

Appendix A

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

Product Name: Ture Wireless Stereo Earbuds

Trade Mark: Lasuney

Test Model: T12

FCC ID: 2A5OU-T12

Environmental Conditions

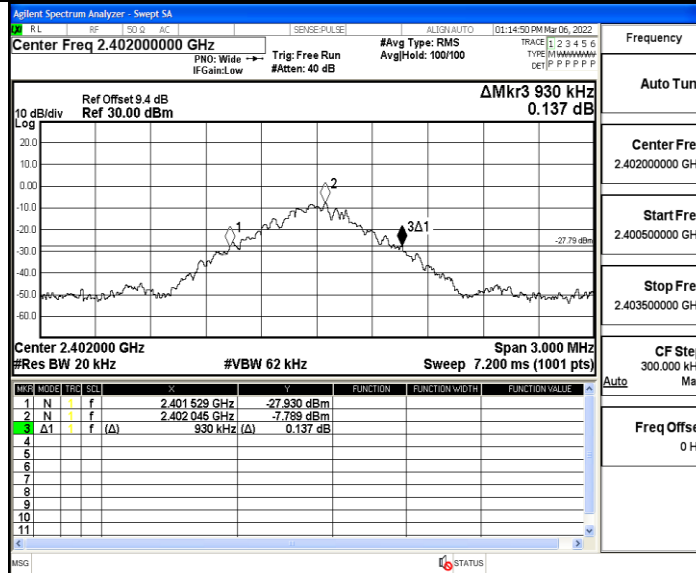
| | |
|--------------------|-----------|
| Temperature: | 22.8° C |
| Relative Humidity: | 56% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Anna Hu |
| Supervised by: | Hugo Chen |

A.1 20 dB Bandwidth

| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5 | Ant1 | 2402 | 0.930 | 2401.529 | 2402.459 | --- | --- |
| | | 2441 | 0.888 | 2440.529 | 2441.417 | --- | --- |
| | | 2480 | 0.930 | 2479.526 | 2480.456 | --- | --- |
| 2DH5 | Ant1 | 2402 | 1.287 | 2401.352 | 2402.639 | --- | --- |
| | | 2441 | 1.302 | 2440.334 | 2441.636 | --- | --- |
| | | 2480 | 1.260 | 2479.361 | 2480.621 | --- | --- |

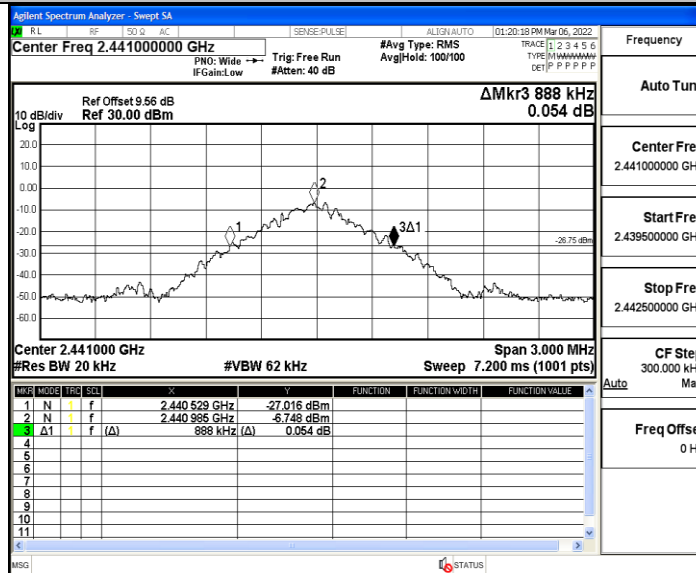
Test Graph

DH5_Ant1_2402



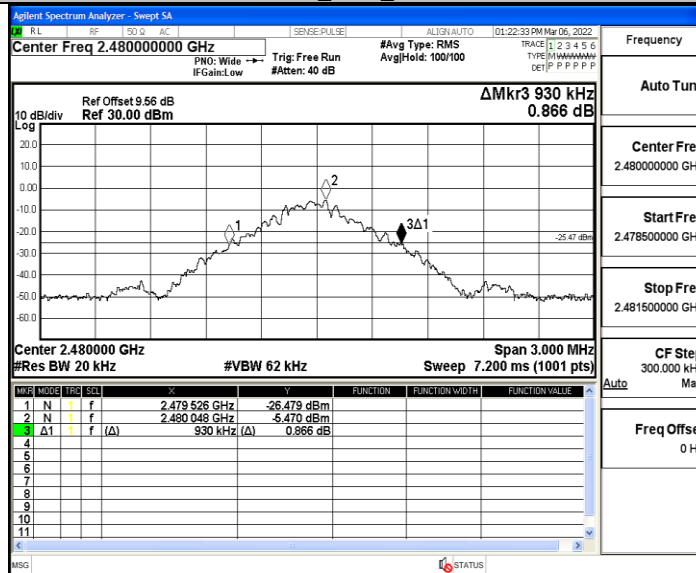
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.402000000 GHz |
| Start Freq | 2.400500000 GHz |
| Stop Freq | 2.403500000 GHz |
| CF Step | 300.000 kHz |
| Freq Offset | 0 Hz |

DH5_Ant1_2441



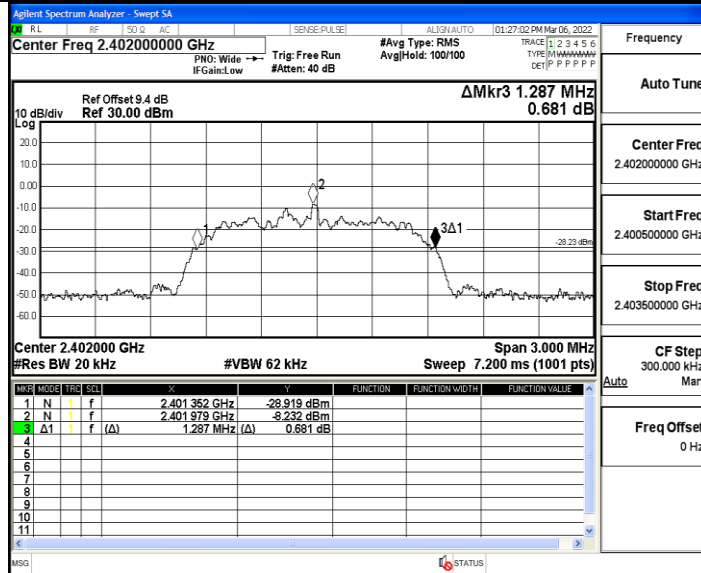
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.441000000 GHz |
| Start Freq | 2.439500000 GHz |
| Stop Freq | 2.442500000 GHz |
| CF Step | 300.000 kHz |
| Freq Offset | 0 Hz |

DH5_Ant1_2480



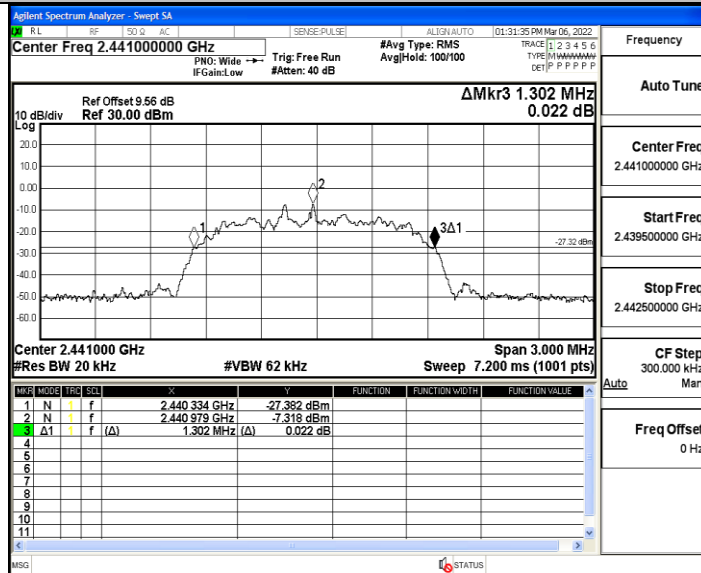
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.480000000 GHz |
| Start Freq | 2.478500000 GHz |
| Stop Freq | 2.481500000 GHz |
| CF Step | 300.000 kHz |
| Freq Offset | 0 Hz |

2DH5_Ant1_2402



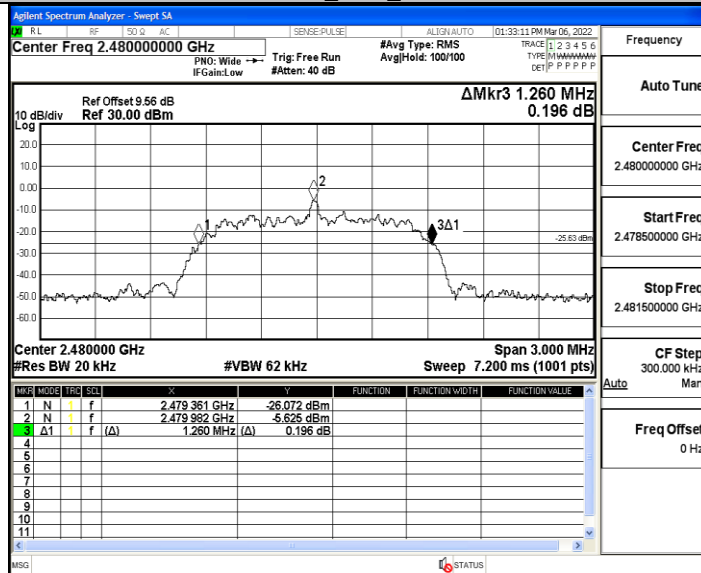
Frequency
Auto Tune
Center Freq
2.402000000 GHz
Start Freq
2.400500000 GHz
Stop Freq
2.403500000 GHz
CF Step
300.000 kHz
Man
Freq Offset
0 Hz

2DH5_Ant1_2441



Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.439500000 GHz
Stop Freq
2.442500000 GHz
CF Step
300.000 kHz
Man
Freq Offset
0 Hz

