





Appendix A

RF Test Data for BT V5.1 (DSS) (Conducted Measurement)

Product Name: Wireless receiver and transmitter

Test Model: RT5066

Environmental Conditions

| | |
|--------------------|---|
| Temperature: | 23.5°C |
| Relative Humidity: | 52.2% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: |  Monkey Li |
| Supervised by: |  Li Huan |



A.1 20dB Emission Bandwidth

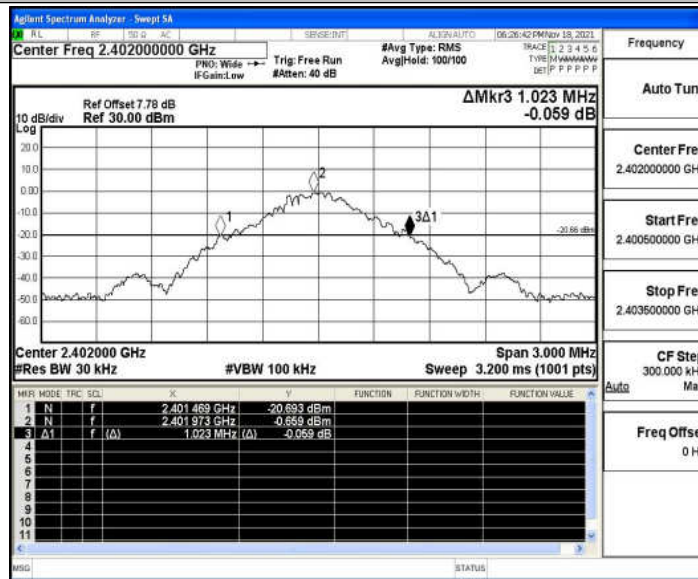
Test Result

| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5 | Ant1 | 2402 | 1.023 | 2401.469 | 2402.492 | --- | PASS |
| | | 2441 | 1.038 | 2440.463 | 2441.501 | --- | PASS |
| | | 2480 | 0.936 | 2479.535 | 2480.471 | --- | PASS |
| 2DH5 | Ant1 | 2402 | 1.314 | 2401.343 | 2402.657 | --- | PASS |
| | | 2441 | 1.308 | 2440.346 | 2441.654 | --- | PASS |
| | | 2480 | 1.323 | 2479.337 | 2480.660 | --- | PASS |
| 3DH5 | Ant1 | 2402 | 1.314 | 2401.346 | 2402.660 | --- | PASS |
| | | 2441 | 1.347 | 2440.325 | 2441.672 | --- | PASS |
| | | 2480 | 1.305 | 2479.352 | 2480.657 | --- | PASS |

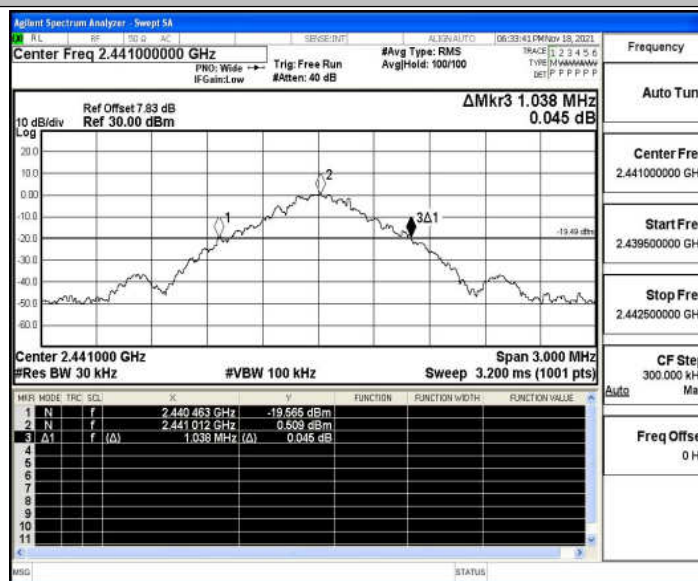


Test Graphs

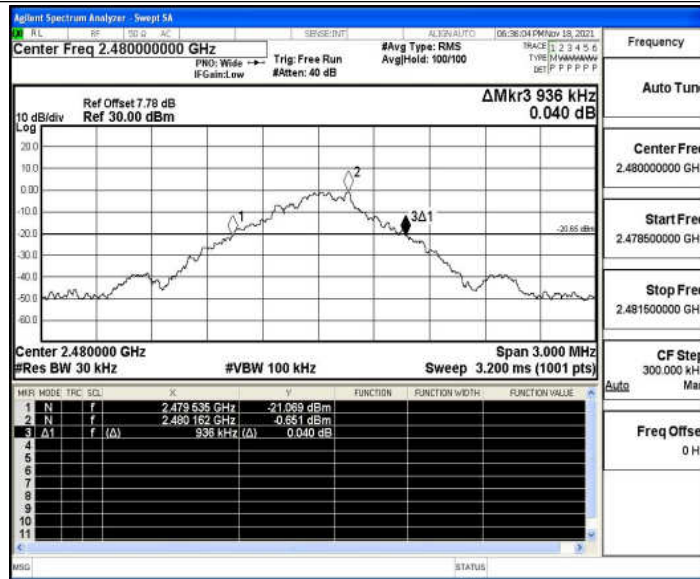
DH5_Ant1_2402



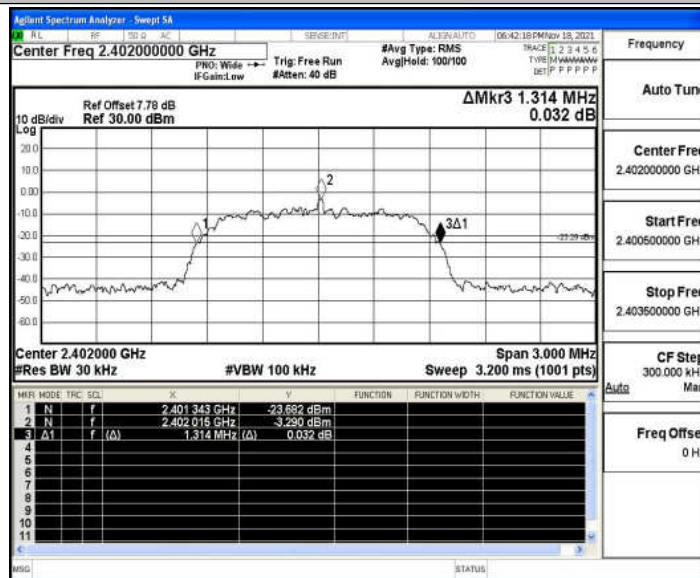
DH5_Ant1_2441



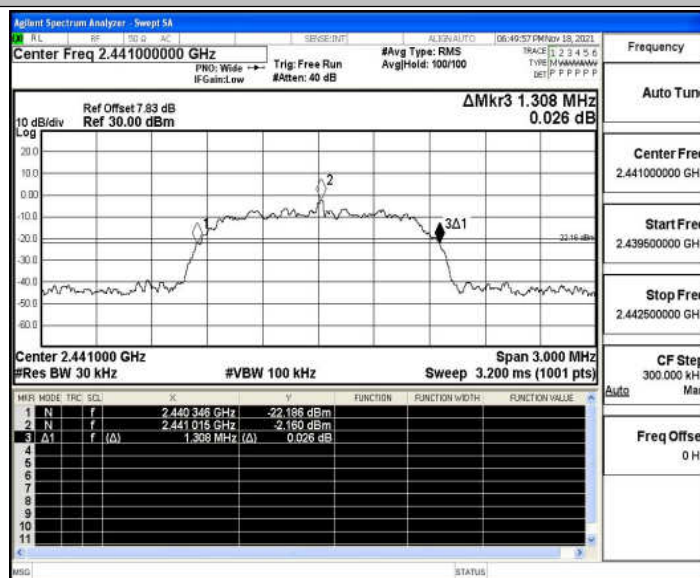
DH5_Ant1_2480



2DH5_Ant1_2402

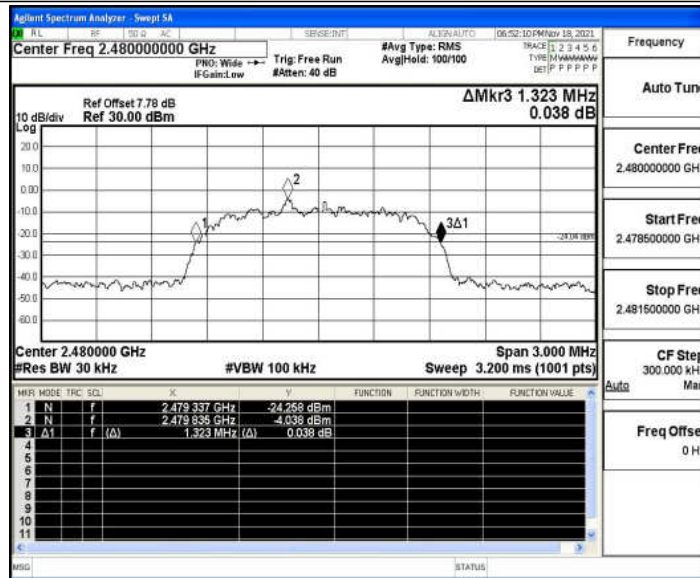


2DH5_Ant1_2441

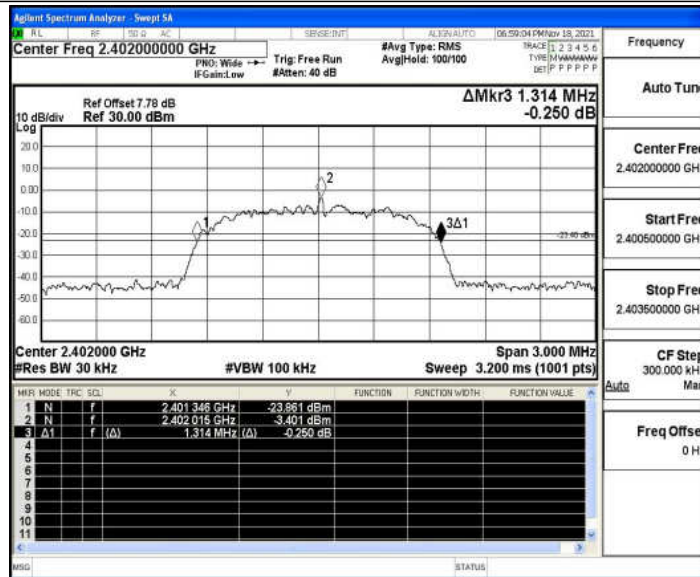




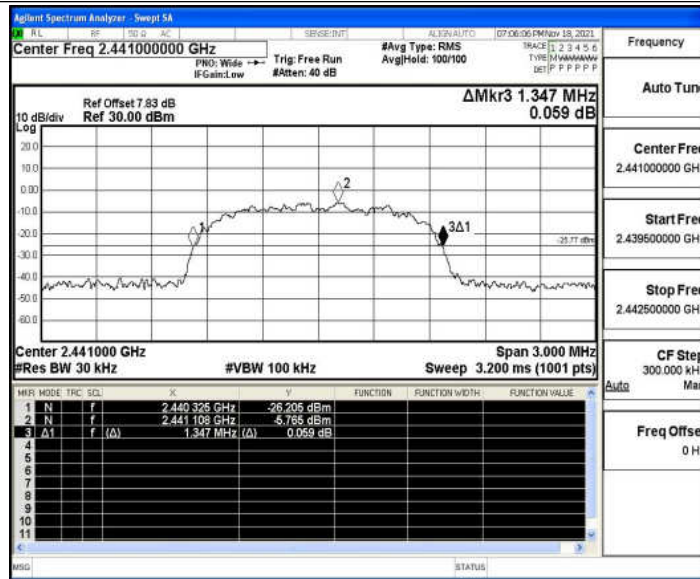
2DH5_Ant1_2480



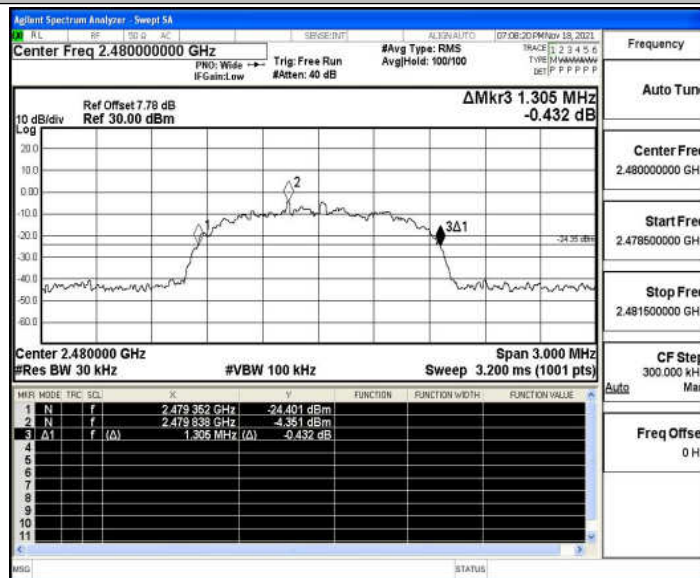
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Maximum peak conducted output power

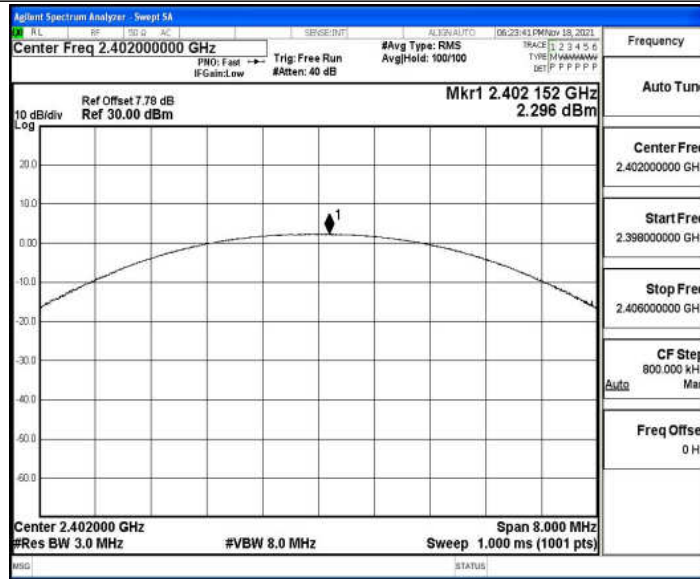
Test Result

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5 | Ant1 | 2402 | 2.3 | ≤ 21 | PASS |
| | | 2441 | 3.41 | ≤ 21 | PASS |
| | | 2480 | 1.93 | ≤ 21 | PASS |
| 2DH5 | Ant1 | 2402 | 2.42 | ≤ 21 | PASS |
| | | 2441 | 2.51 | ≤ 21 | PASS |
| | | 2480 | 2.15 | ≤ 21 | PASS |
| 3DH5 | Ant1 | 2402 | 2.64 | ≤ 21 | PASS |
| | | 2441 | 2.66 | ≤ 21 | PASS |
| | | 2480 | 2.28 | ≤ 21 | PASS |

