



Testing Challenges and Design for Reliability

Ralf Touby, Sales Director Asia Pacific, Weiss Technik

With electronics being used in safety critical applications such as self-driving cars, aircraft automation and medical applications etc, there is a need for increased product reliability and performance.

However, system reliability can be compromised by operator abuse or shifting environmental conditions in which products are being used.

Environmental testing provides the tool to simulate such changes and is the basis for improving product robustness, investigating product failure mechanisms and implementing design for reliability processes with the objective to achieve PPM level failure rates. Appropriate tools must be deployed to analyze and understand product failure mechanisms.

Various acceleration methods can be used to reduce the cost of testing, improve time to market readiness and to address resource constraints. However, testing has to produce relevant data in order to implement programs such as FEMA (Failure Mode and Effects Analysis) so that products can be designed for reliability.