2DH5_Ant1_2480



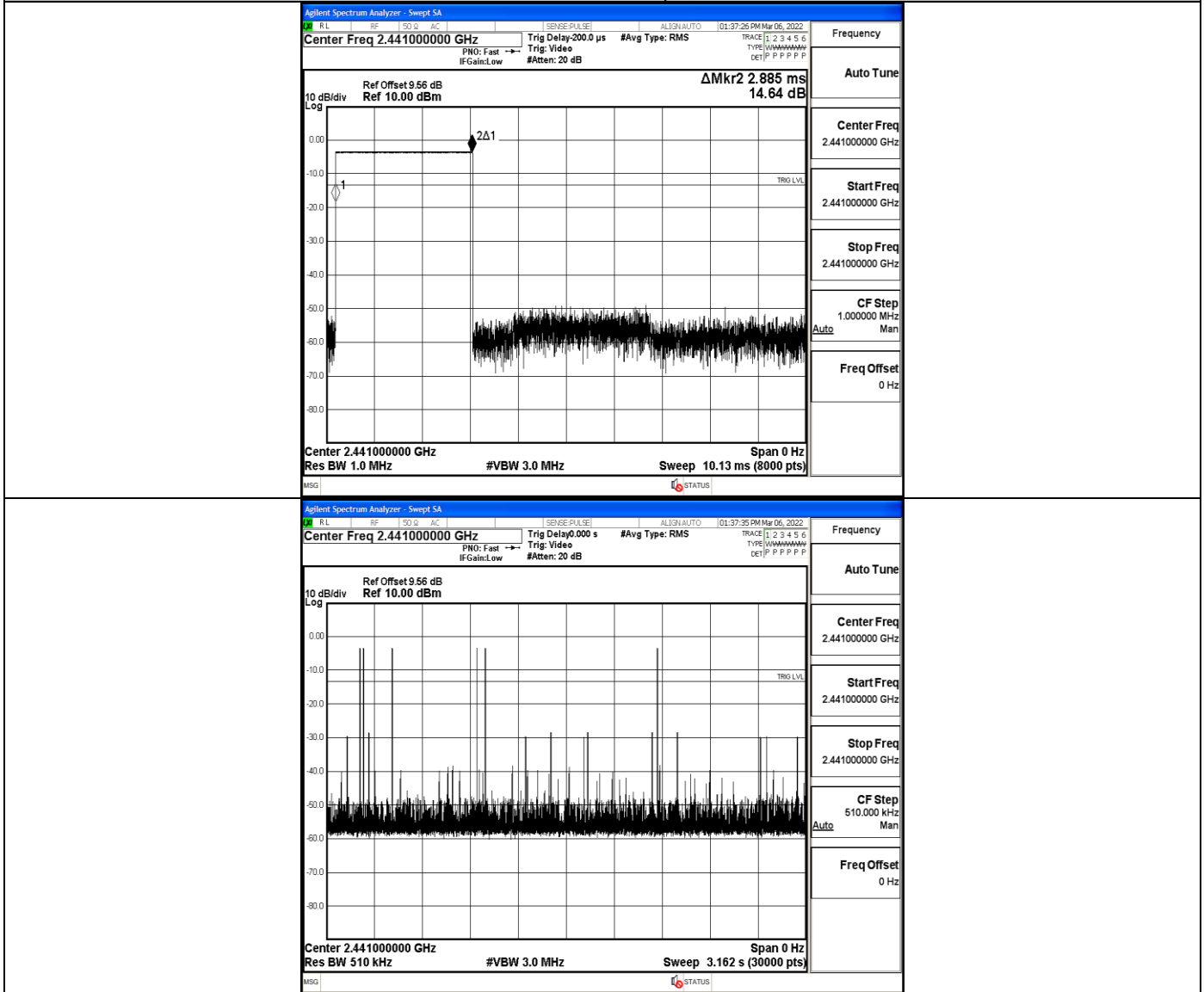
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Man
Freq Offset
0 Hz

A.2 Dwell Time

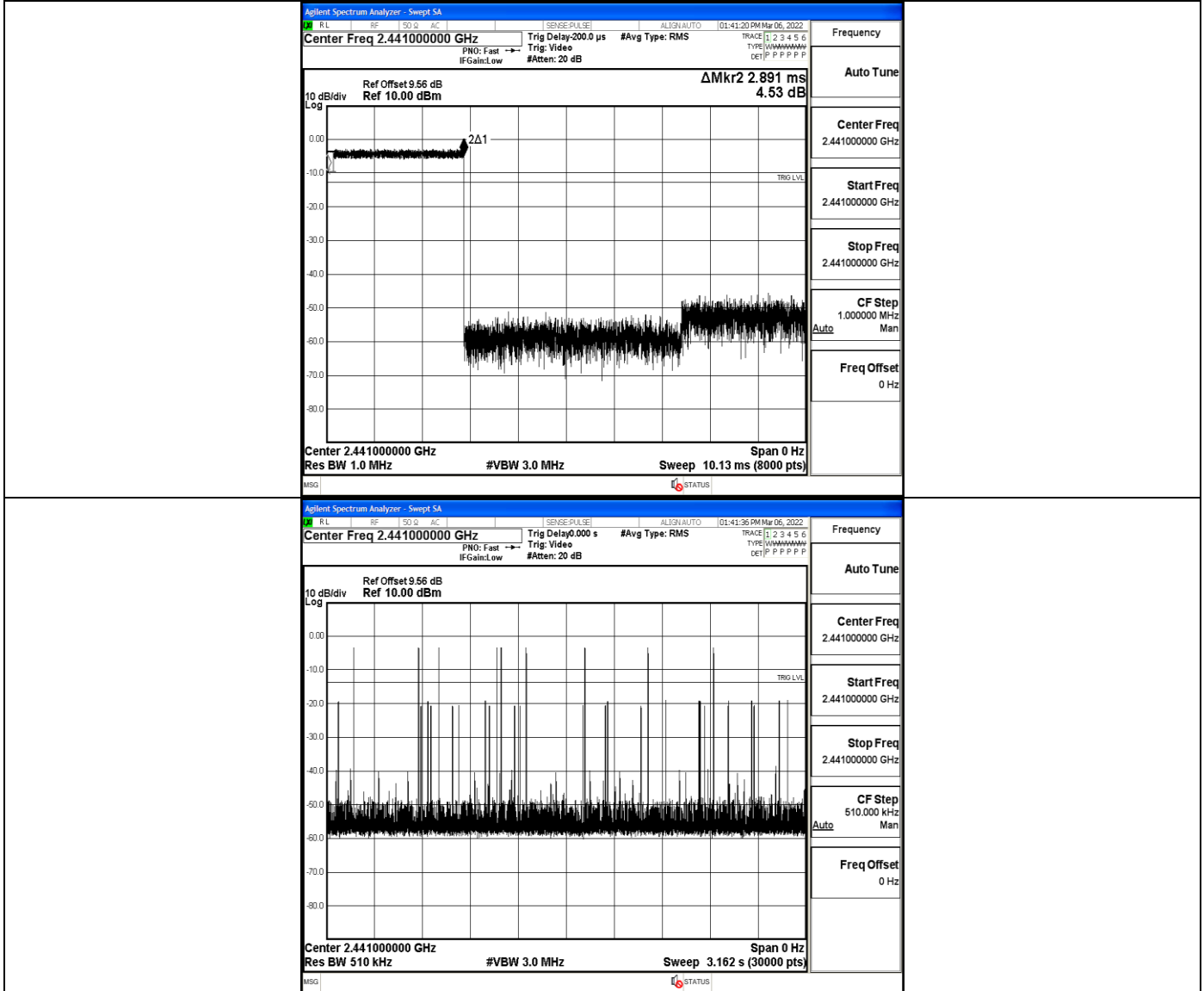
| TestMode | Antenna | Channel | BurstWidth [ms] | TotalHops [Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5 | Ant1 | Hop | 2.89 | 70 | 0.202 | ≤0.4 | PASS |
| 2DH5 | Ant1 | Hop | 2.89 | 100 | 0.289 | ≤0.4 | PASS |

Test Graph

DH5_Ant1_Hop



2DH5_Ant1_Hop

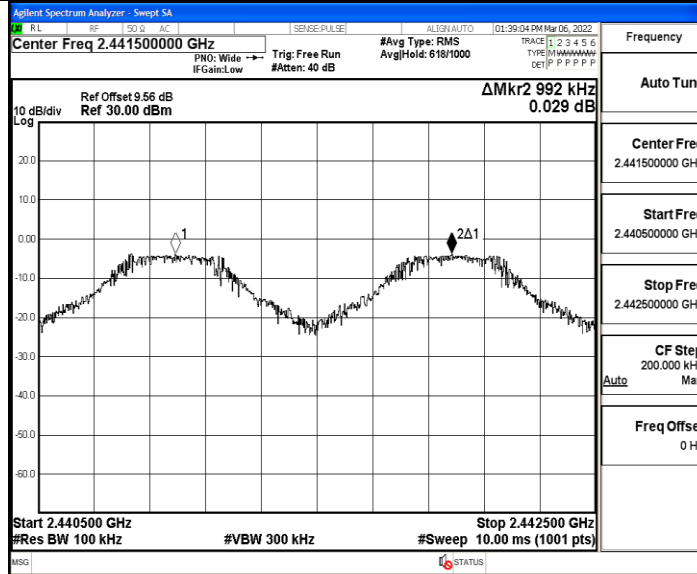


A.3 Carrier Frequency Separation

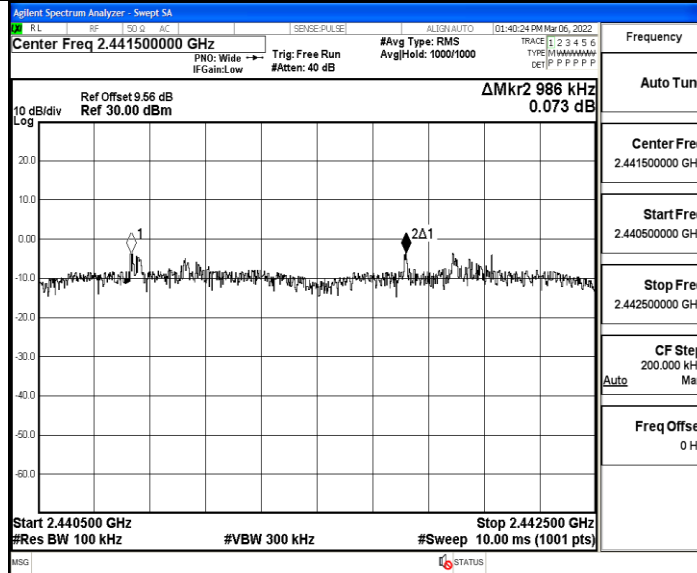
| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5 | Ant1 | Hop | 0.992 | ≥ 0.930 | PASS |
| 2DH5 | Ant1 | Hop | 0.986 | ≥ 0.868 | PASS |

