# Appendix Test Data

| | | | |
|---|---|---|---|
| Report No.: | 18220WC20087302 | Test Sample No.: | 1-2-2 |
| Start Test Date: | 2022.4.21 | Finish Test Date: | 2022.4.25 |
| Test Engineer: | Tony.He | Auditor: | Edward.Pan |
| Temperature: | 24.3℃ | Relative Humidity: | 56 % |
| Pressure: | 1012 hPa | | |

## Appendix A: DTS Bandwidth

### Test Result

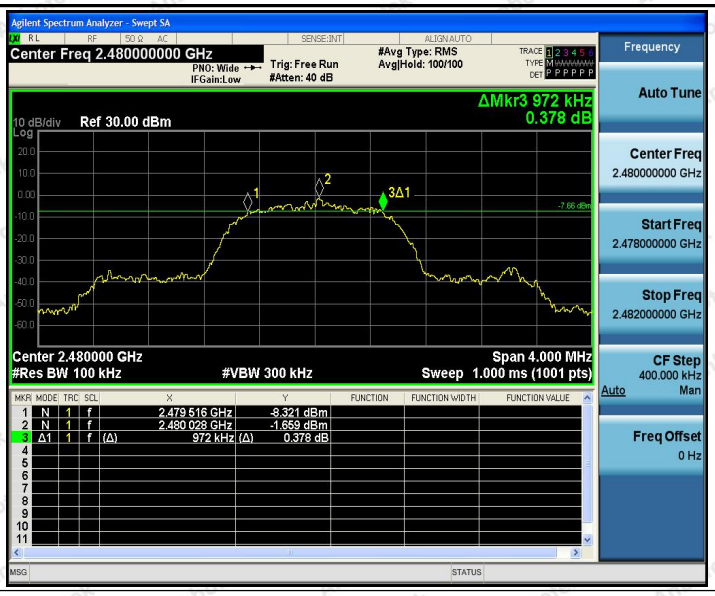
| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | 0.888 | 2401.588 | 2402.476 | ≥0.5 | PASS |
| | | 2441 | 0.876 | 2440.596 | 2441.472 | ≥0.5 | PASS |
| | | 2480 | 0.972 | 2479.516 | 2480.488 | ≥0.5 | PASS |

## Test Graphs

2.4G_Ant1_2402

2.4G_Ant1_2441

2.4G_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
ΔMkr3 972 kHz
0.378 dB
10 dB/div
Ref 30.00 dBm
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.479 516 GHz -8.321 dBm
2 N 1 f 2.480 028 GHz -1.659 dBm
3 Δ1 1 f (Δ) 972 kHz (Δ) 0.378 dB
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478000000 GHz
Stop Freq
2.482000000 GHz
CF Step
400.000 kHz
Auto Man
Freq Offset
0 Hz

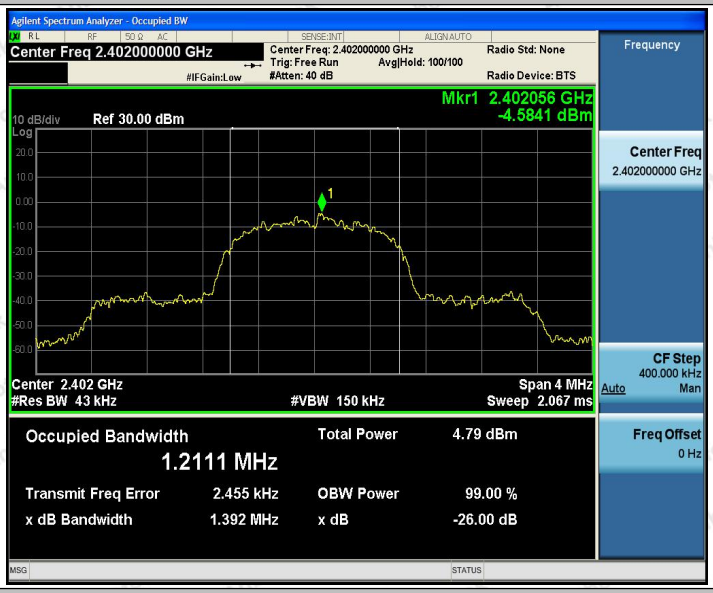
# Appendix B: Occupied Channel Bandwidth