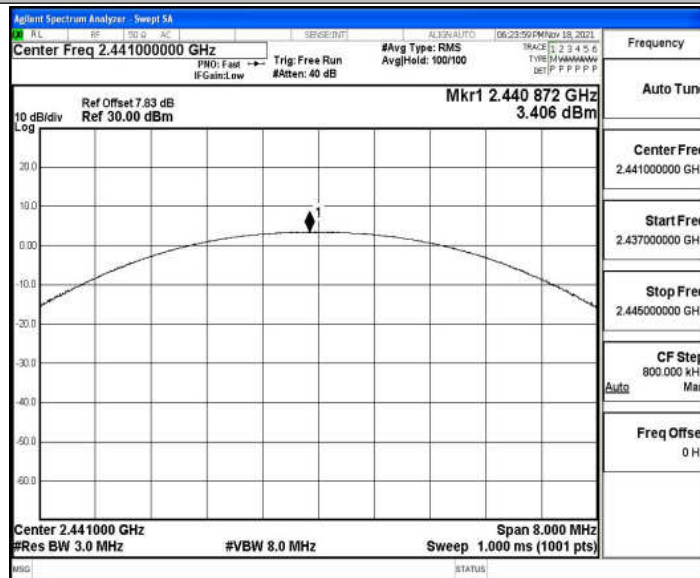


Test Graphs

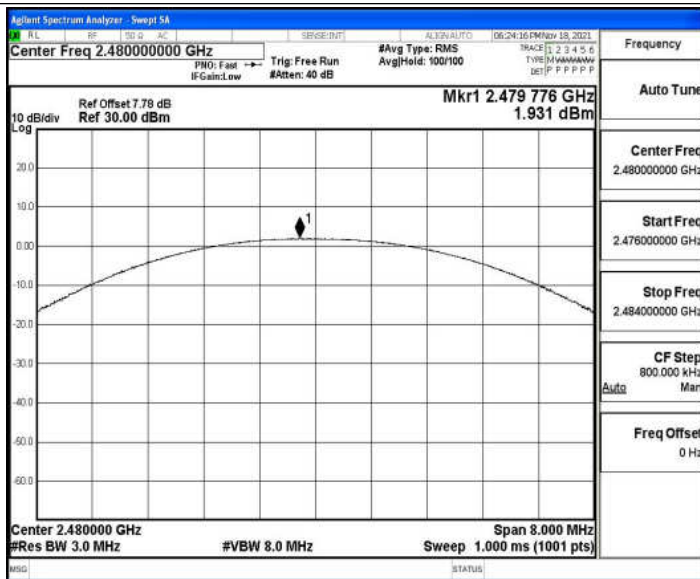
DH5_Ant1_2402



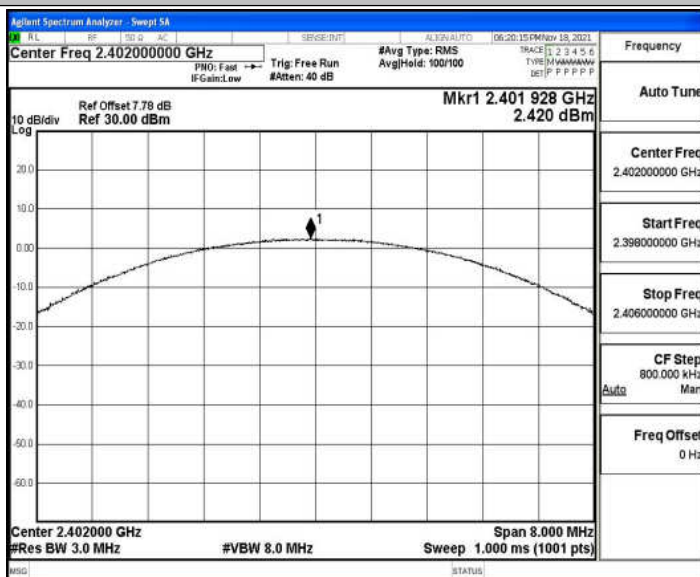
DH5_Ant1_2441



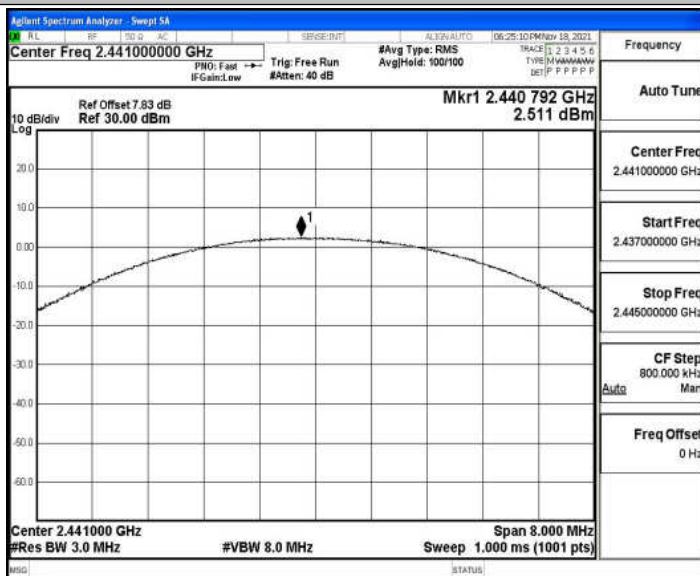
DH5_Ant1_2480



2DH5_Ant1_2402

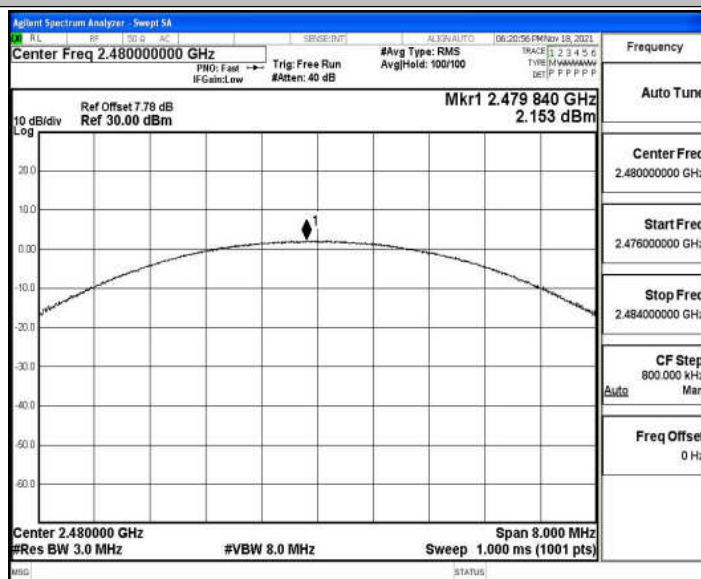


2DH5_Ant1_2441

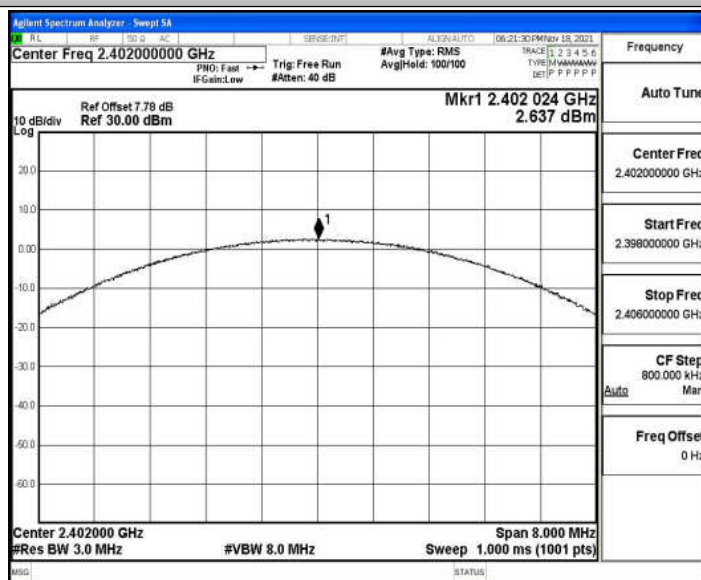




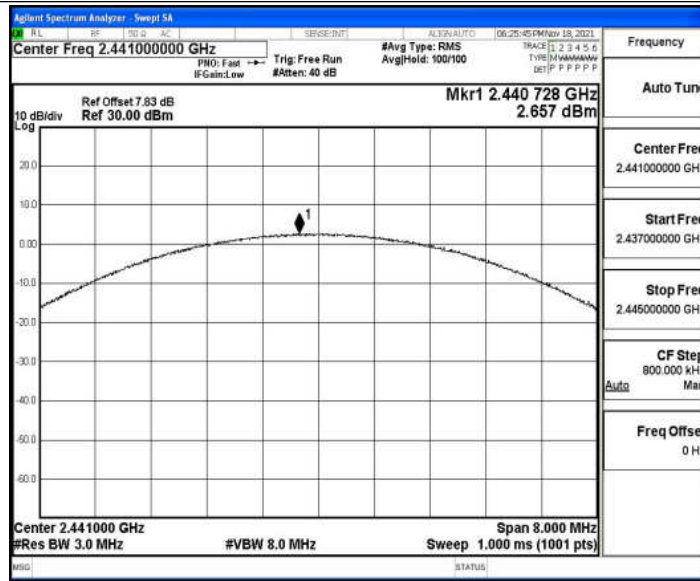
2DH5_Ant1_2480



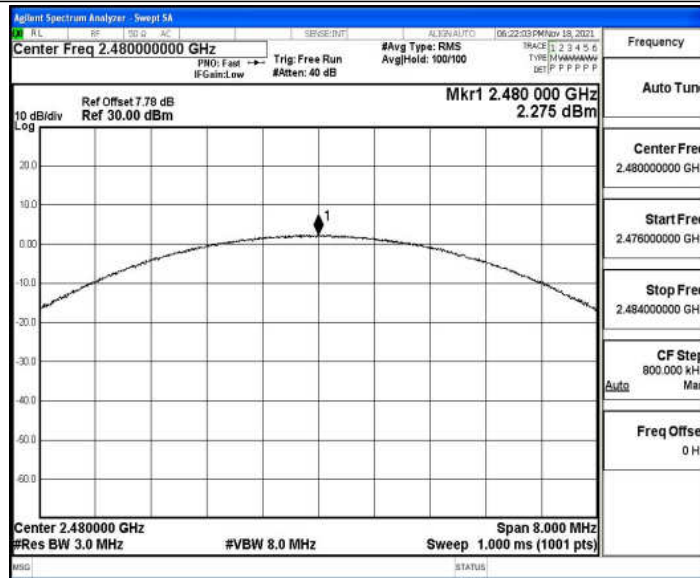
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.3 Carrier frequency separation

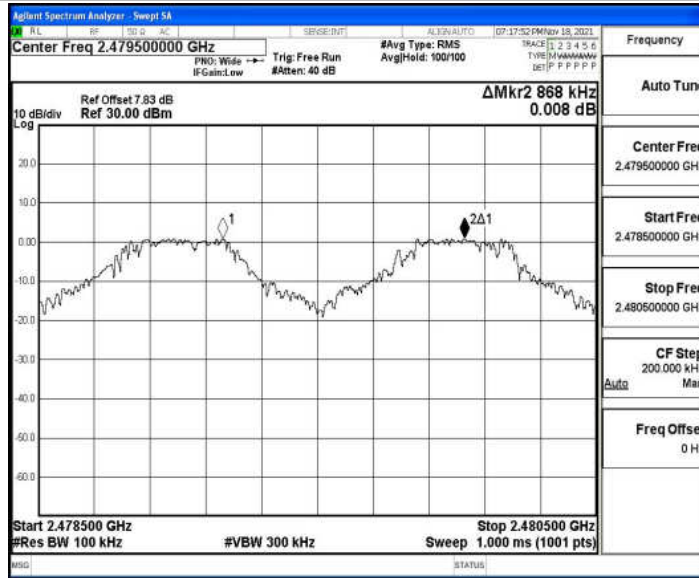
Test Result

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz] | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5 | Ant1 | Hop | 0.868 | ≥ 0.692 | PASS |
| 2DH5 | Ant1 | Hop | 1.014 | ≥ 0.882 | PASS |
| 3DH5 | Ant1 | Hop | 1.12 | ≥ 0.898 | PASS |

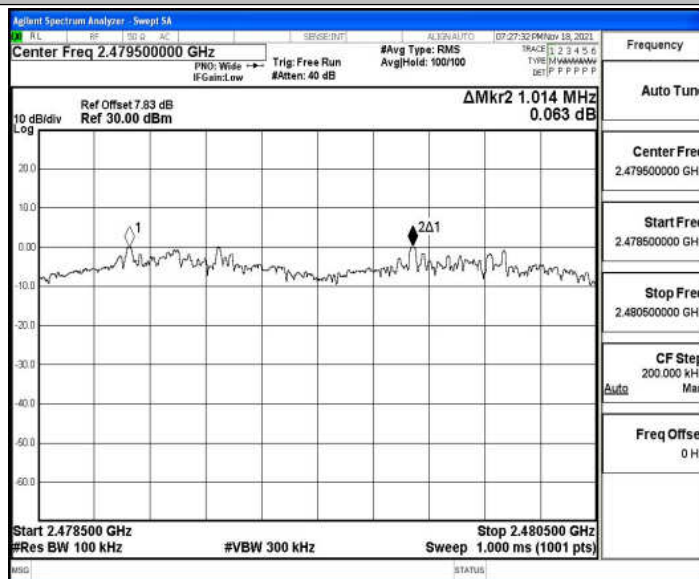


Test Graphs

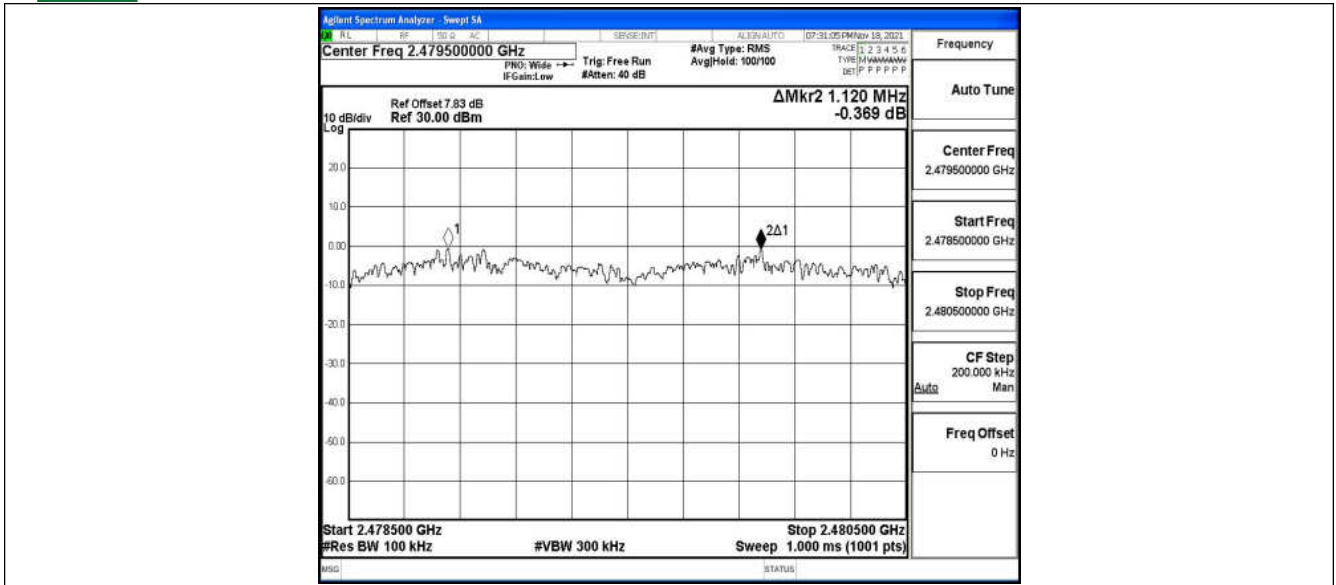
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.4 Time of occupancy