Test Graph

DH5_Ant1_Hop



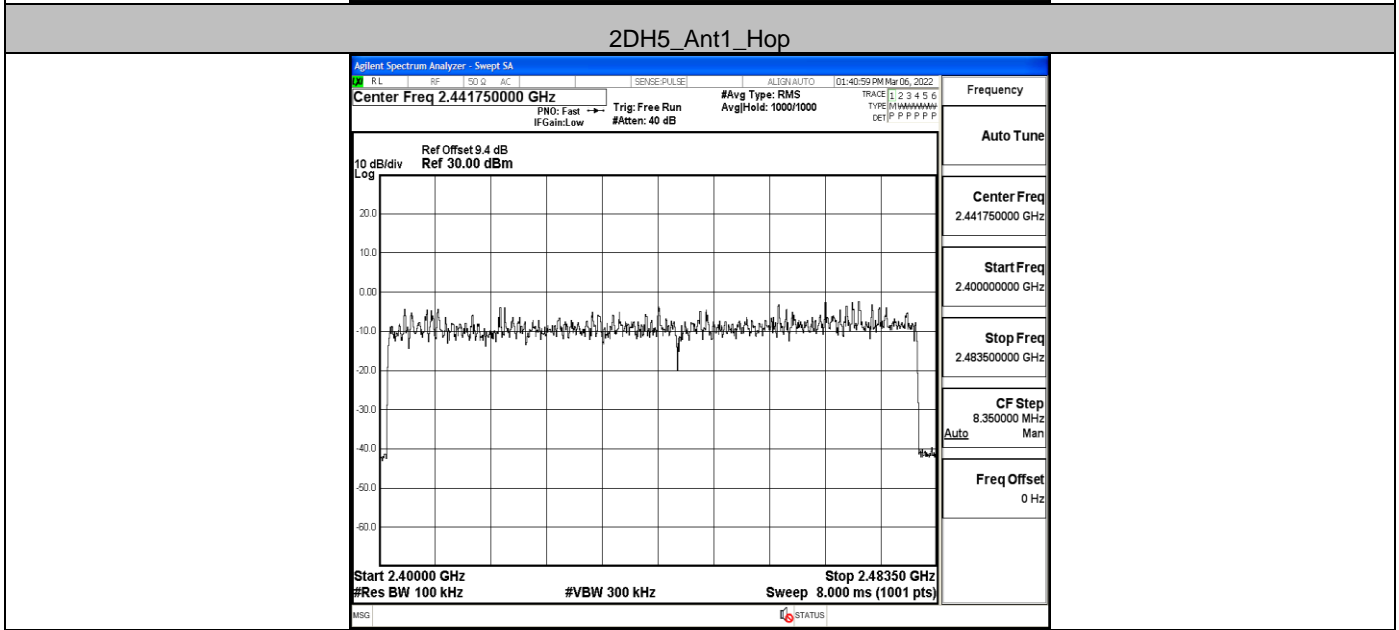
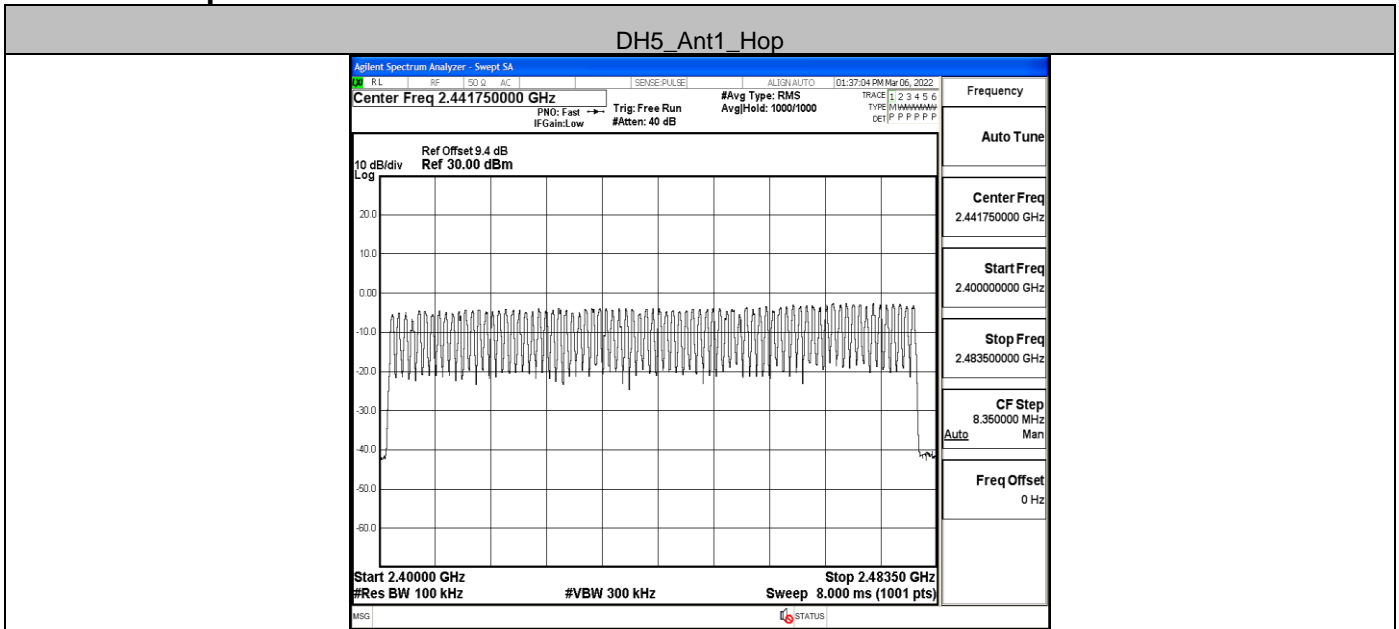
2DH5_Ant1_Hop



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 |

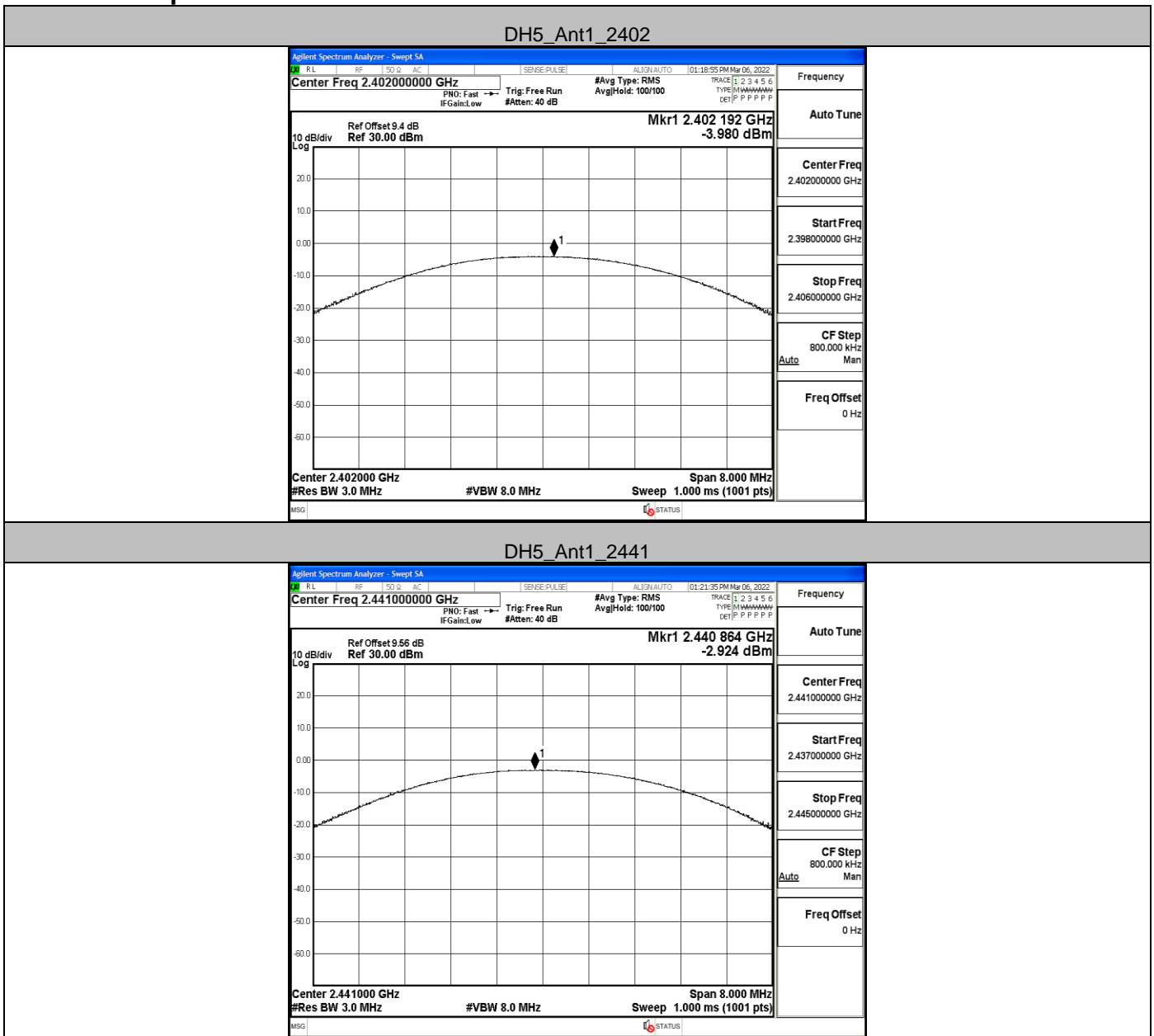
Test Graph



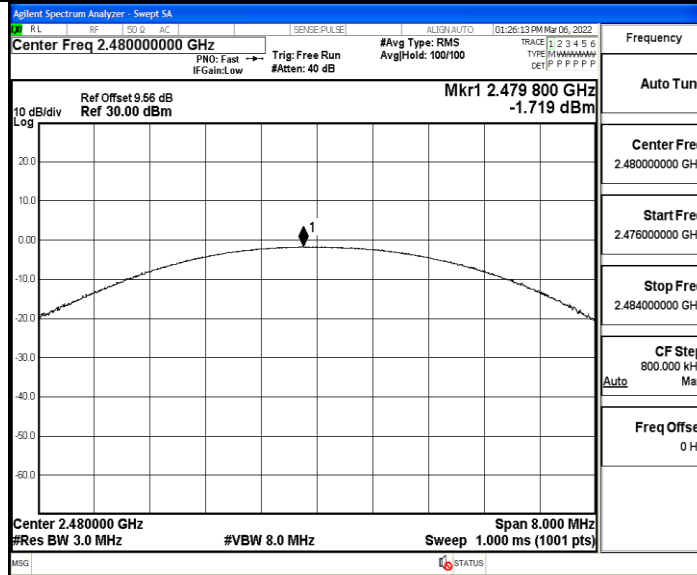
A.5 Conducted Peak Output Power

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5 | Ant1 | 2402 | -3.98 | ≤30 | PASS |
| | | 2441 | -2.92 | ≤30 | PASS |
| | | 2480 | -1.72 | ≤30 | PASS |
| 2DH5 | Ant1 | 2402 | -3.32 | ≤20.97 | PASS |
| | | 2441 | -2.19 | ≤20.97 | PASS |
| | | 2480 | -1.00 | ≤20.97 | PASS |

