**Lynx Preliminary Thermal Cycle Descriptions** M. Carlson (1-25-24)

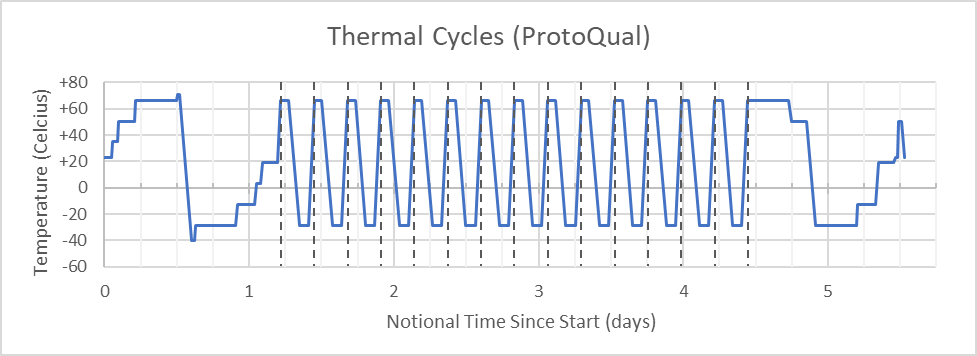
* 28V for Acceptance Testing (no voltage changes)
* Removed power for cold ramp on intermediate cycles

**Qualification Thermal Cycles (23)\_Functional Test Temperatures are -34°C and +71°C**

1. **Qualification First Cycle\_6 hour thermal soak at Functional (-34°C and +71°C) plateaus**
   1. **Apply power to UUT (34V)**
   2. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   3. **Remove power from UUT**
   4. **Apply power to UUT (28V)**
   5. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   6. Ramp from 23°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to 71°C
   10. Verify UUT temperature stabilization at 71°C
   11. **Complete 1 hour dwell at 71°C**
   12. **Remove power from UUT**
   13. **Unpowered Hot Survival at 71°C for 1 hour**
   14. **Apply power to UUT (28V)**
   15. **Hot Start test at 71°C**
   16. **Functional tests at 71°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   17. **Thermal soak (6 hours) at 71°C plateau**
   18. **Remove power from UUT**
   19. Unpowered ramp from 71°C to -40°C
   20. Verify UUT temperature stabilization at -40°C
   21. **Complete 1 hour dwell at -40°C**
   22. **Unpowered Cold Survival at -40°C for 1 hour**
   23. Unpowered ramp from -40°C to -34°C
   24. Verify UUT temperature stabilization at -34°C
   25. **Complete 1 hour dwell at -34°C**
   26. **Apply power to UUT (28V)**
   27. **Cold Start test at -34°C**
   28. **Functional tests at -34°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   29. **Thermal soak (6 hours) at -34°C plateau**
   30. Ramp from -34°C to -13°C
   31. Verify UUT temperature stabilization at -13°C
   32. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   33. Ramp from -13°C to 23°C
   34. Verify UUT temperature stabilization at 23°C
   35. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   36. Ramp from 23°C to 71°C
   37. Verify UUT temperature stabilization at 71°C
2. **Qualification Intermediate Cycles\_1 hour thermal soak at Functional (-34°C and +71°C) plateaus**
   1. **Apply power to UUT during all intermediate cycles (except for cold ramp to -34C)**
   2. **Change voltage every cycle (\*)**
      1. **+28V for even-numbered cycles**
      2. **+34V for odd-numbered cycles**
   3. **Remove power from UUT**
   4. **Apply power to UUT (\*)**
   5. **Complete 1 hour dwell at 71°C**
   6. **Functional tests at 71°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   7. **Thermal soak (1 hour) at 71°C plateau**
   8. **Remove power from UUT**
   9. Ramp from 71°C to -34°C
   10. Verify UUT temperature stabilization at -34°C
   11. **Complete 1 hour dwell at -34°C**
   12. **Functional tests at -34°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   13. **Thermal soak (1 hour) at -34°C plateau**
   14. Ramp from -34°C to 71°C
   15. Verify UUT temperature stabilization at 71°C
   16. **Repeat steps a to n for each qualification intermediate cycle**
3. **Qualification Last Cycle\_6 hour thermal soak at Functional (-34°C and +71°C) plateaus**
   1. **Complete 1 hour dwell at 71°C**
   2. **Verify 28V applied to UUT**
   3. **Hot Start test at 71°C**
   4. **Functional tests at 71°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   5. **Thermal soak (6 hours) at 71°C plateau**
   6. Ramp from 71°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to -34°C
   10. Verify UUT temperature stabilization at -34°C
   11. **Remove power from UUT**
   12. **Complete 1 hour dwell at -34°C**
   13. **Apply power to UUT (28V)**
   14. **Cold Start test at -34°C**
   15. **Functional tests at -34°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   16. **Thermal soak (6 hours) at -34°C plateau**
   17. Ramp from -34°C to -13°C
   18. Verify UUT temperature stabilization at -13°C
   19. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   20. Ramp from -13°C to 23°C
   21. Verify UUT temperature stabilization at 23°C
   22. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   23. Ramp from 23°C to 50°C
   24. Wait 30 minutes (bake-out)
   25. Ramp from 50°C to 23°C