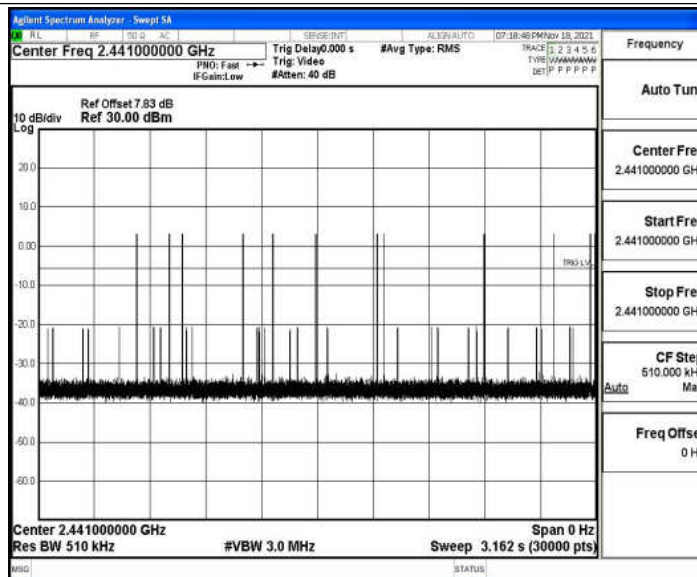
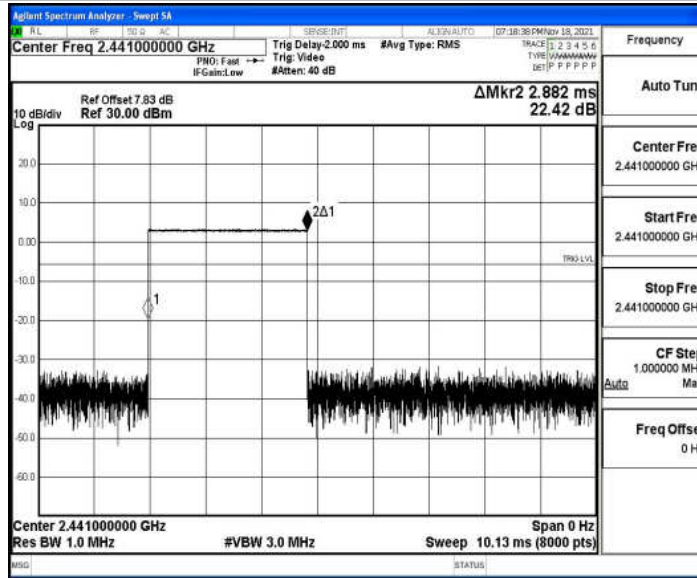
Test Result

| TestMode | Antenna | Channel | BurstWidth [ms] | TotalHops [Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH5 | Ant1 | Hop | 2.88 | 130 | 0.375 | ≤0.4 | PASS |
| 2DH5 | Ant1 | Hop | 2.88 | 120 | 0.346 | ≤0.4 | PASS |
| 3DH5 | Ant1 | Hop | 2.89 | 110 | 0.318 | ≤0.4 | PASS |

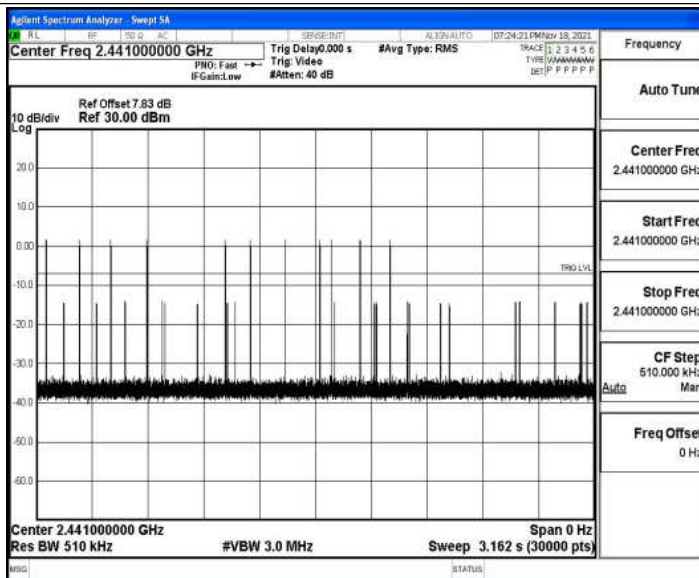
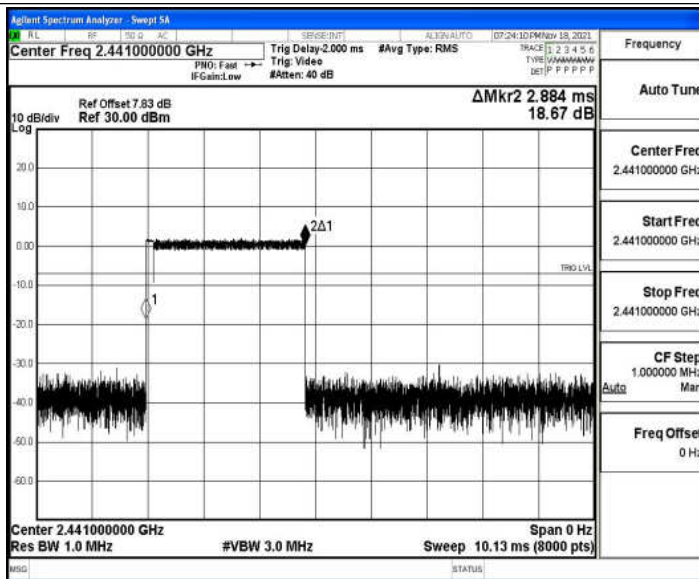


Test Graphs

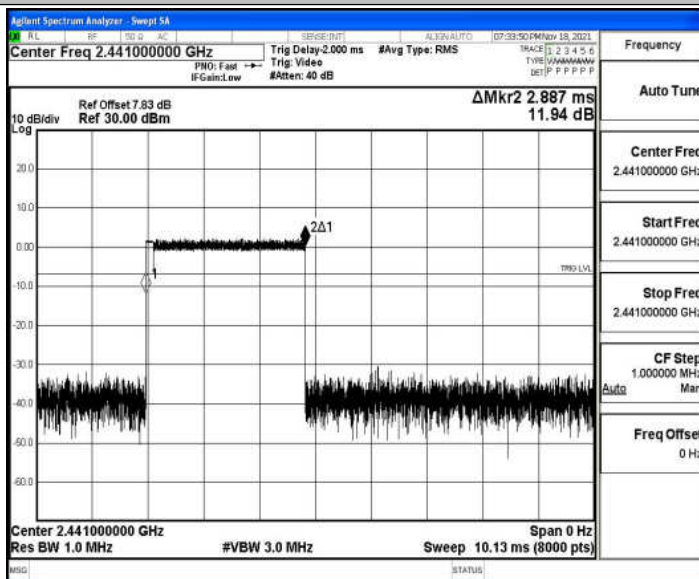
DH5_Ant1_Hop

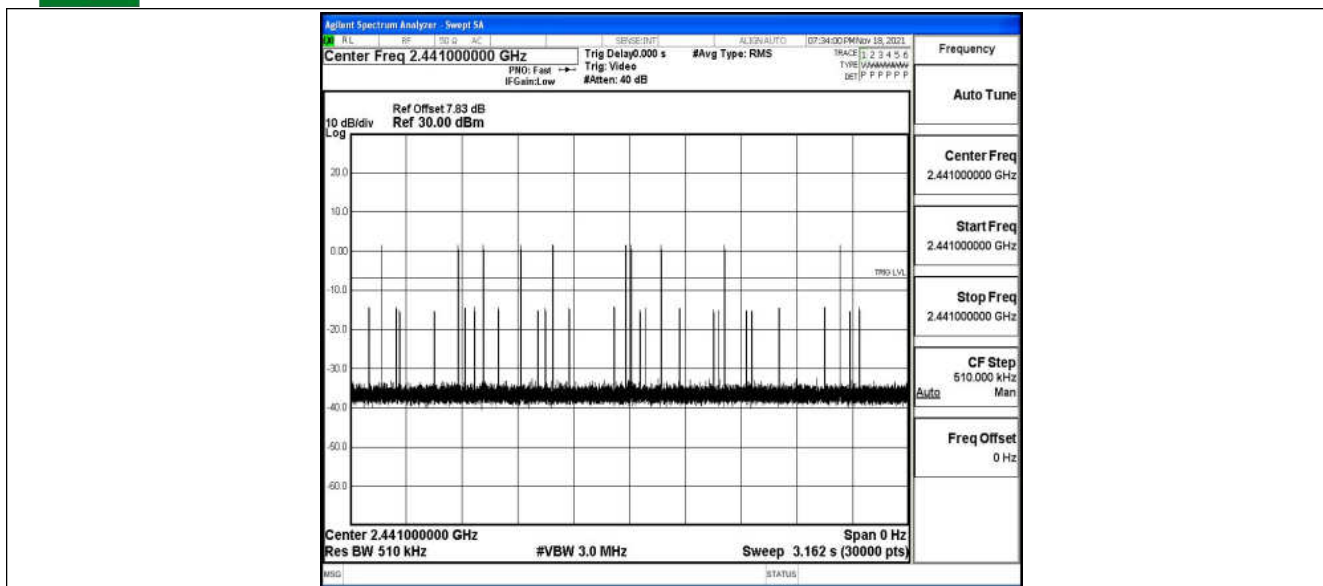


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.5 Number of hopping channels

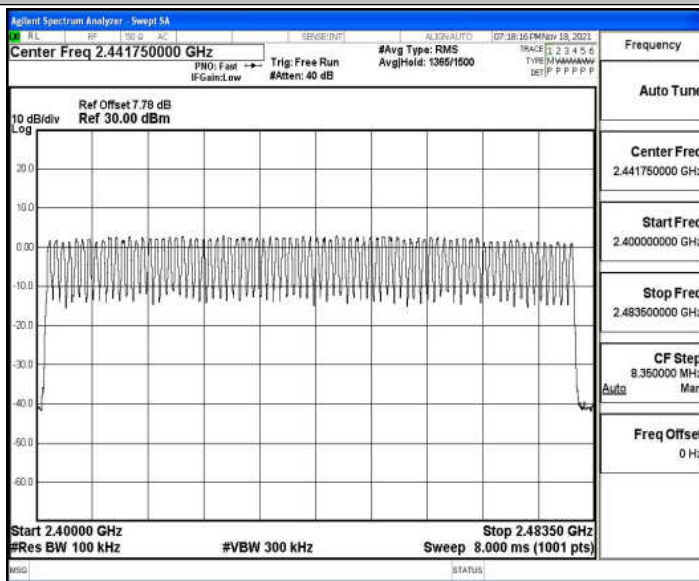
Test Result

| 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 |

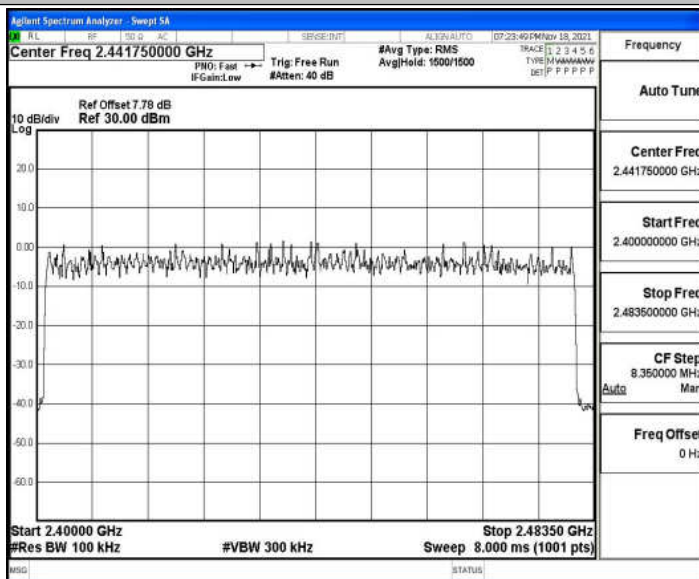


Test Graphs

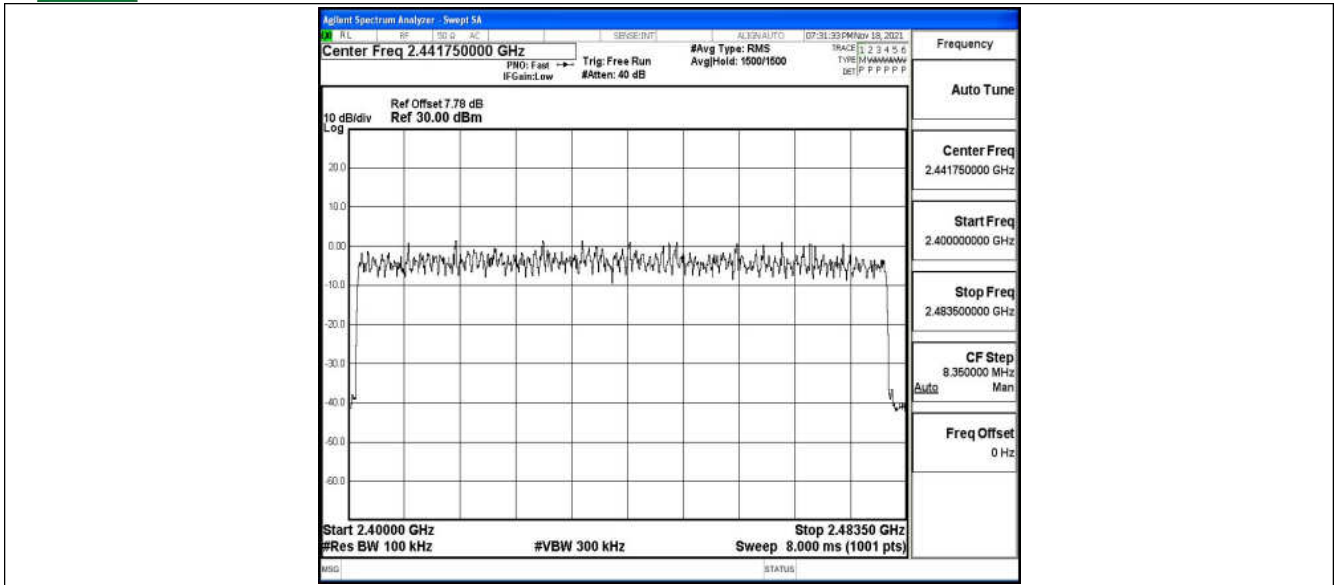
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.6 Band edge measurements

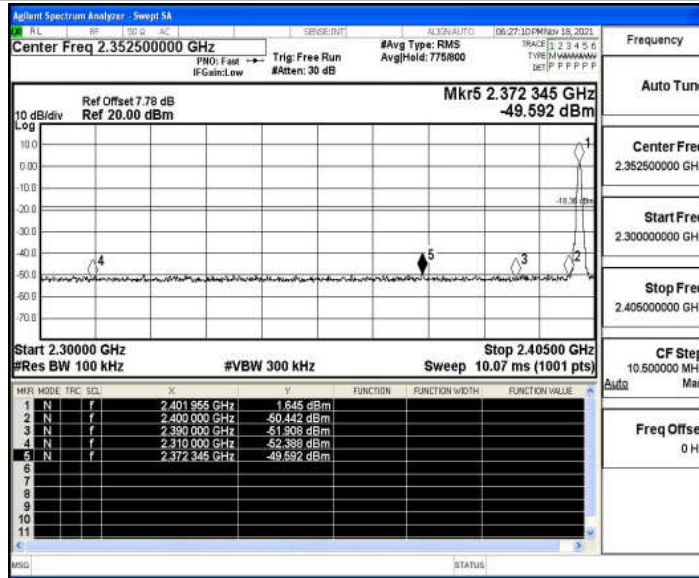
Test Result

| TestMode | Antenna | ChName | Channel | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|--------|----------|----------------|--------------|---------------|---------|
| DH5 | Ant1 | Low | 2402 | 1.65 | -49.59 | ≤ -18.36 | PASS |
| | | High | 2480 | 1.49 | -47.9 | ≤ -18.51 | PASS |
| | | Low | Hop_2402 | 1.77 | -48.77 | ≤ -18.23 | PASS |
| | | High | Hop_2480 | 1.79 | -48.42 | ≤ -18.22 | PASS |
| 2DH5 | Ant1 | Low | 2402 | 0.32 | -49.82 | ≤ -19.68 | PASS |
| | | High | 2480 | -0.10 | -48.48 | ≤ -20.1 | PASS |
| | | Low | Hop_2402 | -2.72 | -49.3 | ≤ -22.72 | PASS |
| | | High | Hop_2480 | -0.84 | -48.35 | ≤ -20.84 | PASS |
| 3DH5 | Ant1 | Low | 2402 | 0.46 | -49.92 | ≤ -19.55 | PASS |
| | | High | 2480 | 0.05 | -48.95 | ≤ -19.95 | PASS |
| | | Low | Hop_2402 | -1.36 | -49.52 | ≤ -21.36 | PASS |
| | | High | Hop_2480 | -2.62 | -48.24 | ≤ -22.62 | PASS |

