



## Appendix A

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

Product Name: Smart LED Flood Light

Test Model: NTF77

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.4° C   |
| Relative Humidity: | 51.3%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | monkey.Li |
| Supervised by:     | Libu      |



## A.1 20dB Emission Bandwidth

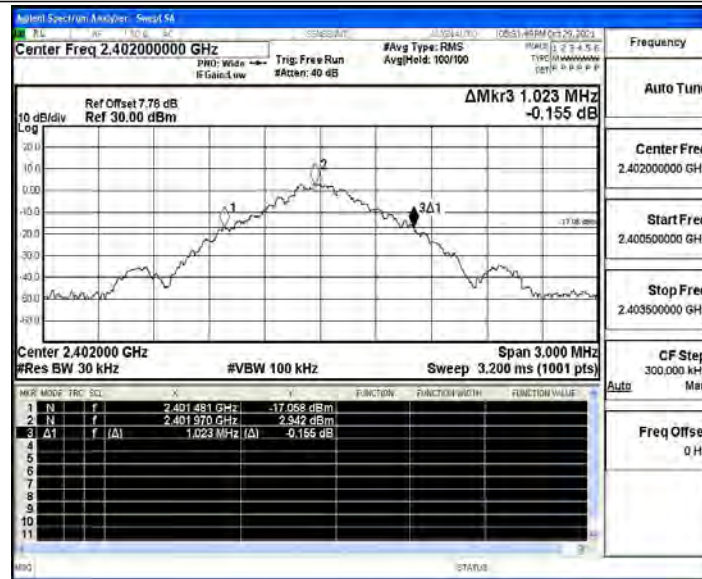
### Test Result

| TestMode | Antenna | Channel | 20db<br>EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|------------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 1.023            | 2401.481 | 2402.504 | ---        | PASS    |
|          |         | 2441    | 1.038            | 2440.466 | 2441.504 | ---        | PASS    |
|          |         | 2480    | 1.026            | 2479.472 | 2480.498 | ---        | PASS    |
| 2DH5     | Ant1    | 2402    | 1.326            | 2401.334 | 2402.660 | ---        | PASS    |
|          |         | 2441    | 1.362            | 2440.319 | 2441.681 | ---        | PASS    |
|          |         | 2480    | 1.287            | 2479.364 | 2480.651 | ---        | PASS    |
| 3DH5     | Ant1    | 2402    | 1.317            | 2401.343 | 2402.660 | ---        | PASS    |
|          |         | 2441    | 1.308            | 2440.349 | 2441.657 | ---        | PASS    |
|          |         | 2480    | 1.275            | 2479.364 | 2480.639 | ---        | PASS    |

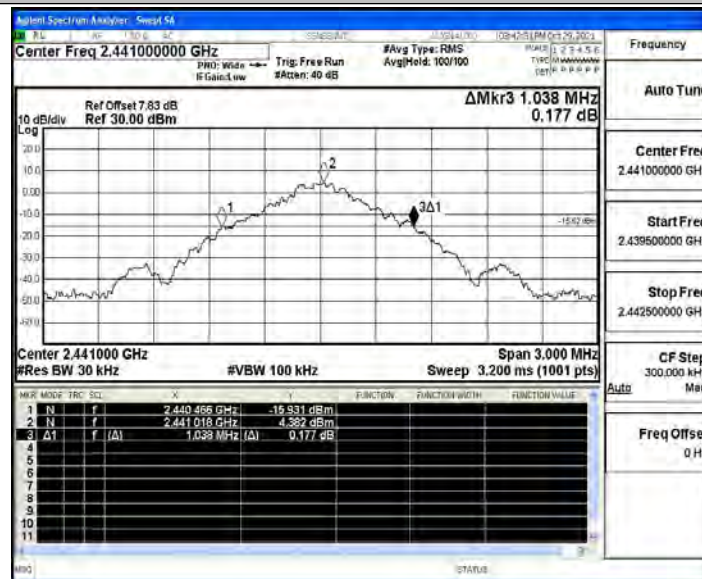


## Test Graphs

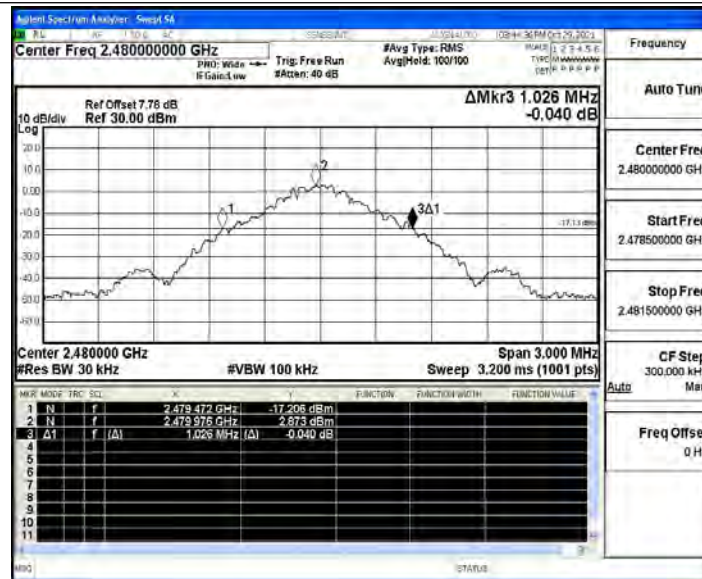
DH5\_Ant1\_2402



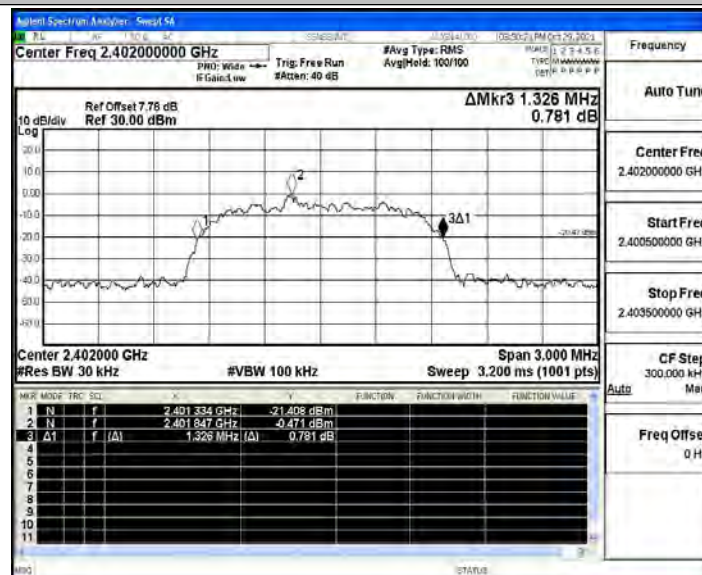
DH5\_Ant1\_2441



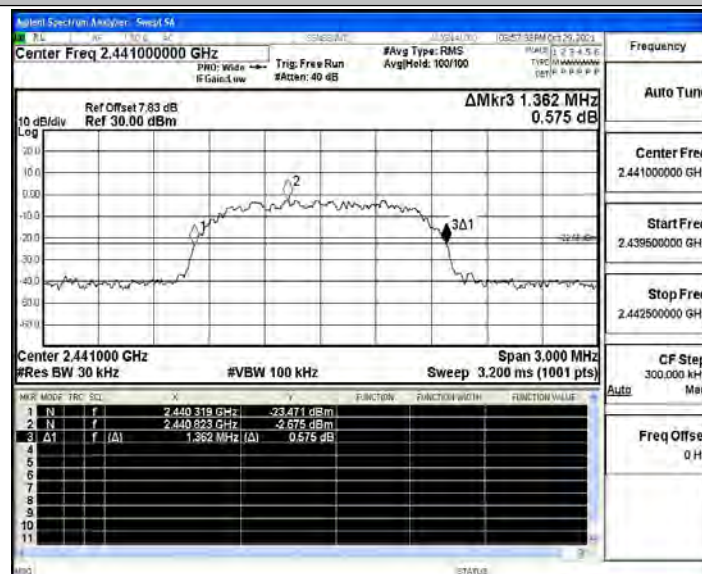
DH5\_Ant1\_2480



2DH5\_Ant1\_2402

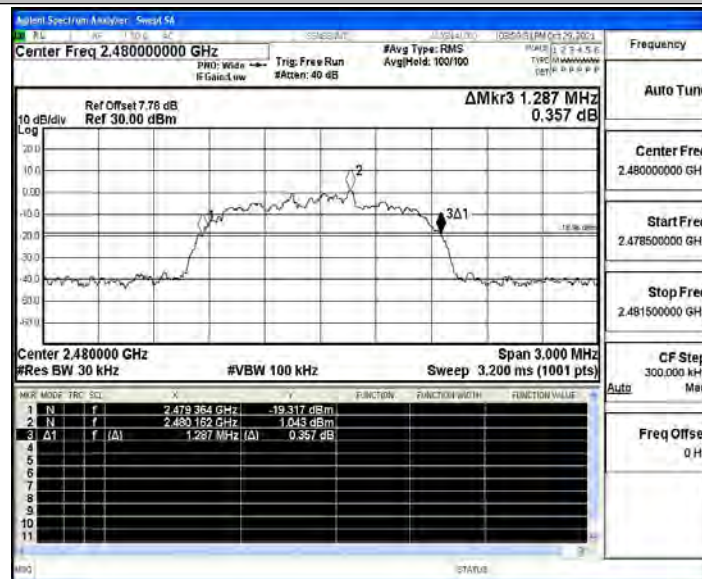


2DH5\_Ant1\_2441

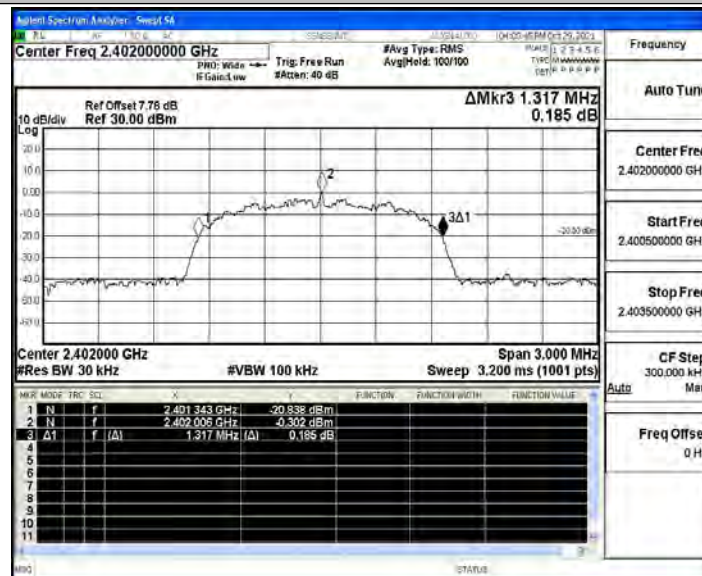




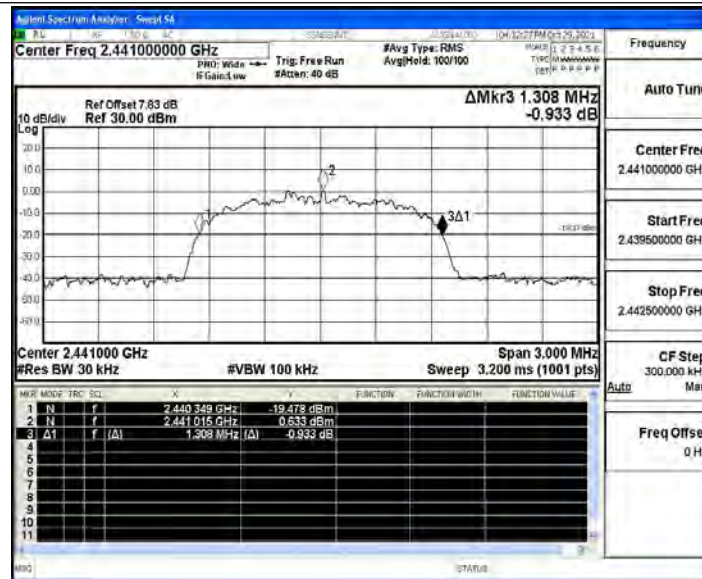
## 2DH5\_Ant1\_2480



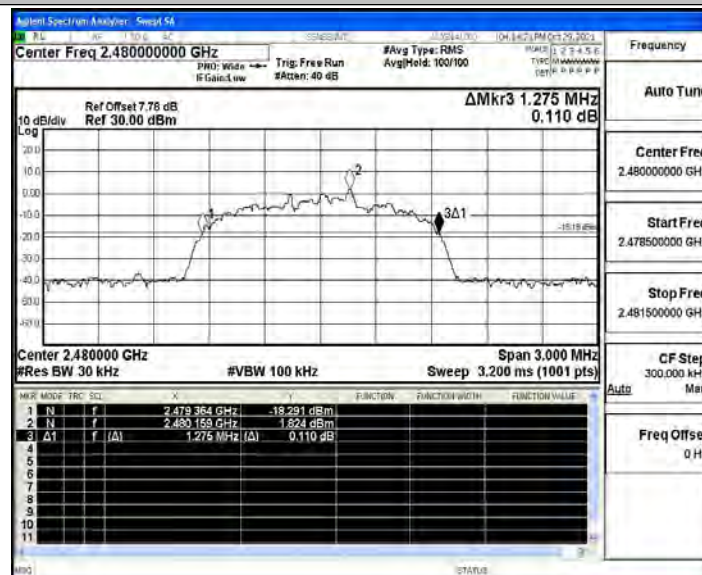
## 3DH5\_Ant1\_2402



## 3DH5\_Ant1\_2441



3DH5\_Ant1\_2480





## A.2 Maximum conducted output power

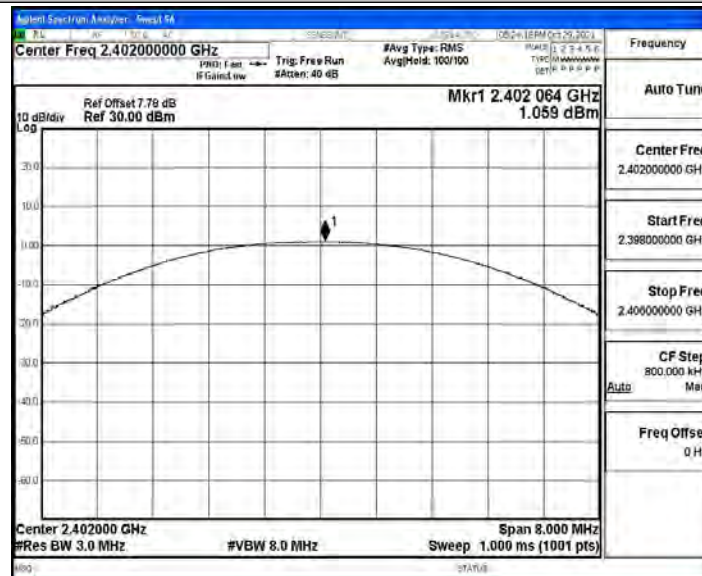
### Test Result

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | 2402    | 1.06        | ≤30        | PASS    |
|          |         | 2441    | 2.2         | ≤30        | PASS    |
|          |         | 2480    | 0.66        | ≤30        | PASS    |
| 2DH5     | Ant1    | 2402    | 0.07        | ≤20.97     | PASS    |
|          |         | 2441    | 1.24        | ≤20.97     | PASS    |
|          |         | 2480    | -0.3        | ≤20.97     | PASS    |
| 3DH5     | Ant1    | 2402    | 0.26        | ≤20.97     | PASS    |
|          |         | 2441    | 1.49        | ≤20.97     | PASS    |
|          |         | 2480    | -0.05       | ≤20.97     | PASS    |