**Protoqual Thermal Cycles (16)\_Functional Test Temperatures are -29°C and +66°C**

1. **Protoqual First Cycle\_6 hour thermal soak at Functional (-29°C and +66°C) plateaus**
   1. **Apply power to UUT (34V)**
   2. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   3. **Remove power from UUT**
   4. **Apply power to UUT (28V)**
   5. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   6. Ramp from 23°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to 66°C
   10. Verify UUT temperature stabilization at 66°C
   11. **Complete 1 hour dwell at 66°C**
   12. **Remove power from UUT**
   13. **Apply power to UUT (28V)**
   14. **Hot Start test at 66°C**
   15. **Functional tests at 66°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   16. **Thermal soak (6 hours) at 66°C plateau**
   17. **Remove power from UUT**
   18. Unpowered ramp from 66°C to 71°C
   19. Verify UUT temperature stabilization at 71°C
   20. **Complete 1 hour dwell at 71°C**
   21. **Unpowered Hot Survival at 71°C for 1 hour**
   22. Unpowered ramp from 71°C to -40°C
   23. Verify UUT temperature stabilization at -40°C
   24. **Complete 1 hour dwell at -40°C**
   25. **Unpowered Cold Survival at -40°C for 1 hour**
   26. Unpowered ramp from -40°C to -29°C
   27. Verify UUT temperature stabilization at -29°C
   28. **Complete 1 hour dwell at -29°C**
   29. **Apply power to UUT (28V)**
   30. **Cold Start test at -29°C**
   31. **Functional tests at -29°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   32. **Thermal soak (6 hours) at -29°C plateau**
   33. Ramp from -29°C to -13°C
   34. Verify UUT temperature stabilization at -13°C
   35. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   36. Ramp from -13°C to 23°C
   37. Verify UUT temperature stabilization at 23°C
   38. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   39. Ramp from 23°C to 66°C
   40. Verify UUT temperature stabilization at 66°C
2. **Protoqual Intermediate Cycles\_1 hour thermal soak at Functional (-29°C and +66°C) plateaus**
   1. **Apply power to UUT during all intermediate cycles (except for cold ramp to -29C)**
   2. **Change voltage every cycle (\*)**
      1. **+28V for even-numbered cycles**
      2. **+34V for odd-numbered cycles**
   3. **Remove power from UUT**
   4. **Apply power to UUT (\*)**
   5. **Complete 1 hour dwell at 66°C**
   6. **Functional tests at 66°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   7. **Thermal soak (1 hour) at 66°C plateau**
   8. **Remove power from UUT**
   9. Ramp from 66°C to -29°C
   10. Verify UUT temperature stabilization at -29°C
   11. **Complete 1 hour dwell at -29°C**
   12. **Apply power to UUT (\*)**
   13. **Functional tests at -29°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   14. **Thermal soak (1 hour) at -29°C plateau**
   15. Ramp from -29°C to 66°C
   16. Verify UUT temperature stabilization at 66°C
   17. **Repeat steps a to m for each intermediate cycle**
3. **Protoqual Last Cycle\_6 hour thermal soak at Functional (-29°C and +66°C) plateaus**
   1. **Complete 1 hour dwell at 66°C**
   2. **Verify 28V applied to UUT**
   3. **Hot Start test at 66°C**
   4. **Functional tests at 66°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   5. **Thermal soak (6 hours) at 66°C plateau**
   6. Ramp from 66°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to -29°C
   10. Verify UUT temperature stabilization at -29°C
   11. **Remove power from UUT**
   12. **Complete 1 hour dwell at -29°C**
   13. **Apply power to UUT (28V)**
   14. **Cold Start test at -29°C**
   15. **Functional tests at -29°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   16. **Thermal soak (6 hours) at -29°C plateau**
   17. Ramp from -29°C to -13°C
   18. Verify UUT temperature stabilization at -13°C
   19. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   20. Ramp from -13°C to 23°C
   21. Verify UUT temperature stabilization at 23°C
   22. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   23. Ramp from 23°C to 50°C
   24. Wait 30 minutes (bake-out)
   25. Ramp from 50°C to 23°C