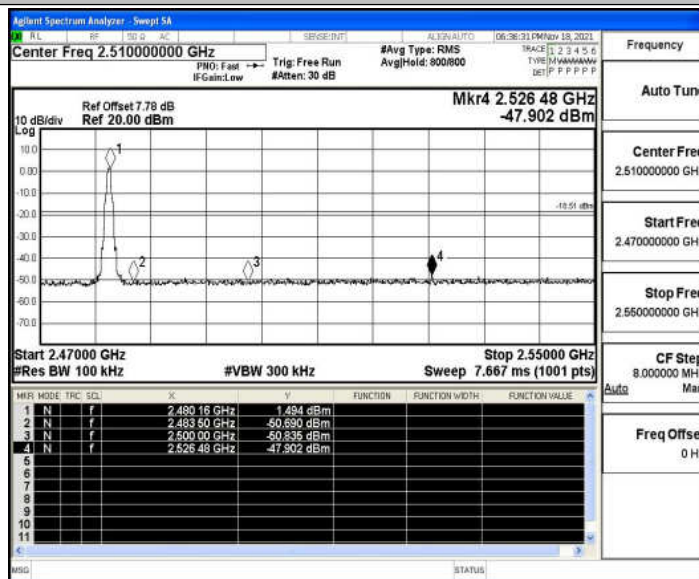


Test Graphs

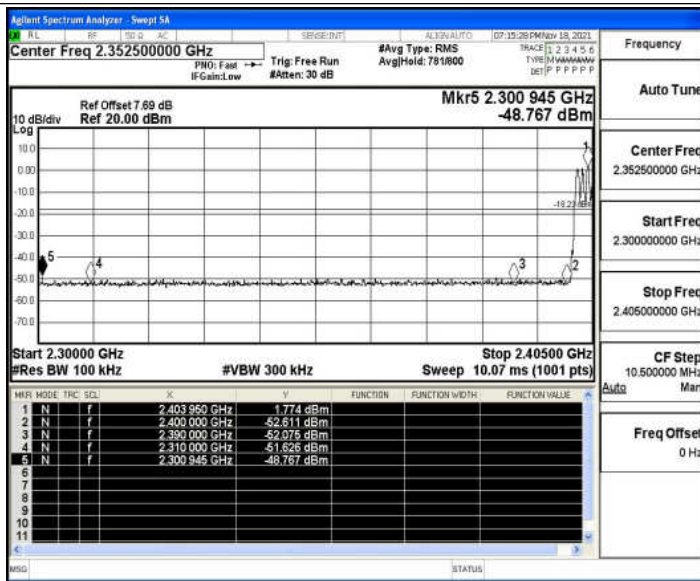
DH5_Ant1_Low_2402



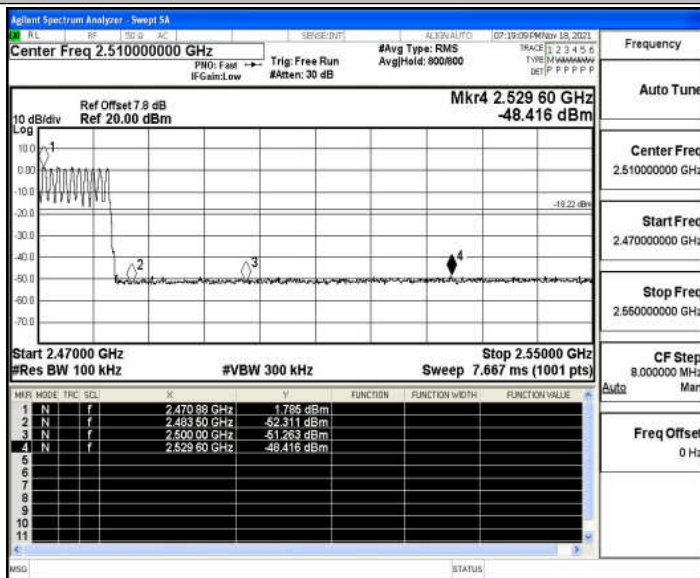
DH5_Ant1_High_2480



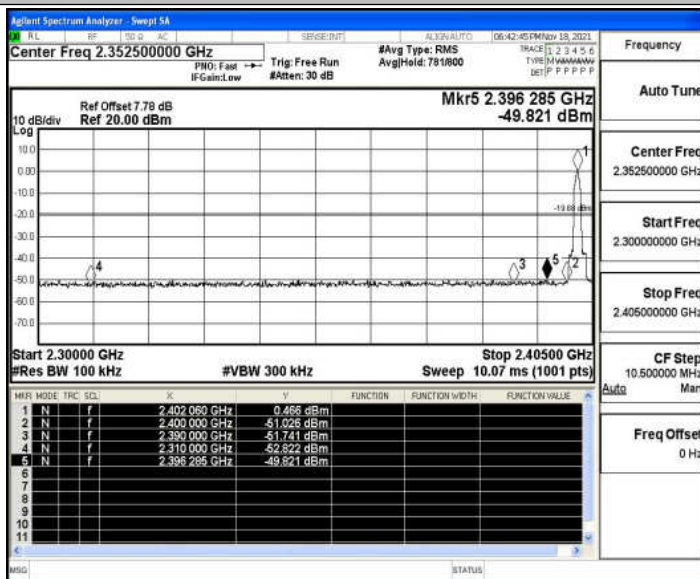
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

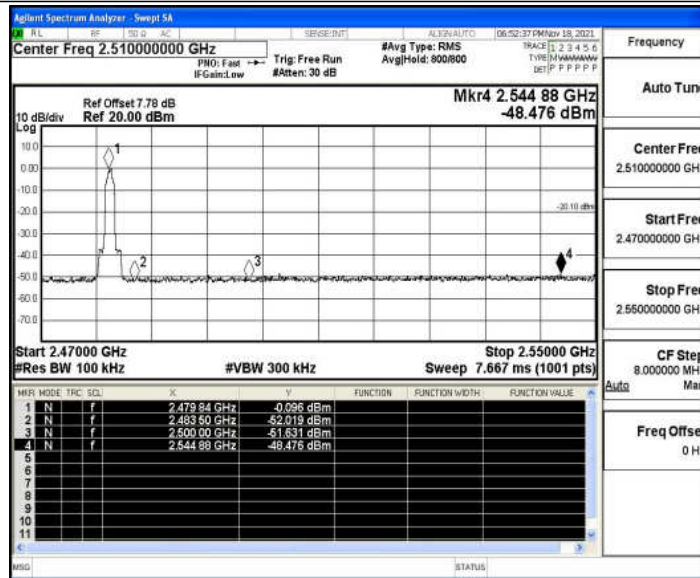


2DH5_Ant1_Low_2402

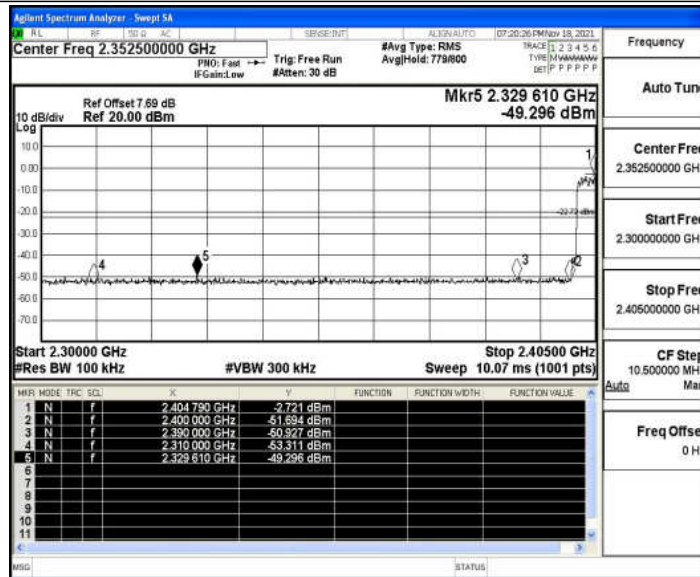




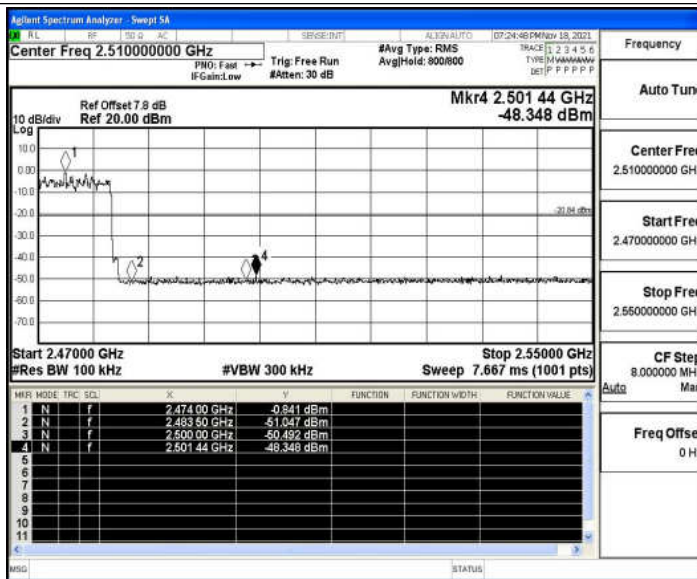
2DH5_Ant1_High_2480



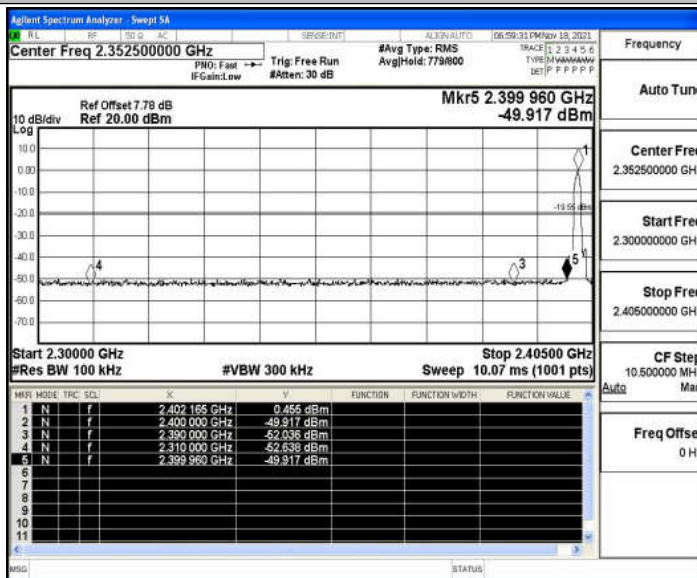
2DH5_Ant1_Low_Hop_2402



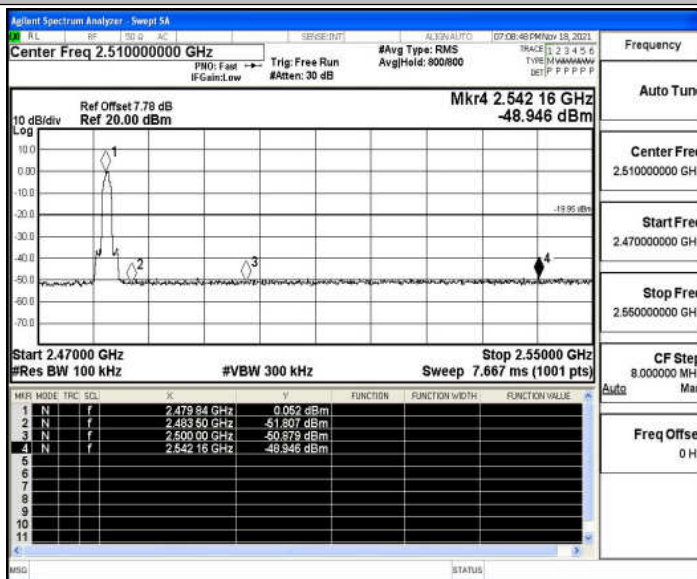
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

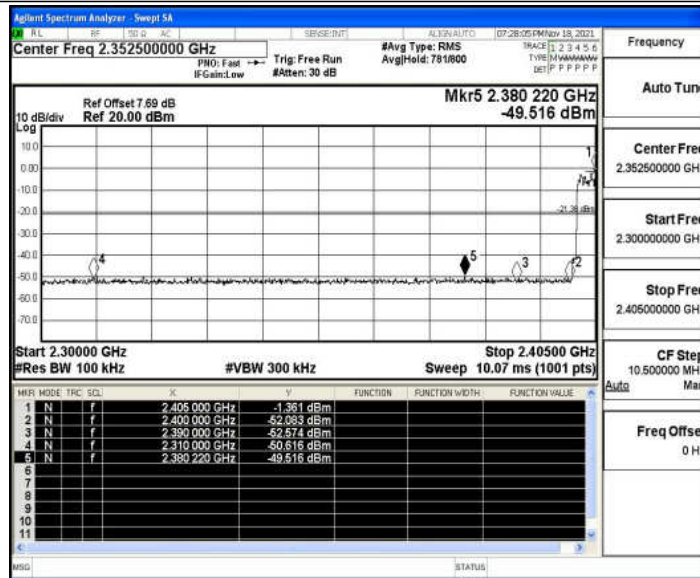


3DH5_Ant1_High_2480

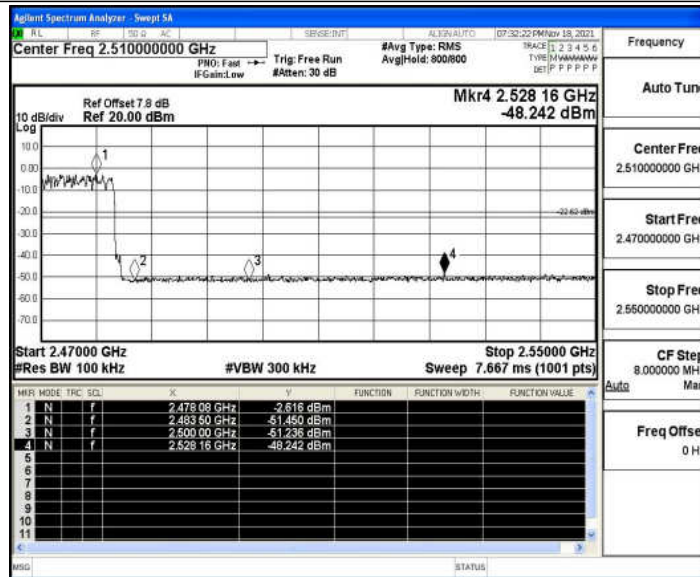




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

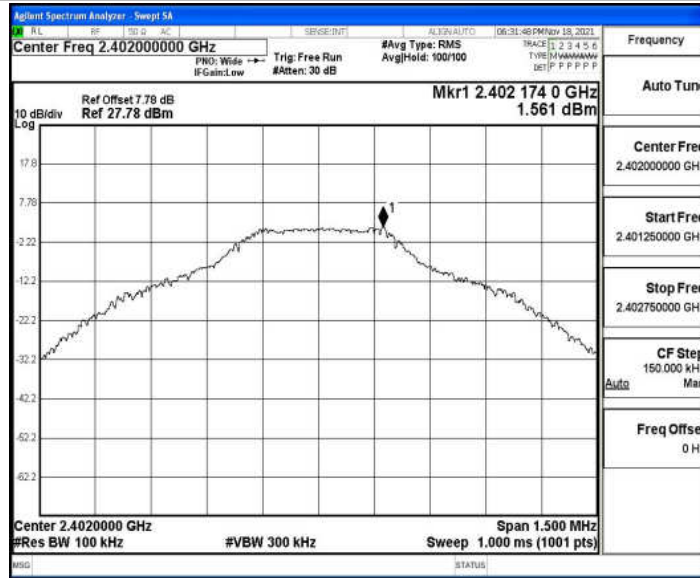
Test Result

| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|----------|---------|---------|-----------------|----------------|--------------|-------------|---------|
| DH5 | Ant1 | 2402 | Reference | 1.56 | 1.56 | --- | PASS |
| | | | 30~1000 | 1.56 | -61.82 | ≤-18.44 | PASS |
| | | | 1000~26500 | 1.56 | -47.2 | ≤-18.44 | PASS |
| | | 2441 | Reference | 2.29 | 2.29 | --- | PASS |
| | | | 30~1000 | 2.29 | -60.73 | ≤-17.71 | PASS |
| | | | 1000~26500 | 2.29 | -46.91 | ≤-17.71 | PASS |
| | | 2480 | Reference | 0.81 | 0.81 | --- | PASS |
| | | | 30~1000 | 0.81 | -61.86 | ≤-19.19 | PASS |
| | | | 1000~26500 | 0.81 | -47.01 | ≤-19.19 | PASS |
| 2DH5 | Ant1 | 2402 | Reference | -0.03 | -0.03 | --- | PASS |
| | | | 30~1000 | -0.03 | -61.48 | ≤-20.03 | PASS |
| | | | 1000~26500 | -0.03 | -47.46 | ≤-20.03 | PASS |
| | | 2441 | Reference | 0.68 | 0.68 | --- | PASS |
| | | | 30~1000 | 0.68 | -61.16 | ≤-19.32 | PASS |
| | | | 1000~26500 | 0.68 | -47.03 | ≤-19.32 | PASS |
| | | 2480 | Reference | -0.84 | -0.84 | --- | PASS |
| | | | 30~1000 | -0.84 | -46.78 | ≤-20.84 | PASS |
| | | | 1000~26500 | -0.84 | -46.56 | ≤-20.84 | PASS |
| 3DH5 | Ant1 | 2402 | Reference | -0.36 | -0.36 | --- | PASS |
| | | | 30~1000 | -0.36 | -61.52 | ≤-20.36 | PASS |
| | | | 1000~26500 | -0.36 | -47.02 | ≤-20.36 | PASS |
| | | 2441 | Reference | -1.76 | -1.76 | --- | PASS |
| | | | 30~1000 | -1.76 | -61.85 | ≤-21.76 | PASS |
| | | | 1000~26500 | -1.76 | -47.04 | ≤-21.76 | PASS |
| | | 2480 | Reference | -0.28 | -0.28 | --- | PASS |
| | | | 30~1000 | -0.28 | -61.35 | ≤-20.28 | PASS |
| | | | 1000~26500 | -0.28 | -47.46 | ≤-20.28 | PASS |

