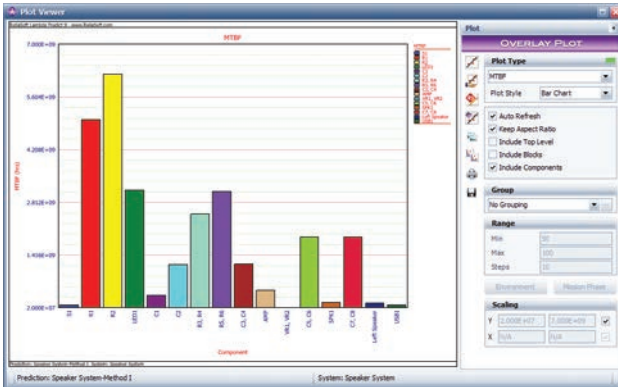# λPREDICT®

MIL-217 * Bellcore/Telcordia * FIDES * NSWC Mechanical

When actual product reliability data is not available, standards based reliability prediction may be used to evaluate design feasibility, compare design alternatives, identify potential failure areas, trade-off system design factors and track reliability improvement.

ReliaSoft's Lambda Predict facilitates failure rate and MTBF predictions based on the major reliability prediction standards. The software also offers reliability allocation, derating analysis and a full set of supporting tools.

Lambda Predict is part of the Synthesis Platform®.

http://Predict.ReliaSoft.com

SOFTWARE HIGHLIGHTS - RELIASOFT'S LAMBDA PREDICT

Reliability Prediction Standards

- MIL-HDBK-217F
  - Part Stress and Parts Count Methods
  - Option to define failure rates for custom connection types
  - Option to calculate non-operational failure rates based on RADC-TR-85-91
- Bellcore/Telcordia
  - Telcordia SR-332 Issues 1 - 3
  - Bellcore TR-332 Issue 6
- FIDES
- NSWC (Mechanical)
  - 2007
  - 2011
- For all standards, option to define failure rates for "external" components not addressed in the standard

Data Management

- Easy to build system configurations
- Multiple views for data entry
  - Tree View
  - Pi Factor View
- Easy to find and reuse data
- Import/export and copy/paste

Derating Standards

- NAVSEA-TE000-AB-GTP-010
- MIL-STD-975M
- MIL-STD-1547A
- Naval Air System Command AS-4613
- ECSS-Q-30-11-A

Reliability Allocation Methods

- Equal
- AGREE
- Feasibility of Objectives
- ARINC
- Repairable Systems

Supported Calculations

- For all predictions:
  - Failure Rate(t=∞)
  - MTBF
  - Contribution
- For Bellcore/Telcordia:
  - Early Life Factor
  - Standard Deviation(t=∞)
  - Failure Rate Upper Bound(t=∞)
- For MIL-217:
  - Connection Failure Rate
  - Non-Operational Failure Rate & MTBF
  - Non-Operational Contribution
- For blocks that use redundancy:
  - Mission Time
  - Failure Rate(t)
  - Unreliability(t)

Supported Plot Types

- Failure Rate
- MTBF
- Unreliability
- Mission Phase
- Temperature Plots
  - Failure Rate/MTBF vs. Temperature
  - Unreliability vs. Temperature
- Environment Plots
  - Failure Rate/MTBF vs. Environment
  - Unreliability vs. Environment
- Stress Plots (Current, Power, Voltage)
  - Failure Rate/MTBF vs. Stress
  - Unreliability vs. Stress

Extensive Parts Libraries

- MIL-HDBK-217F Parts Count
- MIL-M-38510
- EPRD-97
- NPRD-95

- PartLibraries.org (via subscription)
  - 300,000+ commercial components
  - 140+ manufacturers

Import Types

- Microsoft Excel® Files
- Text Files (*.txt, *.csv)
- Analyses from Lambda Predict 1, 2 & 3
- Components from Libraries

Centralized Data Storage

- Standard Repository (*.rsrp)
- Microsoft SQL Server®
- Oracle®
- Simultaneous Access by Multiple Users
- Shared Analysis Settings and Data
- Flexible User Access Levels

Integration

Integration with all other Synthesis Platform applications, including:

- Publish *models* based on the predicted failure rate
- Use system configuration and prediction data in BlockSim and Xfmea/RCM++/RBI

Multiple Languages Supported

For details, please visit:
http://www.ReliaSoft.com/languages

Available Services

- Detailed User Documentation
- Practical Example Files
- Step-by-Step Example Guide
- Training for Theory + Software
- Professional Consulting Services

Real Power for Real Applications

Some of the benefits of using the Lambda Predict software to make reliability predictions based on the major published standards include the ability to:

- ❍ Obtain an initial indication of whether a design will be able to meet reliability objectives, and identify potential problem areas early in development.

- ❍ Compare design alternatives and/or trade-off system design factors.

- ❍ Consider environmental and other stress factors that have a significant impact on system performance yet may otherwise be overlooked.

Why Upgrade to Version 10? (for details, visit http://Predict.ReliaSoft.com/version10.htm)

- ❍ Major upgrades to the Synthesis Platform®, such as an integrated Project Planner with expanded actions tracking, automated watches and alerts, easier to find and filter analyses, batch properties editor for managing resources, better integration with Active Directory® for user account management, and the option to implement a Synthesis Enterprise Portal website.

- ❍ Support for NSWC-11 and a dedicated folio for MIL-217 parts count analysis.

- ❍ Phase sets to manage life profiles for FIDES analyses, and new FIDES analysis plots.