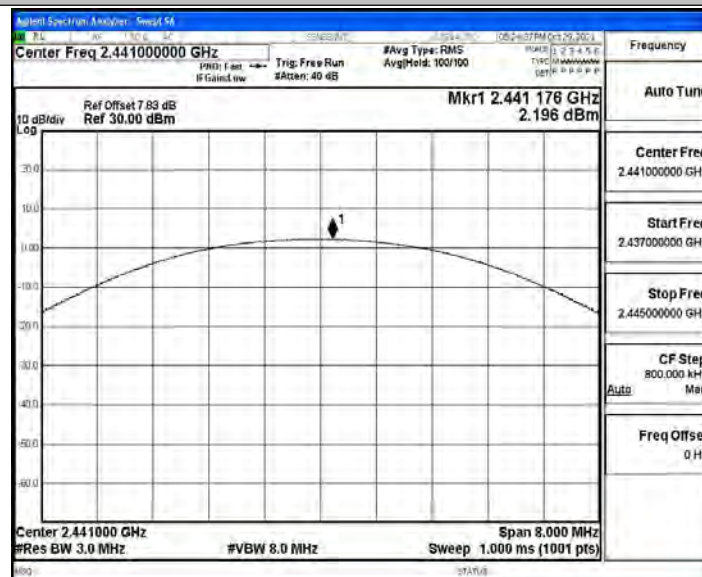


## Test Graphs

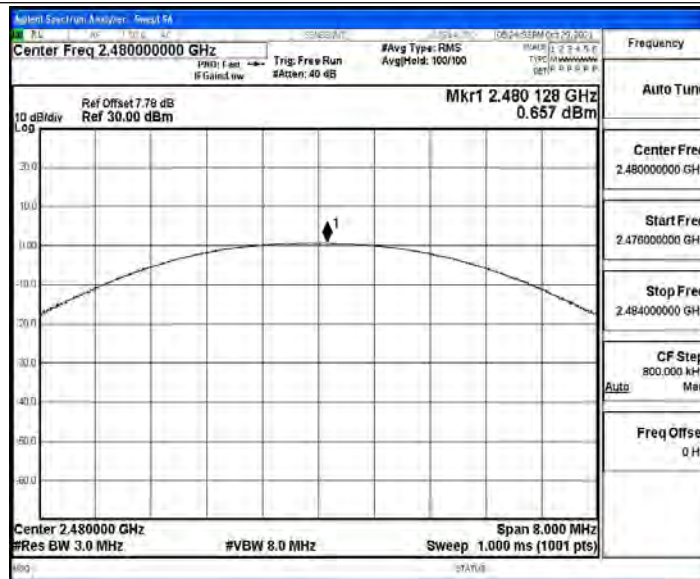
DH5\_Ant1\_2402



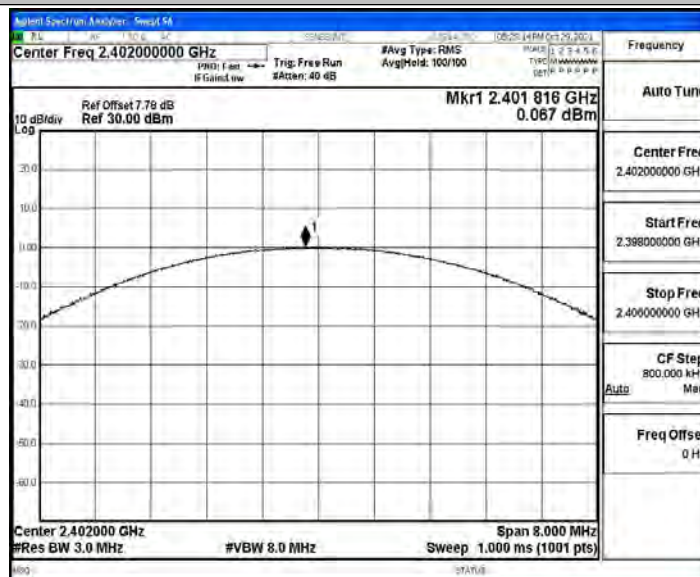
DH5\_Ant1\_2441



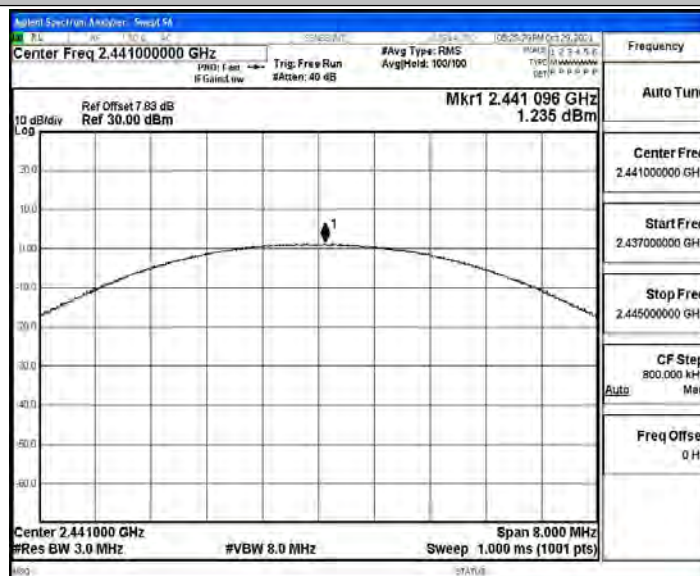
DH5\_Ant1\_2480



2DH5\_Ant1\_2402

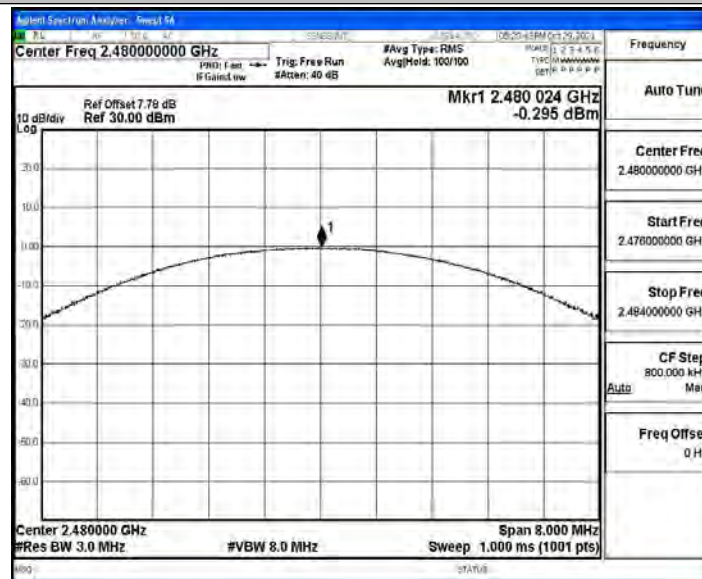


2DH5\_Ant1\_2441

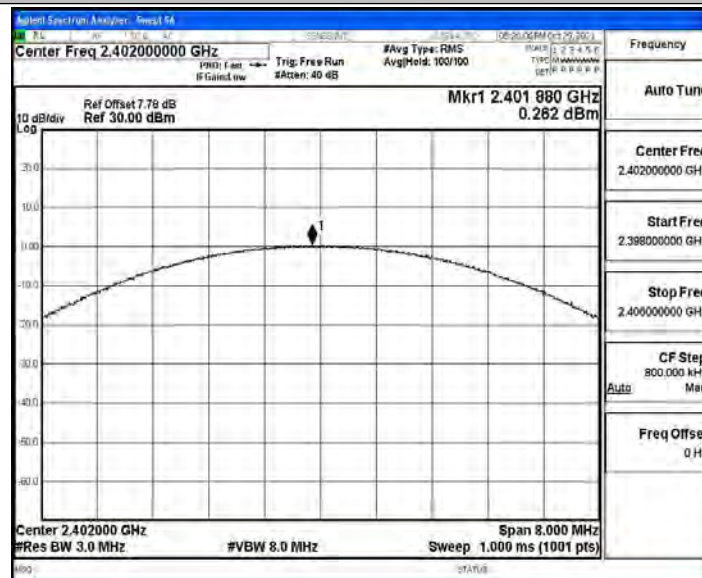




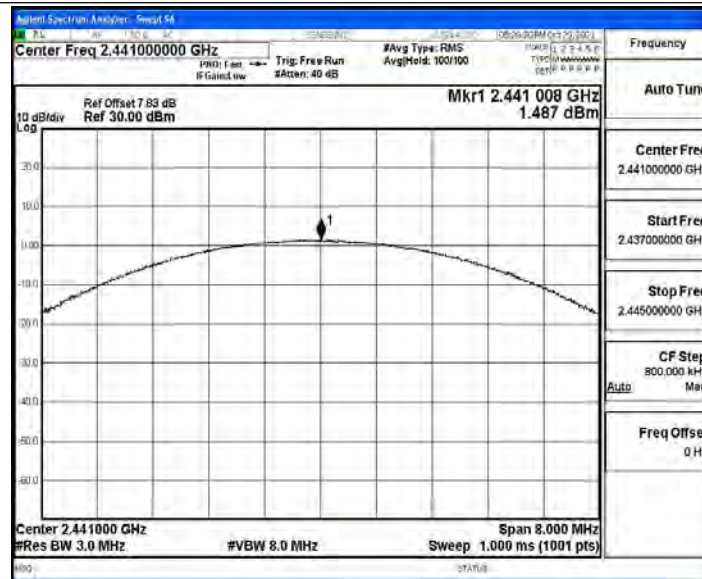
## 2DH5\_Ant1\_2480



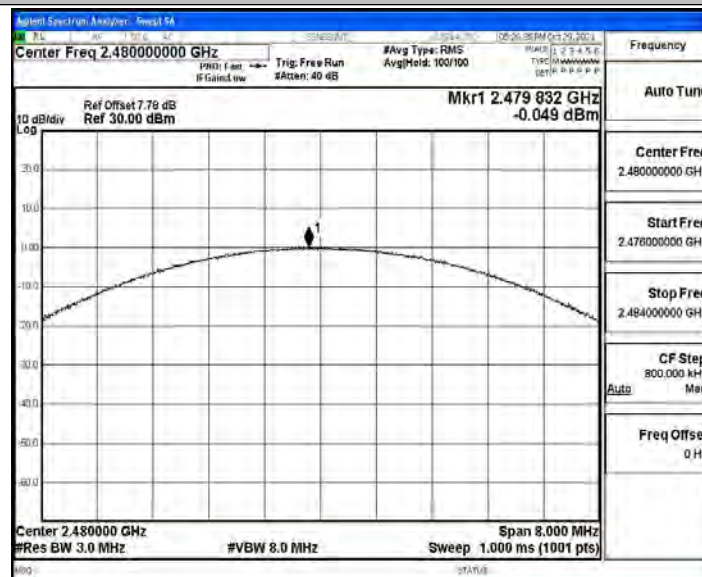
## 3DH5\_Ant1\_2402



## 3DH5\_Ant1\_2441



3DH5\_Ant1\_2480





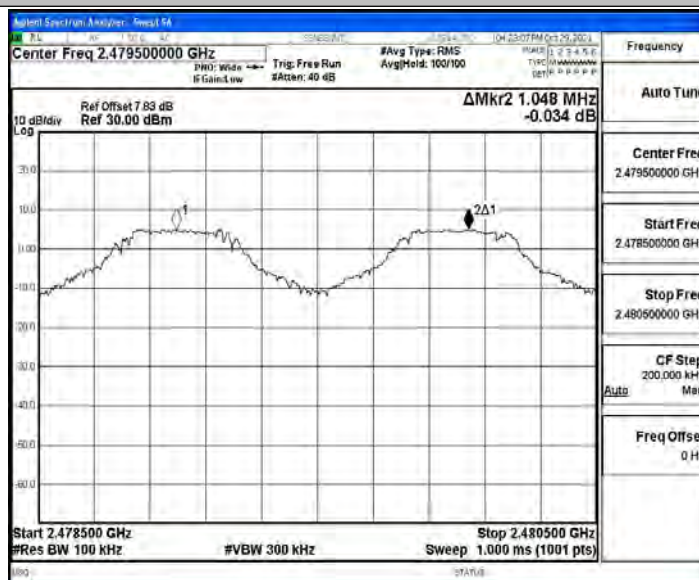
## A.3 Carrier frequency separation

### Test Result

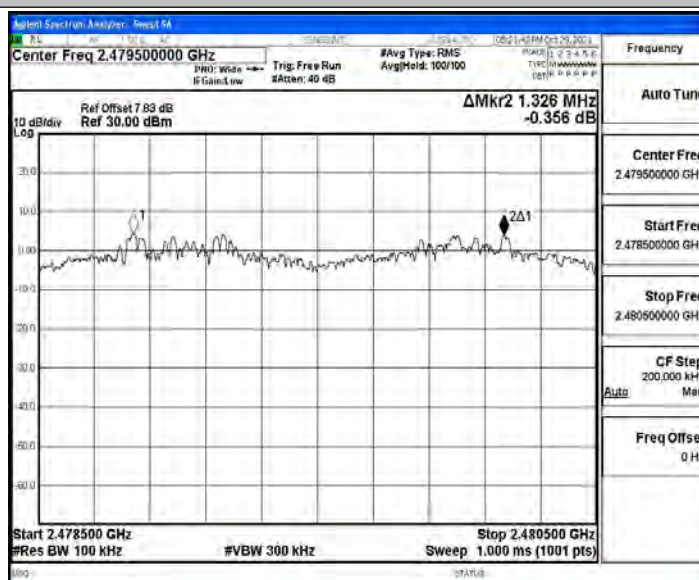
| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 1.048       | $\geq 1.038$ | PASS    |
| 2DH5     | Ant1    | Hop     | 1.326       | $\geq 0.908$ | PASS    |
| 3DH5     | Ant1    | Hop     | 0.998       | $\geq 0.878$ | PASS    |

### Test Graphs

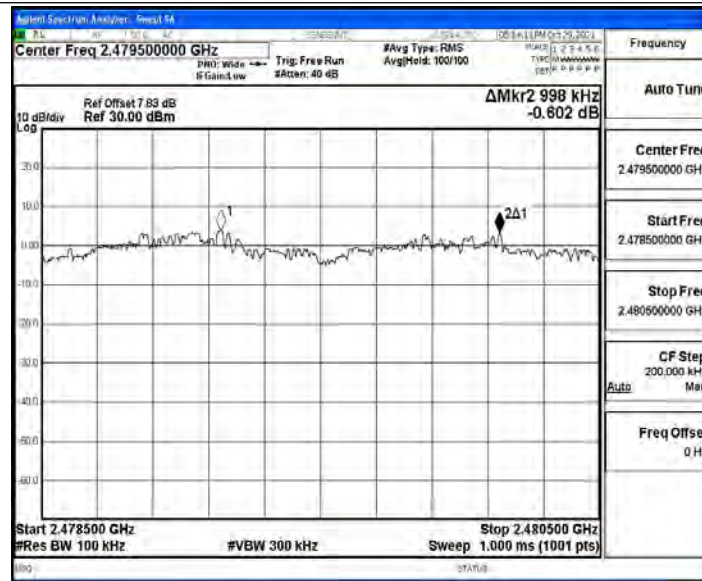
DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop