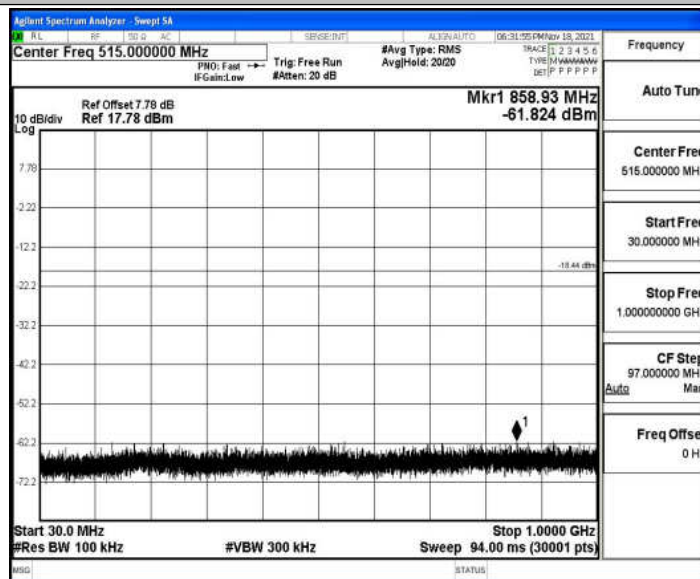


Test Graphs

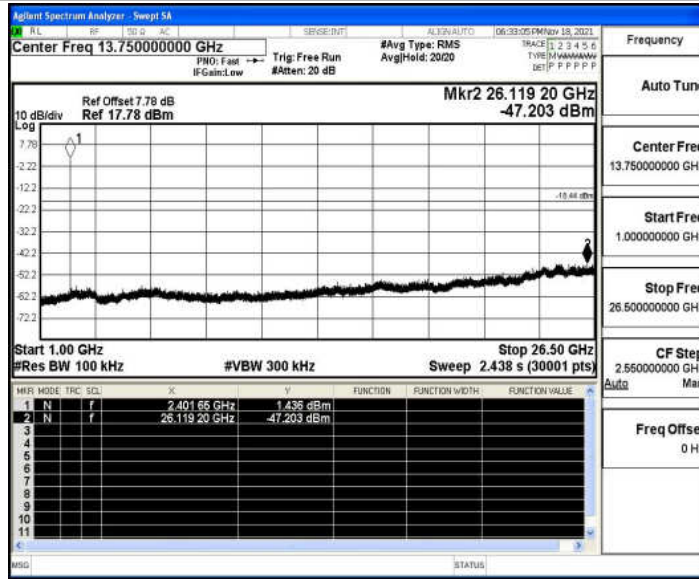
DH5_Ant1_2402_0~Reference



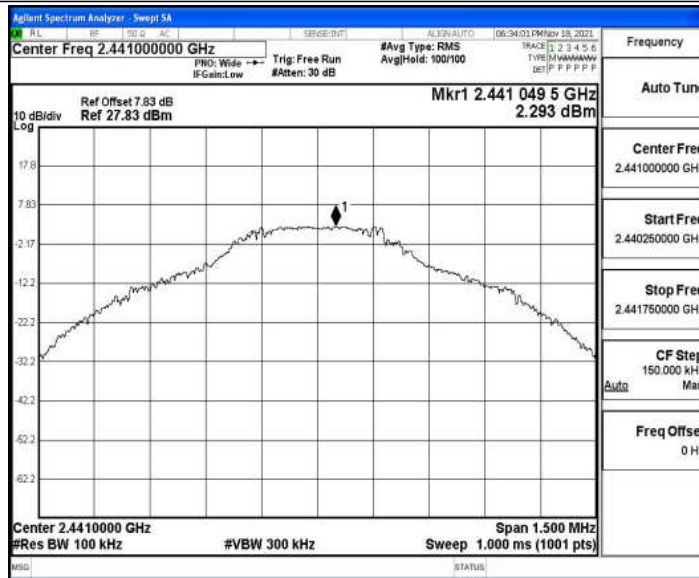
DH5_Ant1_2402_30~1000



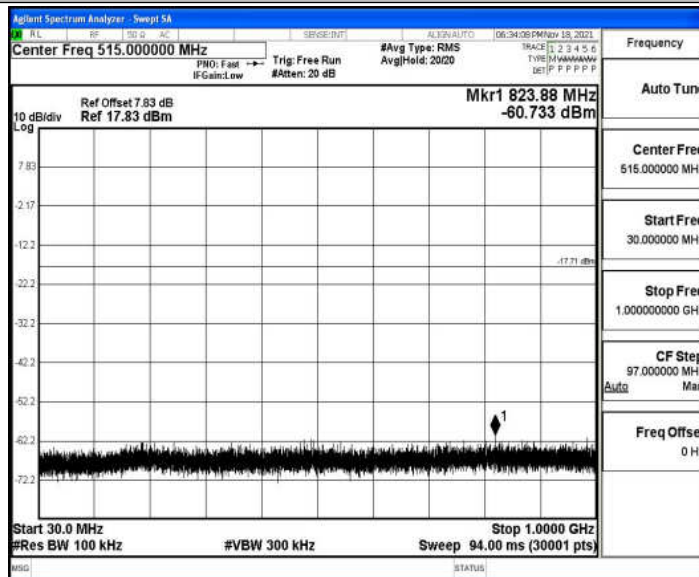
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

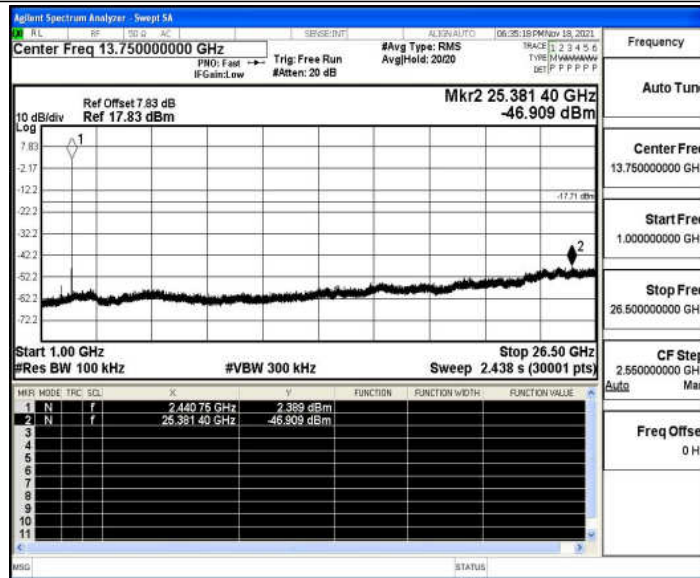


DH5_Ant1_2441_30~1000

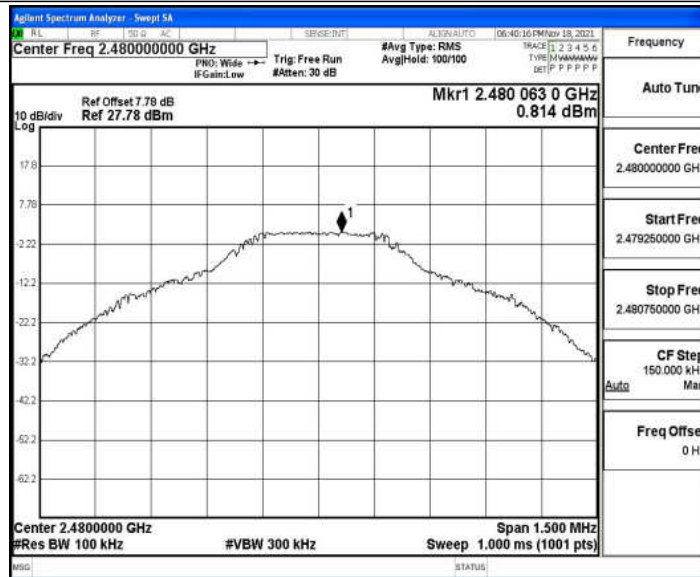




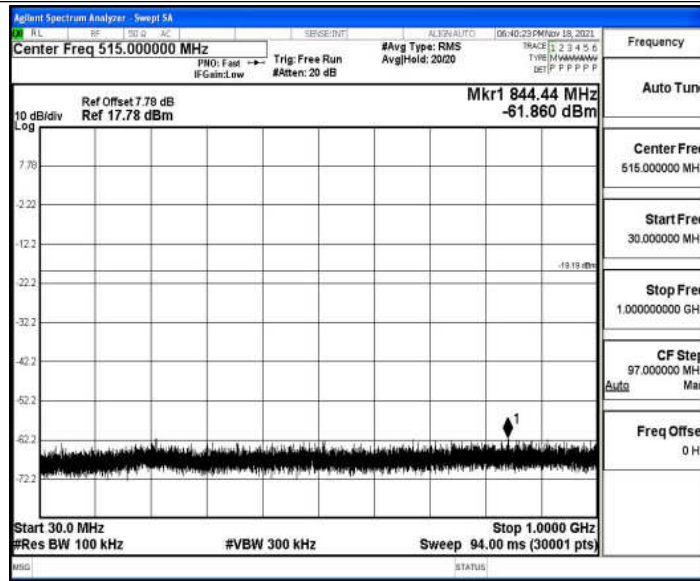
DH5_Ant1_2441_1000~26500



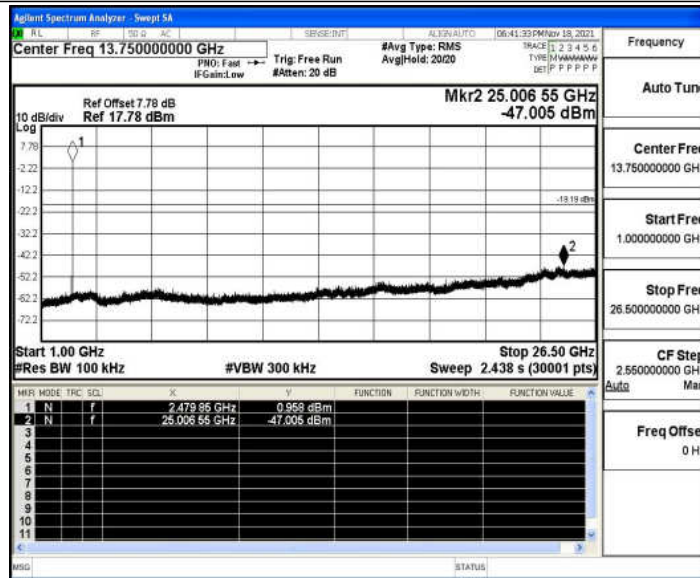
DH5_Ant1_2480_0~Reference



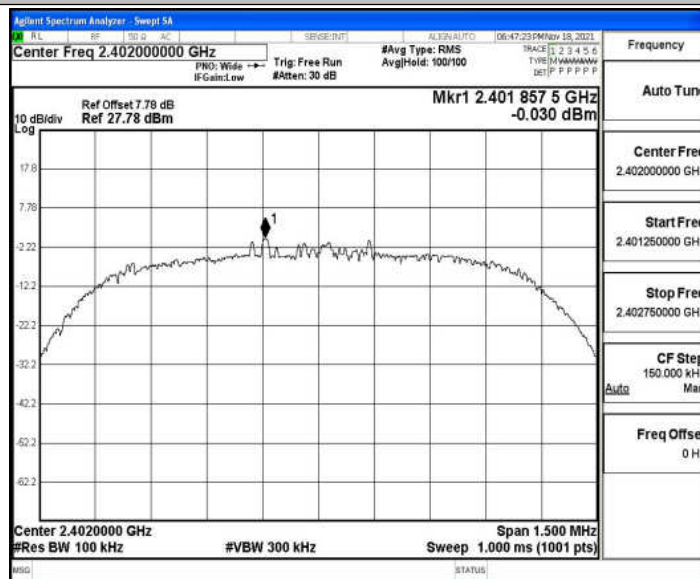
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

