



DEFENSE LOGISTICS AGENCY
LAND AND MARITIME
POST OFFICE BOX 3990
COLUMBUS, OH 43218-3990

March 30, 2020

Jerry Chang
Silicon Turnkey Solutions
General Manager
1804 McCarthy Blvd
Milpitas, CA 95035

Dear Mr. Chang:

Re: Q and V Level Assembly and Test Certification; MIL-PRF-38535; FSC 5962;
VQC-20-034888; Grammens, CN: 071092

Silicon Turnkey Solutions (STS) has demonstrated to the DLA Land and Maritime that it complies with MIL-PRF-38535, the performance specification used by the Department of Defense for monolithic integrated circuits.

STS is granted Q and V Level Assembly and Test Certification for the process flows and materials used to assemble and test QML products for the quality assurance levels defined in the STS Quality Management Plan, QM-003, Rev. K. This letter supersedes the previous STS Class Q and V assembly/ test the facilities, test methods and conditions shown on the enclosure effect as the date of this letter. This assembly and test certification listing includes subcontractors approved by STS and as documented in the Quality Management Plan.

Testing must be performed using the facilities and methods listed in the Laboratory Suitability letter DLA Land and Maritime- VQC-20-034893, or at facilities approved by STS Technical Review Board (TRB) using its MIL-PRF-38535 Quality Management Plan.

This certification is subject to the conditions in DoD 4120.24-M, Defense Standardization Program and SD-6.

All of the facilities mentioned on the enclosure are subject to an audit by the DLA Land and Maritime Qualifying Activity at any time.

STS shall notify the DLA Land and Maritime Qualifying Activity immediately after learning of a potential issuance of a GIDEP alert, problem advisory or major quality/reliability problem on their assembly and test processes. Failure to provide prior notification may be grounds for removal of their MIL-PRF-38535, Q and V Assembly and Test certification.

In addition, it is requested that the following activities be reported promptly to DLA Land and Maritime:

- Changes to certified facilities, process flows, or approved testing subcontractors.
- Problem evaluation and a corrective action when:
 - A Technology Conformance Inspection (TCI) failure has been validated
 - The reliability of shipped parts is questionable.
- Test optimization, including:
 - Implementation - paragraph J.3.12, Appendix J, MIL-PRF-38535
 - Changing, suspending or canceling a prior test optimization
- Change of company QML contact or other key QML personnel
- Changes in test methods and conditions

This Assembly and Test certification is valid until terminated by written notice from the DLA Land and Maritime Qualifying Activity. If warranted, it may be withdrawn by this center at any time.

If you have any questions please contact Mr. Michael Grammens at (614) 692-0604.

Sincerely,

ROBERT M. HEBER
Chief
Sourcing and Qualifications Division

ENCLOSURE

<u>OPERATION</u>	<u>FACILITY</u>	<u>LOCATION</u>	<u>CAPABILITY</u>
Assembly	STS	1804 McCarthy Blvd Milpitas, CA	<p>Hermetic Single Die Q process flow, Rev 02</p> <p>Hermetic MCM Q process flow, Rev 02</p> <p>Hermetic Single Die QML V process flow, Rev 02</p> <p>Hermetic MCM QML-V process flow, Rev 02</p>
Backgrind	GDSI	925 Berreyessa Rd San Jose, CA	CT-72071
Die Attach Material	STS	1804 McCarthy Blvd Milpitas, CA	<p>JMI 7000 Silver Cyanate Ester</p> <p>2025D Non-Conductive Hybrid Chemistry</p> <p>84-1 LMINB 5011 Conductive Epoxy</p> <p>84-1 LMISR4 5011 Conductive Epoxy</p> <p>84-3 5011 Non-Conductive Epoxy</p>
Wire Type and Wire Size	STS	1804 McCarthy Blvd Milpitas, CA	<p>Gold Wire : 0.7 mils – 1.5 mils</p> <p>Aluminum Wire: 0.7 mils – 1.5 mils</p> <p>Note: Intermetallic is not allow for class level S. The internal lead wire shall be the same metal as the die metallization for class level S</p>
Lead Finish	STS	1804 McCarthy Blvd Milpitas, CA	Gold, Solder

<u>OPERATION</u>	<u>FACILITY</u>	<u>LOCATION</u>	<u>CAPABILITY</u>
Sealing	STS	1804 McCarthy Blvd Milpitas, CA	Seam Weld
Screening / Environmental Testing	STS	1804 McCarthy Blvd Milpitas, CA	Laboratory Suitability VQC-20-0348931
Package	STS	1804 McCarthy Blvd Milpitas, CA	Flat pack and CQFP Lead Range 40 – 352 Lead Finish: Gold Lead Pitch 25-200 mil
Package	STS	1804 McCarthy Blvd Milpitas, CA	LGA Lead Range 2-2500 Lead Finish: Gold Lead Pitch 15-50 mil
Package	STS	1804 McCarthy Blvd Milpitas, CA	CCGA * Lead Range 2 - 2500 Lead Finish: Type H or J Lead Pitch 15-50 mil * STS is approved to outsource the column attach process at DLA approved facilities (Six Sigma and AIT) using the DLA approved/certified flows (see below).
Package	Micros Advance Interconnect Technologies	3021 Cornwallis Rd Research Triangle Park, NC	CCGA Flow number CCGA-01 Package Type: A11 Lead Range: 2-2500 Matrix Size: All Lead Finish Type H : Tin Lead Alloy Solder Columns Lead Pitch: 15-50 mil Reference VQ (VQC-1 9-033111)
Package	Six Sigma	905 Montague Expressway Milpitas, CA	CCGA Flow number PR-2010 Package Type: All Lead Range: 2-2000 Matrix Size: All Lead Finish Type J: Tin Lead Alloy Solder with Copper Spiral Columns Lead Pitch 15- 50 mil Reference VQ (VQC-17-031566)

