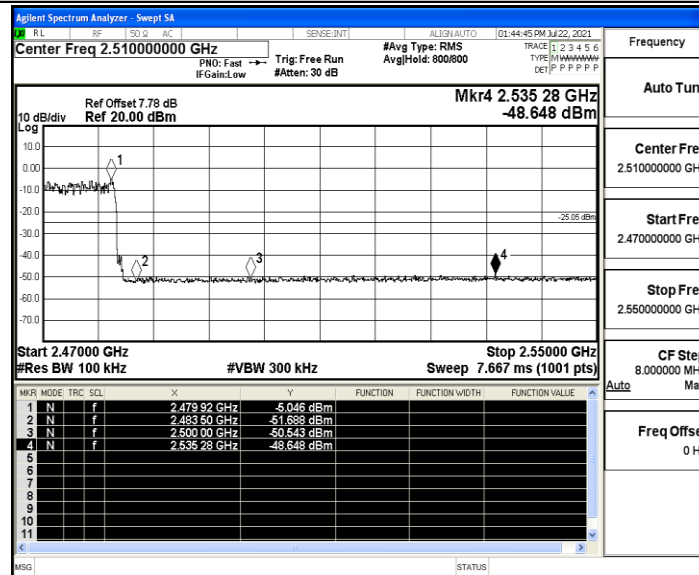
2DH5\_Ant1\_Low\_Hop\_2402



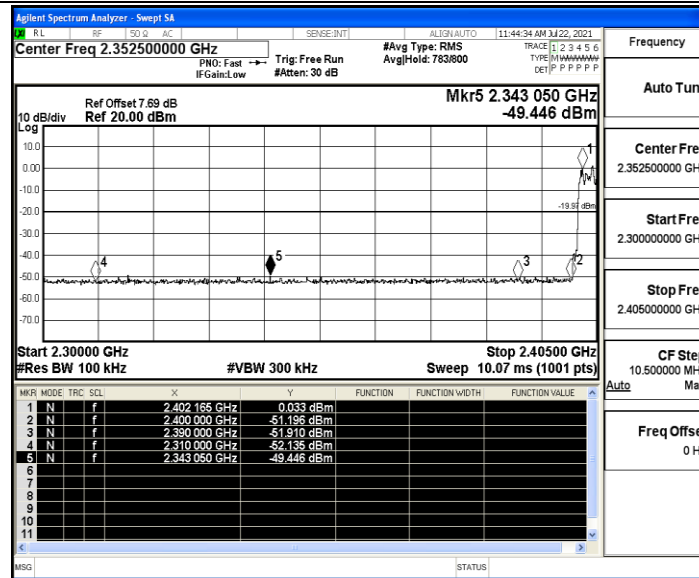
2DH5\_Ant1\_High\_Hop\_2480



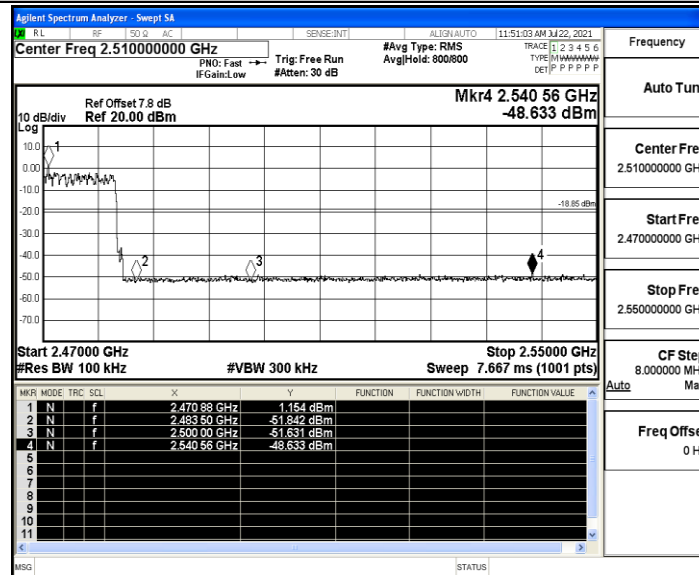
3DH5\_Ant1\_Low\_2402



3DH5\_Ant1\_High\_2480



3DH5\_Ant1\_Low\_Hop\_2402



3DH5\_Ant1\_High\_Hop\_2480





## A.8 Emissions in Restricted Bands

### Test Result

| TestMode | Channel  | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Verdict |
|----------|----------|----------|----------------|-----------------|----------------|--------------------|-------------------|---------|
| DH5      | 2402     | AV       | 2310.000       | -49.06          | ≤-41.20        | 46.14              | ≤54               | PASS    |
|          |          | AV       | 2384.840       | -48.6           | ≤-41.20        | 46.60              | ≤54               | PASS    |
|          |          | AV       | 2390.000       | -48.69          | ≤-41.20        | 46.51              | ≤54               | PASS    |
|          |          | Peak     | 2310.000       | -40.92          | ≤-21.20        | 54.28              | ≤74               | PASS    |
|          |          | Peak     | 2358.695       | -38.25          | ≤-21.20        | 56.95              | ≤74               | PASS    |
|          |          | Peak     | 2390.000       | -40.85          | ≤-21.20        | 54.35              | ≤74               | PASS    |
|          | 2480     | AV       | 2483.500       | -47.92          | ≤-41.20        | 47.28              | ≤54               | PASS    |
|          |          | AV       | 2493.680       | -47.87          | ≤-41.20        | 47.33              | ≤54               | PASS    |
|          |          | AV       | 2500.000       | -47.99          | ≤-41.20        | 47.21              | ≤54               | PASS    |
|          |          | Peak     | 2483.500       | -39.67          | ≤-21.20        | 55.53              | ≤74               | PASS    |
|          |          | Peak     | 2493.040       | -37.31          | ≤-21.20        | 57.89              | ≤74               | PASS    |
|          |          | Peak     | 2500.000       | -40             | ≤-21.20        | 55.20              | ≤74               | PASS    |
|          | Hop_2402 | Peak     | 2310.000       | -40.89          | ≤-21.20        | 54.31              | ≤74               | PASS    |
|          |          | Peak     | 2368.670       | -37.74          | ≤-21.20        | 57.46              | ≤74               | PASS    |
|          |          | Peak     | 2390.000       | -39.71          | ≤-21.20        | 55.49              | ≤74               | PASS    |
|          | Hop_2480 | Peak     | 2483.500       | -39.98          | ≤-21.20        | 55.22              | ≤74               | PASS    |