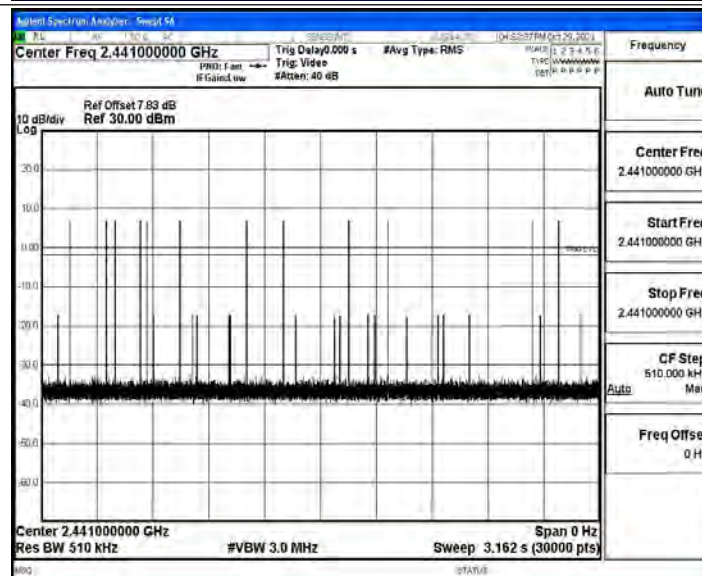
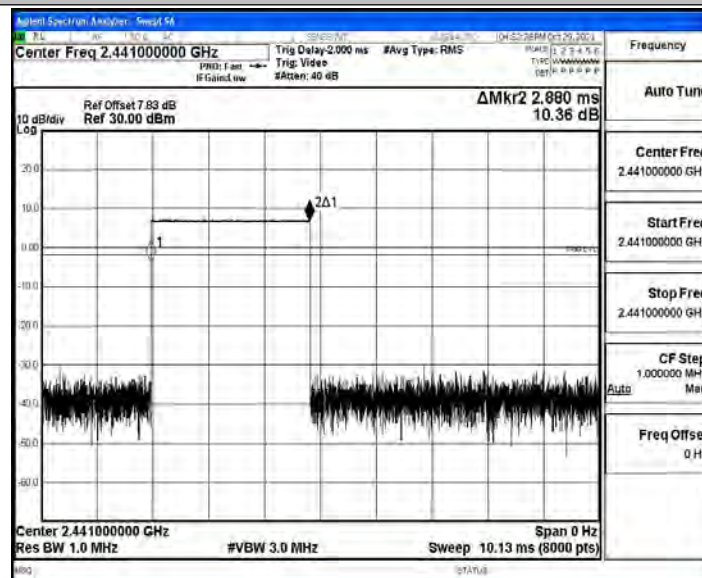
## A.4 Time of occupancy

### Test Result

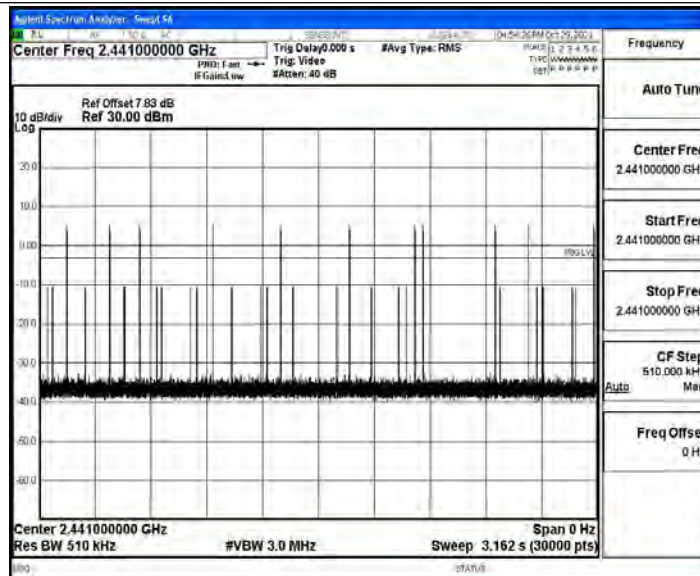
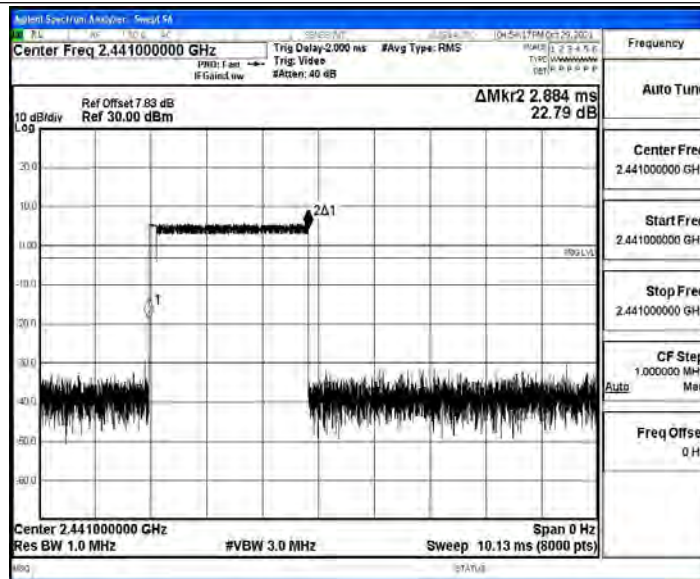
| TestMode | Antenna | Channel | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5      | Ant1    | Hop     | 2.88               | 130                | 0.374     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop     | 2.88               | 120                | 0.346     | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop     | 2.89               | 110                | 0.317     | ≤0.4     | PASS    |

### Test Graphs

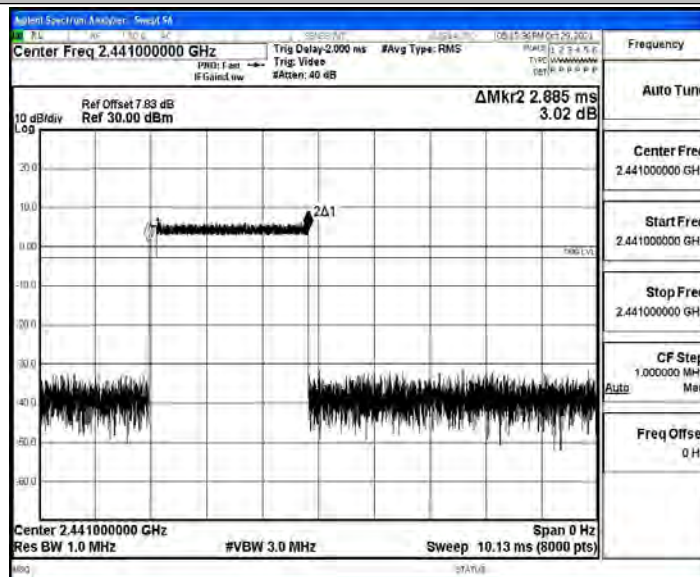
DH5\_Ant1\_Hop

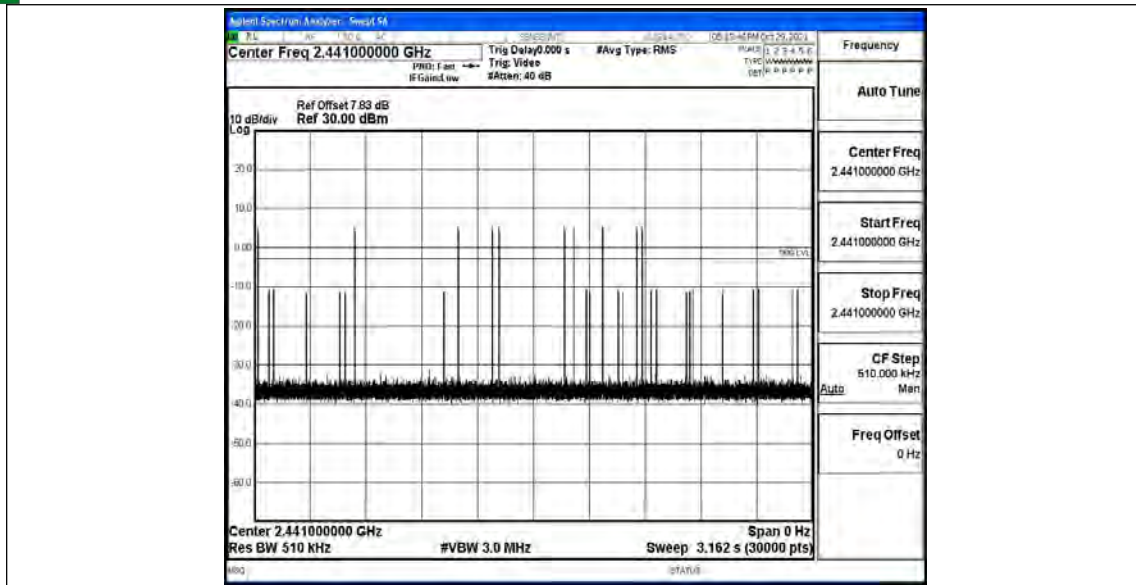


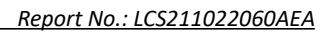
2DH5\_Ant1\_Hop

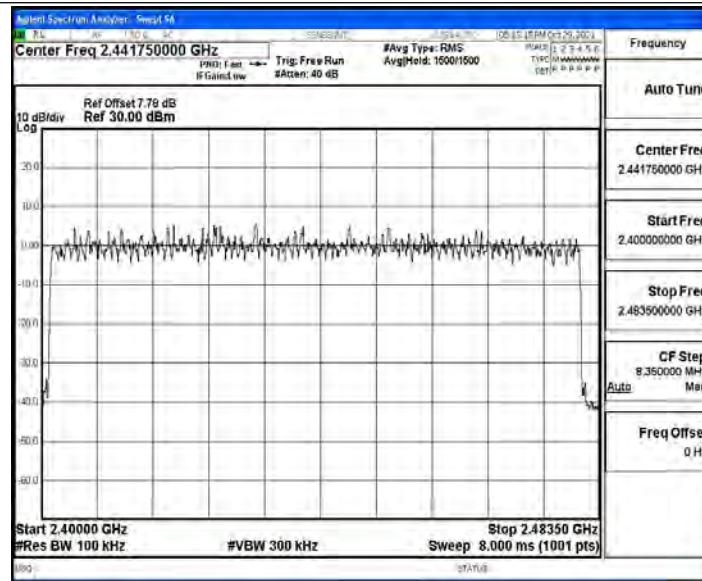


3DH5\_Ant1\_Hop











## A.6 Band edge measurements

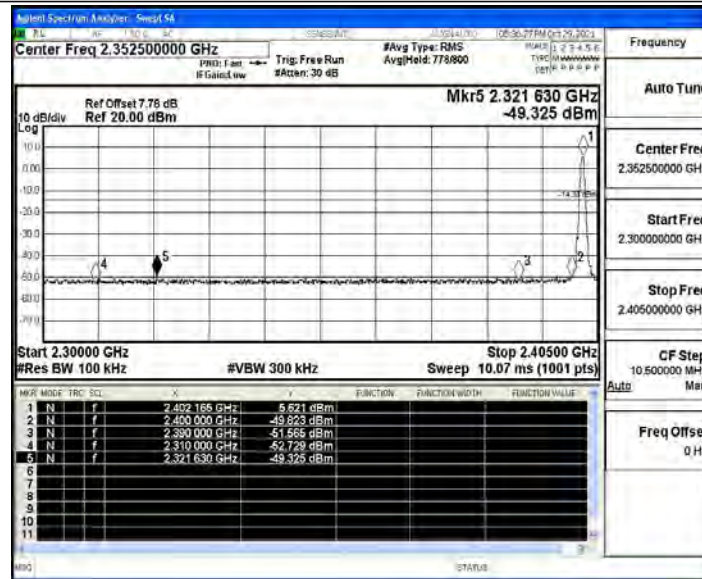
### Test Result

| TestMode | Antenna | ChName | Channel  | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | Low    | 2402     | 5.62              | -49.33          | $\leq -14.38$  | PASS    |
|          |         | High   | 2480     | 5.54              | -48.46          | $\leq -14.46$  | PASS    |
|          |         | Low    | Hop_2402 | 5.46              | -49.86          | $\leq -14.54$  | PASS    |
|          |         | High   | Hop_2480 | 5.47              | -48.29          | $\leq -14.53$  | PASS    |
| 2DH5     | Ant1    | Low    | 2402     | 3.90              | -49.29          | $\leq -16.1$   | PASS    |
|          |         | High   | 2480     | 3.72              | -48.29          | $\leq -16.28$  | PASS    |
|          |         | Low    | Hop_2402 | 0.69              | -49.75          | $\leq -19.31$  | PASS    |
|          |         | High   | Hop_2480 | 1.08              | -41.71          | $\leq -18.92$  | PASS    |
| 3DH5     | Ant1    | Low    | 2402     | 3.55              | -48.94          | $\leq -16.45$  | PASS    |
|          |         | High   | 2480     | 4.00              | -48.17          | $\leq -16$     | PASS    |
|          |         | Low    | Hop_2402 | 0.90              | -49.45          | $\leq -19.1$   | PASS    |
|          |         | High   | Hop_2480 | 4.11              | -47.59          | $\leq -15.89$  | PASS    |