## Test Result

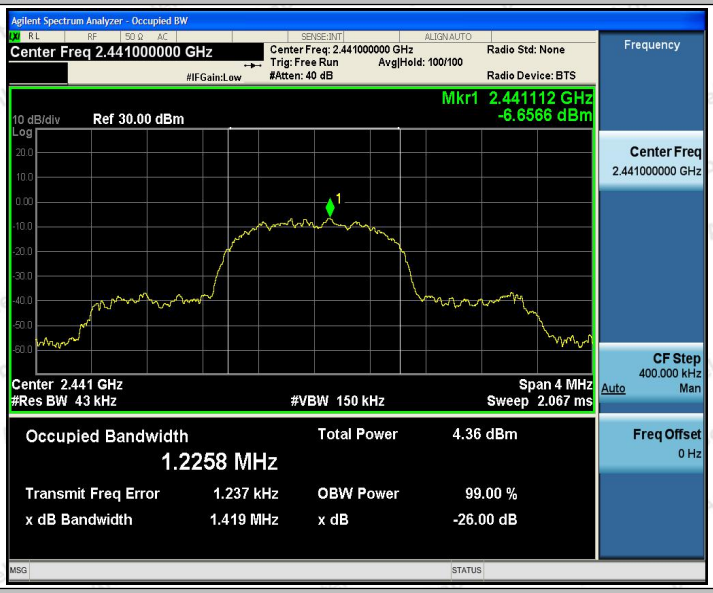
| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | 1.2111 | 2401.397 | 2402.608 | --- | PASS |
| | | 2441 | 1.2258 | 2440.388 | 2441.614 | --- | PASS |
| | | 2480 | 1.1932 | 2479.416 | 2480.609 | --- | PASS |

## Test Graphs

2.4G_Ant1_2402




2.4G_Ant1_2441




2.4G_Ant1_2480

Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.480176 GHz
-3.5235 dBm
10 dB/div
Ref 30.00 dBm
Center 2.48 GHz
#Res BW 43 kHz
#VBW 150 kHz
Span 4 MHz
Sweep 2.067 ms
Occupied Bandwidth
1.1932 MHz
Total Power 5.18 dBm
Transmit Freq Error 12.895 kHz
OBW Power 99.00 %
x dB Bandwidth 1.379 MHz
x dB -26.00 dB
Frequency
Center Freq
2.480000000 GHz
CF Step
400.000 kHz
Auto Man
Freq Offset
0 Hz

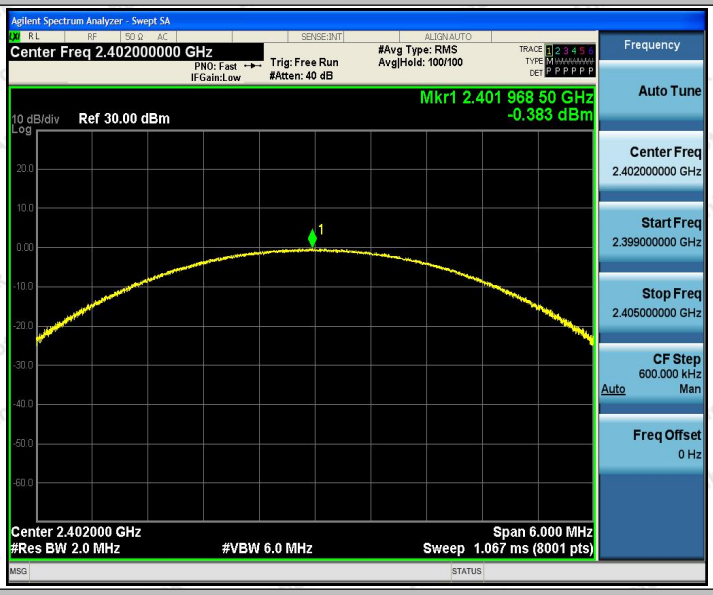
# Appendix C: Maximum conducted output power