|          |          | Peak     | 2488.960       | -37.55          | ≤-21.20        | 57.65              | ≤74               | PASS    |
|          |          | Peak     | 2500.000       | -40.33          | ≤-21.20        | 54.87              | ≤74               | PASS    |
| 2DH5     | 2402     | AV       | 2310.000       | -48.97          | ≤-41.20        | 46.23              | ≤54               | PASS    |
|          |          | AV       | 2384.525       | -48.4           | ≤-41.20        | 46.80              | ≤54               | PASS    |
|          |          | AV       | 2390.000       | -48.58          | ≤-41.20        | 46.62              | ≤54               | PASS    |
|          |          | Peak     | 2310.000       | -40.5           | ≤-21.20        | 54.70              | ≤74               | PASS    |
|          |          | Peak     | 2343.050       | -38.43          | ≤-21.20        | 56.77              | ≤74               | PASS    |
|          |          | Peak     | 2390.000       | -40.75          | ≤-21.20        | 54.45              | ≤74               | PASS    |
|          | 2480     | AV       | 2483.500       | -47.91          | ≤-41.20        | 47.29              | ≤54               | PASS    |
|          |          | AV       | 2496.720       | -47.89          | ≤-41.20        | 47.31              | ≤54               | PASS    |
|          |          | AV       | 2500.000       | -47.94          | ≤-41.20        | 47.26              | ≤54               | PASS    |
|          |          | Peak     | 2483.500       | -40.5           | ≤-21.20        | 54.70              | ≤74               | PASS    |
|          |          | Peak     | 2485.520       | -37.62          | ≤-21.20        | 57.58              | ≤74               | PASS    |
|          |          | Peak     | 2500.000       | -40.03          | ≤-21.20        | 55.17              | ≤74               | PASS    |
|          | Hop_2402 | Peak     | 2310.000       | -40.92          | ≤-21.20        | 54.28              | ≤74               | PASS    |
|          |          | Peak     | 2325.515       | -37.47          | ≤-21.20        | 57.73              | ≤74               | PASS    |
|          |          | Peak     | 2390.000       | -40.54          | ≤-21.20        | 54.66              | ≤74               | PASS    |
|          | Hop_2480 | Peak     | 2483.500       | -39.53          | ≤-21.20        | 55.67              | ≤74               | PASS    |
|          |          | Peak     | 2485.920       | -38.44          | ≤-21.20        | 56.76              | ≤74               | PASS    |
|          |          | Peak     | 2500.000       | -39.76          | ≤-21.20        | 55.44              | ≤74               | PASS    |



