



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

SILICON CERT LABORATORIES

Reading, PA

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 21st day of December 2011.





President & CEO

For the Accreditation Council
Certificate Number 2930.01
Valid to November 30, 2013

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

SILICON CERT LABORATORIES
4201 Pottsville Pike, Building 4A
Reading, PA 19605
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MECHANICAL

Valid To: November 30, 2013

Certificate Number: 2930.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Electrical Components and subsystems, Medical Devices, Optoelectronic components and subsystems, RF components and modules, integrated circuits, passive electronic components, relays, diodes, sensors, cables, cable assemblies, fiber assemblies, printed circuit boards, flex circuits, housings, ceramics, test boards, displays and plastic parts for the following industries Telecommunication, Military, Automotive, Aerospace, Commercial and Medical:

<u>Test Type/Test Parameters:</u>	<u>Test Method(s)/Standard(s):</u>
<i>Temperature Tests</i>	
Accelerated Bias Age/Burn In/Life	JESD22-A108; MIL-STD-202 REV A-G, Method 108; MIL-STD-750 REV A-E, Methods 1026, 1038, 1039, 1040, 1048; MIL-STD-883 REV A-H, Methods 1005, 1015, 1016, 1030, 1033
High Temp Storage/Stabilization Bake (Temperature up to 300 °C)	JESD22-A103, Cond A-G; AEC-Q100, AEC-Q200; GR-468-CORE (3.3.2.1); MIL-STD-202 REV A-G, Method 108; MIL-STD-750 REV A-E, Method 1031; MIL-STD-883 REV A-H, Method 1008
Low Temperature Storage (Temperature down to -70 °C)	JESD22-A119, Cond A-C; GR-468-CORE (3.3.2.1)
Temperature Cycle (-70 to 200) °C	JESD22-A104; MIL-STD-750 REV A-E, Methods 1051 and 1055; MIL-STD-883 REV A-H, Method 1010; GR-468-CORE
Power Temperature Cycle (-65 to 150) °C	JESD22-A105; MIL-STD-883 REV A-H, Method 1007

<u>Test Type/Test Parameters:</u>	<u>Test Method(s)/Standard(s):</u>
High Temp Reverse Bias (HTRB)	AEC-Q101; JESD22-A108; MIL-STD-750 REV A-E, Method 1042; MIL-STD-883 REV A-H, Method 1005
High Temp Gate Bias (HTGB)	AEC-Q101; JESD22-A108; MIL-STD-750 REV A-E, Method 1042; MIL-STD-883 REV A-H, Method 1005
Thermal Shock (-65 to 150) °C	JESD22-A106; MIL-STD-750 REV A-E, Method 1056; MIL-STD-883 REV A-H, Method 1011; MIL-STD-202 REV A-G, Method 107G
Early Life Failure Rate (ELFR)	AEC-Q100-008
Intermittent Life	MIL-STD-883 REV A-H, Method 1006, 1005; MIL-STD-750 REV A-E, Method 1036
<i>Humidity Tests</i>	
Damp Heat (10 to 98) % RH	GR-468-CORE; MIL-STD-202 REV A-G, Method 103B
Cyclic Moisture	MIL-STD-883 REV A-H, Method 1004; MIL-STD-202 REV A-G, Method 106G; MIL-STD-750 REV A-E, Method 1021; MIL-STD-810 REV A-G, Method 507; JESD22-A100; GR-1221-CORE
Temperature Humidity Bias (THB)	JESD22-A101B; MIL-STD-202 REV A-G, Method 103
Cycled THB	JESD22-A100C; MIL-STD-883 REV A-H, Method 1004; MIL-STD-750 REV A-E, Method 1021
<i>Vibration Tests</i>	
Mechanical Shock (Up to 1500 G's)	JESD22-B104; AEC-Q100, AEC-Q101, AEC-Q200; GR-468-CORE; MIL-STD-883 REV A-H, Method 2002; MIL-STD-750 REV A-E, Method 2016; MIL-STD-202 REV A-G, Method 213, Cond (A-F and J)
Variable Frequency Vibration (Up to 50 G's)	JESD22-B103; AEC-Q100, AEC-Q101; MIL-STD-883 REV A-H, Methods 2007; MIL-STD-750 REV A-E, Methods 2056; MIL-STD-202 REV A-G, Method 201A
Random Vibration (Up to 29 G's)	MIL-STD-883 REV A-H, Method 2026, Cond 1 (A-H), and Cond 2 (A-G) ; MIL-STD-202 REV A-G, Method 214, Cond 1 (A-H), and Cond 2 (A-G)
Vibration Fatigue	MIL-STD-750 REV A-E, Method 2046



<u>Test Types/Test Parameters:</u>	<u>Test Method(s)/Standard(s):</u>
<i>Other Tests</i>	
Highly Accelerated Stress Test (HAST)	JESD22-A118 (unbiased); JESD22-A110 (biased)
High Temperature Operating Life (HTOL)	JESD22-A108; AEC-Q100
Autoclave	JESD22-A102
Preconditioning	JESD22-A113; AEC-Q100, AEC-Q101
Moisture Sensitivity Level (MSL)	J-STD-020; J-STD-035; CSAM
Solderability	JESD22-B102, Methods 1 and 2; JSTD-002; AEC-Q100, AEC-Q101, AEC-Q200; MIL-STD-883 REV A-H, Method 2003; MIL-STD-750 REV A-E, Method 2026
Fiber Integrity	GR-468-CORE (3.3.1.3.1 and 3.3.1.3.2) ; GR-326-CORE (3.3.1.3.3)
Fine Leak (He) Seal	MIL-STD-883 REV A-H, Method 1014, A1, A2; MIL-STD-750 REV A-E, Method 1071H; MIL-STD-202 REV A-G, Method 112; JESD22-A109
Gross Leak (NID) Seal	MIL-STD-883 REV A-H, Method 1014, C3; MIL-STD-750 REV A-E, Method 1071K; MIL-STD-202 REV A-G, Method 112; JESD22-A109
Constant Acceleration (Up to 50,000 G's)	MIL-STD-883 REV A-H, Method 2001; MIL-STD-202 REV A-G, Method 212A; MIL-STD-750 REV A-E, Method 2006; AEC-Q100, AEC-Q101
Resistance to Solvents	JESD22-B107; AEC-Q101, AEC-Q200; MIL-STD-750 REV A-E, Method 1022; MIL-STD-883 REV A-H, Method 2015; MIL-STD-202 REV A-G, Method 215K
Resistance to Solder Heat	MIL-STD-883 REV A-H, Method 2036, Cond A, B, I, J and K; MIL-STD-750 REV A-E, Method 2031; MIL-STD-202 REV A-G, Method 210F, Cond A, B, I, J and K; AEC-Q101, AEC-Q200; JESD22-B106
External Visual	JESD22-B101A; MIL-STD-883 REV A-H, Method 2009; MIL-STD-750 REV A-E, Method 2071
Radiography	MIL-STD-883 REV A-H, Method 2012

Note: Also using customer specific test methods utilizing any combination of test equipment parameters listed above.