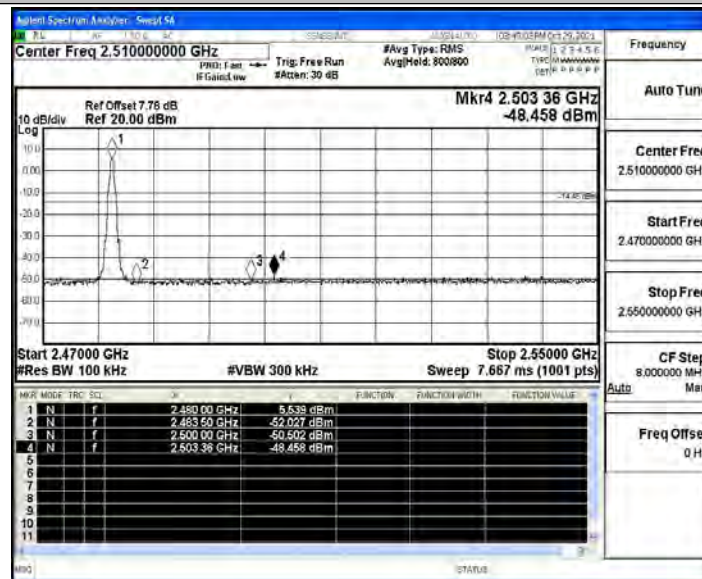


## Test Graphs

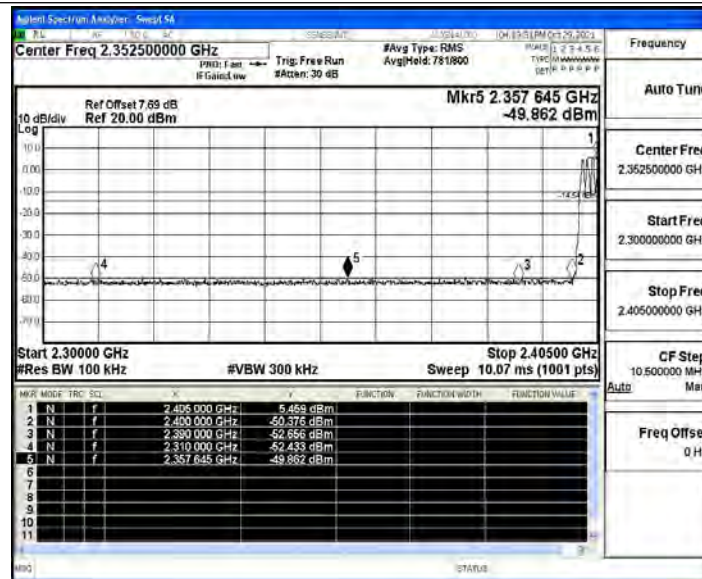
DH5\_Ant1\_Low\_2402



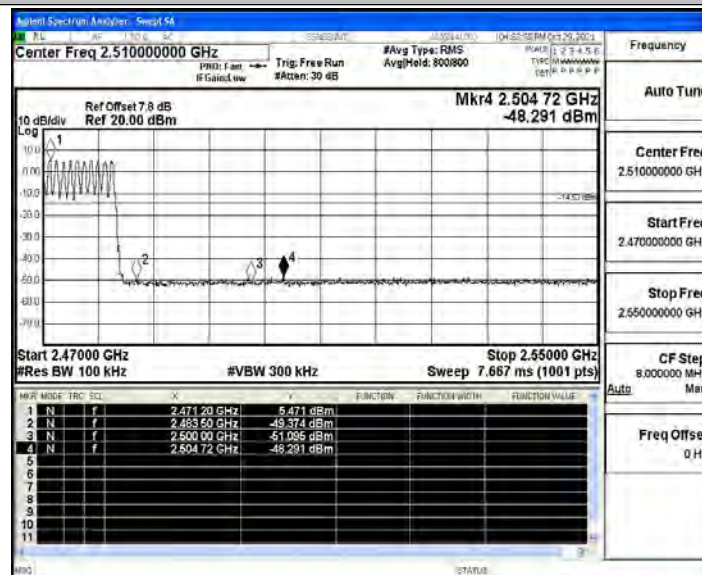
DH5\_Ant1\_High\_2480



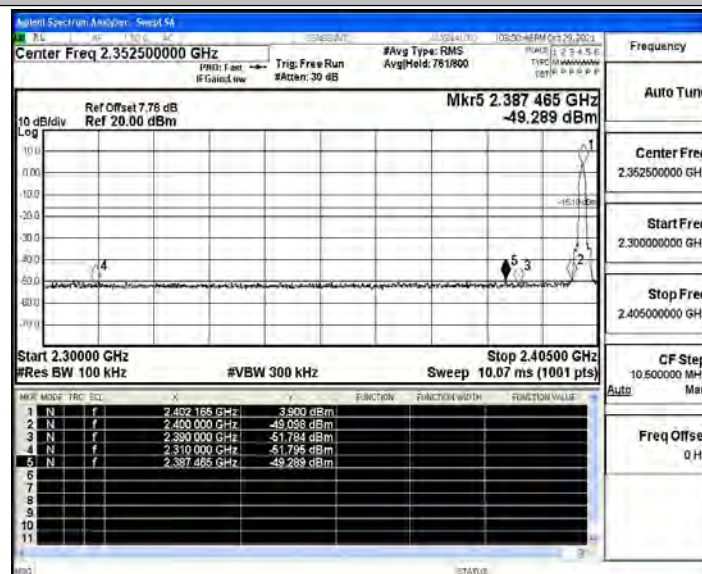
DH5\_Ant1\_Low\_Hop\_2402



DH5\_Ant1\_High\_Hop\_2480

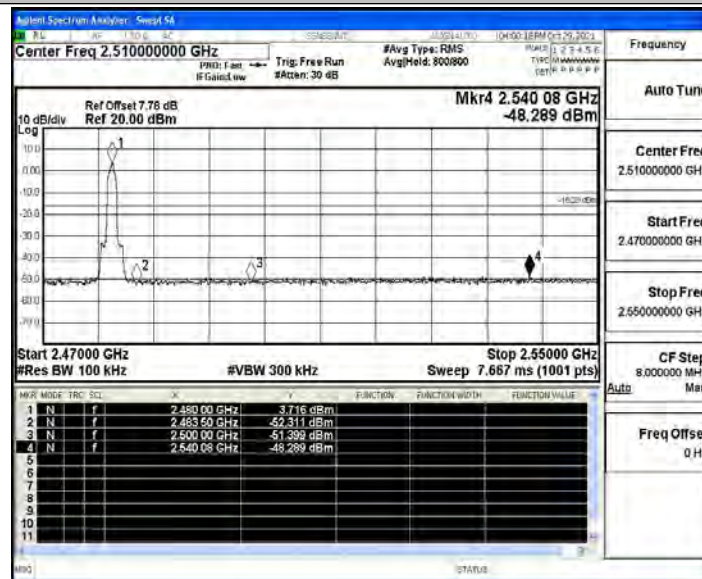


2DH5\_Ant1\_Low\_2402

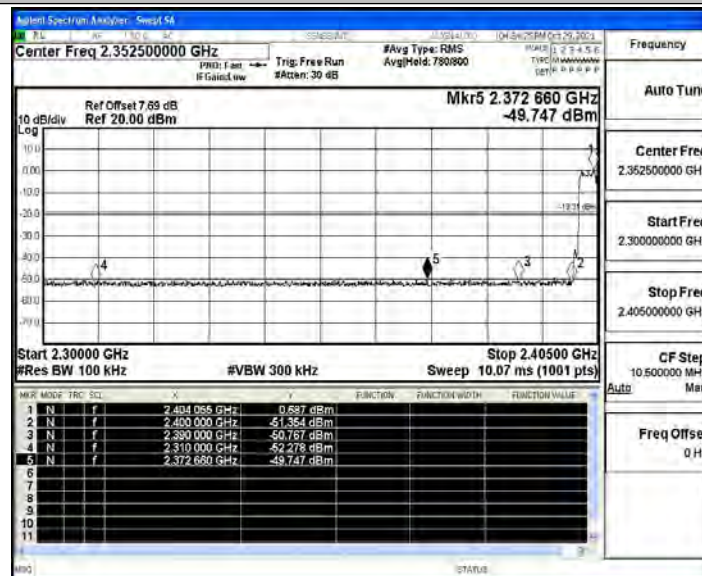




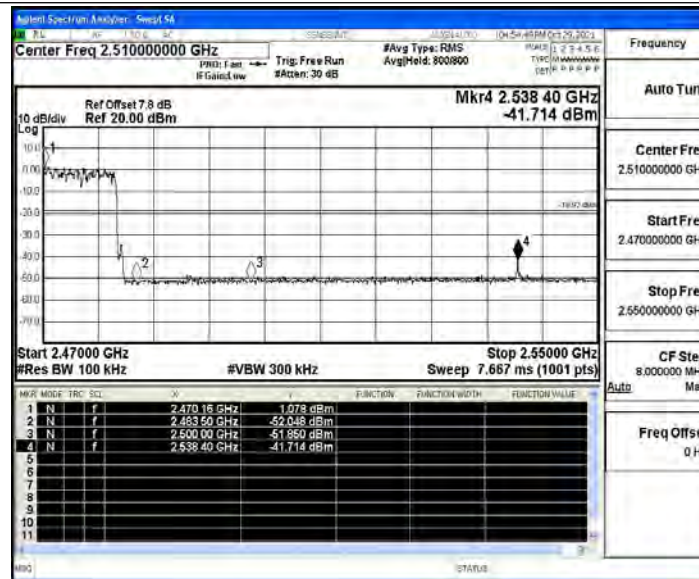
## 2DH5\_Ant1\_High\_2480



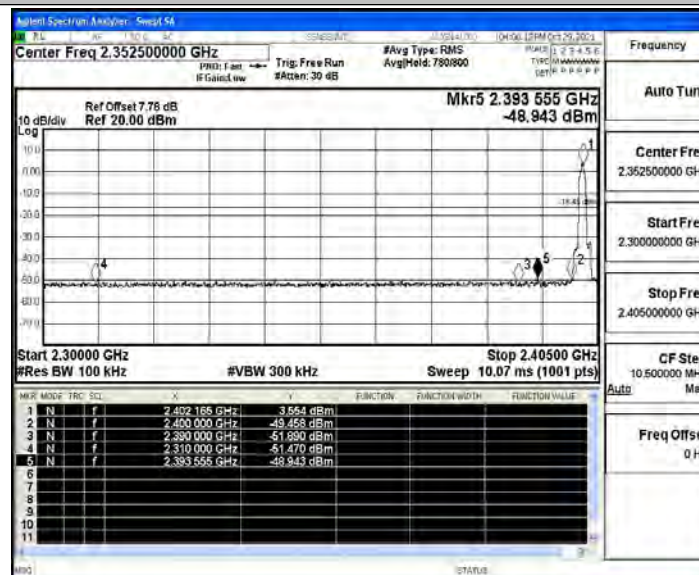
## 2DH5\_Ant1\_Low\_Hop\_2402



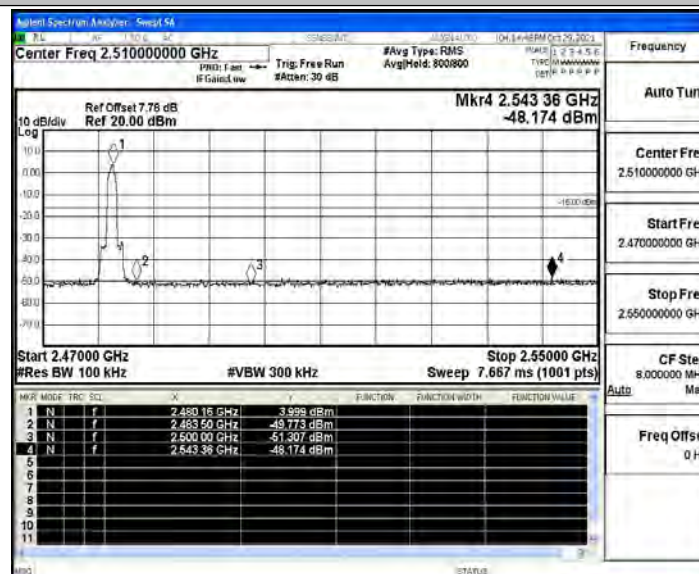
## 2DH5\_Ant1\_High\_Hop\_2480



3DH5\_Ant1\_Low\_2402

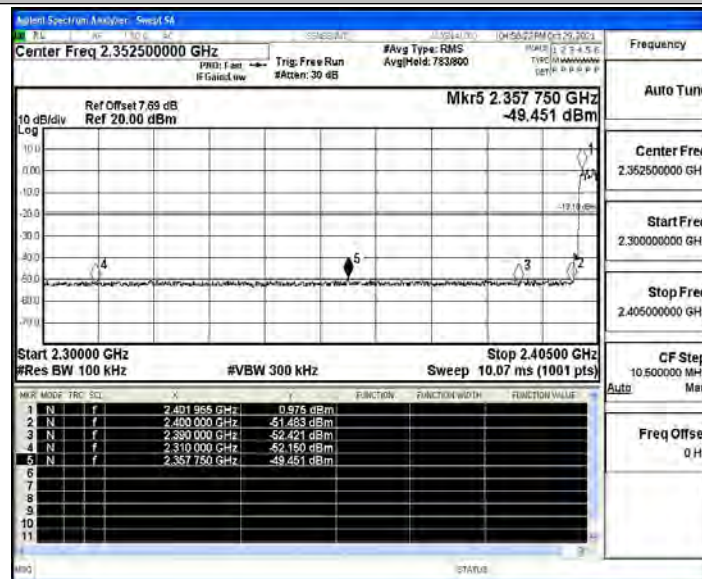


3DH5\_Ant1\_High\_2480

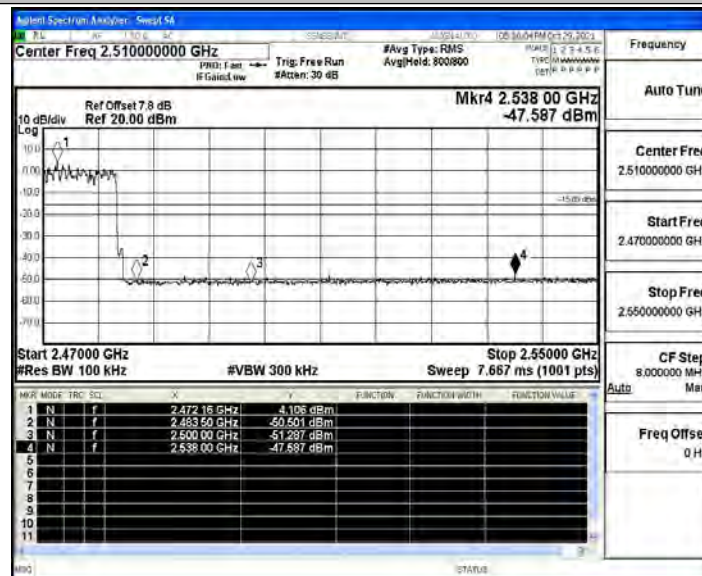




## 3DH5\_Ant1\_Low\_Hop\_2402



## 3DH5\_Ant1\_High\_Hop\_2480





## A.7 Conducted Spurious Emission

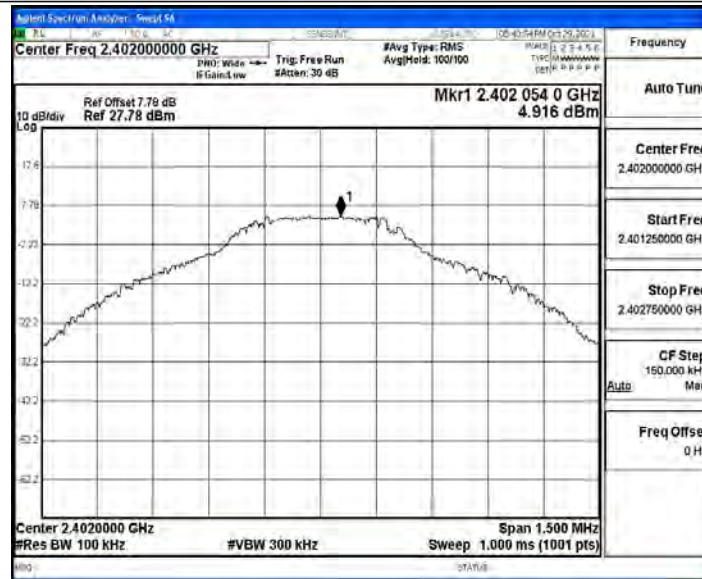
### Test Result

| TestMode | Antenna | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|----------|---------|---------|--------------------|-------------------|-----------------|----------------|---------|
| DH5      | Ant1    | 2402    | Reference          | 4.92              | 4.92            | ---            | PASS    |
|          |         |         | 30~1000            | 4.92              | -62.26          | ≤-15.08        | PASS    |
|          |         |         | 1000~26500         | 4.92              | -47.25          | ≤-15.08        | PASS    |
|          |         | 2441    | Reference          | 6.77              | 6.77            | ---            | PASS    |
|          |         |         | 30~1000            | 6.77              | -60.1           | ≤-13.24        | PASS    |
|          |         |         | 1000~26500         | 6.77              | -47.6           | ≤-13.24        | PASS    |
|          |         | 2480    | Reference          | 4.85              | 4.85            | ---            | PASS    |
|          |         |         | 30~1000            | 4.85              | -61.2           | ≤-15.15        | PASS    |
|          |         |         | 1000~26500         | 4.85              | -47.22          | ≤-15.15        | PASS    |
| 2DH5     | Ant1    | 2402    | Reference          | 3.17              | 3.17            | ---            | PASS    |
|          |         |         | 30~1000            | 3.17              | -61.86          | ≤-16.83        | PASS    |
|          |         |         | 1000~26500         | 3.17              | -47.34          | ≤-16.83        | PASS    |
|          |         | 2441    | Reference          | 4.63              | 4.63            | ---            | PASS    |
|          |         |         | 30~1000            | 4.63              | -61.54          | ≤-15.37        | PASS    |
|          |         |         | 1000~26500         | 4.63              | -47.51          | ≤-15.37        | PASS    |
|          |         | 2480    | Reference          | 3.27              | 3.27            | ---            | PASS    |
|          |         |         | 30~1000            | 3.27              | -55.57          | ≤-16.73        | PASS    |
|          |         |         | 1000~26500         | 3.27              | -47.43          | ≤-16.73        | PASS    |
| 3DH5     | Ant1    | 2402    | Reference          | 4.03              | 4.03            | ---            | PASS    |
|          |         |         | 30~1000            | 4.03              | -62.27          | ≤-15.97        | PASS    |
|          |         |         | 1000~26500         | 4.03              | -47.68          | ≤-15.97        | PASS    |
|          |         | 2441    | Reference          | 5.19              | 5.19            | ---            | PASS    |
|          |         |         | 30~1000            | 5.19              | -62.17          | ≤-14.81        | PASS    |
|          |         |         | 1000~26500         | 5.19              | -47.02          | ≤-14.81        | PASS    |
|          |         | 2480    | Reference          | 3.67              | 3.67            | ---            | PASS    |
|          |         |         | 30~1000            | 3.67              | -62.24          | ≤-16.33        | PASS    |
|          |         |         | 1000~26500         | 3.67              | -46.24          | ≤-16.33        | PASS    |

