



TestForge is a test management solution for designing and implementing tests for multiple Units Under Test (UUTs) over the life of a test bench. TestForge allows you to easily update obsolete hardware, modify test routines, and manage calibration requirements without recompiling the system.

Tools are included to assist in developing new test plugins which reduce development time and lower the learning curve for developers.

TestForge uses a Hardware Abstraction Layer (HAL) that makes it independent of test instruments and allows for use on a variety of test benches and UUTs. The HAL provides the added benefit of easier code maintenance and simplifying expansion as testing needs grow.

The screenshot displays the TestForge software interface during a hardware tuning sequence. The interface is divided into several sections:

- Settings:** Includes options like "Run Tests Individually", "Enable Test Debug", "Ignore Diagnostics", "Ignore Errors", and "Ignore Failures".
- Sequence Information:** Shows "Sequence Runs" set to 1.
- Unit Information:** Fields for "Operator" (TSC), "UUT Serial Number" (1234), and "UUT Part Number" (SSB0260A).
- Sequences:** A dropdown menu showing "SSB Acceptance Test.seq".
- Tests in Sequence:** A list of steps: "Initialize", "Calibration", "Hardware Tuning", and "Network Analysis".
- Hardware Tuning Results:** Three line graphs showing performance metrics over a 6000 MHz LO Frequency range:
 - Sideband Suppression:** Y-axis from 0 to -50 dB, showing a noisy signal fluctuating between -10 and -40 dB.
 - LO Leakage at RF Port:** Y-axis from 0 to -70 dBm, showing a noisy signal fluctuating between -10 and -60 dBm.
 - Conversion Loss:** Y-axis from 0 to 12 dB, showing a noisy signal fluctuating between 4 and 8 dB.
- Control Elements:** A "Stop Sequence" button (red) and a "READY" button (green).
- Status:** A "Test Sequence PASS/FAIL" indicator at the bottom left.
- Footer:** "Hardware Tuning" on the left and "Housekeeping UUT" on the right.

▶ Plugin-Based Approach

- Architecture allows for additional features or capabilities to be added without modifying original software
- Tests are plugins so that new UUTs can be added without changing the configuration or recompiling TestForge
- Current report plugins include HTML, TDMS, and ATML and adding custom types is made easy by implementing a new plugin

▶ Hardware Abstraction Layer (HAL)

- Significantly reduce the challenge of replacing obsolete hardware
- Allows for better maintainability
- Test Engineers write software using high-level functions, not model-specific commands
- If an instrument is replaced, UUT software can still be used with no updates

▶ Adaptable for the User

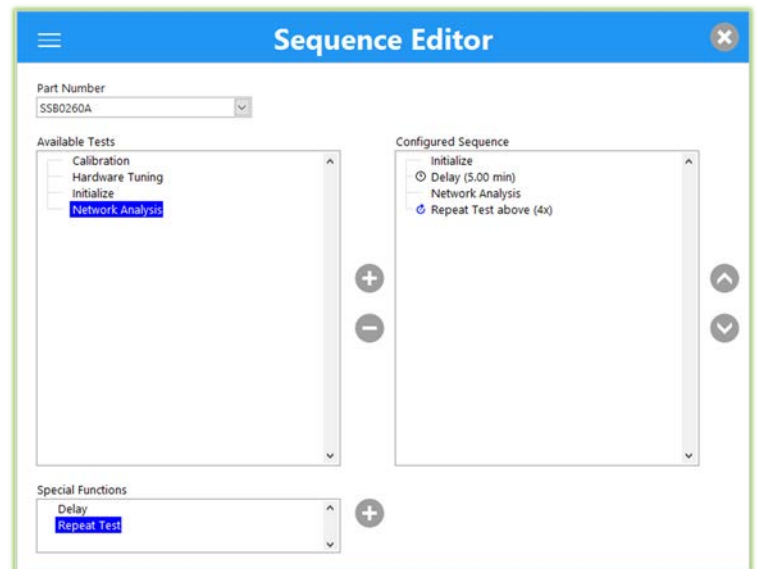
- Design and edit custom sequences to run specific subtests to isolate errors
- Suppress pop-ups, errors, or test steps to assist with UUT fault isolation
- Monitor and update test instrumentation calibration, change report types, and recall previous datasets to compare results
- Pause on steps, repeat after failures, run diagnostics

▶ Developer Tools

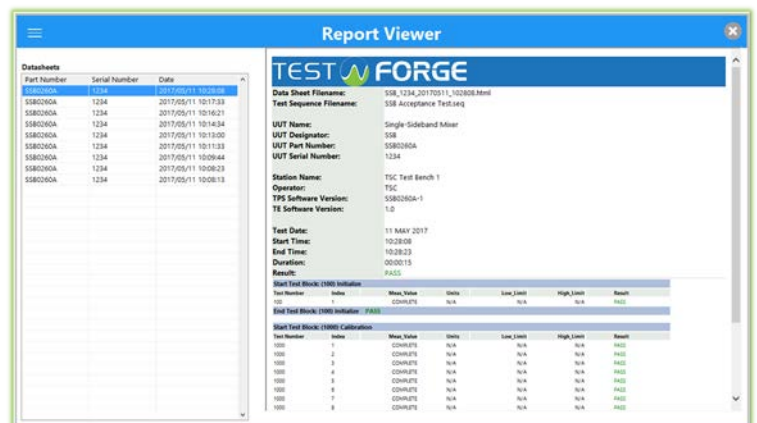
- Developer tools reduce development time and design errors
- Automatically create the UUT project and test code core modules, giving the test engineer the ability to focus on obtaining desired data
- Easily create and edit measurement steps and limits for measurement steps

▶ For more information

Eric Adams
812.558.7050
eric.adams@tsc.com



Sequence Editor
Create and edit sequences using drag and drop



Report Viewer
Easily compare historical test results