## Test Result

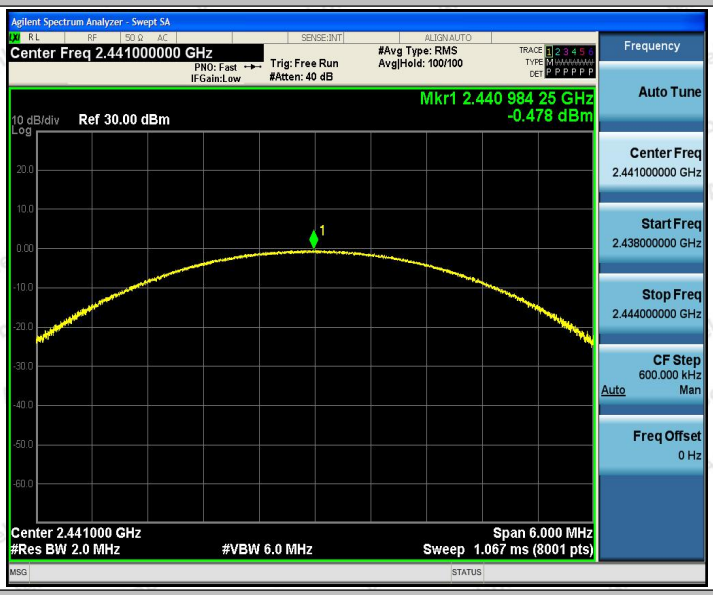
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | -0.38 | ≤30 | PASS |
| | | 2441 | -0.48 | ≤30 | PASS |
| | | 2480 | -0.05 | ≤30 | PASS |

## Test Graphs

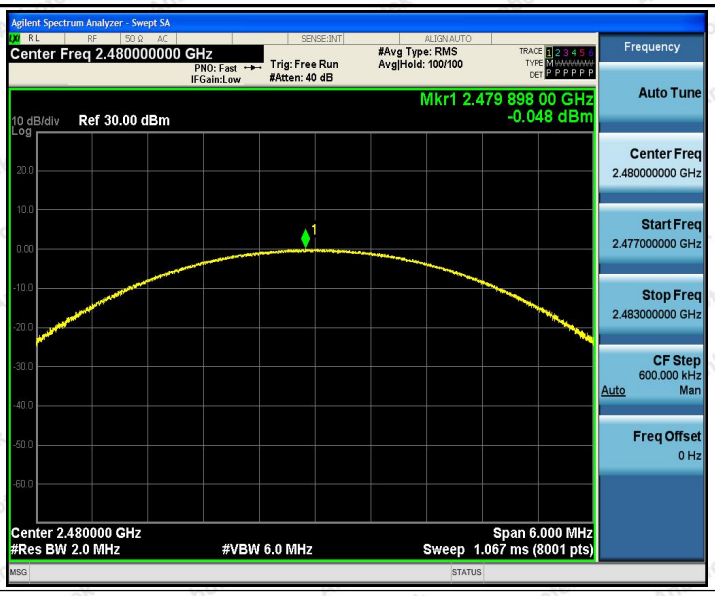
2.4G_Ant1_2402




2.4G_Ant1_2441




2.4G_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
Mkr1 2.479 898 00 GHz
-0.048 dBm
10 dB/div
Log
Ref 30.00 dBm
Center 2.480000 GHz
#Res BW 2.0 MHz
#VBW 6.0 MHz
Span 6.000 MHz
Sweep 1.067 ms (8001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.477000000 GHz
Stop Freq
2.483000000 GHz
CF Step
600.000 kHz
Auto
Man
Freq Offset
0 Hz

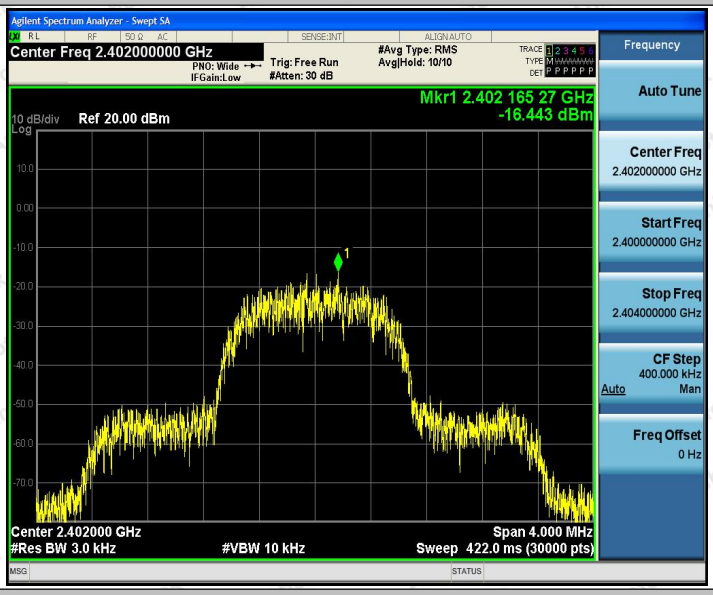
# Appendix D: Maximum power spectral density