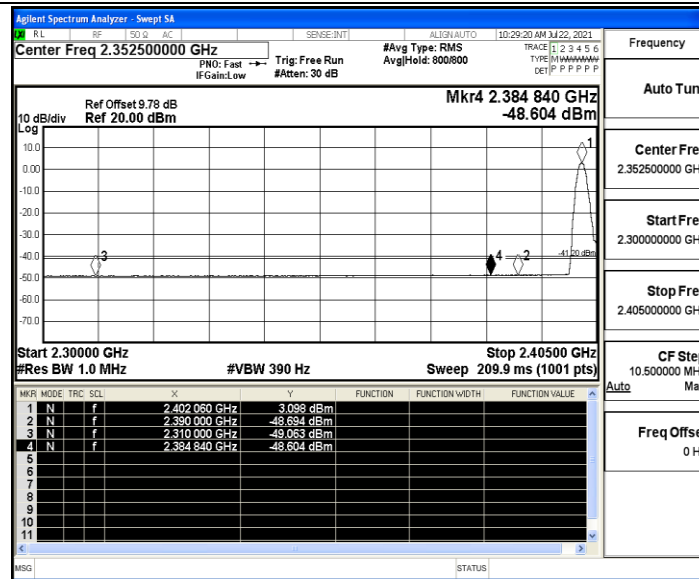
|      |          |      |          |        |               |       |           |      |
|------|----------|------|----------|--------|---------------|-------|-----------|------|
| 3DH5 | 2402     | AV   | 2310.000 | -48.93 | $\leq -41.20$ | 46.27 | $\leq 54$ | PASS |
|      |          | AV   | 2378.960 | -48.43 | $\leq -41.20$ | 46.77 | $\leq 54$ | PASS |
|      |          | AV   | 2390.000 | -48.57 | $\leq -41.20$ | 46.63 | $\leq 54$ | PASS |
|      |          | Peak | 2310.000 | -41.09 | $\leq -21.20$ | 54.11 | $\leq 74$ | PASS |
|      |          | Peak | 2360.060 | -38.08 | $\leq -21.20$ | 57.12 | $\leq 74$ | PASS |
|      |          | Peak | 2390.000 | -40.03 | $\leq -21.20$ | 55.17 | $\leq 74$ | PASS |
|      | 2480     | AV   | 2483.500 | -47.74 | $\leq -41.20$ | 47.46 | $\leq 54$ | PASS |
|      |          | AV   | 2483.520 | -47.74 | $\leq -41.20$ | 47.46 | $\leq 54$ | PASS |
|      |          | AV   | 2500.000 | -47.95 | $\leq -41.20$ | 47.25 | $\leq 54$ | PASS |
|      |          | Peak | 2483.500 | -38.9  | $\leq -21.20$ | 56.30 | $\leq 74$ | PASS |
|      |          | Peak | 2484.560 | -37.68 | $\leq -21.20$ | 57.52 | $\leq 74$ | PASS |
|      |          | Peak | 2500.000 | -39.54 | $\leq -21.20$ | 55.66 | $\leq 74$ | PASS |
|      | Hop_2402 | Peak | 2310.000 | -40.55 | $\leq -21.20$ | 54.65 | $\leq 74$ | PASS |
|      |          | Peak | 2389.775 | -38.34 | $\leq -21.20$ | 56.86 | $\leq 74$ | PASS |
|      |          | Peak | 2390.000 | -40.92 | $\leq -21.20$ | 54.28 | $\leq 74$ | PASS |
|      | Hop_2480 | Peak | 2483.500 | -39.48 | $\leq -21.20$ | 55.72 | $\leq 74$ | PASS |
|      |          | Peak | 2494.320 | -37.81 | $\leq -21.20$ | 57.39 | $\leq 74$ | PASS |
|      |          | Peak | 2500.000 | -39.06 | $\leq -21.20$ | 56.14 | $\leq 74$ | PASS |

Note:

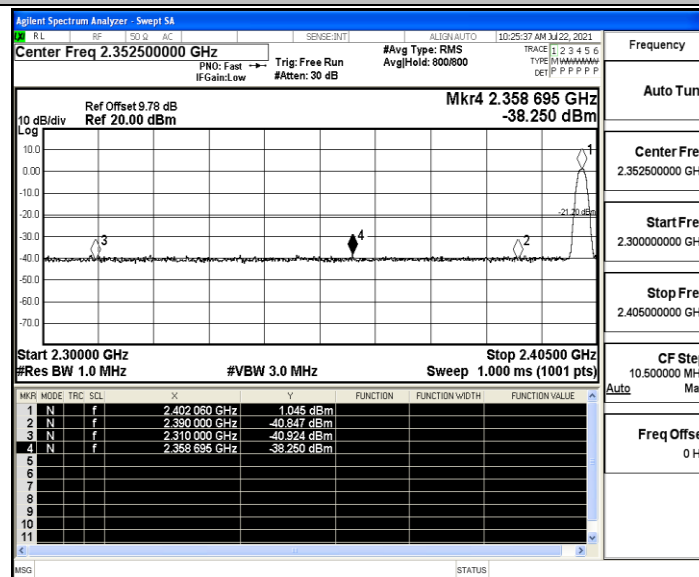
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