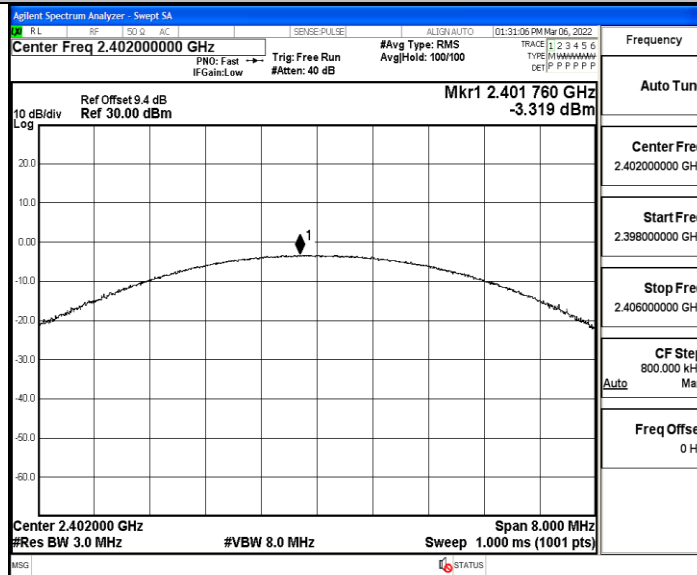
Test Graph



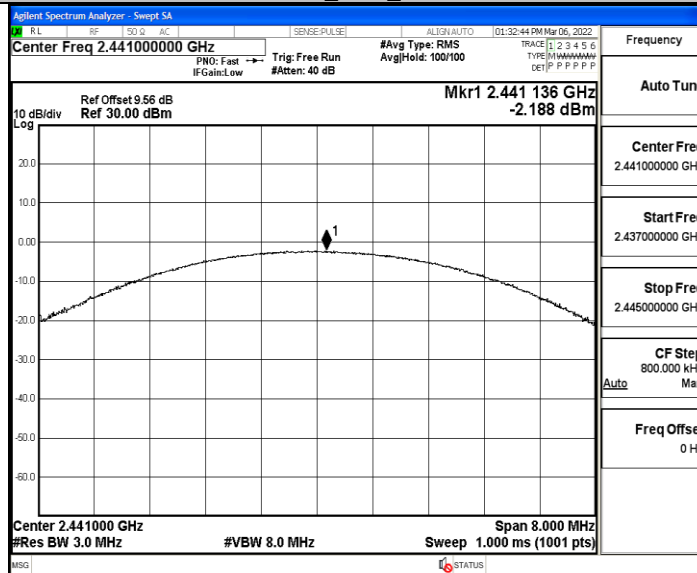
DH5_Ant1_2480



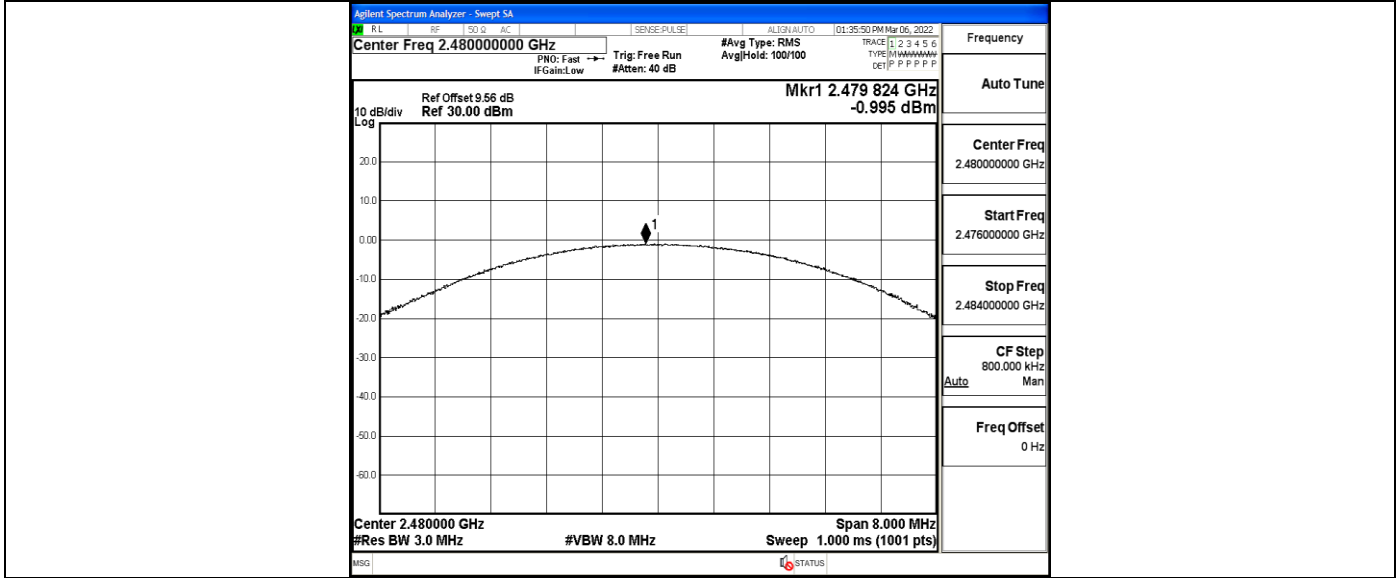
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480

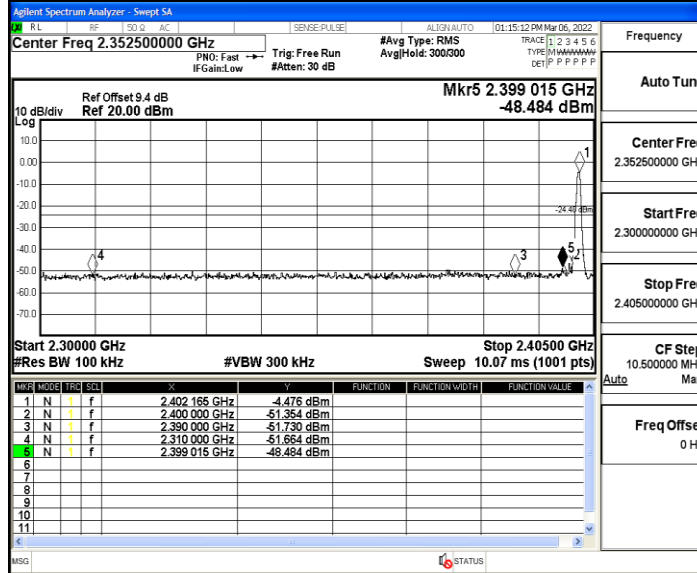


A.6 Band-edge for RF Conducted Emissions

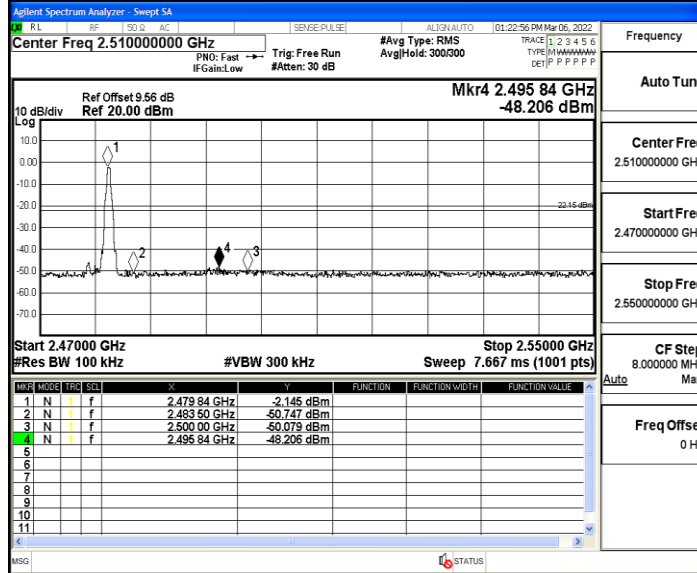
| TestMode | Antenna | ChName | Channel | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|--------|----------|-------------------|-----------------|----------------|---------|
| DH5 | Ant1 | Low | 2402 | -4.48 | -48.48 | ≤-24.48 | PASS |
| | | High | 2480 | -2.15 | -48.21 | ≤-22.15 | PASS |
| | | Low | Hop_2402 | -5.30 | -50.27 | ≤-25.3 | PASS |
| | | High | Hop_2480 | -2.46 | -49.08 | ≤-22.46 | PASS |
| 2DH5 | Ant1 | Low | 2402 | -4.45 | -49.7 | ≤-24.45 | PASS |
| | | High | 2480 | -2.11 | -47.89 | ≤-22.11 | PASS |
| | | Low | Hop_2402 | -8.38 | -50.27 | ≤-28.38 | PASS |
| | | High | Hop_2480 | -4.27 | -49.07 | ≤-24.27 | PASS |

Test Graph

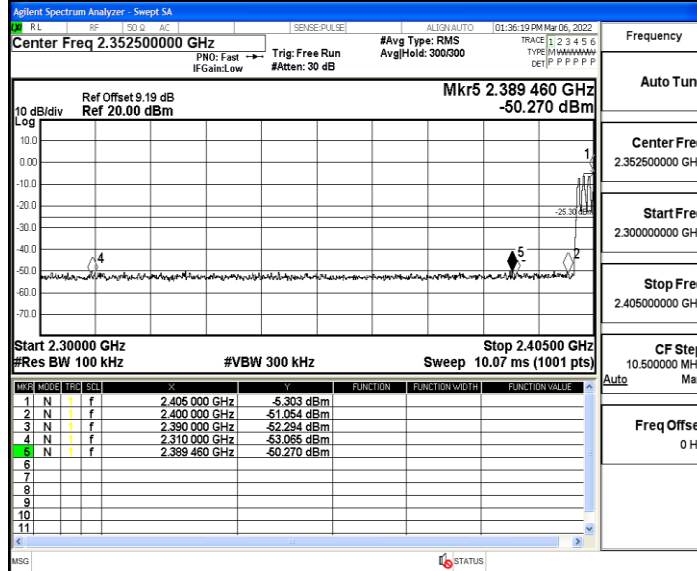
DH5_Ant1_Low_2402



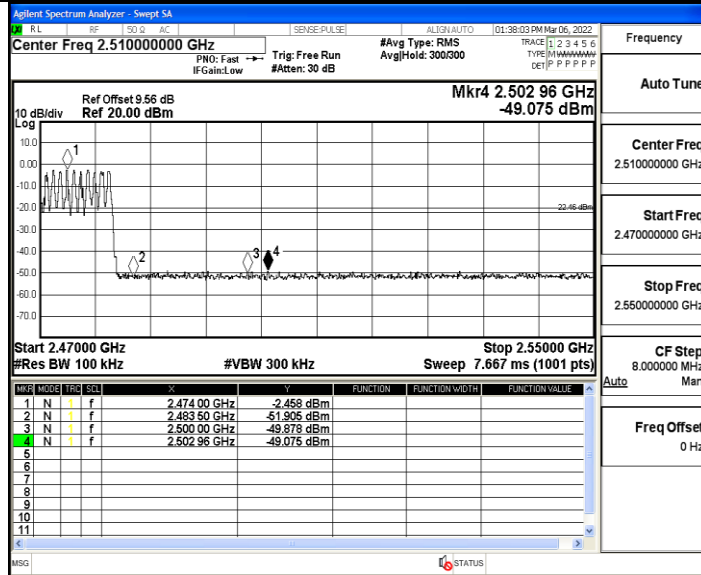
DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402