## Test Result

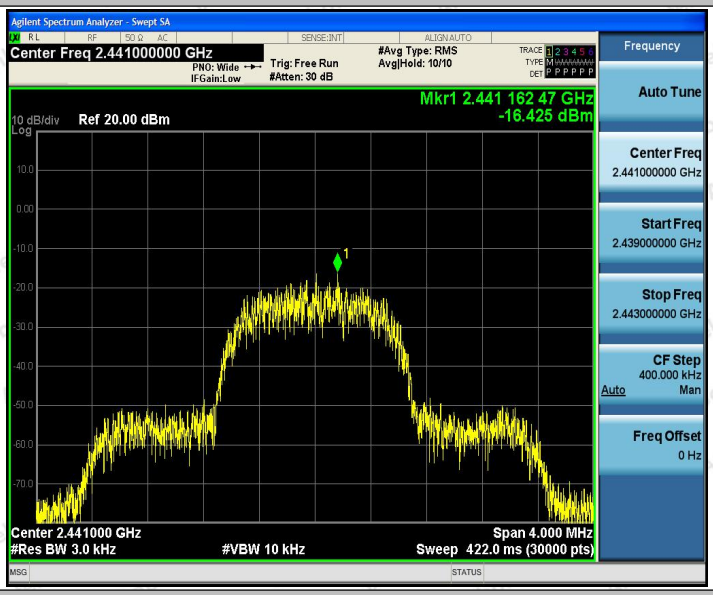
| TestMode | Antenna | Channel | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | -16.44 | ≤8 | PASS |
| | | 2441 | -16.43 | ≤8 | PASS |
| | | 2480 | -16.07 | ≤8 | PASS |

## Test Graphs

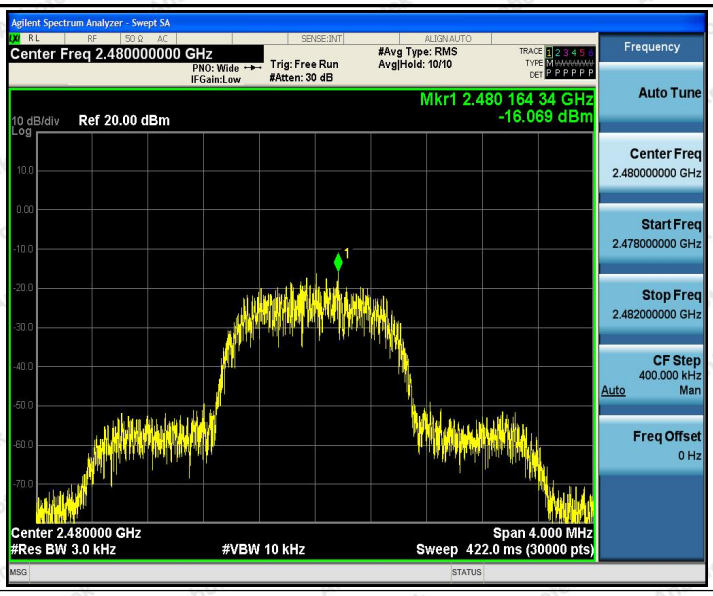
2.4G_Ant1_2402




2.4G_Ant1_2441




2.4G_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
Mkr1 2.480 164 34 GHz
-16.069 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.480000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 4.000 MHz
Sweep 422.0 ms (30000 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478000000 GHz
Stop Freq
2.482000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz

