



DEFENSE LOGISTICS AGENCY

LAND AND MARITIME
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March 13, 2018

Paul Kamper

Quality Manager

Silicon Turnkey Solutions

801 Buckeye Ct

Milpitas, CA 95035

Hi-Reliability Microelectronics

1804 McCarthy Blvd

Milpitas, CA 95035

Dear Mr. Kamper:

Re: Commercial Laboratory Suitability Status; MIL-STD-883; FSC 5962; VQC-18-032556; Patterson. CN: 057889.

Based on the results of the DLA Land and Maritime audit conducted during the week of July 24th, 2017, Silicon Turnkey Solutions & Hi-Reliability Microelectronics are considered suitably equipped to perform the MIL-STD-883 tests, listed in the enclosure, on monolithic microcircuits in accordance with the requirements of military specification MIL-PRF-38535 effective immediately.

Your laboratory is to maintain a record for all microcircuit testing and submit a three-part retention report annually to DLA Land and Maritime-VQC that will include the following three parts as a minimum:

1. Summary of Completed Testing
 - a. Military Part Number
 - b. Vendor Part Number
 - c. Manufacturer/ Customer
 - d. Lot Date Code
 - e. Test Method(s) and Specified Conditions
 - f. Date Test Completed
 - g. Quantity Tested
 - h. Quantity Accepted and Rejected, when evaluating Acceptability
2. Summary of MIL-STD-883 Internal Audit Results
3. Master List of Controlled Documents (External and Internal), including Current Revision

The standard retention-reporting period is the calendar year, from 01 JAN through 31 DEC. Your three-part report is then due by 31 JAN the following year.

Test labs shall notify the qualifying activity immediately after learning of a potential issuance of a GIDEP alert, problem advisory or major quality/reliability problem on their military products utilizing the test methods on the attached enclosure. Failure to provide prior notification may be grounds for removal from DLA Land and Maritime's Commercial Lab Suitability Listing.

This Laboratory Suitability is subject to the policies, procedures, and conditions of the Defense Standardization Program, as published in the manual DoD 4120.24-M, SD-6, and the DLA Land and Maritime-VQ Laboratory Suitability Booklet.

This laboratory suitability is valid until withdrawn by DLA Land and Maritime-VQC. Any deviation to the test method or condition(s) listed herein must be approved by the Qualifying Activity.

If you have any questions, please contact Mr. Philip Patterson at (614) 692-2178.

Sincerely,

MICHAEL S. ADAMS
Chief
Custom Devices Branch

Enclosure

Visit us on the web at: http://landandmaritimeapps.dla.mil/offices/sourcing_and_qualification/

<u>TEST</u>	<u>METHOD/CONDITION</u>
Insulation Resistance	1003 (A-E, 600V, 100na)
Moisture Resistance	1004
Steady State Life Test	1005 (A-F)
Stabilization Bake	1008 (A-D)
Salt Atmosphere	1009 (A-D)
Temperature Cycling	1010 (A-C)
Thermal Shock	1011 (A-C)
Seal	1014 (A ₁ , A ₂ , C ₁)
Burn-in	1015 (A-F)
Constant Acceleration	2001 (A-E)
Mechanical Shock	2002 (A-G)
Solderability	2003 (Test A-C)
Lead Integrity	2004 (A, A ₁ , B ₁ , B ₂ , D, E)
Vibration, Variable Frequency	2007 (A-C)
External Visual	2009
Internal Visual (Monolithic)	2010
Bond Strength	2011 (D)
Internal Visual Inspection for DPA	2013
Resistance to Solvents	2015
Physical Dimensions	2016
Die Shear Strength	2019
Particle Impact Noise Detection (PIND)	2020 (A, B)
Nondestructive Bond Pull	2023
Lid Torque for Glass Frit Sealed Packages	2024
Adhesion of Lead Finish	2025
Random Frequency Vibration	2026
Substrate Attach Strength	2027
Pin Grid Destructive Lead Pull	2028
Ultrasonic Inspection of Die Attach	2030
Flip-Chip Pull-Off	2031
Resistance to Soldering Heat	2036 (A, B, I, J, K)
Solder Column Package Destructive Lead Pull	2038
Electrostatic Discharge Sensitivity Classification	3015
IC Latch-Up Test	3023 (JESD78)
Electrical Test	Note 1
Highly Accelerated Temperature and Humidity Stress Test (HAST)	JESD22-A110
Accelerated Moisture Resistance - Unbiased HAST	JESD22-A118

Note 1: Silicon Turnkey Solutions and Hi-Reliability Microelectronics electrical test systems are certified in compliance with MIL-STD-883 paragraph 4.5 as applicable. Their system is suitable to perform electrical test over military case temperature (T_{case}) of 25°, 125°, and -55° C. Electrical Test suitability does not cover individual test programs. It is the responsibility of the commercial lab to obtain a record of customer approval stating that the hardware/software integration, including resolution and accuracy are adequate to meet the forcing and measurement conditions required, for the specified device type.