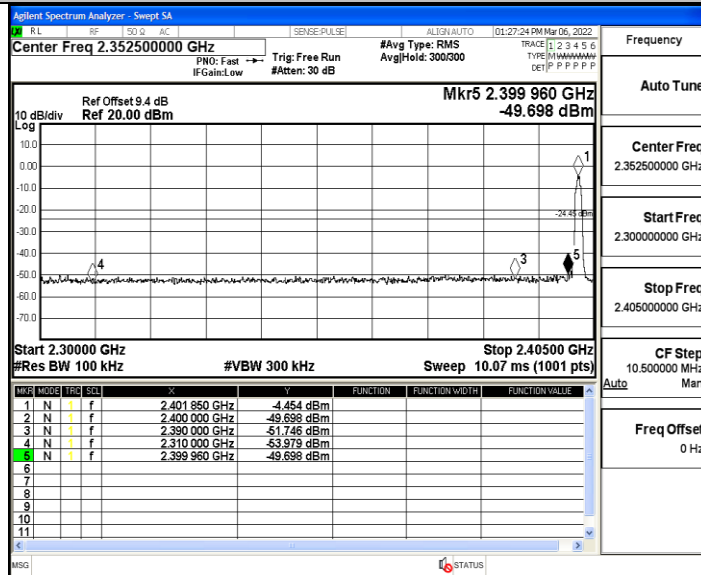


DH5_Ant1_High_Hop_2480



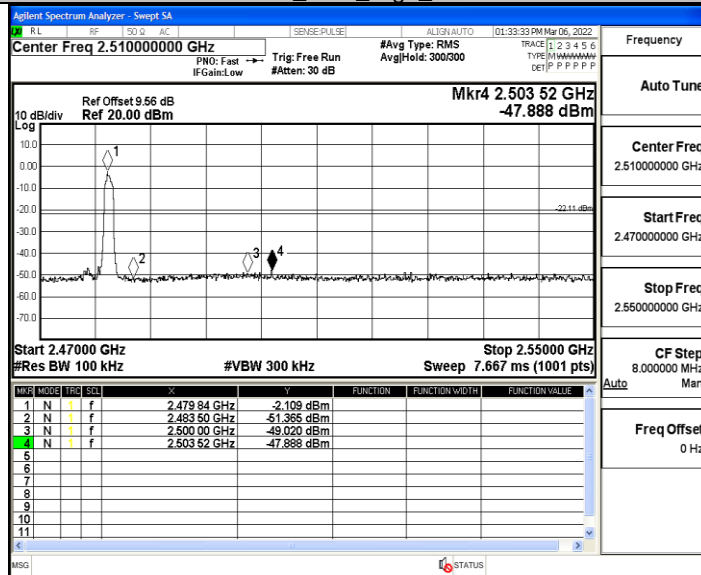
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.510000000 GHz |
| Start Freq | 2.470000000 GHz |
| Stop Freq | 2.550000000 GHz |
| CF Step | 8.000000 MHz |
| Freq Offset | 0 Hz |

2DH5_Ant1_Low_2402



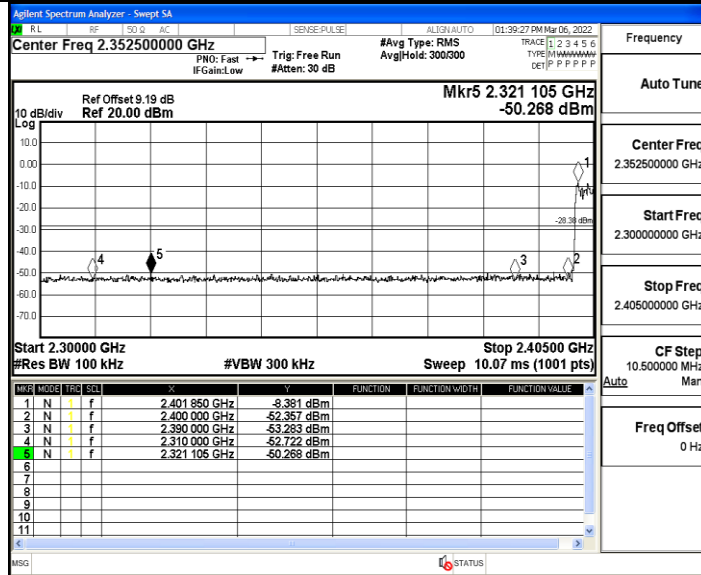
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.352500000 GHz |
| Start Freq | 2.300000000 GHz |
| Stop Freq | 2.405000000 GHz |
| CF Step | 10.500000 MHz |
| Freq Offset | 0 Hz |

2DH5_Ant1_High_2480

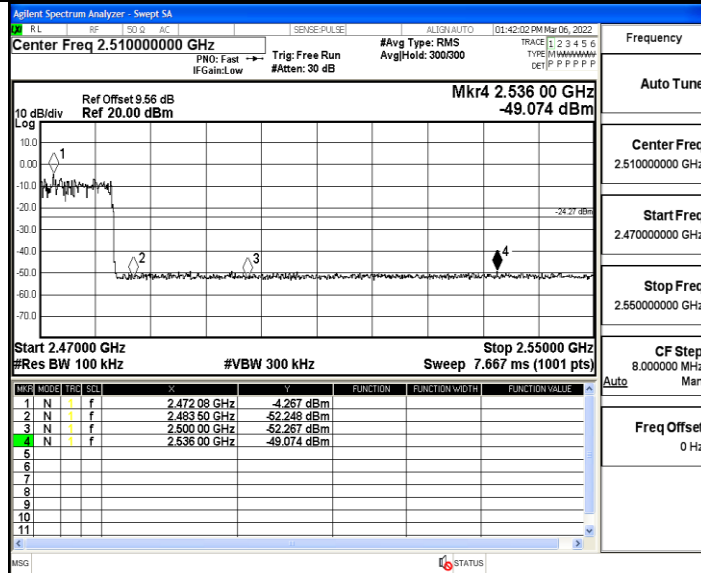


| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.510000000 GHz |
| Start Freq | 2.470000000 GHz |
| Stop Freq | 2.550000000 GHz |
| CF Step | 8.000000 MHz |
| Freq Offset | 0 Hz |