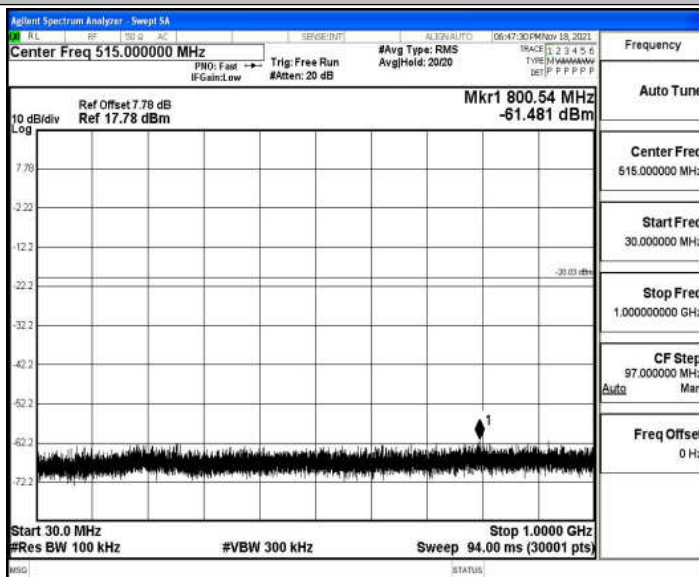


2DH5_Ant1_2402_0~Reference

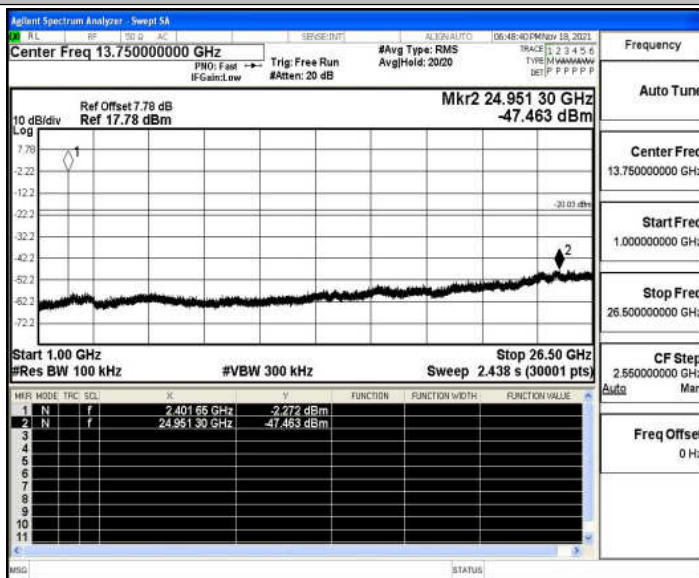




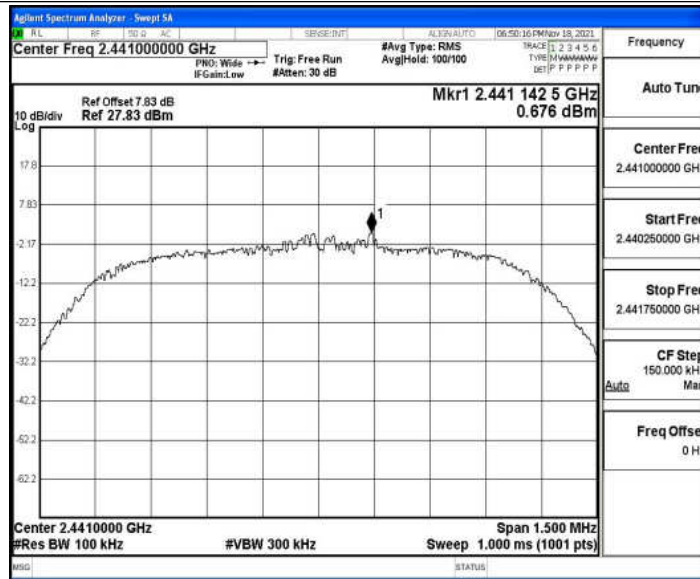
2DH5_Ant1_2402_30~1000



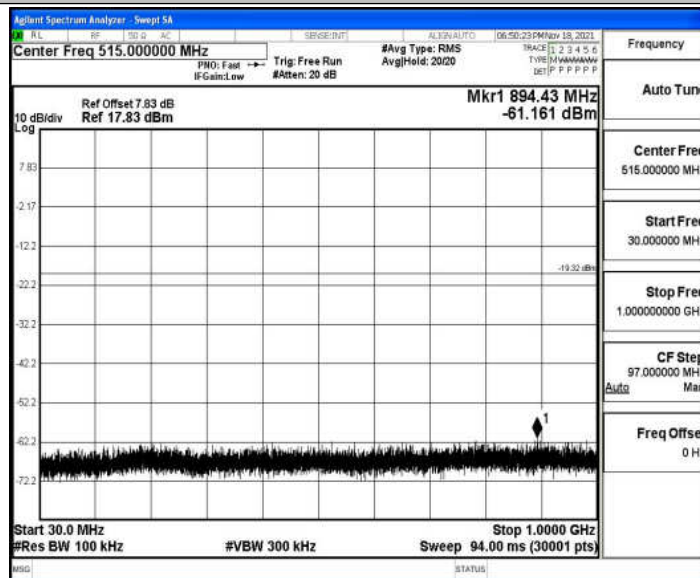
2DH5_Ant1_2402_1000~26500



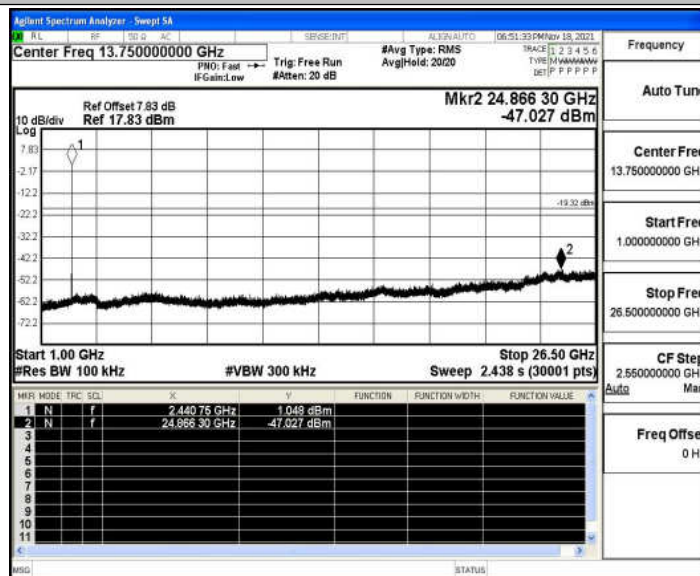
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

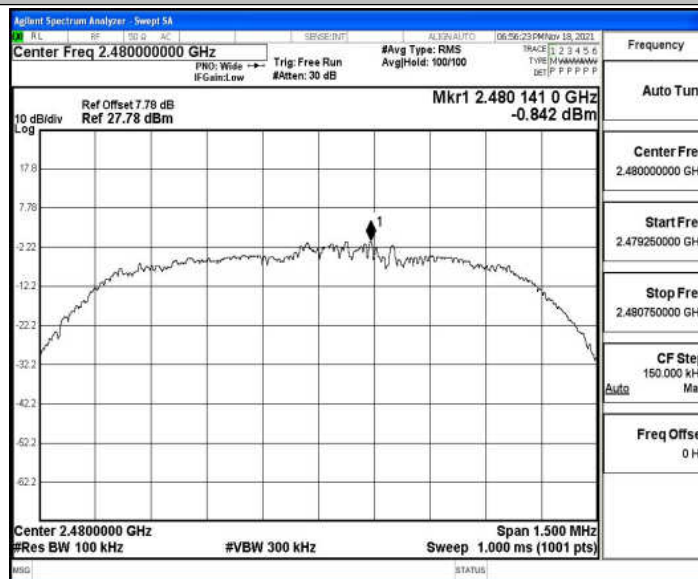


2DH5_Ant1_2441_1000~26500

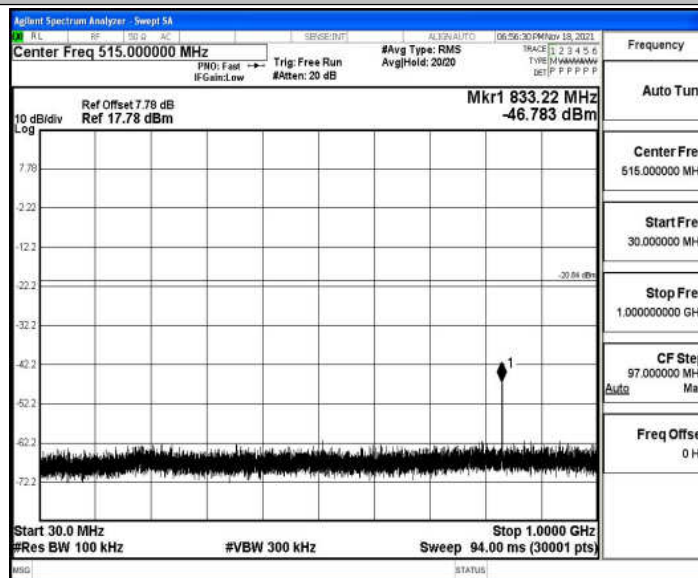




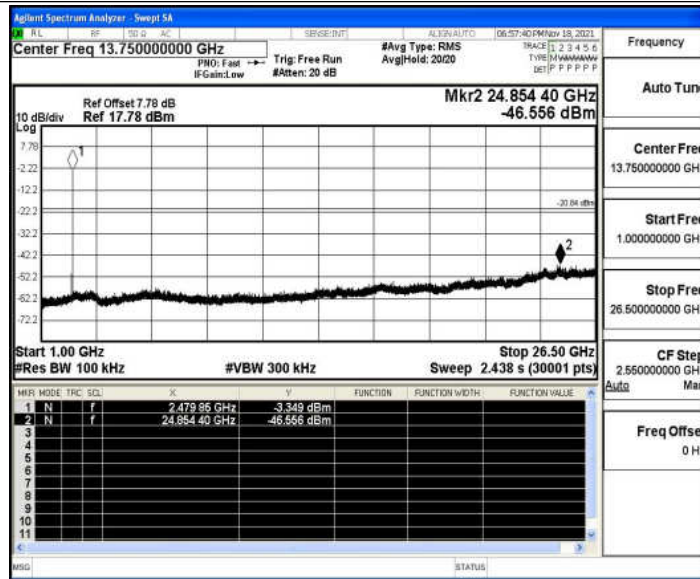
2DH5_Ant1_2480_0~Reference



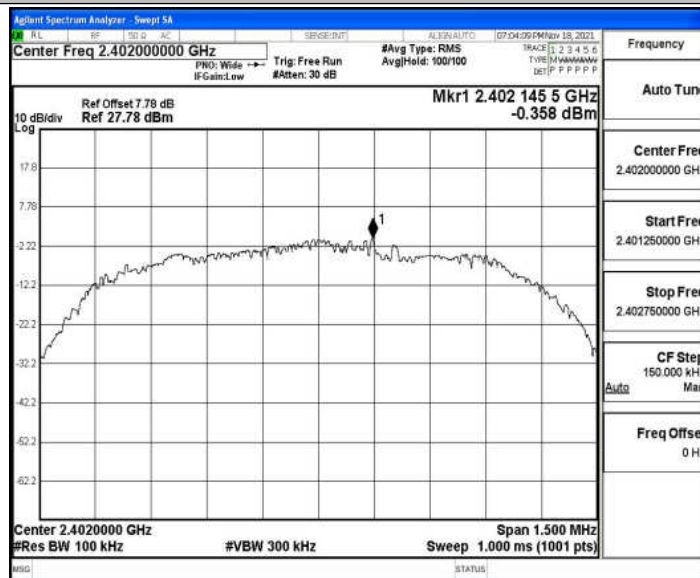
2DH5_Ant1_2480_30~1000



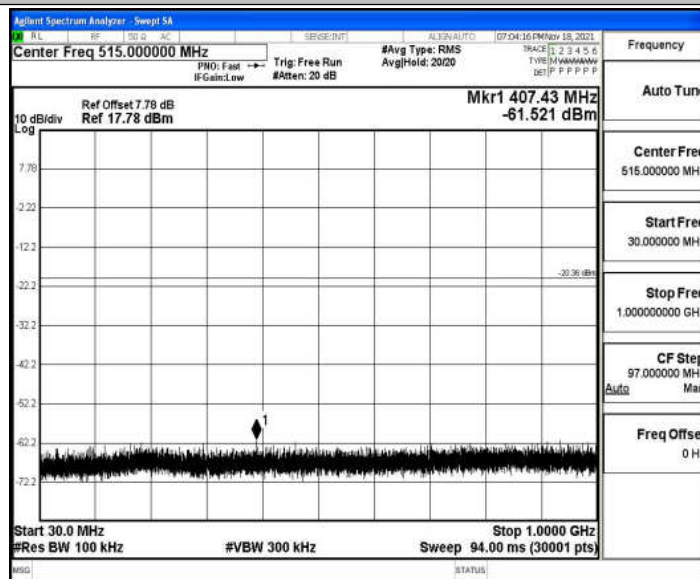
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

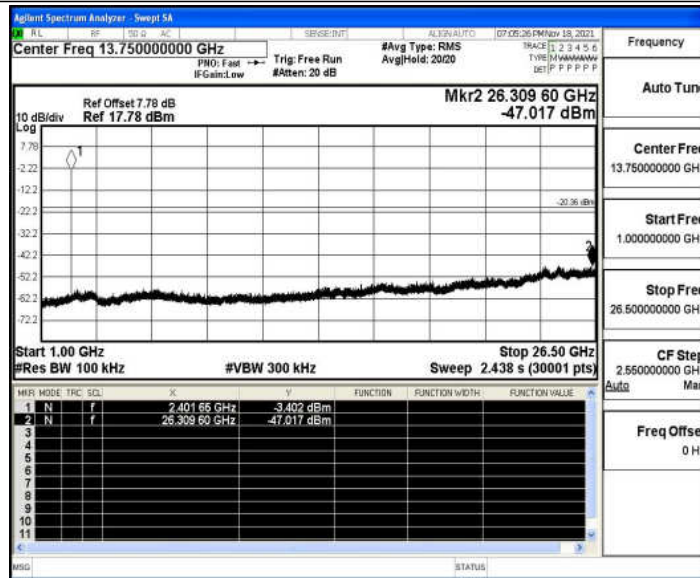


3DH5_Ant1_2402_30~1000

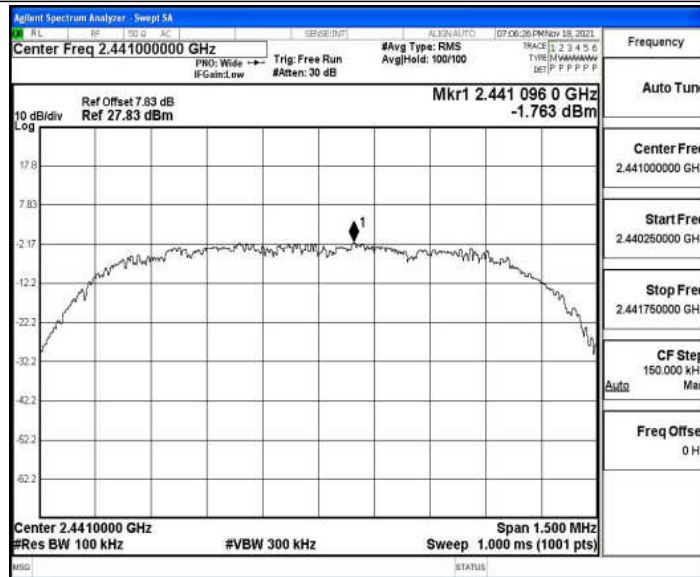




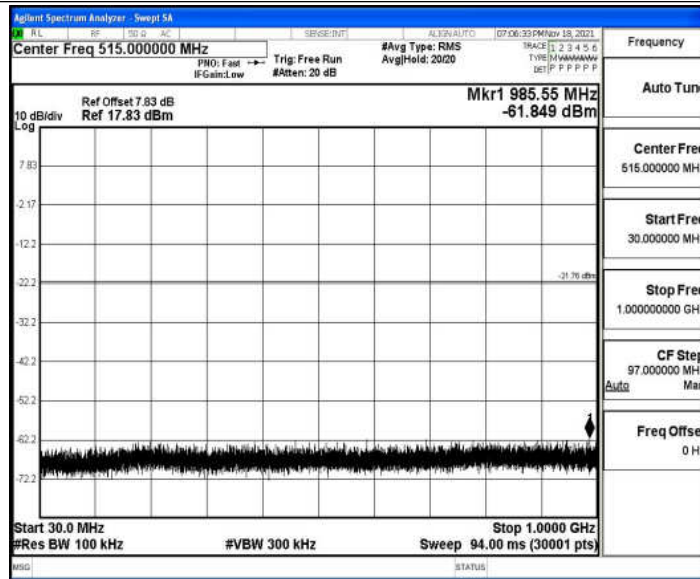
3DH5_Ant1_2402_1000~26500



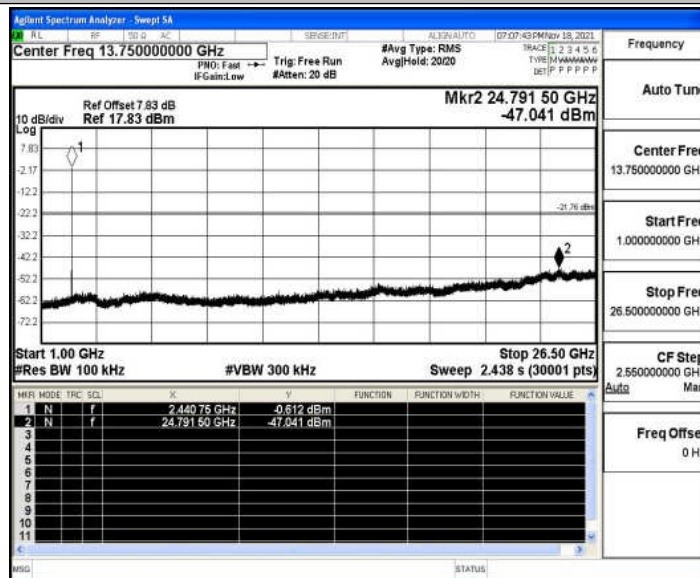
3DH5_Ant1_2441_0~Reference



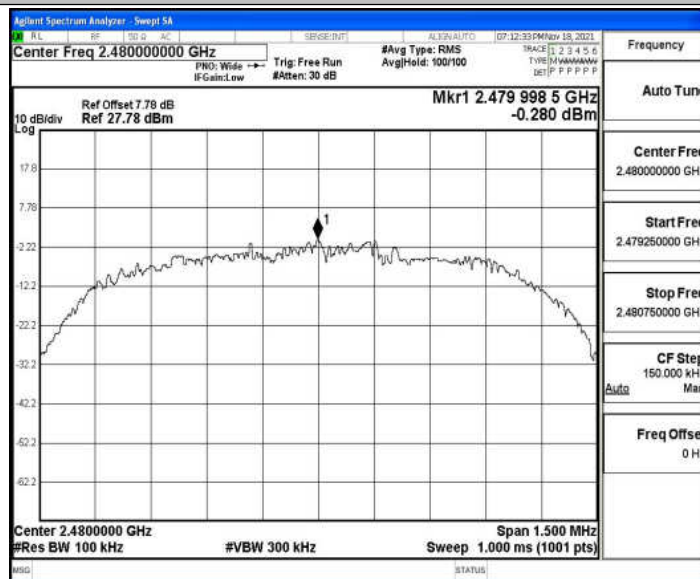
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