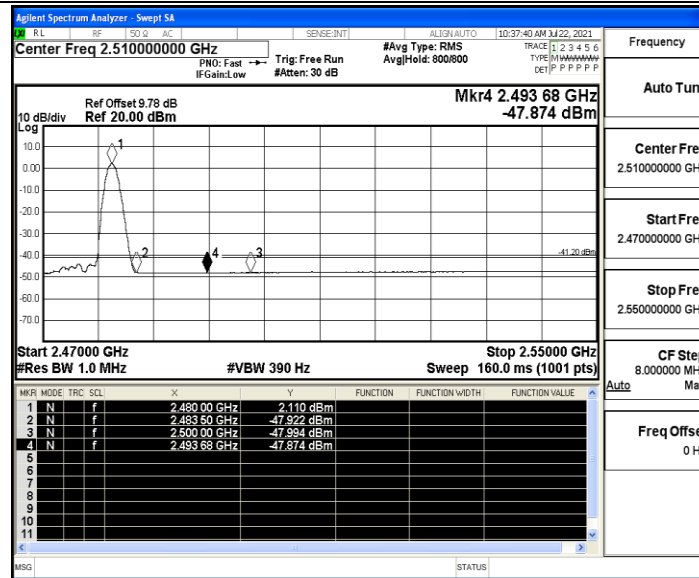
## Test Graphs



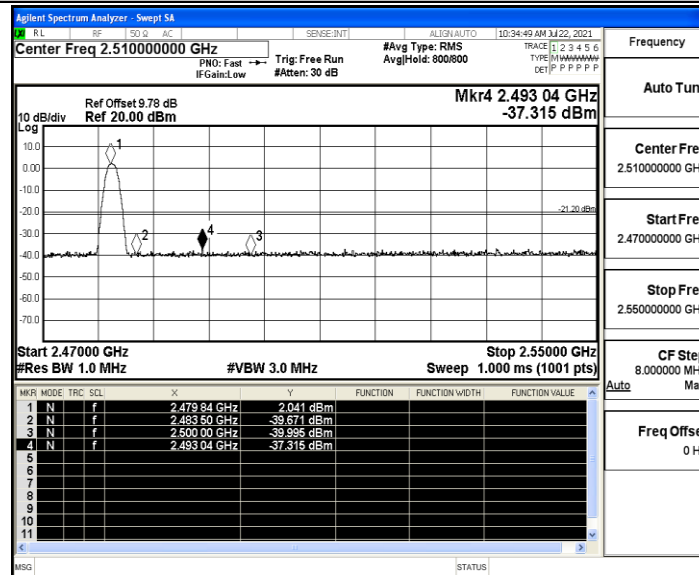
DH5\_Ant1\_Low\_2402\_AV



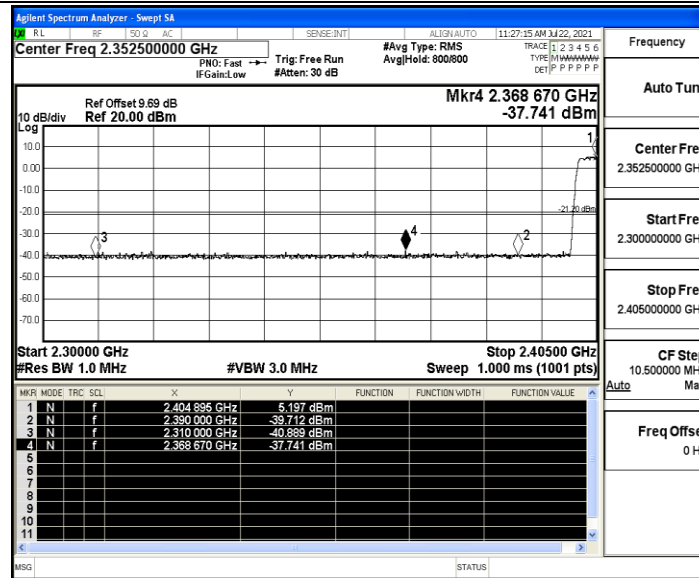
DH5\_Ant1\_Low\_2402\_Peak



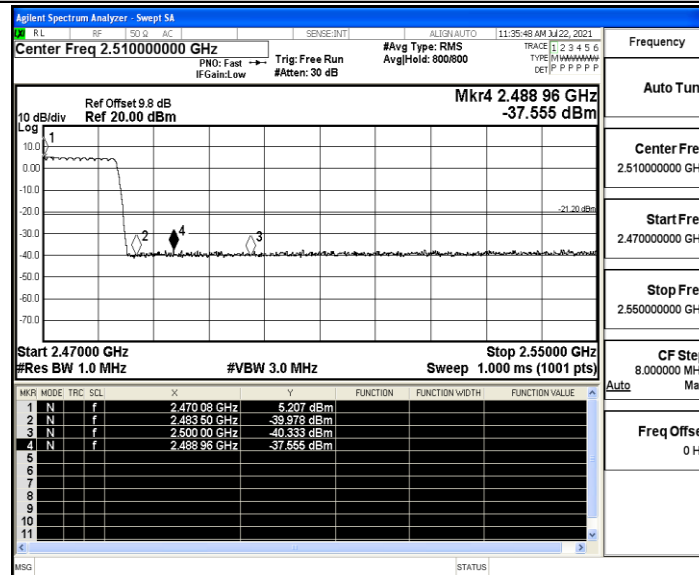