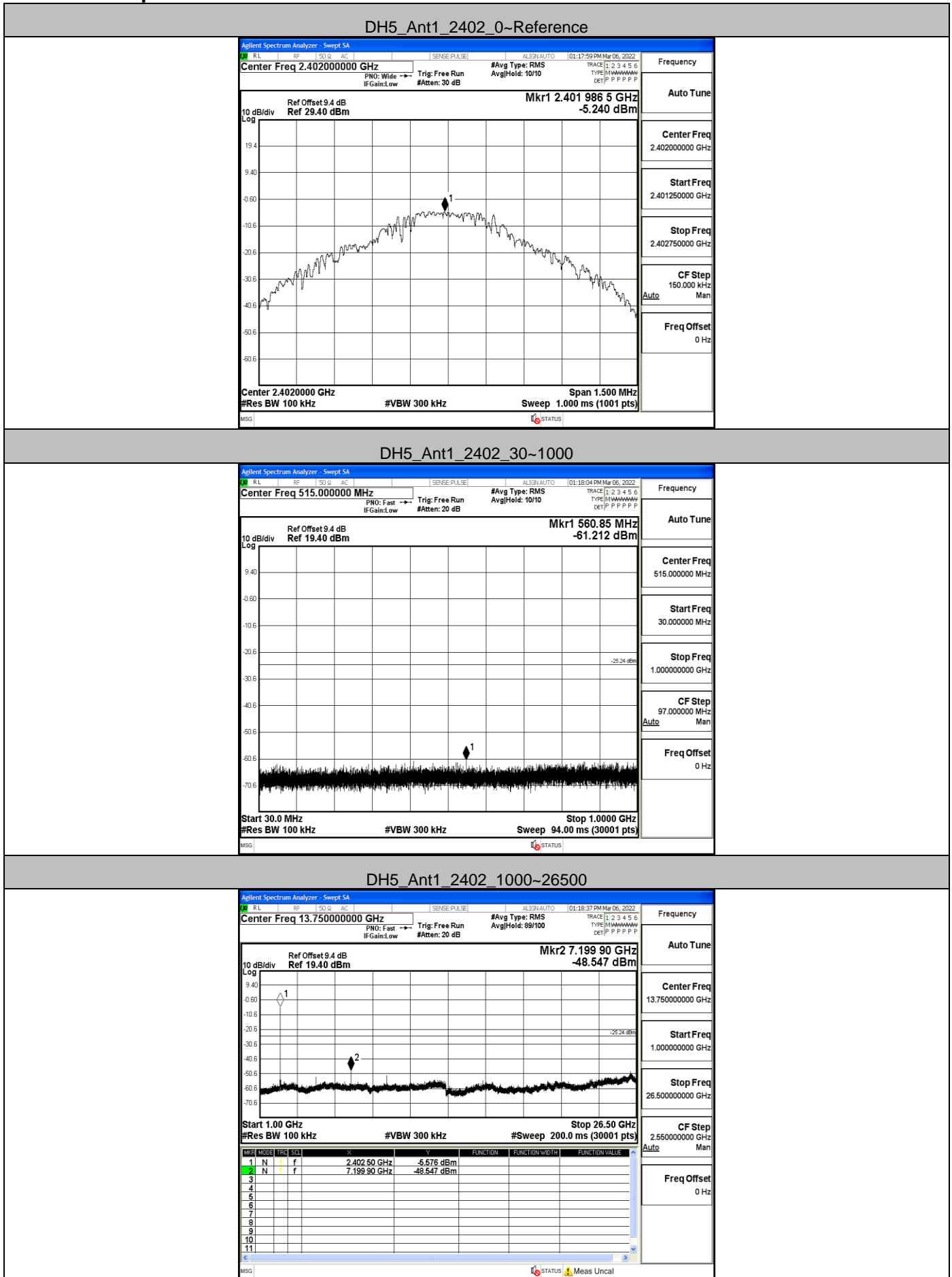
2DH5_Ant1_Low_Hop_2402



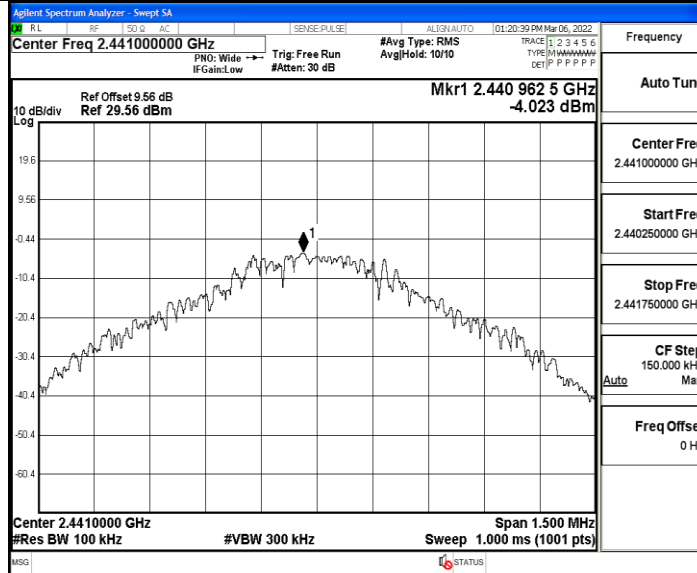
2DH5_Ant1_High_Hop_2480



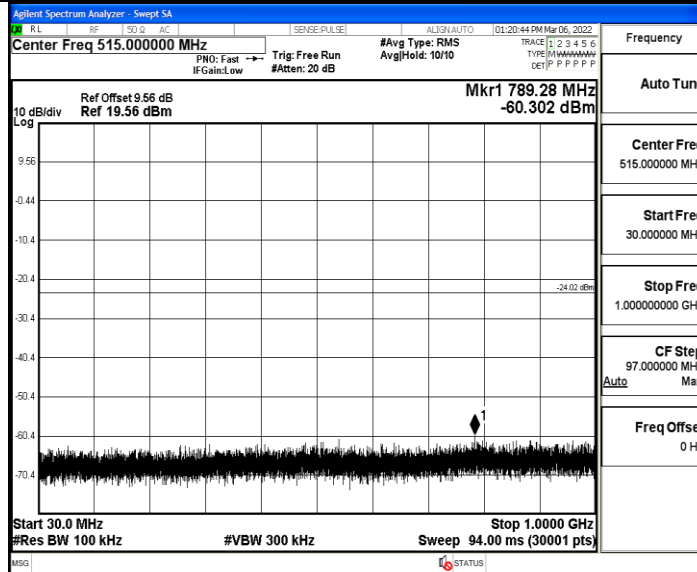
A.7 RF Conducted Spurious Emissions Test Graph