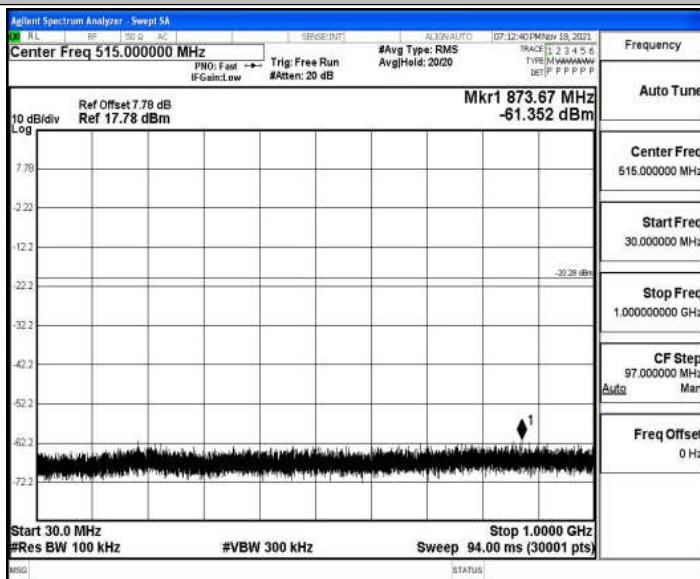


3DH5_Ant1_2480_0~Reference

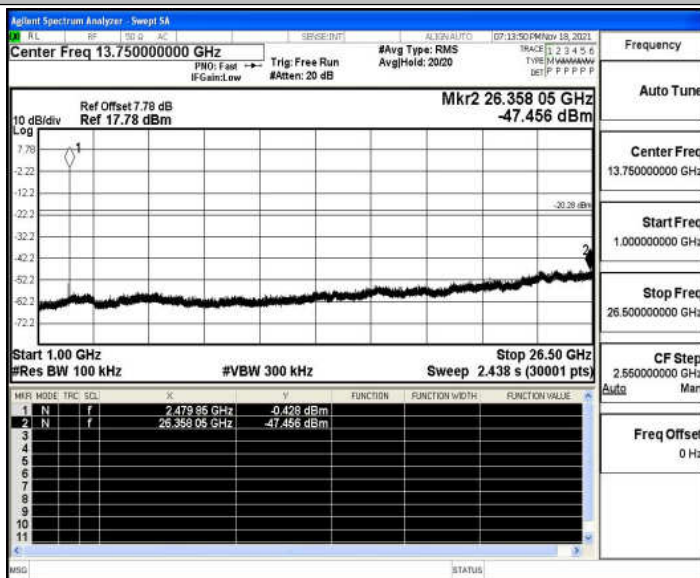




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

| TestMode | Antenna | ChName | Channel | Detector | Freq. [MHz] | Result [dBm] | Limit [dBm] | Result [dBuV/m] | Limit [dBuV/m] | Verdict |
|----------|---------|--------|----------|----------|-------------|--------------|-------------|-----------------|----------------|---------|
| DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -48.93 | ≤-41.20 | 46.27 | ≤54 | PASS |
| | | | | AV | 2387.360 | -48.44 | ≤-41.20 | 46.76 | ≤54 | PASS |
| | | | | AV | 2390.000 | -48.5 | ≤-41.20 | 46.70 | ≤54 | PASS |
| | | | | Peak | 2310.000 | -40.39 | ≤-21.20 | 54.81 | ≤74 | PASS |
| | | | | Peak | 2327.825 | -37.88 | ≤-21.20 | 57.32 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -39.81 | ≤-21.20 | 55.39 | ≤74 | PASS |
| | | High | 2480 | AV | 2483.500 | -47.8 | ≤-41.20 | 47.40 | ≤54 | PASS |
| | | | | AV | 2483.600 | -47.77 | ≤-41.20 | 47.43 | ≤54 | PASS |
| | | | | AV | 2500.000 | -47.88 | ≤-41.20 | 47.32 | ≤54 | PASS |
| | | | | Peak | 2483.500 | -39.08 | ≤-21.20 | 56.12 | ≤74 | PASS |
| | | | | Peak | 2497.040 | -37.63 | ≤-21.20 | 57.57 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -40.28 | ≤-21.20 | 54.92 | ≤74 | PASS |
| | | Low | Hop_2402 | Peak | 2310.000 | -40.6 | ≤-21.20 | 54.60 | ≤74 | PASS |
| | | | | Peak | 2374.025 | -37.28 | ≤-21.20 | 57.92 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -40.33 | ≤-21.20 | 54.87 | ≤74 | PASS |
| | | High | Hop_2480 | Peak | 2483.500 | -39.47 | ≤-21.20 | 55.73 | ≤74 | PASS |
| | | | | Peak | 2495.600 | -36.66 | ≤-21.20 | 58.54 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -40.09 | ≤-21.20 | 55.11 | ≤74 | PASS |
| 2DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -48.88 | ≤-41.20 | 46.32 | ≤54 | PASS |
| | | | | AV | 2386.730 | -48.35 | ≤-41.20 | 46.85 | ≤54 | PASS |
| | | | | AV | 2390.000 | -48.47 | ≤-41.20 | 46.73 | ≤54 | PASS |
| | | | | Peak | 2310.000 | -40.55 | ≤-21.20 | 54.65 | ≤74 | PASS |
| | | | | Peak | 2380.115 | -38.39 | ≤-21.20 | 56.81 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -41.09 | ≤-21.20 | 54.11 | ≤74 | PASS |
| | | High | 2480 | AV | 2483.500 | -47.67 | ≤-41.20 | 47.53 | ≤54 | PASS |
| | | | | AV | 2483.520 | -47.66 | ≤-41.20 | 47.54 | ≤54 | PASS |
| | | | | AV | 2500.000 | -47.89 | ≤-41.20 | 47.31 | ≤54 | PASS |
| | | | | Peak | 2483.500 | -40.44 | ≤-21.20 | 54.76 | ≤74 | PASS |
| | | | | Peak | 2490.960 | -37.77 | ≤-21.20 | 57.43 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -39.37 | ≤-21.20 | 55.83 | ≤74 | PASS |
| | | Low | Hop_2402 | Peak | 2310.000 | -41.12 | ≤-21.20 | 54.08 | ≤74 | PASS |
| | | | | Peak | 2381.795 | -38.2 | ≤-21.20 | 57.00 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -40.5 | ≤-21.20 | 54.70 | ≤74 | PASS |
| | | High | Hop_2480 | Peak | 2483.500 | -40.12 | ≤-21.20 | 55.08 | ≤74 | PASS |
| | | | | Peak | 2486.400 | -37.61 | ≤-21.20 | 57.59 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -38.75 | ≤-21.20 | 56.45 | ≤74 | PASS |
| 3DH5 | Ant1 | Low | 2402 | AV | 2310.000 | -48.92 | ≤-41.20 | 46.28 | ≤54 | PASS |



| | | | | | | | | | | |
|--|--|------|--------------|------|----------|--------|---------|-------|-----|------|
| | | | | AV | 2385.680 | -48.42 | ≤-41.20 | 46.78 | ≤54 | PASS |
| | | | | AV | 2390.000 | -48.53 | ≤-41.20 | 46.67 | ≤54 | PASS |
| | | | | Peak | 2310.000 | -40.86 | ≤-21.20 | 54.34 | ≤74 | PASS |
| | | | | Peak | 2328.350 | -37.72 | ≤-21.20 | 57.48 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -40.73 | ≤-21.20 | 54.47 | ≤74 | PASS |
| | | High | 2480 | AV | 2483.500 | -47.68 | ≤-41.20 | 47.52 | ≤54 | PASS |
| | | | | AV | 2483.520 | -47.68 | ≤-41.20 | 47.52 | ≤54 | PASS |
| | | | | AV | 2500.000 | -47.89 | ≤-41.20 | 47.31 | ≤54 | PASS |
| | | | | Peak | 2483.500 | -39.87 | ≤-21.20 | 55.33 | ≤74 | PASS |
| | | | | Peak | 2498.400 | -37.7 | ≤-21.20 | 57.50 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -39.79 | ≤-21.20 | 55.41 | ≤74 | PASS |
| | | Low | Hop_24 02 | Peak | 2310.000 | -39.75 | ≤-21.20 | 55.45 | ≤74 | PASS |
| | | | | Peak | 2366.675 | -37.76 | ≤-21.20 | 57.44 | ≤74 | PASS |
| | | | | Peak | 2390.000 | -39.71 | ≤-21.20 | 55.49 | ≤74 | PASS |
| | | High | Hop_24 80 | Peak | 2483.500 | -39.78 | ≤-21.20 | 55.42 | ≤74 | PASS |
| | | | | Peak | 2496.880 | -37.75 | ≤-21.20 | 57.45 | ≤74 | PASS |
| | | | | Peak | 2500.000 | -40.19 | ≤-21.20 | 55.01 | ≤74 | PASS |

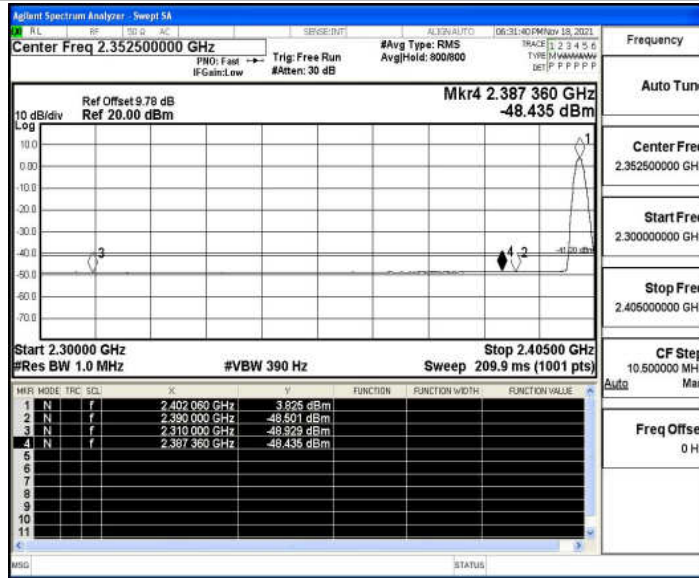
Note:

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.

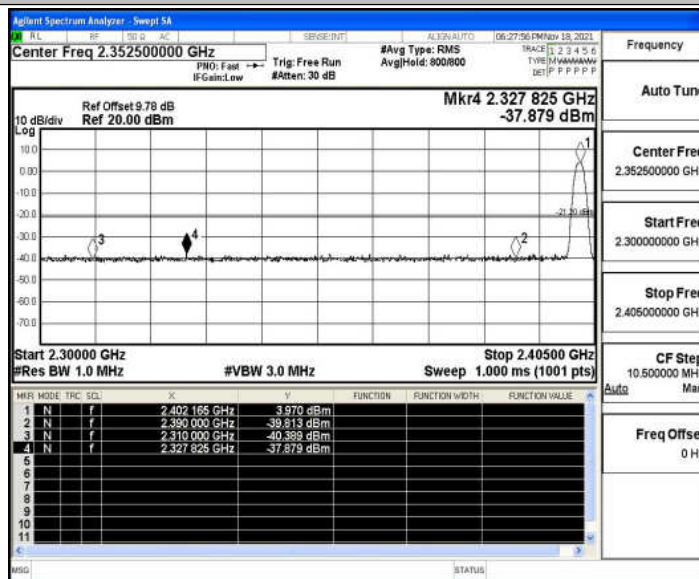


Test Graphs

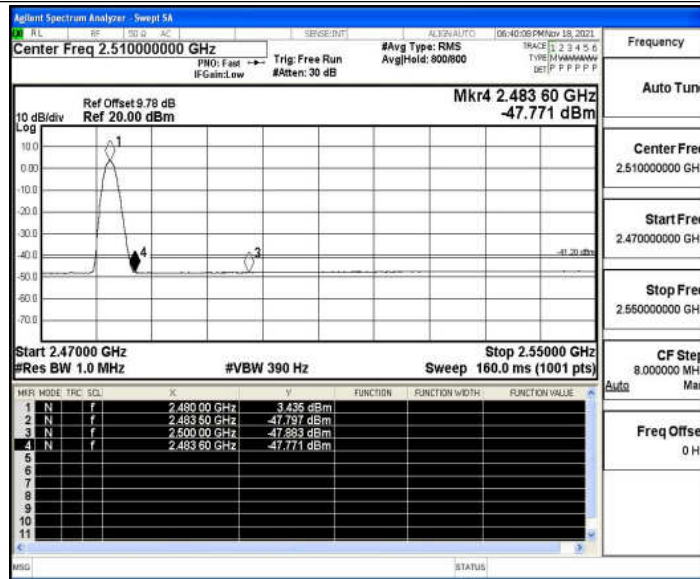
DH5_Ant1_Low_2402_AV



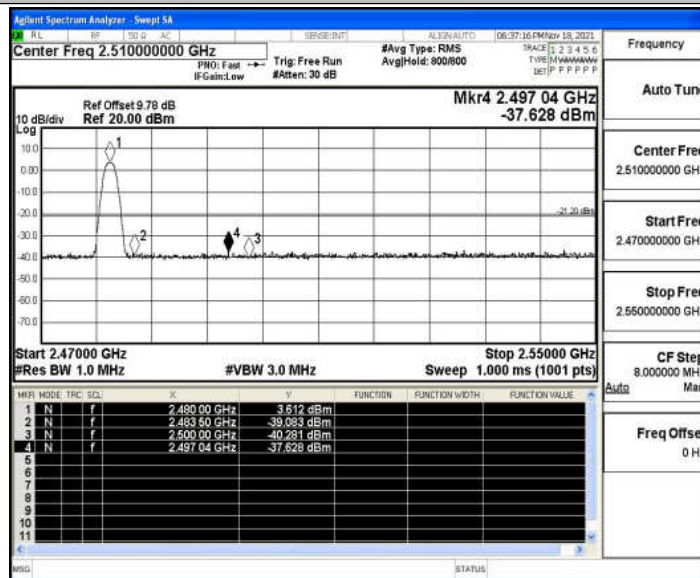
DH5_Ant1_Low_2402_Peak



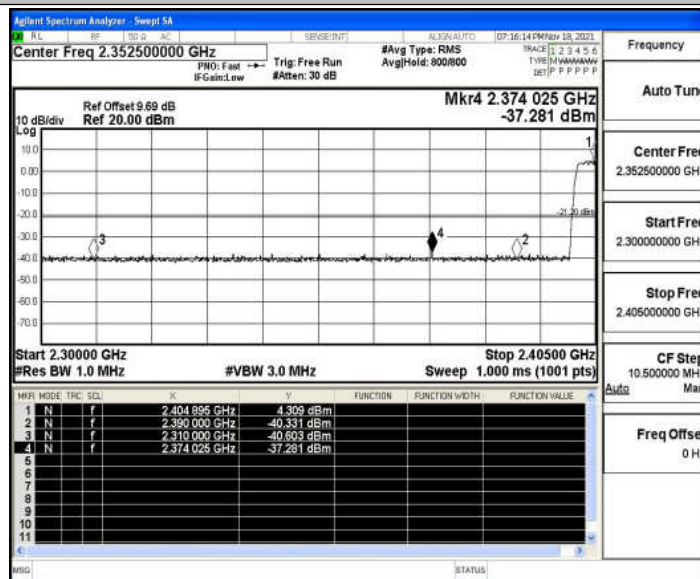
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