DH5\_Ant1\_High\_2480\_AV



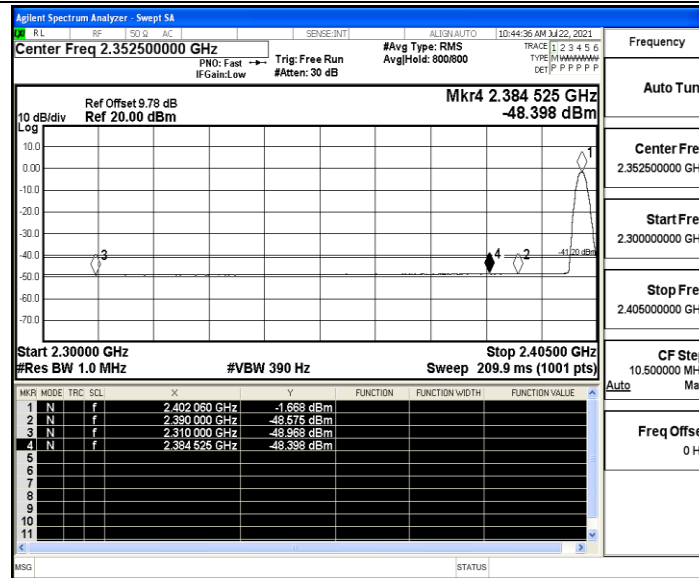
DH5\_Ant1\_High\_2480\_Peak



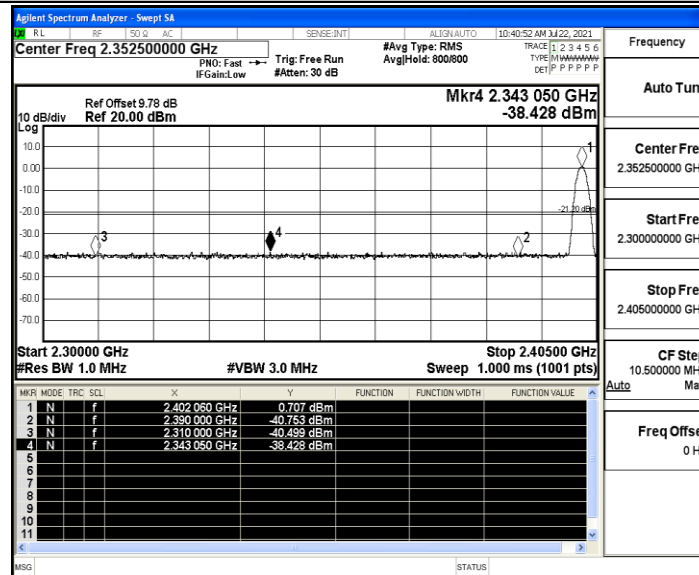
DH5\_Ant1\_Low\_Hop\_2402\_Peak



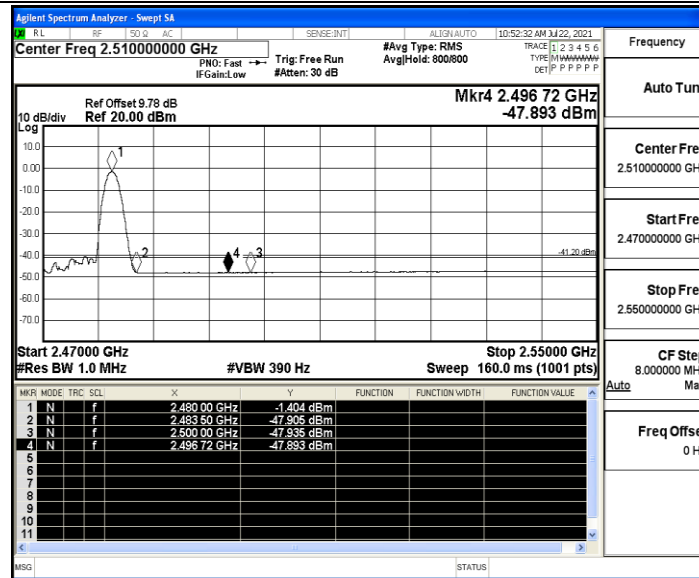
DH5\_Ant1\_High\_Hop\_2480\_Peak