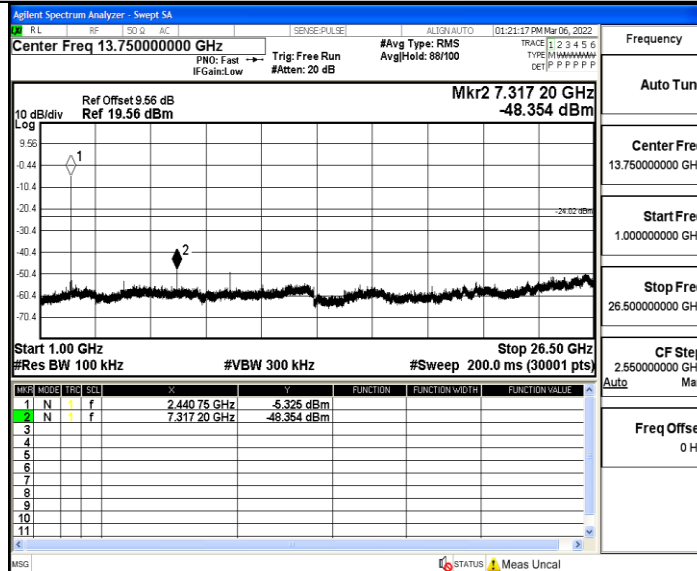
DH5_Ant1_2441_0~Reference



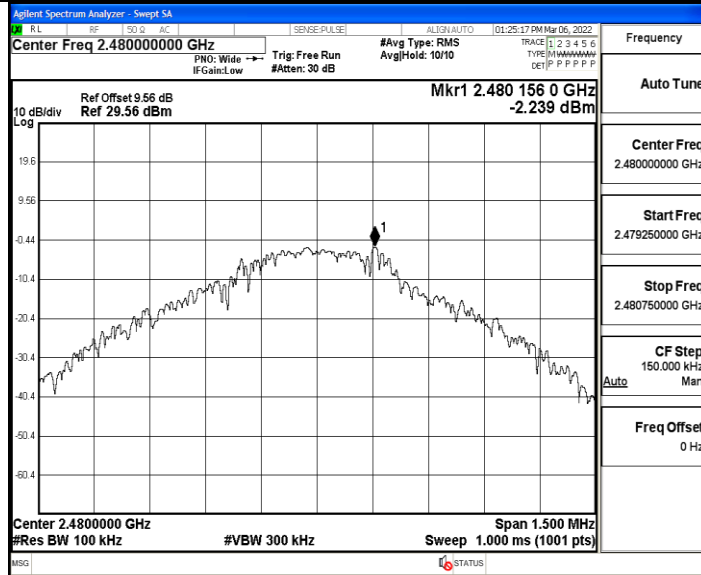
DH5_Ant1_2441_30~1000



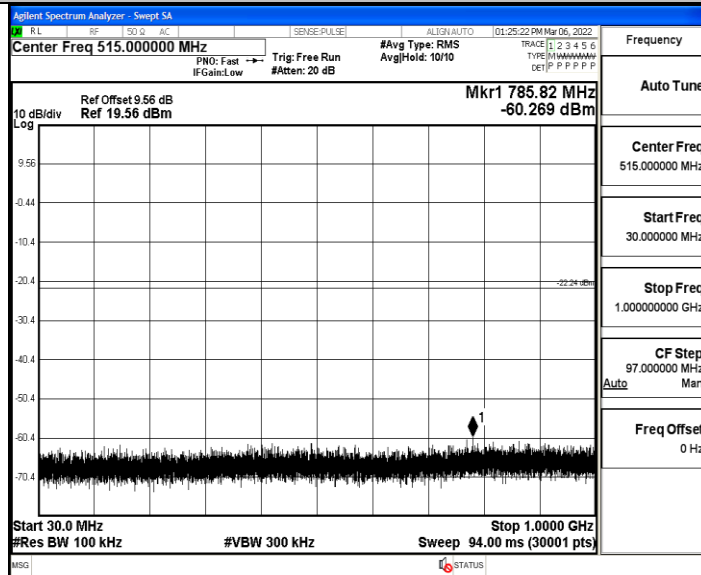
DH5_Ant1_2441_1000~26500



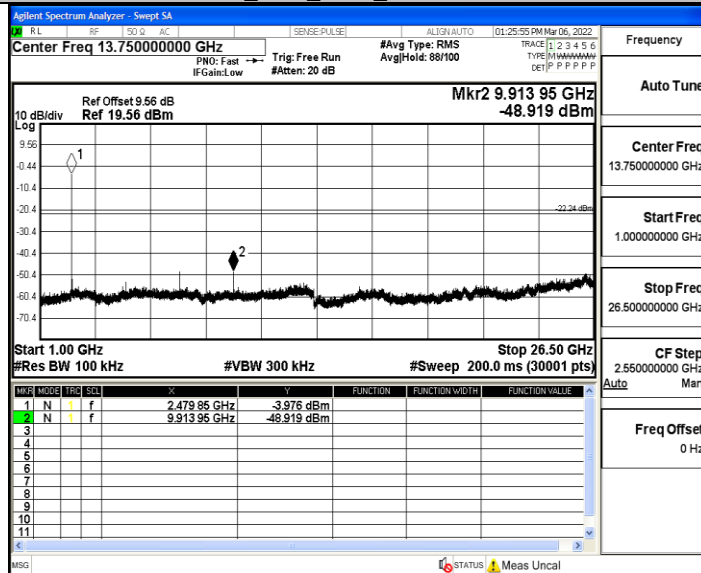
DH5_Ant1_2480_0-Reference



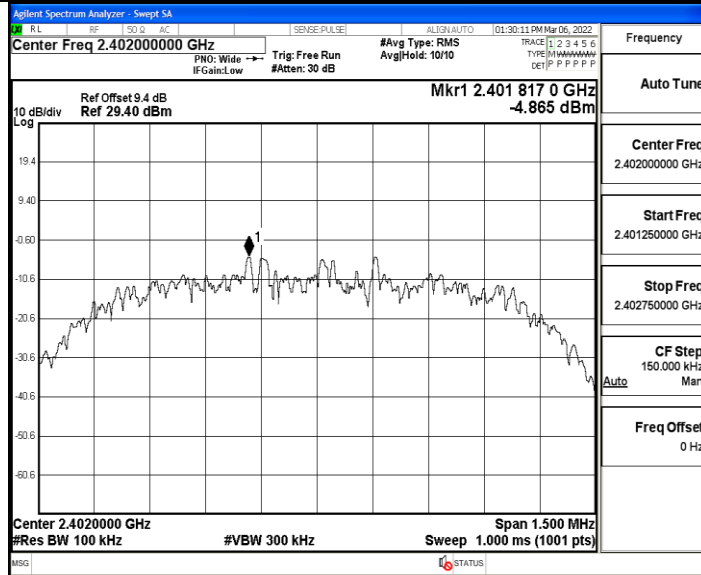
DH5_Ant1_2480_30-1000



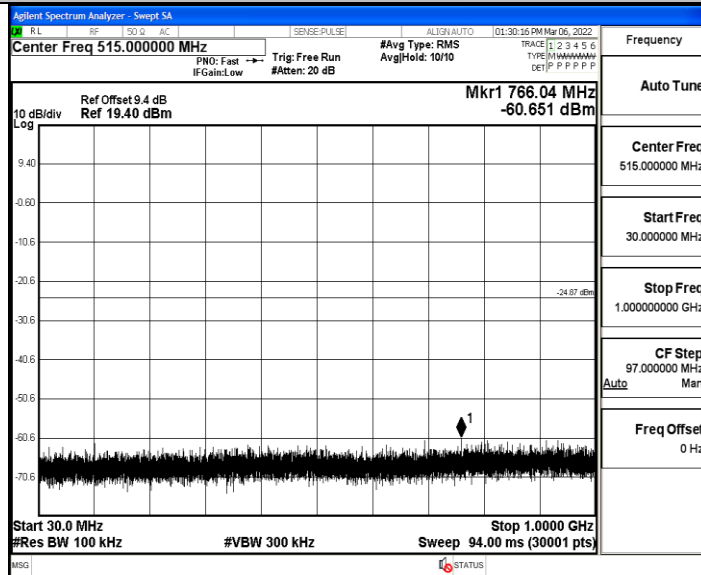
DH5_Ant1_2480_1000-26500



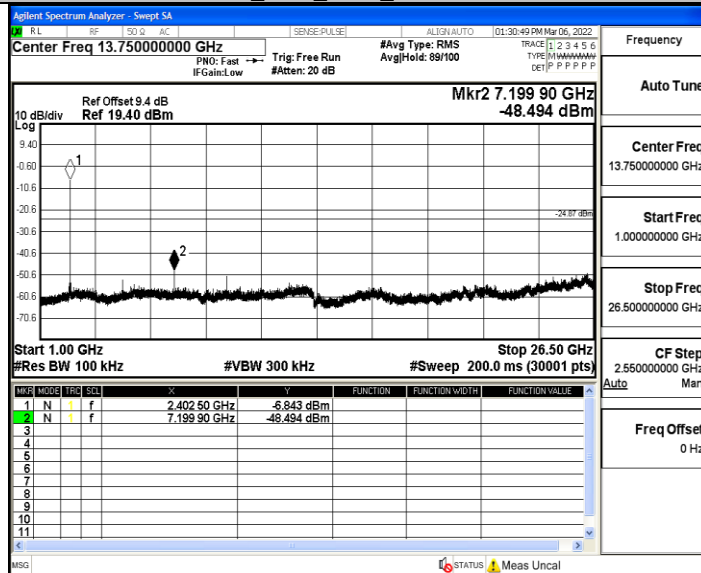
2DH5_Ant1_2402_0~Reference



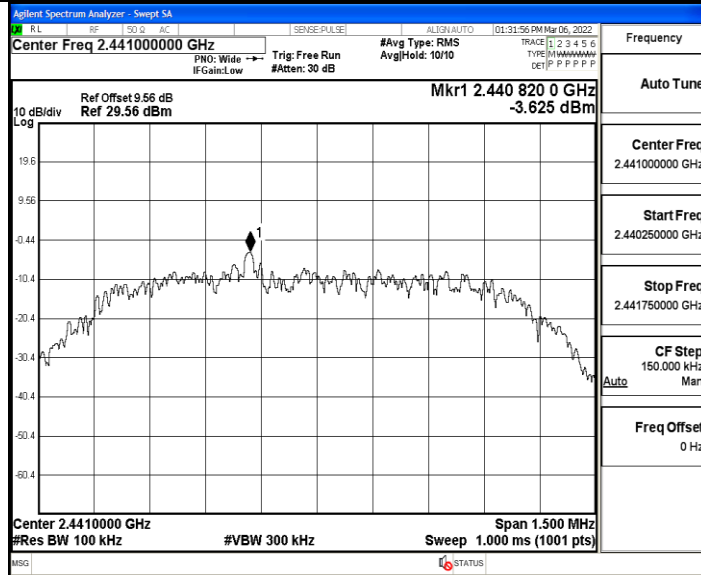
2DH5_Ant1_2402_30~1000



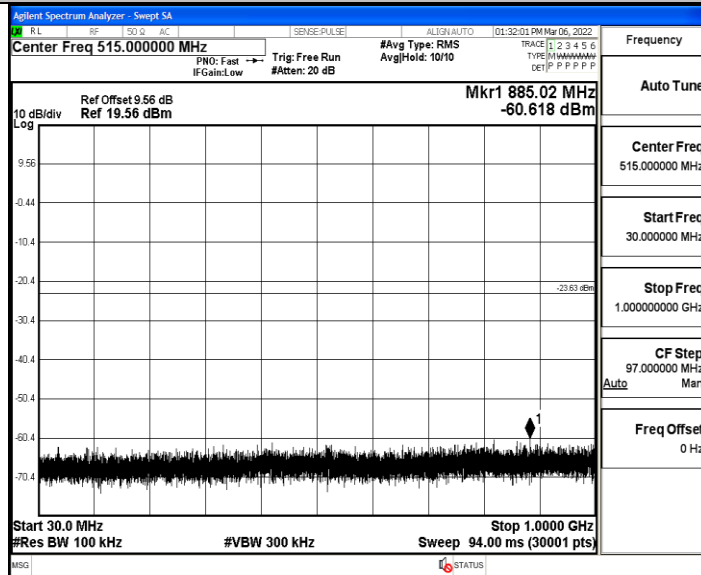
2DH5_Ant1_2402_1000~26500



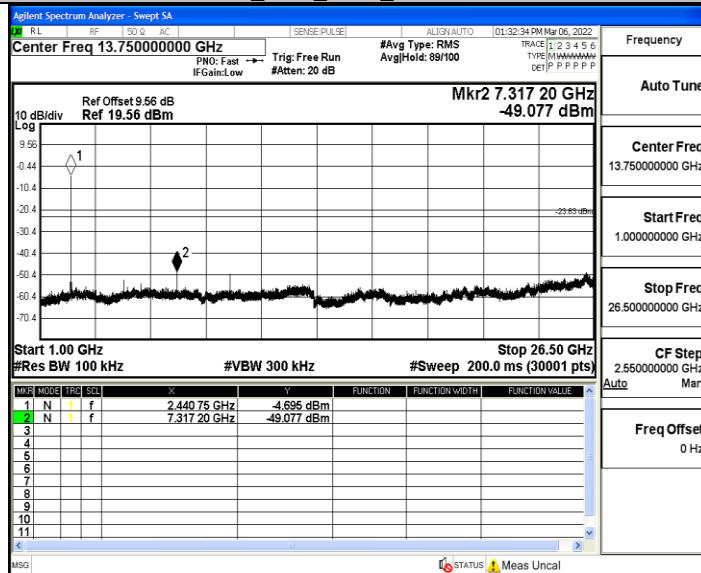
2DH5_Ant1_2441_0~Reference



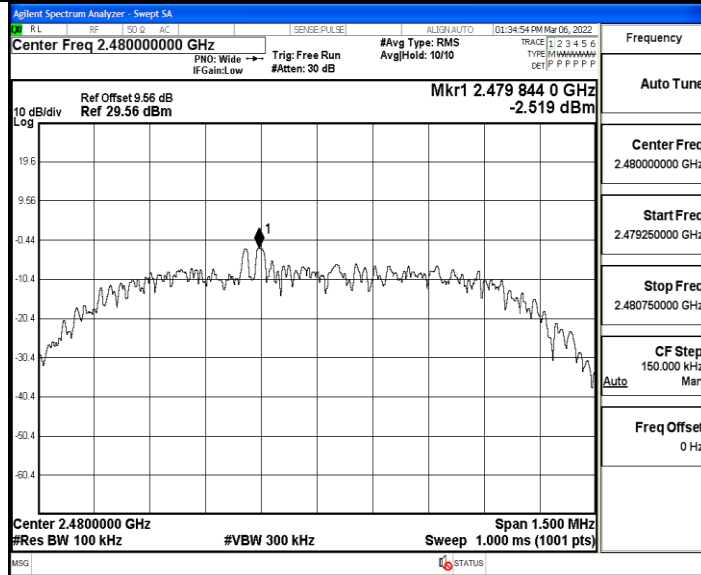
2DH5_Ant1_2441_30~1000



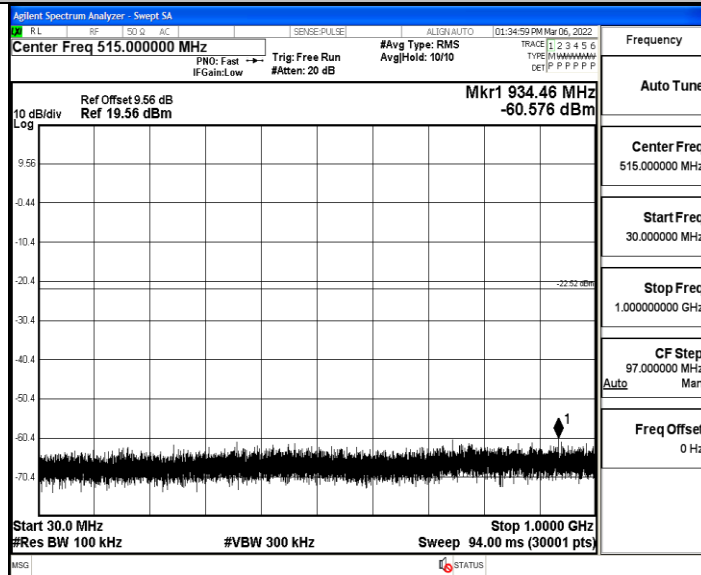
2DH5_Ant1_2441_1000~26500



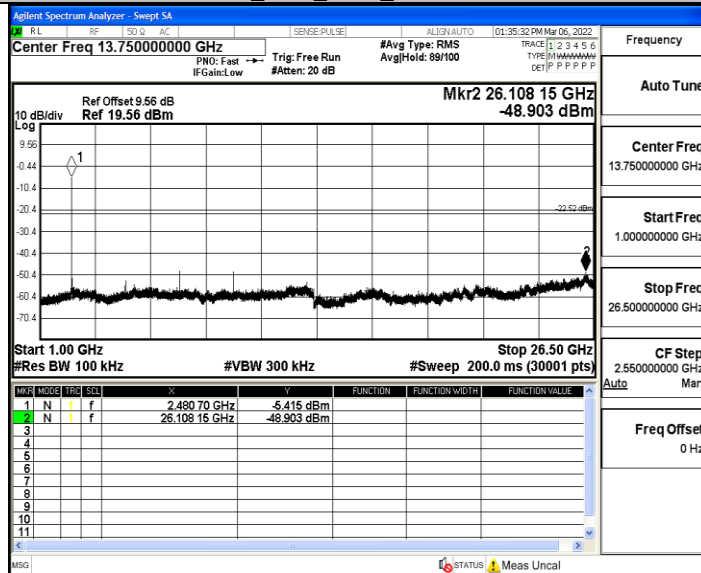
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