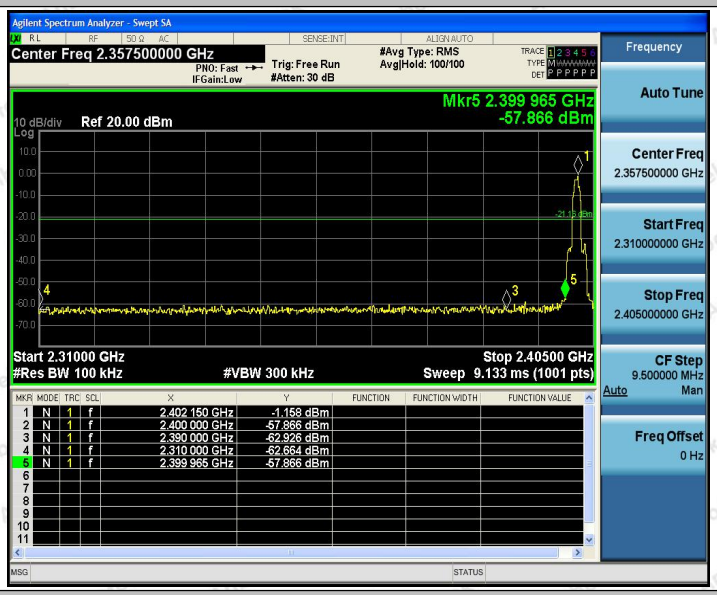
# Appendix E: Band edge measurements

## Test Result

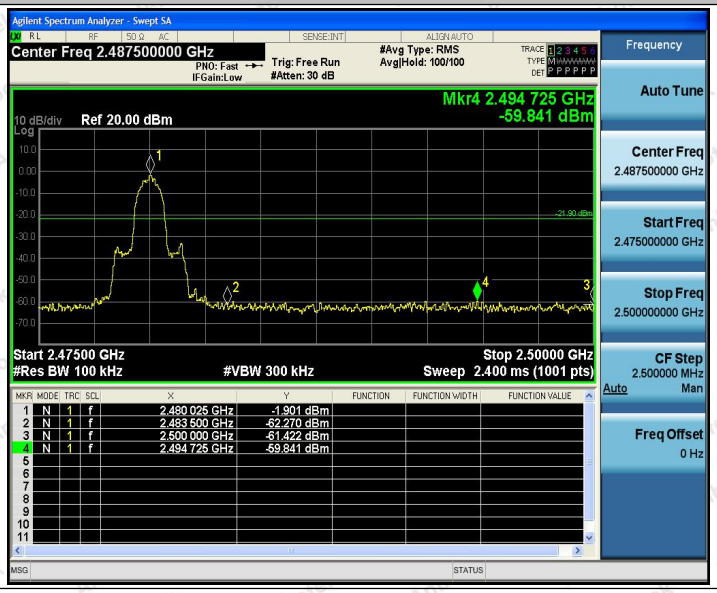
| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| 2.4G | Ant1 | Low | 2402 | -1.16 | -57.87 | ≤-21.16 | PASS |
| | | High | 2480 | -1.90 | -59.84 | ≤-21.9 | PASS |

## Test Graphs

2.4G_Ant1_Low_2402




2.4G_Ant1_High_2480



# Appendix F: Conducted Spurious Emission

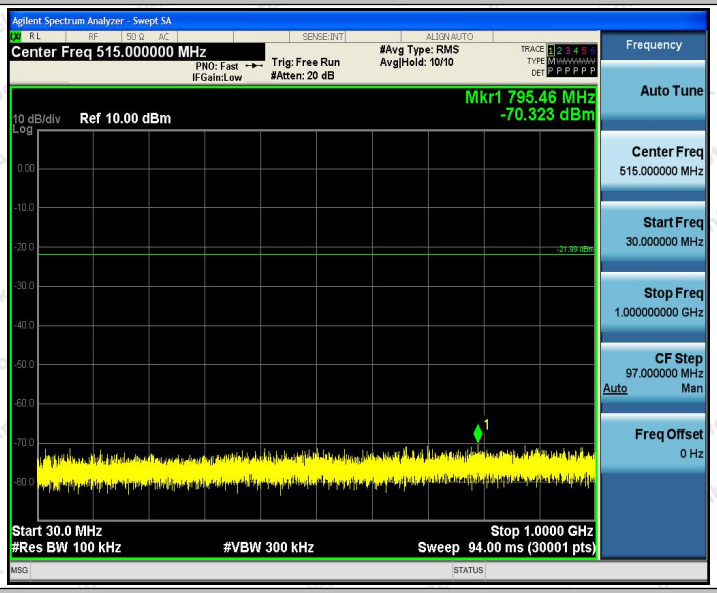
## Test Result

| TestMode | Antenna | Channel | FreqRange [MHz] | RefLevel [dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | Reference | -1.99 | -1.99 | --- | PASS |
| | | | 30~1000 | -1.99 | -70.32 | ≤-21.99 | PASS |
| | | | 1000~26500 | -1.99 | -55.35 | ≤-21.99 | PASS |
| | | 2441 | Reference | -1.33 | -1.33 | --- | PASS |
| | | | 30~1000 | -1.33 | -70.33 | ≤-21.33 | PASS |
| | | | 1000~26500 | -1.33 | -55.17 | ≤-21.33 | PASS |
| | | 2480 | Reference | -1.53 | -1.53 | --- | PASS |
| | | | 30~1000 | -1.53 | -70.67 | ≤-21.53 | PASS |
| | | | 1000~26500 | -1.53 | -54.83 | ≤-21.53 | PASS |