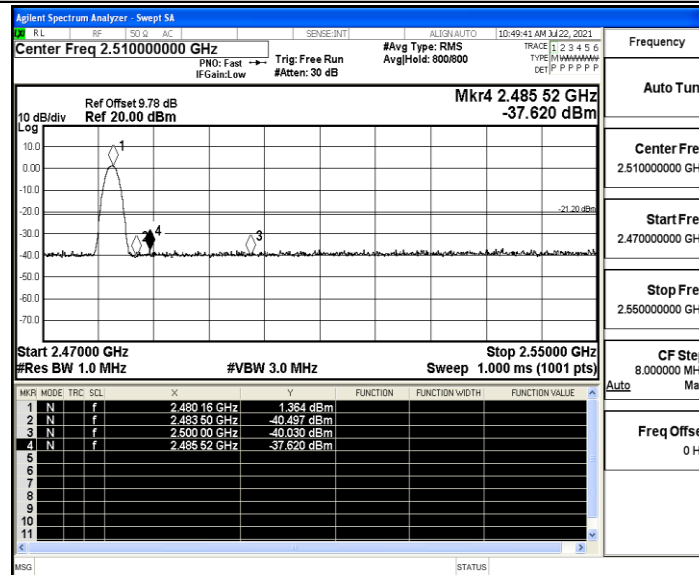
2DH5\_Ant1\_Low\_2402\_AV



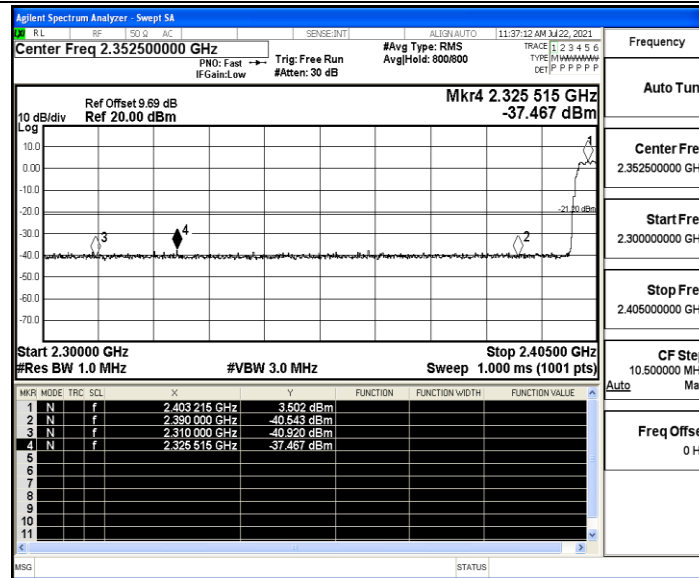
2DH5\_Ant1\_Low\_2402\_Peak



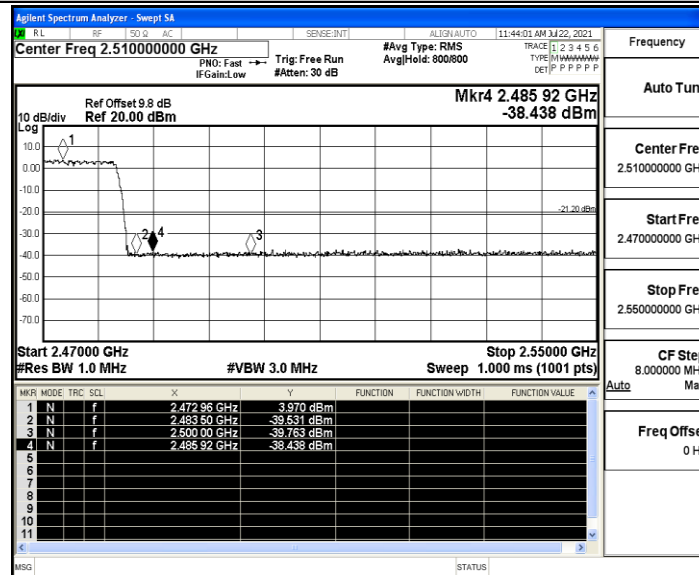
2DH5\_Ant1\_High\_2480\_AV



2DH5\_Ant1\_High\_2480\_Peak