**Acceptance Thermal Cycles (10)\_Functional Test Temperatures are -24°C and +61°C**

1. **Acceptance First Cycle\_6 hour thermal soak at Functional (-24°C and +61°C) plateaus**
   1. **Apply power to UUT (34V)**
   2. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   3. **Remove power from UUT**
   4. **Apply power to UUT (28V)**
   5. **Performance tests and characterization data at 23°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   6. Ramp from 23°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to 61°C
   10. Verify UUT temperature stabilization at 61°C
   11. **Complete 1 hour dwell at 61°C**
   12. **Remove power from UUT**
   13. **Apply power to UUT (28V)**
   14. **Hot Start test at 61°C**
   15. **Functional tests at 61°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   16. **Thermal soak (6 hours) at 61°C plateau**
   17. **Remove power from UUT**
   18. Unpowered ramp from 61°C to 71°C
   19. Verify UUT temperature stabilization at 71°C
   20. **Complete 1 hour dwell at 71°C**
   21. **Unpowered Hot Survival at 71°C for 1 hour**
   22. Unpowered ramp from 71°C to -40°C
   23. Verify UUT temperature stabilization at -40°C
   24. **Complete 1 hour dwell at -40°C**
   25. **Unpowered Cold Survival at -40°C for 1 hour**
   26. Unpowered ramp from -40°C to -24°C
   27. Verify UUT temperature stabilization at -24°C
   28. **Complete 1 hour dwell at -24°C**
   29. **Apply power to UUT (28V)**
   30. **Cold Start test at -24°C**
   31. **Functional tests at -24°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   32. **Thermal soak (6 hours) at -24°C plateau**
   33. Ramp from -24°C to -13°C
   34. Verify UUT temperature stabilization at -13°C
   35. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   36. Ramp from -13°C to 23°C
   37. Verify UUT temperature stabilization at 23°C
   38. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   39. Ramp from 23°C to 61°C
   40. Verify UUT temperature stabilization at 61°C
2. **Acceptance Intermediate Cycles\_1 hour thermal soak at Functional (-24°C and +61°C) plateaus**
   1. **Apply power to UUT during all intermediate cycles (except for cold ramp to -24C)**
   2. **Apply power to UUT (28V)**
   3. **Complete 1 hour dwell at 61°C**
   4. **Functional tests at 61°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   5. **Thermal soak (1 hour) at 61°C plateau**
   6. **Remove power from UUT**
   7. Ramp from 61°C to -24°C
   8. Verify UUT temperature stabilization at -24°C
   9. **Complete 1 hour dwell at -24°C**
   10. **Apply power to UUT (28V)**
   11. **Functional tests at -24°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   12. **Thermal soak (1 hour) at -24°C plateau**
   13. Ramp from -24°C to 61°C
   14. Verify UUT temperature stabilization at 61°C
   15. **Repeat steps a to m for each intermediate cycle**
3. **Acceptance Last Cycle\_6 hour thermal soak at Functional (-24°C and +61°C) plateaus**
   1. **Complete 1 hour dwell at 61°C**
   2. **Verify 28V applied to UUT**
   3. **Hot Start test at 61°C**
   4. **Functional tests at 61°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Command & response, operating modes, RF output stabilization
      4. Power consumption (each band)
      5. Voltage and temperature telemetry
   5. **Thermal soak (6 hours) at 61°C plateau**
   6. Ramp from 61°C to 55°C
   7. Verify UUT temperature stabilization at 55°C
   8. **Performance tests and characterization data at 55°C plateau**
      1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
      2. Maximum gain in Low Gain state (each band)
      3. Spectral Emissions (each band)
      4. Gain and phase characterization data for each attenuator setting (each band)
      5. Command & response, operating modes, RF output stabilization
      6. Power consumption (each band)
      7. Voltage and temperature telemetry
   9. Ramp from 55°C to -24°C
   10. Verify UUT temperature stabilization at -24°C
   11. **Remove power from UUT**
   12. **Complete 1 hour dwell at -24°C**
   13. **Apply power to UUT (28V)**
   14. **Cold Start test at -24°C**
   15. **Functional tests at -24°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Command & response, operating modes, RF output stabilization
       4. Power consumption (each band)
       5. Voltage and temperature telemetry
   16. **Thermal soak (6 hours) at -24°C plateau**
   17. Ramp from -24°C to -13°C
   18. Verify UUT temperature stabilization at -13°C
   19. **Performance tests and characterization data at -13°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   20. Ramp from -13°C to 23°C
   21. Verify UUT temperature stabilization at 23°C
   22. **Performance tests and characterization data at 23°C plateau**
       1. RF output with -10 dBm input (OQPSK waveform) in High Gain state (each band)
       2. Maximum gain in Low Gain state (each band)
       3. Spectral Emissions (each band)
       4. Gain and phase characterization data for each attenuator setting (each band)
       5. Command & response, operating modes, RF output stabilization
       6. Power consumption (each band)
       7. Voltage and temperature telemetry
   23. Ramp from 23°C to 50°C
   24. Wait 30 minutes (bake-out)
   25. Ramp from 50°C to 23°C