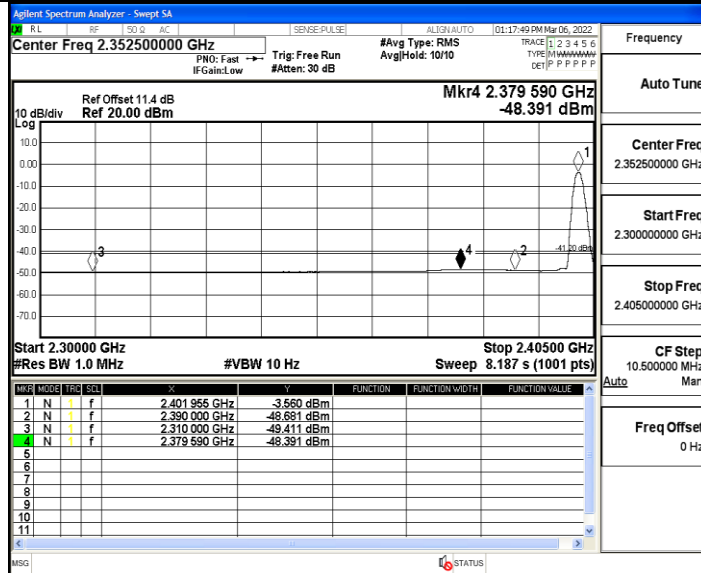
A.8 Restrict-band band-edge measurements

| TestMode | Antenna | ChName | Channel | Detector | Freq(MHz) | Result(dBm) | Limit(dBm) | Verdict |
|----------|---------|--------|---------|----------|-----------|-------------|------------|---------|
| DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -49.41 | ≤-41.20 | PASS |
| | | | | AV | 2379.590 | -48.39 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -48.68 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -43.24 | ≤-21.20 | PASS |
| | | | | Peak | 2377.385 | -39.01 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -42.84 | ≤-21.20 | PASS |
| | | High | 2480 | AV | 2483.500 | -48.02 | ≤-41.20 | PASS |
| | | | | AV | 2499.600 | -47.07 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -47.1 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -42.68 | ≤-21.20 | PASS |
| | | | | Peak | 2498.400 | -38.22 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -40.53 | ≤-21.20 | PASS |
| 2DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -49.45 | ≤-41.20 | PASS |
| | | | | AV | 2380.325 | -48.41 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -48.74 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -44.48 | ≤-21.20 | PASS |
| | | | | Peak | 2379.380 | -38.96 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -43.55 | ≤-21.20 | PASS |
| | | High | 2480 | AV | 2483.500 | -47.81 | ≤-41.20 | PASS |
| | | | | AV | 2498.080 | -46.49 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -46.64 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -41.53 | ≤-21.20 | PASS |
| | | | | Peak | 2498.960 | -37.84 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -40.69 | ≤-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



Frequency

Auto Tune

Center Freq
2.352500000 GHz

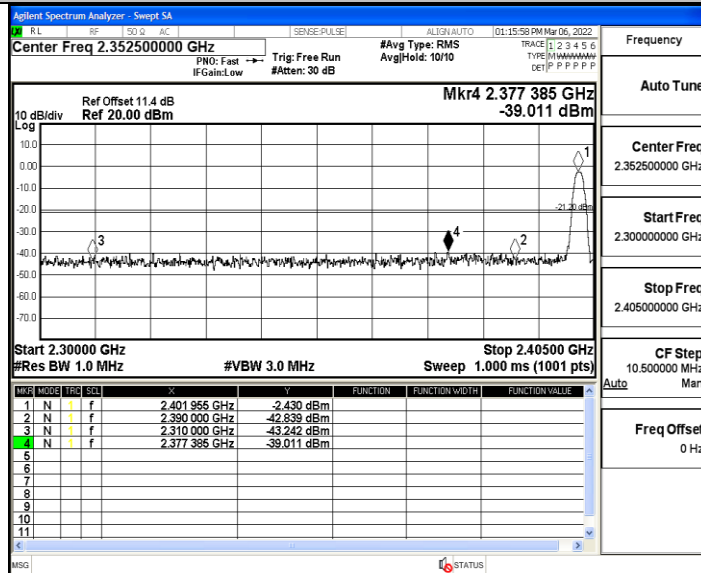
Start Freq
2.300000000 GHz

Stop Freq
2.405000000 GHz

CF Step
10.500000 MHz

Freq Offset
0 Hz

DH5_Ant1_Low_2402_Peak



Frequency

Auto Tune

Center Freq
2.352500000 GHz

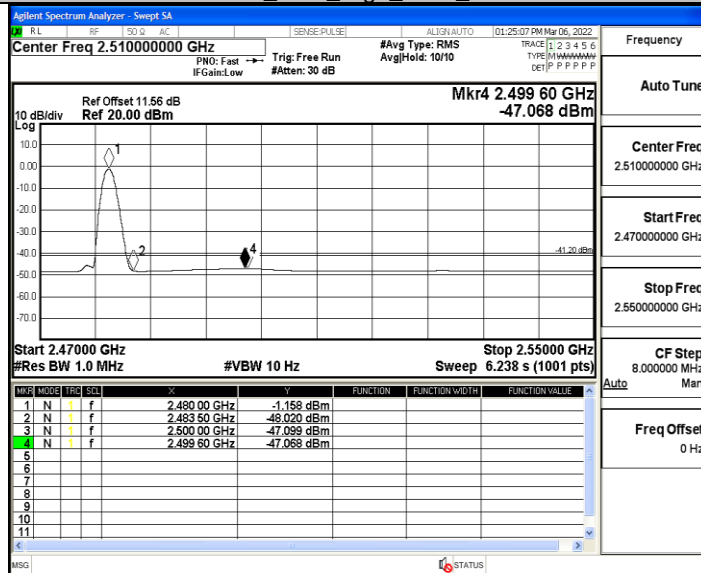
Start Freq
2.300000000 GHz

Stop Freq
2.405000000 GHz

CF Step
10.500000 MHz

Freq Offset
0 Hz

DH5_Ant1_High_2480_AV



Frequency

Auto Tune

Center Freq
2.510000000 GHz

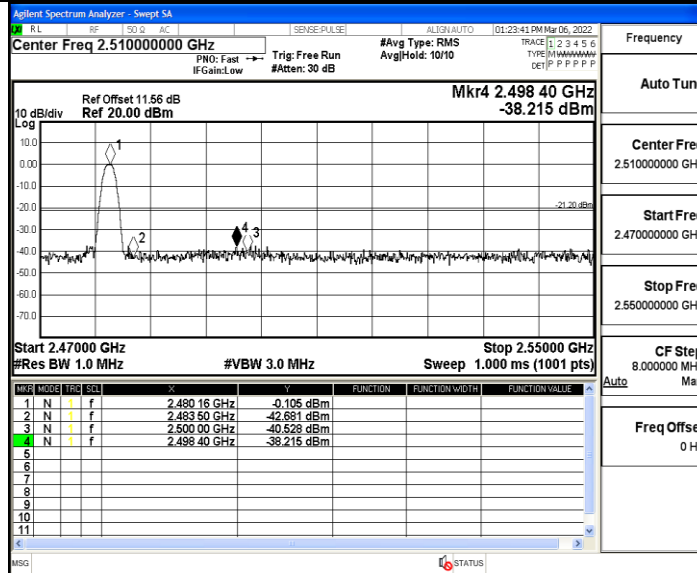
Start Freq
2.470000000 GHz

Stop Freq
2.550000000 GHz

CF Step
8.000000 MHz

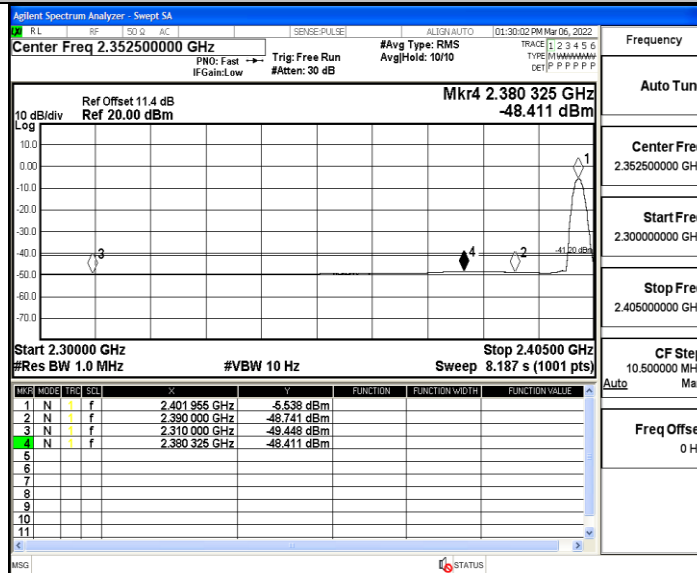
Freq Offset
0 Hz

DH5_Ant1_High_2480_Peak



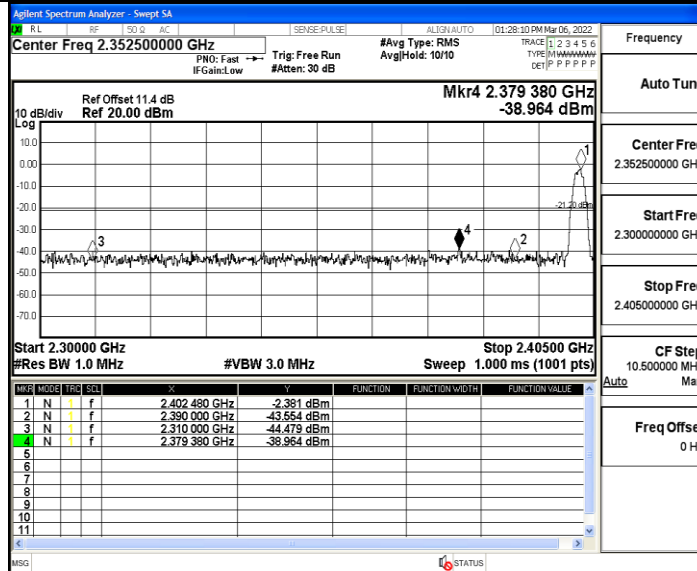
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.510000000 GHz |
| Start Freq | 2.470000000 GHz |
| Stop Freq | 2.550000000 GHz |
| CF Step | 8.000000 MHz |
| Freq Offset | 0 Hz |

2DH5_Ant1_Low_2402_AV



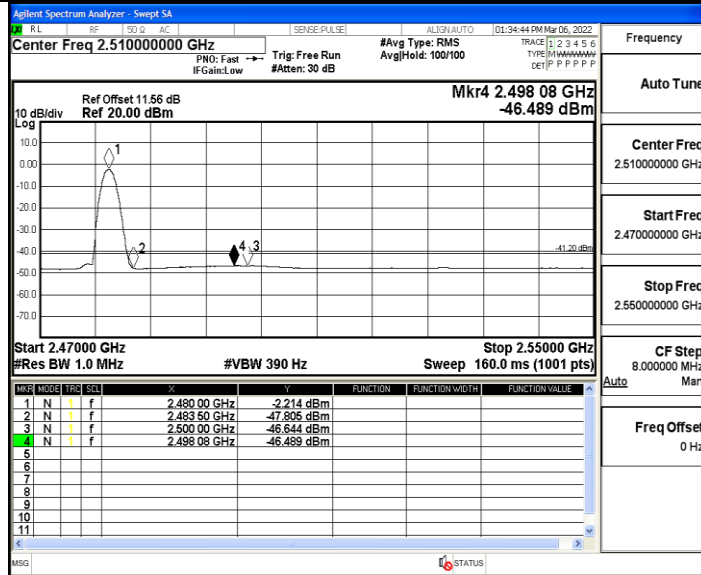
| | |
|-------------|-----------------|
| Frequency | Auto Tune |
| Center Freq | 2.352500000 GHz |
| Start Freq | 2.300000000 GHz |
| Stop Freq | 2.405000000 GHz |
| CF Step | 10.500000 MHz |
| Freq Offset | 0 Hz |

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