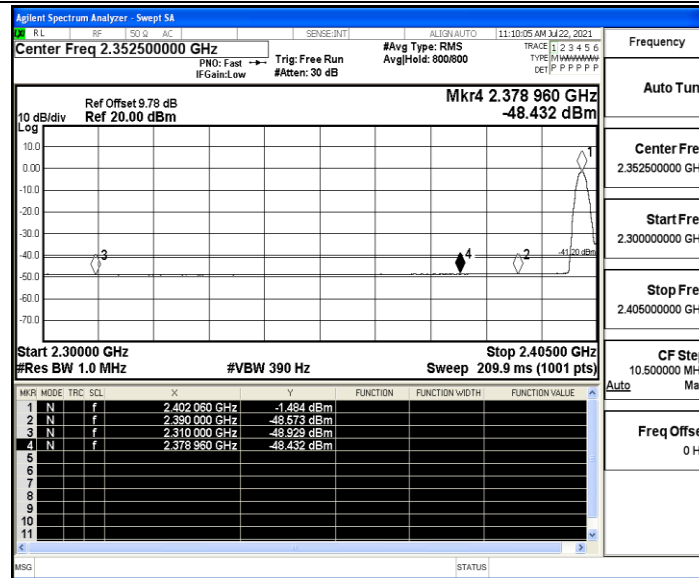


2DH5\_Ant1\_Low\_Hop\_2402\_Peak

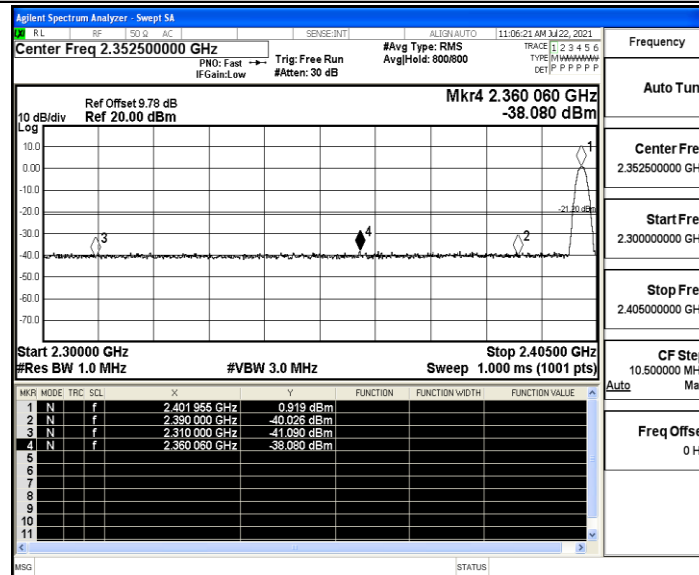


2DH5\_Ant1\_High\_Hop\_2480\_Peak

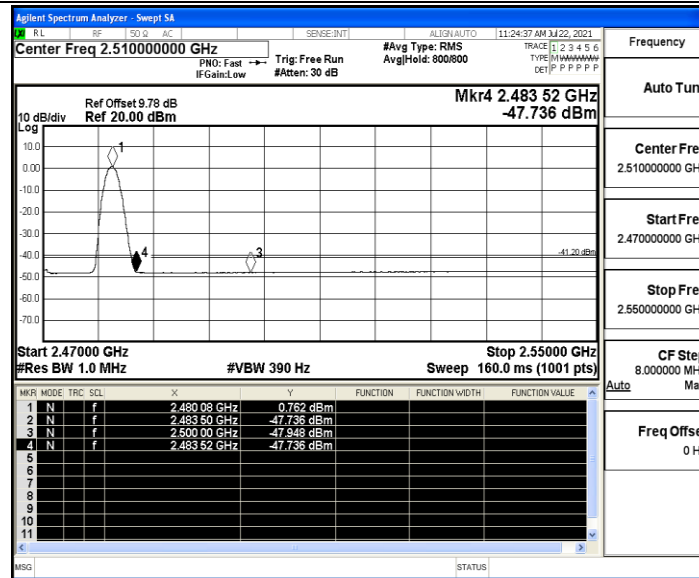




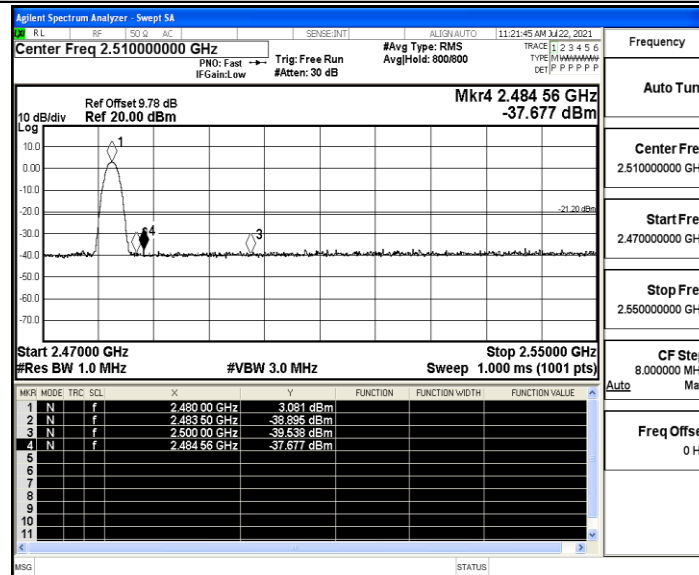
3DH5\_Ant1\_Low\_2402\_AV