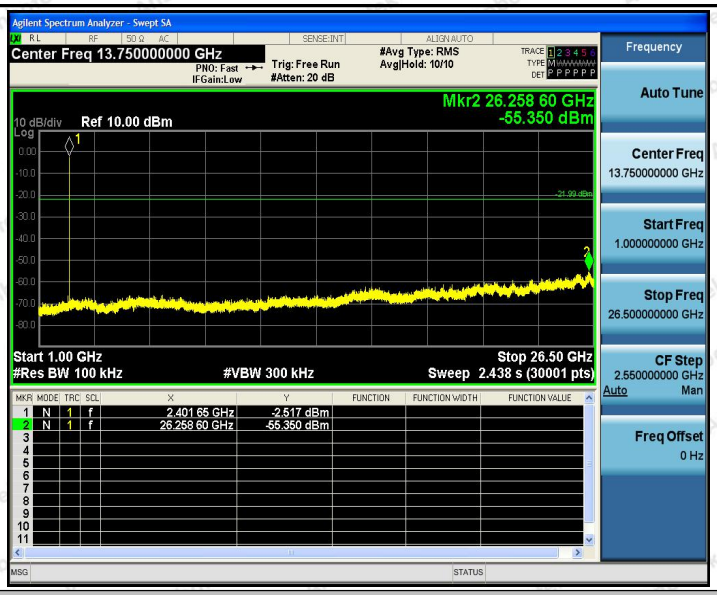
## Test Graphs

2.4G_Ant1_2402_0~Reference

2.4G_Ant1_2402_30~1000

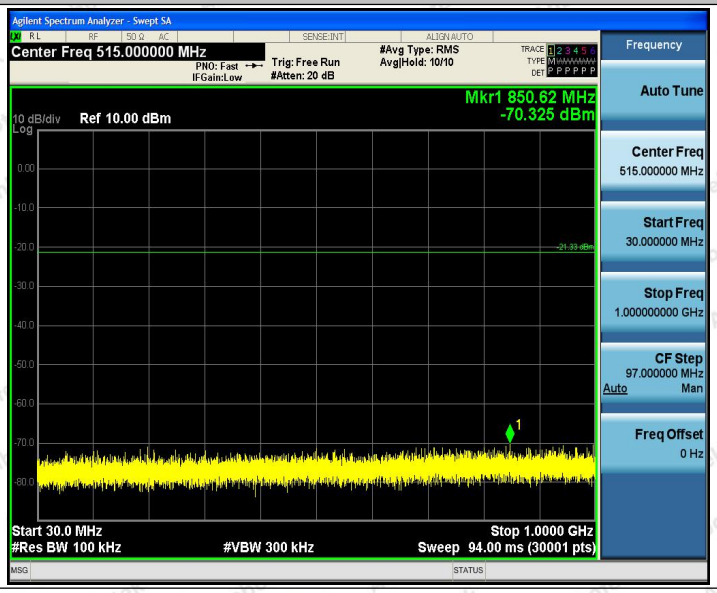



2.4G_Ant1_2402_1000~26500

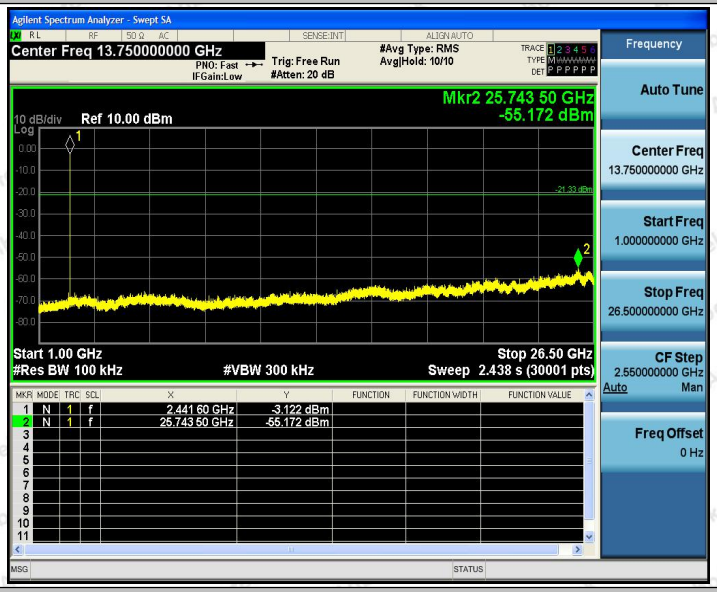



2.4G_Ant1_2441_0~Reference

2.4G_Ant1_2441_30~1000

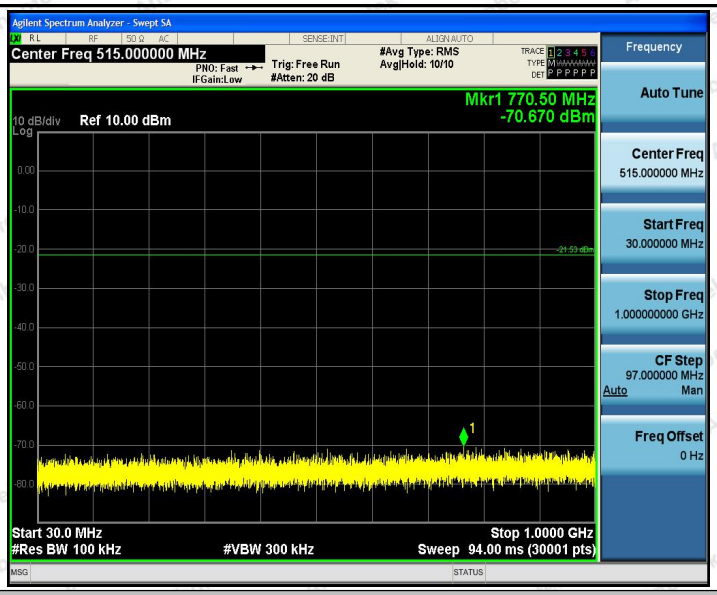


2.4G_Ant1_2441_1000~26500

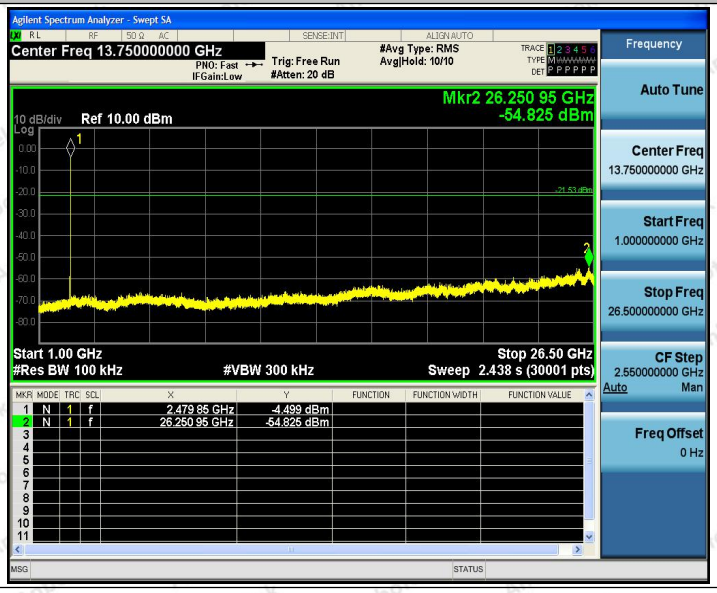



2.4G_Ant1_2480_0~Reference

2.4G_Ant1_2480_30~1000




2.4G_Ant1_2480_1000~26500



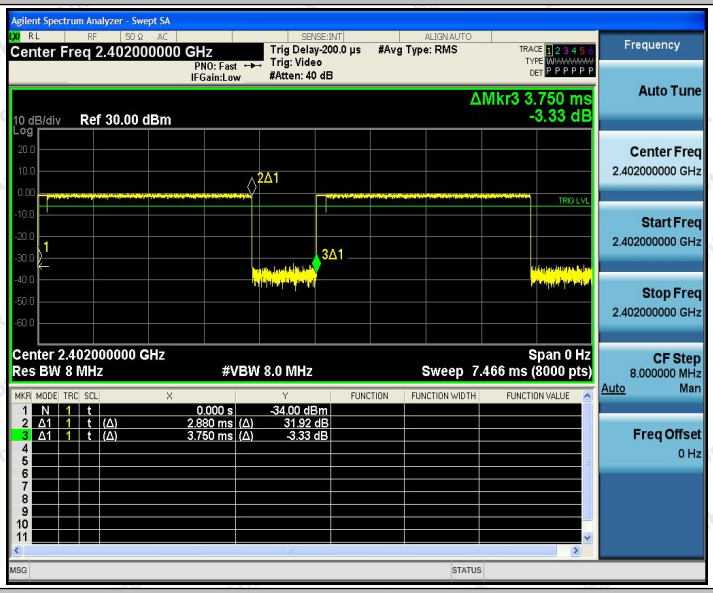