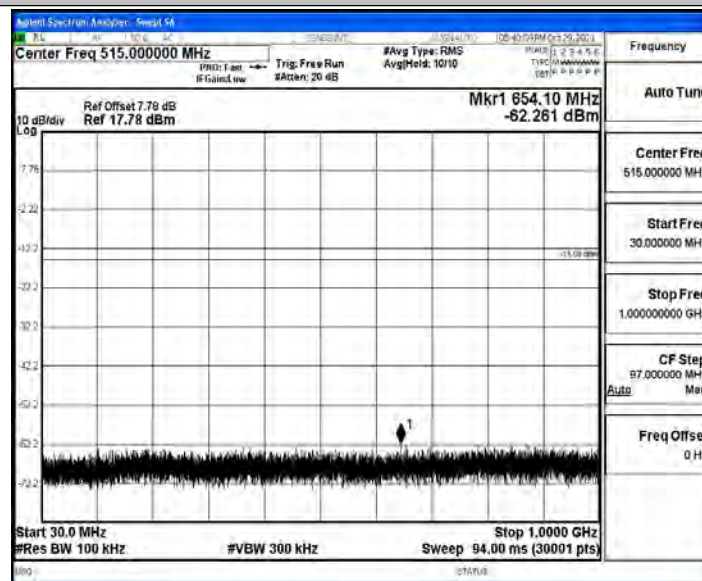


## Test Graphs

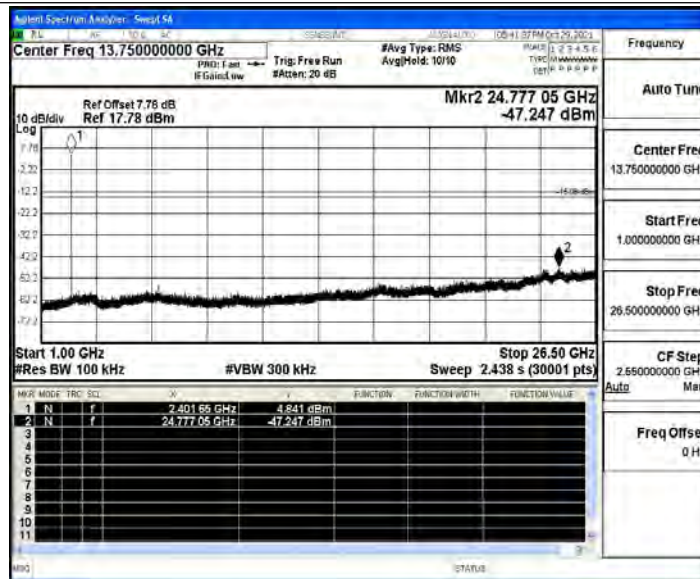
DH5\_Ant1\_2402\_0~Reference



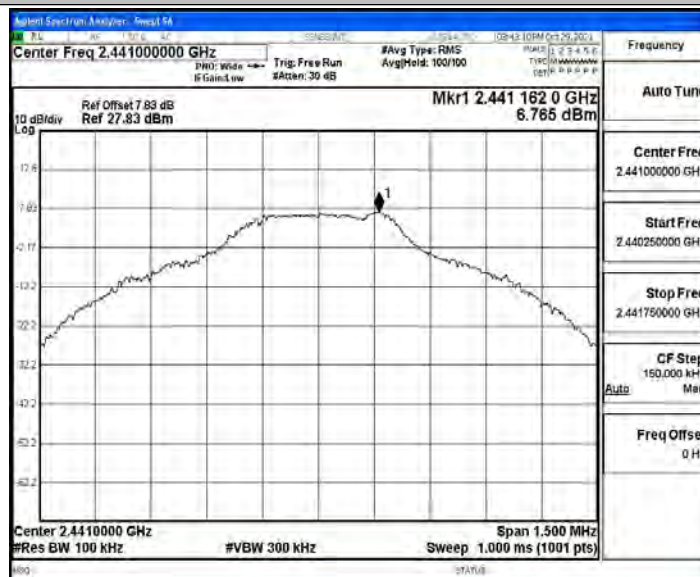
DH5\_Ant1\_2402\_30~1000



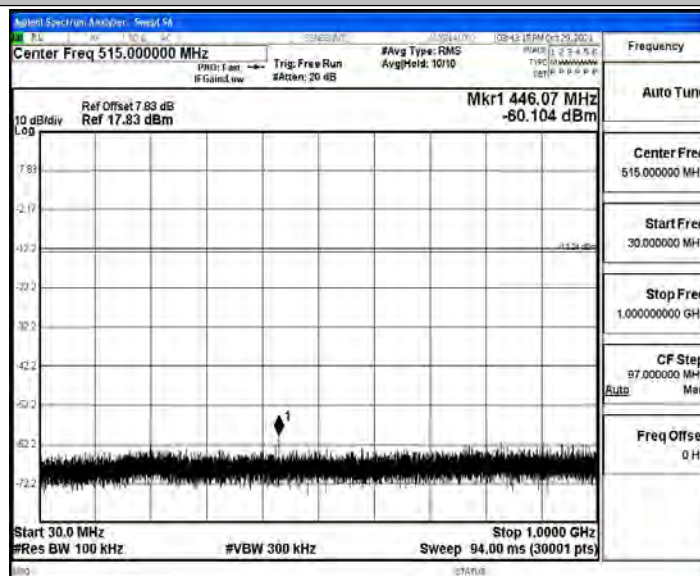
DH5\_Ant1\_2402\_1000~26500



DH5\_Ant1\_2441\_0~Reference

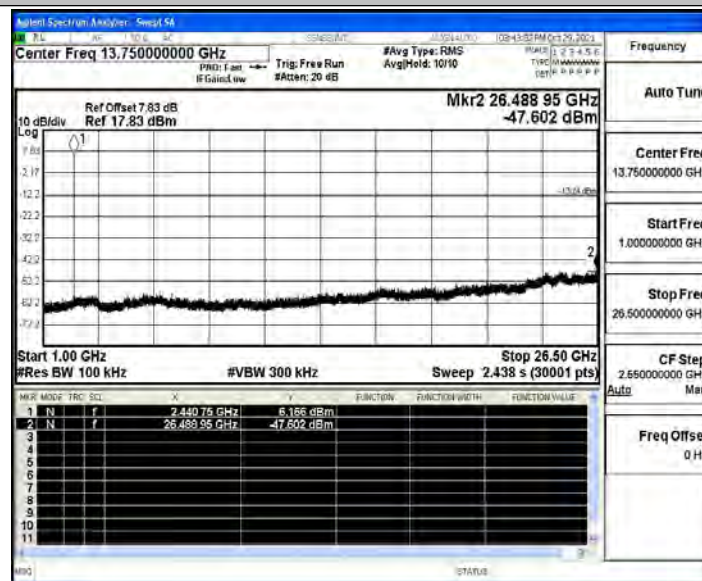


DH5\_Ant1\_2441\_30~1000

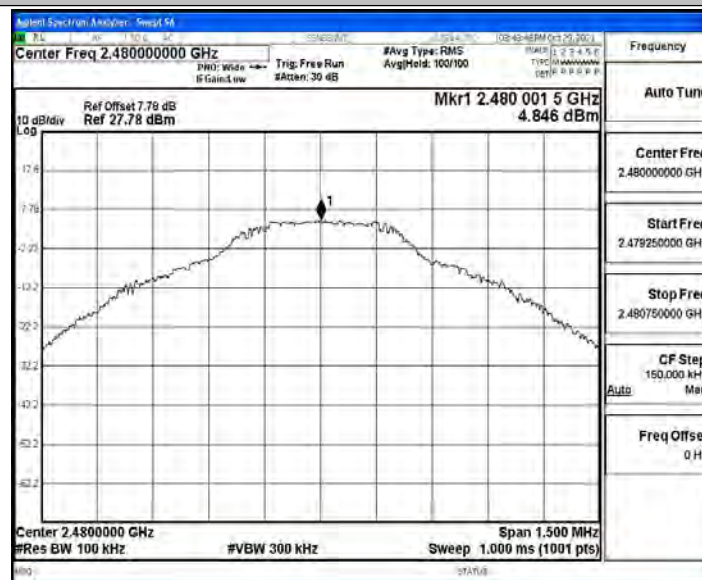




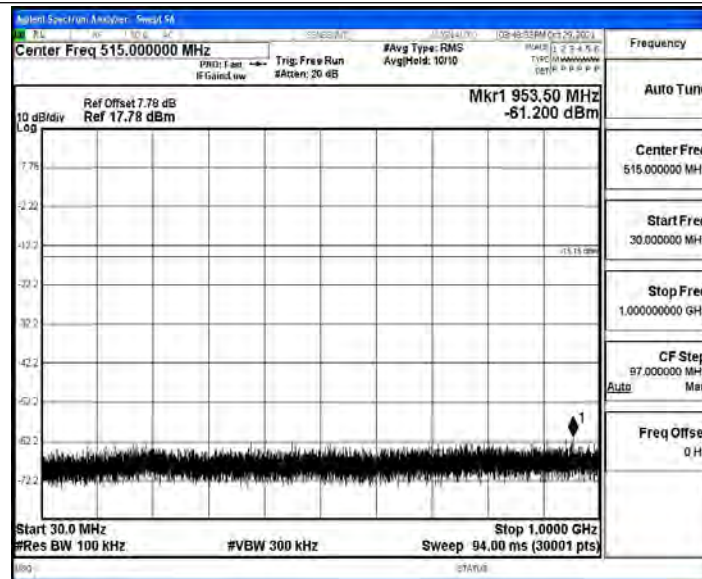
## DH5\_Ant1\_2441\_1000~26500



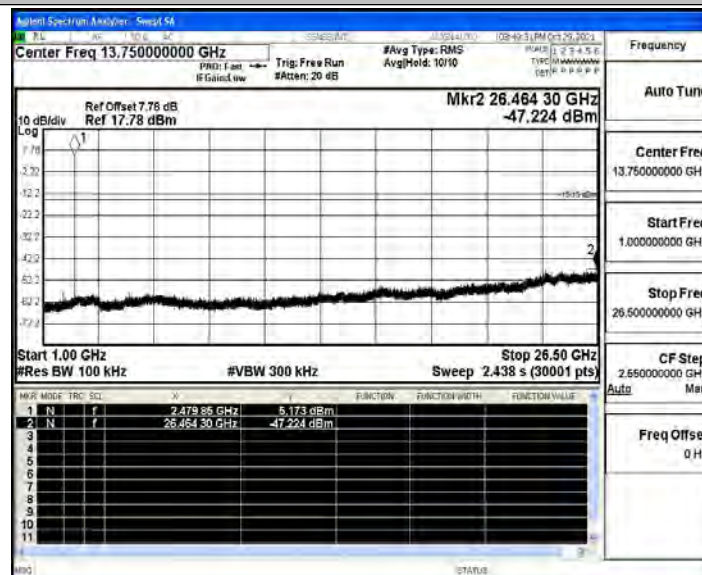
## DH5\_Ant1\_2480\_0~Reference



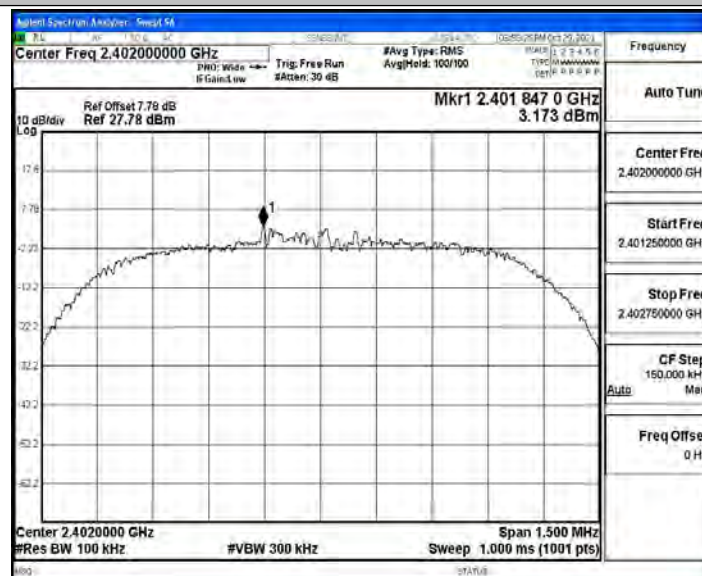
## DH5\_Ant1\_2480\_30~1000



DH5\_Ant1\_2480\_1000~26500

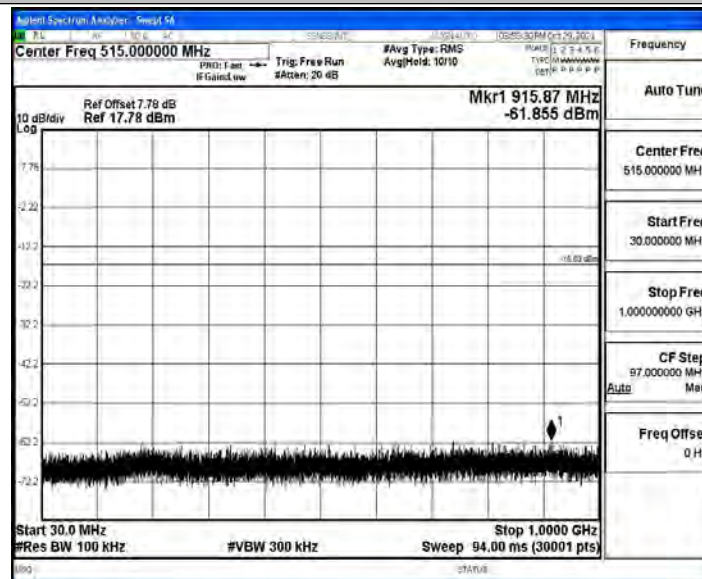


2DH5\_Ant1\_2402\_0~Reference

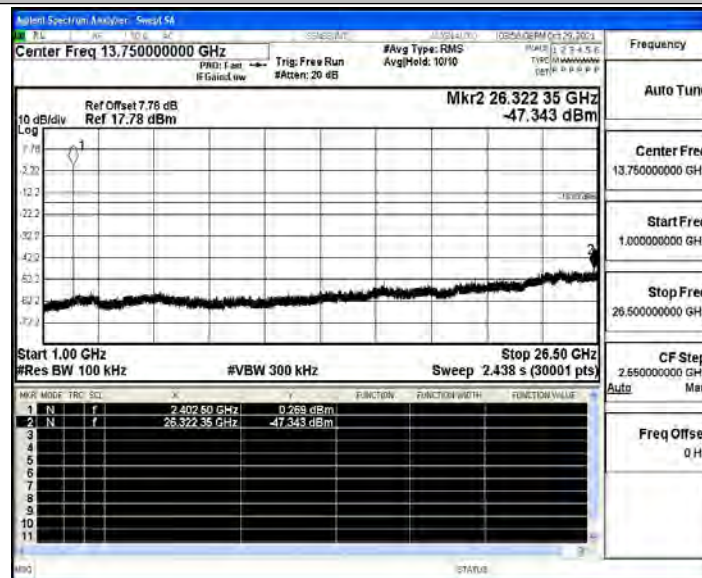




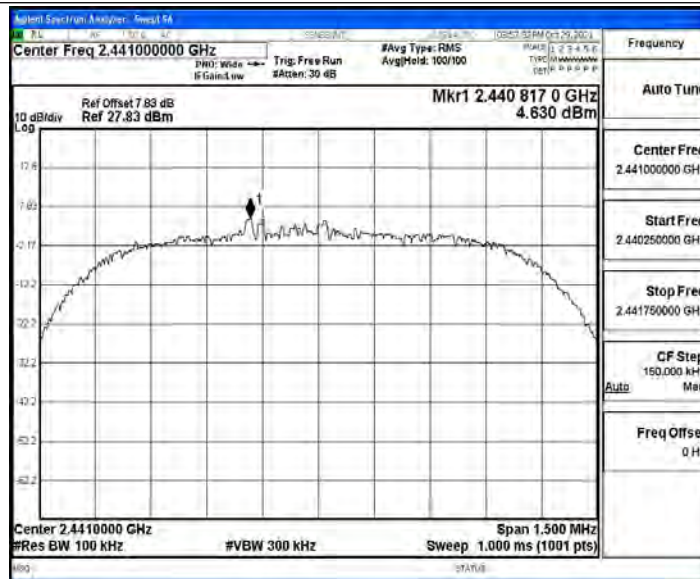
## 2DH5\_Ant1\_2402\_30~1000



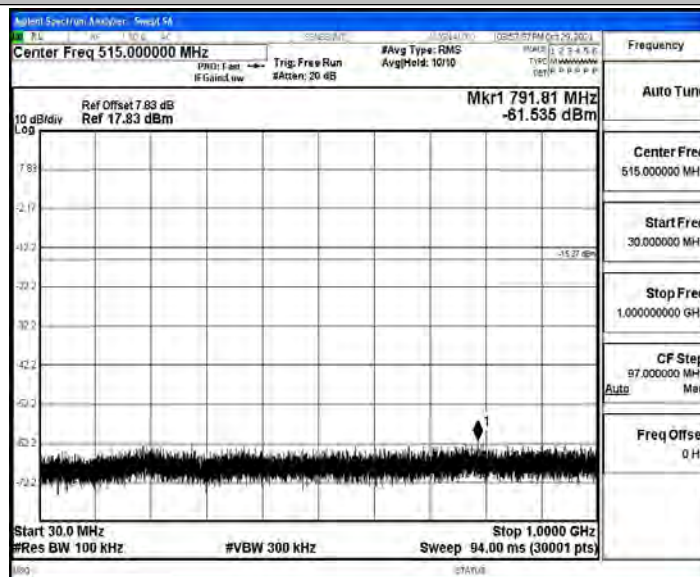
## 2DH5\_Ant1\_2402\_1000~26500



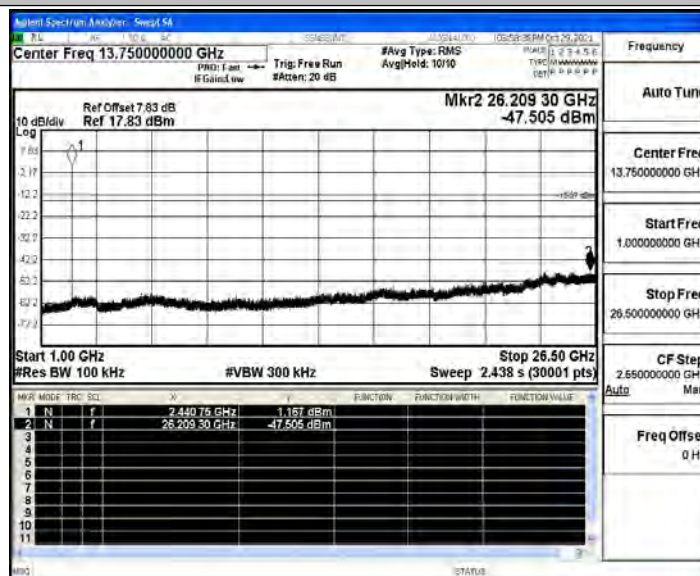
## 2DH5\_Ant1\_2441\_0~Reference



2DH5\_Ant1\_2441\_30~1000

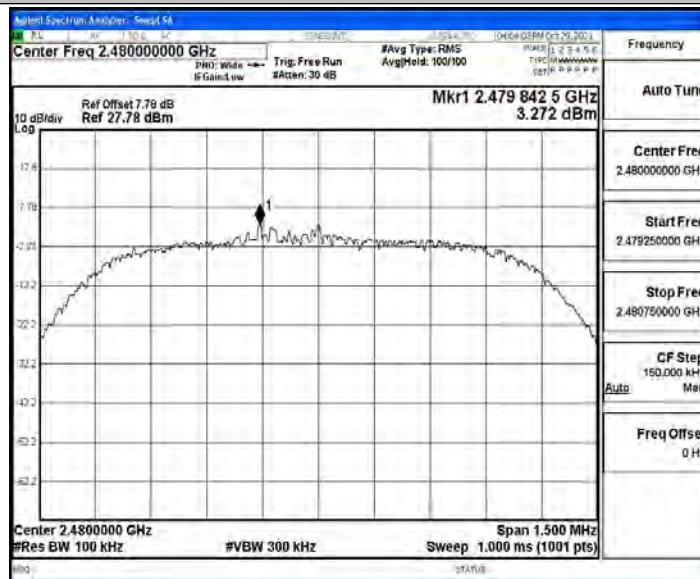


2DH5\_Ant1\_2441\_1000~26500

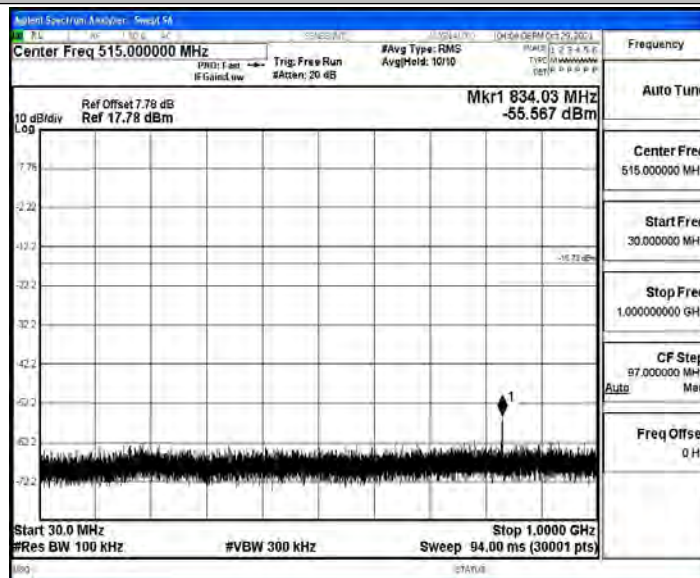




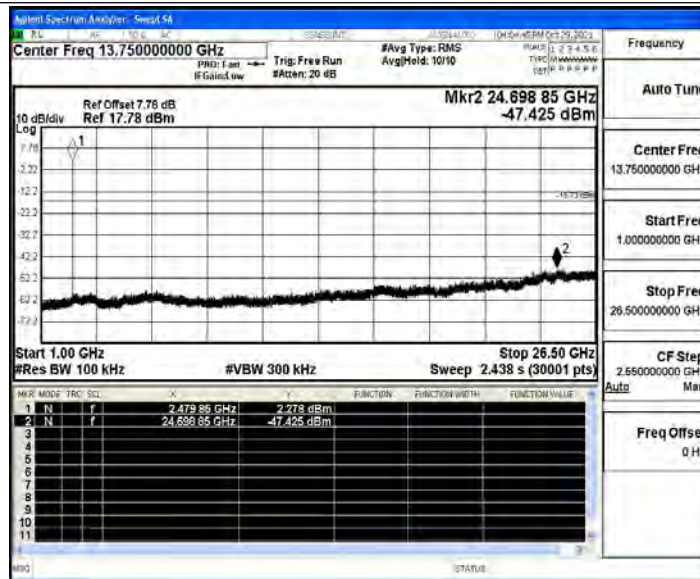
## 2DH5\_Ant1\_2480\_0~Reference



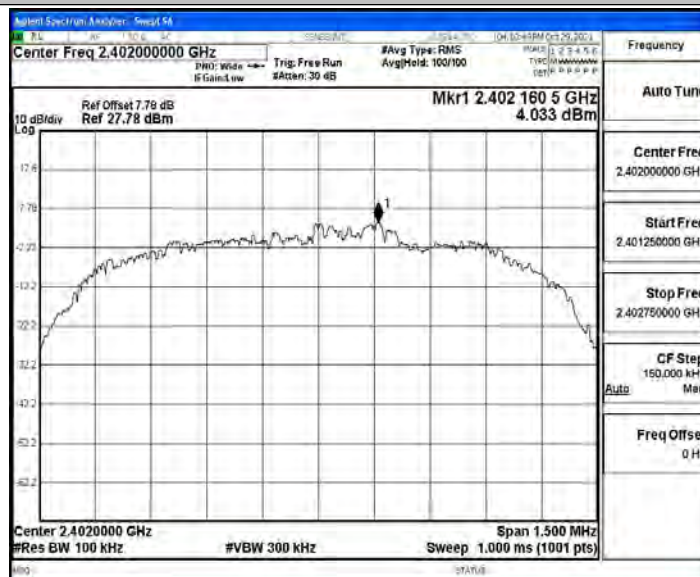
## 2DH5\_Ant1\_2480\_30~1000



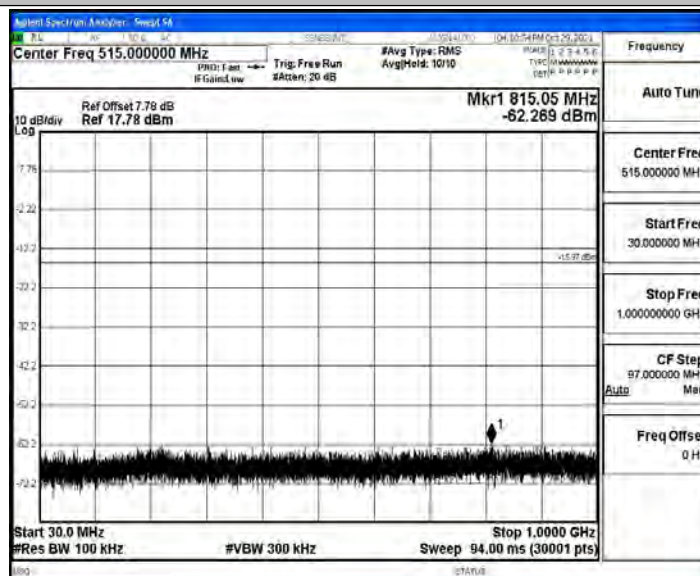
## 2DH5\_Ant1\_2480\_1000~26500



3DH5\_Ant1\_2402\_0~Reference

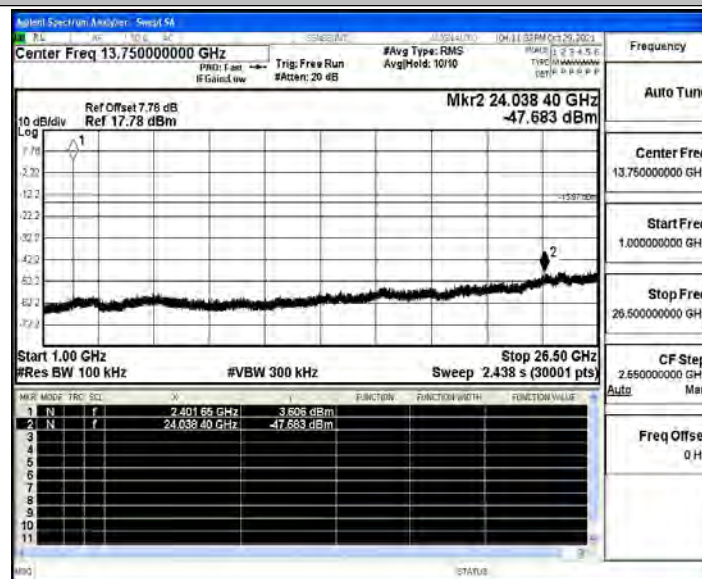


3DH5\_Ant1\_2402\_30~1000

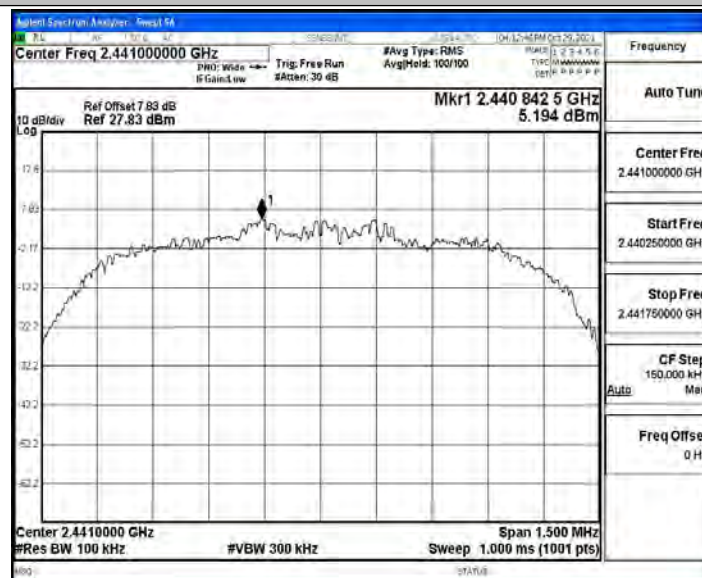




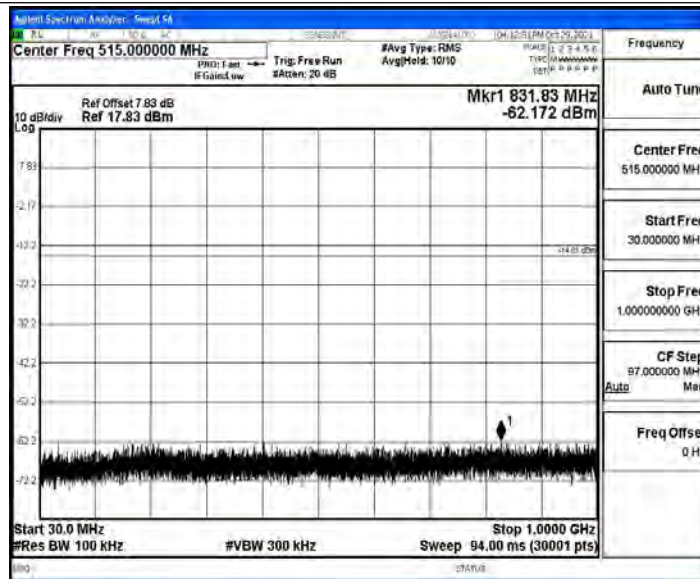
## 3DH5\_Ant1\_2402\_1000~26500



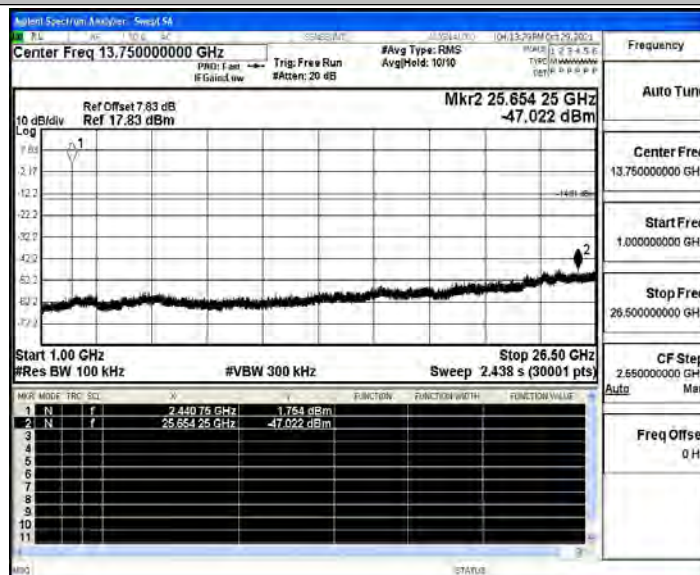
## 3DH5\_Ant1\_2441\_0~Reference



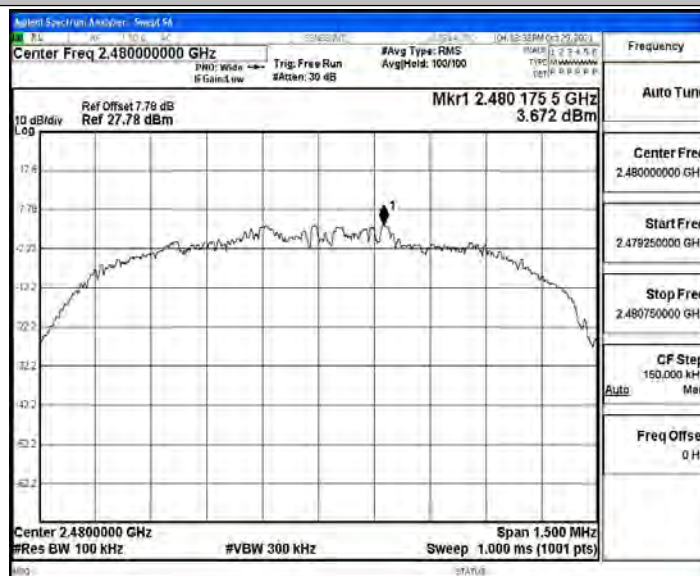
## 3DH5\_Ant1\_2441\_30~1000



3DH5\_Ant1\_2441\_1000~26500

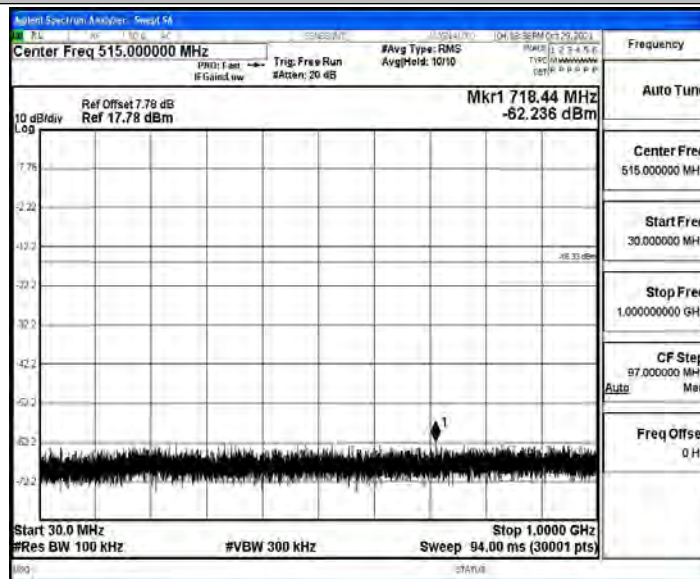


3DH5\_Ant1\_2480\_0~Reference

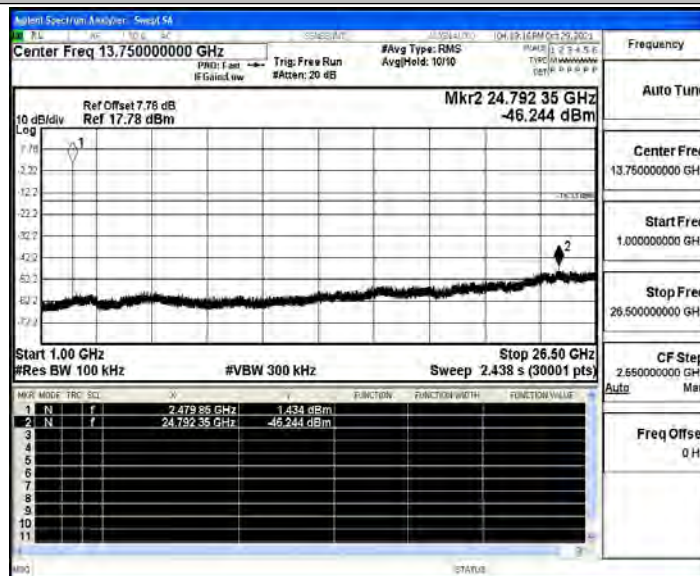




## 3DH5\_Ant1\_2480\_30~1000



## 3DH5\_Ant1\_2480\_1000~26500





## A.8 Emissions in Restricted Bands

### Test Result

| TestMode | Antenna | ChName | Channel      | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Verdict |
|----------|---------|--------|--------------|----------|----------------|-----------------|----------------|--------------------|-------------------|---------|
| DH5      | Ant1    | Low    | 2402         | AV       | 2310.000       | -48.86          | ≤-41.20        | 46.34              | ≤54               | PASS    |
|          |         |        |              | AV       | 2389.670       | -48.48          | ≤-41.20        | 46.72              | ≤54               | PASS    |
|          |         |        |              | AV       | 2390.000       | -48.57          | ≤-41.20        | 46.63              | ≤54               | PASS    |
|          |         |        |              | Peak     | 2310.000       | -40.94          | ≤-21.20        | 54.26              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2357.750       | -37.89          | ≤-21.20        | 57.31              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2390.000       | -39.93          | ≤-21.20        | 55.27              | ≤74               | PASS    |
