

Reliability & Quality Assessments



Reliability Testing

We Offer Reliability Engineering Advice at R&D Stages



Scalable Cost
Test labs in US and Asia



In-depth FA of Failed Devices
Advanced tools and methods



Advice and Project Management
Compliments your native skill sets



Tested Environmental Conditions



Why Choose Us

- JEDEC, MIL-STD, AEC & custom test methods
- R&D, qualification, and screening
- RF, μ wave, millimeter-wave, and optics

Key Customers





Mechanical Test		Conditions	UTM
Mechanical Shock	340 g - 10,000 g; 5 shocks per orientation; JESD22-B110B		
Vibration & Resonance	20 Hz - 2000 Hz, 4 cycles for 3 axis; 12 cycles total; JESD22-B103B		
Universal Testing Machine	Shear, pull, edge break, body strength, 3 points bending tests		
Bending	Speed: 20 mm/min; JESD22-B113		
Torsion & Free Drop	1 Hz/25 times & 1.0 mm/min speed		
HALT	Optional temperature & vibrational stressing, IPC9592A		

Lifetime Test		Conditions	HTOL
Early Life Failure Rate	T ≥ 125°C; 48 hrs ≤ t ≤ 168 hrs; ELFR-JEDEC/ELFR-AEC-Q100-008		
HTOL	125°C; 1008 hrs; other conditions available; JESD22-A108		
LTOL	-65°C; 1008 hrs; other conditions available; JESD22-A108		
Erase and Write	125°C; 168 hrs; other conditions available; JESD22-A117/AEC-A100-005		
PLT	25°C; 1008 hrs; other conditions available; JESD22-A108		

Environmental Test		Conditions	HTS
Temperature Cycling	-65°C to +150°C; other conditions available; TC-JEDEC/TS-Mil-Std-883		
Thermal Shock	-65°C to 150°C; JESD22-A106/Mil-Std-883, method 1011		
THB	85°C, 85% RH, 1000 hrs; other conditions available; JESD22-A101		
HTS	+85°C to +300°C; JESD22-A103/Mil Std 883, method 1008		
LTS	-65°C to -40°C; JESD22-A119/EIAJ ED-4701/200, test method 202		
HAST	130°C, 85% RH, 96 hrs; other conditions available; JESD22-A110		
Pressure Cooker Test	121°C, 100% RH, 96 hrs; other conditions available; JESD22-A102		
Salt Atmosphere Test	[Salt]: 0.5% to 3%; JESD22-A107/Mil-Std883, method 2005		
Preconditioning of SMD	Prior to THB, HAST, TC, AC, and UHST; JESD22-A113/JSTD-020		
Moisture Sensitivity Level	Level 1 to 6; JSTD-020		

Electrical Test		Conditions	Latch-Up
ESD HBM	250 V to 8000 V; JESD22 B110/AEC-Q100-002/AEC Q101-001		
ESD MM	50 V to 400 V; JESD22-A115/AEC-Q100-003/AEC-Q101-002		
ESD CDM	200 V to 1000 V; JESD22-C101/AEC-Q100-011/AEC-Q101-005		
Latch-up	JESD22-78		
EOS	IEC 61000-4-5		

Reliability Services	Description
Design for Excellence (DFX)	Advanced design for analysis, debug, manufacturing, reliability, test, service
Failure in Time (FIT)	Failure rate that occurs during one billion device hours
Failure Mode and Effects Analysis (FMEA)	Evaluate failure occurrence, detectability, severity and consequences
Acceleration Factor, Temperature (AT)	Calculated from activation energy, Boltzmann constant, stress T, failure rates
Mean Time Between Failure (MTBF)	Predicted from bill of materials (BOM), stress analysis and AT
TeraBytes Written (TBW)	Estimate the total amount of data that can be written to the NAND device in its lifetime

Contact us for questions about the test conditions and to obtain pricing for different conditions