# Appendix G: Duty Cycle

## Test Result

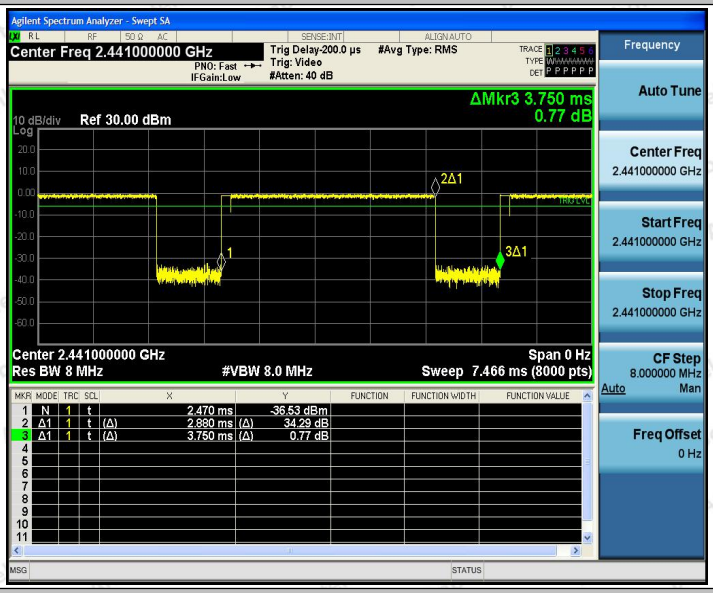
| TestMode | Antenna | Channel | ON Time [ms] | Period [ms] | X | DC [%] | xFactor | Limit | Verdict |
|---|---|---|---|---|---|---|---|---|---|
| 2.4G | Ant1 | 2402 | 2.88 | 3.75 | 0.7680 | 76.80 | 1.15 | --- | PASS |
| | | 2441 | 2.88 | 3.75 | 0.7680 | 76.80 | 1.15 | --- | PASS |
| | | 2480 | 2.89 | 3.75 | 0.7707 | 77.07 | 1.13 | --- | PASS |

## Test Graphs

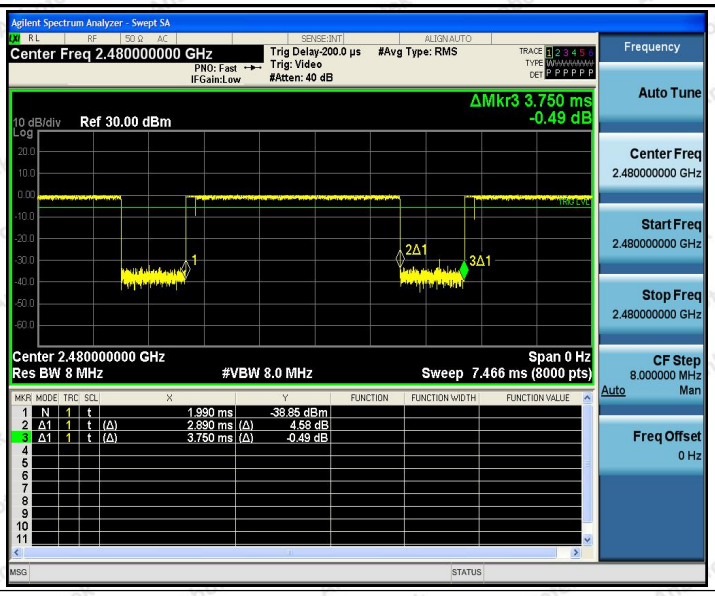
2.4G_Ant1_2402




2.4G_Ant1_2441




2.4G_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-200.0 µs
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
ΔMkr3 3.750 ms
-0.49 dB
10 dB/div
Ref 30.00 dBm
Center 2.480000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 7.466 ms (8000 pts)
1 N 1 t 1.990 ms -38.85 dBm
2 Δ1 1 t (Δ) 2.890 ms (Δ) 4.58 dB
3 Δ1 1 t (Δ) 3.750 ms (Δ) -0.49 dB
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.480000000 GHz
Stop Freq
2.480000000 GHz
CF Step
8.000000 MHz
Auto Man
Freq Offset
0 Hz

---End---