|          |         | High   | 2480         | AV       | 2483.500       | -47.21          | ≤-41.20        | 47.99              | ≤54               | PASS    |
|          |         |        |              | AV       | 2483.520       | -47.21          | ≤-41.20        | 47.99              | ≤54               | PASS    |
|          |         |        |              | AV       | 2500.000       | -48.06          | ≤-41.20        | 47.14              | ≤54               | PASS    |
|          |         |        |              | Peak     | 2483.500       | -39.96          | ≤-21.20        | 55.24              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2484.000       | -37.89          | ≤-21.20        | 57.31              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2500.000       | -39.11          | ≤-21.20        | 56.09              | ≤74               | PASS    |
|          |         | Low    | Hop_24<br>02 | Peak     | 2310.000       | -40.76          | ≤-21.20        | 54.44              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2370.350       | -38.11          | ≤-21.20        | 57.09              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2390.000       | -40.45          | ≤-21.20        | 54.75              | ≤74               | PASS    |
|          |         | High   | Hop_24<br>80 | Peak     | 2483.500       | -40.25          | ≤-21.20        | 54.95              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2489.360       | -37.52          | ≤-21.20        | 57.68              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2500.000       | -39.91          | ≤-21.20        | 55.29              | ≤74               | PASS    |
| 2DH5     | Ant1    | Low    | 2402         | AV       | 2310.000       | -49.02          | ≤-41.20        | 46.18              | ≤54               | PASS    |
|          |         |        |              | AV       | 2389.985       | -48.38          | ≤-41.20        | 46.82              | ≤54               | PASS    |
|          |         |        |              | AV       | 2390.000       | -48.38          | ≤-41.20        | 46.82              | ≤54               | PASS    |
|          |         |        |              | Peak     | 2310.000       | -41.04          | ≤-21.20        | 54.16              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2377.280       | -38.1           | ≤-21.20        | 57.10              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2390.000       | -40.01          | ≤-21.20        | 55.19              | ≤74               | PASS    |
|          |         | High   | 2480         | AV       | 2483.500       | -47.11          | ≤-41.20        | 48.09              | ≤54               | PASS    |
|          |         |        |              | AV       | 2483.520       | -47.11          | ≤-41.20        | 48.09              | ≤54               | PASS    |
|          |         |        |              | AV       | 2500.000       | -47.94          | ≤-41.20        | 47.26              | ≤54               | PASS    |