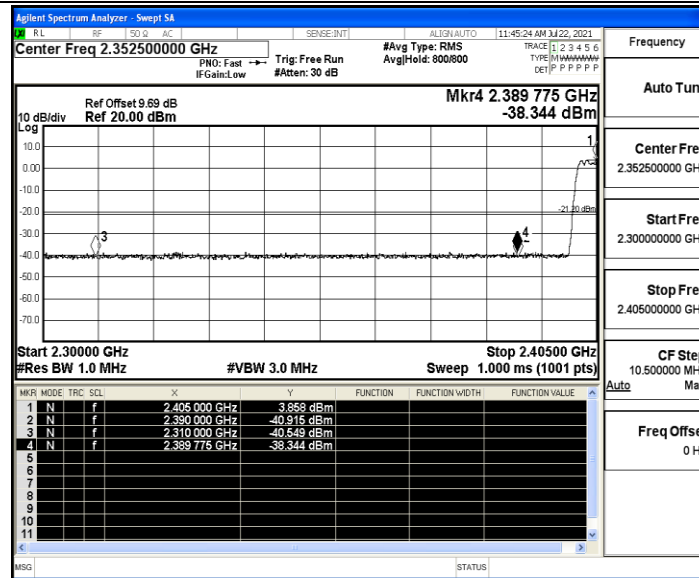
3DH5\_Ant1\_Low\_2402\_Peak



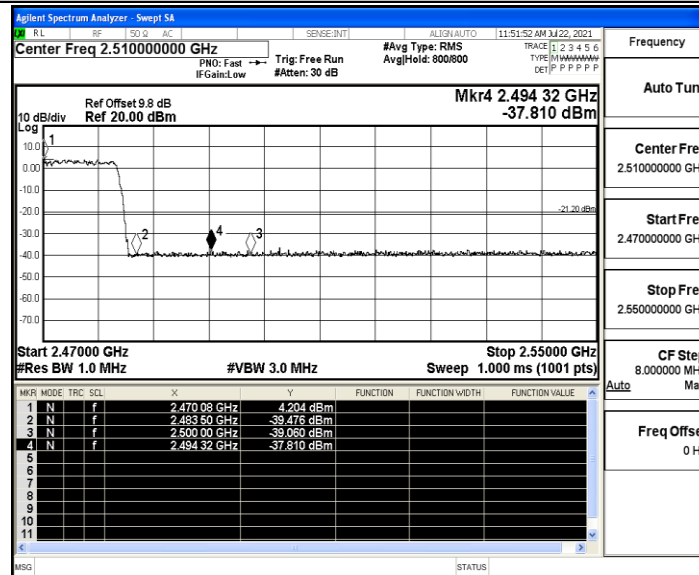
3DH5\_Ant1\_High\_2480\_AV



3DH5\_Ant1\_High\_2480\_Peak



3DH5\_Ant1\_Low\_Hop\_2402\_Peak



3DH5\_Ant1\_High\_Hop\_2480\_Peak