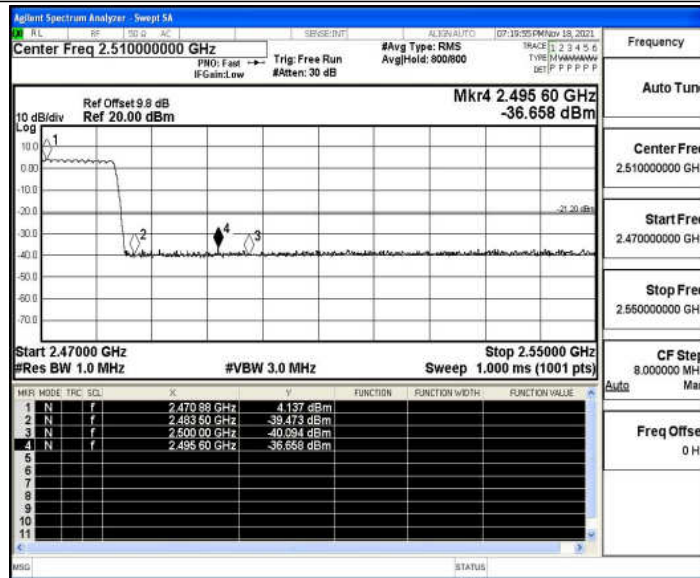


DH5_Ant1_Low_Hop_2402_Peak

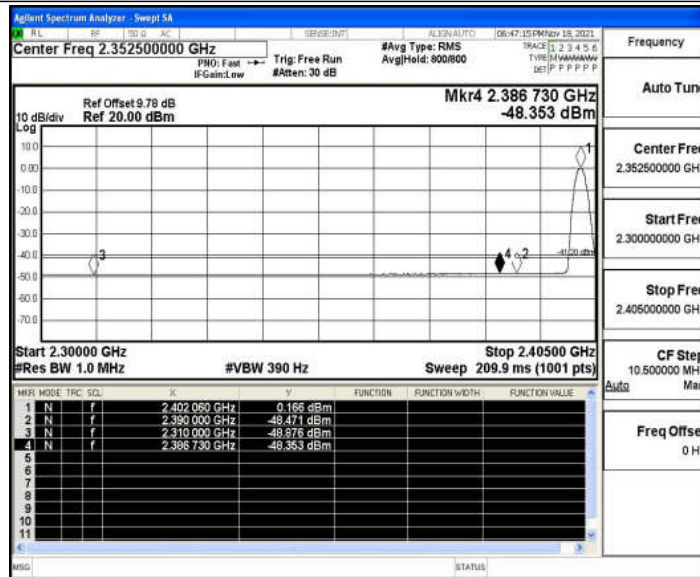




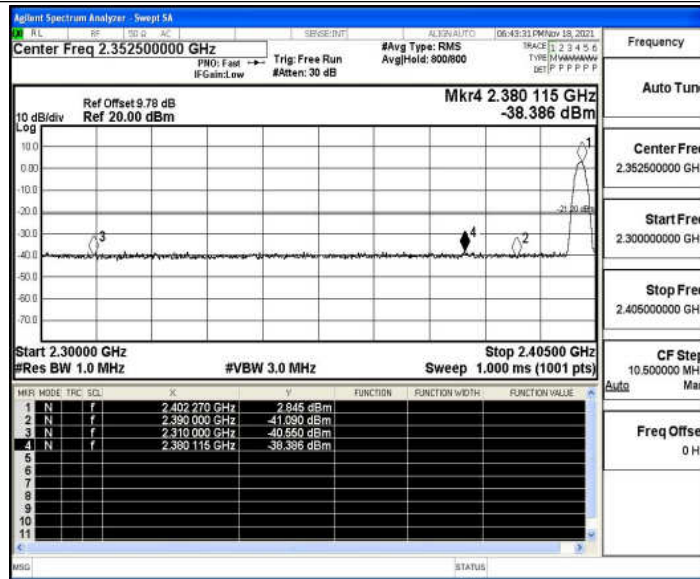
DH5_Ant1_High_Hop_2480_Peak



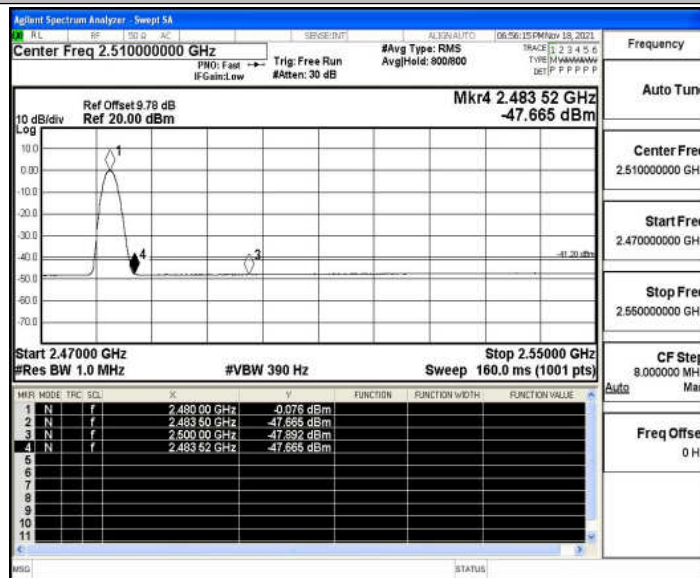
2DH5_Ant1_Low_2402_AV



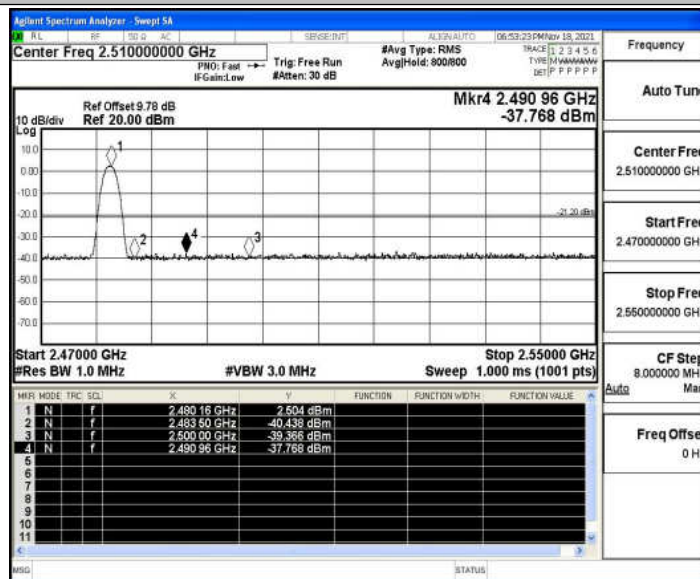
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

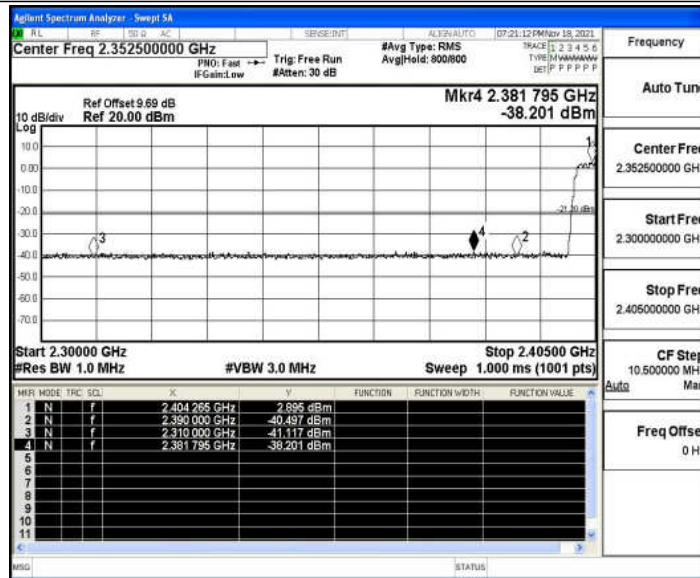


2DH5_Ant1_High_2480_Peak

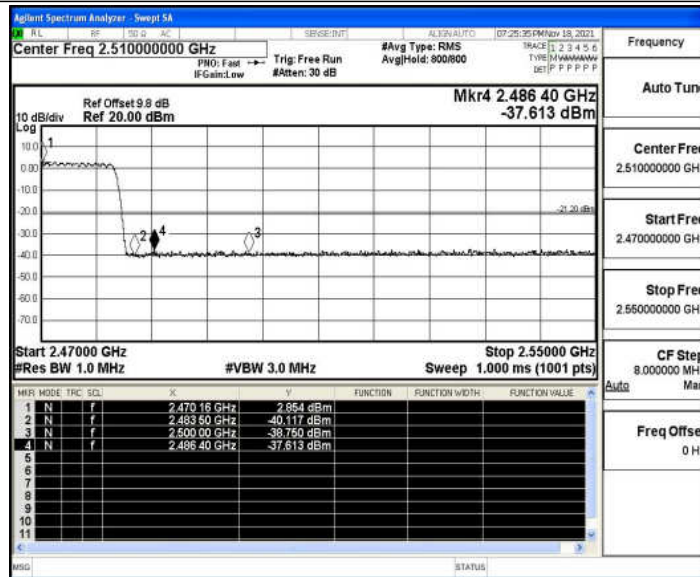




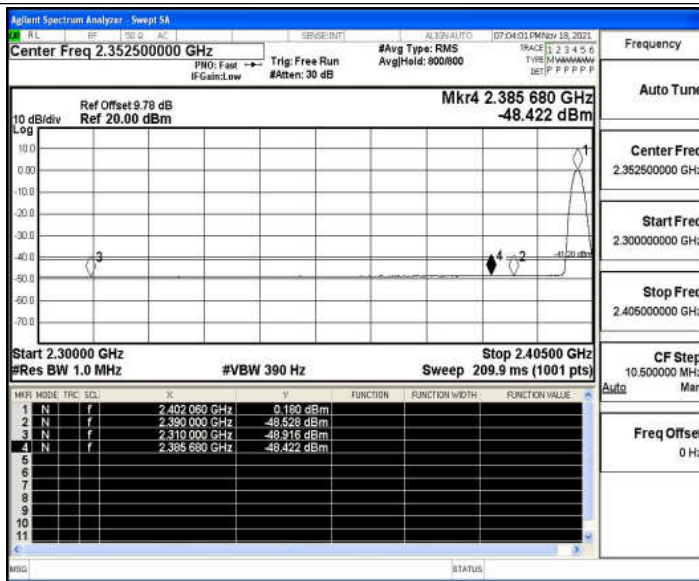
2DH5_Ant1_Low_Hop_2402_Peak



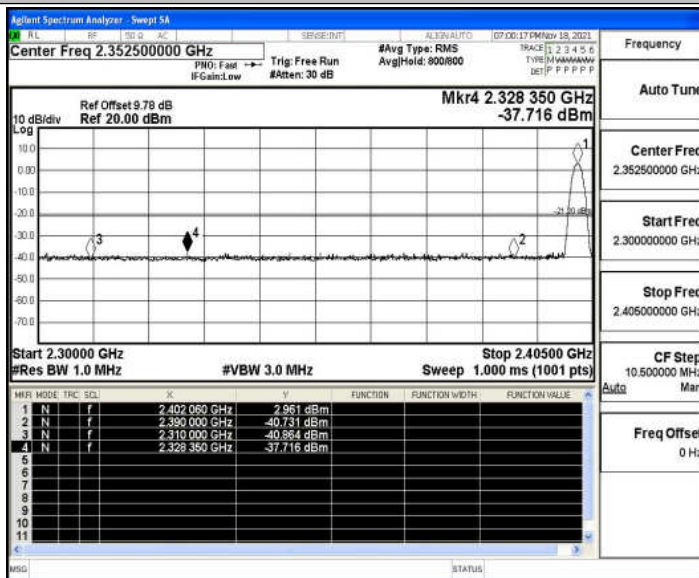
2DH5_Ant1_High_Hop_2480_Peak



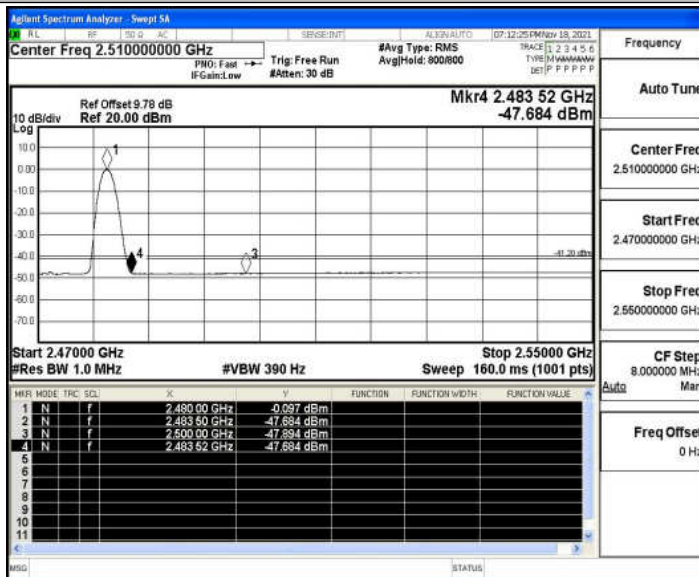
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak

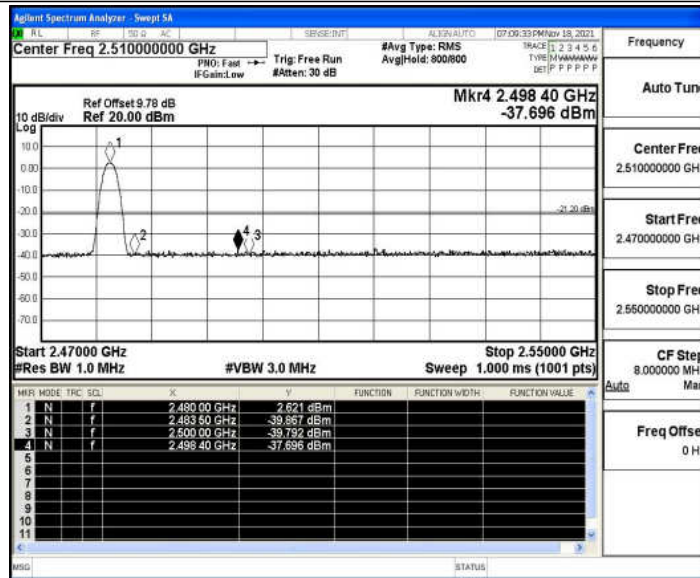


3DH5_Ant1_High_2480_AV

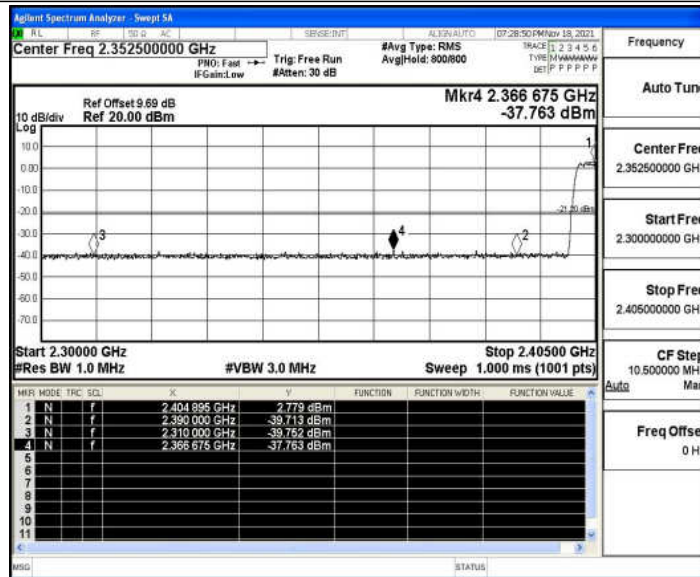




3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