|          |         |        |              | Peak     | 2483.500       | -38.51          | ≤-21.20        | 56.69              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2484.800       | -37.97          | ≤-21.20        | 57.23              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2500.000       | -39.53          | ≤-21.20        | 55.67              | ≤74               | PASS    |
|          |         | Low    | Hop_24<br>02 | Peak     | 2310.000       | -41.09          | ≤-21.20        | 54.11              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2311.340       | -38.27          | ≤-21.20        | 56.93              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2390.000       | -40.15          | ≤-21.20        | 55.05              | ≤74               | PASS    |
|          |         | High   | Hop_24<br>80 | Peak     | 2483.500       | -40.25          | ≤-21.20        | 54.95              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2499.760       | -37.92          | ≤-21.20        | 57.28              | ≤74               | PASS    |
|          |         |        |              | Peak     | 2500.000       | -39.76          | ≤-21.20        | 55.44              | ≤74               | PASS    |
| 3DH5     | Ant1    | Low    | 2402         | AV       | 2310.000       | -48.91          | ≤-41.20        | 46.29              | ≤54               | PASS    |



|  |  |      |              |      |          |        |               |       |           |      |
|--|--|------|--------------|------|----------|--------|---------------|-------|-----------|------|
|  |  |      |              | AV   | 2388.935 | -48.39 | $\leq -41.20$ | 46.81 | $\leq 54$ | PASS |
|  |  |      |              | AV   | 2390.000 | -48.57 | $\leq -41.20$ | 46.63 | $\leq 54$ | PASS |
|  |  |      |              | Peak | 2310.000 | -40.65 | $\leq -21.20$ | 54.55 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2380.430 | -37.68 | $\leq -21.20$ | 57.52 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2390.000 | -40.58 | $\leq -21.20$ | 54.62 | $\leq 74$ | PASS |
|  |  | High | 2480         | AV   | 2483.500 | -47    | $\leq -41.20$ | 48.20 | $\leq 54$ | PASS |
|  |  |      |              | AV   | 2483.520 | -47    | $\leq -41.20$ | 48.20 | $\leq 54$ | PASS |
|  |  |      |              | AV   | 2500.000 | -47.98 | $\leq -41.20$ | 47.22 | $\leq 54$ | PASS |
|  |  |      |              | Peak | 2483.500 | -39.22 | $\leq -21.20$ | 55.98 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2487.280 | -37.88 | $\leq -21.20$ | 57.32 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2500.000 | -38.79 | $\leq -21.20$ | 56.41 | $\leq 74$ | PASS |
|  |  | Low  | Hop_24<br>02 | Peak | 2310.000 | -41.1  | $\leq -21.20$ | 54.10 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2320.790 | -37.26 | $\leq -21.20$ | 57.94 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2390.000 | -39.57 | $\leq -21.20$ | 55.63 | $\leq 74$ | PASS |
|  |  | High | Hop_24<br>80 | Peak | 2483.500 | -40    | $\leq -21.20$ | 55.20 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2485.440 | -37.55 | $\leq -21.20$ | 57.65 | $\leq 74$ | PASS |
|  |  |      |              | Peak | 2500.000 | -40.05 | $\leq -21.20$ | 55.15 | $\leq 74$ | PASS |

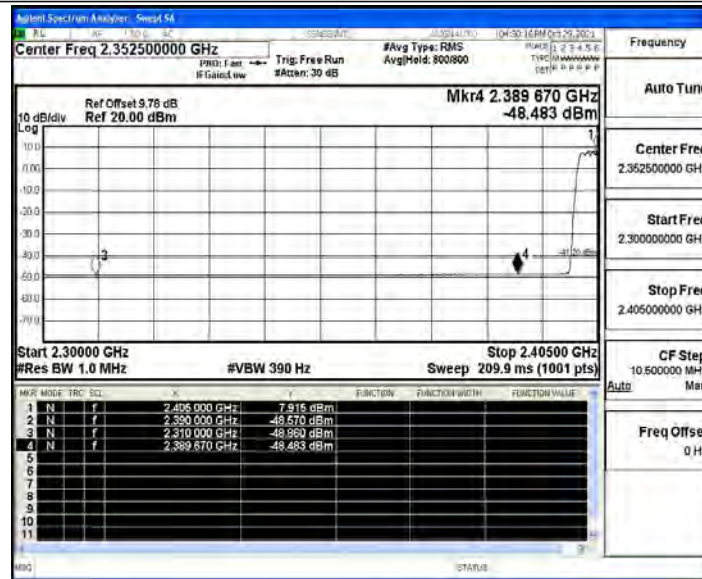
## Note:

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.

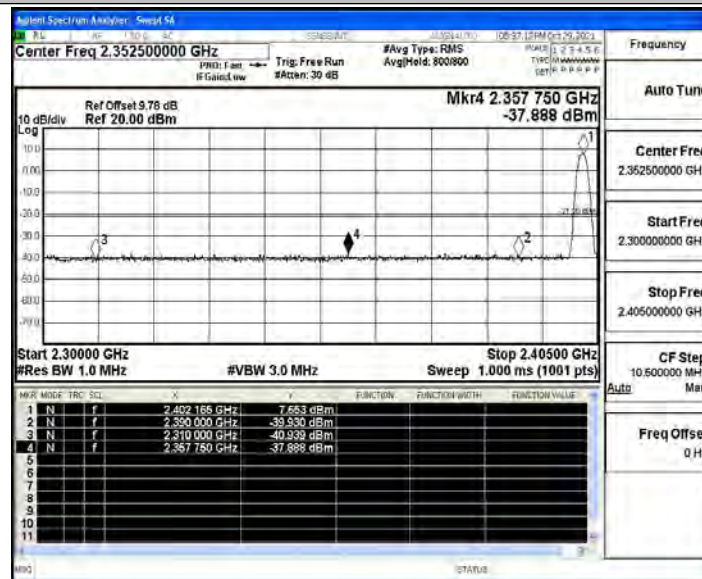


## Test Graphs

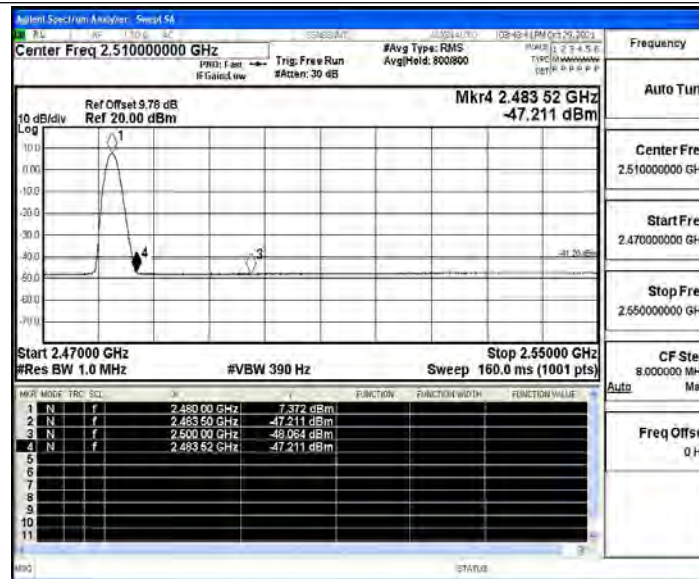
DH5\_Ant1\_Low\_2402\_AV



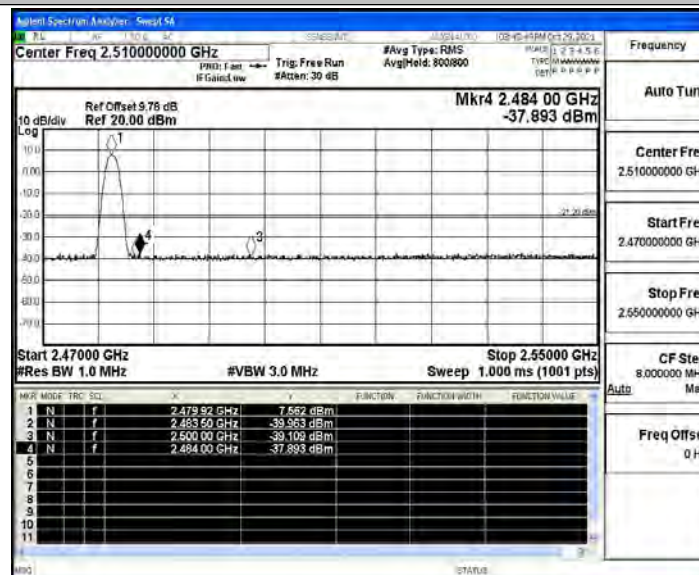
DH5\_Ant1\_Low\_2402\_Peak



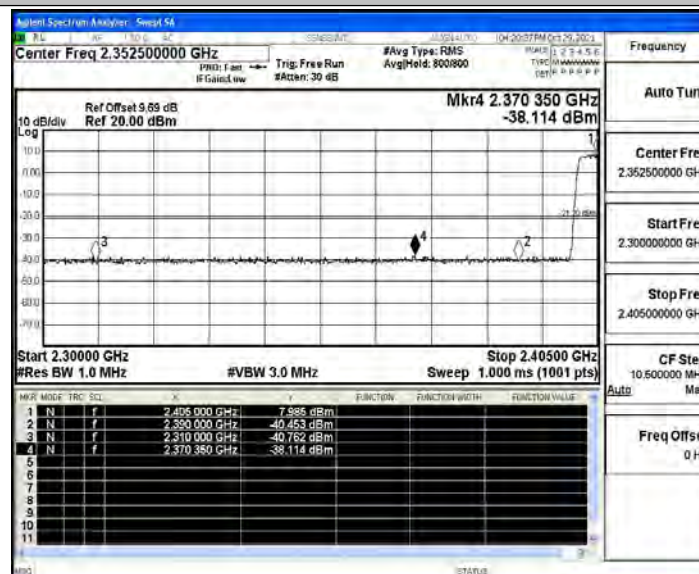
DH5\_Ant1\_High\_2480\_AV



DH5\_Ant1\_High\_2480\_Peak

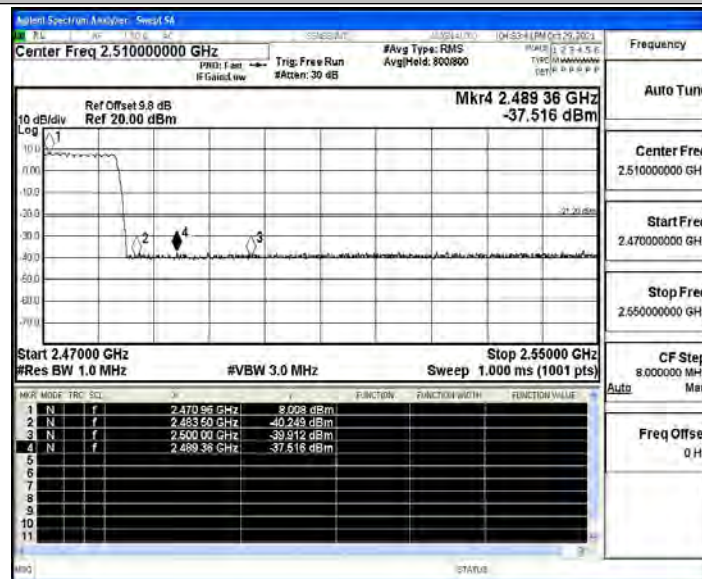


DH5\_Ant1\_Low\_Hop\_2402\_Peak

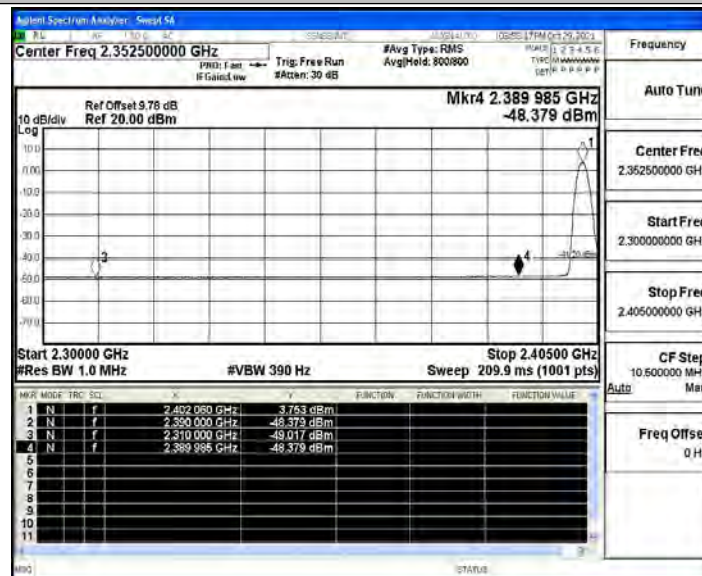




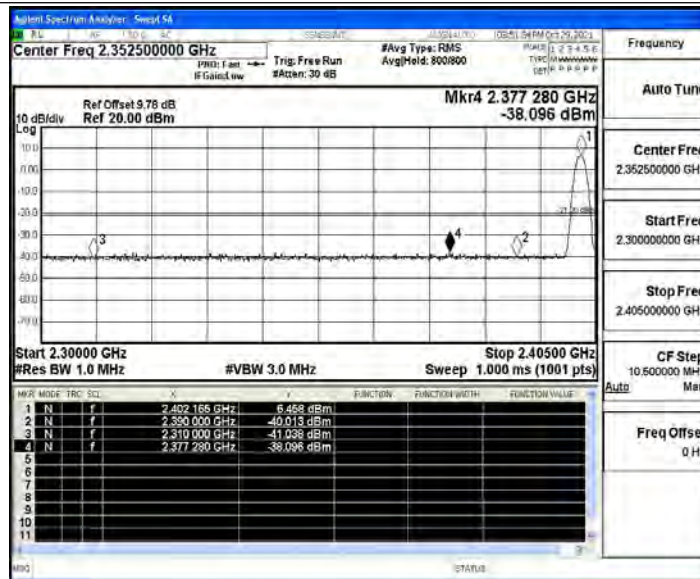
## DH5\_Ant1\_High\_Hop\_2480\_Peak



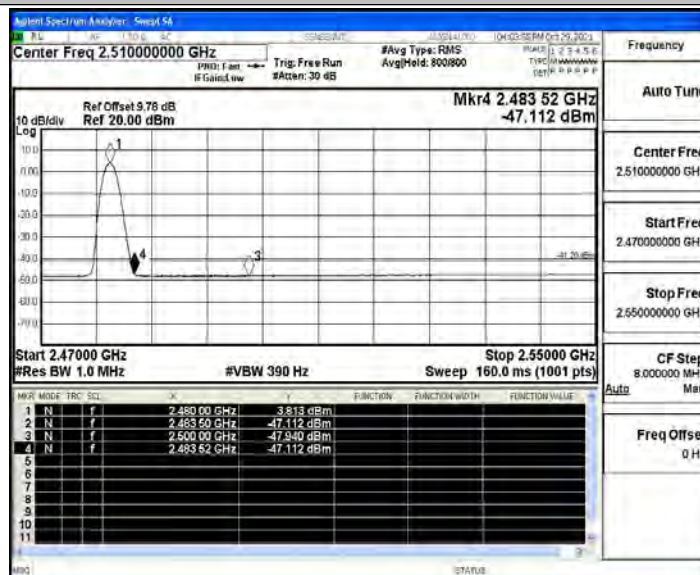
## 2DH5\_Ant1\_Low\_2402\_AV



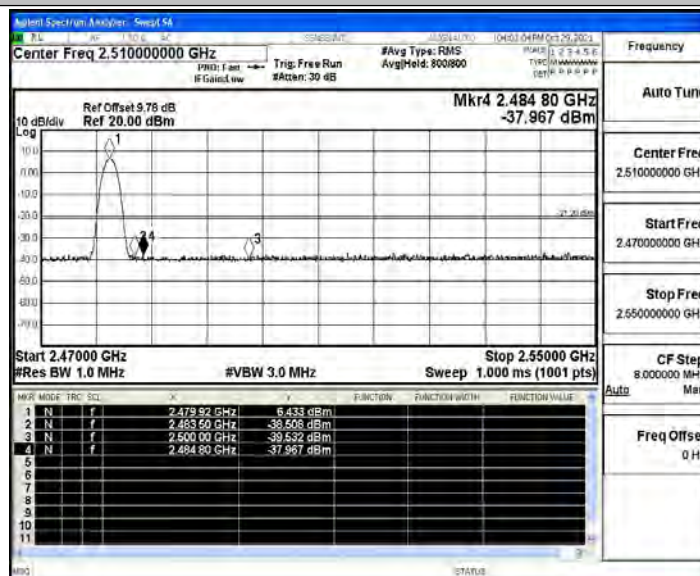
## 2DH5\_Ant1\_Low\_2402\_Peak



2DH5\_Ant1\_High\_2480\_AV

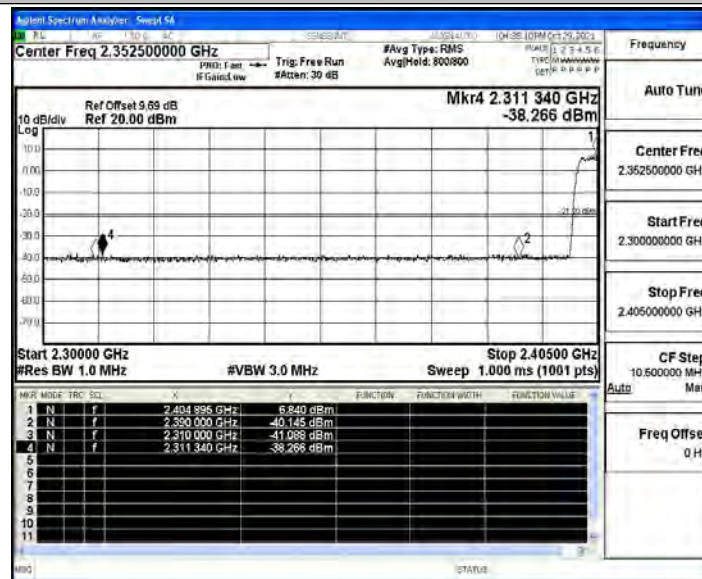


2DH5\_Ant1\_High\_2480\_Peak

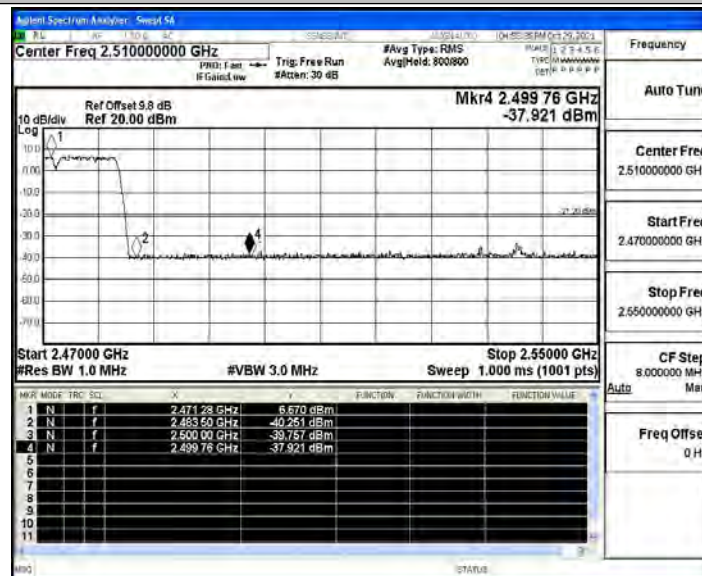




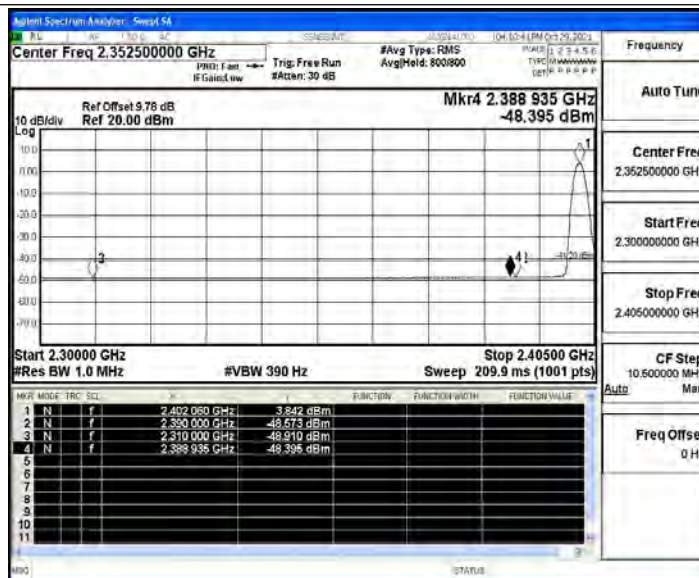
## 2DH5\_Ant1\_Low\_Hop\_2402\_Peak



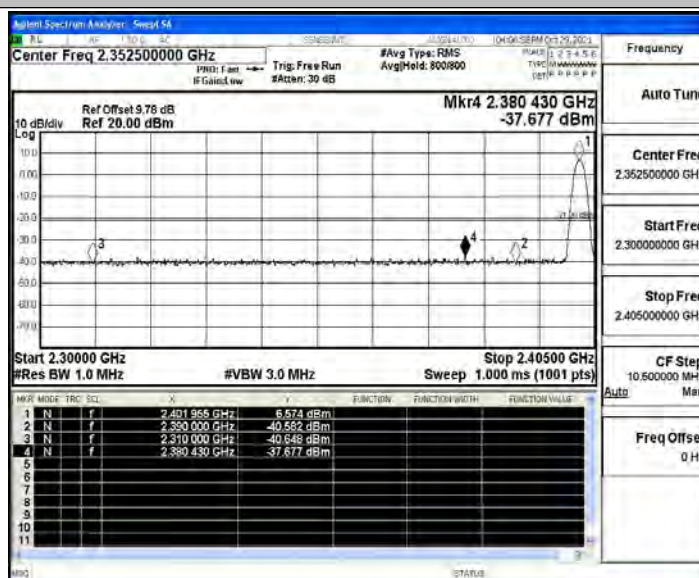
## 2DH5\_Ant1\_High\_Hop\_2480\_Peak



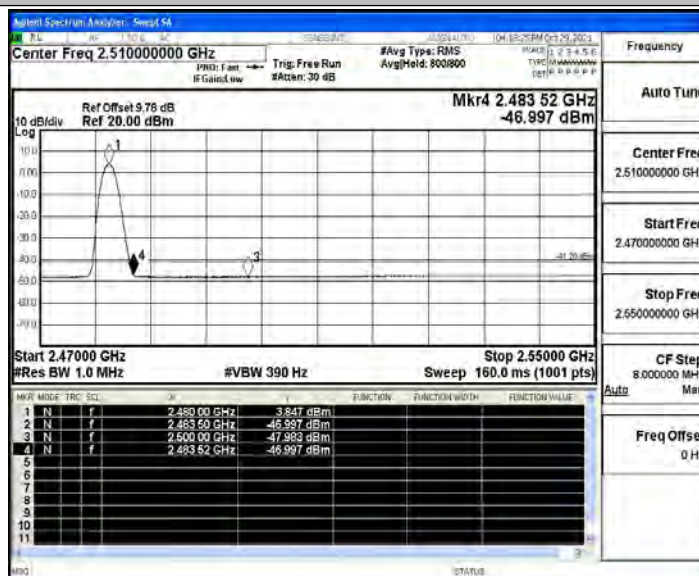
## 3DH5\_Ant1\_Low\_2402\_AV



3DH5\_Ant1\_Low\_2402\_Peak

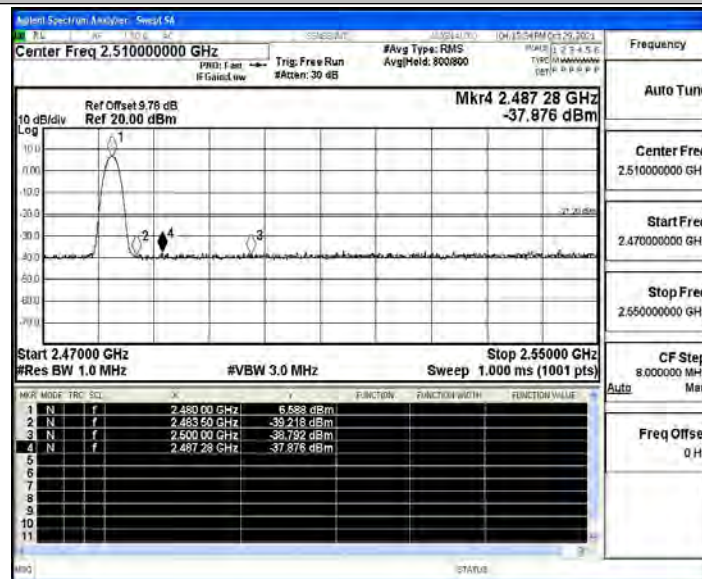


3DH5\_Ant1\_High\_2480\_AV

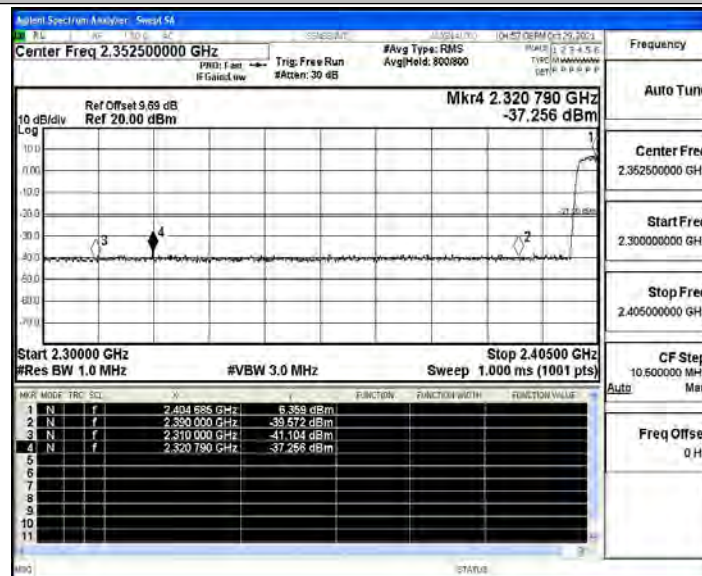




## 3DH5\_Ant1\_High\_2480\_Peak



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



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

